Hearings Examiner Meeting Agenda
Thursday, March 20, 2025, 4:00 PM
Council Chambers, 616 NE 4th AVE

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OPTION 1 -

1. Go to www.zoom.us and download the app or click "Join A Meeting" and use Meeting ID – 874 6522 0773
2. Or, from any device click https://us06web.zoom.us/j/87465220773

OPTION 2 - Join by phone (audio only):
Dial 877-853-5257 and enter meeting ID# 874 6522 0773

For Public Comment:
Click the raise hand icon in the app or by phone, hit *9 to "raise your hand", or email to communitydevelopment@cityofcamas.us

These will be entered into the meeting record. Emails received up until one hour before the start of the meeting will be emailed to the Meeting Body prior to the meeting start time.

CALL TO ORDER

INTRODUCTIONS AND INSTRUCTIONS

HEARING ITEM

1. Camas High School Tennis Courts (CUP24-1001)

CLOSE OF MEETING

LAND USE DECISION

STAFF REPORT

Camas High School Tennis Court Redevelopment

Planning Case Number CUP24-1001

Report Date: March 14, 2025

TO	Hearings Examiner	**HEARING DATE**	March 20, 2025
PROPOSAL	Conditional Use Permit, Minor Design Review, and SEPA Review for the proposed redevelopment of the existing tennis courts and adjacent landscaping, parking, and drive aisles on approximately 3.32 acres within the subject 52.37-acre site, situated in the R-7.5 Single Family Residential Zone.		
LOCATION	The site is located at 26900 SE 15th Street, Camas, WA 98607, in the SE ¼ of Section 35, Township 2 North, Range 3 East, Camas, WA, Parcel Numbers: 178111-000 and 178147-000.		
APPLICANT/ CONTACT	Steven McAtee, MacKay Sposito 18405 SE Mill Plain Blvd. #100 Vancouver, WA 98683	**OWNER**	Camas School District 841 NE 22nd Ave. Camas, WA 98607
APPLICATION SUBMITTED	October 1, 2024	**APPLICATION COMPLETE**	December 17, 2024
PUBLIC NOTICES	A Notice of Application was mailed to property owners within 300 feet of the site and published in the Post Record on December 26, 2024. Legal publication #971130. A Notice of Public Hearing was mailed to property owners within 300 feet of the site and published in the Post Record on March 6, 2025. Legal publication #989260.		

APPLICABLE LAW: The application was submitted on October 1, 2024, and the applicable codes are those codes that were in effect at the date of the application's first submittal. Camas Municipal Code (CMC) Title 16 Environment, Title 17 Land Development, and Title 18 Zoning.

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SUMMARY

An application has been made to the City of Camas for a conditional use permit and minor design review for the proposed tennis court improvements located at Camas High School. Specifically, the Camas School District is collaborating with U.S. Tennis Association (USTA PNW) to create a covered tennis center at the site of the existing eight (8) tennis and two (2) pickleball courts. The proposed project includes resurfacing and lighting the existing tennis courts, installing an approximate 59,800-sf dome air structure enclosure over the tennis courts, and associated improvements to the site for access, parking, and placement of a bathroom/locker/entrance structure adjacent to the covered tennis courts.

Camas High School is located at 29600 SE 15th Street and consists of tax parcels 178111-000 and 178174-000, hereby known as the "subject property". The subject property is approximately 52.37 acres in size and is situated in the R-7.5 – Single-Family Residential Zone.

The proposed project involves the redevelopment of the existing tennis courts and adjacent landscaping, parking, and drive isles and the project area consists of approximately 3.32 acres of the overall subject property. The facility will be used by the high school boys' and girls' teams during their respective seasons, and by the USTA PNW organization during off-season and other times when it is not in sue by the high school teams. As per CMC 18.07.030 – Table 2, the proposed use is allowed through the approval of a Conditional Use Permit (CUP), provided the proposal complies with the approval standards of CMC 18.43 and design regulations as per CMC 18.19. The proposed development does or can comply with the applicable standards of the Camas Municipal Code.

FINDINGS

Chapter 16.07 State Environmental Policy Act

A SEPA checklist was submitted, and a Determination of Non-Significance was issued on January 2, 2025, as the proposed development is over 30,000 square-feet in size, including associated parking as per CMC 16.07.020. A. The comment period ended January 16, 2025. During the SEPA comment period, one comment was received from HSR Capital regarding a 60-foot, non-exclusive easement for ingress, egress and utilities along the northerly property line. HSR requested that the easement be noted on all proposed land use engineering plans associated with the proposed project. The correspondence has been included in the public record.

Chapter 18.19 Design Review

As per CMC 18.19.020, design review is required for the proposed project as the redevelopment of the existing tennis courts requires a building permit. The proposed project includes the redevelopment of the existing 8 tennis courts and 2 pickle ball courts. The project area is located along the northerly (rear) property line of Camas High School, easterly of the existing football field, and westerly of the existing baseball fields. There is an existing parking lot located to the south of the project site, however the proposed site plan shows the addition of a one-way drive aisle and parking to the east and north of the proposed tennis facility.

The conceptual layout shows the project area to be redeveloped by resurfacing the tennis courts, adding lighting, and an approximate 59,800-sf dome air structure enclosure will be installed over the tennis courts. The dome air structure is proposed to be approximately 450-feet long, 130-feet wide, and 43-feet high. The structure consists of an outer fabric that is vinyl coated opaque polyester fabric with acrylic exterior top coating. The exterior will be white in color. A 600-square-foot CMU structure that will house the facility entrance as well as restrooms/storage will be situated on the east elevation of the dome structure. The restroom/storage structure will be constructed with CMU concrete blocks and will be gray in color.

Also proposed are improvements to the site for access, parking, and placement of an entrance structure that will include restrooms and storage areas, adjacent to the covered tennis courts. The landscape plan, which includes a diverse mix of native and drought-tolerant species, enhances the site's natural environment and contributes to a cohesive land use pattern. The project application includes a request for minor design review approval for the proposed modifications and can be conditioned to be in compliance with the Design Review Manual.

FINDING: Staff found the proposed project is generally in compliance with the Design Review Manual, and applicable design principles and guidelines of CMC Chapter 18.19 as conditioned.

Chapter 18.43 Conditional Use Permit

CMC Chapter 18.43.050 Criteria for Conditional Use Permit Approval:

The hearings examiner shall be guided by the following criteria in granting or denying a conditional use permit:

A. The proposed use will not be materially detrimental to the public welfare, or injurious to the property or improvements in the vicinity of the proposed use, or in the district in which the subject property is situated;

The applicant is seeking a Conditional Use Permit to redevelop and convert the existing tennis courts on the subject property is conditionally permitted under CMC 18.07 040 – Table 2. The Camas School District, in partnership with USTA PNW, plans to develop a covered tennis center at the Camas High School site (subject site), which currently has 8 tennis courts and 2 pickleball courts (project area). The proposed project includes:

- Resurfacing and lighting the existing tennis courts;
- Installing a 59,800-square-foot enclosure over the tennis courts;
- Site improvements for access, parking, and the installation of a bathroom/locker/entrance structure adjacent to the covered courts; and
- Adding a new 15 to 16-foot wide, one-way drive aisle along the north and east sides of the proposed structure, accommodating 41 new parking stalls.

Camas High School is a public institution. Under the existing conditions, the tennis courts are used by the school's tennis teams during Spring and Fall terms. Practices are typically held between 4:00pm-6:00pm while meets are held between 3:30om – 6:00pm. When not in sue by the school, the courts are open to the general public however formal classes and tournaments may not be organized on a regular basis. Low usage of the facilities typically occurs during Winter term due to weather and lack of daylight. The proposed Conditional Use Permit will allow USTA PNW to collaborate with the school district and utilize the upgraded facilities for their organizational instruction and programming.

Since no additional courts would be constructed as part of the proposal the capacity of patrons to the courts could accommodate at any given time will not change, rather the hours of use may be extended during inclement weather and at time frames outside the AM and PM peak hours during low light conditions. Additionally, the USTA/Camas School District (CSD) facility is not expected to generate significantly more users of the facility during the Winter months relative to the high school during the normal school year. During the summer school break, the joint facility will be open for use by both the USTA and the school, noting the summer school break does not necessarily mean a complete break of school activity. It is anticipated that the summer window for school inactivity of the courts will be temporary and limited to approximately 6 weeks.

Although the use will be expanded to USTA PNW, the core function of the sport courts will remain unchanged. Therefore, the proposed use as a community club is not expected to have a materially detrimental effect on public welfare or negatively impact nearby properties or improvements within the surrounding district.

FINDING: The proposed development is an allowed use, subject to the approval of a conditional use permit, per CMC Chapter 18.07 Use Authorization and will not be detrimental to the public or injurious to adjacent uses as discussed and conditioned throughout this staff report.

B. The proposed use shall meet or exceed the development standards that are required in the zoning district in which the subject property is situated;

As the applicant has outlined in the project narrative, and along with the submitted plans and supplemental documents, the proposed redevelopment of the project area meets or exceeds the development standards of the R-7.5 zoning district. The building's architecture, provided parking and site layout are designed to maintain the cohesive design language of the campus, ensuring visual harmony with the existing structures. Additionally, the enhanced landscaping along the north property line provides further screening, contributing to the aesthetic integration of the project. As such, the design complies with all relevant development standards of the zoning district and aligns with the existing character of the subject property as well as the surrounding area.

Roads
The proposed project is to meet the requirements of CMC 17.19.040.B Streets and the Camas Design Standards Manual (CDSM).

The proposed development is located on the northern property line of the existing Camas High School, which is on the north side of SE 15th Street. SE 15th Street is classified as an existing 3-lane arterials with curb, gutter, and sidewalk on the north side of the road only along the frontage of the high school.

[SE 15th Street]
Per CMC 17.19.040.B.1, half-width street improvements and per CMC 17.19.040.B.5 dedication of additional right-of-way may be required for a development when it is necessary to meet the minimum street width standards or when lack of such dedication would cause or contribute to an unsafe road or intersection.

The street frontage adjacent to the Camas High School and the proposed development is fully improved, therefore neither half-width street improvements nor dedication of additional right-of-way is required. ***Staff concurs.***

Per CDSM, Table 3 – Access Spacing Standards, roadways classified as an arterial require a minimum driveway setback of 300-feet. There are three existing access driveways off SE 15th Avenue. No new accesses are being proposed. The spacing for the existing access driveways were approved at the time of the high school was constructed and therefore, the access spacing standard for the proposed development improvement does not apply.

[Private Roads]
Per the preliminary site plans, dated September 3, 2024, the proposed development improvements are shown to take access via an existing driveway that is in the northeastern edge of the existing 'parking

access loop'. The improvements include the addition of a new private road that will extend from the eastern side, along the northern side of the existing tennis courts with nine (9) new parking spaces along the east side and thirty-two (32) new parking spaces along the north side and connect to the existing onsite access road to NE Garfield Street. The proposed improvements will also provide new sidewalks that will complete the perimeter sidewalk connection along the existing 'parking access loop' and provide new sidewalks adjacent to the new parking spaces.

Per the Camas Design Standards Manual (CDSM), Table 1 – Guidelines for Geometry of a Private Roadway, Note 2.c. Aisle dimensions, one-way aisles are to be a minimum of 15-feet-wide; two-way aisles are to be a minimum 24-feet-wide.

The new on-site private road is shown with a minimum paved width of 15 feet for one-way vehicular movement. Staff has concerns that there is the potential for large vehicles parking in the diagonal parking spaces have a potential to extend into the 15-foot drive aisle and hamper access for fire, lift, safety. Increasing the width of the drive aisles to a minimum of 16-feet to 18-feet of paved surface adjacent to parking spaces which would allow for emergency response vehicles to access the tennis courts from either the east or north sides of the new tennis courts, restrooms, and locker rooms without personal vehicles impeding emergency response vehicles.

> Staff recommends a condition of approval that prior to final engineering plan approval, the applicant should be required to work with engineering and the Fire Marshal's Office to increase the drive aisle width to a minimum of 16-feet to 18-feet, adjacent to all the new parking spaces, to ensure unimpeded access for fire, life, safety access.

Per CMC 17.19.040.B.10.D.b.iii. Pedestrian connections need to meet the Design Standards Manual for ADA accessibility in accordance with PROWAG AND ADAAG.

> Staff recommends a condition of approval that prior to final engineering plan approval, all the new sidewalks should be designed to meet the requirements for ADA accessibility per the PROWAG and ADAAG.

Per CMC 18.13.060.F Parking areas, Wheel stops should be used adjacent to tree wells and planter areas to protect landscaping from car overhangs. Additionally, wheel stops are to be used at all parking stalls adjacent to sidewalks/walkways.

> Staff finds a condition of approval is warranted that prior to final engineering plan approval, the applicant should submit final site improvement plans and final landscape plans that shall include wheel stops and/or curb stops at all parking spaces adjacent to landscaping and sidewalks/walkways.

Per CMC 17.19.040.B.12.e Curb return radii shall be no less than thirty-five feet on arterial and collector streets, and no less than twenty-five feet on all other streets.

Per the preliminary site plans, dated September 3, 2024, the new private road to be constructed for access to the proposed improvements, is shown to extend from the existing driveway approach off the existing parking lot. The existing driveway approach does not show the required 25-foot curb radius on both sides of the approach.

> Staff finds a condition of approval is warranted that prior to final engineering plan approval, the applicant should submit final site improvement plans with the following revision:
>
> - The existing driveway approach and adjacent sidewalks on the east side of the proposed improvements is to be removed and replaced with the minimum 25-foot curb radii on each side of the new private road.

FINDING: Staff finds that the proposed development, as conditioned, can or will meet the requirements of CMC 17.19.040.B and the Camas Design Standards Manual (CDSM) for Roads.

Sanitary Sewer

The proposed project is to meet the requirements of CMC 17.19.040.C.2 sanitary sewers.

There is an existing onsite 6-inch sanitary STEF main that was constructed for the benefit of the new High School. The existing 6-inch STEF main crosses the High School's parking lot in a westerly-to-easterly direction and discharges into an existing STEF tank that is southeast of the existing tennis courts and baseball fields.

[Onsite Private Sanitary Sewer System]:

The preliminary utility plans dated September 16, 2024, show a proposed connection to an existing 6-inch STEF sewer stub, located approximately 20 linear feet southwest of the existing STEF tank. The new 6-inch STEF sewer line would then extend north to a new STEF tank, with a grinder pump, and a sewer lateral to the proposed restroom. The new STEF tank is shown to be located within a landscaped area per the preliminary landscape plans, dated September 4, 2024.

Per CMC 13.62.080 Landscaping. Under no circumstances will STEF users be permitted to cover any portion of the riser lids to the access chambers of the septic tanks associated with the sewer system. The riser lid to the access chamber shall be accessible at all times to ensure proper and timely emergency and/or maintenance response to the system. Accessible shall mean visible to the naked eye and with a minimum distance of one-inch separation from the top of the riser lid to the adjacent ground surface. The riser lids to the chamber shall be accessible at all times to ensure proper and timely emergency and/or maintenance response to the system.

Staff recommends a condition of approval that prior to final engineering plan approval the applicant should be required to submit sanitary sewer utility plans with the following revisions to the private onsite sanitary sewer system:

- The proposed STEF tank, located within the landscape area, is to be installed such that the access riser lids are to always be visible.
- If the applicant relocates the STEF tank into a paved area, the riser lids must have traffic rated access lids and risers.
- The applicant is responsible for sizing the STEF tank for future use. Specifications, design, and calculations for sizing the STEF tank are to be submitted to the city review and approval prior to installation.

Per CMC 13.62.B "All STEF systems commercial, industrial, and other nonresidential properties shall be owned by the owner of the subject property, except for the service box at the point where the STEF system connects to the city sanitary sewer system, which shall be owned by the city. The owner shall be responsible for maintaining all components of the STEF system and its ownership and shall be responsible for pumping the STEF tank as needed and for disposing of the waste in an approved manner. The owner shall further be responsible for paying all electrical costs associated with the operation of the STEF system."

Per CMC 17.19.040.C.2.d sanitary easements will be granted to the city of Camas as required for inspections purposes, however, outside of the right-of-way the onsite sanitary sewer system and all its components, including the STEF tanks, are to be privately owned and maintained by the applicant and/or property owners.

Staff recommends a condition of approval that prior to final engineering plan approval a note is to be added to the sanitary sewer utility plans stating, "All components of the onsite private sanitary sewer system, including the STEF tank shall be privately owned and maintained by the property owners, with a right-of-entry granted to the city for inspection purposes."

> **FINDING:** Staff finds that the proposed development, as conditioned, can or will meet the requirements of CMC 17.19.040.C.2 and the Camas Design Standards Manual (CDSM) for Sanitary Sewer.

Storm Sewer

The proposed project is to meet the requirements of CMC 14.02 Stormwater Control and Camas Design Standards Manual (CDSM).

The proposed development is located on Parcel No. 178174000 and 178111000, which is the location of the Camas High School. The proposed improvements will result in approximately 2.746 acres (119,615 sf) of land-disturbing activities, which include expanding the existing tennis courts, adding new sidewalks, an access road along the east and north side of the expanded tennis courts, and adding parking spaces to the east and north side of the new access road.

A Preliminary Technical Information Report (PTIR) dated September 27, 2024, was prepared by MacKay Sposito and submitted with the application. Page 2 of the PTIR, references that the report was prepared with the 2021 Clark County Stormwater Manual and Clark County Code (CCC) 40.386, however, the discussions and minimum requirements (MRs) throughout the PTIR state that the report was prepared in accordance with Ecology's *2024 Stormwater Management Manual for Western Washington (SWMMWW)*. The city's adopted stormwater manual is the Ecology's *2024 Stormwater Management Manual for Western Washington (SWMMWW)* and the city's stormwater ordinance is CMC 14.02.

> Staff recommends a condition of approval that prior to final engineering plan approval, the applicant should be required to submit the Final Stormwater Technical Information Report with page 2 corrected, stamped, and signed that the report was prepared in accordance with Ecology's *2024 Stormwater Management Manual for Western Washington (SWMMWW)* and Camas Municipal Code (CMC) 14.02 Stormwater Control.

Per Ecology's *Stormwater Management Manual for Western Washington (SWMMWW)* Figure 1-3.1: Flow Chart for Determining Requirements for Re-development, if the project results in 5,000 SF or greater, of new plus replaced hard surface area, minimum requirements #1-#9 will apply.

Per the PTIR, Site Characteristics table, on page 6 the amount of existing hard surfaces is (1.453 acres), the amount of new hard surfaces is (2.158 acres), and the amount of replaced hard surfaces (1.293 acres), therefore Minimum Requirements (MRs) 1-9 apply. ***The PTIR sufficiently addresses Minimum Requirements (MRs) 1-9.***

A stormwater system was installed with the construction of Camas High School in 2002. The existing system provides detention and treatment of stormwater runoff. Stormwater runoff from the expansion of the tennis courts, new roads and sidewalks will flow through a 'grassy' area and into a shallow swale which will convey the runoff to existing ditch inlets and into the underground infiltration system.

The preliminary utility plans, dated September 16, 2024, show a new stormwater system that includes catch basin, manholes, french drains, area drains, and a conveyance system that discharges stormwater runoff to an underground infiltration facility that is located under the new access road and parking spaces along the east side of the new tennis courts. The new stormwater system, in its entirety, is to be owned and maintained by the property owner with right-of-entry granted to the city for inspection purposes.

> Staff recommends a condition of approval that prior to final engineering plan approval, the applicant should submit final stormwater plans for review and approval. Additionally, a note should be added to the stormwater utility plans stating:

- The new stormwater system, in its entirety, is to be owned and maintained by the property owner, with right-of-entry granted to the city for inspection purposes.

FINDING: Staff finds that the proposed project can or will meet the requirements of CMC 14.02 and the Camas Design Standards Manual (CDSM) for Storm Sewer.

Water

The proposed project is to meet the requirements of CMC 17.19.040.C.4 Water System and the Camas Design Standards Manual (CDSM).

There is an existing 8-inch water main that is located in the parking lot between the proposed development and the high school building with an existing hydrant tapped from the main.

Per CMC 17.19.040.C.4.a. Each lot within a proposed development shall be served by a water distribution system designed and installed in accordance with the city design standards.

Per the preliminary utility plans, dated September 16, 2024, the applicant is proposing to tap a new 8-inch water main off the existing 8-inch water main and extend the new water main northeast to serve a new fire hydrant with a separate domestic water service for the benefit of the proposed restrooms and locker rooms tapped off the new 8-inch water main. Additionally, the new onsite water main is to be owned and maintained by the property owner.

Staff recommends a condition of approval that prior to final engineering plan approval, the applicant is to submit water utility plans with the following revisions:

- A note is to be added to the water utility plans stating, “All components of the onsite private water system and fire hydrants shall be privately owned and maintained by the property owners with right-of-entry granted to the city for inspection purposes.”
- A note is to be added to the water utility plans stating that “all private fire hydrants are to be ordered direct from the factory and factory painted powder coated red.”

Per CMC 17.19.040.C.4.d. Landscaping and open spaces require a separate irrigation meter and backflow prevention device. The owner of the property is responsible for payment of all fees associated with the installation of the meter and water usage.

The preliminary landscaping plans do not show a proposed irrigation system. If an irrigation system is required, the size of the landscape irrigation meter is to be shown on the water utility and landscape plans.

Staff recommends a condition of approval that prior to final engineering plan approval, the water utility and landscape plans are to be submitted with the location and size of the irrigation meter and backflow prevention device, if applicable.

FINDING: Staff finds the proposed development, as conditioned, can or will meet the requirements of CMC 17.19.040.C.4 and the Camas Design Standards Manual (CDSM) for Water.

Erosion Control

Per CMC 14.06 Erosion and Sediment Control and CMC 17.21.030 Land disturbing activities greater than once acre, will be required to meet the provisions for erosion prevention and sediment control as outlined in CMC 17.21.030 Land Disturbing Activities and CMC 14.06 Erosion and Sediment Control.

The proposed development is located on Parcel No. 178174000 and 178111000, which is the location of the Camas High School. The proposed improvements will result in approximately 2.746 acres (119,615 sf) of land-disturbing activities.

Per CMC 17.21.030.A installation of erosion prevention and sediment control measures are required per approved erosion and sediment control plans. Preliminary erosion and sediment control plans were not submitted with the application.

> Staff recommends a condition of approval that prior to final engineering approval, the applicant should be required to submit for review and approval a set of erosion control plans per the Camas Design Standards Manual (CDSM).

Per CMC 14.06.200 and CMC 17.21.030.B financial security for erosion control, in the amount of 200% of the estimated erosion control items is required prior to any land-disturbing activities of one acre or more. The proposed improvements will result in land-disturbing activities of more than one acre, therefore financial security for erosion control is required.

> Staff recommends a condition of approval that prior to any land-disturbing activities, the applicant should submit to the city an approved form of financial security for erosion and sediment control items, including labor.

The proposed improvements are more than an acre in size of land-disturbing activities, which requires an *NPDES General Construction Stormwater Permit* (GCSWP), issued by Ecology. Additionally, a *Stormwater Pollution Prevention Plan* (SWPPP), which is a requirement of the NPDES GCSWP permit, is to be prepared for the proposed improvements.

> Staff recommends a condition of approval that prior to any land-disturbing activities, an electronic copy of Ecology's NPDES GCSWP permit, an electronic copy of the SWPPP, and the financial security for erosion and sediment control are to be submitted to the city.
>
> Staff recommends a condition of approval that prior to any land-disturbing activities an approved set of final engineering plans is required.

> **FINDING:** Staff finds the proposed development, as conditioned, can and will meet the requirements of CMC 14.06 and the Camas Design Standards Manual (CDSM) for Erosion Control.

FINDING: Staff finds the proposed development, as conditioned, can or will meet the development standards that are required in the zoning district.

C. The proposed use shall be compatible with the surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design;

Traffic and Pedestrian Circulation

The proposed development improvements will provide vehicle and pedestrian access via the new parking spaces and pedestrian sidewalks that will be constructed with the improvements. There is an existing parking lot that has an established on-site traffic circulation pattern with ingress/egress from the Camas High School parking lot to NE 43rd Avenue and/or SE 15th Street to the south and to NE Garfield Street to the west. There are also existing on-site sidewalks that connect the parking lots to the school building and the playing fields throughout the campus and to NE 43rd Avenue and SE 15th Street and NE Garfield Street.

> Ingress and egress to the future development will be via the existing drive accesses on NE 43rd Avenue and SE 15th Street.

[Transportation Impact Analysis]

A Transportation Impact Analysis/Study (TIA/TIS) is required when a proposed development/use generates 200 vehicles per day (VPD) or more.

A Traffic Memorandum (Memo), dated September 19, 2024, was prepared by Lancaster Mobley and submitted with the application. The traffic engineer prepared the report citing Land-Use Code (LUC) 490

– Tennis Courts, which is included in the 11th Edition ITE Trip Generation Manual. LUC 490 bases the number of trips generated according to the number of tennis courts. There are currently eight (8) tennis courts and two (2) pickleball courts. The proposed development is not increasing the number of tennis courts. The applicant will enclose the tennis facility and add restrooms, locker rooms, and a perimeter road with parking spaces. The 2 existing pickleball courts will be eliminated.

Based on Table 4, Trip Generation Analysis Summary, in the Memo, the proposed development improvement will generate an additional 56 ADTs (24 entering, 32 exiting), which will not exceed an additional 200 average daily trips (ADTs) that would trigger a TIA/TIS, therefore a transportation impact analysis (TIA/TIS) is not required. Based on the hours of operation Table 4 shows that the proposed improvements will generate 0 new AM Peak Hour Trips and 0 new PM Peak Hour Trips, with a daily total of 24 AM Trips and 32 PM Trips, which are outside of the AM Peak hours (7:00 am – 9:00 am) and PM Peak Hour Trips (4:00 pm – 6:00 pm).

There were several comments submitted by Clark and Caryn Vitek regarding the Lancaster Mobley traffic study. Most comments question the veracity of the information and conclusions drawn therein. Lancaster Mobley provided clarification and answers to the Vitek's comments in the March 4, 2025, memorandum from Daniel Stumpf, PE.

Based on the Consultant's March 4, 2025, traffic comments response Memo, the hours of operation of the USTA/CSD facility have been adjusted as noted below. *Although subject to change, during the regular school tennis seasons the USTA/CSD facility may utilize the facilities from approximately 9:00 AM to 2:30 PM, and from approximately 6:00 PM to close. The intent of scheduling these hours is to:*

- *Avoid the AM bell time, which occurs at 8:45 AM, and the associated school traffic congestion which occurs before and after.*
- *Avoid the PM bell time, which generally occurs at 3:15 PM (notwithstanding the once a month Wednesday early release time of 1:00 PM), and the associated school traffic congestion which occurs before and after.*
- *Allow the Camas High School tennis programs priority use of the courts, where practices are held between approximately 4:00 PM to 6:00 PM and meets are held between approximately 3:30 PM to 6:00 PM.*

Staff concurs with the findings of the traffic study and the follow-up Traffic Comments Response Memorandum from Lancaster Mobley.

FINDING: Staff finds the proposed development, as conditioned, is compatible with surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design.

D. Appropriate measures have been taken to minimize the possible adverse impacts that the proposed use may have on the area in which it is located;

Appropriate measures have been taken to minimize the potential adverse impacts of the proposed use on the surrounding area. The project is designed to ensure compatibility with existing land uses by maintaining the current capacity of the courts, as no additional courts will be constructed. While the hours of operation may be extended due to improved lighting, the use will predominantly occur outside AM and PM peak traffic hours, which helps to mitigate traffic congestion and maintain smooth circulation in the area.

Traffic generation studies indicate that the proposed USTA/CSD facility is projected to produce 0 additional peak hour trips and only 56 average weekday trips, demonstrating that the traffic impact will be minimal and well within the capacity of the existing infrastructure.

To enhance pedestrian safety and circulation, new sidewalks will be implemented that connect to the existing internal sidewalk systems, providing safe routes to and from the facility. The site design includes a 15 to 16-foot-wide one-way drive aisle and 41 new parking stalls, improving access and addressing any potential increases in usage during off-peak times.

Furthermore, the density of the development does not significantly alter the current intensity of use, as the courts are already open to the public. The thoughtful integration of building and site design elements, including the dome enclosure and enhanced landscaping, will ensure harmony with existing structures while providing additional buffering along the north property line.

The landscape plan adheres to code requirements and features a diverse mix of native and drought-tolerant species, with measures in place to protect landscaping from vehicle overhang. Overall, these strategies collectively ensure that the proposed use will not detrimentally impact the surrounding area, promoting a safe and cohesive environment for all users.

FINDING: Staff has proposed conditions of approval to minimize potential adverse project impacts to the area.

E. The proposed use is consistent with the goals and policies expressed in the comprehensive plan;

Based on the identified goals within the comprehensive plan the applicant's project narrative has focused on the Citywide Land Use Goals and Policies most applicable to the proposed project.

Citywide Land Use Goal

LU-1: Maintain a land use pattern that respects the natural environment and existing uses while accommodating a mix of housing and employment opportunities to meet the City's growth projections.

RESPONSE: The proposed conditional use supports Policy LU-1 by maintaining a land use pattern that respects the natural environment and existing uses. Specifically, the redevelopment complies with the R-7.5 zoning district development standards, ensuring that the design integrates with the existing campus known throughout the surrounding area. The complementary design, parking layout, and enhanced landscaping all contribute to visual harmony and aesthetic integration with adjacent properties. The landscaping plan, which includes a diverse mix of native and drought-tolerant species, enhances the site's natural environment and contributes to a cohesive land use pattern.

The use of the existing tennis courts is compatible with the surrounding land uses in terms of traffic, pedestrian circulation, and density. The project does not involve the construction of additional courts, ensuring that the intensity of use remains consistent with current levels. Furthermore, the proposed operation outside of peak traffic hours minimizes traffic impacts, with traffic generation studies showing no additional AM or PM peak hour trips and only 56 average weekday trips. This demonstrates that the traffic impact is well within the capacity of the surrounding infrastructure.

Citywide Land Use Policies

LU-1.1: Ensure the appropriate mix of commercial-, residential-, and industrial-zoned land to accommodate the City's share of the regional population and employment projections for the 20-year planning horizon.

RESPONSE: Approval of the proposed project will allow for an additional semi public/private partnership providing an appropriate mix of land uses, aligning with the City's goal of accommodating population and employment growth over the next 20 years. The additional use and collaboration between the school district and USTA PNW allows for employment opportunity for the services offered through the requested conditional use.

LU-1.3: Maintain compatible use and design with the surrounding built and natural environments when considering new development or redevelopment.

RESPONSE: As detailed, the proposed conditional use maintains a land use pattern that respects the natural environment and existing uses. Specifically, the redevelopment complies with the R-7.5 zoning district standards, ensuring that the design integrates with the existing campus known throughout the surrounding area. The design, parking layout, and enhanced landscaping all contribute to visual harmony and aesthetic integration with adjacent properties. The landscape plan, which includes a diverse mix of native and drought-tolerant species, enhances the site's natural environment and contributes to a cohesive land use pattern.

The use of the existing tennis courts for public/private use is compatible with the surrounding land uses in terms of traffic, pedestrian circulation, and density. The project does not involve the construction of additional courts, ensuring that the intensity of use remains consistent with current levels. Furthermore, the proposed operation outside of peak traffic hours minimizes traffic impacts, with traffic generation studies showing no additional AM or PM peak hour trips and only 56 average weekday trips. This demonstrates that the traffic impact is well within the capacity of the surrounding infrastructure.

LU-1.4: Ensure that park and recreation opportunities are distributed equitably throughout the City and work to achieve park and continuous trail corridors from Green Mountain to the Columbia River.

RESPONSE: The proposed tennis court improvements at Camas High School support the City's goal of ensuring equitable distribution of park and recreation opportunities. By collaborating with the USTA PNW to create a covered tennis center, this project enhances recreational access for the community. The resurfacing and lighting of the existing courts, along with the dome enclosure and associated site improvements, provide year-round recreational opportunities. The addition of 41 new parking stalls and improved site access ensures the facility is easily accessible, promoting equitable distribution of recreational resources across the city. These upgrades contribute to achieving the broader vision of connecting community amenities and trail corridors.

LU-1.5: Where compatible with surrounding uses, encourage redevelopment or infill development to support the efficient use of urban land.

RESPONSE: The proposed improvements at Camas High School uphold the policy of encouraging redevelopment and infill development to efficiently use urban land. By enhancing existing recreational facilities through resurfacing, lighting, and the installation of a dome enclosure, the project maximizes the use of already developed land. The addition of a bathroom/locker/entrance structure, improved access, and new parking stalls supports efficient land use while maintaining compatibility with the surrounding area. This redevelopment not only improves the functionality of the site but also optimizes its use for both school and community benefit without expanding into undeveloped land.

FINDING: As mentioned above, the development is consistent with the goals and policies of the comprehensive plan.

F. Any special conditions and criteria established for the proposed use have been satisfied. In granting a conditional use permit the hearings examiner may stipulate additional requirements to carry out the intent of the Camas Municipal Code and comprehensive plan.

FINDING: After conducting a public hearing and deliberating over the evidence, the Hearings Examiner may include any additional conditions or criteria necessary to carry out the intent of the CMC and the Comprehensive Plan.

PUBLIC COMMENTS

Public comments from Clark Vitek, Evergreen Tennis Club, have been received and included in the public record. The comments express concerns related to traffic impact, site circulation, architectural review, and hours of operation.

CONCLUSION

Based on the above findings and discussion provided in this staff report, staff concludes that the proposed Conditional Use Permit for the redevelopment of the Camas High School Tennis Courts (CUP24-1001) should be approved if the applicable standards and all conditions of approval are met.

RECOMMENDATION

Staff recommends APPROVAL of the Conditional Use Permit for the redevelopment of the Camas High School Tennis Courts (CUP24-1001) subject to the following conditions of approval:

CONDITIONS OF APPROVAL

STANDARD CONDITIONS OF APPROVAL:

1. Engineering site improvement plans shall be prepared in accordance with the City of Camas Design Standards Manual (CDSM) and CMC 17.19.040.
2. The engineering site improvement plans shall be prepared by a licensed civil engineer in Washington State and submitted to the City's Community Development Engineering Department for review and approval.
3. Per CMC 17.19.040.C.1 and 1.a: All utilities designed to serve the development shall be placed underground. Those utilities to be located beneath paved surfaces, including all service connections, shall be installed prior to application of any surface materials.
4. The installation of public improvements shall be in accordance with CMC 17.21 Procedures for Public Improvements.
5. After the land-use decision is issued, the applicant is to submit the Civil construction plans via the online portal at *www.cityofcamas.us/Permits/Civil Construction Application*.
6. Community Development (CDEV) Engineering shall collect a total 3% plan review and construction inspection (PR&CI) fee for the proposed development.
    a. Payment of the 1% plan review (PR) fee is required prior to start of initial plan review. Staff will review the preliminary engineer's estimate and invoice the applicant via the online portal.

        b. Payment of the 2% construction inspection (CI) fee is required prior to final plan approval. Staff will invoice the applicant via the online portal.
        c. Under no circumstances will the applicant be allowed to begin land-disturbing activities prior to engineering plan approval.

7. A building permit shall be required prior to commencement of construction of a building structure.
8. At the time of building permit approval, the applicant shall pay the appropriate impact fees in accordance with the provisions of CMC 3.88.
9. Prior to final acceptance, the applicant shall remove all temporary erosion prevention and sediment control measures from the site at completion of all site improvements, which includes stabilization of all disturbed soil.
10. As a component for final acceptance, final as-built construction drawing submittals shall meet the requirements of the Camas Design Standards Manual (CDSM).
    a. The as-built cover sheet is to be the originally approved cover sheet signed by the City Engineer.
    b. As-builts are to be submitted as PDFs.
    c. As-builts are to be submitted in either AutoCad or Carlson formats.
11. Per CMC 18.18.070.B, prior to the issuance of final occupancy permits, all public and private improvements shall be completed in accordance with CMC 17.21.070 Final Acceptance.
12. The applicant will be responsible for maintenance of all on-site private improvements, including but not limited to the new tennis courts and associated facilities, the private water system, the private sanitary sewer system and STEF tank, the on-site stormwater facilities, the parking areas, onsite lighting, landscaping, and irrigation.

SPECIAL CONDITIONS OF APPROVAL:

Prior to Building Permit Approval:

Engineering:

[Private Roads]

13. Prior to final engineering plan approval, the applicant shall be required to work with engineering and the Fire Marshal's Office to increase the drive aisle width to a minimum of 16-feet to 18-feet, adjacent to all the new parking spaces, to ensure unimpeded access for fire, life, safety access.
14. Prior to final engineering plan approval, all the new sidewalks shall be designed to meet the requirements for ADA accessibility per the PROWAG and ADAAG.
15. Prior to final engineering plan approval, the applicant should submit final site improvement plans and final landscape plans that shall include wheel stops and/or curb stops at all parking spaces adjacent to landscaping and sidewalks/walkways.
16. Prior to final engineering plan approval, the applicant should submit final site improvement plans with the following revision:
    a. The existing driveway approach and adjacent sidewalks on the east side of the proposed improvements is to be removed and replaced with the minimum 25-foot curb radii on each side of the new private road.

[Sanitary Sewer]

17. Prior to final engineering plan approval, the applicant shall submit sanitary sewer utility plans with the following revisions to the private onsite sanitary sewer system:

   a. The proposed STEF tank, located within the landscape area, is to be installed such that the access riser lids are to always be visible.
   b. If the applicant relocates the STEF tank into a paved area, the riser lids must have traffic rated access lids and risers.
   c. The applicant is responsible for sizing the STEF tank for future use. Specifications, design, and calculations for sizing the STEF tank are to be submitted to the city review and approval prior to installation.

18. Prior to final engineering plan approval, a note shall be added to the sanitary sewer utility plans stating
    a. All components of the onsite private sanitary sewer system, including the STEF tank, shall be privately owned and maintained by the property owners, with a right-of-entry granted to the city for inspection purposes.

[Storm Sewer]

19. Prior to final engineering plan approval, the applicant should be required to submit the Final Stormwater Technical Information Report with page 2 corrected, stamped, and signed that the report was prepared in accordance with Ecology's *2024 Stormwater Management Manual for Western Washington (SWMMWW)* and Camas Municipal Code (CMC) 14.02 Stormwater Control.

20. Prior to final engineering plan approval, the applicant shall submit final stormwater plans for review and approval. Additionally, a note shall be added to the stormwater utility plans stating:
    a. The new stormwater system, in its entirety, is to be owned and maintained by the property owner, with right-of-entry granted to the city for inspection purposes.

[Water]

21. Prior to final engineering plan approval, the applicant is to submit water utility plans with the following revisions:
    a. A note is to be added to the water utility plans stating, "All components of the onsite private water system and fire hydrants shall be privately owned and maintained by the property owners with right-of-entry granted to the city for inspection purposes."
    b. A note is to be added to the water utility plans stating that "all private fire hydrants are to be ordered direct from the factory and factory painted powder coated red."

22. Prior to final engineering plan approval, the water utility and landscape plans are to be submitted with the location and size of the irrigation meter and backflow prevention device, if applicable.

[Erosion Control]

23. Prior to final engineering plan approval, the applicant shall be required to submit for review and approval a set of erosion control plans per the Camas Design Standards Manual (CDSM).

Prior to Land-disturbing Activities:

24. Prior to any land-disturbing activities, the applicant should submit to the city an approved form of financial security for erosion and sediment control items, including labor.

25. Prior to any land-disturbing activities, an electronic copy of Ecology's NPDES GCSWP permit, an electronic copy of the SWPPP, and the financial security for erosion and sediment control are to be submitted to the city.

26. Prior to any land-disturbing activities an approved set of final engineering plans is required.

Prior to Final Occupancy:

Planning:

10. This Conditional Use Permit will expire if construction of the site improvements does not commence within two (2) years of issuance of Hearing Examiner’s final orders.

Exhibit 1 CUP24-1001

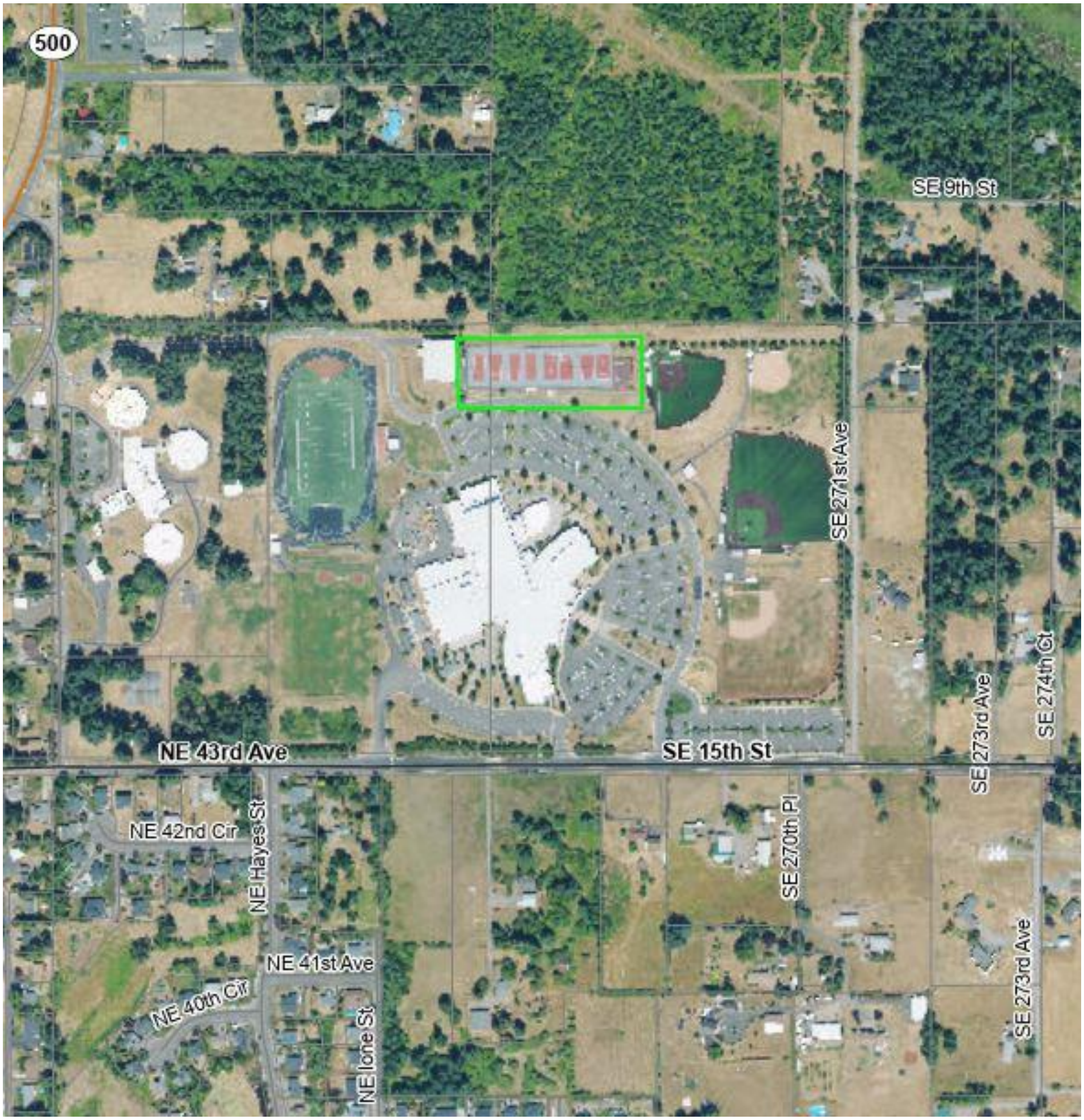

Exhibit 2 CUP24-1001

Order No. **CL26006**

Clark County Title
1400 Washington Street, Ste. 100, Vancouver, WA 98660
Phone: 360-694-4722 Fax: 360-694-4734

Limited Liability Certificate

Order No. CL26006

Attn:

THIS IS A REPORT AS OF **March 15, 2024**, COVERING THE PROPERTY HEREINAFTER DESCRIBED. THE INFORMATION CONTAINED HEREIN IS MADE SOLELY FOR THE PURPOSE OF DETERMINING THE STATUS OF THE PROPERTY DESCRIBED HEREIN, IS RESTRICTED TO THE USE OF THE ADDRESSEE, AND IS NOT TO BE USED AS A BASIS FOR CLOSING ANY TRANSACTION AFFECTING TITLE TO SAID PROPERTY.

VESTED IN:

CAMAS SCHOOL DISTRICT NO. 117, A MUNICIPAL CORPORATION OF THE STATE OF WASHINGTON

Clark County Title Company

Mark D.

Authorized Signatory

Exhibit 2 CUP24-1001

LEGAL DESCRIPTION

THAT PORTION OF THE SOUTHEAST QUARTER OF SECTION 35, TOWNSHIP 2 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN, CLARK COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 35 AS SHOWN IN BOOK 44 OF SURVEYS AT PAGE 90, RECORDS OF THE CLARK COUNTY AUDITOR, THENCE NORTH 88°42'20" WEST, ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER 260.00 FEET TO A POINT 260.00 FEET FROM WHEN MEASURED PERPENDICULAR TO THE EAST LINE OF SAID SOUTHEAST QUARTER AND THE POINT OF BEGINNING (SAID POINT ALSO BEING THE SOUTHEAST CORNER OF THE "HAGENSON" PARCEL AS RECORDED UNDER AUDITOR'S FILE NO. 9507130065); THENCE CONTINUING ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER 1728.58 FEET TO A POINT 649.00 FEET FROM, WHEN MEASURED PERPENDICULAR TO THE WEST LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 35; THENCE SOUTH 01°15'19" WEST, (PARALLEL WITH AND 649.00 FEET FROM, WHEN MEASURED PERPENDICULAR TO THE WEST LINE OF SAID NORTHWEST QUARTER), 1317.44 FEET TO THE SOUTH LINE OF THE NORTH HALF OF THE SOUTHEAST QUARTER OF SECTION 35; THENCE SOUTH 88°36'35" EAST, ALONG SAID SOUTH LINE, 1726.63 FEET TO A POINT 260.00 FEET FROM, WHEN MEASURED PERPENDICULAR TO THE EAST LINE OF SAID SOUTHEAST QUARTER; THENCE NORTH 01°20'26" EAST (PARALLEL WITH AND 260.00 FEET FROM, WHEN MEASURED PERPENDICULAR TO THE EAST LINE OF SAID SOUTHEAST QUARTER), 1320.33 FEET TO THE POINT OF BEGINNING.

EXCEPT SE 15TH STREET.

ALSO EXCEPT THAT PORTION CONVEYED TO CLARK COUNTY RECORDED OCTOBER 22, 2001 UNDER AUDITOR'S FILE NO. 3382187, RECORDS OF CLARK COUNTY, WASHINGTON.

Exhibit 2 CUP24-1001

EXCEPTIONS:

1. NOTICE OF LIMITATION OF LIABILITY: NO TITLE INSURANCE IS PROVIDED IN CONNECTION WITH THIS LIMITED LIABILITY REPORT. THE COMPANY'S LIABILITY IS STRICTLY LIMITED: THE COMPANY SHALL BE LIABLE (1) ONLY TO THE PARTY WHO ORDERED THE LIMITED LIABILITY REPORT AND (2) ONLY FOR ANY ACTUAL LOSS SUSTAINED BY THAT PARTY IS A DIRECT RESULT OF AN ERROR OR OMISSION IN THE LIMITED LIABILITY REPORT. IN NO EVENT SHALL THE LIABILITY OF THE COMPANY EXCEED THE AMOUNT ACTUALLY PAID BY THE PARTY TO THE COMPANY FOR THE ISSUANCE OF THE LIMITED LIABILITY REPORT. THE COMPANY OFFERS VARIOUS TITLE INSURANCE PRODUCTS THAT OFFER MORE PROTECTION TO THE PARTY IN THE EVENT OF DAMAGE DUE TO ERRORS OR OMISSIONS IN THE LIMITED LIABILITY REPORT. IF THE PARTY WISHES TO HAVE MORE PROTECTION, THE PARTY MUST INFORM THE COMPANY IN WRITING, AND PAY THE PREMIUM FOR SUCH TITLE INSURANCE COVERAGE.

2. REAL PROPERTY TAXES - TOTAL DUE MAY INCLUDE FIRE PATROL ASSESSMENT, R.I.D. ASSESSMENT AND/OR CLEAN WATER PROJECT ASSESSMENT, IF ANY, NOT INCLUDING INTEREST AND PENALTY AFTER DELINQUENCY:

YEAR	AMOUNT	PAID	OWING
2024	$0.00	$0.00	$0.00

TAX PARCEL NO: 178111-000 TAX CODE NO: 117042

REAL PROPERTY TAXES ARE A LIEN JANUARY 1ST, PAYABLE FEBRUARY 15TH, FIRST HALF DELINQUENT MAY 1ST AND SECOND HALF DELINQUENT NOVEMBER 1ST.

JURISDICTION: CAMAS

NOTE: TAX PAYMENTS CAN BE MAILED TO THE FOLLOWING ADDRESS:

CLARK COUNTY TREASURER
CALLER BOX 35150
SEATTLE, WA 98124-5150
PHONE: 564-397-2252

3. REAL PROPERTY TAXES - TOTAL DUE MAY INCLUDE FIRE PATROL ASSESSMENT, R.I.D. ASSESSMENT AND/OR CLEAN WATER PROJECT ASSESSMENT, IF ANY, NOT INCLUDING INTEREST AND PENALTY AFTER DELINQUENCY:

YEAR	AMOUNT	PAID	OWING
2024	$0.00	$0.00	$0.00

TAX PARCEL NO: 178174-000 TAX CODE NO: 117042

REAL PROPERTY TAXES ARE A LIEN JANUARY 1ST, PAYABLE FEBRUARY 15TH, FIRST HALF DELINQUENT MAY 1ST AND SECOND HALF DELINQUENT NOVEMBER 1ST.

JURISDICTION: CAMAS

NOTE: TAX PAYMENTS CAN BE MAILED TO THE FOLLOWING ADDRESS:

CLARK COUNTY TREASURER
CALLER BOX 35150
SEATTLE, WA 98124-5150
PHONE: 564-397-2252

Exhibit 2 CUP24-1001

4. THE LAND HEREIN DESCRIBED IS CARRIED ON THE TAX ROLLS AS EXEMPT, HOWEVER, IT WILL BECOME TAXABLE FROM THE DATE OF EXECUTION OF A CONVEYANCE TO A TAXABLE ENTITY AND SUBJECT TO THE LIEN OF REAL PROPERTY TAXES FOR THE BALANCE OF THE YEAR 2024.
   TAX ACCOUNT NO.: 178111-000 AND 178174-000
   JURISDICTION: CAMAS

5. LIABILITY FOR FUTURE ASSESSMENTS FOR IMPROVEMENTS LOCATED ON SAID LAND.

6. UNPAID CHARGES AND ASSESSMENTS, IF ANY, LEVIED BY CITY OF CAMAS.

7. EASEMENT AND THE TERMS AND CONDITIONS THEREOF:
   PURPOSE: INGRESS, EGRESS AND UTILITIES
   RECORDED: July 29, 1999
   AUDITOR'S FILE NO.: 3135195
   AREA AFFECTED: SAID PREMISES

8. AGREEMENT AND THE TERMS AND CONDITIONS THEREOF:
   REGARDING: ROAD MAINTENANCE
   RECORDED: March 20, 1987
   AUDITOR'S FILE NO.: 8704020138

9. EASEMENT AND THE TERMS AND CONDITIONS THEREOF:
   GRANTEE: CITY OF CAMAS
   PURPOSE: WATER LINE
   AUDITOR'S FILE NO.: C9728
   AREA AFFECTED: SAID PREMISES

10. EASEMENT AND THE TERMS AND CONDITIONS THEREOF:
    GRANTEE: NORTHWESTER ELECTRIC COMPANY
    PURPOSE: ELECTRICAL
    AUDITOR'S FILE NO.: C79603
    AREA AFFECTED: SAID PREMISES

11. COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT;
    RECORDED: July 29, 1999
    AUDITOR'S FILE NO.: 3135195

12. EASEMENT AND THE TERMS AND CONDITIONS THEREOF:
    GRANTEE: CITY OF CAMAS
    PURPOSE: WATER LINE
    RECORDED: July 15, 2001
    AUDITOR'S FILE NO.: 3345270
    AREA AFFECTED: SAID PREMISES

13. EASEMENT AND THE TERMS AND CONDITIONS THEREOF:
    GRANTEE: CITY OF CAMAS
    PURPOSE: WATER LINE
    RECORDED: July 18, 2001
    AUDITOR'S FILE NO.: 3346174
    AREA AFFECTED: SAID PREMISES

14. EASEMENT AND THE TERMS AND CONDITIONS THEREOF:
    GRANTEE: CLARK COUNTY
    PURPOSE: PUBLIC WALKWAY
    RECORDED: October 22, 2001
    AUDITOR'S FILE NO.: 3382188
    AREA AFFECTED: SAID PREMISES

15. EASEMENT AND THE TERMS AND CONDITIONS THEREOF:

GRANTEE:	PUBLIC UTILITY DISTRICT NO. 1 OF CLARK COUNTY, INCLUDING JOINT USERS
PURPOSE:	ELECTRIC TRANSMISSION AND DISTRIBUTION
AREA AFFECTED:	SAID PREMISES
RECORDED:	January 08, 2021
AUDITOR'S FILE NO.:	5848140

16. AGREEMENT AND THE TERMS AND CONDITIONS THEREOF:

REGARDING:	RIGHT OF WAY
RECORDED:	September 27, 1911
AUDITOR'S FILE NO.:	BOOOK 91 PAGE 371

17. UNRECORDED LEASEHOLDS, IF ANY; RIGHTS OF VENDORS AND HOLDERS OF A SECURITY INTEREST ON PERSONAL PROPERTY INSTALLED UPON THE LAND; AND RIGHTS OF TENANTS TO REMOVE TRADE FIXTURES AT THE EXPIRATION OF THE TERM.

NOTE: THE FOLLOWING IS A 24 MONTH CHAIN OF TITLE

THIS IS FOR INFORMATIONAL PURPOSES ONLY. THE FOLLOWING DEED(S) AFFECTING SAID LAND WERE RECORDED WITHIN 24 MONTHS OF THE DATE OF THIS REPORT:

THERE ARE NO CONVEYANCES AFFECTING SAID PREMISES RECORDED WITHIN THE LAST 24 MONTHS.

NOTES:

A. LIABILITY IS LIMITED TO THE CHARGE MADE FOR THIS CERTIFICATE.

MacKay Sposito

Vancouver Office

18405 SE Mill Plain Boulevard, Suite 100 Vancouver, WA 98683
360.695.3411 www.mackaysposito.com

PROJECT NARRATIVE

I. INTRODUCTION

REVIEWS REQUESTED

The applicant is requesting review and approval of the following items for the covered tennis center proposal:

1. Minor Design Review
2. Conditional Use Permit
3. SEPA Checklist

PROJECT LOCATION AND IDENTIFICATION

The site address is the site of the Camas High School campus located at 29600 SE 15th Street, Camas, WA. The property consists of Tax Parcels 178111-000 and 178174-000 hereby known as the "subject property." The total area of the subject property is 2,281,238 square foot (sf) or 52.37 acres in size per Clark County records and is zoned R-7.5.

The proposed redevelopment of the existing tennis courts and adjacent landscaping, parking and drive isle(s) consists of 144,798 sf or 3.32 acres of the overall subject property. For the purposes of this project narrative, the area proposed for redevelopment will be referred to as the "project area."

EXISTING CONDITIONS

The subject property is the site of the Camas High School campus. The site includes a primary building used for educational programs, auditorium and gym space for activities and athletics, as well as accessory buildings and uses including various sports fields, tennis courts and associated parking and landscaping throughout. The subject property includes frontage on SE 15th Street, which is a 3-lane, fully improved arterial road. A secondary ingress/egress point of access is in the northwest portion of the site. This access point extends through the west adjacent property (The Heights Learning Center, Property ID: 116031010) and connects to NE Garfield Street right-of-way, designated as a local road.

The project area currently features eight (8) tennis courts and two (2) pickleball courts, all of which are fenced and equipped with overhead lighting. The facilities are surrounded by internal landscaping, and there is pedestrian access that connects the project area to the existing parking lot located to the south.

Exhibit 3 CUP24-1001

According to Clark County GIS, there are no mapping indicators for floodplain, shoreline or priority habitat/species areas or buffer areas or areas of potential instability.

ADJACENT DEVELOPMENT

Existing uses adjacent to the project site:

NORTH:	North Shore Higher Density Residential (HD-NS)
EAST:	Single Family Residential (R1-6) with Urban Holding - 10 (UH-10) overlay
SOUTH:	Residential-7,500 (R-7.5) with Urban Holding - 10 (UH-10) overlay
WEST:	Residential-10,000 (R-10) with Airport Overlay - Zone C overlay and Neighborhood Park (NP)

PROJECT DESCRIPTION

The Applicant is requesting Minor Design Review and Conditional Use approval of the proposed tennis court improvements on site. Specifically, the Camas School District is collaborating with U.S. Tennis Association (USTA PNW) to create a covered tennis center at the site of the existing eight (8) existing tennis and two (2) pickleball courts (project area). The proposed project includes resurfacing and lighting the existing tennis courts, installing an approximate 59,800-sf dome air structure enclosure over the tennis courts, and associated improvements to the site for access, parking, and placement of a bathroom/locker/entrance structure adjacent to the covered tennis courts. The proposal includes the addition of a new 15 to 16-foot-wide one-way drive aisle parallel to the north and east facades of the proposed structure where 41 new parking stalls will be provided. All proposed improvements within the project area are located within the subject property and no improvements are proposed in the adjacent rights-of-way.

This project narrative provides a complete and detailed description of the proposed Conditional Use and how the proposal meets both Camas code requirements and design principles.

II. ZONING (CMC CHAPTER 18)

ZONING MAP AND DISTRICTS- (CMC 18.09)

18.05.020 - Districts designated

Per Clark County Records and city maps, the subject property is zoned Residential 7,500 (R-7.5). The subject property's comprehensive plan designation is Single-Family Medium.

18.05.040 - Residential and multifamily zones

The R-7.5 zoning district is intended for single-family dwellings with densities of five to six dwellings per acre. This zone should have less slope than lower density zones and be adjacent to existing high density residential districts. The average lot size is seven thousand five hundred square feet.

18.07.040 - Table 2—Residential and multifamily land uses

Exhibit 3 CUP24-1001

Authorized Uses in Residential and Multifamily Zones

R	*MF*
RESIDENTIAL USES	
Adult family home, residential care facility, supported living arrangement, or housing for the disabled 1	*P*
Apartments	*P 2*
Assisted living 1 , retirement home 1	*C*
Cottage-style homes	*X/P 2*
Designated manufactured homes	*P*
Duplex or two-family dwelling	*C*
Manufactured home	*X*
Manufactured home park	*X*
Nursing, rest, convalescent home 1	*C*
Permanent Supportive Housing	*C/P 2*
Residential attached housing for three or more units (e.g., rowhouses)	*X/P 2*
Residential Treatment Facility 5	*X*
Single-family dwelling (detached)	*P*
Sober Living Homes	*P*
Transitional Housing	*P*
INCIDENTAL USES	
Accessory dwelling unit	*P*
Animal training, kennel, boarding	*X*
Day care center 1	*C*
Day care, family home	*P*
Day care, minicenter 1	*C*
Electric vehicle battery charging station and rapid charging stations	*P*
Gardening and horticulture activities	*P*
Home occupation	*P*
Bed and breakfast 1	*C*
RECREATION/RELIGIOUS/CULTURAL	
Church 1	*C*
Community clubs, private or public 1	*C*
Library 1	*C*
Museum 1	*C*
Open space 1	*P*
Public or semi-public building 1	*C*
Park or playground	*P*
Sports fields 1	*C*
Trails	*P*
Event center 6	*C*
Educational Uses	
Private, public or parochial school 1	*P*
Trade, technical, business college 1	*X*
College/university 1	*X*
COMMUNICATION AND UTILITIES	

Exhibit 3 CUP24-1001

Wireless communication facility	*Refer to Chapter 18.35*
Facilities, minor public	*C*
Public utilities, minor	*C*
Pumping station 1	*C*
Railroad tracks and facilities 1	*C*
TEMPORARY USES	
Sales office for a development in a dwelling 1, 4	*T*
Sales office for a development in a trailer 3, 4	*T*

Notes:

1. *See Chapter 18.19 "Design Review" for additional regulations.*
2. *Permitted in the LD-NS zone. Permitted in all other R zones as part of a planned development only.*
3. *Site plan review required per CMC Section 18.18.020(A)(1).*
4. *Notwithstanding the time limitations of a temporary use, a sales office proposed and approved through a Type III application may be approved with a longer time frame than one hundred eighty days.*
5. *A Residential Treatment Facility shall not be located within one thousand feet of public and private schools, public parks, public libraries, other RTFs, or similar uses.*
6. *Permitted in the LD-NS and HD-NS zones only.*
7. *Cottages are only permitted in the LD-NS zone.*
8. *Cottages are permitted in the HD-NS zone. In other multi-family zones, cottages are permitted with the MF-C overlay only.*

RESPONSE: The Camas School District is partnering with USTA PNW to create a Covered Tennis Center at the Camas High School site (subject property), where there are eight (8) existing tennis and two (2) pickleball courts on site (project area). The facility will be used by both the high school boys' and girls' teams during their respective seasons, and by the USTA PNW organization during the off-season and other times when it is not in use by the high school teams. Staff have not provided the applicable use category from the CMC; however, it is reasonable to conclude that the use can be classified as a 'community club, private or public' as outlined in Table 2—Residential and Multifamily Land Uses. This use is as allowed through a Conditional Use provided the proposal complies with the approval standards of CMC Chapter 18.43- Conditional Use and the design regulations of Chapter 18.19. Compliance with applicable approval standards has been addressed in the corresponding sections of this project narrative.

DENSITY AND DIMENSIONS- (CMC 18.09)

18.09.050 Table 3 - Density and Dimensions – Multi-family Residential Zones

RESPONSE: At the time of the application, the property is zoned Residential 7,500 (R-7.5). The subject property, encompassing 2,281,238 square feet or 52.37 acres, is the site of the Camas High School campus. The subject property features a primary building for educational purposes, auditorium and gym space for activities, and athletics, multiple sports fields, tennis courts, associated parking areas, and landscaping integrated throughout the development. The proposed project area conditionally includes a "community club, private or public," featuring a new approximate 59,800-sf dome air structure to cover resurfaced sports courts. Consequently, the development must comply with the standards outlined in Table 3 - Density and Dimensions for Multifamily Residential Zones. The applicable development standards and corresponding compliance measures are outlined below:

Table 3: Density and Dimensions for Multifamily Residential Zones

	R-7.5	**Proposed**
Max. Density (dwelling units per gross acre)	*24*	N/A
Min. Density (dwelling unts per gross acre)	*6*	N/A
STANDARD LOTS		
Min. Lot Area	*1,800 S.F.*	2,281,238 S.F.
Min. Lot Width	*20'*	Approx. 1,730 FT
Min. Lot Depth	*60'*	Approx. 1,280 FT
Max. Gross Floor Area (GFA)	*No max*	N/A
SETBACKS		
Min. front yard/at garage front	*10'/18'*	Approx. 1,110 FT (S)
Min. side yard[1]	*3'*	Approx. 575 FT (W)
Min. side yard, flanking a street	*15'*	Approx. 640 FT (E)
Min. rear yard	*10'*	60 FT (N)
LOT COVERAGE		
Max. building lot coverage	*75%*	41 %
BUILDING HEIGHT		
Max. building height[2]	*45'*	39'

1. *The non-attached side of a dwelling unit shall be three feet, otherwise a zero-lot line is assumed.*
2. *Maximum building height: three stories and a basement but not to exceed height listed above.*
3. *Maximum building height: one story and a basement but not to exceed height listed above.*
4. *GFA in this instance does not include covered porches or accessory structures as defined per CMC 18.17.040.*

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)
(Ord. No. 2612, § I(Exh. A), 2-7-2011; Ord. No. 2694, § III, 2-3-2014)

PARKING- (CMC 18.11)

18.11.020 Design

The design of off-street parking shall be as follows:

- A. *Ingress and Egress. The location of all points of ingress and egress to parking areas shall be subject to the review and approval of the city.*
- B. *Backout Prohibited. In all commercial and industrial developments and in all residential buildings containing five or more dwelling units, parking areas shall be so arranged as to make it unnecessary for a vehicle to back out into any street or public right-of-way.*
- C. *Parking Spaces—Access and Dimensions. Adequate provisions shall be made for individual ingress and egress by vehicles to all parking stalls at all times by means of unobstructed maneuvering aisles. The city is directed to promulgate and enforce standards for maneuvering aisles and parking stall dimensions, and to make such standards available to the public.*
- D. *Small Car Parking Spaces. A maximum of thirty percent of the total required parking spaces may be reduced in size for the use of small cars, provided these spaces shall be clearly identified with a sign permanently affixed immediately in front of each space containing the notation "compacts only." Spaces designed for small cars may be reduced in size to a minimum of eight feet in width and fifteen feet in length. Where feasible, all small car spaces shall be located in one or more contiguous areas and/or adjacent to ingress/egress points within parking facilities. Location of compact car parking spaces shall not create traffic congestion or impede traffic flows.*

RESPONSE: The subject property has an existing ingress and egress on SE 15th Street and an egress on NE Garfield Street that will remain unchanged. According to the 2016 Transportation Comprehensive Plan Map, SE 15th Street is designated as a fully improved 3-lane road along the school's frontage. NE Garfield Street is a local road without sidewalk improvements near the

North Access Road intersection, and the applicant is not required to make improvements on NE Garfield Street per the Pre-Application Meeting Notes for Planning Case number PA24-08.

The additional parking proposed within the project area has been designed to comply with the standards outlined in CMC Chapter 18.11, ensuring that all dimensional requirements, such as stall size, aisle width, and maneuverability, are met. As further detailed in this project narrative, the design provides sufficient space for vehicle circulation and maintains accessibility throughout the site. Additionally, the plan ensures that no parking spaces are positioned in a manner that would require vehicles to back out into a street or public right-of-way, enhancing both safety and traffic flow. The proposal does not include small car spaces, further demonstrating the commitment to adhering to code requirements and optimizing functionality.

18.11.030 Location

Off-street facilities shall be located as hereafter specified. Such distance shall be the maximum walking distance measured from the nearest point of the parking facility to the nearest point of the building that such facility is required to serve:

A. *For single-family or two-family dwelling and motels: on the same lot with the structure they are required to serve.*
B. *For multiple dwelling, rooming or lodging house: two hundred feet.*
C. *For hospital, sanitarium, home for the aged, or building containing a club: three hundred feet.*
D. *For uses other than those specified above: four hundred feet.*

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2443 § 3 (Exh. A (part)), 2006)

RESPONSE: As shown in the submitted plans, the project area includes 41 additional parking spaces and a 15 to 16-foot-wide drive aisle to be located parallel to the north and east facades of the proposed building. The parking facilities are set back from the building by a landscape buffer and a pedestrian sidewalk system, providing a separation ranging approximately 15 to 25 feet. As such, the proximity of the parking to the building complies with the CMC requirement, which mandates that parking be located within 400 feet of the structure, ensuring convenience for users while adhering to local regulations.

18.11.130 Standards

The minimum number of off-street parking spaces for the listed uses shall be shown in Table 18.11-1, Off-Street Parking Standards. The City Engineer shall have the authority to request a parking study when deemed necessary.

RESPONSE: According to Table 18.11-1, the use classification of a “Tennis, racquetball, handball, courts/club” is required to provide three (3) spaces per court or lane, one (1) space per 260 square feet of gross floor area (GFA) of related uses, and one (1) space per employee. The applicable development standards and corresponding compliance measures are outlined below:

Exhibit 3 CUP24-1001

Code Requirements	*3 Spaces per Court*	*(+) 1 space per 260 SF related use area*	*(+) 1 space per employee*
Proposal	*8 courts*	*600 SF Entry Vestibule*	*3 employees*
Proposal Requirement	(3*8) 24	+ (600 SF/260) + 2.3 (3) 30 spaces	+ (1*3) 3
Provided	**41 spaces**		

The proposal exceeds the minimum required parking, as outlined above and shown on the submitted Site Plan.

LANDSCAPING - (CMC 18.13)

18.13.050 Landscaping Standards

A. The property owner shall be responsible for any future damage to a street, curb, or sidewalk caused by landscaping.

B. Landscaping and trees shall be selected and located to deter sound, filter air contaminants, curtail erosion, minimize stormwater run-off, contribute to living privacy, reduce the visual impacts of large buildings and paved areas, screen, and emphasize or separate outdoor spaces of different uses or character.

C. Landscape, Tree and Vegetation Plan must include a combination of trees, shrubs, and ground cover to achieve the purposes of this chapter.

   1. Required landscaping shall be comprised of a minimum of sixty percent native vegetation (or adapted to northwest climate), or drought-tolerant vegetation, and fifty percent evergreen.

   2. Deciduous trees shall have straight trunks, be fully branched, have a minimum caliper of two inches, be equivalent to a fifteen-gallon container size, and be adequately staked for planting.

   3. Evergreen trees shall be a minimum of five feet in height, fully branched, and adequately staked for planting.

D. Street trees will be required as part of the frontage improvements. Species, size and spacing of the trees must be consistent with the Design Standards Manual. Unless otherwise specified, trees must generally be spaced thirty feet apart. Substitute varieties are subject to approval by the City of Camas.

E. Proposed vegetation cannot be an invasive species as listed within the most current edition of the Clark County Noxious Weed List (e.g. English Ivy cultivars).

F. Shrubs shall be a minimum of five-gallon pot size. Upright shrubs shall have a minimum height at planting of eighteen inches. Spreading shrubs at planting shall have a minimum width of eighteen inches (smaller shrub sizes may be approved where it is more appropriate within a particular landscape plan).

G. Ground Cover, defined as living material and not including bark chips or other mulch, shall be from containers of one gallon or larger. Plants shall be planted and spaced in a triangular pattern which will result in eighty percent cover in three years. Lawn cannot be the primary ground cover within required landscape buffers unless approved for stormwater conveyance. Grass species, if used as ground cover, shall be native or drought-tolerant, and appropriate for the use of the area.

H. Appropriate measures shall be taken, e.g., installation of irrigation system, to assure landscaping success. If plantings fail to survive, it is the responsibility of the property owner to replace them.

I. Required trees, as they grow, shall be pruned in accordance with the International Society of Arboriculture. The pruned tree will provide at least ten feet of clearance above sidewalks and fourteen feet above street roadway surfaces.

Exhibit 3 CUP24-1001

J. *Existing trees may be used as street trees if there will be no damage from the development which will kill or weaken the tree. Sidewalks of variable width and elevation may be utilized to save existing street trees, subject to approval by the city.*
K. *Vision clearance hazards shall be prohibited.*
L. *Street trees and other required landscaping which dies or is removed, must be replaced within one year of death or removal. Replacement street trees may be an alternative species from the city's recommended tree list, and may be in a different location as approved by the city.*

RESPONSE: The proposed Landscaping Plan has been prepared to meet the standards of this code section (see Sheet L1.0).

As detailed within this project narrative, the total area of the subject property is 2,281,238 square foot or 52.37 acres in size per Clark County records while the proposed redevelopment of the existing tennis courts and adjacent landscaping, parking and drive isle(s) consists of 144,798 sf or 3.32 acres of the overall subject property. The project area will include a total of 29 percent of landscaped area. The proposed landscaping will include a diverse mix of trees, shrubs, and ground cover, with at least 60% native or drought-tolerant species, of which 50% will be evergreen and no invasive species listed in the Clark County Noxious Weed List will be planted.

The project area does not include public right-of-way and public frontage improvements and city staff having not required any, making the street tree criteria inapplicable. However, a 10-foot-wide landscape planter runs east-west along the northern boundary of the project area. This planter features a diverse mix of trees, shrubs, and ground cover. The proposed deciduous trees will have a minimum caliper of two inches, while the evergreen trees will be at least five feet tall at the time of planting.

18.13.060 Parking Areas

A. *Parking areas are to be landscaped at all perimeters.*
B. *All parking areas shall provide interior landscaping for shade and visual relief.*
C. *Parking lots shall have a minimum ratio of one tree per six double-loaded stalls or one tree per three single-loaded stalls (See Figure 18.13-1).*

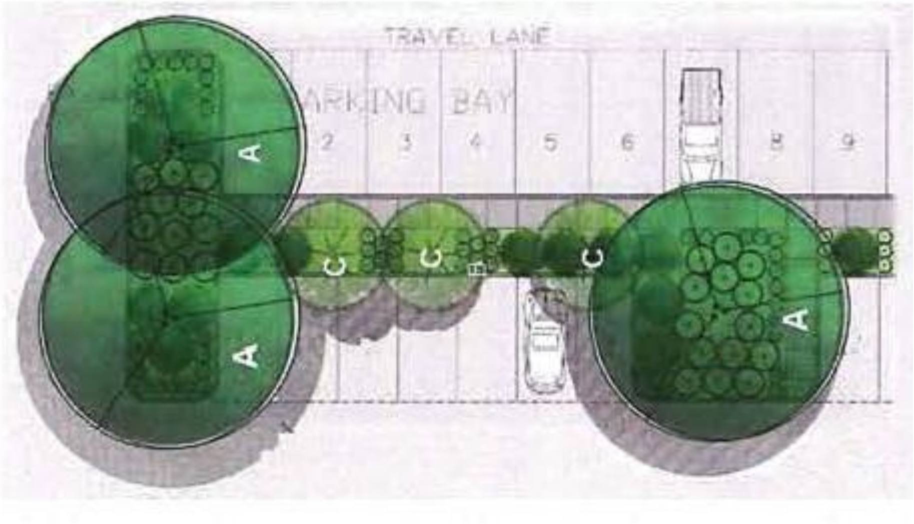

Figure 18.13-1 Parking Lot Planting Islands

D. Planter strips (medians) and tree wells shall be used within parking areas and around the perimeter to accommodate trees, shrubs and groundcover.
E. Planter areas shall provide a five-foot minimum width of clear planting space.
F. Wheel stops should be used adjacent to tree wells and planter areas to protect landscaping from car overhangs.
G. Curbed planting areas shall be provided at the end of each parking aisle to protect parked vehicles.
H. No more than fifteen parking spaces shall be located in a row without a landscaped divider strip (See Figure 18.13.060-1).

RESPONSE: The proposed Landscaping Plan has been prepared to meet the standards of this code section – see Plan **Error! Reference source not found.**. Specifically, the project area includes 29 percent of the project area that shall be landscaped. This includes a 10-foot-wide landscape planter extending east-west along the project area's north perimeter boundary. Internally the project area also includes two (2) landscaped parking islands, each will include required tree planting. The parking islands have been implemented to break up the number of parking spaces that occur in a row. As designed the 41 parking spaces have been broken into four (4) sections with each section including less than 15 parking spaces in a row to conform to the limitations of Subsection H above. Pedestrian sidewalks are proposed adjacent to proposed parking therefore all landscaping shall be protected from potential vehicle overhang and wheel stops are not required. As detailed in this project narrative and illustrated on the submitted plans, the proposed landscaping will include a diverse mix of trees, shrubs, and ground cover, with at least 60% native or drought-tolerant species, of which 50% will be evergreen and no invasive species listed in the Clark County Noxious Weed List, will be planted.

SITE PLAN REVIEW - (CMC 18.18)

18.18.060 Criteria for approval

RESPONSE: Although staff indicated that a site plan review application is not required for this proposal, we are providing the following findings to demonstrate compliance with the Camas Municipal Code and to assist staff in better understanding the project.

The city shall consider approval of the site plans with specific attention to the following:

A. Compatibility with the city's comprehensive plan;

RESPONSE: The proposed site plan for the development of a covered tennis center at Camas High School complies with the City of Camas' Comprehensive Plan, particularly in terms of compatibility with the surrounding built and natural environments, equitable distribution of recreational resources, and efficient land use.

The proposed dome air structure enclosure and resurfacing of the tennis courts at Camas High School aligns with the surrounding recreational and educational environment by upgrading existing facilities without expanding beyond the current footprint, ensuring minimal disruption to the landscape. The year-round, covered facility increases access to high-quality recreational opportunities for both the school and the public, meeting the comprehensive plan's goal of equitable distribution. Efficient use of land is maintained by improving current sports facilities and adding parking without encroaching on undeveloped areas, while the shared use between the school and USTA PNW maximizes utility.

Exhibit 3 CUP24-1001

Overall, the proposed site plan complies with the goals of the Camas Comprehensive Plan by ensuring that the development respects its context, improves public recreation opportunities, and makes efficient use of urban land while avoiding negative impacts on the surrounding community.

B. Compliance with all applicable design and development standards contained in this title and other applicable regulations;

RESPONSE: The proposed development meets the development standards within Title 18, "Zoning" of the CMC. Specifically, the submitted plans and project narrative detail compliance with the Density and Dimensions of CMC 18.09.030, Parking standards of CMC 18.11 and Landscaping Standards of CMC 18.13. The project narrative also includes analysis for Design Review demonstrating compliance with CMC 18.19.

C. Availability and accessibility of adequate public services such as roads, sanitary and storm sewer, and water to serve the site at the time development is to occur, unless otherwise provided for by the applicable regulations;

RESPONSE: The subject property has been developed into the Camas High School campus. The subject property includes a primary building used for educational programming, auditorium and gym space for activities and athletics, as well as accessory uses including various sports fields, tennis courts and associated parking in addition to landscaping throughout the existing development. The subject property includes frontage on SE 15th Street, which is a 3-lane, fully improved arterial road. A secondary ingress/egress point of access is in the northwest portion of the site. This access point extends through the west adjacent property (The Heights Learning Center, Property ID: 116031010) and connects to NE Garfield Street right-of-way, designated as a local road.

The project area currently features eight (8) tennis courts and two (2) pickleball courts, all of which are fenced and equipped with overhead lighting for added convenience. The facilities are surrounded by internal landscaping, and there is pedestrian access that connects the project area to the existing parking lot located to the south.

Sanitary sewer and water are currently available to the site. Specifically, There is an existing 6-inch PVC sanitary STEF main that runs along the southside of the proposed tennis court location in the High School parking lot. Additionally, a new sanitary sewer lateral to the proposed bathrooms is proposed as shown in submitted plans. The preliminary plans illustrate the required connections.

The submittal includes a Preliminary Stormwater Technical Information Report completed by MacKay Sposito dated June 2024. All runoff from the site is infiltrated onsite. The project is mostly flat (tennis courts) with a strip of grassy area to the north which forms a shallow channel which conveys runoff to the existing field inlets and ultimately to the existing infiltration systems. The site is developed and contains a stormwater treatment (swale) system and two infiltration facilities for the disposal of runoff. These systems have been designed to meet the current standards and have been detailed in the as-built plans for the school and addition of the Fieldhouse.

Due to the existing development of the subject property and proposed improvements of the project area, the applicant confirms there are adequate public services available to serve the site at the time development. Refer to the plans included in this application for more information.

D. Adequate provisions are made for other public and private services and utilities, parks and trails (e.g., provide copies of private covenant documents);

RESPONSE: Utilities are provided as required for this project. Please refer to the engineering plans, reports, and additional analysis for more information.

There are no proposed parks or trails associated with this project.

E. Adequate provisions are made for maintenance of public utilities; and

RESPONSE: There are no public utilities proposed.

F. All relevant statutory codes, regulations, ordinances and compliance with the same. The review and decision of the city shall be in accordance with the provisions of CMC Chapter 18.55 Administration and Procedures.

RESPONSE: This Application meets the requirements of Administration and Procedures – CMC 18.55 as described elsewhere in this narrative.

(Ord. 2515 § 1 (Exh. A (part)), 2008: Ord. 2481 (Exh. A (part)), 2007: Ord. 2443 § 3 (Exh. A (part)), 2006) (Ord. No. 2612, § I(Exh. A), 2-7-2011)

DESIGN REVIEW - (CMC 18.19) & DESIGN REVIEW MANUAL

18.19.050 Design Principles

The principles are mandatory and must be demonstrated to have been satisfied in overall intent in order for approval of a design review application to be granted. Standard principles are applied to all commercial, mixed use, or multifamily uses. Where applicable, the specific principles are used in addition to the standard principles.

A. Standard Principles.
  1. *Landscaping shall be done with a purpose. It shall be used as a tool to integrate the proposed development into the surrounding environment.*
  2. *All attempts shall be made at minimizing the removal of significant natural features. Significant natural features shall be integrated into the overall site plan.*
  3. *Buildings shall have a "finished" look. Any use of panelized materials shall be integrated into the development in a manner that achieves a seamless appearance.*
  4. *A proposed development shall attempt to incorporate or enhance historic/heritage elements related to the specific site or surrounding area.*

RESPONSE: Standard Principles:

Landscaping:
The project will include landscaping as shown on the Landscape Plan (see Sheet L1.0).

As detailed within this project narrative, the total area of the subject property is 2,281,238 square foot (sf) or 52.37 acres in size per Clark County records. The proposed redevelopment of the existing tennis courts and adjacent landscaping, parking and drive isle(s) consists of 144,798 sf or 3.32 acres of the overall subject property. The project area will include a total of 29 percent of landscaped area.

The project area includes a 10-foot-wide landscape planter extending east-west along the project area's north, perimeter boundary. Additionally, two (2) landscaped parking islands, each will include required tree planting. The parking islands have been implemented to break up the number of parking spaces that occur in a row. As designed the 41 parking spaces have been broken into four (4) sections with each section including less than 15 parking spaces in a row to conform to the limitations of Subsection H above. Pedestrian sidewalks are proposed adjacent to proposed parking therefore all landscaping shall be protected from potential vehicle overhang and wheel stops are not required.

As detailed in this project narrative and illustrated on the submitted plans, the proposed landscaping will include a diverse mix of trees, shrubs, and ground cover, with at least 60% native or drought-tolerant species, of which 50% will be evergreen and no invasive species listed in the Clark County Noxious Weed List, will be planted.

Any outdoor furnishings used will be selected for compatibility with the overall site furnishings and buildings.

Any landscape lighting utilized will be low voltage, non-glare and indirect. Any street lights utilized will be compatible with nearby lighting if required.

Significant natural features:
The proposed redevelopment of the project area does not include the removal of significant trees or impacts to existing wetlands located on the subject property. Specifically, the subject property includes a wetland located approximately 975 feet to the south of the proposed project area. Based on the pre-application notes, separation and confirmation from city staff, the applicant understands that neither a wetland delineation or critical area report will be required for the proposed development of the project area.

Buildings and materials:
The proposed dome air structure will utilize a unique and sustainable design that is becoming popular for sports facilities. Specifically, the proposed structure is an inflatable dome, or "bubble," which is an air-supported structure made from layers of fabric welded together, sometimes reinforced with steel cable harness system. Air blowers maintain constant air pressure, keeping the dome inflated and stable, while HVAC units can be used for heating or cooling. The fabric envelope can be reinforced with the steel cable harness to meet local wind and snow load requirements. The dome can be anchored using

various methods, such as grade beam concrete footing, earth anchors, sand or water ballast, or cement blocks. The proposed structure will be reviewed and approved by the appropriate building official(s) to ensure the safety and welfare of future users. The exterior

In addition to the building design the project area includes mature landscaping for approximately 39 percent of the project area as shown in the submitted landscaping plan. As detailed in this project narrative and illustrated on the submitted plans, the proposed landscaping will include a diverse mix of trees, shrubs, and ground cover, with at least 60% native or drought-tolerant species, of which 50% will be evergreen and no invasive species listed in the Clark County Noxious Weed List, will be planted.

The proposed building will be setback significantly from all property lines. Specifically, it will be setback approximately 60-ft from the rear (north) property line, 640-ft from the side yard, flanking a street (east), 575-ft from the side interior (west) and 1,100-ft from the front (south) property line. The project area includes a 10-foot-wide landscape planter extending east-west along the project area’s north, perimeter boundary for additional screening.

The proposed building is a common and customary design for the intended use as well as seen often within campus designs. Additionally, the placement of the building preserves the onsite wetland in that the project area is separated by approximately 975 feet as well as each façade will be setback significantly from adjacent properties and includes enhanced landscaping for screening. As such it is reasonable to conclude that the proposed building generally meets the design principles applicable to the subject property.

Historic and Heritage Preservation:
The subject property is the site of the Camas High School, which has been previously developed including the project area where improvements are being proposed. The Department of Archeology and historic Preservation (DAHP) previously provided findings stating:

“…the archaeological site on the Camas High School property, except the area you set aside for protection, was destroyed by the construction of the high school in 2002. Given that the archaeological deposits identified during the archaeological predetermination and subsequent survey were between 0 and 50 centimeters below ground surface, we agree that there is unlikely to be any intact archaeology remaining. Therefore, no further archaeological work will be required for the current expansion.”

See submitted letter from the DAHP dated February 12, 2010.

As such, the applicant has not provided additional archeological predetermination with the submitted request. In the event any archaeological or historic materials are encountered during project activity, work in the immediate area must stop and the following actions taken:

1. Implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering; and
2. Take reasonable steps to ensure the confidentiality of the discovery site; and,
3. Take reasonable steps to restrict access to the site of discovery. If human remains are uncovered, appropriate law enforcement agencies shall be notified first, and the above steps followed. If remains are determined to be Native, consultation with the effected Tribes will take place in order to mitigate the final disposition of said remains.

B. Specific Principles.
[…]
2. Commercial and Mixed Uses.
a. On-site parking areas shall be placed to the interior of the development unless site development proves prohibitive. All on-site parking areas along adjacent roadways shall be screened with landscaping. Downtown commercial and mixed-use areas shall not be required to provide on-site parking.

RESPONSE: The proposal includes the addition of 41 additional parking spaces and a 15 to 16-foot-wide drive aisle to be located parallel to the north and west facades of the proposed building. The 41 parking spaces will be separated into four (4) sections with each section including less than 15 parking spaces in a row to conform to CMC limitations.

The above-described parking shall be located to the north and east of the proposed structure. Included in the proposed design is a 10-foot-wide landscape planter extends east-west along the project area's north, perimeter boundary which will screen parking from the north adjacent property (not adjacent roadways).

b. Buildings shall be used to define the streetscape unless site conditions prove prohibitive.

RESPONSE: The proposed building will be setback significantly from all property lines. Specifically, it will be setback approximately 60-ft from the rear (north) property line, 640-ft from the side yard, flanking a street (east), 575-ft from the side interior (west) and 1,100-ft from the front (south) property line. The project's location and its proximity to adjacent rights-of-way prohibits the proposed development from being used to define adjacent streetscape.

c. Structures abutting, located in, or located near less intensive uses or zoned areas (such as commercial developments next to residential areas) shall be designed to mitigate size and scale differences.

RESPONSE: The project area is located within the established Camas High School campus and is adjacent to the Heights Learning Center campus. Both campuses are the same zoning and share complementary uses to the proposed development; therefore, no mitigation is needed at this time with regards to the subject property and the west adjacent (Heights Learning Center campus) property.

Exhibit 3 CUP24-1001

The properties to the north are currently vacant and zoned for various residential development. The proposed building will be setback from the north property line by 60-feet. There will be parking, a drive aisle and enhanced landscaping within the 60-foot setback as detailed within this project narrative and shown on the submitted landscape plan (see Sheet L1.0).

d. *Developments containing a multiple of uses/activities shall integrate each use/activity in a manner that achieves a seamless appearance, or creates a cohesive development.*

RESPONSE: The proposed building is an increasingly common design for the intended use as well as seen often within campus designs. The proposed improvements within the project area have been designed to achieve a seamless appearance throughout the Camas High School campus to create cohesive athletic and educational development through the use of materials, landscaping and the implementation of a logical interior flow for both vehicle and pedestrian maneuvering.

e. *Mixed-use developments that place uses throughout the site (horizontal development) shall organize elements in a manner that minimizes their impact on adjacent lower intensity uses.*

RESPONSE: The proposal does not include a mix-use development. This criterion is not applicable.

f. *Walls shall be broken up to avoid a blank look and to provide a sense of scale.*

RESPONSE: The proposed air structure will utilize a unique and sustainable design that is becoming popular for sports facilities. Specifically, the proposed structure is an inflatable dome, or “bubble,” which is an air-supported structure made from layers of fabric welded together, sometimes reinforced with steel cable harness system. As a result, there are no traditional façade walls where additional articulation can be added or where breaks can be provided; rather the unique design of the dome provides a unique opportunity for the Camas High School to add visual interest in within the established campus. As proposed, the overall design remains consistent with the scale of the Camas High School campus.

While the walls may not include additional elements to break them up visually, the architecture and layout of the building will still reflect the cohesive design language of the campus, ensuring harmony with the existing structures while the enhanced landscaping along the north property line of the subject property provided additional screening of the building. We are confident that the design will contribute positively to the aesthetic and functional integrity of the school environment.

g. *Outdoor lighting shall not be directed off-site.*

RESPONSE: All site and parking lot lighting will be designed to eliminate the reduce glare as well as designed not to direct lighting off-site.

ADMINISTRATION AND PROCEDURES- (CMC 18.55)

18.55.110 Application – Required Information

Type II or Type III applications include all the materials listed in this subsection. The director may waive the submission of any of these materials if not deemed to be applicable to the specific review sought. Likewise, the director may require additional information beyond that listed in this subsection or elsewhere in the city code, such as a traffic study or other report prepared by an appropriate expert where needed to address relevant approval criteria. In any event, the applicant is responsible for the completeness and accuracy of the application and all of the supporting documentation. Unless specifically waived by the director, the following must be submitted at the time of application:

- *A. A copy of a completed city application form(s) and required fee(s);*
- *B. A complete list of the permit approvals sought by the applicant;*
- *C. A current (within thirty days prior to application) mailing list and mailing labels of owners of real property within three hundred feet of the subject parcel, certified as based on the records of Clark County assessor;*
- *D. A complete and detailed narrative description that describes the proposed development, existing site conditions, existing buildings, public facilities and services, and other natural features. The narrative shall also explain how the criteria are or can be met, and address any other information indicated by staff at the preapplication conference as being required;*
- *E. Necessary drawings in the quantity specified by the director;*
- *F. Copy of the preapplication meeting notes (Type II and Type III);*
- *G. SEPA checklist, if required;*
- *H. Signage for Type III applications and short subdivisions: Prior to an application being deemed complete and Type III applications are scheduled for public hearing, the applicant shall post one four-foot by eight-foot sign per road frontage. The sign shall be attached to the ground with a minimum of two four-inch by four-inch posts or better. The development sign shall remain posted and in reasonable condition until a final decision of the city is issued, and then shall be removed by the applicant within fourteen days of the notice of decision by the city. The sign shall be clearly visible from adjoining rights-of-way and generally include the following:*
    - *1. Description of proposal,*
    - *2. Types of permit applications on file and being considered by the City of Camas,*
    - *3. Site plan,*
    - *4. Name and phone number of applicant, and City of Camas contact for additional information,*
    - *5. If a Type III application, then a statement that a public hearing is required and scheduled. Adequate space shall be provided for the date and location of the hearing to be added upon scheduling by the city.*

(Ord. 2515 § 1 (Exh. A (part)), 2008) (Ord. No. 2612, § I(Exh. A), 2-7-2011)

RESPONSE: The Applicant has submitted an online application and will pay invoiced fees accordingly. A complete list of requested approvals is included within the section titled “REVIEWS REQUESTED” of this project narrative and indicated in the online application. A current mailing list and 300’ radius map are included with this application. This narrative provides a complete and detailed description of the proposed site plan as well as conditional use and provides responses to the applicable code and comprehensive plan criteria. The applicant has submitted drawing sets in the quantity specified by Planning staff. Preapplication notes are included with this application. A SEPA checklist is included with this application. A signboard shall be posted, and notices will be added according to the requirements of this code section.

IV. ENVIRONMENT

CATEGORICAL EXEMPTION AND THRESHOLD DETERMINATIONS- (CMC 16.07)

16.07.040 Environmental Checklist

A. A completed environmental checklist (or a copy) in the form provided in WAC 197-11-960, shall be filed at the same time as an application for a permit, license, certificate, or other approval not specifically exempted in this title; except, a checklist is not needed if the city and applicant agree an EIS is required, SEPA compliance has been completed, or SEPA compliance has been initiated by another agency. The city shall use the environmental checklist to determine the lead agency and, if the city is the lead agency, for determining the responsible official and for making the threshold determination.
B. For private proposals, the city will require the applicant to complete the environmental checklist, providing assistance as necessary. For city proposals, the department initiating the proposal shall complete the environmental checklist for that proposal.
C. The city may require that it, and not the private applicant, will complete all or part of the environmental checklist for a private proposal, if either of the following occurs:
1. The city has technical information on a question or questions that is unavailable to the private applicant; or
2. The applicant has provided inaccurate information on previous proposals or on proposals currently under consideration. (Ord. 2517 § 1 (Exh. A (part)), 2008)

RESPONSE: The applicant has provided a SEPA Checklist.

ARCHAEOLOGICAL RESOURCE PRESERVATION- (CMC 16.31)

16.31.060 Applicability
A. The provisions of this chapter shall apply:
1. When any item of archaeological interest is discovered during the course of a permitted ground-disturbing action or activity (Section 16.31.150);
2. When the director determines that reliable information indicates the possible existence of an archaeological site on a parcel for which an application for a permit or approval for a ground-disturbing action or activity has been submitted.

B. The provisions of this chapter shall apply, except as provided in this section and in subsection C of this section, to all ground-disturbing actions or activities for which a permit or approval is required:
1. On all parcels in probability level high;
2. On parcels of at least five acres in probability levels moderate-high and moderate;
3. Regardless of parcel size or probability level, when proposed within one-fourth mile of a known, recorded archaeological site as measured on a horizontal plane extending in all directions. Such an action or activity may be exempted by the director, when appropriate, during the predetermination process due to the effects of a geographic barrier (Section(F)).

C. The following shall not trigger or shall be exempted from the provisions of this chapter:
1. Accessory dwelling units;
2. Land use permits issued under clear and objective standards, such as those for fences, sheds, decks, patios or driveways;
3. Sign permits;

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4. Conditional use permits for a change in use only, not involving ground disturbance for structural modification;
5. Zoning variance approvals;
6. Ground-disturbing actions or activities which constitute normal maintenance and repair of existing structures and facilities; or
7. Ground-disturbing actions or activities proposed in areas which the director determines to have been adequately surveyed and documented (as defined in Section 16.31.020) in the past and within which no archaeological resources have been discovered.

D. When more than one probability level traverses a parcel, the entire parcel shall be considered to be within the level with the greatest probability rating. (Ord. 2517 § 1 (Exh. A (part)), 2008)

16.31.070 Predetermination Required
A. A predetermination shall be required for any nonexempt ground-disturbing action or activity for which a permit or approval is required within probability level high.
B. A predetermination shall be required for any nonexempt ground-disturbing action or activity for which a permit or approval is required and which is located on a parcel of at least five acres within probability levels moderate-high and moderate.
C. A predetermination shall be required for all nonexempt ground-disturbing actions or activities for which a permit or approval is required which are proposed within one-fourth mile of a known, recorded archaeological site.
D. A predetermination shall be required when the director determines that reliable information indicates the possible existence of an archaeological site on a parcel for which an application for a permit or approval for a ground-disturbing action or activity has been submitted.
E. A predetermination shall be required when any item of archaeological interest is discovered during the course of a permitted ground-disturbing action or activity.
F. During the predetermination process, the director will determine whether a ground-disturbing action or activity is exempt under(B)(3) or(C)(7) of this chapter. In the event that the director is able to make such a determination of exemption based solely upon background research (Section(C)), the city shall reduce the applicant's total fee obligation for the project by one-half of the predetermination fee.
G. A predetermination shall not be performed when a survey is required under of this chapter.
H. The director may waive the requirement for a predetermination if the applicant chooses to provide a survey in accordance with Sections and of this chapter. (Ord. 2517 § 1 (Exh. A (part)), 2008)

16.31.080 Predetermination Standards
Predeterminations shall include at a minimum the following elements and be carried out according to the following standards:
A. Predeterminations shall be performed by a qualified or professional archaeologist.
B. Predeterminations shall be performed to the high standard of quality which fulfills the purposes of this chapter.
C. Background Research. A thorough review of records, documentation, maps, and other pertinent literature shall be performed.
D. Surface Inspection. A visual inspection of the ground surface shall be completed when conditions yield at least fifty percent visibility.
E. Subsurface Investigation. Subsurface investigation shall be performed when considered necessary by the archaeologist. When necessary, the following standards shall apply:
1. Subsurface probes shall be no less than eight inches/twenty centimeters in diameter (twelve inches/thirty centimeters or more preferred) at the ground surface, and shall delve no less than twenty inches/fifty centimeters deep into natural soil deposits whenever possible.
2. The most appropriate number of and locations for subsurface probes shall be determined by the archaeologist.

3. All material excavated by subsurface probes shall be screened using both one-fourth inch and one-eighth inch hardware mesh cloths. (Ord. 2517 § 1 (Exh. A (part)), 2008)

16.31.090 Predetermination Reports
A report shall be completed for each predetermination to the high standard of quality which fulfills the purposes of this chapter and standardized guidelines furnished by the department. A completed report shall be submitted to DAHP as well as the city. (Ord. 2517 § 1 (Exh. A (part)), 2008)

16.31.150 Discovery Principle
In the event that any item of archaeological interest is uncovered during the course of a permitted ground-disturbing action or activity:
A. All ground-disturbing activity shall immediately cease.
B. The applicant shall notify the department and DAHP.
C. The applicant shall provide for a predetermination and a predetermination report prepared in accordance with the provisions of this chapter. The director shall review the report and issue a determination in accordance with Section 16.31.100 of this chapter in a reasonably diligent manner, taking into account all pertinent factors and conditions (within seven calendar days whenever feasible). Where such determination is that an archaeological site is not likely to exist, construction may continue. Where such determination is that an archaeological site is likely to exist, the applicant shall provide a survey and survey report. The director shall produce a map of the parcel indicating clearly the portion(s) of the parcel, if any, within which construction may continue under the supervision of an archaeologist and monitoring by the director while the required survey is being completed. The provisions of this section shall apply.
D. In the event any archaeological or historic materials are encountered during project activity, work in the immediate area (initially allowing for a one hundred-foot buffer; this number may vary by circumstance) must stop and the following actions taken:
1. Implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering; and
2. Take reasonable steps to ensure the confidentiality of the discovery site; and
3.Take reasonable steps to restrict access to the site of discovery.
The project proponent will notify the concerned tribes and all appropriate city, county, state, and federal agencies, including the Washington State Department of Archaeology and Historical Preservation. The agencies and tribe(s) will discuss possible measures to remove or avoid cultural material, and will reach an agreement with the project proponent regarding action to be taken and disposition of material.
If human remains are uncovered, appropriate law enforcement agencies shall be notified first, and the above steps followed. If the remains are determined to be native, consultation with the affected tribes will take place in order to mitigate the final disposition of said remains.
(Ord. 2517 § 1 (Exh. A (part)), 2008)(Ord. No. 2612, § I(Exh. A), 2-7-2011)

16.31.160 Notification to Tribes
Whenever a predetermination or survey is required, the applicant shall provide the tribes with a copy of the application and all supporting materials by certified mail, return receipt requested, and shall provide proof of compliance with this requirement to the director. Comments from the tribes shall be accepted by the director until five p.m. on the fourteenth day from the date notification was mailed to the tribes. Should the fourteenth day fall on a nonbusiness day, the comment period shall be extended until five p.m. on the next business day. (Ord. 2517 § 1 (Exh. A (part)), 2008)

RESPONSE: The subject property is the site of the Camas High School, which has been previously developed, including the project area where improvements are being proposed. The

Department of Archeology and historic Preservation (DAHP) previously provided findings stating:

"…the archaeological site on the Camas High School property, except the area you set aside for protection, was destroyed by the construction of the high school in 2002. Given that the archaeological deposits identified during the archaeological predetermination and subsequent survey were between 0 and 50 centimeters below ground surface, we agree that there is unlikely to be any intact archaeology remaining. Therefore, no further archaeological work will be required for the current expansion."

See submitted letter from the DAHP dated February 12, 2010.

In the event any archaeological or historic materials are encountered during project activity, work in the immediate area must stop and the following actions taken:

1. Implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering; and
2. Take reasonable steps to ensure the confidentiality of the discovery site; and,
3. Take reasonable steps to restrict access to the site of discovery. If human remains are uncovered, appropriate law enforcement agencies shall be notified first, and the above steps followed. If remains are determined to be Native, consultation with the effected Tribes will take place in order to mitigate the final disposition of said remains.

CRITICAL AREAS - (CMC 16.51)

16.51.070 Critical areas—Regulated.

A. Critical areas regulated by this chapter include wetlands (CMC Chapter 16.53), critical aquifer recharge areas (CMC Chapter 16.55), frequently flooded areas (CMC Chapter 16.57), geologically hazardous areas (CMC Chapter 16.59), and fish and wildlife habitat conservation areas (CMC Chapter 16.61).
B. All areas within the city meeting the definition of one or more critical area, platted natural open space area, and conservation covenant areas, regardless of any formal identification, are designated critical areas and are subject to these provisions. (Ord. 2517 § 1 (Exh. A (part)), 2008).

RESPONSE: According to Clark County GIS, there are mapping indicators for potential critical areas (wetlands) on the site. Previous development of the subject site indicated the presence of a wetland, which has been mapped within the southwest corner of the subject property. The location of the delineated/mapped wetland is approximately 975-feet from the project area. After confirmation with city staff, it has been determined that the proposed development will not require a Critical Areas Report or additional wetland delineation at this time. As such, the standards of Chapter 16.51 do not apply.

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WETLANDS- (CMC 16.53)

16.53.030 Critical area report – Additional requirements for wetlands.

A. Prepared by a Qualified Professional. A critical areas report for wetlands shall be prepared by a qualified professional who is a wetland biologist with experience preparing wetland reports.

B. Area Addressed in Critical Area Report. In addition to the requirements of Chapter 16.51, the following areas shall be addressed in a critical area report for wetlands:

  1. Within a subject parcel or parcels, the project area of the proposed activity;
  2. All wetlands and recommended buffer zones within three hundred feet of the project area within the subject parcel or parcels;
  3. All shoreline areas, water features, floodplains, and other critical areas, and related buffers within three hundred feet of the project area within the subject parcel or parcels;
  4. The project design and the applicability of the buffers based on the proposed layout and the level of land use intensity; and
  5. Written documentation from the qualified professional demonstrating compliance with the requirements of this chapter.

C. Wetland Determination. In conjunction with the submittal of a development permit application, the responsible official shall determine the probable existence of a wetland on the subject parcel. If wetland or wetland buffers are found to be likely to exist on the parcel, wetland delineation is required.

D. Wetland Delineation...

When deemed appropriate, the director may also require the critical area report to include an evaluation by the Department of Ecology or an independent qualified expert regarding the applicant's analysis, and the effectiveness of any proposed mitigating measures or programs, and to include any recommendations as appropriate.
(Ord. 2517 § 1 (Exh. A (part)), 2008)
(, § II, 1-5-2015; , § II(Exh. A), 3-16-2015)

RESPONSE: According to Clark County GIS, there are mapping indicators for potential critical areas (wetlands) on the site. Previous development of the subject site indicated the presence of a wetland, which has been mapped within the southwest corner of the subject property. The location of the delineated/mapped wetland is approximately 975-feet from the project area. After confirmation with city staff, it has been determined that the proposed development will not require a Critical Areas Report or additional wetland delineation at this time. As such, the standards of Chapter 16.53 do not apply.

SENSITIVE AREAS AND OPEN SPACE- (CMC 18.31)

18.31.010 Purpose.

The guidelines, criteria, standards, special studies, and open space requirements in this chapter are intended to identify, protect, and preserve lands and areas within the city which are characterized by the presence of environmentally sensitive or valuable features and resources. These areas may include: steep slopes and areas of unstable soils, wetlands, streams, and watercourses. Certain activities, such as vegetation removal and the addition of impervious surfaces within these areas, unless regulated by the city, pose a potential threat to life, property, public health, and welfare. Unregulated activities also pose a significant threat to important environmental features and communities, and to the functions and values *they perform. This chapter is also intended to implement the goals and policies of the comprehensive plan; to protect critical areas within the city as required by state policies, guidelines, and rules; to provide property owners and members of the public with notice as to the location and distribution of sensitive areas within the city; and to require special studies to help identify environmentally sensitive and valuable areas within the city. Such plans and studies shall be prepared by qualified professionals. (Ord. 2515 § 1 (Exh. A (part)), 2008)*

RESPONSE: According to Clark County GIS, there are mapping indicators for potential critical areas (wetlands) on the site. Previous development of the subject site indicated the presence of a wetland which has been mapped within the southwest corner of the subject property. The location of the delineated/mapped wetland is approximately 975-feet from the project area. After confirmation with city staff, it has been determined that the proposed development will not require a Critical Areas Report or additional wetland delineation at this time. As such, the standards of Chapter 18.31 do not apply.

CONDITIONAL USE PERMITS- (CMC 18.43)

18.43.010 Purpose.

It is the purpose of this chapter to establish review and permit approval procedures for unusual or unique types of land uses which, due to their nature, require special consideration of the impact on the neighborhood and land uses in the vicinity.

RESPONSE: Staff identified a conditional use permit as a required procedure. The applicant has submitted for conditional use approval and this narrative provides findings addressing the applicable standards and criteria.

18.43.050 Criteria.

The hearings examiner shall be guided by all of the following criteria in granting or denying a conditional use permit:

A. The proposed use will not be materially detrimental to the public welfare, or injurious to the property or improvements in the vicinity of the proposed use, or in the district in which the subject property is situated;

RESPONSE: The applicant is seeking Conditional Use approval to convert the existing tennis courts on the subject property into a "Community clubs, private or public," which is conditionally permitted under Table 2—Residential and Multifamily Land Uses.

The Camas School District, in partnership with USTA PNW, plans to develop a covered tennis center at the Camas High School site (subject property), which currently has eight (8) tennis courts and two (2) pickleball courts (project area). The proposed project includes:

- Resurfacing and lighting the existing tennis courts.
- Installing a 59,800-square-foot dome air structure enclosure over the tennis courts.
- Making site improvements for access, parking, and the installation of a bathroom/locker/entrance structure adjacent to the covered courts.

- Adding a new 15 to 16-foot-wide one-way drive aisle along the north and east sides of the proposed structure, accommodating 41 new parking stalls.

The subject property, Camas High School, is a public institution. Under existing conditions when the tennis courts are used by the school's tennis teams during the Spring and Fall terms. Practices are typically held between 4:00 PM and 6:00 PM while meets are held between 3:30 PM and 6:00 PM. When not in use by the school, the courts are open to the general public, albeit formal classes and tournaments may not be organized on a regular basis. Low usage of the facilities typically occurs during the Winter term due to weather and lack of daylight. The proposed Conditional Use will allow USTA PNW to collaborate with the school district and utilize the upgraded facilities for their organizational instruction and programming.

Since no additional courts will be constructed as part of the proposal, the capacity of patrons the courts could accommodate at any given time will not change, rather the hours of use may be extended during inclement weather and at timeframes outside the AM and PM peak hours during low light conditions. Additionally, the USTA/Camas School District (CSD) facility is not expected to generate significantly more users of the facility during the Winter months relative to the high school during the normal school year. During the Summer school break, the joint facility will be open for use by both the USTA and the school, noting the Summer school break does not necessarily mean a complete break of school activity (i.e., high school athletic practices begin prior to the start of the school year). It is anticipated the Summer window for school inactivity of the courts will be temporary and limited to approximately six weeks.

Although the use will be expanded to USTA PNW, the core function of the sports courts will remain unchanged. Therefore, the proposed use as a "Community clubs, private or public" is not expected to have a materially detrimental effect on public welfare or negatively impact nearby properties or improvements within the surrounding district.

B. *The proposed use shall meet or exceed the development standards that are required in the zoning district in which the subject property is situated;*

RESPONSE: As outlined in this project narrative, along with the submitted plans and supplemental documents, the proposed redevelopment of the project area meets or exceeds the development standards of the R-7.5 zoning district. The building's architecture, provided parking and site layout are designed to maintain the cohesive design language of the campus, ensuring visual harmony with the existing structures. Additionally, the enhanced landscaping along the north property line provides further screening, contributing to the aesthetic integration of the project. As such, the design complies with all relevant development standards of the zoning district and aligns with the existing character of the subject property as well as the surrounding area.

C. *The proposed use shall be compatible with the surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design;*

RESPONSE: The proposed use of the existing tennis courts as a "Community clubs, private or public" is compatible with surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design.

Since no additional courts will be constructed as part of the proposal, the capacity of patrons the courts could accommodate at any given time will not change, rather the hours of use may be extended during inclement weather and at timeframes outside the AM and PM peak hours during low light conditions. Additionally, the USTA/Camas School District (CSD) facility is not expected to generate significantly more users of the facility during the Winter months relative to the high school during the normal school year. During the Summer school break, the joint facility will be open for use by both the USTA and the school, noting the Summer school break does not necessarily mean a complete break of school activity (i.e., high school athletic practices begin prior to the start of the school year). It is anticipated the Summer window for school inactivity of the courts will be temporary and limited to approximately six weeks.

As detailed, the project does not involve the construction of additional courts, ensuring that the number of patrons at any given time remains consistent with current levels. While the hours of use may be extended due to weather and lighting improvements, the operation is expected to occur outside AM and PM peak traffic hours, minimizing the impact on local circulation. Based on the existing Camas High School trip generation and the Evergreen Tennis Center trip generation, the proposed USTA/CSD facility is projected to generate 0 additional AM and PM peak hour trips and an additional 56 average weekday trips. This demonstrates that the traffic impact will be minimal and well within the capacity of the surrounding infrastructure. Additionally, the introduction of a 15 to 16-foot-wide one-way drive aisle and 41 new parking stalls will improve access and parking capacity, addressing any potential increase in usage during off-peak times.

Internal pedestrian circulation will also be enhanced with the implementation of new sidewalks within the proposed development. These new sidewalks will connect to the existing internal sidewalk systems, improving pedestrian connectivity throughout the site and providing safe, direct routes to and from the new facility. This will further aid in ensuring safe and efficient pedestrian movement across the campus.

In terms of density, the proposed development does not significantly alter the intensity of use. The courts are already available for public use, and while USTA PNW will utilize the facilities, this will not result in a substantial increase in the overall capacity or frequency of use. During the Winter months, the usage is expected to remain at levels consistent with current school activities, and during the Summer, the overlap between USTA and school use will be minimal.

The building and site design, including the dome air structure enclosure and associated improvements, have been thoughtfully integrated into the existing campus layout, ensuring harmony with surrounding structures. The enhanced landscaping and screening along the north property line will provide additional buffering, further ensuring compatibility with adjacent properties.

The proposed landscaping plan for the USTA/Camas School District (CSD) facility meets code standards by including 29% of the project area as landscaped space. This plan

features a 10-foot-wide landscape planter along the north perimeter, two landscaped parking islands with required tree planting, and breaks the 41 parking spaces into four sections, each with fewer than 15 spaces in a row. Sidewalks adjacent to the parking areas will protect landscaping from vehicle overhangs, eliminating the need for wheel stops. The landscaping will consist of a diverse mix of trees, shrubs, and ground cover, with at least 60% being native or drought-tolerant species, 50% of which will be evergreen, and no invasive species will be used.
Overall, the proposed use aligns with the existing traffic patterns, pedestrian connectivity, site density, and building design, ensuring minimal disruption and maintaining compatibility with surrounding land uses.

D. Appropriate measures have been taken to minimize the possible adverse impacts that the proposed use may have on the area in which it is located;

RESPONSE: Appropriate measures have been taken to minimize the potential adverse impacts of the proposed use of the existing tennis courts as a "Community clubs, private or public" on the surrounding area. The project is designed to ensure compatibility with existing land uses by maintaining the current capacity of the courts, as no additional courts will be constructed. While the hours of operation may be extended due to improved lighting, the use will predominantly occur outside AM and PM peak traffic hours, which helps to mitigate traffic congestion and maintain smooth circulation in the area.

Traffic generation studies indicate that the proposed USTA/CSD facility is projected to produce 0 additional peak hour trips and only 56 average weekday trips, demonstrating that the traffic impact will be minimal and well within the capacity of the existing infrastructure.

To enhance pedestrian safety and circulation, new sidewalks will be implemented that connect to the existing internal sidewalk systems, providing safe routes to and from the facility. The site design includes a 15 to 16-foot-wide one-way drive aisle and 41 new parking stalls, improving access and addressing any potential increases in usage during off-peak times.

Furthermore, the density of the development does not significantly alter the current intensity of use, as the courts are already open to the public. The thoughtful integration of building and site design elements, including the dome enclosure and enhanced landscaping, will ensure harmony with existing structures while providing additional buffering along the north property line.

The landscaping plan adheres to code requirements and features a diverse mix of native and drought-tolerant species, with measures in place to protect landscaping from vehicle overhang. Overall, these strategies collectively ensure that the proposed use will not detrimentally impact the surrounding area, promoting a safe and cohesive environment for all users.

E. The proposed use is consistent with the goals and policies expressed in the comprehensive plan;

RESPONSE: Based on the identified goal within the comprehensive plan this project narrative will focus on the Citywide Land Use Goals and Policies most applicable to the proposed conditional use.

Citywide Land Use Goal
LU-1: Maintain a land use pattern that respects the natural environment and existing uses while accommodating a mix of housing and employment opportunities to meet the City's growth projections.

RESPONSE: The proposed conditional use supports Policy LU-1 by maintaining a land use pattern that respects the natural environment and existing uses. Specifically, the redevelopment complies with the R-7.5 zoning district development standards, ensuring that the design integrates with the existing campus known throughout the surrounding area. The complementary design, parking layout, and enhanced landscaping all contribute to visual harmony and aesthetic integration with adjacent properties. The landscaping plan, which includes a diverse mix of native and drought-tolerant species, enhances the site's natural environment and contributes to a cohesive land use pattern.

The use of the existing tennis courts for "Community clubs, private or public" is compatible with the surrounding land uses in terms of traffic, pedestrian circulation, and density. The project does not involve the construction of additional courts, ensuring that the intensity of use remains consistent with current levels. Furthermore, the proposed operation outside of peak traffic hours minimizes traffic impacts, with traffic generation studies showing no additional AM or PM peak hour trips and only 56 average weekday trips. This demonstrates that the traffic impact is well within the capacity of the surrounding infrastructure.

Citywide Land Use Policies
LU-1.1: Ensure the appropriate mix of commercial-, residential-, and industrial-zoned land to accommodate the City's share of the regional population and employment projections for the 20-year planning horizon.

RESPONSE: Approval of the proposed conditional use will allow for an additional semi public/ private partnership providing an appropriate mix of land uses, aligning with the City's goal of accommodating population and employment growth over the next 20 years. The additional use and collaboration between the school district and USTA PNW chapter allows for employment opportunity for the services offered through the requested conditional use.

LU-1.2: Coordinate with Clark County, the state, and special districts to identify future needs for essential public facilities such as airports, state education facilities, state and regional transportation facilities, state and local correctional facilities, solid waste handling facilities, and regional parks.

RESPONSE: The proposed conditional use establishes a collaboration between the school district and the USTA PNW chapter that aligns with the City's goal of coordinating with local and regional entities to meet future public facility needs. By enhancing recreational services through shared use of the tennis center, the project benefits both the school and the broader community, contributing to regional recreational infrastructure. Additionally, the landscaping plan, featuring native and drought-tolerant species, creates a park-like setting that complements the proposed improvements, further supporting the need for regional park facilities and enhancing the recreational experience for the community.

LU-1.3: Maintain compatible use and design with the surrounding built and natural environments when considering new development or redevelopment.

RESPONSE: As detailed, the proposed conditional use maintains a land use pattern that respects the natural environment and existing uses. Specifically, the redevelopment complies with the R-7.5 zoning district standards, ensuring that the design integrates with the existing campus known throughout the surrounding area. The complementary design, parking layout, and enhanced landscaping all contribute to visual harmony and aesthetic integration with adjacent properties. The landscaping plan, which includes a diverse mix of native and drought-tolerant species, enhances the site's natural environment and contributes to a cohesive land use pattern.

The use of the existing tennis courts for "Community clubs, private or public" is compatible with the surrounding land uses in terms of traffic, pedestrian circulation, and density. The project does not involve the construction of additional courts, ensuring that the intensity of use remains consistent with current levels. Furthermore, the proposed operation outside of peak traffic hours minimizes traffic impacts, with traffic generation studies showing no additional AM or PM peak hour trips and only 56 average weekday trips. This demonstrates that the traffic impact is well within the capacity of the surrounding infrastructure.

LU-1.4: Ensure that park and recreation opportunities are distributed equitably throughout the City and work to achieve park and continuous trail corridors from Green Mountain to the Columbia River.

RESPONSE: The proposed tennis court improvements at Camas High School support the City's goal of ensuring equitable distribution of park and recreation opportunities. By collaborating with the USTA PNW to create a covered tennis center, this project enhances recreational access for the community. The resurfacing and lighting of the existing courts, along with the dome enclosure and associated site improvements, provide year-round recreational opportunities. The addition of 41 new parking stalls and improved site access ensures the facility is easily accessible, promoting equitable distribution of recreational resources across the City. These upgrades contribute to achieving the broader vision of connecting community amenities and trail corridors.

LU-1.5: Where compatible with surrounding uses, encourage redevelopment or infill development to support the efficient use of urban land.

RESPONSE: The proposed improvements at Camas High School uphold the policy of encouraging redevelopment and infill development to efficiently use urban land. By enhancing existing recreational facilities through resurfacing, lighting, and the installation of a dome enclosure, the project maximizes the use of already developed land. The addition of a bathroom/locker/entrance structure, improved access, and new parking stalls supports efficient land use while maintaining compatibility with the surrounding area. This redevelopment not only improves the functionality of the site but also optimizes its use for both school and community benefit without expanding into undeveloped land.

LU-1.6: Ensure adequate public facilities (including roads, emergency services, utilities, and schools) exist to serve new development, and mitigate potential impacts to current residents.

RESPONSE: Adequate public facilities are in place to support the proposed conditional use and the corresponding development while minimizing impacts on current residents. The project does not involve additional courts, keeping the number of patrons consistent with current levels, and the facility's extended hours will occur outside peak traffic times. Traffic studies show no additional AM or PM peak trips, with only 56 average weekday trips, demonstrating minimal impact on the surrounding road network. The fully improved arterial road (SE 15th Street) and the secondary ingress/egress ensure efficient traffic flow.

The addition of a new drive aisle and 41 parking stalls enhances parking capacity and access, mitigating any potential increase in usage during off-peak hours. New sidewalks connecting with the internal sidewalk system will improve pedestrian safety and circulation. Emergency services is anticipated to accommodate the minor increase in site activity without requiring additional resources, ensuring the development is adequately served without straining existing public services.

LU-1.7: Ensure consistency with County-wide planning policies.

RESPONSE: The project narrative has effectively demonstrated compliance with the policies and goals outlined in the Camas Comprehensive Plan, which have been designed to align with County-wide planning policies. Given this consistency and adherence to established guidelines, the approval of the proposed conditional use is respectfully requested.

LU-1.8: Support and encourage the implementation of sustainable projects that capture, treat, and reuse rainwater for all new development and redevelopment.

RESPONSE: The stormwater management plan has been designed to meet treatment and detention requirements in accordance with the latest edition of Ecology's Stormwater Management Manual for Western Washington (SWMMWW), specifically following the 2019 version. This approach aligns with the direction provided by the City of Camas

Engineering Division to ensure the proposed conditional use and associated development complies with city regulations.

LU-1.9: Continue to support the arts throughout the City by promoting opportunities for the arts and artists to contribute to new development.

RESPONSE: The proposed conditional use for the tennis court improvements aligns with the goal of continuing to support the arts throughout the City by providing a platform for artistic expression within the new development. As the Camas School District partners with USTA PNW to create a covered tennis center, opportunities for incorporating artistic elements in the design and landscaping can enhance the visual appeal and cultural value of the facility. This project not only addresses recreational needs but also fosters a welcoming environment that encourages local artists to contribute their creativity, ultimately enriching the community and promoting the arts as an integral part of urban

F. Any special conditions and criteria established for the proposed use have been satisfied. In granting a conditional use permit the hearings examiner may stipulate additional requirements to carry out the intent of the Camas Municipal Code and comprehensive plan.

RESPONSE: The project narrative has effectively demonstrated compliance with the policies and goals outlined in the Camas Comprehensive Plan, which have been designed to align with County-wide planning policies. Given this consistency and adherence to established guidelines, the approval of the proposed conditional is respectfully requested.

V. FIRE PREVENTION

No building or structure regulated by the building and/or fire code shall be erected, constructed, enlarged, altered, repaired, moved, converted, or demolished unless a separate permit for each building or structure has first been obtained from the CWFMO Camas Municipal Code 15.04.030.D.12.a

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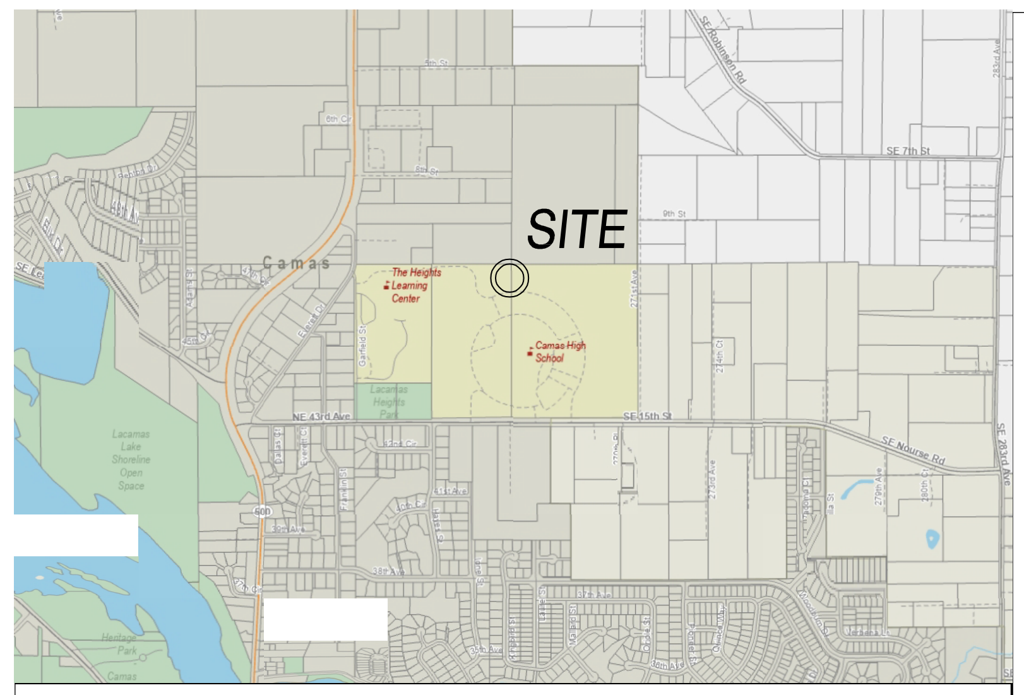
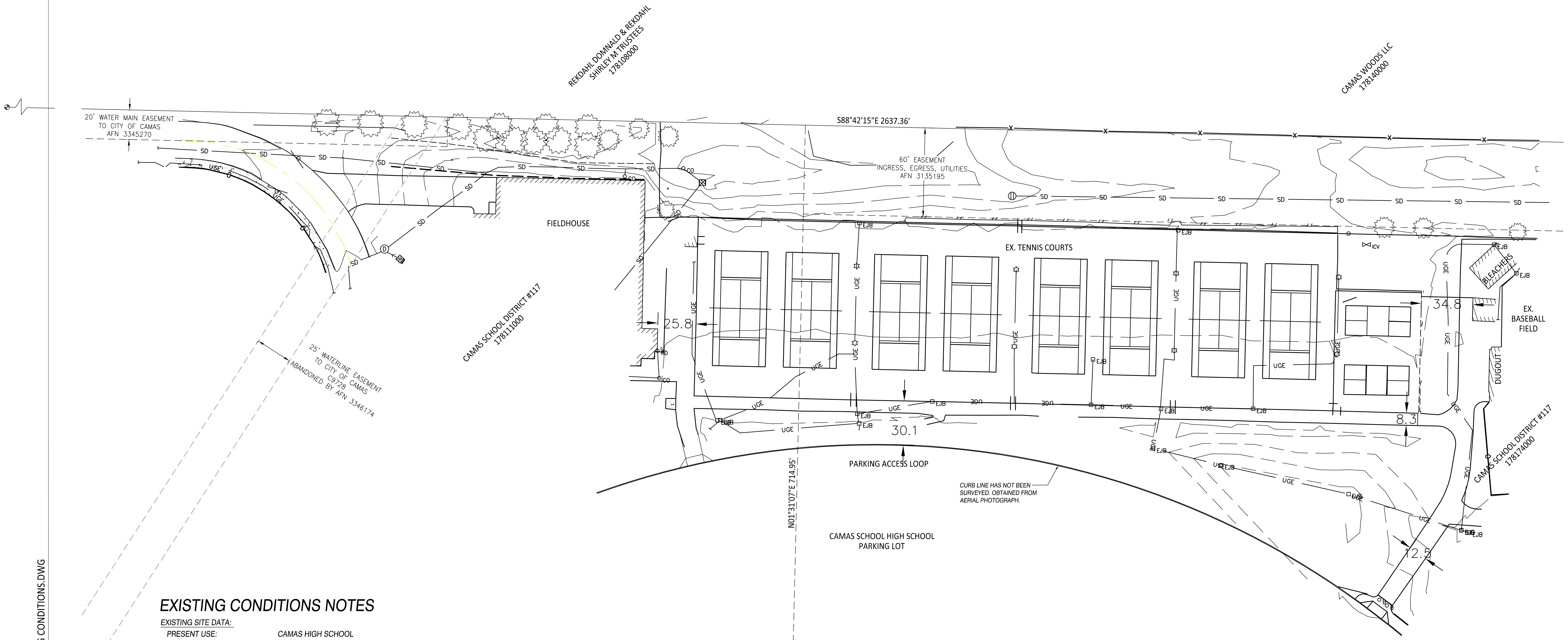


VICINITY MAP SE 1/4 SEC. 35 T2N R3E W.M.
NTS



EXISTING CONDITIONS NOTES

EXISTING SITE DATA:

PRESENT USE:	CAMAS HIGH SCHOOL
EXISTING ZONING:	RESIDENTIAL-7,500 (R-7.5)
GROSS SITE AREA:	PARCEL 178111000 IS 20.31 ACRES (884,704 SF) ACCORDING TO CLARK COUNTY GIS, 32.06 ACRES (1,396,534 SF) ACCORDING TO CLARK COUNTY GIS.
PROJECT AREA:	3.32 AC (144,798 SF)
TRANSIT ROUTES & STOPS:	NONE IN THE VICINITY

EXISTING IMPROVEMENTS NOTES:

EXISTING STRUCTURES:	AS SHOWN
EXISTING DRIVEWAYS:	AS SHOWN
EXISTING PARKING:	AS SHOWN
EXISTING LOADING:	AS SHOWN
EXISTING PEDESTRIAN AND BICYCLE PATHS:	AS SHOWN
EXISTING PASSIVE OR ACTIVE RECREATIONAL FACILITIES OR OPEN SPACE:	AS SHOWN
EXISTING UTILITIES:	AS SHOWN
EXISTING EASEMENTS:	AS SHOWN
EXISTING WELLS:	NONE KNOWN
EXISTING SEPTIC SYSTEMS:	NONE KNOWN

ENVIRONMENTAL & SIGNIFICANT NATURAL CONDITIONS NOTES:

TOPOGRAPHY:	AS SHOWN
WATERCOURSES AND DRAINAGE PATTERNS:	NO MAPPING INDICATORS
100 YEAR FLOODPLAIN:	NO MAPPING INDICATORS
DESIGNATED SHORELINES AREAS:	NO MAPPING INDICATORS
HIGH SEASONABLE WATER TABLE OR IMPERMEABLE SOILS:	NO MAPPING NDICATORS
WATER BODIES AND KNOWN WETLANDS:	NO MAPPING INDICATORS
WETLAND DELINEATION:	NO MAPPING INDICATORS
UNSTABLE GROUND, LANDSLIDE HAZARD AREAS & AREAS HAVING SEVERE EROSION POTENTIAL:	NO MAPPING INDICATORS
AREAS HAVING WEAK FOUNDATIONAL SOILS:	NO MAPPING INDICATORS
SLOPES EXCEEDING 15%:	NONE KNOWN
SIGNIFICANT VEGETATION OR WILDLIFE HABITAT:	NO MAPPING INDICATORS
SIGNIFICANT HISTORIC, CULTURAL OR ARCHAEOLOGICAL RESOURCES:	NONE KNOWN
ROCK OUTCROPPINGS:	NONE KNOWN

NOTES:

THE LOCATION OF EXISTING UTILITY FACILITIES HAS NOT BEEN RESEARCHED. UNDERGROUND UTILITIES SHOWN HEREON ARE FROM TIES TO UTILITY PAINT MARKS MADE IN RESPONSE TO "ONE-CALL CONCEPTS" UTILITY NOTIFICATION. THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND UTILITIES BY THE RESPECTIVE UTILITY OWNERS, NOR THE EXISTENCE OF BURIED OBJECTS WHICH ARE NOT SHOWN ON THIS PLAN.

FIELD WORK FOR THIS SURVEY WAS PERFORMED JULY, 2024.

LEGEND:

Ⓓ	EXISTING STORM MANHOLE
☒	EXISTING STORM CATCH BASIN (SQUARE)
○ CO	EXISTING STORM CLEAN OUT
◍	EXISTING STORM CATCH BASIN (ROUND)
◐	FOUND IRON PIPE
●	FOUND MONUMENT AS SHOWN
◕	FOUND SECTION CORNER AS SHOWN
○ B	EXISTING BOLLARD
□ EJB	EXISTING ELECTRIC JUNCTION BOX
○	EXISTING HOSE BIB
⋈ ICV	EXISTING IRRIGATION CONTROL VALVE
☼	EXISTING LIGHT POLE
▨	EXISTING BUILDING
▭	EXISTING CONCRETE
▭	EXISTING ASPHALT
—o—	EXISTING CYCLONE FENCE
R1	REFERENCE PER RECORD OF SURVEY BOOK 71 – PAGE 212

BENCHMARK

THE SITE BENCHMARK IS BASED UPON SAID POINT NO. 1 BEING A SET 1/2" X 30" IRON ROD WITH A RED PLASTIC CAP INSCRIBED "MSI CONTROL".

ELEVATION = 381.78'

811
Know what's below.
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FILE: W:\18551 USTA COVERED TENNIS CENTER\500 DESIGN\502 DRAWINGS\SHEETS\18551 EX1.0 EXISTING CONDITIONS.DWG

MacKay Sposito
ENERGY PUBLIC WORKS LAND DEVELOPMENT
www.mackaysposito.com

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USTA CAMAS HIGH SCHOOL
CAMAS, WA

EXISTING CONDITIONS PLAN
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REVISIONS:

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###
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JOB NO.:	18551
DATE:	09/03/24
SCALE:	1"=30'-0"
DESIGNED BY:	JAN
DRAWN BY:	JAN
CHECKED BY:	MS/SM

####

EX 1.0

NO. #### OF ####

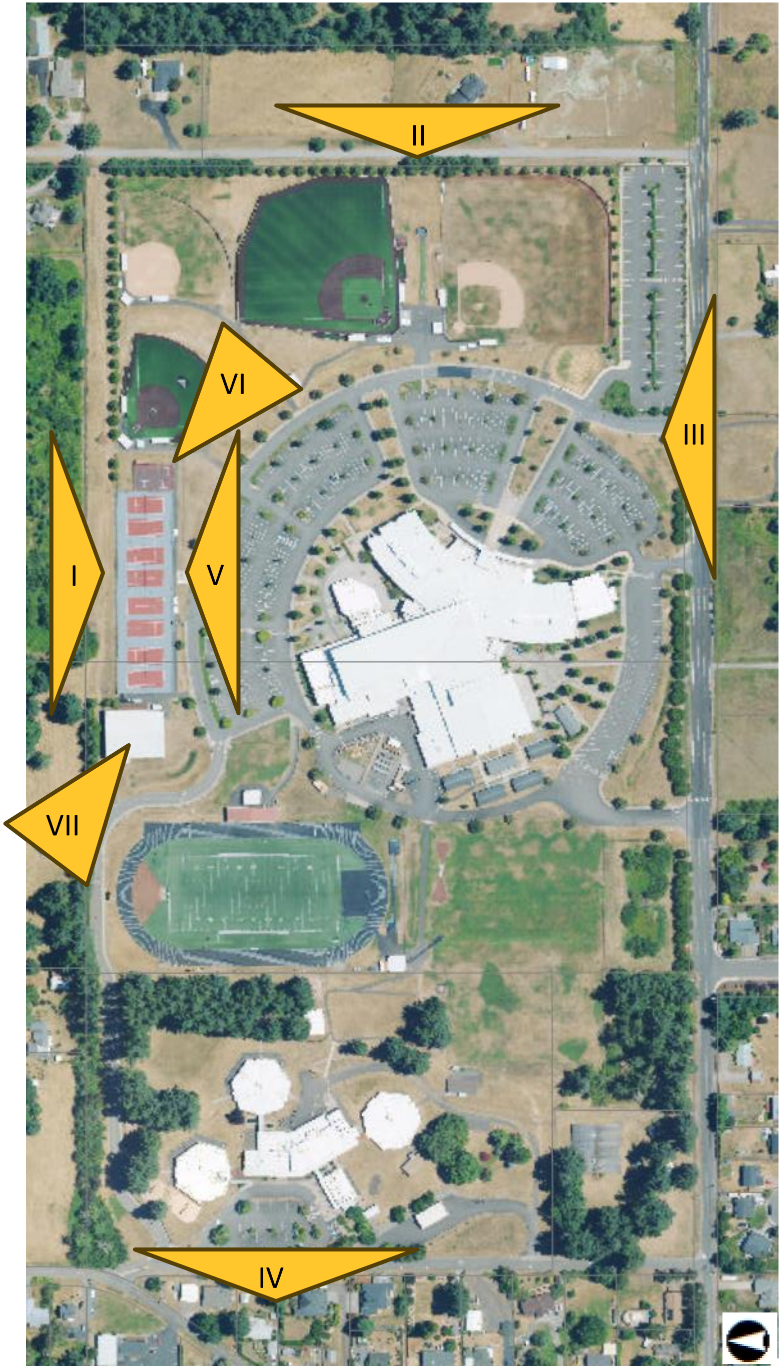
MacKay Sposito

Vancouver Office

18405 SE Mill Plain Boulevard, Suite 100 Vancouver, WA 98683
360.695.3411 www.mackaysposito.com

Site Phots

Camas High School Campus



Location/Direction of Picture Taken with Picture Reference Number

Exhibit 5 CUP24-1001

Photo I

North Adjacent Property (vacant property)

Photo II

East Adjacent Property (SE 271st Avenue, residential use)

Photo III

South Adjacent Property (NE 43rd Ave., residential use)

Photo IV

West Adjacent Property (The Heights Learning Center)

Photo V

Facing South from Existing Tennis Courts

Photo VI

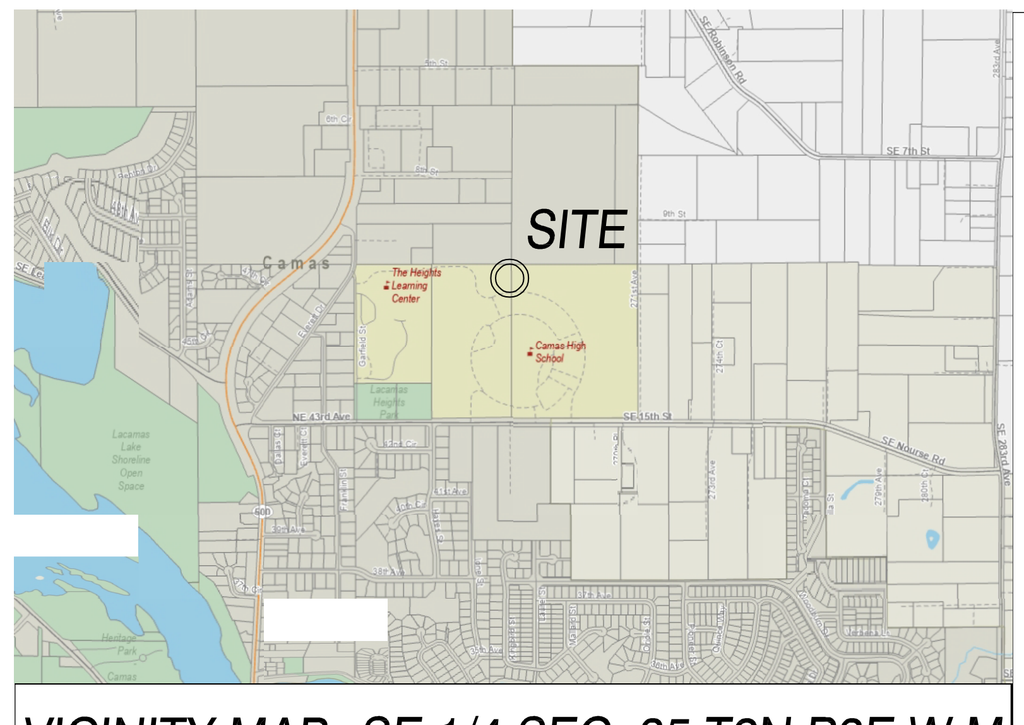
Facing Southeast from Existing Tennis Courts

Exhibit 5 CUP24-1001

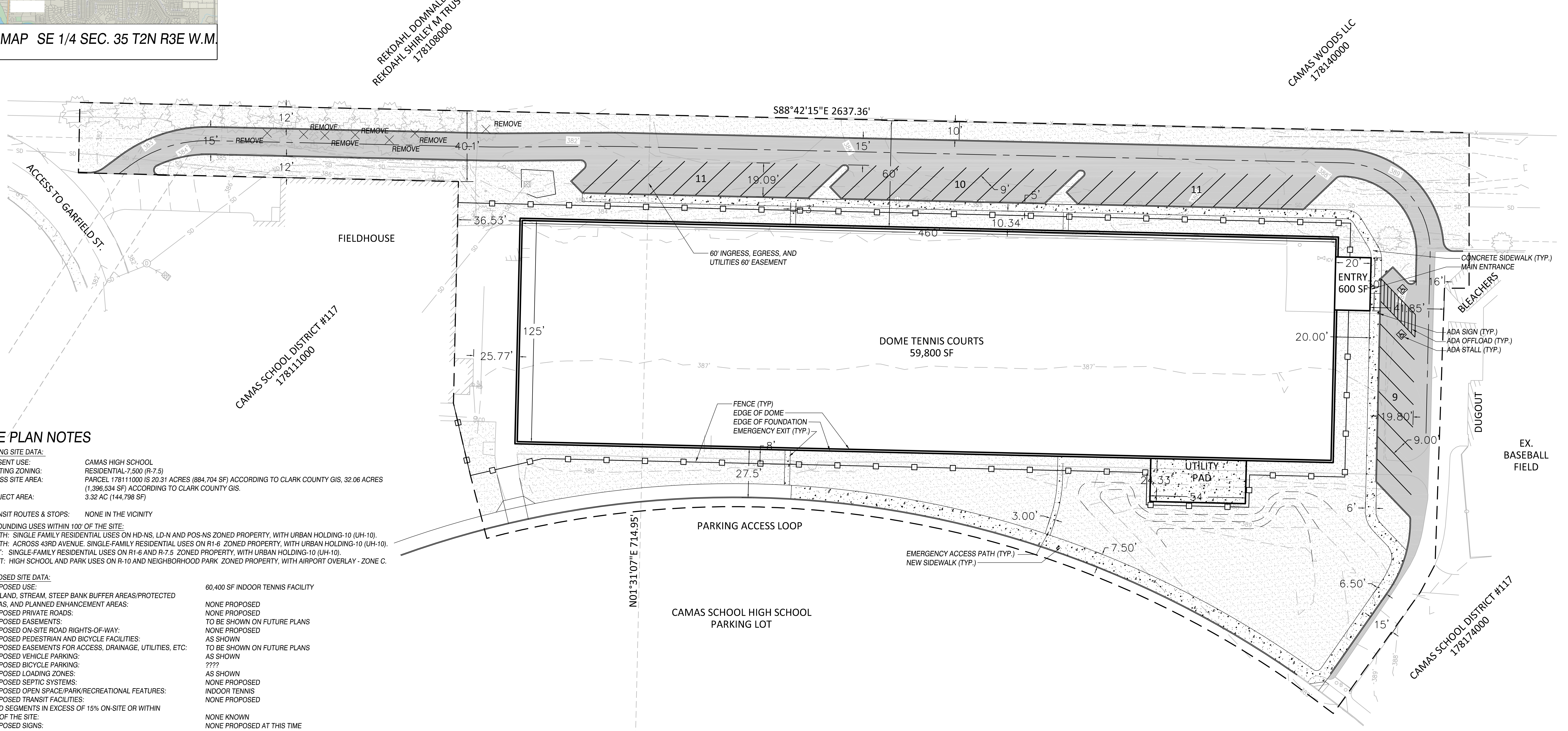
Photo VII

Facing Northwest from Existing Tennis Courts

Exhibit 6 CUP24-1001



VICINITY MAP SE 1/4 SEC. 35 T2N R3E W.M.
NTS



SITE PLAN NOTES

EXISTING SITE DATA:

PRESENT USE:	CAMAS HIGH SCHOOL
EXISTING ZONING:	RESIDENTIAL-7,500 (R-7.5)
GROSS SITE AREA:	PARCEL 178111000 IS 20.31 ACRES (884,704 SF) ACCORDING TO CLARK COUNTY GIS, 32.06 ACRES (1,396,534 SF) ACCORDING TO CLARK COUNTY GIS.
PROJECT AREA:	3.32 AC (144,798 SF)
TRANSIT ROUTES & STOPS:	NONE IN THE VICINITY

SURROUNDING USES WITHIN 100' OF THE SITE:

NORTH: SINGLE FAMILY RESIDENTIAL USES ON HD-NS, LD-N AND POS-NS ZONED PROPERTY, WITH URBAN HOLDING-10 (UH-10).
SOUTH: ACROSS 43RD AVENUE. SINGLE-FAMILY RESIDENTIAL USES ON R1-6 ZONED PROPERTY, WITH URBAN HOLDING-10 (UH-10).
EAST: SINGLE-FAMILY RESIDENTIAL USES ON R1-6 AND R-7.5 ZONED PROPERTY, WITH URBAN HOLDING-10 (UH-10).
WEST: HIGH SCHOOL AND PARK USES ON R-10 AND NEIGHBORHOOD PARK ZONED PROPERTY, WITH AIRPORT OVERLAY - ZONE C.

PROPOSED SITE DATA:

PROPOSED USE:	60,400 SF INDOOR TENNIS FACILITY
WETLAND, STREAM, STEEP BANK BUFFER AREAS/PROTECTED AREAS, AND PLANNED ENHANCEMENT AREAS:	NONE PROPOSED
PROPOSED PRIVATE ROADS:	NONE PROPOSED
PROPOSED EASEMENTS:	TO BE SHOWN ON FUTURE PLANS
PROPOSED ON-SITE ROAD RIGHTS-OF-WAY:	NONE PROPOSED
PROPOSED PEDESTRIAN AND BICYCLE FACILITIES:	AS SHOWN
PROPOSED EASEMENTS FOR ACCESS, DRAINAGE, UTILITIES, ETC:	TO BE SHOWN ON FUTURE PLANS
PROPOSED VEHICLE PARKING:	AS SHOWN
PROPOSED BICYCLE PARKING:	????
PROPOSED LOADING ZONES:	AS SHOWN
PROPOSED SEPTIC SYSTEMS:	NONE PROPOSED
PROPOSED OPEN SPACE/PARK/RECREATIONAL FEATURES:	INDOOR TENNIS
PROPOSED TRANSIT FACILITIES:	NONE PROPOSED
ROAD SEGMENTS IN EXCESS OF 15% ON-SITE OR WITHIN 500' OF THE SITE:	NONE KNOWN
PROPOSED SIGNS:	NONE PROPOSED AT THIS TIME
PROPOSED LIGHTING:	AS SHOWN ON LIGHTING PLAN
PROPOSED LOTS, TRACTS, ETC:	NONE PROPOSED
EXISTING BUILDINGS TO REMAIN:	AS SHOWN ON PLAN
PROPOSED LANDSCAPING (LANDSCAPE PLAN):	AS SHOWN ON THE LANDSCAPE PLAN
PROPOSED BUILDINGS:	AS SHOWN - INFLATABLE DOME
ABOVE-GROUND UTILITIES:	REFER TO CIVIL ENGINEERING PLANS
PROPOSED FENCES:	AS SHOWN

ALL PROPOSED ADA ACCESSIBLE PARKING AND AISLES SHALL HAVE A MAXIMUM SLOPE OF 1:48.
ALL ACCESSIBLE ROUTES OF TRAVEL MEET ACCESSIBILITY STANDARDS.

IF ANY CULTURAL OR HISTORICAL RESOURCES ARE DISCOVERED IN THE COURSE OF UNDERTAKING THE DEVELOPMENT ACTIVITY, THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION (DAHP) IN OLYMPIA AND CITY OF CAMAS DEVELOPMENT REVIEW SERVICES MUST BE NOTIFIED. FAILURE TO COMPLY WITH THESE STATE REQUIREMENTS MAY CONSTITUTE A CLASS C FELONY SUBJECT TO IMPRISONMENT AND/OR FINES.

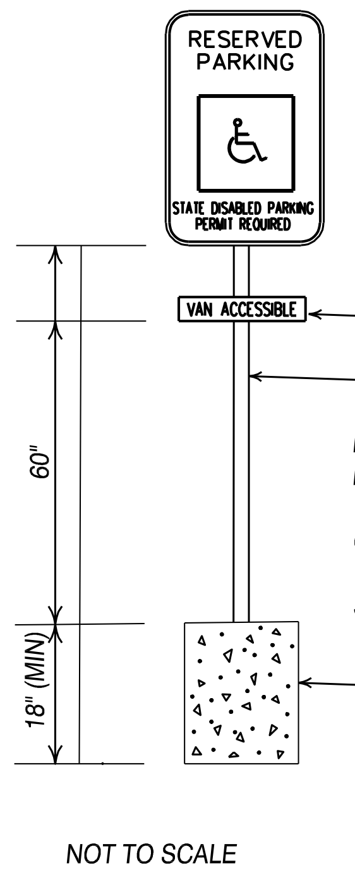
SITE PLAN CALCULATIONS

TOTAL SITE AREA	2,281,238 SF
PROJECT AREA	144,798 SF
BUILDING AREA	60,400 SF (41%)
LANDSCAPE AREA	42,454 SF (29%)
PAVED AREA	41,944 SF (30%)

PARKING CALCULATIONS

PARKING REQUIRED	8 TENNIS COURTS, 600 SF GROSS FLOOR AREA OF RELATED USE. 3 SPACES PER COURT + 1 PER 260 SF RELATED GFA + 1 PER EMPLOYEE 8 COURTS(3*8)=24 + (600 SF / 260 SF)=2.3(3) + 3 EMPLOYEES=30 REQUIRED SPACES
PARKING PROVIDED	41 STALLS, WHICH INCLUDES THE FOLLOWING: 41 STANDARD STALLS, WHICH INCLUDES 2 ADA STALLS

FILE: W:\18551 USTA COVERED TENNIS CENTER\500 DESIGN\502 DRAWINGS\BASE\18551-PBASE_PRELIMINARY.DWG



1) HANDICAPPED SIGN SHALL BE 70 SQ.IN.(MIN) PORCELAIN ON STEEL.

2) BEADED TEXT OR EQUAL DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND TEXT STATING "STATE DISABLED PARKING PERMIT REQUIRED".

3) SIGN PROVIDED BY CONTRACTOR.

VAN PARKING (WHERE REQUIRED)

2" (ID) STANDARD GALVANIZED PIPE

EVERY ACCESSIBLE PARKING SPACE WILL BE IDENTIFIED BY A SIGN, LOCATED AT 60 INCHES TO THE BOTTOM OF THE SIGN ABOVE THE PARKING SURFACE, LOCATED AT THE HEAD OF THE PARKING SPACE. THE SIGN SHALL INCLUDE INTERNATIONAL SYMBOL OF ACCESS AND THE PHRASE "STATE DISABLED PARKING PERMIT REQUIRED". VAN ACCESSIBLE SPACES SHALL HAVE AN ADDITIONAL SIGN IDENTIFYING THE SPACES AS "VAN ACCESSIBLE" WAC 51-20-3107(C).

18" DIAMETER POURED CONCRETE BASE

NOT TO SCALE

ADA AISLE WIDTHS SHALL BE 8' FOR VAN ACCESSIBLE AND 5' OTHERWISE. SLOPES SHALL BE LESS THAN 5%. THE INTERNATIONAL SYMBOL USED WITHIN A PARKING SPACE SHALL BE 'WHITE ON BLUE' BACKGROUND. SEE ENGINEERING PLANS FOR RAMP AND SYMBOL DETAILS.

LEGEND:

Ⓓ	EXISTING STORM MANHOLE
☒	EXISTING STORM CATCH BASIN (SQUARE)
○CO	EXISTING STORM CLEAN OUT
⦶	EXISTING STORM CATCH BASIN (ROUND)
○B	EXISTING BOLLARD
□EJB	EXISTING ELECTRIC JUNCTION BOX
○	EXISTING HOSE BIB
⋈ICV	EXISTING IRRIGATION CONTROL VALVE
☼	EXISTING LIGHT POLE
▨	EXISTING BUILDING
▭	EXISTING CONCRETE
▭	EXISTING PAVEMENT
—o—	EXISTING CYCLONE FENCE
—	PROPOSED CYCLONE FENCE
═	PROPOSED CURB
▭	PROPOSED CONCRETE PAVING
▩	PROPOSED ASHPALT PAVING
═	PROPOSED BUILDING EDGE AND FOUNDATION
▭	LANDSCAPE AREA
⊗ REMOVE	EXISTING TREE TO REMOVE

APPLICANT:
USTA: UNITED STATES TENNIS ASSOCIATION
PATRICK DREVES
9746 SW NIMBUS AVE
BEAVERTON, OR 97008
(503) 919-0832
pdreves@pnw.usta.com

OWNER/APPLICANT:
CAMAS SCHOOL DISTRICT
JASEN MCEATHRON, DIRECTOR OF BUSINESS SERVICES
841 NE 22ND AVENUE
CAMAS, WA 98607
360-833-7412
jasen.McEathron@camas.wednet.edu

CONTACT:
MACKAY SPOSITO, INC.
ATTN: STEVEN MCATEE
18405 SE MILL PLAIN BLVD. SUITE 100
VANCOUVER, WA 98683
(360) 695-3411
smcatee@mackaysposito.com

0 30 60
SCALE: 1" = 30'

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USTA CAMAS HIGH SCHOOL
CAMAS, WA

PRELIMINARY SITE PLAN
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REVISIONS:
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JOB NO.:	18551
DATE:	09/03/24
SCALE:	1"=30'-0"
DESIGNED BY:	JAN
DRAWN BY:	JAN
CHECKED BY:	MS/SM

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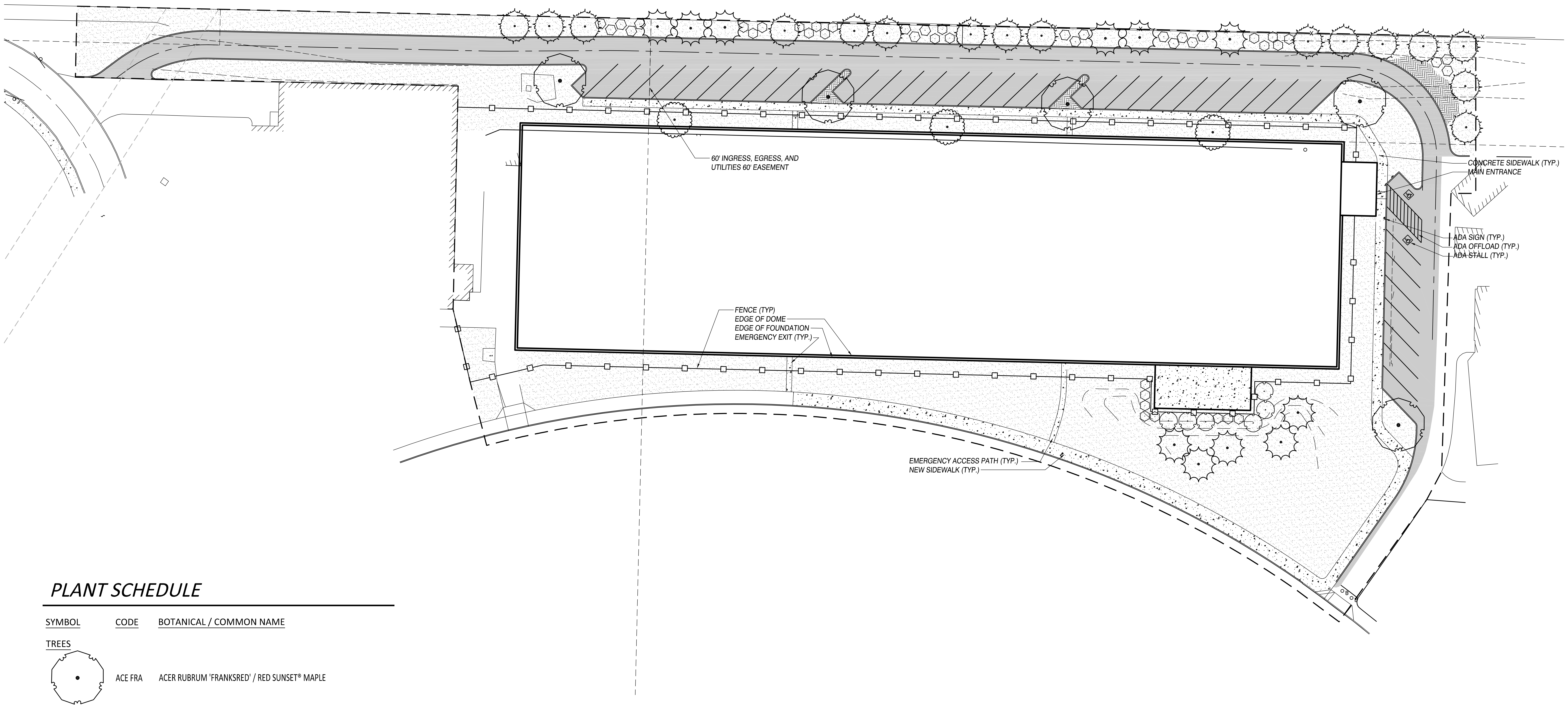
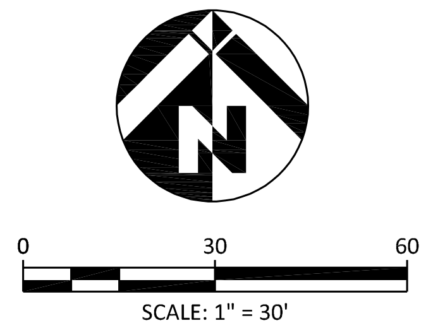
NO. #### OF ###



PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME
TREES		
○	ACE FRA	ACER RUBRUM 'FRANKSRED' / RED SUNSET® MAPLE
○	CAL DEC	CALOCEDRUS DECURRENS / INCENSE CEDAR
○	COR LGU	CORNUS KOUSA X NUTTALLII 'KN4-43' / STARLIGHT® KOUSA DOGWOOD
○	PSE DOU	PSEUDOTSUGA MENZIESII / DOUGLAS FIR
SHRUBS		
⬡	MYR CAL	MYRICA CALIFORNICA / PACIFIC WAX MYRTLE
⬠	VIB BDN	VIBURNUM ELLIPTICUM / OVAL-LEAVED VIBURNUM
○	VIB LEA	VIBURNUM RHYTIDOPHYLLUM / LEATHERLEAF VIBURNUM
GROUND COVERS		
▨	BER RPN	BERBERIS AQUIFOLIUM REPENS / CREEPING OREGON GRAPE

FILE: W:\18551 USTA COVERED TENNIS CENTER\500 DESIGN\502 DRAWINGS\BASE\18551-PLANTING BASE.DWG



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STATE OF WASHINGTON
JOHN A. NUTTBROCK
NO. 1083 EXP. 05/14/2025
LICENSED LANDSCAPE ARCHITECT
PRELIMINARY

USTA CAMAS HIGH SCHOOL
CAMAS, WASHINGTON

PRELIMINARY LANDCAPE PLAN

REVISIONS:
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JOB NO.:	18551
DATE:	9/4/2024
SCALE:	1"=30'
DESIGNED BY:	JH
DRAWN BY:	JH
CHECKED BY:	AN

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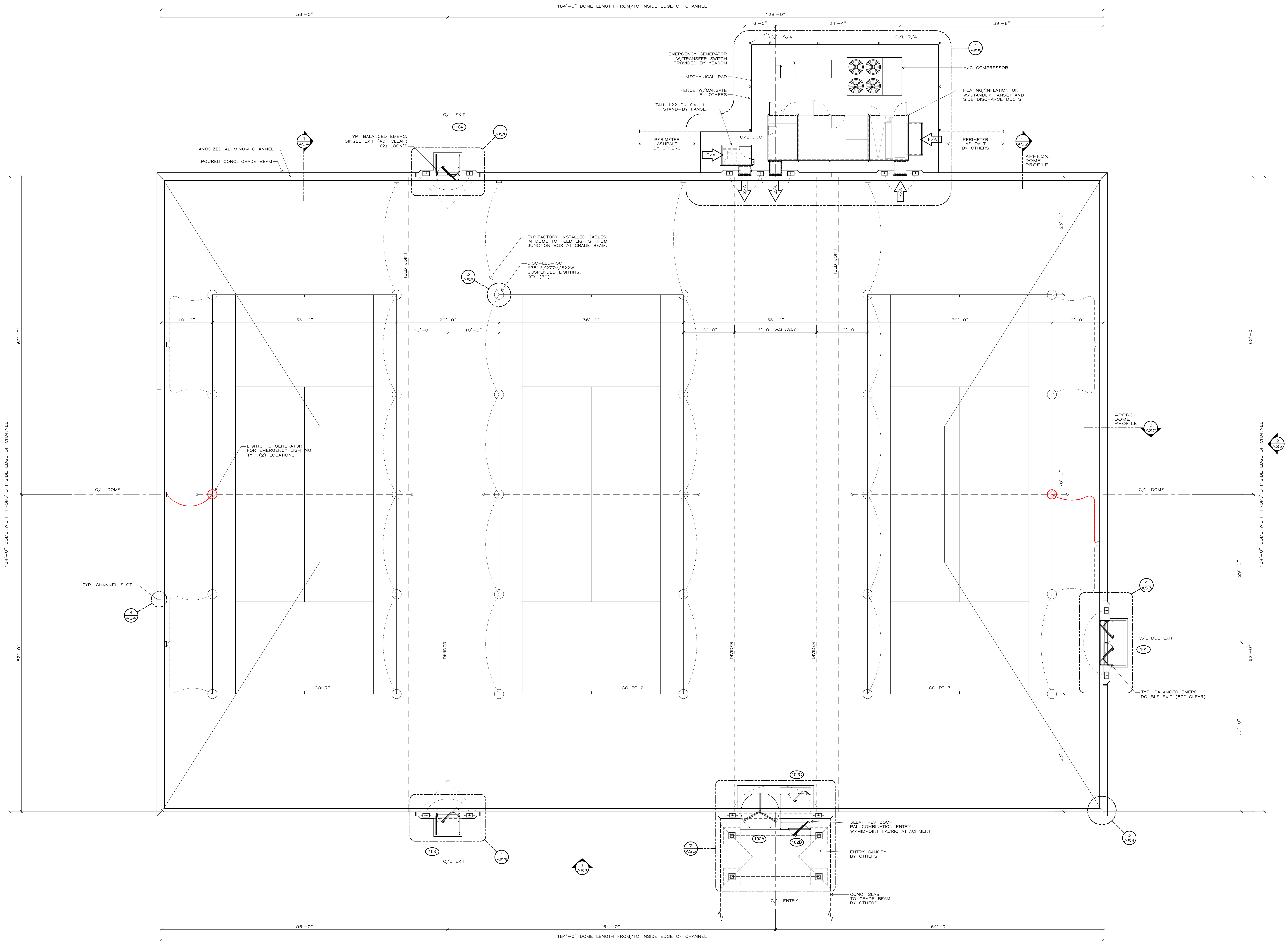
NO. #### OF ###

Exhibit 8 CUP24-1001



① DOME PLAN VIEW
1/8" = 1'-0"

DOOR SCHEDULE

		FRAME			DOOR LEAF			HARDWARE	
DOOR #	DESCRIPTION	MATERIAL	FINISH	OUT/OUT FRAME W" x H" x D"(IF APPL.)	TYPE	CLEAR OPENING W" x H"	GLAZING TYPE	PANIC BAR	LOCK SET
101	BALANCED SELF CLOSING EMERGENCY DOUBLE EXIT	STEEL	POWDER COAT	103.38" x 96"	INSUL. ALUM.	80" x 80" (MULLION REMOVED)	1/4" LEXAN (TUFFAK)	MONARCH-19-R	MO-914KIL-KD
102A	3LEAF REVOLVING DOOR	ALUM.	BRUSHED	93" x 83" x 84"	INSUL. ALUM.	42" x 78.75"	1/4" LEXAN (TUFFAK)	NA	SLIDING BOLT
102B	EGRESS (AIRLOCK EXT.)	ALUM.	BRUSHED	72.5" x 83" x 84"	INSUL. ALUM.	40" x 80"	1/4" LEXAN (TUFFAK)	MONARCH-19-R	MO-914KIL-KD
102C	EGRESS (AIRLOCK INT.)	ALUM.	BRUSHED	72.5" x 83" x 84"	INSUL. ALUM.	40" x 80"	1/4" LEXAN (TUFFAK)	MONARCH-19-R	MO-914KIL-KD
103	BALANCED SELF CLOSING EMERG. EXIT	STEEL	POWDER COAT	53" x 96"	INSUL. ALUM.	40" x 80"	1/4" LEXAN (TUFFAK)	MONARCH-19-R	MO-914KIL-KD
104	BALANCED SELF CLOSING EMERG. EXIT	STEEL	POWDER COAT	53" x 96"	INSUL. ALUM.	40" x 80"	1/4" LEXAN (TUFFAK)	MONARCH-19-R	MO-914KIL-KD

architecture
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reston, virginia 20191
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128 WOOLWICH ST, SUITE 201, GUELPH ONT. N1H 3V2

Construction Documents for:
TOWN OF LEESBURG, VA
IDA LEE PARK
TENNIS BUBBLE
70 IDA LEE DRIVE NW
LEESBURG, VA 20176

Project: 21136-01

Issue 08/02/2021
PERMIT SUBMISSION

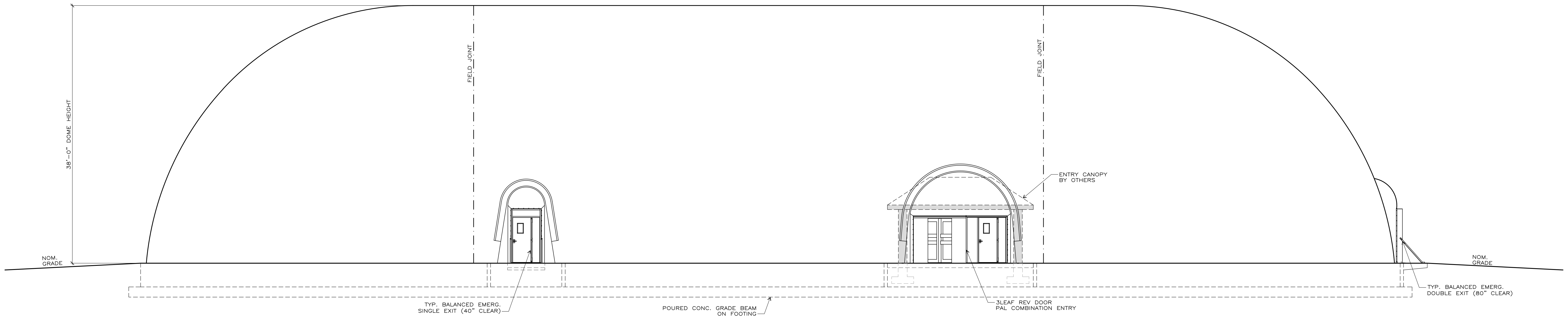
Revisions

DOME
PLAN VIEW

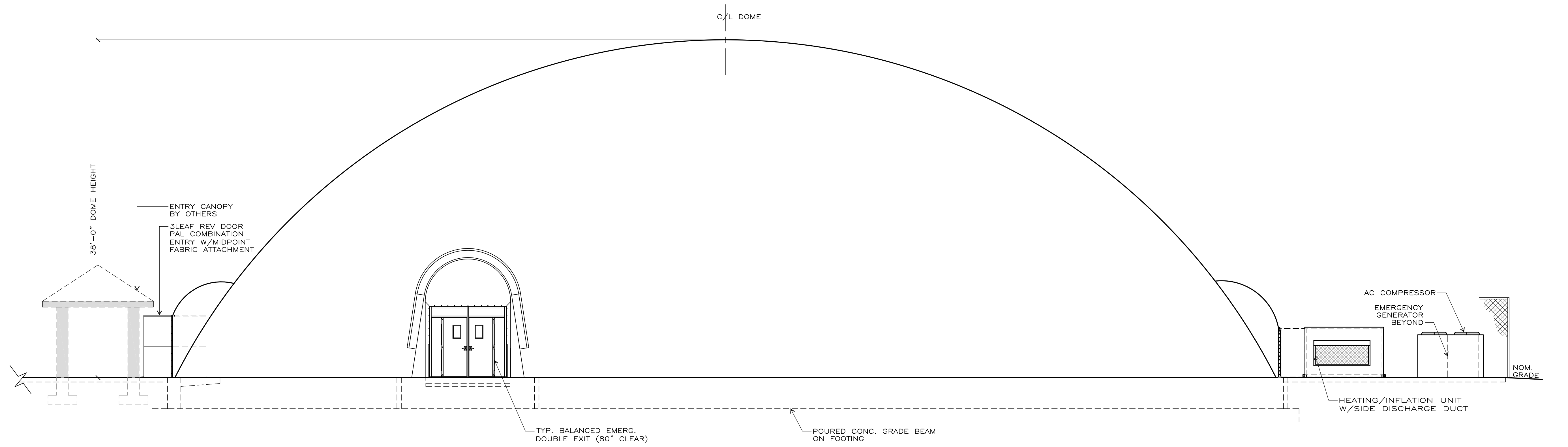
Scale **1/8" = 1'-0"**
Drawn RCK
Checked DBK

AS.1

ERMIT SUBMISSION

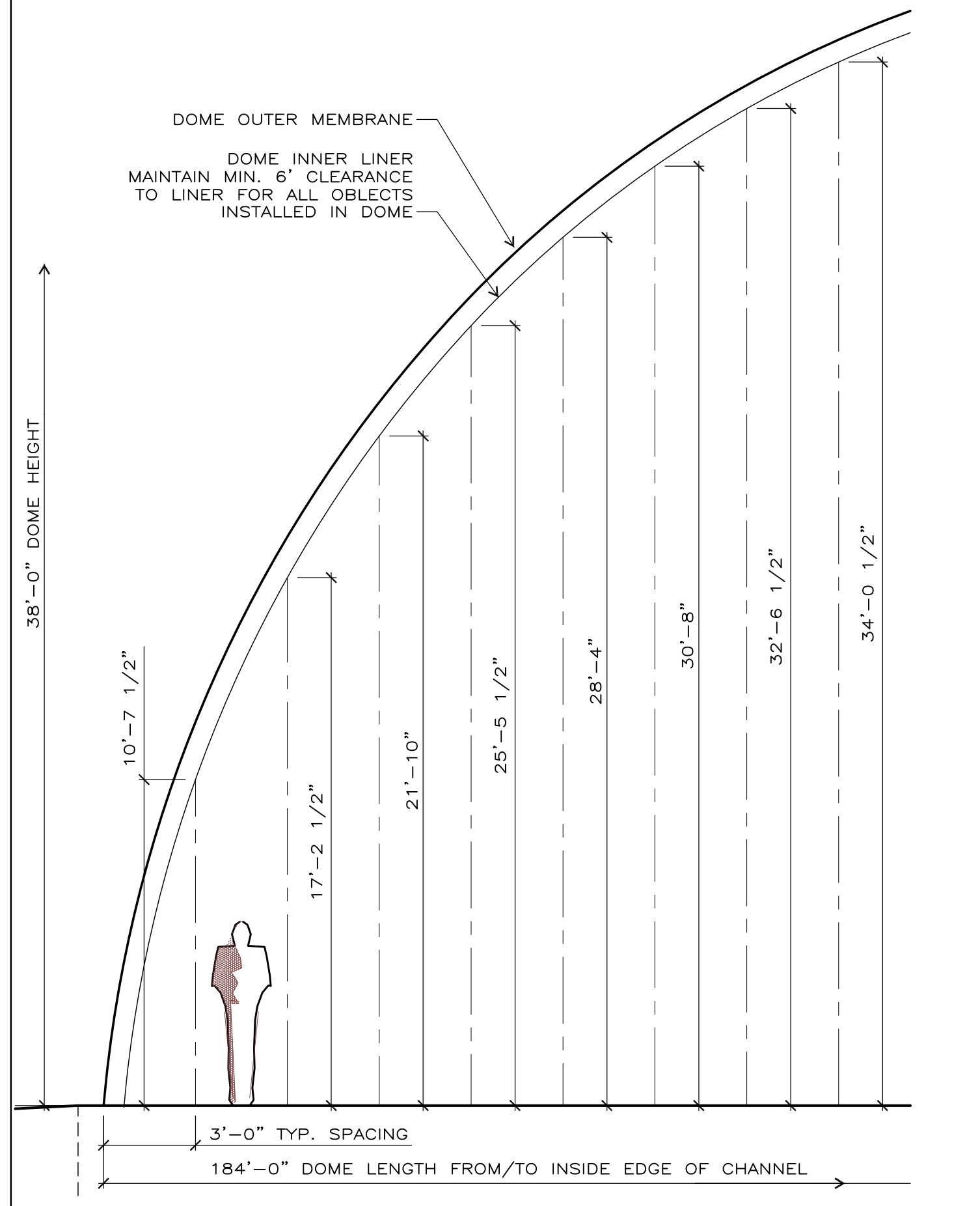


1 SIDE ELEVATION
1/8" = 1'-0"

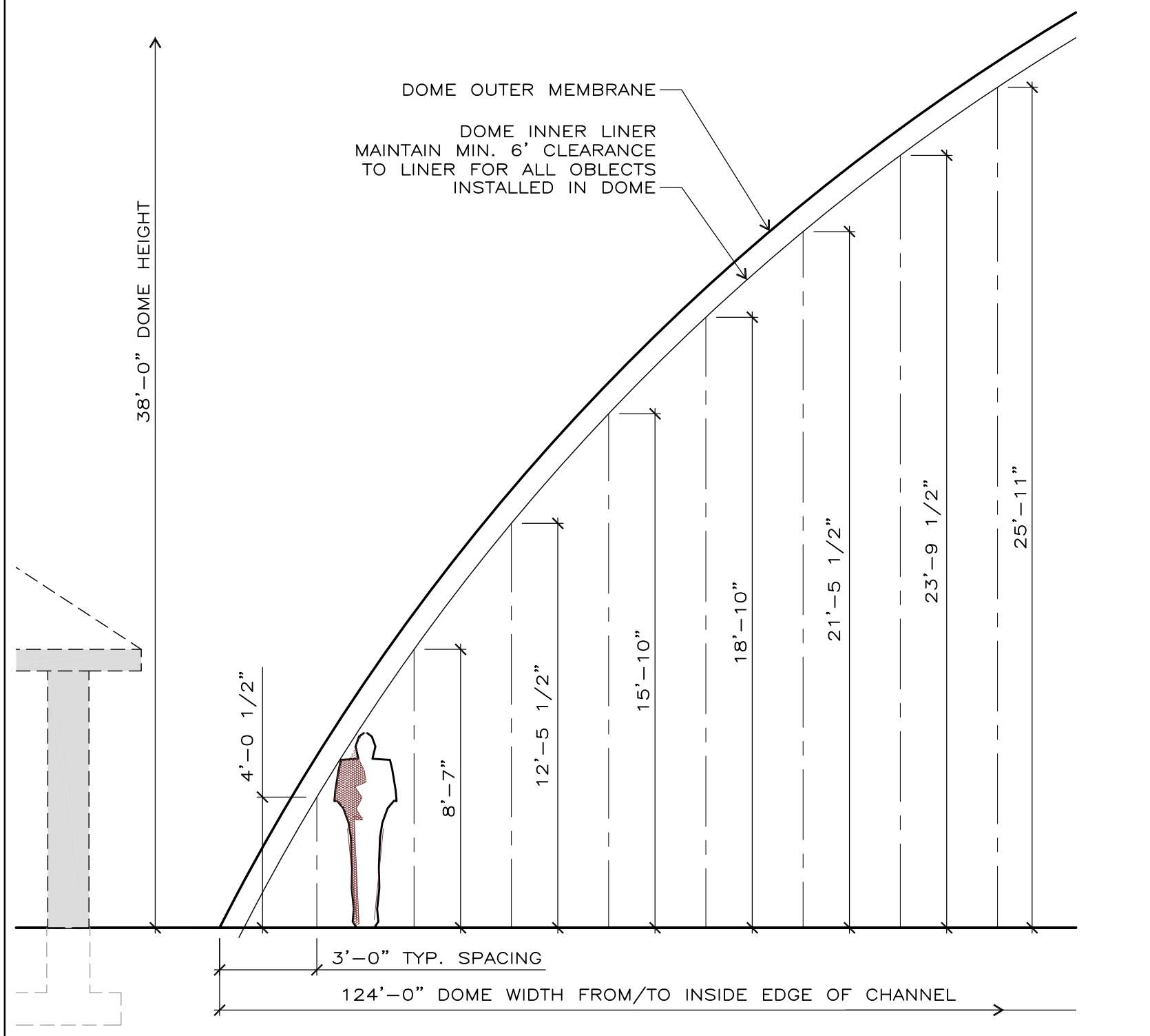


2 END ELEVATION
1/8" = 1'-0"

NOTE:
GRID HEIGHTS SHOWN
ARE APPROXIMATE



3 APROX. DOME PROFILE AT END
3/16" = 1'-0"



4 APROX. DOME PROFILE AT SIDE
3/16" = 1'-0"

GENERAL NOTES:

1. DESIGN LOADS:

i) THIS STRUCTURE IS AN AIR SUPPORTED STRUCTURE IN WHICH THE FABRIC IS SUPPORTED BY INTERNAL PRESSURE.
THE INTERNAL PRESSURE IS MONITORED DAILY BY THE OWNER AND IS INCREASED PRIOR TO HIGHER WINDS OR TO SNOWFALLS, AS DIRECTED IN THE OWNER'S MANUAL, IN ORDER TO PROVIDE REQUIRED RESISTANCE TO THE WEATHER LOADS.

ii) WIND: IN ACCORDANCE WITH 2018 VIRGINIA CONSTRUCTION CODE AND 2016 ASCE–7.
- 115 MPH (ULT), EXPOSURE C. PRESSURE DISTRIBUTION TO 2016 ASCE 7.
- RISK CATEGORY II, MAXIMUM OCCUPANCY IN DOME < 300

iii) INTERNAL DESIGN PRESSURE :
- INTERNAL DESIGN PRESSURE IS : 9.64 PSF (1.85" W.C.). THIS IS REQUIRED IN ORDER TO MAINTAIN STRUCTURAL INTEGRITY DURING WEATHER EVENTS.
- DURING NON–WEATHER EVENTS, THE OWNER MAY REDUCE THE INTERNAL PRESSURE, AT THEIR OWN DISCRETION. MINIMUM INTERNAL PRESSURE IS : 3.9 PSF (0.75" W.C.).
- STANDBY SET FOR 0.12 kPa (2.6 PSF, 0.5"W.C.) FOR THE "ON" VALUE.

iv) SNOW :
- GROUND SNOW 30PSF
- SNOW IMPORTANCE FACTOR Is=1, SNOW EXPOSURE FACTOR Ce=0.9, THERMAL FACTOR Ct=0.85
- DOME WILL SHED SNOW DUE TO CURVATURE OF MEMBRANE, INTERNAL PRESSURE AND HEAT. SNOW STARTS TO MELT ON CONTACT, THEN AS IT ACCUMULATES, A LAYER OF MELTWATER FORMS BETWEEN THE SNOW AND THE MEMBRANE SURFACE ALLOWING THE ACCUMULATED SNOW TO SLIDE OFF.

- SNOW TO BE MANUALLY REMOVED BY OWNER IF EXTREME CONDITIONS EXIST (ASCE 55–16 6.11)

- SNOW TO BE REMOVED FROM ALL SIDES OF DOME BY OWNER AFTER EVERY SNOWFALL

- IF SNOW IS FORECAST, THE OWNER MUST HAVE PERSONNEL AVAILABLE TO MONITOR DOME OPERATION DURING THE SNOW EVENT.

v) DEAD LOAD : SELF WEIGHT OF DOME, INSULATION AND CABLES

2. STRUCTURAL:

ALL WORK SHALL CONFORM TO THE APPLICABLE CODES, LOCAL REGULATIONS AND AUTHORITIES HAVING JURISDICTION.

THE ENGINEER SHALL BE GIVEN 48 HOURS MINIMUM NOTICE BY THE CONTRACTOR FOR ALL REQUIRED INSPECTIONS OF FOUNDATION, REINFORCING STEEL, STRUCTURAL STEEL AND FRAMING.

THIS SET OF DRAWINGS REPLACES ALL PREVIOUS DRAWINGS.

ALL SITE DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. NO CHANGES SHALL BE MADE WITHOUT WRITTEN APPROVAL BY THE ENGINEER.

ALL SURFACES OF STRUCTURES DIRECTLY EXPOSED TO THE INTERIOR OF THE AIR STRUCTURE SHALL BE DESIGNED TO WITHSTAND A MINIMUM OF 30 PSF. OF AIR PRESSURE.

FABRIC STRESS RELIEF CABLES ABOVE OPENINGS IN THE PRIMARY MEMBRANE SHALL BE DESIGNED AS CATENARY SPANS OF STEEL CABLE, SELECTED AND SUPPLIED BY YEADON FABRIC STRUCTURES IN ACCORDANCE WITH THE FABRIC STRESS CALCULATIONS PROVIDED BY THE ENGINEER FOR THIS PROJECT.

THIS AIR STRUCTURE HAS BEEN DESIGNED USING CSA DOCUMENT CSA S367–12 AND ASCE 55–16 AS GUIDES.

3. EXCAVATION AND BACKFILL:

SOIL CONDITIONS SHALL BE REPORTED TO THE ENGINEER AT THE TIME OF EXCAVATION AND AT HIS DISCRETION THE ENGINEER MAY REQUIRE FURTHER SOILS INVESTIGATION, OR MODIFICATIONS TO THE GRADE BEAM DESIGN.

REMOVE ALL TOP SOIL AND DELETERIOUS MATERIAL FROM BENEATH ALL STRUCTURE COMPONENTS.

USE ONLY ENGINEER APPROVED COMPACTED FILL TO RAISE GRADES WHERE REQUIRED BENEATH STRUCTURES.

COMPACT ALL GRANULAR FILL TO 98% SPDD. COMPACTION TESTING SHALL BE CARRIED OUT BY A QUALIFIED GEOTECHNICAL CONSULTANT PRIOR TO INSTALLATION OF ANY STRUCTURES SUPPORTED ON FILL.

SLOPE ALL GRADES AWAY FROM THE AIR STRUCTURE AND IT'S COMPONENTS.

PROTECT EXCAVATIONS AND GRADE BELOW SLABS FROM FROST PENETRATION BY PROPER USE OF STRAW, THERMAL BLANKETS AND TARPS.

4. CONCRETE:

ALL CONCRETE AND REBAR SHALL CONFORM TO ACI CODE 318–LATEST EDITION.

CONCRETE STRENGTH SHALL BE 4000 PSI, 6% +/–1% AIR ENT. IN ALL CASES, UNLESS OTHERWISE SPECIFIED.

USE ONLY GRADE 60 (60,000 PSI) DEFORMED REBAR.

APPROPRIATE MEASURES SHALL BE TAKEN TO PROTECT CONCRETE FROM EXCESSIVE EVAPORATIVE WATER LOSS AND ENSURE PROPER CURING.

ALL CONCRETE SHALL BE TESTED BY AN ACI CERTIFIED CONCRETE TESTING LABORATORY.

USE HIGH FREQUENCY VIBRATION TO PLACE ALL CONCRETE.

APPROPRIATE MEASURES SHALL BE TAKEN TO PROTECT CONCRETE FROM EXPOSURE TO FREEZING TEMPERATURES FOR AT LEAST (7) DAYS FOLLOWING CONCRETE PLACEMENT.

PROVIDE GROUT CLEANED RUBBED FINISH IN ACCORDANCE WITH ACI 301–10 FOR ALL FORMED CONCRETE SURFACES EXPOSED TO VIEW.

ENSURE 2" MINIMUM COVER FOR ALL REBAR IN FORMED CONCRETE, 3" MINIMUM COVER FOR CONCRETE POURED AGAINST SOIL.

PROVIDE VERTICAL CONTROL JOINTS @ 20'–0" O.C. MAX. LOCATE MID DISTANCE BETWEEN CABLE ANCHORAGE. KEY EA. FACE 1" MIN AND CAULK. CUT EVERY OTHER HORIZ. BAR.

RE–BAR LAP/SPLICE LENGTHS:
#4 = 22"
#5 = 28"
#6 = 32"

5. ELECTRICAL NOTES:

(SEE ALSO ELECTRICAL DRAWINGS BY OTHERS ISSUED FOR THIS PROJECT)

EXITS:

THE CONTRACTOR SHALL PROVIDE (1) 277V/15A DEDICATED CIRCUIT FOR EMERGENCY LIGHTING ONLY AND ALL EMERGENCY LIGHTS SHALL BE POWERED BY THIS CIRCUIT.

POWER SUPPLY FOR EMERGENCY EXITS SHALL BE BROUGHT WITHIN 12" OF EACH EXIT DOOR OPENING AS LOCATED IN THE CONSTRUCTION DRAWINGS.

WHERE THE POWER SUPPLY IS RUN IN CONDUIT CAST INTO THE FOUNDATION GRADE BEAM, 10" CLEARANCE MUST BE PROVIDED BELOW FINISHED CONCRETE SURFACE TO AVOID CONTACT WITH ANCHOR BOLTS.

LIGHTING:

POWER SUPPLY FOR LIGHT FIXTURES SHALL BE BROUGHT TO RECEPTACLE BOXES AS LOCATED IN THE CONSTRUCTION DRAWINGS.

ELECTRICAL CONTRACTOR TO TRIM AND INSTALL PLUG ENDS ON EACH LIGHT CORD IN PROPER LOCATIONS.

VOLTAGE, AMPERAGE AND J–BOX LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR TO YEADON FABRIC STRUCTURES, IN WRITING, PRIOR TO COMMENCEMENT OF ELECTRICAL WORK.

IT IS RECOMMENDED THAT LIGHTING CONTACTORS BE USED WITH REMOTE LOCATION SWITCHING AT A CONTROL POINT, LOCATED BY THE OWNER / DEVELOPER.

FOR SUSPENDED LIGHTING, EVERY EFFORT IS MADE TO ALIGN LIGHTS VERTICALLY AND HORIZONTALLY. DUE TO THE CURVATURES OF THE DOME AND THE DIFFERING LOCATIONS OF THE FIXTURES ON THE INDIVIDUAL PANELS, VARIATIONS IN HEIGHT AND HORIZONTAL ALIGNMENTS MAY OCCUR. OTHER FACTORS SUCH AS DOME PRESSURE MAY ALSO AFFECT THE LOOK AND ALIGNMENT OF THE FIXTURES.

6. MECHANICAL EQUIPMENT:

SEE MECHANICAL DRAWINGS (BY OTHERS) ISSUED FOR THIS PROJECT.

POWER SUPPLY FOR MECHANICAL EQUIPMENT SHALL BE BROUGHT TO LOCATIONS AS INDICATED ON THE CONSTRUCTION DRAWINGS. (NOTE: EQUIPMENT IS SUPPLIED WITH MAIN DISCONNECT).

VOLTAGE AND AMPERAGE REQUIREMENTS SHALL BE CONFIRMED BY THE CONTRACTOR TO YEADON FABRIC STRUCTURES IN WRITING, PRIOR TO COMMENCEMENT OF ELECTRICAL WORK.

THE ELECTRICAL CONTRACTOR SHALL COMPLETE ALL ELECTRICAL TERMINATIONS AND CONNECTIONS.

THE INFLATION UNIT IS SLIT IN SECTIONS FOR SHIPPING, FIELD ASSEMBLY REQUIRED. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR CONNECTING THE ELECTRICAL SPLITS ON THE SECTIONS.

ELECTRICAL CONTRACTOR SHALL TEST ROTATION PRIOR TO MANUFACTURER FACTORY STARTUP.

FOR PRESSURE SENSING TUBING, ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL 3/4" CONDUIT FROM CONTROL PANEL TO STUB UP IN BOX INSTALLED IN GRADE BEAM IN DOME INTERIOR, AND FROM CONTROL PANEL TO ATMOSPHERE, TO TERMINATE IN BOX WITH SCREENED VENT.

FOR BOTTOM DISCHARGE UNITS, ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL TEMPERATURE SENSORS IN THE DISCHARGE AND RETURN AIR DUCTS.

FOR REMOTE PC/MOBILE ACCESS, ELECTRICAL CONTRACTOR TO PROVIDE CONDUIT AND INSTALL ETHERNET CABLE FROM REMOTE PC LOCATION TO INFLATION UNIT.

OWNER TO PROVIDE IP ADDRESS AND PC CONNECTED AT TIME OF INSTALL FOR REMOTE ACCESS OPTION.

7. FABRIC SPECIFICATIONS:

SHELTER RITE	STYLE 8028	STYLE 9032
BASE –TYPE FABRIC –WEIGHT	POLYESTER (7.5 oz/yd²)	POLYESTER (10.0 oz/yd²)
FINISHED COATED WEIGHT ASTM D751	(28 +2/–1 oz/yd²)	(32 +2/–1 oz/yd²)
TONGUE TEAR ASTM D751	(8" x10" SAMPLE @ 12"/MIN.) (275/275 lbf)	(8" x10" SAMPLE @ 12"/MIN.) (300/300 lbf)
TRAPEZOID TEAR ASTM D4533	(85/85 lbf)	(100/100 lbf)
GRAB TENSILE ASTM D751	(700/700 lbf)	(840/840 lbf)
STRIP TENSILE ASTM D751 PROCEDURE B	(515/515 lbf/in)	(650/650 lbf/in)
ADHESION (MINIMUM) ASTM D751 DIELECTRIC WELD	(10 lbf/in)	(10 lbf/in)
HYDROSTATIC RESISTANCE ASTM D751 PROCEDURE A	(500 psi)	(500 psi)
DEAD LOAD MIL–T–52983E (MODIFIED) PARA 4.5.2.19	(2" SEAM, 4 HRS, 1" STRIP) (266 lbf @ ROOM TEMPERATURE) (133 lbf @ 160° F)	(2" SEAM, 4 HRS, 1" STRIP) (266 lbf @ ROOM TEMPERATURE) (133 lbf @ 160° F)
LOW TEMPERATURE ASTM D2136 1/8" MANDREL 4HRS	(LTC: PASS @ –40° F) (LTA: PASS @ –67° F)	(LTC: PASS @ –40° F) (LTA: PASS @ –67° F)

FLAME RESISTANCE
MEETS NFPA 701; CAN/ULC–S109; ASTM 6413–2 SECOND FLAMEOUT
REGISTERED BY CALIFORNIA FIRE MARSHAL (NO. F–10301); GB8624–2006;
ASTM E84 & ULC–S102 – FLAME SPREAD INDEX <25, SMOKE DEVELOPMENT RATING <450

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TENNIS BUBBLE
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LEESBURG, VA 20176

Project: 21136-01

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Revisions

DOME ELEVATIONS GENERAL NOTES

Scale **AS NOTED**
Drawn **RCK**
Checked **DBK**

AS.2

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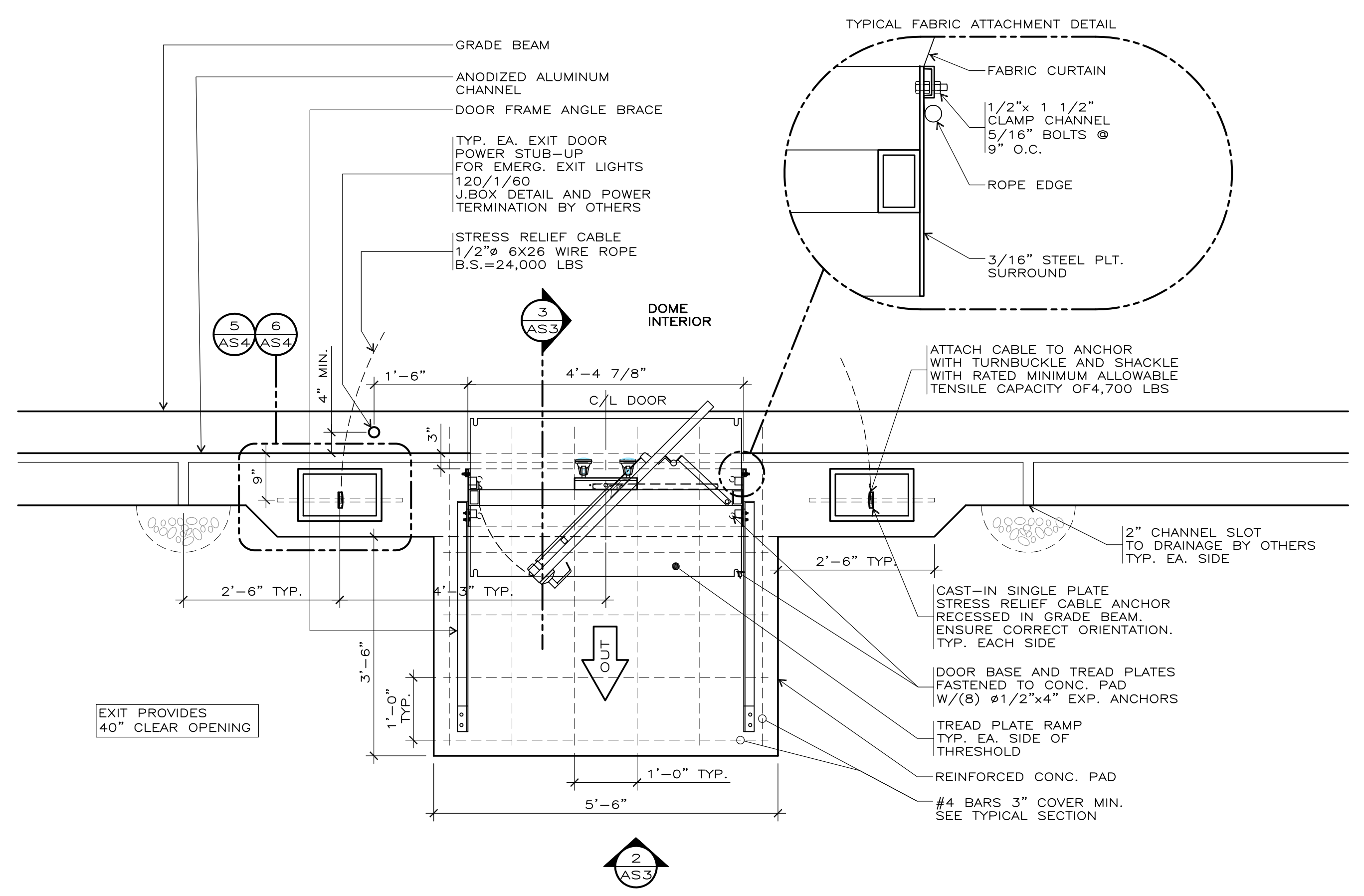
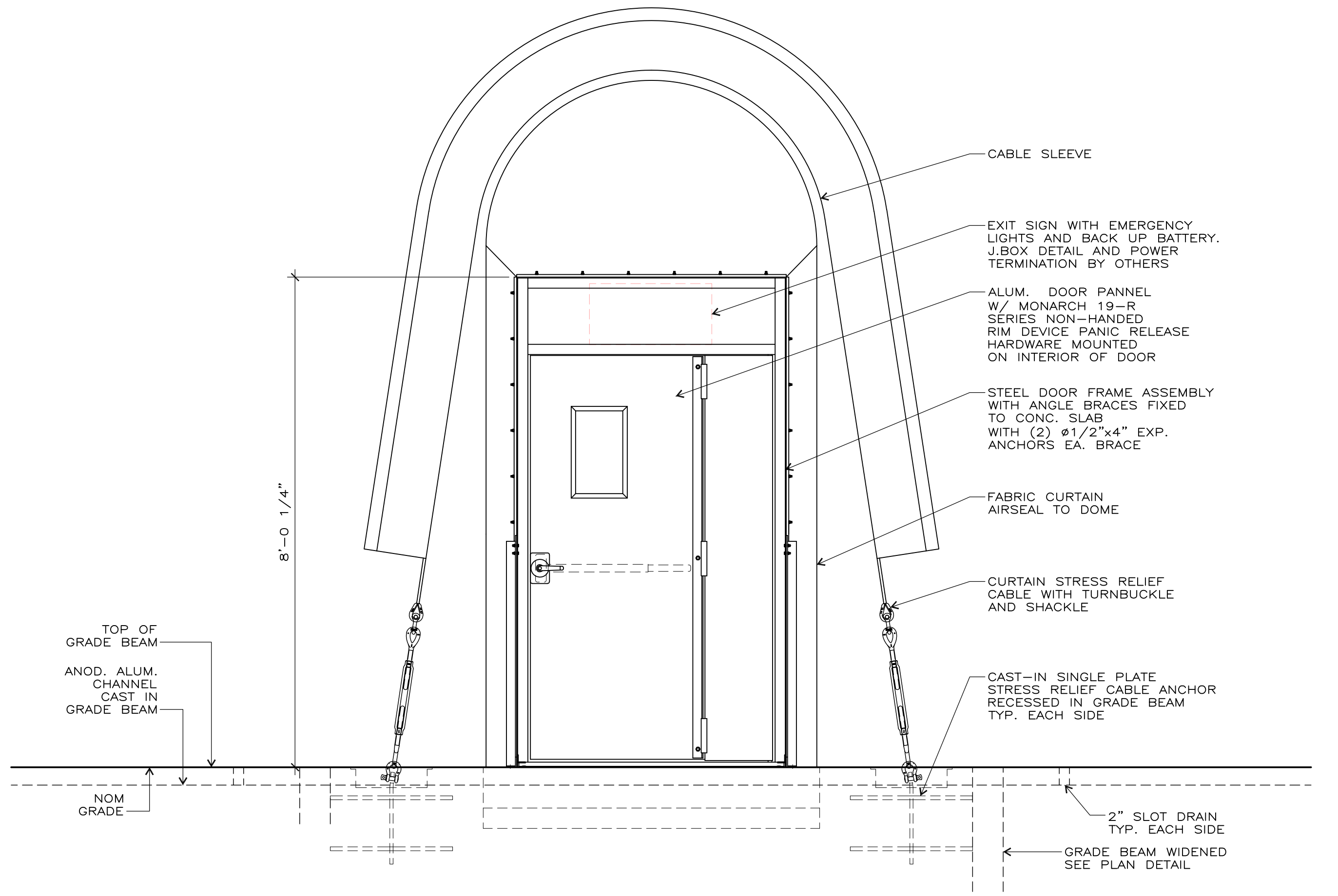
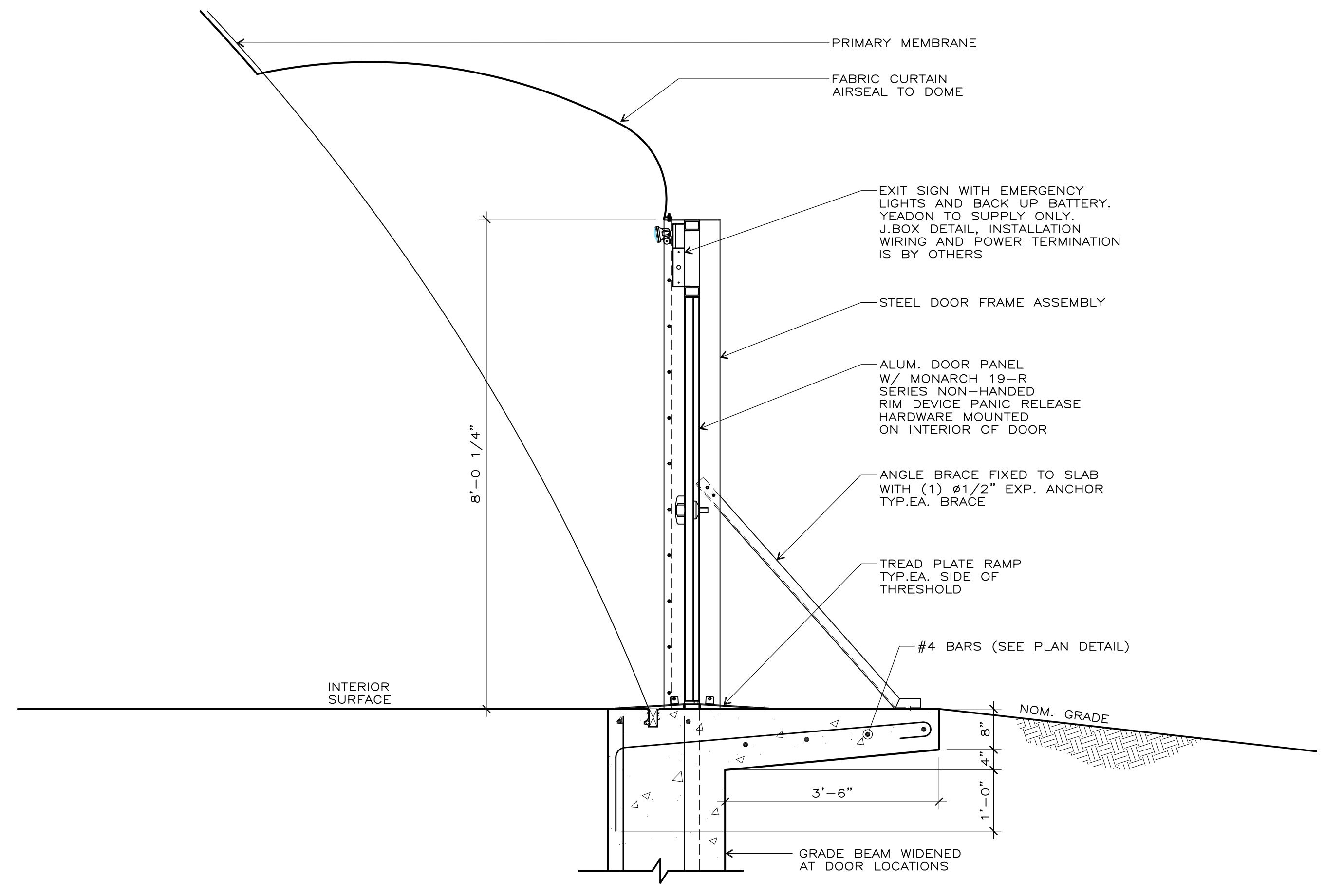


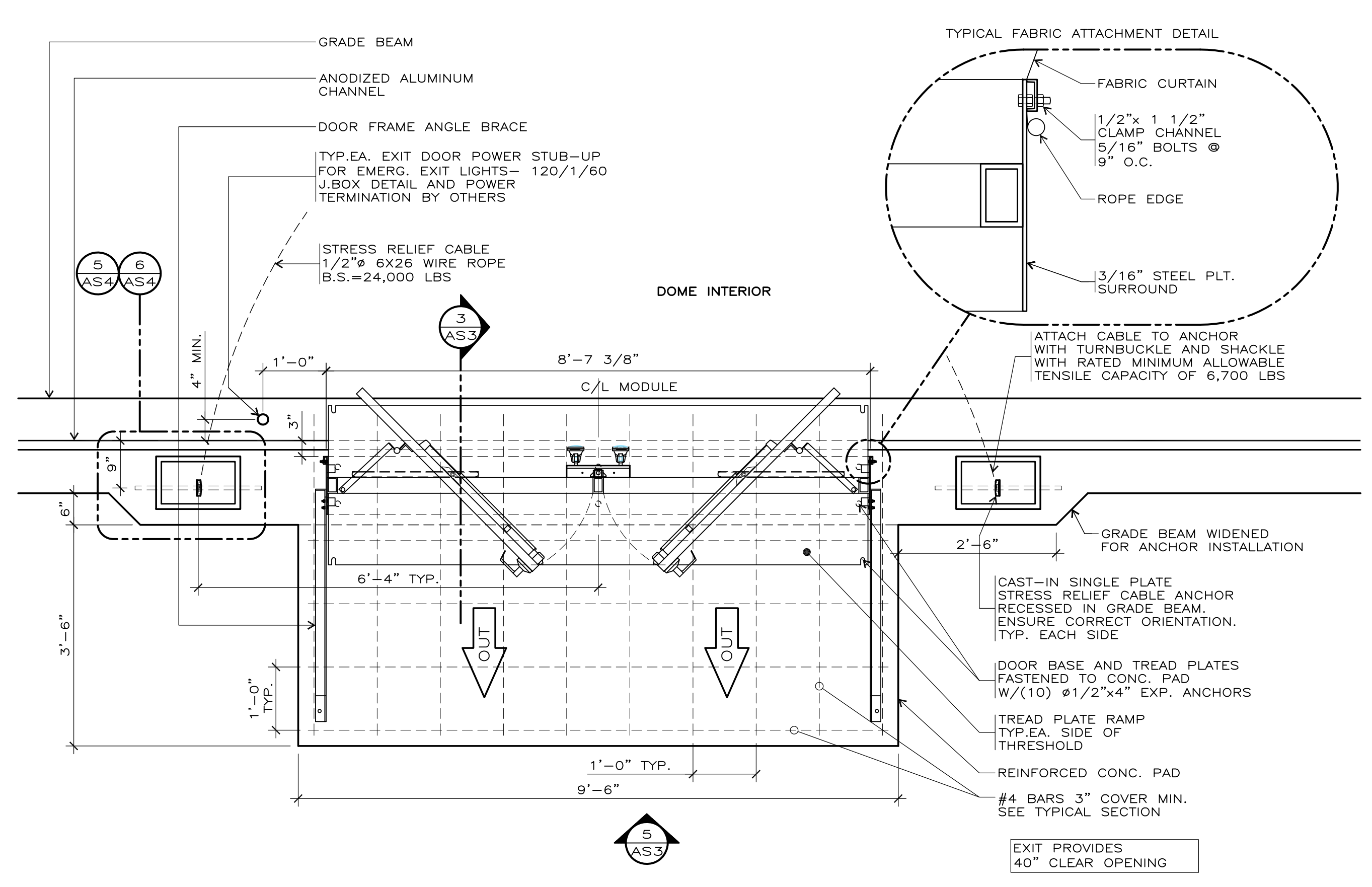
1 EMERGENCY EXIT-PLAN VIEW
1/2" = 1'-0"



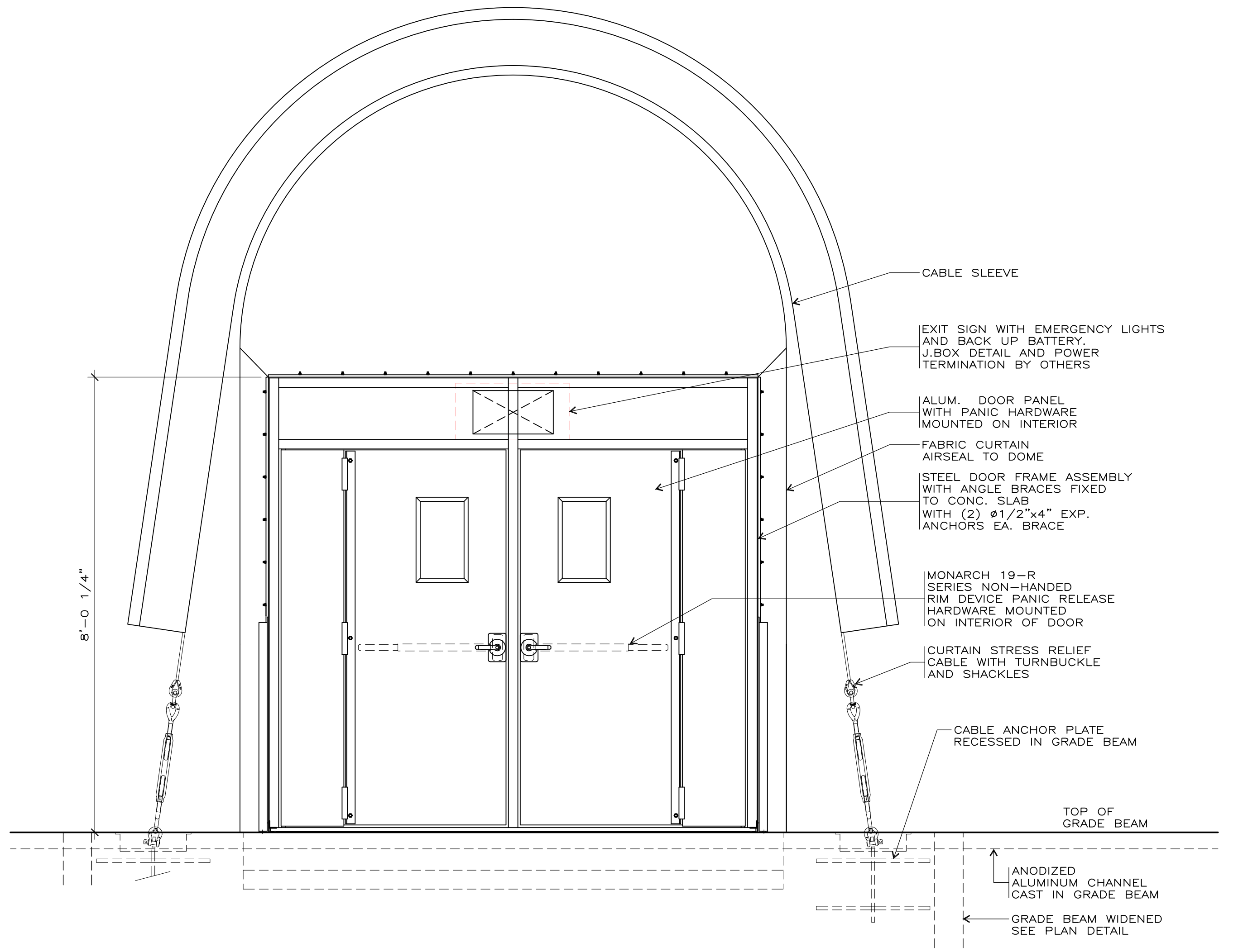
2 EMERGENCY EXIT-FRONT VIEW
1/2" = 1'-0"



3 EMERGENCY EXIT-SECTION
1/2" = 1'-0"

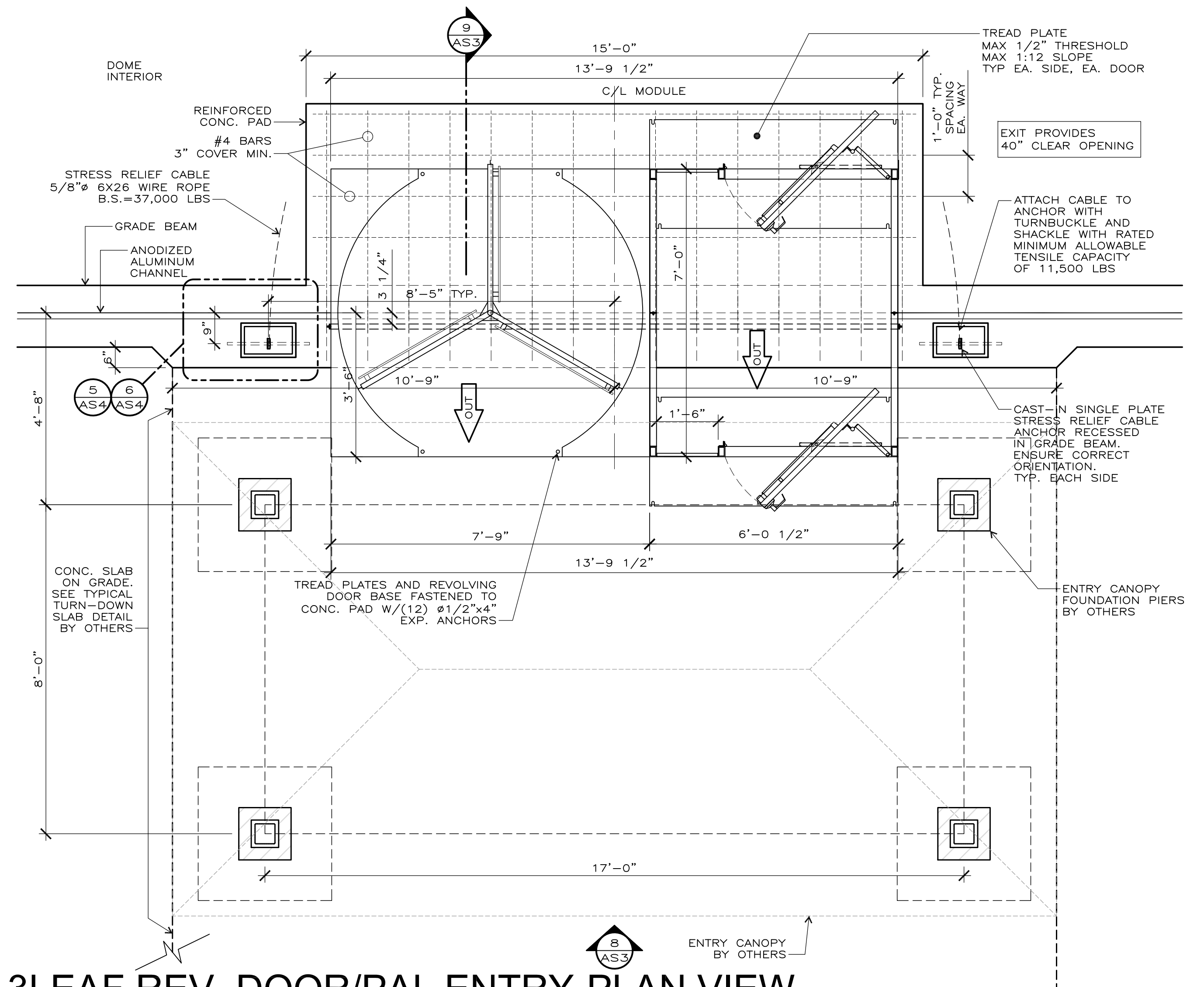


4 EMERGENCY DOUBLE EXIT-PLAN VIEW
1/2" = 1'-0"

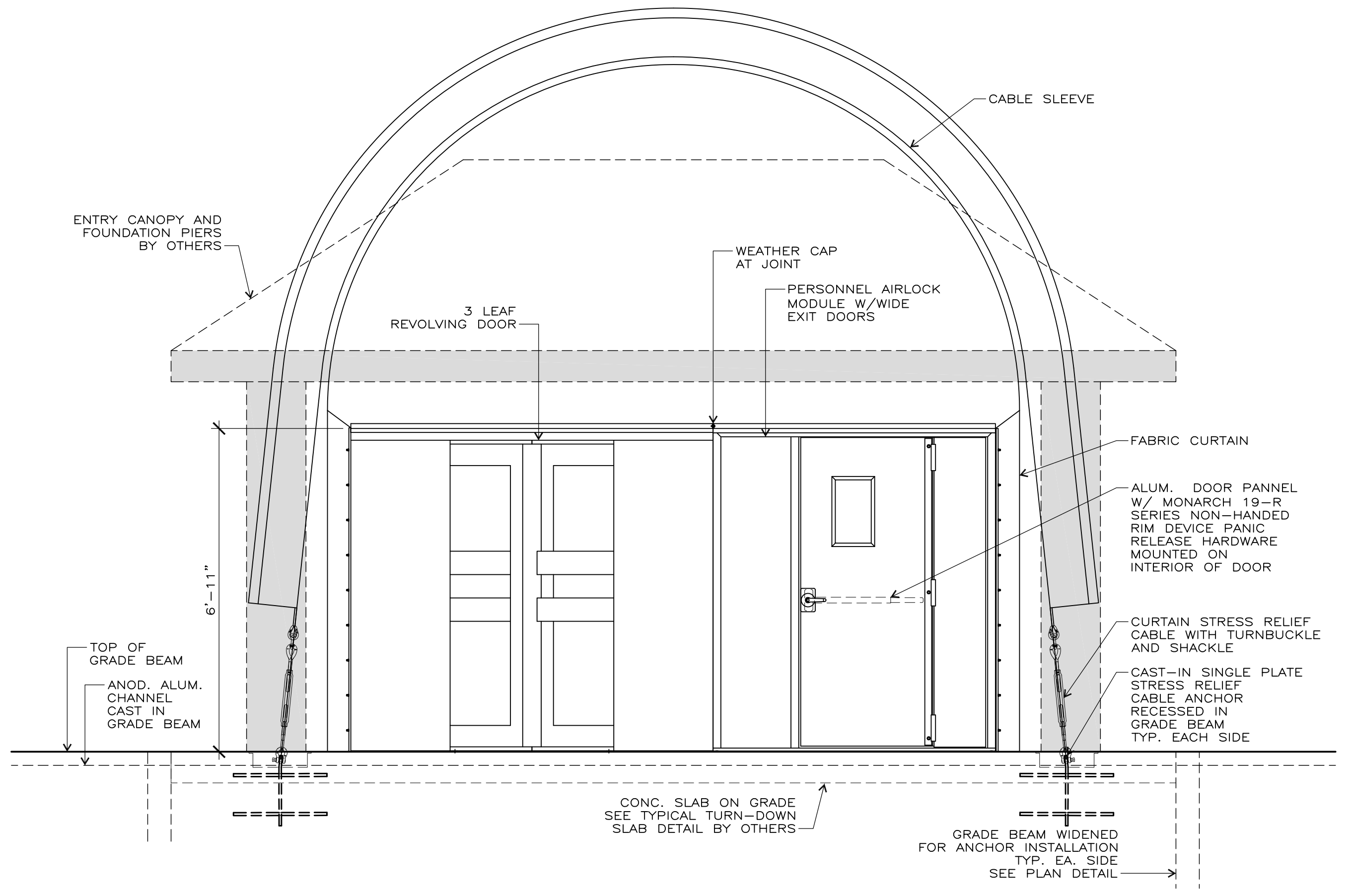


5 EMERGENCY DOUBLE EXIT-FRONT VIEW
1/2" = 1'-0"

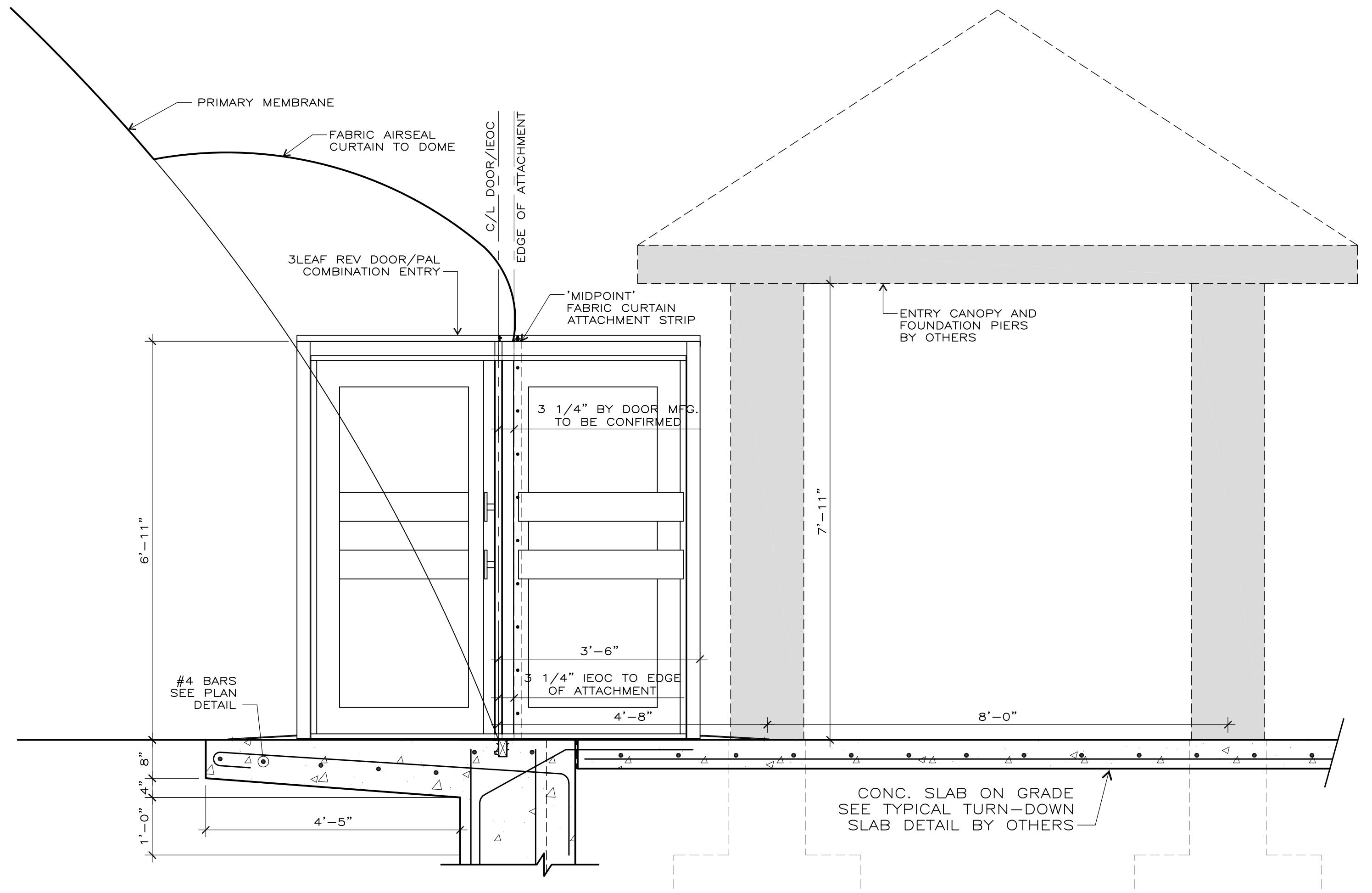
6 NOT USED



7 3LEAF REV. DOOR/PAL ENTRY-PLAN VIEW
1/2" = 1'-0"



8 3LEAF REV. DOOR/PAL ENTRY-FRONT VIEW
3/8" = 1'-0"



9 3LEAF REV. DOOR/PAL ENTRY-SECTION
1/2" = 1'-0"

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Issue	08/02/2021
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Revisions

DOOR DETAILS

Scale	**AS NOTED**
Drawn	DBK
Checked	DBK

AS.3

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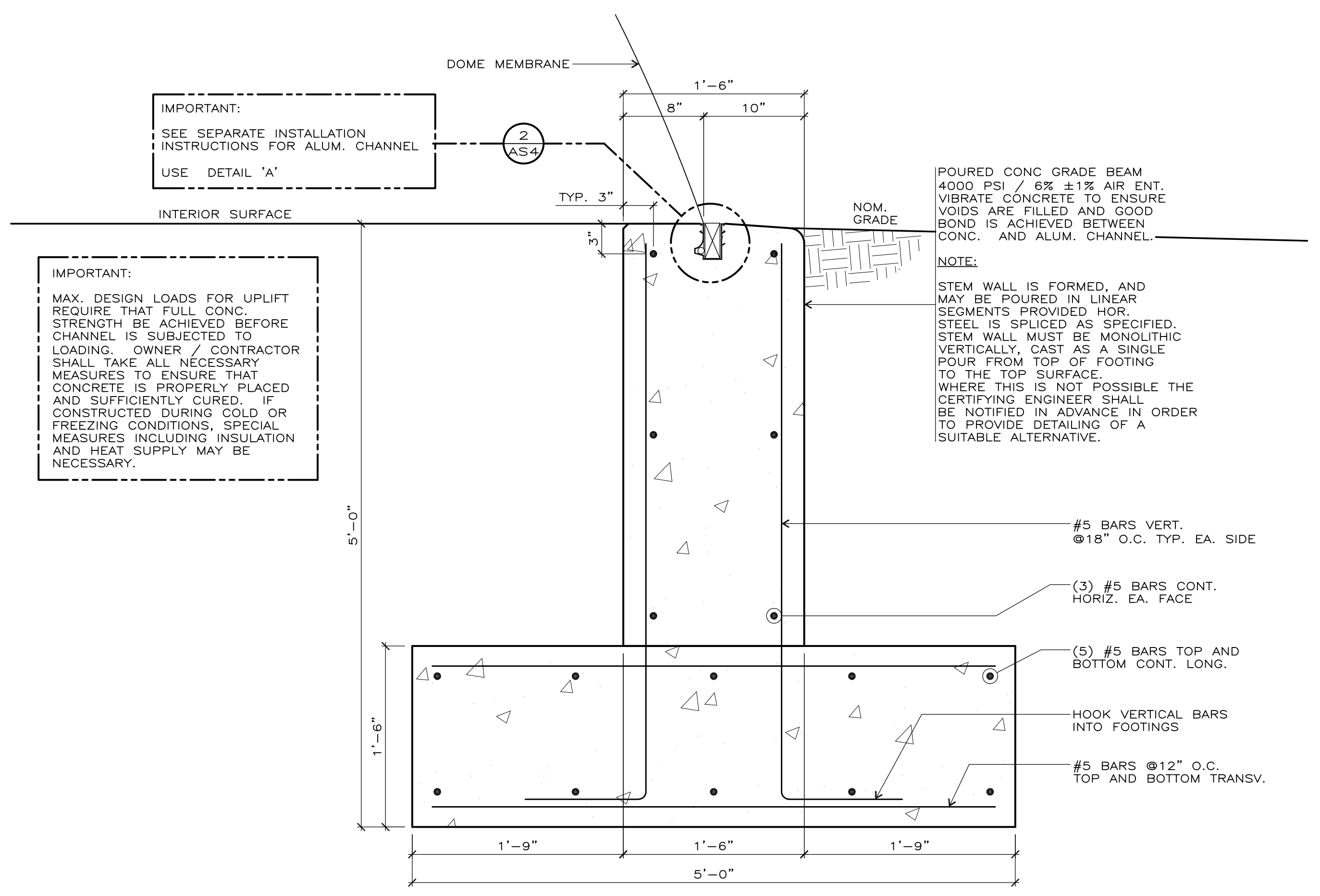


IMPORTANT:

SEE SEPARATE INSTALLATION INSTRUCTIONS FOR ALUM. CHANNEL

USE DETAIL 'A'

IMPORTANT:

MAX. DESIGN LOADS FOR UPLIFT REQUIRE THAT FULL CONC. STRENGTH BE ACHIEVED BEFORE CHANNEL IS SUBJECTED TO LOADING. OWNER / CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT CONCRETE IS PROPERLY PLACED AND SUFFICIENTLY CURED. IF CONSTRUCTED DURING COLD OR FREEZING CONDITIONS, SPECIAL MEASURES INCLUDING INSULATION AND HEAT SUPPLY MAY BE NECESSARY.

POURED CONC GRADE BEAM 4000 PSI / 6% ±1% AIR ENT. VIBRATE CONCRETE TO ENSURE VOIDS ARE FILLED AND GOOD BOND IS ACHIEVED BETWEEN CONC. AND ALUM. CHANNEL.

NOTE:

STEM WALL IS FORMED, AND MAY BE POURED IN LINEAR SEGMENTS PROVIDED HOR. STEEL IS SPLICED AS SPECIFIED. STEM WALL MUST BE MONOLITHIC VERTICALLY, CAST AS A SINGLE POUR FROM TOP OF FOOTING TO THE TOP SURFACE. WHERE THIS IS NOT POSSIBLE THE CERTIFYING ENGINEER SHALL BE NOTIFIED IN ADVANCE IN ORDER TO PROVIDE DETAILING OF A SUITABLE ALTERNATIVE.

#5 BARS VERT. @18" O.C. TYP. EA. SIDE

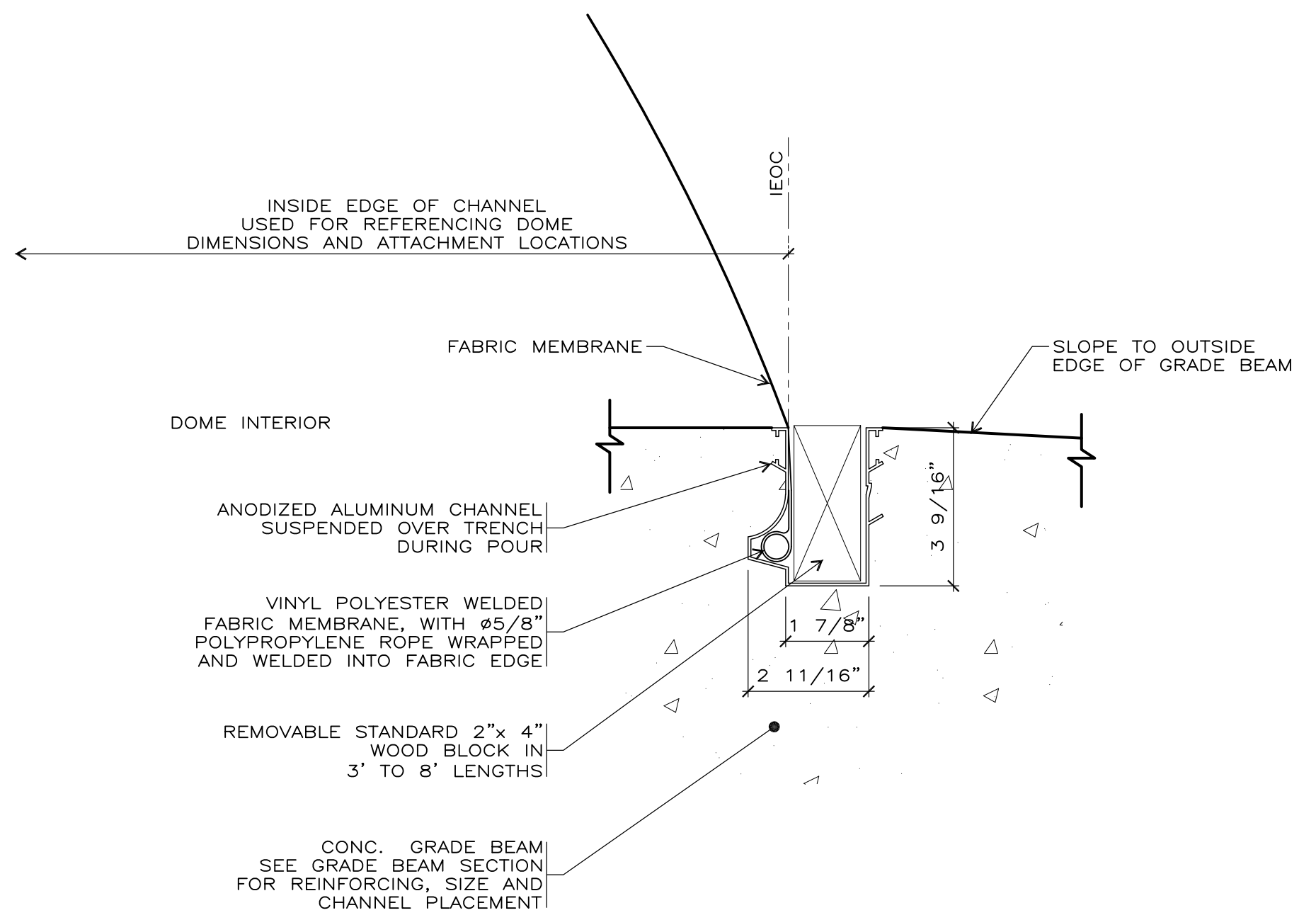
(3) #5 BARS CONT. HORIZ. EA. FACE

(5) #5 BARS TOP AND BOTTOM CONT. LONG.

HOOK VERTICAL BARS INTO FOOTINGS

#5 BARS @12" O.C. TOP AND BOTTOM TRANSV.

1 GRADE BEAM-SECTION
1" = 1'-0"



INSIDE EDGE OF CHANNEL USED FOR REFERENCING DOME DIMENSIONS AND ATTACHMENT LOCATIONS

FABRIC MEMBRANE

SLOPE TO OUTSIDE EDGE OF GRADE BEAM

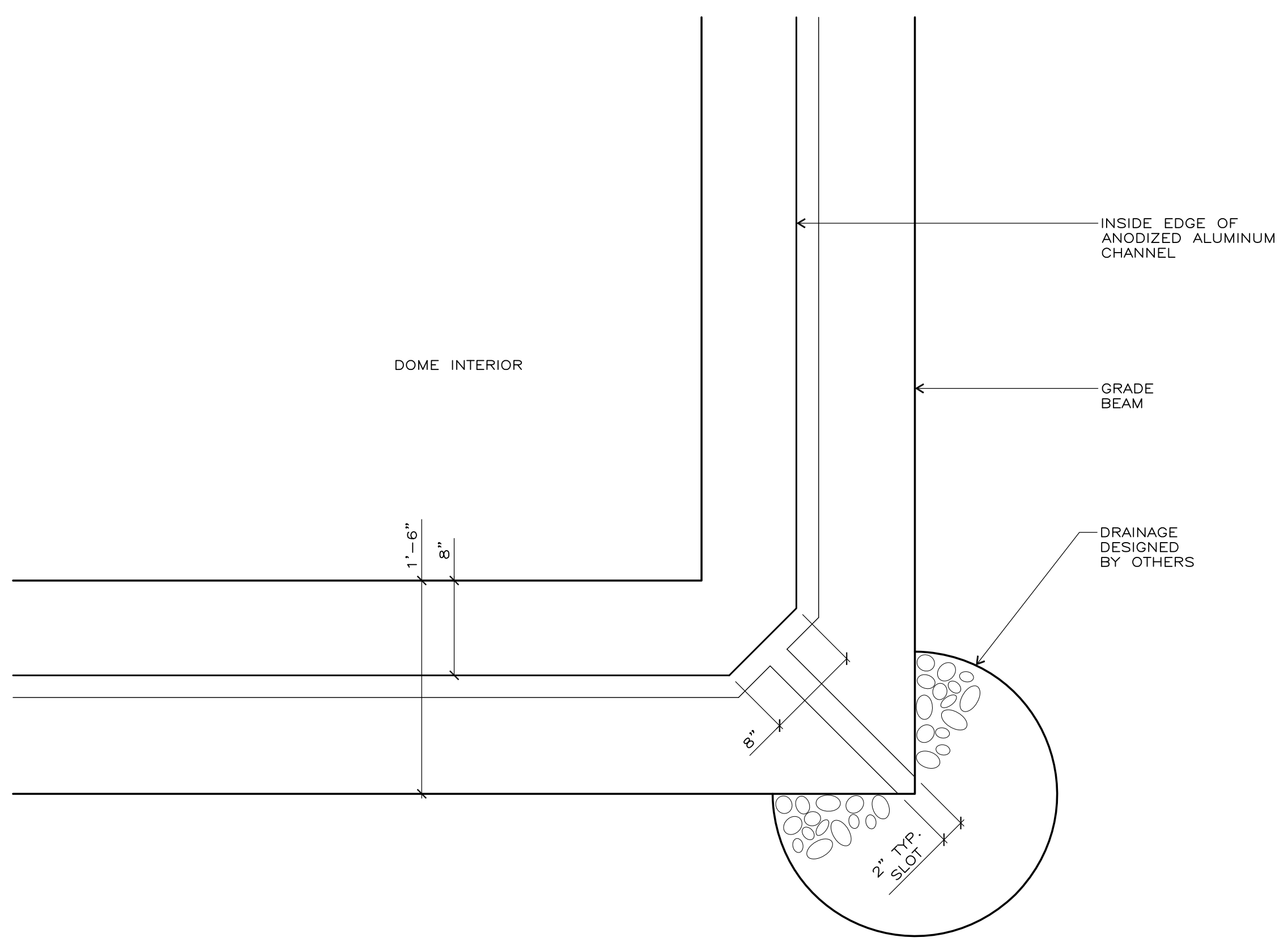
ANODIZED ALUMINUM CHANNEL SUSPENDED OVER TRENCH DURING POUR

VINYL POLYESTER WELDED FABRIC MEMBRANE, WITH ø5/8" POLYPROPYLENE ROPE WRAPPED AND WELDED INTO FABRIC EDGE

REMOVABLE STANDARD 2"x 4" WOOD BLOCK IN 3' TO 8' LENGTHS

CONC. GRADE BEAM SEE GRADE BEAM SECTION FOR REINFORCING, SIZE AND CHANNEL PLACEMENT

2 CHANNEL DETAIL
3" = 1'-0"

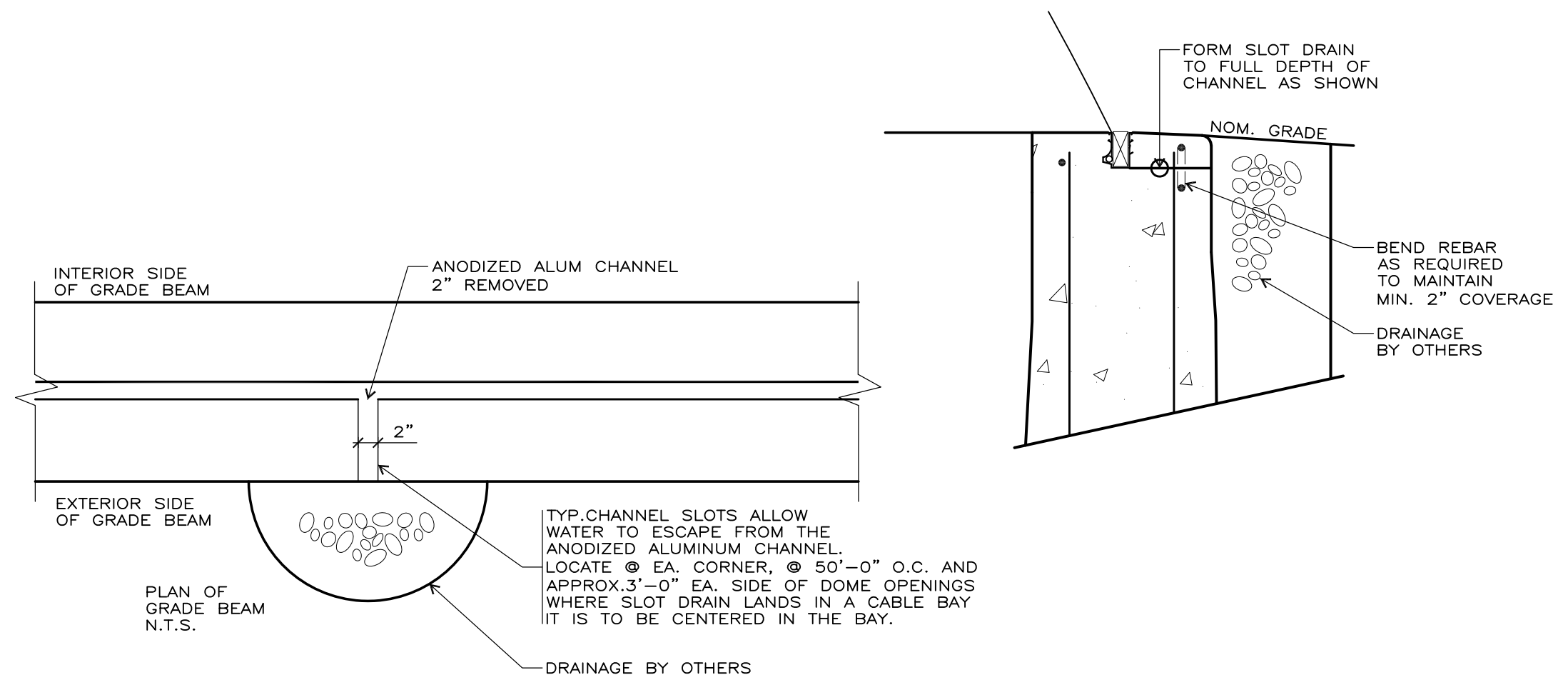


INSIDE EDGE OF ANODIZED ALUMINUM CHANNEL

GRADE BEAM

DRAINAGE DESIGNED BY OTHERS

3 CHANNEL CORNER DETAIL
1" = 1'-0"



ANODIZED ALUM CHANNEL 2" REMOVED

TYP.CHANNEL SLOTS ALLOW WATER TO ESCAPE FROM THE ANODIZED ALUMINUM CHANNEL. LOCATE @ EA. CORNER, @ 50'-0" O.C. AND APPROX.3'-0" EA. SIDE OF DOME OPENINGS WHERE SLOT DRAIN LANDS IN A CABLE BAY IT IS TO BE CENTERED IN THE BAY.

DRAINAGE BY OTHERS

FORM SLOT DRAIN TO FULL DEPTH OF CHANNEL AS SHOWN

BEND REBAR AS REQUIRED TO MAINTAIN MIN. 2" COVERAGE

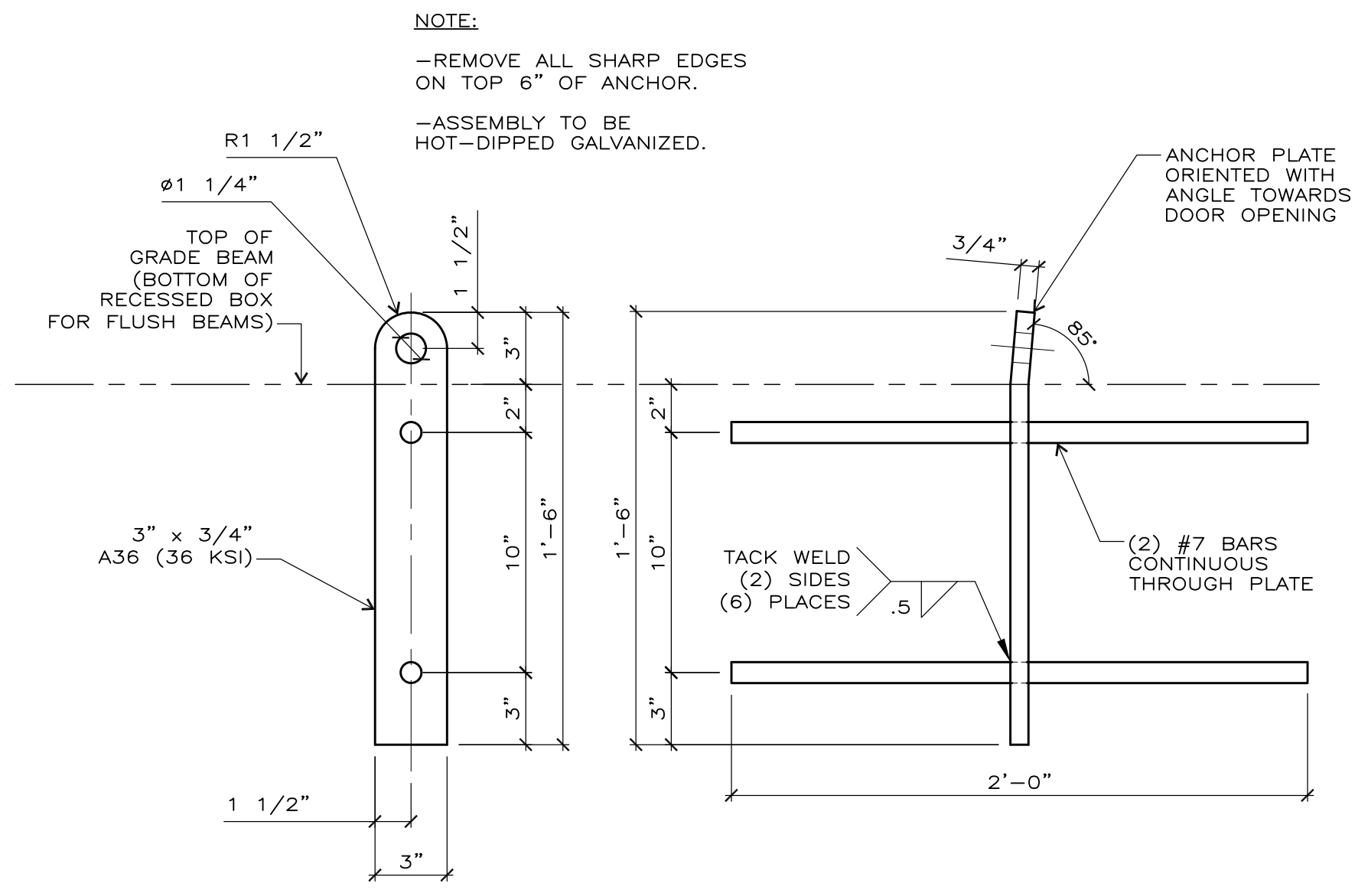
DRAINAGE BY OTHERS

4 CHANNEL SLOT DRAIN DETAIL
NOT TO SCALE

NOTE:

-REMOVE ALL SHARP EDGES ON TOP 6" OF ANCHOR.

-ASSEMBLY TO BE HOT-DIPPED GALVANIZED.



TOP OF GRADE BEAM (BOTTOM OF RECESSED BOX FOR FLUSH BEAMS)

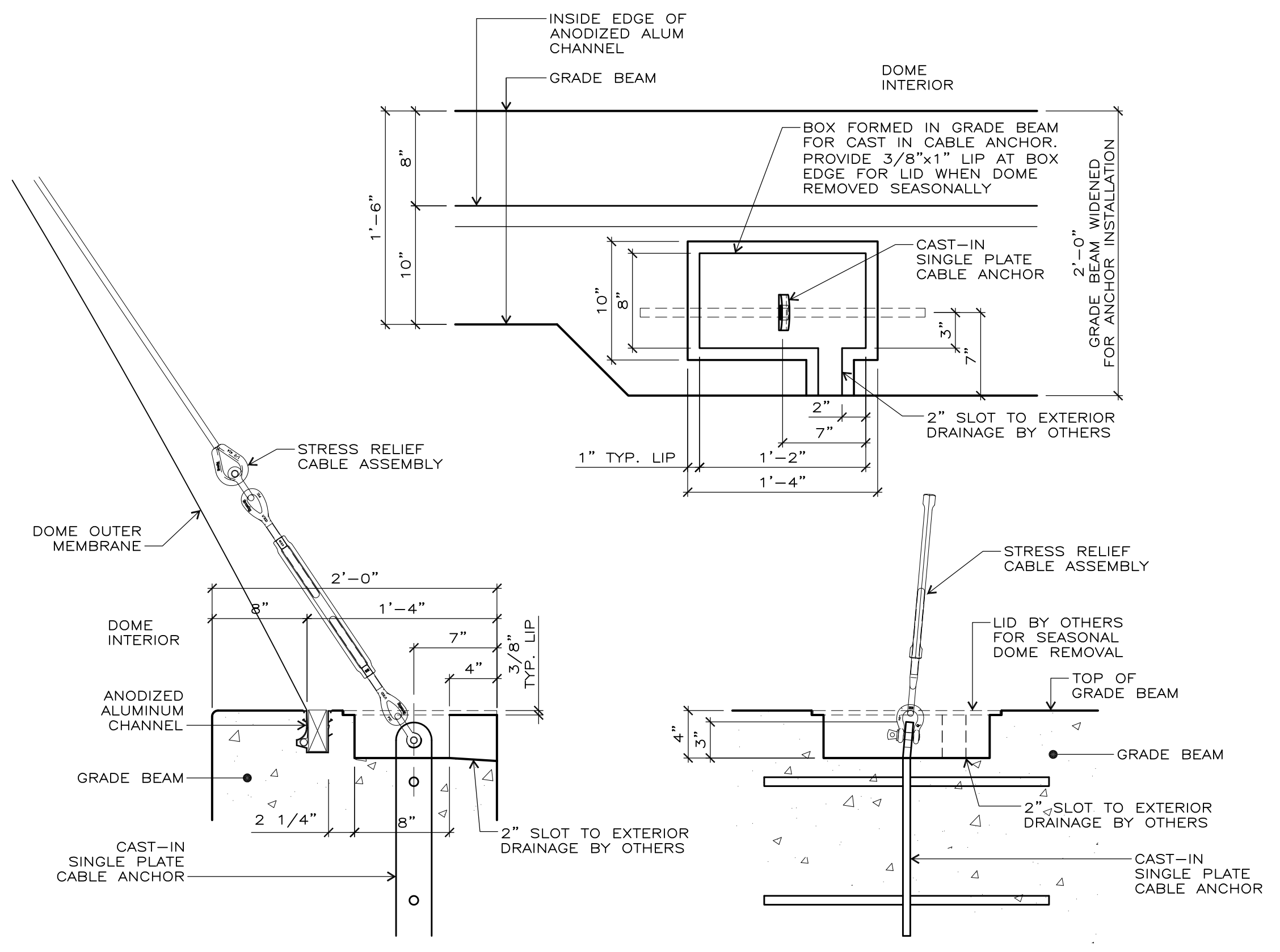
3" x 3/4" A36 (36 KSI)

TACK WELD (2) SIDES (6) PLACES

ANCHOR PLATE ORIENTED WITH ANGLE TOWARDS DOOR OPENING

(2) #7 BARS CONTINUOUS THROUGH PLATE

5 STRESS RELIEF ANCHOR DETAIL
1-1/2"=1'-0"



INSIDE EDGE OF ANODIZED ALUM CHANNEL

GRADE BEAM

BOX FORMED IN GRADE BEAM FOR CAST IN CABLE ANCHOR. PROVIDE 3/8"x1" LIP AT BOX EDGE FOR LID WHEN DOME REMOVED SEASONALLY

CAST-IN SINGLE PLATE CABLE ANCHOR

2'-0" GRADE BEAM WIDENED FOR ANCHOR INSTALLATION

2" SLOT TO EXTERIOR DRAINAGE BY OTHERS

1" TYP. LIP

STRESS RELIEF CABLE ASSEMBLY

DOME OUTER MEMBRANE

ANODIZED ALUMINUM CHANNEL

GRADE BEAM

CAST-IN SINGLE PLATE CABLE ANCHOR

2" SLOT TO EXTERIOR DRAINAGE BY OTHERS

STRESS RELIEF CABLE ASSEMBLY

LID BY OTHERS FOR SEASONAL DOME REMOVAL

TOP OF GRADE BEAM

GRADE BEAM

2" SLOT TO EXTERIOR DRAINAGE BY OTHERS

CAST-IN SINGLE PLATE CABLE ANCHOR

6 STRESS RELIEF ANCHOR PLACEMENT DETAIL
1"=1'-0"

7 NOT USED

8 NOT USED

9 NOT USED

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Revisions

GRADE BEAM AND ANCHOR DETAILS

Scale **AS NOTED**
Drawn DBK
Checked DBK

AS.4

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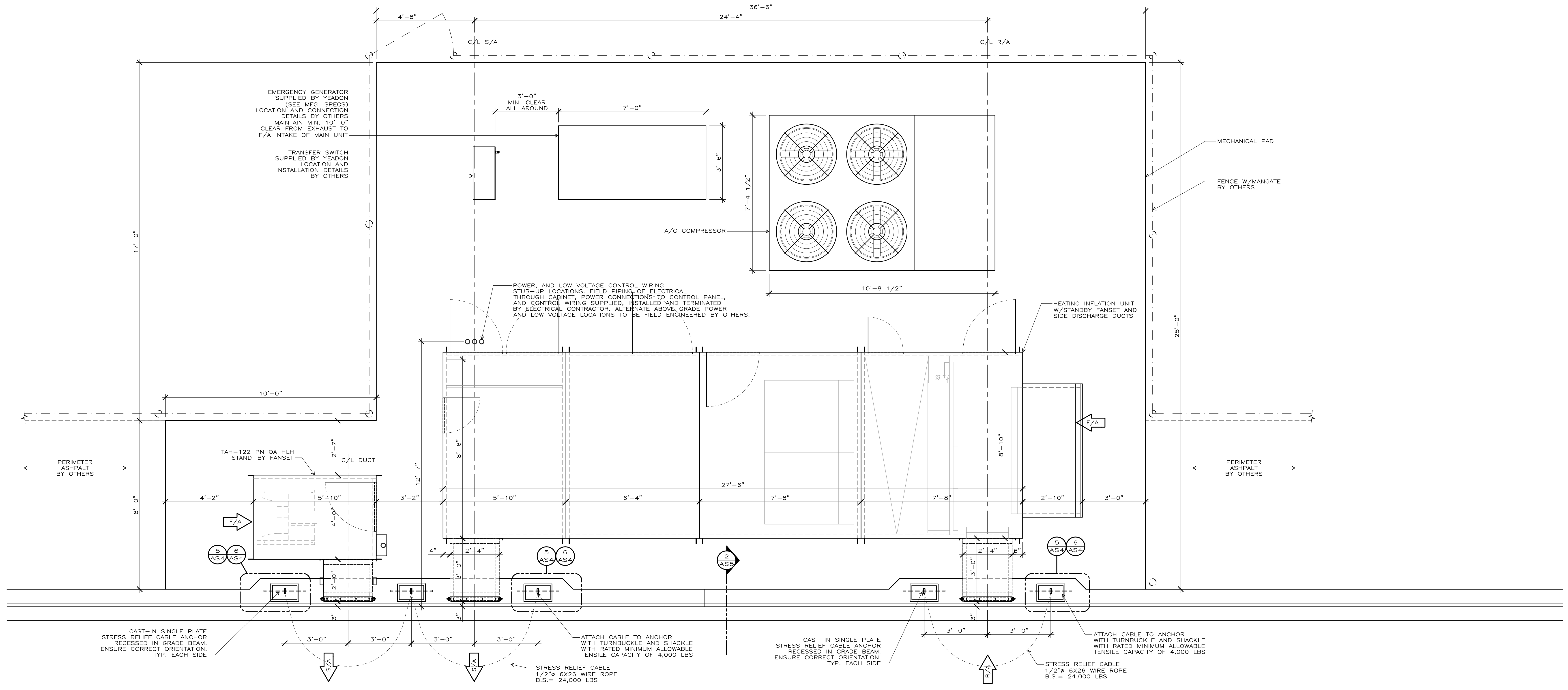
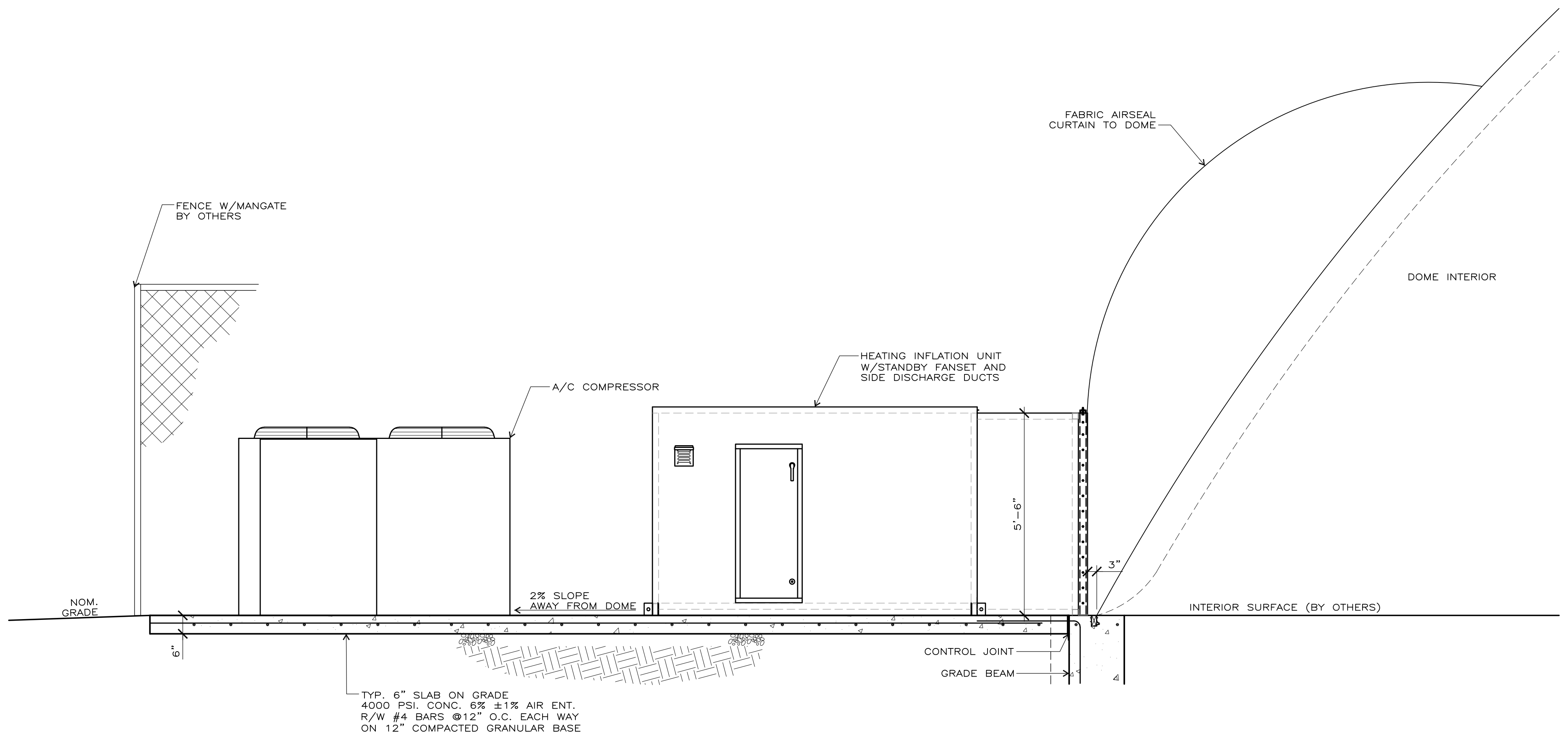


1 MECHANICAL PAD-PLAN VIEW

3/8" = 1'-0"



2 MECHANICAL PAD-SECTION

3/8" = 1'-0"

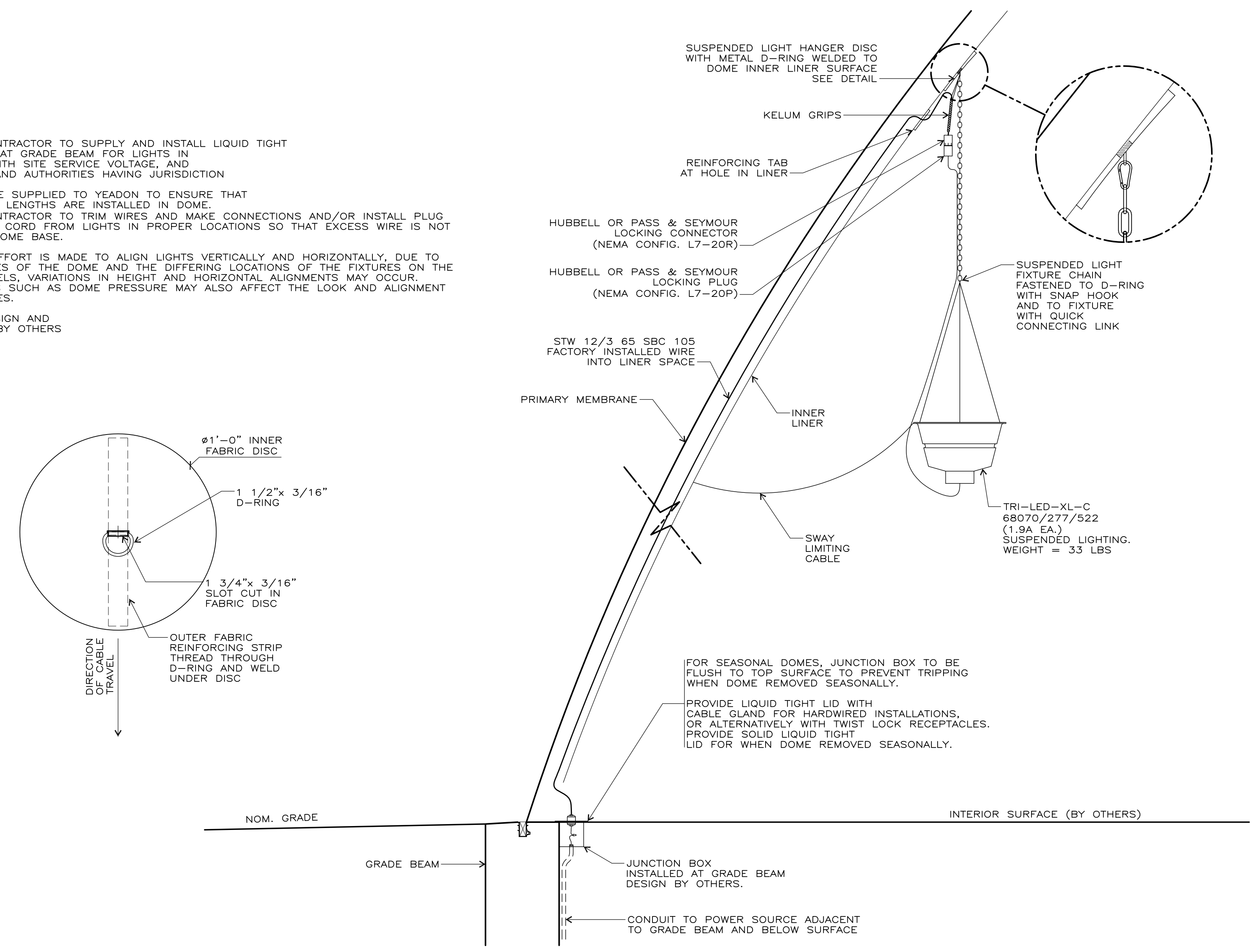
NOTES:

ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL LIQUID TIGHT JUNCTION BOX AT GRADE BEAM FOR LIGHTS IN ACCORDANCE WITH SITE SERVICE VOLTAGE, AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION

LOCATION TO BE SUPPLIED TO YEADON TO ENSURE THAT ADEQUATE WIRE LENGTHS ARE INSTALLED IN DOME.
ELECTRICAL CONTRACTOR TO TRIM WIRES AND MAKE CONNECTIONS AND/OR INSTALL PLUG ENDS ON EACH CORD FROM LIGHTS IN PROPER LOCATIONS SO THAT EXCESS WIRE IS NOT GATHERED AT DOME BASE.

WHILE EVERY EFFORT IS MADE TO ALIGN LIGHTS VERTICALLY AND HORIZONTALLY, DUE TO THE CURVATURES OF THE DOME AND THE DIFFERING LOCATIONS OF THE FIXTURES ON THE INDIVIDUAL PANELS, VARIATIONS IN HEIGHT AND HORIZONTAL ALIGNMENTS MAY OCCUR. OTHER FACTORS SUCH AS DOME PRESSURE MAY ALSO AFFECT THE LOOK AND ALIGNMENT OF THE FIXTURES.

ELECTRICAL DESIGN AND SPECIFICATION BY OTHERS



3 LIGHTING DETAIL

1/2" = 1'-0"

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MECHANICAL DETAILS

Scale **AS NOTED**
Drawn DBK
Checked DBK

AS.5

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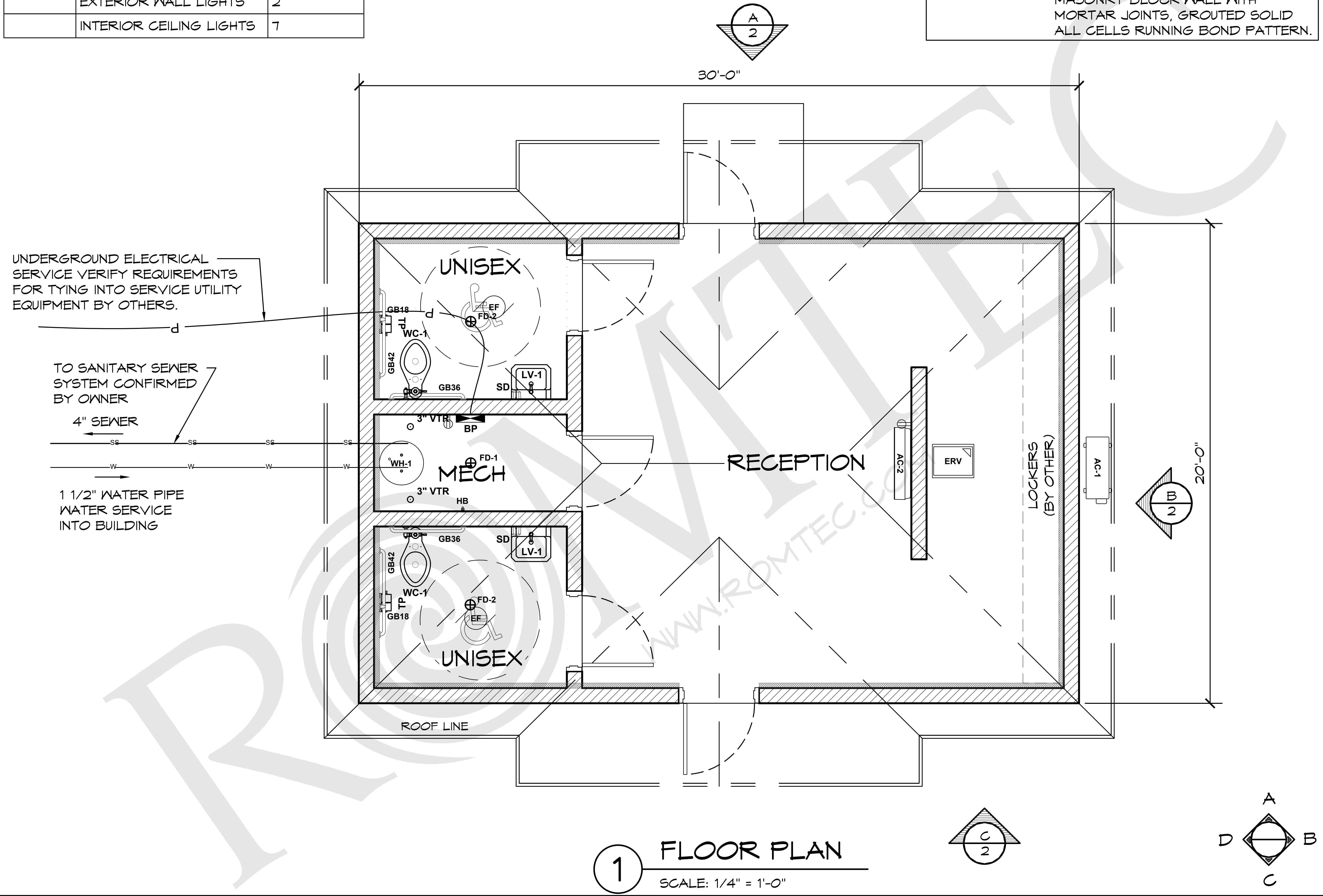
LEGEND		
SYMBOL	DESCRIPTION	AREA/ QUANTITY
	EXTERIOR WALL LIGHTS	2
	INTERIOR CEILING LIGHTS	7

WALL TYPE SCHEDULE

▨	8" REINFORCED CONCRETE MASONRY BLOCK WALL WITH MORTAR JOINTS, GROUTED SOLID ALL CELLS RUNNING BOND PATTERN.



FLOOR PLAN

1

SCALE: 1/4" = 1'-0"

PRELIMINARY

THESE PLAN VIEW AND ELEVATION DRAWINGS ARE A PRELIMINARY ARCHITECTURAL REPRESENTATION OF THE BUILDING. ALL DIMENSIONS, FEATURES AND COMPONENTS SHOWN ON THESE PRELIMINARY DRAWINGS MAY OR MAY NOT BE PART OF THE QUOTE. PLEASE REFER TO THE "SCOPE OF SUPPLY AND SERVICES" LETTER PROVIDED WITH YOUR QUOTE FOR ROMTEC'S PROPOSED SCOPE OF SUPPLY.

ROMTEC
www.romtec.com
(541) 496-3541 FAX (541) 496-0803

PROJECT: CAMAS TENNIS DOME - RESTROOM & RECEPTION
CAMAS, WASHINGTON

SHEET TITLE: FLOOR PLAN

PROJECT #: 2384

DATE: 4/19/2024

DRAWN BY: JRM

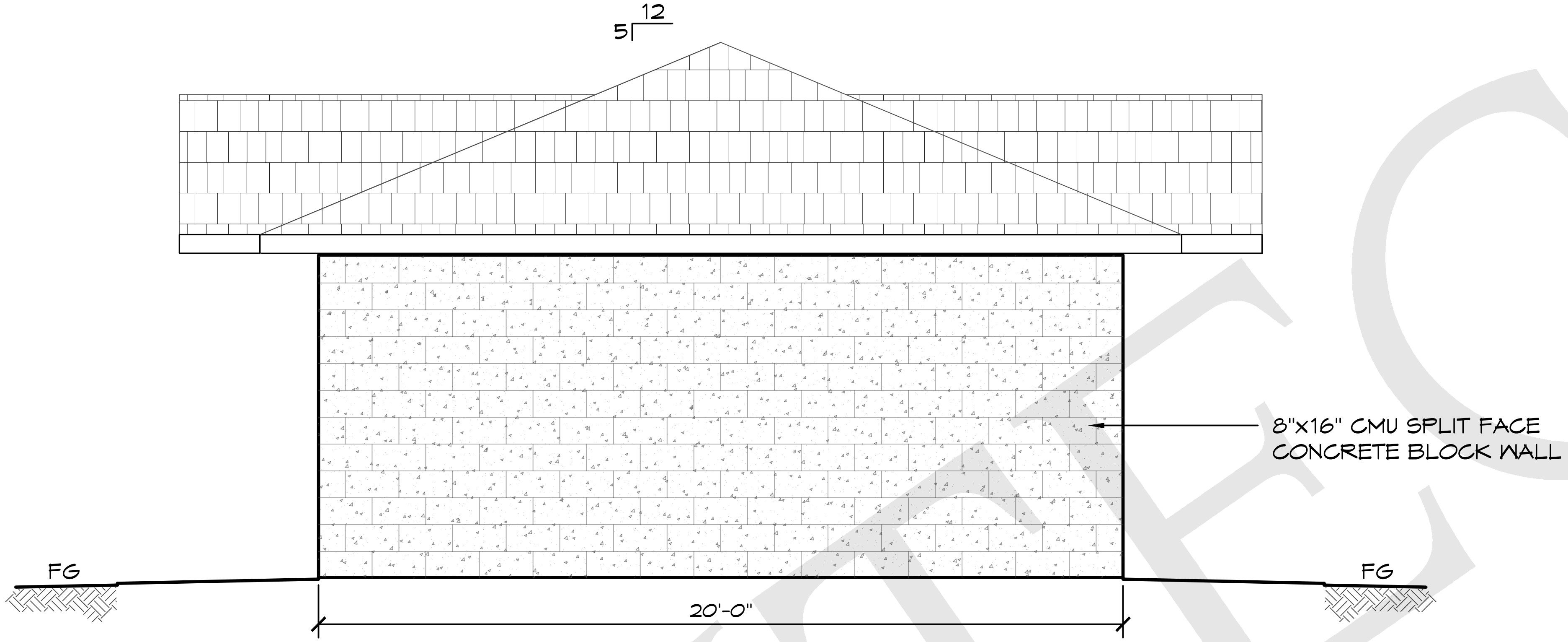
REV.	DATE:	BY:
1	04-30-24	JL

REVISIONS:

SHEET NO. 1

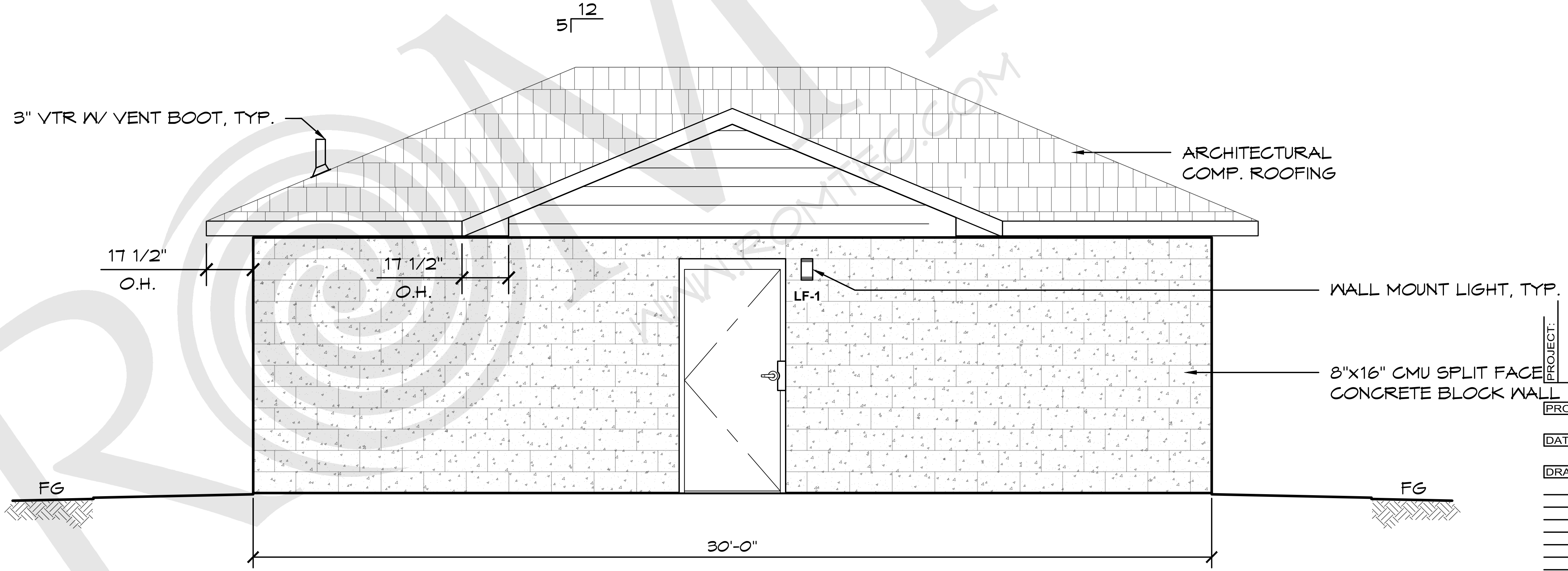
JOB CREATED: 4/30/2024 - LAST SAVED BY: jlogsdon ON 4/30/2024 - LAST PRINTED: 4/30/2024 - LOCATION: O:\Engineering RI\Sales Drawings\Projects\2000 - 2499\2384- Camas Tennis Dome, WA\2384- Camas Tennis Dome-2048M, WA -240429.dwg

Exhibit 9 CUP24-1001



B ELEVATION VIEW

SCALE: 1/4" = 1'-0"



C ELEVATION VIEW

SCALE: 1/4" = 1'-0"

PRELIMINARY

THESE PLAN VIEW AND ELEVATION DRAWINGS ARE A PRELIMINARY ARCHITECTURAL REPRESENTATION OF THE BUILDING. ALL DIMENSIONS, FEATURES AND COMPONENTS SHOWN ON THESE PRELIMINARY DRAWINGS MAY OR MAY NOT BE PART OF THE QUOTE. PLEASE REFER TO THE "SCOPE OF SUPPLY AND SERVICES" LETTER PROVIDED WITH YOUR QUOTE FOR ROMTEC'S PROPOSED SCOPE OF SUPPLY.

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PROJECT: CAMAS TENNIS DOME - RESTROOM & RECEPTION
CAMAS, WASHINGTON

SHEET TITLE: EXTERIOR ELEVATION VIEWS

PROJECT #: 2384

DATE: 4/19/2024

DRAWN BY: JRM

REV.	DATE:	BY:
1	04-30-24	JL

REVISIONS:

SHEET NO. 2

Exhibit 10 CUP24-1001

MacKay Sposito

Vancouver Office

18405 SE Mill Plain Boulevard, Suite 100 Vancouver, WA 98683
360.695.3411 www.mackaysposito.com

Grading Plan

The application includes requests for a Minor Design Review, Conditional Use Permit (CUP), and SEPA review. Accordingly, the submittal requirements are outlined in RDC Sec. 18.19.070 (Design Review), Sec. 18.43.030 (CUP), and Ch. 16.01 (SEPA), which specify the necessary documentation for these requests. A grading plan is not mentioned in these sections of the code, nor was it required in the pre-application summary dated May 14, 2024. Therefore, a grading plan has not been provided with this submission.

However, the submitted Stormwater Technical Information Report and the Geotechnical Report, along with supplemental materials, both include details regarding on-site grading for the city's review and consideration.

Exhibit 11 CUP24-1001

Geotechnical Site Investigation

Camas High School Field House

Camas, Washington

December 20, 2019

Geotechnical ■ Environmental ■ Special Inspections

Columbia West Engineering, Inc

11917 NE 95th Street
Vancouver, Washington
98682
Phone: 360-823-2900
Fax: 360-823-2901

www.columbiawestengineering.com

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Geotechnical ▪ Environmental ▪ Special Inspections
Columbia West
Engineering, Inc

GEOTECHNICAL SITE INVESTIGATION
CAMAS HIGH SCHOOL FIELD HOUSE
CAMAS, WASHINGTON

Prepared For:	**Mr. Chris Robertson** **Robertson Engineering, PC** **1101 Broadway Street #201** **Vancouver, WA 98660**
Site Location:	**26600 SE 15th Street** **Parcel No. 178111000** **Camas, Washington**
Prepared By:	**Columbia West Engineering, Inc.** **11917 NE 95th Street** **Vancouver, Washington 98682** **Phone: 360-823-2900** **Fax: 360-823-2901**
Date Prepared:	**December 20, 2019**

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GEOTECHNICAL SITE INVESTIGATION
CAMAS HIGH SCHOOL FIELD HOUSE
CAMAS, WASHINGTON

1.0 INTRODUCTION

Columbia West Engineering, Inc. (Columbia West) was retained by Robertson Engineering, PC to conduct a geotechnical site investigation for the proposed Camas High School Field House project located in Camas, Washington. The purpose of the investigation was to observe and assess subsurface soil conditions at specific locations and provide geotechnical engineering analyses, planning, and design recommendations for proposed development. The specific scope of services was outlined in a proposal contract dated August 23, 2019. This report summarizes the investigation and provides field assessment documentation and laboratory analytical test reports. This report is subject to the limitations expressed in Section 6.0, *Conclusion and Limitations*, and Appendix E.

1.1 General Site Information

As indicated on Figures 1 and 2, the subject site is located at 26600 SE 15th Street in Camas, Washington. The proposed development area is comprised of a portion of tax parcel 178111000 totaling approximately 1.15 acres. The regulatory jurisdictional agency is the City of Camas, Washington. The approximate latitude and longitude are N 45° 36’ 51” and W 122° 23’ 58”, and the legal description is a portion of the SE ¼ of Section 35, T2N, R3E Willamette Meridian.

1.2 Proposed Development

Correspondence with the design team indicates that proposed development will consist of an athletic field house structure and associated underground utilities, stormwater management facilities, and asphalt concrete access drives and walkways. Columbia West has not reviewed preliminary grading plans but understands that minor cut and fill will likely be proposed at the property. This report is based upon proposed development as described above and may not be applicable if modified.

2.0 REGIONAL GEOLOGY AND SOIL CONDITIONS

The subject site lies within the Willamette Valley/Puget Sound Lowland, a wide physiographic depression flanked by the mountainous Coast Range on the west and the Cascade Range on the east. Inclined or uplifted structural zones within the Willamette Valley/Puget Sound Lowland constitute highland areas and depressed structural zones form sediment-filled basins. The site is located in the eastern portion of the Portland/Vancouver Basin, an open, somewhat elliptical, northwest-trending syncline approximately 60 miles wide.

According to the *Geologic Map of the Camas Quadrangle, Clark County, Washington, and Multnomah County, Oregon* (USGS Geological Survey, Scientific Investigations Map 3017, 2008), site soils are mapped as Pleistocene- and Pliocene-aged, unconsolidated to cemented, thick bedded, pebble to boulder sedimentary conglomerate (Qtc).

The *Web Soil Survey* (United States Department of Agriculture, Natural Resource Conservation Service [USDA NRCS], 2019 Website) identifies surface soils as Hesson clay loam. Hesson series soils are generally fine-textured sands, silts, and clays with low permeability, moderate to high water capacity, and low shear strength. Hesson soils are generally moisture sensitive, somewhat compressible, and described as having low to moderate shrink-swell potential. The erosion hazard of these soils is slight primarily based primarily upon slope grade.

3.0 REGIONAL SEISMOLOGY

Recent research and subsurface mapping investigations within the Pacific Northwest appear to suggest the historic potential risk for a large earthquake event with strong localized ground movement may be underestimated. Past earthquakes in the Pacific Northwest appear to have caused landslides and ground subsidence, in addition to severe flooding near coastal areas. Earthquakes may also induce soil liquefaction, which occurs when elevated horizontal ground acceleration and velocity cause soil particles to interact as a fluid as opposed to a solid. Liquefaction of soil can result in lateral spreading and temporary loss of bearing capacity and shear strength.

There are at least four major known fault zones in the vicinity of the site that may be capable of generating potentially destructive horizontal accelerations. These fault zones are described briefly in the following text.

Portland Hills Fault Zone

The Portland Hills Fault Zone consists of several northwest-trending faults located along the northeastern margin of the Tualatin Mountains, also known as the Portland Hills, and the southwest margin of the Portland Basin. The fault zone is approximately 25 to 30 miles in length and is located approximately 15 miles west-southwest of the site. According to *Seismic Design Mapping, State of Oregon* (Geomatrix Consultants, 1995), there is no definitive consensus among geologists as to the zone fault type. Several alternate interpretations have been suggested.

According to the *USGS Earthquake Hazards Program*, the fault was originally mapped as a down-to-the-northeast normal fault, but has also been mapped as part of a regional-scale zone of right-lateral, oblique slip faults, and as a steep escarpment caused by asymmetrical folding above a south-west dipping, blind thrust fault. The Portland Hills fault offsets Miocene-aged Columbia River Basalts, and Miocene- to Pliocene-aged sedimentary rocks of the Troutdale Formation. No fault scarps on surficial Quaternary-aged deposits have been described along the fault trace, and the fault is mapped as buried by the Pleistocene-aged Missoula flood deposits.

However, evidence suggests that fault movement has impacted shallow Holocene-aged deposits and deeper Pleistocene-aged sediments. Seismologists recorded a magnitude (M) 3.2 earthquake in November 2012, and a M3.9 earthquake in April 2003 thought to be associated with the fault zone near Kelly Point Park. A M3.5 earthquake also possibly associated with the Portland Hills Fault Zone occurred approximately 1.3 miles east of the fault in 1991. Therefore, the Portland Hills Fault Zone is generally thought to be potentially active and capable of producing potentially damaging earthquakes.

Gales Creek-Newberg-Mt. Angel Fault Zone

Located approximately 36 miles west-southwest of the site, the northwest-striking, approximately 50-mile long Gales Creek-Newberg-Mt. Angel Structural Zone forms the northwestern boundary between the Oregon Coast Range and the Willamette Valley, and consists of a series of discontinuous northwest-trending faults. The southern end of the fault zone forms the southwest margin of the Tualatin basin. Possible late-Quaternary-aged geomorphic surface deformation may exist along the structural zone (Geomatrix Consultants, 1995).

According to the *USGS Earthquake Hazards Program*, the Mount Angel fault is mapped as a high-angle, reverse-oblique fault, which offsets Miocene-aged rocks of the Columbia River Basalts, and Miocene and Pliocene-aged sedimentary rocks. The fault appears to have controlled emplacement of the Frenchman Spring Member of the Wanapum Basalts, and thus must have a history that predates the Miocene age of these rocks. No unequivocal evidence of deformation of Quaternary-aged deposits has been described, but a thick sequence of sediments deposited by the Missoula floods covers much of the southern part of the fault trace.

Although no definitive evidence of impacts to Holocene-aged sediments have clearly been identified, the Mount Angel fault appears to have been the location of minor earthquake swarms in 1990 near Woodburn, Oregon, and a M5.6 earthquake in March 1993 near Scotts Mills, approximately four miles south of the mapped extent of the Mt. Angel fault. It is unclear if the earthquake occurred along the fault zone or a parallel structure. Therefore, the Gales Creek-Newberg-Mt. Angel Structural Zone is considered potentially active.

Lacamas Lake-Sandy River Fault Zone

The northwest-trending Lacamas Lake Fault and northeast-trending Sandy River Fault intersect north of Camas, Washington approximately 0.8 miles south-southwest of the site, and form part of the northeastern margin of the Portland basin. According to *Geology and Groundwater Conditions of Clark County Washington* (USGS Water Supply Paper 1600, Mundorff, 1964) and the *Geologic Map of the Lake Oswego Quadrangle* (Oregon DOGAMI Series GMS-59, 1989), the Lacamas Lake fault zone consists of shear contact between the Troutdale Formation and underlying Oligocene-aged andesite-basalt bedrock. Secondary shear contact associated with the fault zone may have produced a series of prominent northwest-southeast geomorphic lineaments in proximity to the site.

According to the *USGS Earthquake Hazards Program* the fault has been mapped as a normal fault with down-to-the-southwest displacement and has also been described as a steeply northeast or southwest-dipping, oblique, right-lateral, slip-fault. The trace of the Lacamas Lake fault is marked by the very linear lower reach of Lacamas Creek. No fault scarps on Quaternary-aged surficial deposits have been described. The Lacamas Lake fault offsets Pliocene-aged sedimentary conglomerates generally identified as the Troutdale formation, and Pliocene- to Pleistocene-aged basalts generally identified as the Boring Lava formation.

Recent seismic reflection data across the probable trace of the fault under the Columbia River yielded no unequivocal evidence of displacement underlying the Missoula flood deposits, however, recorded mild seismic activity during the recent past indicates this area may be potentially seismogenic.

Cascadia Subduction Zone

The Cascadia Subduction Zone has recently been recognized as a potential source of strong earthquake activity in the Portland/Vancouver Basin. This phenomenon is the result of the earth's large tectonic plate movement. Geologic evidence indicates that volcanic ocean floor activity along the Juan de Fuca ridge in the Pacific Ocean causes the Juan de Fuca Plate to perpetually move east and subduct under the North American Continental Plate. The subduction zone results in historic volcanic and potential earthquake activity in proximity to the plate interface, believed to lie approximately 20 to 50 miles west of the general location of the Oregon and Washington coast (Geomatrix Consultants, 1995).

4.0 GEOTECHNICAL AND GEOLOGIC FIELD INVESTIGATION

A geotechnical field investigation consisting of visual reconnaissance, three test pits (TP-1 through TP-3), one infiltration test, and one soil boring (SB-1) was conducted at the site on November 5 and 11, 2019. Test pits were explored with a track-mounted excavator. Soil borings were explored with a track-mounted mud-rotary drill system. Subsurface soil profiles were logged in accordance with Unified Soil Classification System (USCS) specifications. Disturbed and relatively undisturbed soil samples were collected from relevant soil horizons and submitted for laboratory analysis. Analytical laboratory test results are presented in Appendix A. Exploration locations are indicated on Figure 2. Subsurface exploration logs are presented in Appendix B. Soil descriptions and classification information are provided in Appendix C. A photo log is presented in Appendix D.

4.1 Surface Investigation and Site Description

The approximate 1.15-acre subject site is located at 26600 SE 15th Street in Camas, Washington. The subject site is located on the Camas High School campus and is bounded by an access drive to the west, an access drive and parking lots to the south, tennis courts to the east, and undeveloped acreage to the north. No existing buildings were observed on the site. Observed utility infrastructure included an underground storm line extending southeast from the central portion of the site to the adjacent stormwater facility. The western and northern portions of the site consist of open, landscaped areas with several mature trees bordering the northern site boundary.

Field reconnaissance and topographic mapping published by *Clark County Maps Online* indicates relatively flat terrain with slope grades of 0 to 5 percent and site elevations ranging from 378 to 382 feet above mean sea level (amsl).

4.2 Subsurface Exploration and Investigation

Test pit explorations TP-1 through TP-3 were advanced at the site to a maximum depth of 14 feet below ground surface (bgs). Soil boring exploration (SB-1) was advanced to a maximum depth of 51 ½ feet bgs. Exploration locations were selected to observe subsurface soil characteristics in proximity to proposed development areas and are indicated on Figure 2. Detailed field logs of the encountered materials are presented in Appendix B, *Subsurface Exploration Logs.*

4.2.1 Soil Type Description

The field investigation indicated the presence of approximately 6 to 12 inches of sod and topsoil in the areas observed. Underlying the topsoil layer, undocumented fill and subsurface soils resembling native USDA Hesson soil series descriptions were encountered. Subsurface lithology may generally be described by soil types identified in the following text.

Soil Type 1 – Undocumented FILL

Soil Type 1 represents undocumented FILL and was observed to primarily consist of tan, mottled, moist, medium dense clayey sand with gravel. Soil Type 1 was observed at ground surface in explorations TP-1 and TP-2 and extended to an observed depth of approximately 24 inches. Soil Type 1 was underlain by Soil Type 2 in test pit TP-1 and Soil Type 3 in test pit TP-2. Additional recommendations regarding Soil Type 1 are provided in Section 5.1.1, *Undocumented Fill.*

Soil Type 2 – Sandy Lean CLAY with Gravel

Soil Type 2 was observed to primarily consist of brown, mottled, moist, medium stiff to stiff sandy lean CLAY with gravel. Soil Type 2 was observed below the topsoil layer in soil boring SB-1, below Soil Type 1 in test pit TP-1, and below Soil Type 3 in test pit TP-2. Soil Type 2 extended to observed depths ranging from approximately 3 to 5 feet bgs where it was underlain by Soil Type 4.

Soil Type 3 – Fat CLAY with Sand

Soil Type 3 was observed to primarily consist of gray to tan, mottled, moist, stiff fat CLAY with sand. Soil Type 3 was observed below the topsoil layer in test pit TP-3 and below Soil Type 1 in test pit TP-2. Soil Type 3 extended to an observed depth of approximately 2 ½ feet bgs, where it was underlain by Soil Type 2 in TP-2 and Soil Type 4 in TP-3.

Recommendations regarding the suitability of Soil Type 3 to be reused as structural fill or bear structural foundations are presented respectively in Section 5.2, *Engineered Structural Fill* and Section 5.4, *Foundations*.

Analytical laboratory testing conducted upon a representative soil sample obtained from test pit TP-2 indicated approximately 85 percent by weight passing the No. 200 sieve and an in situ moisture content of approximately 40 percent. Atterberg Limits analysis indicated a liquid limit of 76 percent and a plasticity index of 50 percent. The laboratory tested sample of Soil Type 3 is classified CH according to USCS specifications and A-7-6(47) according to AASHTO specifications.

Soil Type 4 – Sedimentary CONGLOMERATE

Soil Type 4 was observed to consist of tan to orange-brown, moderately- to severely-weathered, moist, loose to dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix. Soil Type 4 was observed below Soil Type 2 in explorations TP-1, TP-2, and SB-1 and below Soil Type 3 in test pit TP-3. Soil Type 4 extended to the maximum depth of exploration in each of the observed locations. Soil Type 4 may represent unconsolidated to cemented, thick-bedded, pebble to boulder sedimentary conglomerate (QTc) of Evarts, 2008.

Analytical laboratory testing conducted upon representative soils samples obtained from explorations TP-2 and SB-1 indicated approximately 8 to 39 percent by weight passing the No. 200 sieve and in situ moisture contents ranging from approximately 19 to 56 percent. Atterberg Limits analysis indicated liquid limits ranging from 47 to 57 percent and plasticity index ranging from 18 to 24 percent. Laboratory tested samples of Soil Type 4 are classified GP-GM and SM according to USCS specifications and A-2-7(0) and A-7-5(5) according to AASHTO specifications.

4.2.2 Groundwater

Groundwater was not encountered in the test pit explorations to the maximum explored depth of 14 feet bgs. Due to the use of mud-rotary drilling techniques, depth to groundwater was not measured within soil boring SB-1. Review of nearby well logs obtained from the State of Washington Department of Ecology indicates that groundwater levels in the area are approximately 18 to 180 feet bgs. Variations in groundwater elevations likely reflect the screened interval depth of these wells, changes in ground surface elevation, and the presence of multiple aquifers and confining units.

Groundwater levels are often subject to seasonal variance and may rise during extended periods of increased precipitation. Perched groundwater may also be present in localized areas. Seeps and springs may become evident during site grading, primarily along slopes or in areas cut below existing grade. Structures, roads, and drainage design should be planned accordingly.

5.0 DESIGN RECOMMENDATIONS

The geotechnical site investigation suggests the proposed development is generally compatible with surface and subsurface soils, provided the recommendations presented in this report are utilized and incorporated into the design and construction processes. The primary geotechnical concerns associated with the site are undocumented fill and high-plasticity soils. Design recommendations are presented in the following text sections.

5.1 Site Preparation and Grading

Vegetation, organic material, unsuitable fill, and deleterious material that may be encountered should be cleared from areas identified for structures and site grading. Vegetation, other organic material, and debris should be removed from the site. Stripped topsoil should also be removed, or used only as landscape fill in nonstructural areas with slopes less than 25 percent. The stripping depth for sod and highly organic topsoil is anticipated to vary between approximately 6 and 12 inches. Stripping depths may increase in areas of heavy organics or disturbed soil. Actual stripping depths should be determined based upon visual observations made during construction when soil conditions are exposed. The post-construction maximum depth of landscape fill placed or spread at any location onsite should not exceed one foot.

Previously disturbed soil, debris, or unconsolidated fill encountered during grading or construction activities should be removed completely and thoroughly from structural areas. This includes old foundations, basement walls, utilities, associated soft soils, and debris. Excavation areas should be backfilled with engineered structural fill.

Test pits excavated during site exploration were backfilled loosely with onsite soils. These test pits should be located and properly backfilled with structural fill during site improvements construction. Trees, stumps, and associated roots should also be removed from structural areas, individually and carefully. Resulting cavities and excavation areas should be backfilled with engineered structural fill.

Site grading activities should be performed in accordance with requirements specified in the 2015 *International Building Code* (IBC), Chapter 18 and Appendix J, with exceptions noted in the text herein. Site preparation, soil stripping, and grading activities should be observed and documented by Columbia West.

5.1.1 Undocumented Fill

As previously described, undocumented fill was observed in areas proposed for development. Approximate locations where undocumented fill was observed are indicated on Figure 2. The undocumented fill was observed to primarily consist of tan, mottled, moist, medium dense clayey sand with gravel. Undocumented fill extended to an approximate depth of 24 inches in locations observed.

Undocumented fill and other previously disturbed soils or debris are not suitable for bearing structures in their current state and should be removed completely and thoroughly from proposed building envelopes. In some areas, undocumented fill may directly overlie vegetation and the original topsoil layer. This material should also be removed completely. Upon removal of undocumented fill, Columbia West should observe the exposed subgrade to verify adequate support conditions.

Based upon Columbia West’s investigation, most undocumented fill soils (clean clayey sand with gravel) appear to be acceptable for reuse as structural fill, provided materials are observed to exhibit index properties similar to those observed during this investigation and that construction adheres to the specifications presented in this report. Portions of undocumented fill found to contain highly organic soils, debris, or other deleterious material are not suitable for re-use and should be thoroughly removed. Recommendations regarding the suitability of reusing existing fill soils as structural fill material should be provided in the field by Columbia West during construction. It should be noted that the limited scope of exploration conducted for this investigation cannot wholly eliminate uncertainty regarding the presence of unsuitable soils in areas not explored.

5.2 Engineered Structural Fill

Areas proposed for fill placement should be appropriately prepared as described in the preceding text. Surface soils should then be scarified and compacted prior to additional fill placement. Engineered structural fill should be placed in loose lifts not exceeding 12 inches in depth and compacted using standard conventional compaction equipment. The soil moisture content should be within two percentage points of optimum conditions. A field density at least equal to 95 percent of the maximum dry density, obtained from the standard Proctor moisture-density relationship test (ASTM D698), is recommended for structural fill placement. Engineered structural fill placed on sloped grades should be benched to provide a horizontal surface for compaction.

Compaction of engineered structural fill should be verified by nuclear gauge field compaction testing performed in accordance with ASTM D6938. Field compaction testing should be performed for each vertical foot of engineered fill placed followed by subsequent proof-roll evaluation where feasible. Engineered fill placement should be observed by Columbia West.

Engineered structural fill placement activities should be performed during dry summer months if possible. Some clean native soils (Soil Type 2 and Soil Type 4) may be suitable for use as structural fill if adequately dried or moisture-conditioned to achieve recommended compaction specifications. Native soils with a plasticity index greater than 25 should be evaluated and approved by Columbia West prior to re-use as structural fill. Native fat CLAY soils (Soil Type 3) are not anticipated to be suitable for reuse as structural fill.

Fine-textured soils may require addition of moisture during late summer months or after extended periods of warm dry weather. Compacted fine-textured fill soils should be covered shortly after placement. If adequate compaction is not achievable with clean native soils, import structural fill consisting of granular fill meeting WSDOT specifications for *Gravel Borrow 9-03.14(1)* is recommended.

Representative samples of proposed engineered structural fill should be submitted for laboratory analysis and approval by Columbia West prior to placement. Laboratory analyses should include particle-size gradation and standard Proctor moisture-density analysis.

5.3 Cut and Fill Slopes

Fill placed on existing grades steeper than 5H:1V should be horizontally benched at least 10 feet into the slope. Fill slopes greater than six feet in height should be vertically keyed into existing subsurface soil. A typical fill slope cross-section is shown in Figure 3. Drainage implementations, including subdrains or perforated drain pipe trenches, may also be necessary in proximity to cut and fill slopes if seeps or springs are encountered. Drainage design may be performed on a case-by-case basis. Extent, depth, and location of drainage may be determined in the field by Columbia West during construction when soil conditions are exposed. Failure to provide adequate drainage may result in soil sloughing, settlement, or erosion.

Final cut or fill slopes at the site should not exceed 2H:1V or 20 feet in total height without individual slope stability analysis. The values above assume a minimum horizontal setback for loads of 10 feet from top of cut or fill slope face or overall slope height divided by three (H/3), whichever is greater. A minimum slope setback detail for structures is presented in Figure 4.

Concentrated drainage or water flow over the face of slopes should be prohibited, and adequate protection against erosion is required. Fill slopes should be constructed by placing fill material in maximum 12-inch level lifts, compacting as described in Section 5.2, *Engineered Structural Fill* and horizontally benching where appropriate. Fill slopes should be overbuilt, compacted, and trimmed at least two feet horizontally to provide adequate compaction of the outer slope face. Proper cut and fill slope construction is critical to overall project stability and should be observed and documented by Columbia West.

5.4 Foundations

Foundations for proposed structures are anticipated to consist of shallow continuous perimeter or column spread footings. Correspondence with the project structural engineer, Kramer Ghelen and Associates, Inc., indicates that foundation loads are not anticipated to exceed approximately 4 kips per foot for perimeter footings or 75 kips per column. If actual loading exceeds anticipated loading, additional analysis should be conducted for the specific load conditions and proposed footing dimensions. Footings should be designed by a licensed structural engineer and conform to the recommendations below.

The existing ground surface should be prepared as described in Section 5.1, *Site Preparation and Grading*, and Section 5.2, *Engineered Structural Fill*. Foundations should bear only upon firm, native soils (Soil Type 2 or Soil Type 4) or engineered structural fill.

To evaluate bearing capacity for proposed structures, serviceability and reliability of shear resistance for subsurface soils was considered. Allowable bearing capacity is typically a function of footing dimension and subsurface soil properties, including settlement and shear resistance. Based upon in situ field testing and laboratory analysis, an estimated allowable static bearing capacity of 3,000 psf may be achieved by adhering to the following design and construction recommendations. Footings should maintain a minimum embedment depth of 36 inches below the lowest adjacent grade and bear only upon Soil Type 2, Soil Type 4, or engineered structural fill. Soil Types 1 or 3, if encountered within proposed foundation alignments, should be over-excavated to expose Soil Type 2 or 4. Over-excavations which extend beyond the minimum embedment recommendation may be backfilled with 1 ¼”-0 crushed aggregate compacted to at least 95 percent of the modified Proctor maximum dry density (ASTM D1557).

Bearing capacity may be increased by one-third for transient lateral forces such as seismic or wind. The estimated coefficient of friction between in situ compacted native soil or engineered structural fill and in-place poured concrete is 0.40. Lateral forces may also be resisted by an assumed passive soil equivalent fluid pressure of 250 psf/f against embedded footings.

Footings should extend to a depth at least 36 inches below lowest adjacent grade to provide adequate bearing capacity and protection against frost heave. Foundations constructed during wet weather conditions will require over-excavation of saturated subgrade soils and granular structural backfill prior to concrete placement. Over-excavation recommendations should be provided by Columbia West during foundation excavation and construction. Excavations adjacent to foundations should not extend within a 2H:1V angle projected down from the outside bottom footing edge without additional geotechnical analysis.

Foundations should not be permitted to bear upon undocumented fill (Soil Type 1), disturbed soil, or Soil Type 3. Because soil is often heterogeneous and anisotropic, Columbia West should observe foundation excavations prior to placing forms or reinforcing bar to verify subgrade support conditions are as anticipated in this report.

5.4.1 Luminaire, Signal, and Sign Foundations

Foundations for luminaire, signal, and sign poles should be designed in accordance with the *International Building Code (IBC) Chapter 18* by a licensed structural engineer. Based upon review of *IBC* literature, and SPT blow count observations made during the field exploration, the allowable lateral bearing pressure for foundations installed in competent native Soil Type 2, Soil Type 4, or engineered structural fill is 150 psf/ft up to a maximum of 2,500 psf. Columbia West should be contacted to review foundation designs and evaluate compatibility with geotechnical design assumptions.

5.5 Slabs on Grade

The proposed structures may have slab-on-grade floors. Slabs should be supported on firm, competent, in situ native soil or engineered structural fill. Disturbed soils and unsuitable fills in proposed slab locations should be removed and replaced with structural fill.

Preparation and compaction beneath slabs should be performed in accordance with the recommendations presented in Section 5.1, *Site Preparation and Grading* and Section 5.2, *Engineered Structural Fill*. Slabs should be underlain by at least 6 inches of free-draining 1¼" - 0 crushed aggregate meeting WSDOT 9-03.9(3). Geotextile filter fabric conforming to *WSDOT 2010 Standard Specification M 41-10, 9-33.2(1), Geotextile Properties, Table 3: Geotextile for Separation or Soil Stabilization* may be used below the crushed aggregate to increase subgrade support. The modulus of subgrade reaction is estimated to be 100 psi/inch. If desired, a moisture barrier may be constructed beneath the slabs. Slabs should be appropriately waterproofed in accordance with the desired type of finished flooring. Slab thickness and reinforcement should be designed by an experienced structural engineer in accordance with anticipated loads.

5.6 Static Settlement

Total long-term static footing displacement for shallow foundations constructed as described in this report is not anticipated to exceed approximately 1 inch. Differential settlement between comparably loaded footing elements is not expected to exceed approximately ½ inch over a span of 50 feet. The resulting vertical displacement after loading may be due to elastic distortion, dissipation of excess pore pressure, or soil creep.

5.7 Excavation

Soils at the site were explored to a maximum depth of approximately 51 ½ feet using a track-mounted mud-rotary drill system. Blasting or specialized rock-excavation techniques are not anticipated.

Groundwater was not encountered within test pit explorations to the maximum excavated depth of 14 feet bgs. However, perched groundwater layers may exist at shallower depths depending on seasonal fluctuations of the water table.

Based upon laboratory analysis and field testing, near-surface soils may be Washington State Industrial Safety and Health Administration (WISHA) Type C. For temporary open-cut excavations deeper than four feet, but less than 20 feet in soils of these types, the maximum allowable slope is 1.5H:1V. WISHA soil type should be confirmed during field construction activities by the contractor. Soil is often anisotropic and heterogeneous, and it is possible that WISHA soil types determined in the field may differ from those described above.

Site-specific shoring design may be required if open-cut excavations are infeasible or if excavations are proposed adjacent to existing infrastructure. Typical methods for stabilizing excavations consist of soldier piles and timber lagging, sheet pile walls, tiebacks and shotcrete, or pre-fabricated hydraulic shoring. Because lateral earth pressure distributions acting on below-grade structures are dependent upon the type of shoring system used, Columbia West should be contacted to conduct additional analysis when shoring type, excavation depths, and locations are known.

The contractor should be held responsible for site safety, sloping, and shoring. Columbia West is not responsible for contractor activities and in no case should excavation be conducted in excess of all applicable local, state, and federal laws.

5.8 Lateral Earth Pressure

If retaining walls are proposed, lateral earth pressures should be carefully considered in the design process. Hydrostatic pressure and additional surcharge loading should also be considered. Retained material may include engineered structural backfill or undisturbed native soil. Structural wall backfill should consist of imported granular material meeting *Section 9-03.12(2)* of WSDOT Standard Specifications. Backfill should be prepared and compacted to at least 95 percent of maximum dry density as determined by the modified Proctor test (ASTM D1557). Recommended parameters for lateral earth pressures for retained soils and engineered structural backfill consisting of imported granular fill meeting WSDOT specifications for *Gravel Backfill for Walls 9-03.12(2)* are presented in Table 1.

The design parameters presented in Table 1 are valid for static loading cases only and are based upon in situ undistributed native soils or compacted granular fill. The recommended earth pressures do not include surcharge loads, dynamic loading, hydrostatic pressure, or seismic design.

If seismic design is required for unrestrained walls, seismic forces may be calculated by superimposing a uniform lateral force of $10H^2$ pounds per lineal foot of wall, where H is the total wall height in feet. The resultant force should be applied at 0.6H from the base of the wall. If sloped backfill conditions are proposed for the site, Columbia West should be contacted for additional analysis and associated recommendations.

Table 1. Lateral Earth Pressure Parameters for Level Backfill

Retained Soil	Equivalent Fluid Pressure for Level Backfill			Wet Density	Drained Internal Angle of Friction
	At-rest	Active	Passive		
Undisturbed native Sandy Lean CLAY with Gravel (Soil Type 2)	59 pcf	40 pcf	331 pcf	115 pcf	29°
Undisturbed native Fat CLAY with Sand (Soil Type 3)	69 pcf	50 pcf	242 pcf	110 pcf	22°
Undisturbed native Sedimentary CONGLOMERATE (Soil Type 4)	53 pcf	34 pcf	424 pcf	120 pcf	34°
Approved Structural Backfill Material WSDOT 9-03.12(2) compacted aggregate backfill	52 pcf	32 pcf	568 pcf	135 pcf	38°

** The upper 6 inches of soil should be neglected in passive pressure calculations. If exterior grade from top or toe of retaining wall is sloped, Columbia West should be contacted to provide location-specific lateral earth pressures.*

A continuous one-foot-thick zone of free-draining, washed, open-graded 1-inch by 2-inch drain rock and a 4-inch perforated gravity drain pipe is assumed behind retaining walls. Geotextile filter fabric should be placed between the drain rock and backfill soil. Specifications for drain pipe design are presented in Section 5.11, *Drainage*. If walls cannot be gravity drained, saturated base conditions and/or applicable hydrostatic pressures should be assumed.

Final retaining wall design should be reviewed and approved by Columbia West. Retaining wall subgrade and backfill activities should also be observed and tested for compliance with recommended specifications by Columbia West during construction.

5.9 Seismic Design Considerations

According to the *American Society of Civil Engineers* (ASCE) *ASCE 7 Hazard Tool,* the anticipated peak ground and maximum considered earthquake spectral response accelerations resulting from seismic activity for the subject site are summarized in Table 2.

Table 2. Approximate Probabilistic Ground Motion Values for 'firm rock' sites based on subject property longitude and latitude

	2% Probability of Exceedance in 50 yrs
Peak Ground Acceleration	0.367 g
0.2 sec Spectral Acceleration	0.864 g
1.0 sec Spectral Acceleration	0.369 g

The listed probabilistic ground motion values are based upon "firm rock" sites with an assumed shear wave velocity of 2,500 ft/s in the upper 100 feet of soil profile. These values should be adjusted for site class effects by applying site coefficients Fa, Fv, and

F_{PGA} as defined in *ASCE 7-10, Tables 11.4-1, 11.4-2, and 11.8-1*. The site coefficients are intended to more accurately characterize estimated peak ground and respective earthquake spectral response accelerations by considering site-specific soil characteristics and index properties.

The *Site Class Map of Clark County, Washington* (Washington State Department of Natural Resources, 2004) indicates that site soils may represented by Site Class B to C as defined by the *ASCE 7, Chapter 20 Table 20.3-1*. However, subsurface exploration, in situ soil testing, and review of geologic mapping indicates that site soils exhibit characteristics of Site Class D. This site class designation indicates that some amplification of seismic energy may occur during a seismic event because of subsurface conditions.

Localized peak ground accelerations exceeding the adjusted values may occur in some areas in direct proximity to an earthquake's origin. This may be a result of amplification of seismic energy due to depth to competent bedrock, compression and shear wave velocity of bedrock, presence and thickness of loose, unconsolidated alluvial deposits, soil plasticity, grain size, and other factors.

Identification of specific seismic response spectra is beyond the scope of this investigation. If site structures are designed in accordance with recommendations specified in the *2015 IBC*, the potential for peak ground accelerations in excess of the adjusted and amplified values should be understood.

5.10 Soil Liquefaction and Dynamic Settlement

According to the *Liquefaction Susceptibility Map of Clark County Washington* (Washington State Department of Natural Resources, 2004), the site is mapped as very low susceptibility for liquefaction.

Liquefaction, defined as the transformation of the behavior of a granular material from a solid to a liquid due to increased pore-water pressure and reduced effective stress, may occur when granular materials quickly compact under cyclic stresses caused by a seismic event. The effects of liquefaction may include immediate ground settlement and lateral spreading.

Soils most susceptible to liquefaction are generally saturated, cohesionless, loose to medium-dense sands within 50 feet of the ground surface. Recent research has also indicated that low plasticity silts and clays may also be subject to sand-like liquefaction behavior if the plasticity index determined by the Atterberg Limits analysis is less than 8. Potentially liquefiable soils located above the existing, historic, or expected ground water levels do not generally pose a liquefaction hazard. It is important to note that changes in perched ground water elevation may occur due to project development or other factors not observed at the time of investigation.

The above-mentioned criteria were not observed during the geotechnical site investigation. Therefore, the potential for liquefaction of site soils is considered to be very low.

5.11 Drainage

At a minimum, site drainage should include surface water collection and conveyance to properly designed stormwater management structures and facilities. Drainage design in general should conform to City of Camas regulations. Finished site grading should be conducted with positive drainage away from structures. Depressions or shallow areas that may retain ponding water should be avoided. Roof drains, low-point drains, and perimeter foundation drains are recommended for structures. Drains should consist of separate systems and gravity flow with a minimum two-percent slope away from foundations into the stormwater system or approved discharge location.

Perimeter foundation drains should consist of 3-inch perforated PVC pipe surrounded by a minimum of 1 ft^3 of clean, washed drain rock per linear foot of pipe and wrapped with geotextile filter fabric. Open-graded drain rock with a maximum particle size of 3 inches and less than 2 percent passing the No. 200 sieve is recommended. Geotextile filter fabric should consist of Mirafi 140N or approved equivalent, with an apparent opening size (AOS) between No. 70 and No. 100 sieve. The water permittivity should be greater than 1.5/sec. Figure 5 presents a typical perimeter footing drain. Perimeter drains may limit increased hydrostatic pressure beneath footings and assist in reducing potential perched moisture areas.

Subdrains should also be considered if portions of the site are cut below surrounding grades. Shallow groundwater, springs, or seeps should be conveyed via drainage channel or perforated pipe into the stormwater management system or an approved discharge. Recommendations for design and installation of perforated drainage pipe may be performed on a case-by-case basis by Columbia West during construction. Failure to provide adequate surface and sub-surface drainage may result in soil slumping or unanticipated settlement of structures exceeding tolerable limits. A typical perforated drain pipe trench detail is presented in Figure 6.

Foundation drains and subdrains should be closely monitored after construction to assess their effectiveness. If additional surface or shallow subsurface seeps become evident, the drainage provisions may require modification or additional drains. Columbia West should be consulted to provide appropriate recommendations.

5.12 Infiltration Testing Results

To investigate the feasibility of subsurface disposal of stormwater, Columbia West conducted in situ infiltration testing at one location within the project area on November 5, 2019. Results, location, and associated depth of in situ infiltration testing are presented in Table 3. The reported infiltration rate, as defined by the soil coefficient of permeability, reflects approximate raw observed data, without application of a factor of safety. Soils in the tested location were observed and sampled where appropriate to adequately characterize the subsurface profile. Tested native soils were visually classified as CL, sandy lean CLAY with gravel.

Single-ring, falling head infiltration testing was performed by inserting a three-inch diameter pipe into the soil at the noted depth. The test was conducted by filling the apparatus with water and measuring time relative to changes in hydraulic head at regular intervals. Using Darcy’s Law for saturated flow in homogenous media, the coefficient of permeability (k) was then calculated.

Table 3. Infiltration Test Data

Test Number	Location (See Figure 2)	Approximate Test Depth (feet bgs)	Approximate Depth to Groundwater on 11-05-19 (feet bgs)	USCS Soil Type (*Indicates Visual Classification)	Passing No. 200 Sieve (%)	Infiltration Rate (Coefficient of Permeability, k) (inches/hour)
IT-1.1	TP-1	3.0	Not Encountered to 14 feet	CL, Sandy Lean CLAY with Gravel*	–	< 0.1

Due to the observed presence of fine-textured, low permeability soils, subsurface disposal of concentrated stormwater is likely infeasible and is not recommended without further study.

5.13 Bituminous Asphalt and Portland Cement Concrete

Correspondence with the design team indicates that proposed development includes private asphalt paved access drives and walkways. Columbia West recommends adherence to City of Camas paving guidelines for roadway improvements in the public right-of-way. General recommendations for private onsite flexible pavement sections are summarized in Table 4.

Table 4. Private Onsite Flexible Pavement Section Recommendations

Pavement Section Layer	**Minimum Layer Thickness**		**Specifications**
	Passenger Vehicle Parking and Access Drives	***Heavy Truck Access Drives**	
Asphalt concrete surface HMA Class ½" PG 64-22	3 inches	4 inches	91 percent of maximum Rice density (ASTM D2041)
Base course (WSDOT 9-03.9(3) 1¼"-0 crushed aggregate	8 inches	12 inches	95 percent of maximum modified Proctor density (ASTM D1557)
Scarified and compacted existing subgrade material	12 inches	12 inches	Compacted to 95 percent of maximum modified Proctor density (ASTM D1557)

*General recommendation based upon maximum traffic loading of up to 15 heavy trucks per day. If actual truck traffic exceeds 15 trucks per day, reduced pavement serviceability and design life should be expected.

For dry weather construction, pavement surface sections should bear upon competent subgrade consisting of scarified and compacted native soil or engineered structural fill. Wet weather pavement construction is discussed in Section 5.14, *Wet Weather Construction Methods and Techniques*. Subgrade conditions should be evaluated and tested by Columbia West prior to placement of crushed aggregate base. Subgrade evaluation should include nuclear gauge density testing and wheel proof-roll observations conducted with a loaded 12-cubic yard, double-axle dump truck or equivalent. Nuclear gauge density testing should be conducted at 150-foot intervals or as determined by the onsite geotechnical engineer. Subgrade soil should be compacted to at least 95 percent of the modified Proctor dry density, as determined by ASTM D1557. Areas of observed deflection or rutting during proof-roll evaluation should be excavated to a firm surface and replaced with compacted crushed aggregate.

Crushed aggregate base should be compacted and tested in accordance with the specifications outlined above. Asphalt concrete pavement should be compacted to at least 91 percent of maximum Rice density. Nuclear gauge density testing should be conducted to verify adherence to recommended specifications. Testing frequency should be in accordance with Washington Department of Transportation and City of Camas specifications.

Portland cement concrete curbs and sidewalks should be installed in accordance with City of Camas specifications. Curb and sidewalk aggregate base should be observed and proof-rolled by Columbia West. Soft areas that deflect or rut should be stabilized prior to pouring concrete. Concrete should be tested during installation in accordance with ASTM C171, C138, C231, C143, C1064, and C31. This includes casting of cylinder specimens at a frequency of four cylinders per 100 cubic yards of poured concrete. Recommended field concrete testing includes slump, air entrainment, temperature, and unit weight.

5.14 Wet Weather Construction Methods and Techniques

Wet weather construction often results in significant shear strength reduction and soft areas that may rut or deflect. Installation of granular working layers may be necessary to provide a firm support base and sustain construction equipment. Granular layers should consist of all-weather gravel, two- to four-inch gabion, or other similar material (six-inch maximum size with less than five percent passing the No. 200 sieve).

Construction equipment traffic across exposed soil should be minimized. Equipment traffic induces dynamic loading, which may result in weak areas and significant reduction in shear strength for wet soils. Wet weather construction may also result in generation of significant excess quantities of soft wet soil. This material should be removed from the site or stockpiled in a designated area.

Construction during wet weather conditions may require increased base thickness. Over-excavation of subgrade soils or subgrade amendment with lime and/or cement may be necessary to provide a firm base upon which to place crushed aggregate. Geotextile filter fabric is also recommended. If soil amendment with lime or cement is considered, Columbia West should be contacted to provide appropriate recommendations based upon observed field conditions and desired performance criteria.

Crushed aggregate base should be installed in a single lift with trucks end-dumping from an advancing pad of granular fill. During extended wet periods, stripping activities may also need to be conducted from an advancing pad of granular fill. Once installed, the crushed aggregate base should be compacted with several passes from a static drum roller. A vibratory compactor is not recommended because it may further disturb the subgrade. Subdrains may also be necessary to provide subgrade drainage and maintain structural integrity.

Crushed aggregate base should be compacted to at least 95 percent of maximum dry density according to the modified Proctor density test (ASTM D1557). Compaction should be verified by nuclear gauge density testing. Observation of a proof-roll with a loaded dump truck is also recommended as an indication of the compacted aggregate's performance.

It should be understood that wet weather construction is risky and costly. Columbia West should observe and document wet weather construction activities. Proper construction methods and techniques are critical to overall project integrity.

5.15 Erosion Control Measures

Based upon field observations and laboratory testing, the erosion hazard for site soils in flat to shallow-gradient portions of the property is likely to be low. The potential for erosion generally increases in sloped areas. Therefore, disturbance to vegetation in sloped areas should be minimized during construction activities. Soil is also prone to erosion if unprotected and unvegetated during periods of increased precipitation. Erosion can be minimized by performing construction activities during dry summer months.

Site-specific erosion control measures should be implemented to address the maintenance of exposed areas. This may include silt fence, biofilter bags, straw wattles, or other suitable methods. During construction activities, exposed areas should be well-compacted and protected from erosion with visqueen, surface tackifier, or other means, as appropriate. Temporary slopes or exposed areas may be covered with straw, crushed aggregate, or riprap in localized areas to minimize erosion. Erosion and water runoff during wet weather conditions may be controlled by application of strategically placed channels and small detention depressions with overflow pipes.

After grading, exposed surfaces should be vegetated as soon as possible with erosion-resistant native vegetation. Jute mesh or straw may be applied to enhance vegetation. Once established, vegetation should be properly maintained. Disturbance to existing native vegetation and surrounding organic soil should also be minimized during construction activities.

5.16 Utility Installation

Utility installation may require subsurface excavation and trenching. Excavation, trenching and shoring should conform to federal (Occupational Safety and Health Administration) (OSHA) (29 CFR, Part 1926) and *WISHA* (WAC, Chapter 296-155) regulations. Site soils may slough when cut vertically and sudden precipitation events or perched groundwater may result in accumulation of water within excavation zones and trenches.

Utilities should be installed in general accordance with manufacturer’s recommendations. Utility trench backfill should consist of *WSDOT 9-03.19 Bank Run Gravel for Trench Backfill* or *WSDOT 9-03.14(2) Select Borrow* with a maximum particle size of 2 ½-inches. Trench backfill material within 18 inches of the top of utility pipes should be hand compacted (i.e., no heavy compaction equipment). The remaining backfill should be compacted to at least 95 percent of maximum dry density as determined by the standard Proctor moisture-density test (ASTM D698). Clean, free-draining, fine bedding sand is recommended for use in the pipe zone. With exception of the pipe zone, backfill should be placed in loose lifts not exceeding 12 inches in thickness.

Compaction of utility trench backfill material should be verified by nuclear gauge field compaction testing performed in accordance with ASTM D6938. It is recommended that field compaction testing be performed at 200-foot intervals along the utility trench centerline at the surface and midpoint depth of the trench. Compaction frequency and

Exhibit 11 CUP24-1001

specifications may be modified for non-structural areas in accordance with recommendations of the site geotechnical engineer.

6.0 CONCLUSION AND LIMITATIONS

This geotechnical site investigation report was prepared in accordance with accepted standard conventional principles and practices of geotechnical engineering. This investigation pertains only to material tested and observed as of the date of this report, and is based upon proposed site development as described in the text herein. This report is a professional opinion containing recommendations established by engineering interpretations of subsurface soils based upon conditions observed during site exploration. Soil conditions may differ between tested locations or over time. Slight variations may produce impacts to the performance of structural facilities if not adequately addressed. This underscores the importance of diligent QA/QC construction observation and testing to verify soil conditions are as anticipated in this report.

Therefore, this report contains several recommendations for field observation and testing by Columbia West personnel during construction activities. Columbia West cannot accept responsibility for deviations from recommendations described in this report. Future performance of structural facilities is often related to the degree of construction observation by qualified personnel. These services should be performed to the full extent recommended.

This report is not an environmental assessment and should not be construed as a representative warranty of site subsurface conditions. The discovery of adverse environmental conditions, or subsurface soils that deviate from those described in this report, should immediately prompt further investigation. The above statements are in lieu of all other statements expressed or implied.

This report was prepared solely for the client and is not to be reproduced without prior authorization from Columbia West. Final engineering plans and specifications for the project should be reviewed and approved by Columbia West as they relate to geotechnical and grading issues prior to final design approval. Columbia West is not responsible for independent conclusions or recommendations made by other parties based upon information presented in this report. Unless a particular service was expressly included in the scope, it was not performed and there should be no assumptions based upon services not provided. Additional report limitations and important information about this document are presented in Appendix E. This information should be carefully read and understood by the client and other parties reviewing this document.

Sincerely,

COLUMBIA WEST ENGINEERING, Inc.

Lance V. Lehto, PE, GE
President

LANCE V. LEHTO
36301
12-20-19

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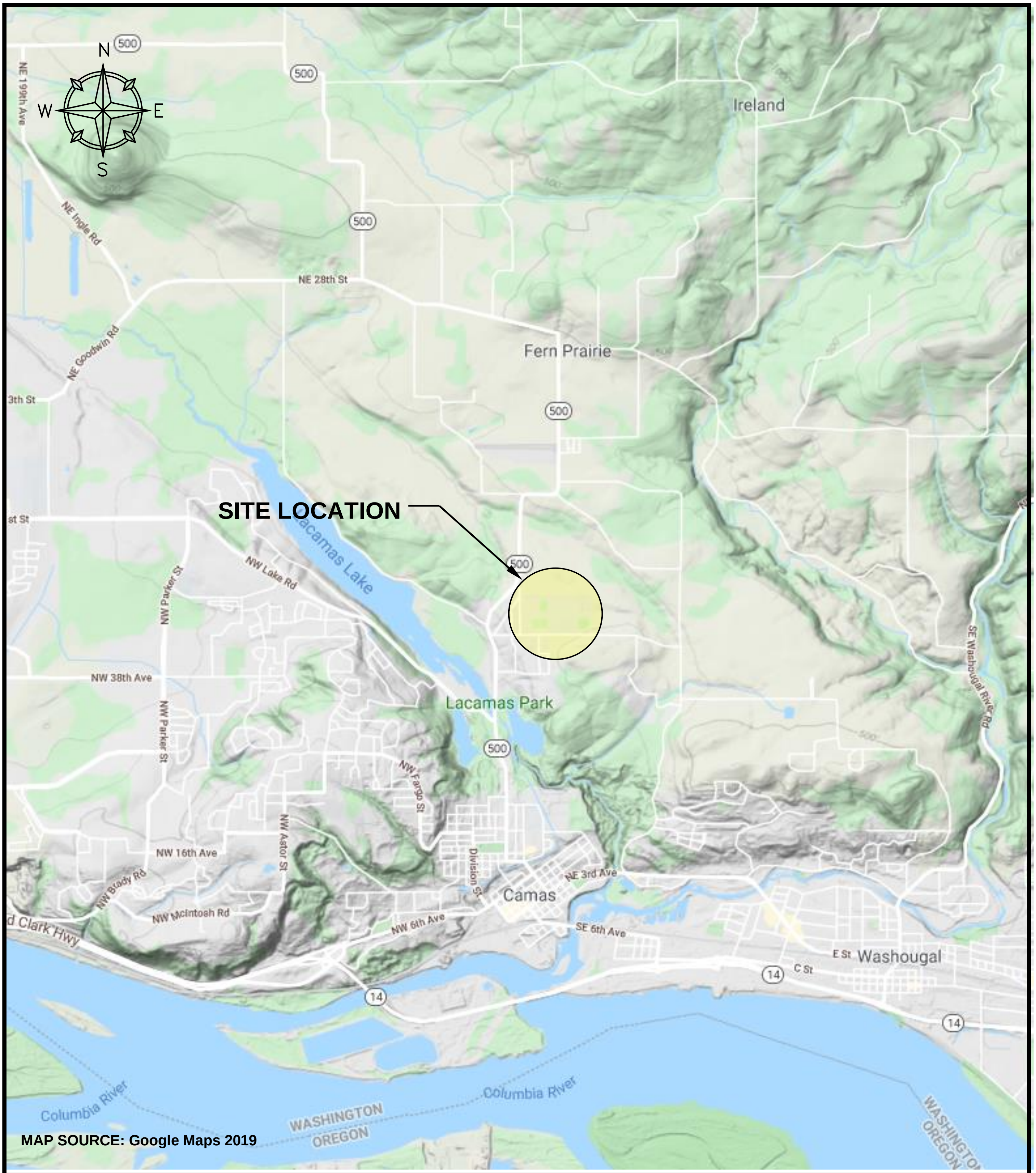
FIGURES

Exhibit 11 CUP24-1001



MAP SOURCE: Google Maps 2019

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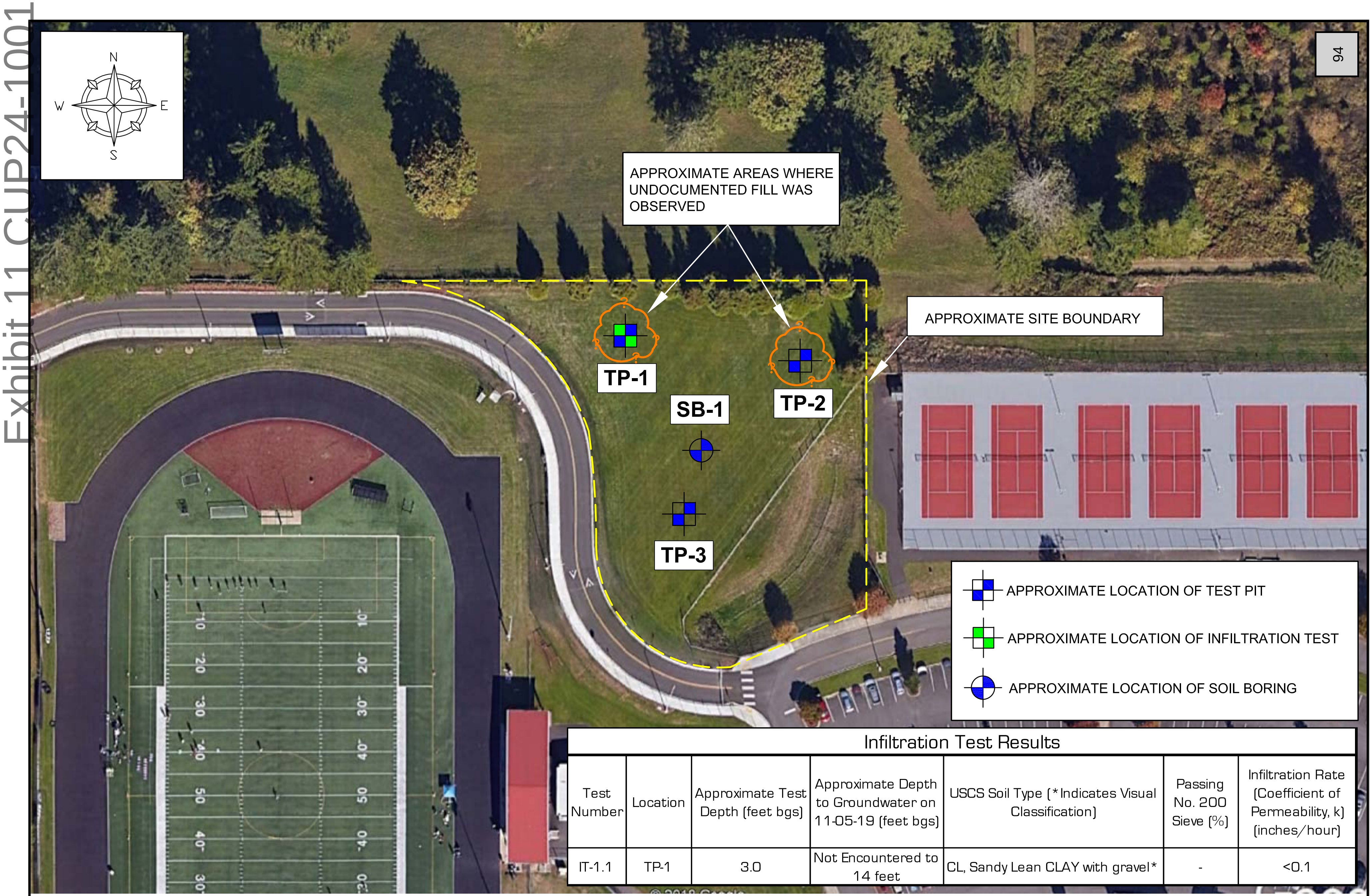
Design	Drawn: MCK			**SITE LOCATION MAP**
Checked: GLW	Date: 11/18/19			
Client: ROBERTSON	Rev	By	Date	CAMAS HIGH SCHOOL FIELD HOUSE CAMAS, WASHINGTON
Job No.: 19276				
CAD File: FIGURE 1				
Scale: NTS				

FIGURE
1

Exhibit 11 CUP24-1001



Infiltration Test Results

Test Number	Location	Approximate Test Depth (feet bgs)	Approximate Depth to Groundwater on 11-05-19 (feet bgs)	USCS Soil Type (*Indicates Visual Classification)	Passing No. 200 Sieve (%)	Infiltration Rate (Coefficient of Permeability, k) (inches/hour)
IT-1.1	TP-1	3.0	Not Encountered to 14 feet	CL, Sandy Lean CLAY with gravel*	-	<0.1

NOTES:
1. SITE LOCATION: 26600 SE 15TH STREET, CAMAS, WASHINGTON.
2. SITE CONSISTS OF A PORTION OF PARCEL 178111000 TOTALING APPROXIMATELY 1.15 ACRES.
3. DRAWING IS NOT TO SCALE.
4. AERIAL IMAGE SOURCED FROM GOOGLE EARTH.
5. EXPLORATION LOCATIONS ARE APPROXIMATE AND NOT SURVEYED.
6. TEST PITS BACKFILLED LOOSELY WITH ONSITE SOIL ON NOVEMBER 5, 2019.
7. SOIL BORING BACKFILLED WITH BENTONITE ON NOVEMBER 11, 2019.
8. INFILTRATION RATES ARE APPROXIMATE COEFFICIENTS OF PERMEABILITY AND DO NOT INCLUDE A FACTOR OF SAFETY.

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Client: ROBERTSON	Rev	By	Date	
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Scale: NONE				

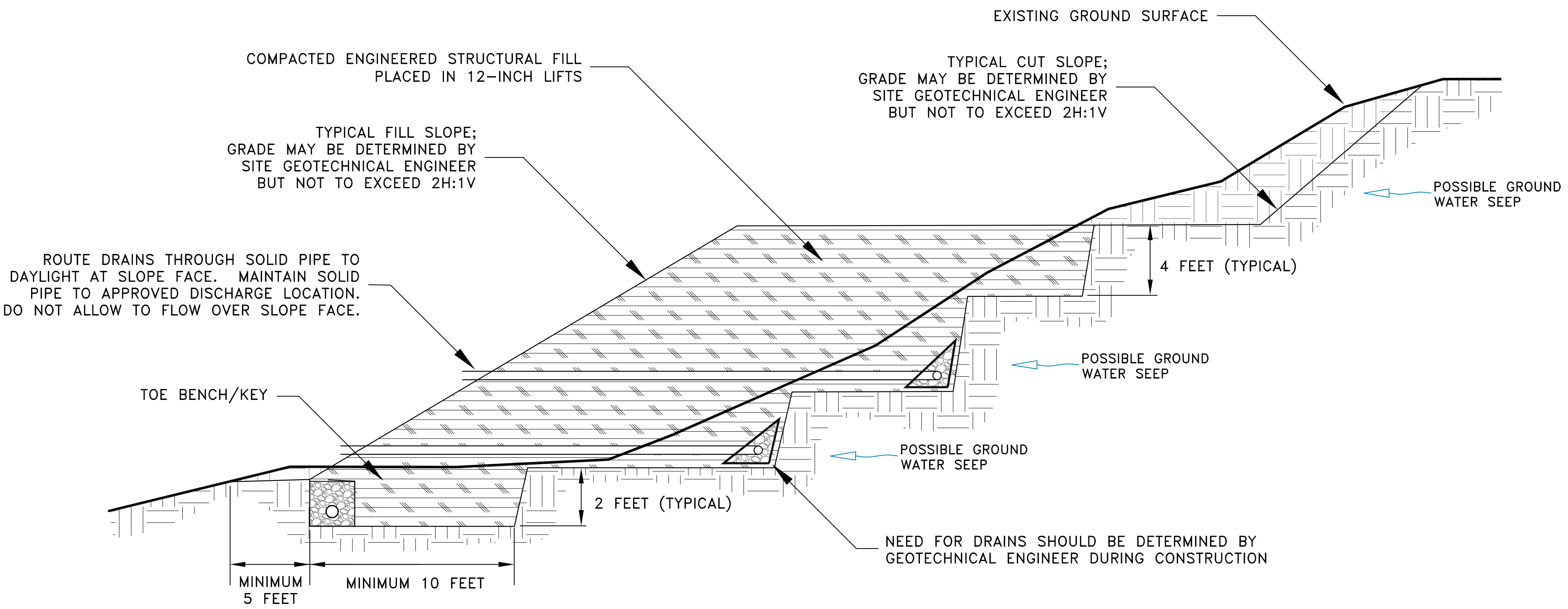
EXPLORATION LOCATION MAP

CAMAS HIGH SCHOOL
FIELD HOUSE
CAMAS, WASHINGTON

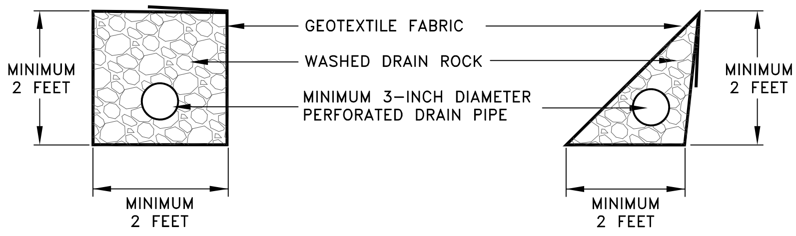
FIGURE
2

Exhibit 11 CUP24-1001

TYPICAL CUT AND FILL SLOPE CROSS-SECTION



TYPICAL DRAIN SECTION DETAIL



DRAIN SPECIFICATIONS

GEOTEXTILE FABRIC SHALL CONSIST OF MIRAFI 140N OR APPROVED EQUIVALENT WITH AOS BETWEEN No. 70 AND No. 100 SIEVE.

WASHED DRAIN ROCK SHALL BE OPEN-GRADED ANGULAR DRAIN ROCK WITH LESS THAN 2 PERCENT PASSING THE No. 200 SIEVE AND A MAXIMUM PARTICLE SIZE OF 3 INCHES.

NOTES:
1. DRAWING IS NOT TO SCALE.
2. SLOPES AND PROFILES SHOWN ARE APPROXIMATE.
3. DRAWING REPRESENTS TYPICAL FILL AND CUT SLOPE SECTION, AND MAY NOT BE SITE-SPECIFIC.

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Client: ROBERTSON	Rev	By	Date	
Job No: 19276				
CAD File: FIGURE 3				
Scale: NONE				

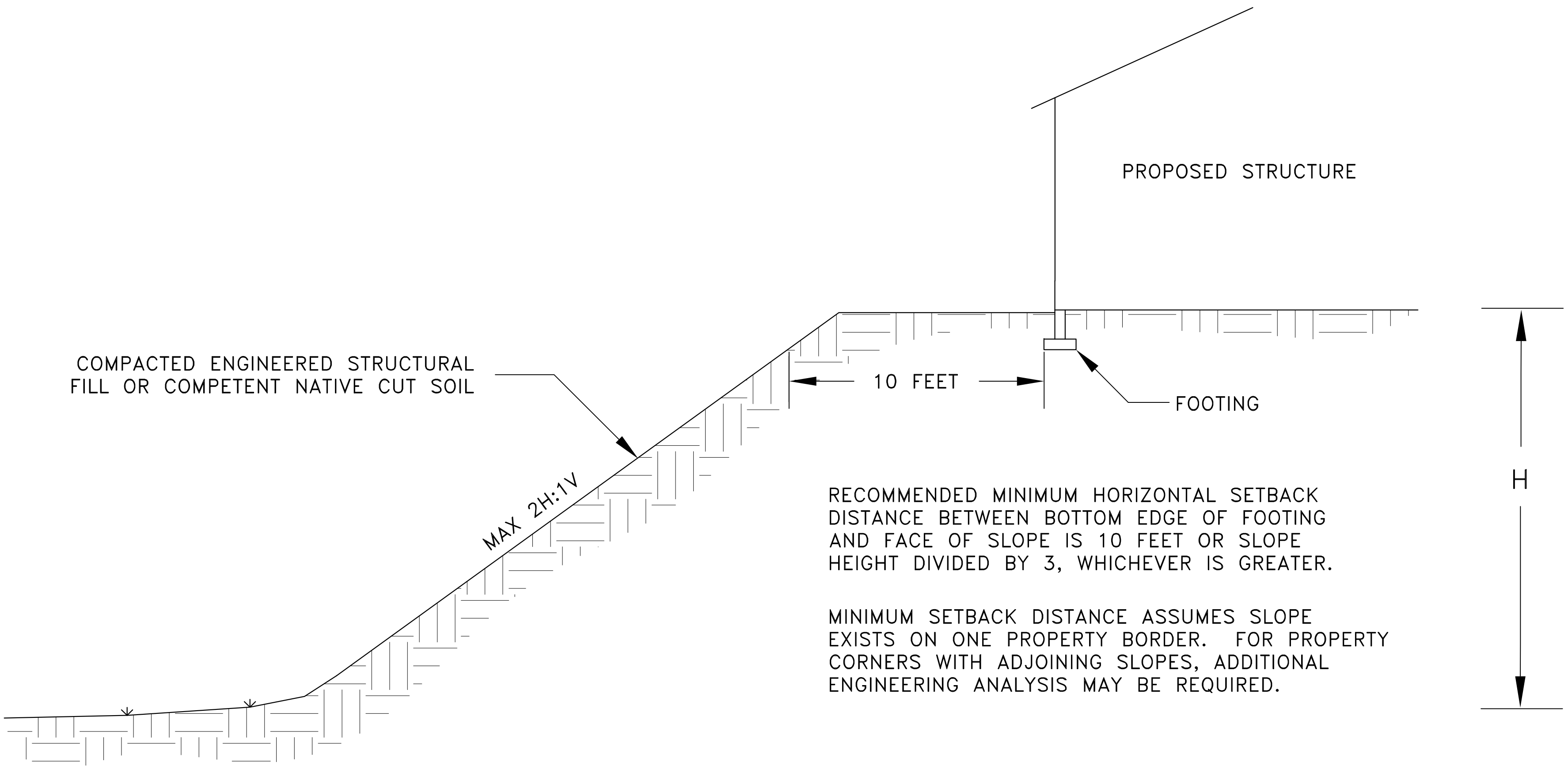
TYPICAL CUT AND FILL SLOPE CROSS-SECTION

CAMAS HIGH SCHOOL
FIELD HOUSE
CAMAS, WASHINGTON

FIGURE
3

Exhibit 11 CUP24-1001

MINIMUM FOUNDATION SLOPE SETBACK DETAIL



RECOMMENDED MINIMUM HORIZONTAL SETBACK DISTANCE BETWEEN BOTTOM EDGE OF FOOTING AND FACE OF SLOPE IS 10 FEET OR SLOPE HEIGHT DIVIDED BY 3, WHICHEVER IS GREATER.

MINIMUM SETBACK DISTANCE ASSUMES SLOPE EXISTS ON ONE PROPERTY BORDER. FOR PROPERTY CORNERS WITH ADJOINING SLOPES, ADDITIONAL ENGINEERING ANALYSIS MAY BE REQUIRED.

NOTES:
1. DRAWING IS NOT TO SCALE.
2. SLOPES AND PROFILES SHOWN ARE APPROXIMATE.
3. DRAWING REPRESENTS TYPICAL FOUNDATION SETBACK DETAIL, AND MAY NOT BE SITE–SPECIFIC.

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Client: ROBERTSON	Rev	By	Date	
Job No: 19276				
CAD File: FIGURE 4				
Scale: NONE				

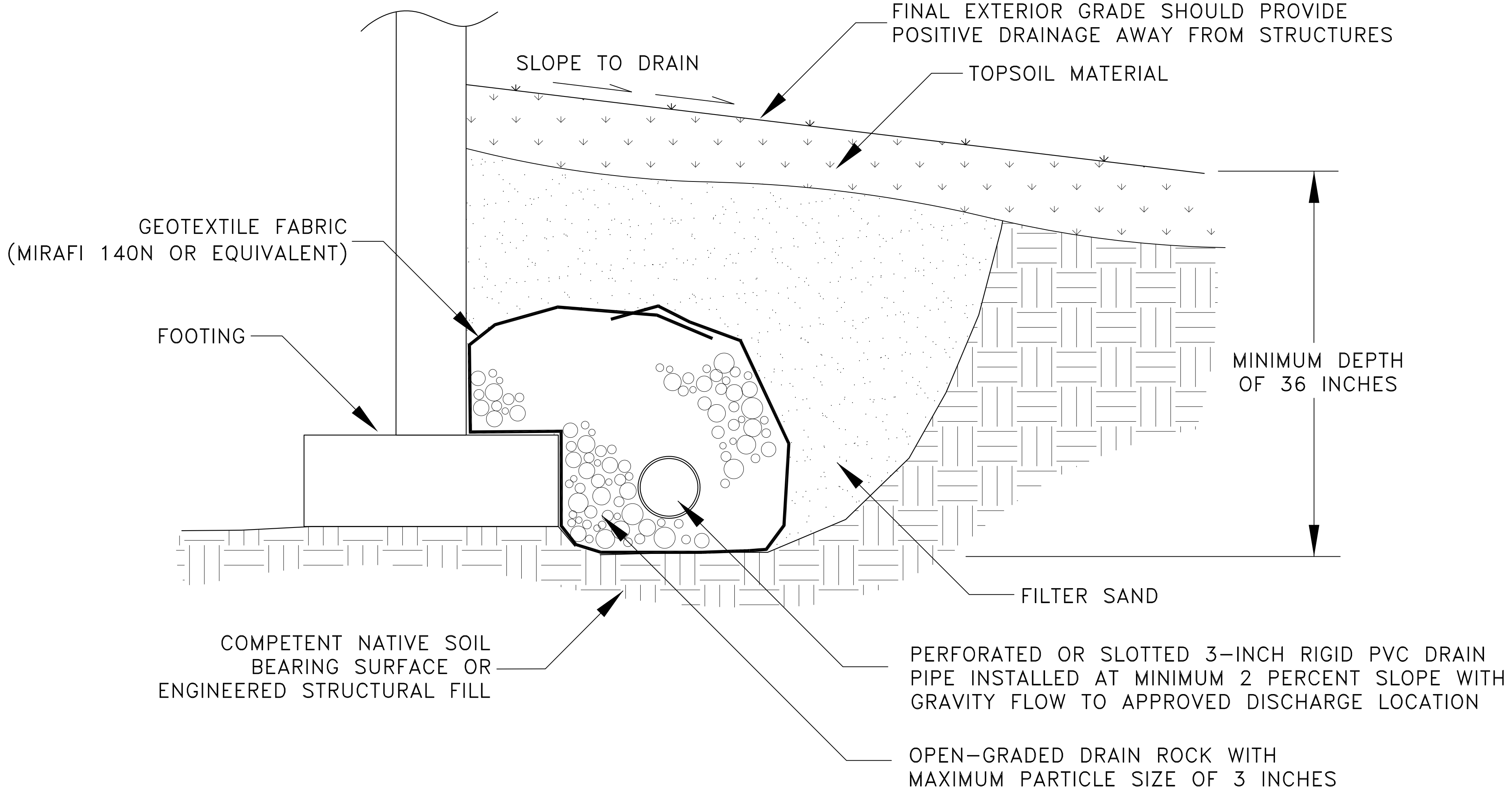
TYPICAL MINIMUM
SLOPE SETBACK DETAIL

CAMAS HIGH SCHOOL
FIELD HOUSE
CAMAS, WASHINGTON

FIGURE
4

Exhibit 11 CUP24-1001

TYPICAL PERIMETER FOOTING DRAIN DETAIL



NOTES:
1. DRAWING IS NOT TO SCALE.
2. DRAWING REPRESENTS TYPICAL FOOTING DRAIN DETAIL AND MAY NOT BE SITE-SPECIFIC.

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Rev	By	Date

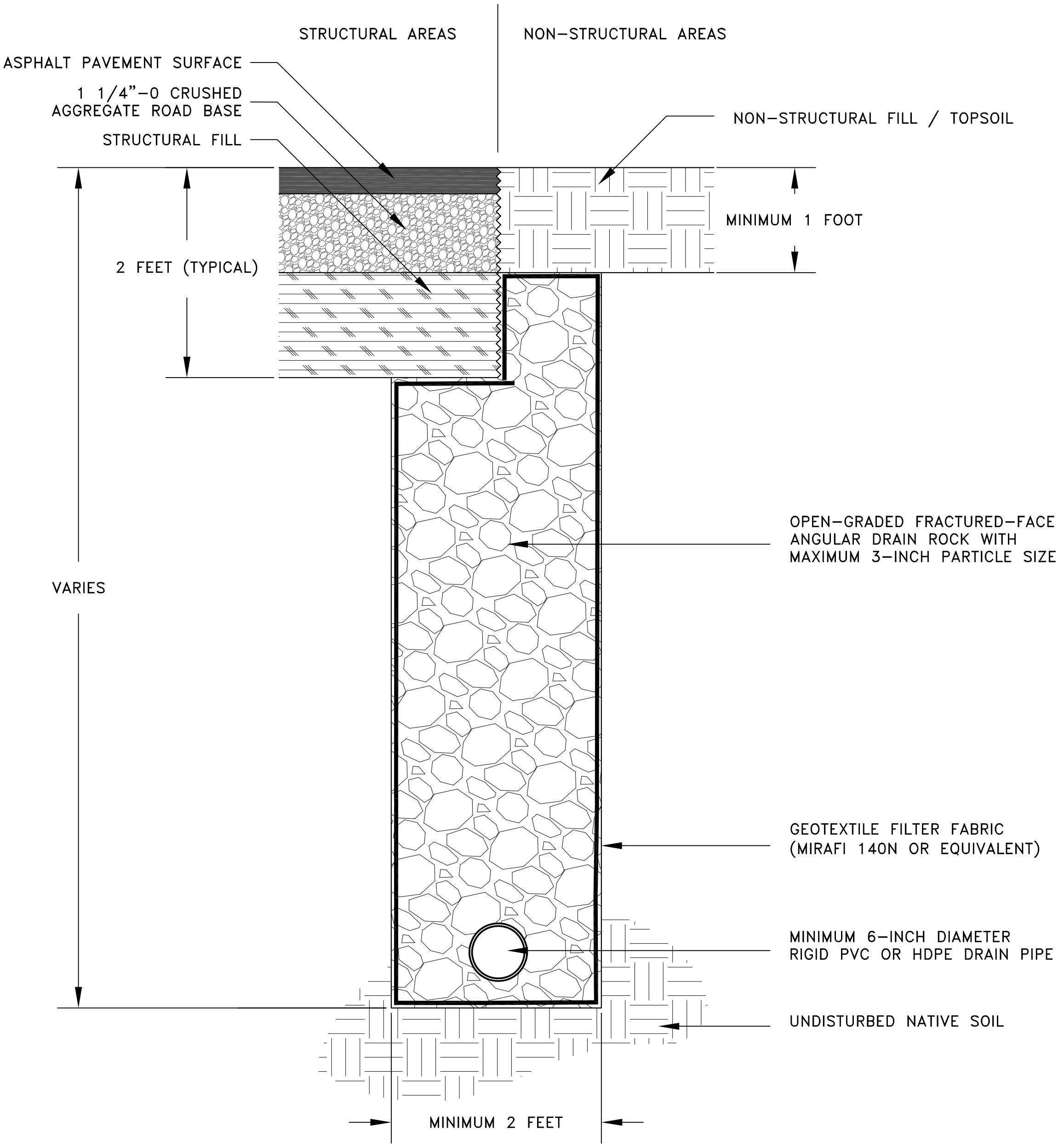
TYPICAL PERIMETER FOOTING DRAIN DETAIL

CAMAS HIGH SCHOOL
FIELD HOUSE
CAMAS, WASHINGTON

FIGURE
5

Exhibit 11 CUP24-1001

TYPICAL PERFORATED DRAIN PIPE TRENCH DETAIL



NOTE: LOCATION, INVERT ELEVATION, DEPTH OF TRENCH, AND EXTENT OF PERFORATED PIPE REQUIRED MAY BE MODIFIED BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION BASED UPON FIELD OBSERVATION AND SITE–SPECIFIC SOIL CONDITIONS.

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Scale: NONE

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Date: 11/18/19

Rev	By	Date

TYPICAL PERFORATED
DRAIN PIPE TRENCH DETAIL

CAMAS HIGH SCHOOL FIELD HOUSE
CAMAS, WASHINGTON

FIGURE
6

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APPENDIX A
LABORATORY TEST RESULTS

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PARTICLE-SIZE ANALYSIS REPORT

PROJECT Camas High School Field House 26600 SE 15th Street Camas, Washington	CLIENT Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	PROJECT NO. 19276	LAB ID S19-1115
		REPORT DATE 11/22/19	FIELD ID TP2.1
		DATE SAMPLED 11/05/19	SAMPLED BY MCK

MATERIAL DATA

MATERIAL SAMPLED Fat CLAY with Sand	MATERIAL SOURCE Test Pit TP-02 depth = 2 feet	USCS SOIL TYPE CH, Fat Clay with Sand
SPECIFICATIONS none		AASHTO SOIL TYPE A-7-6(47)

LABORATORY TEST DATA

LABORATORY EQUIPMENT Rainhart "Mary Ann" Sifter 637	TEST PROCEDURE ASTM D6913

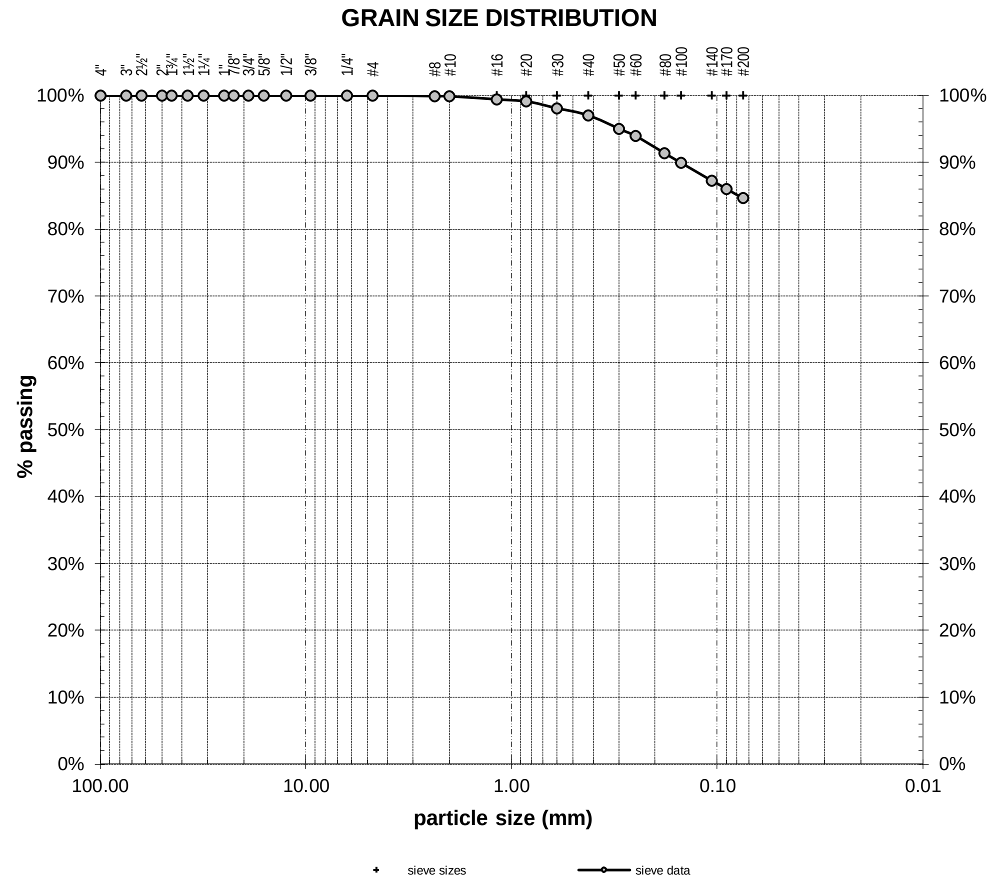
ADDITIONAL DATA

initial dry mass (g) =	159.83		
as-received moisture content =	40.1%	coefficient of curvature, C_C =	n/a
liquid limit =	76	coefficient of uniformity, C_U =	n/a
plastic limit =	26	effective size, $D_{(10)}$ =	n/a
plasticity index =	50	$D_{(30)}$ =	n/a
fineness modulus =	n/a	$D_{(60)}$ =	n/a

SIEVE DATA

% gravel = 0.0%
% sand = 15.3%
% silt and clay = 84.7%

	SIEVE SIZE		PERCENT PASSING			
			SIEVE		SPECS	
	US	mm	act.	interp.	max	min
GRAVEL	6.00"	150.0		100%		
	4.00"	100.0		100%		
	3.00"	75.0		100%		
	2.50"	63.0		100%		
	2.00"	50.0		100%		
	1.75"	45.0		100%		
	1.50"	37.5		100%		
	1.25"	31.5		100%		
	1.00"	25.0		100%		
	7/8"	22.4		100%		
	3/4"	19.0		100%		
	5/8"	16.0		100%		
	1/2"	12.5		100%		
	3/8"	9.50		100%		
	1/4"	6.30		100%		
	#4	4.75	100%			
SAND	#8	2.36		100%		
	#10	2.00	100%			
	#16	1.18		99%		
	#20	0.850	99%			
	#30	0.600		98%		
	#40	0.425	97%			
	#50	0.300		95%		
	#60	0.250	94%			
	#80	0.180		91%		
	#100	0.150	90%			
	#140	0.106		87%		
	#170	0.090		86%		
	#200	0.075	85%			



DATE TESTED 11/19/19	TESTED BY BTT

COLUMBIA WEST ENGINEERING, INC. authorized signature

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ATTERBERG LIMITS REPORT

PROJECT	CLIENT	PROJECT NO.	LAB ID
Camas High School Field House 26600 SE 15th Street Camas, Washington	Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	19276	S19-1115
		REPORT DATE	FIELD ID
		11/22/19	TP2.1
		DATE SAMPLED	SAMPLED BY
		11/05/19	MCK

MATERIAL DATA

MATERIAL SAMPLED	MATERIAL SOURCE	USCS SOIL TYPE
Fat CLAY with Sand	Test Pit TP-02 depth = 2 feet	CH, Fat Clay with Sand

LABORATORY TEST DATA

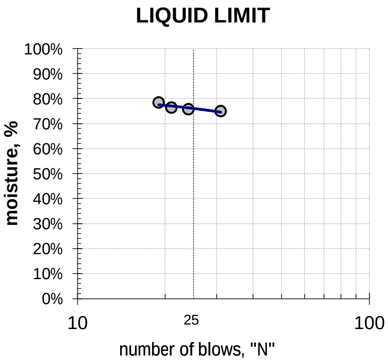
LABORATORY EOUIPMENT	TEST PROCEDURE
Liquid Limit Machine, Hand Rolled	ASTM D4318

ATTERBERG LIMITS

liquid limit = 76
plastic limit = 26
plasticity index = 50

LIQUID LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	32.21	31.56	31.49	31.50
dry soil + pan weight, g =	27.37	26.91	26.78	26.85
pan weight, g =	20.91	20.77	20.61	20.92
N (blows) =	31	24	21	19
moisture, % =	74.9 %	75.7 %	76.3 %	78.4 %

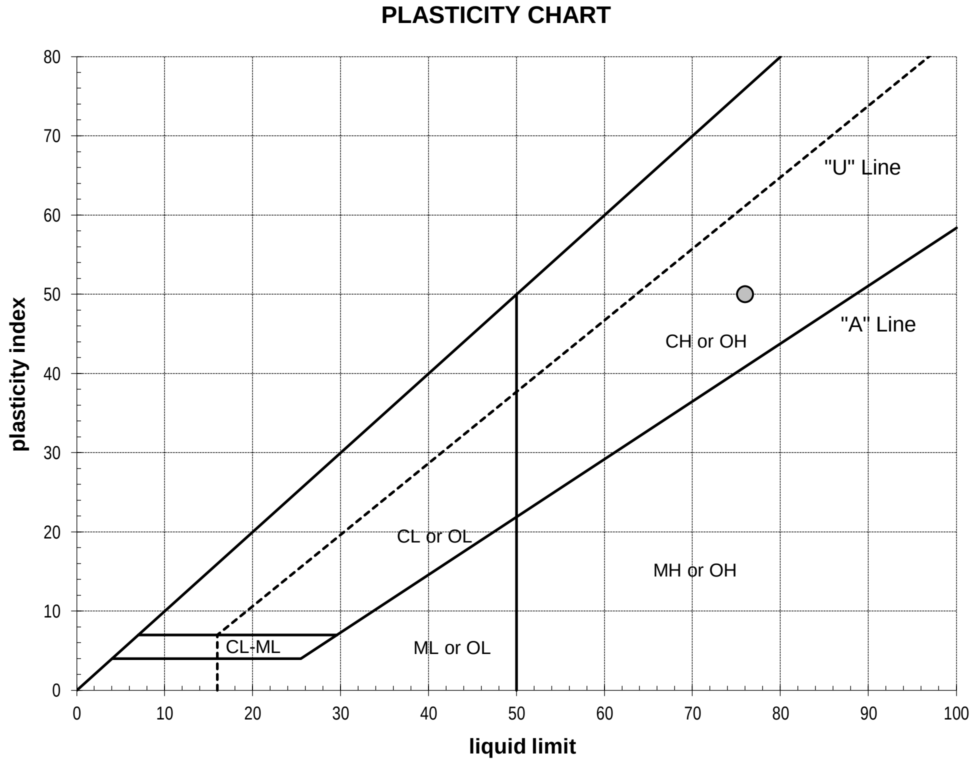


SHRINKAGE

shrinkage limit = n/a
shrinkage ratio = n/a

PLASTIC LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	27.15	27.23		
dry soil + pan weight, g =	25.85	25.93		
pan weight, g =	20.74	20.87		
moisture, % =	25.4 %	25.7 %		



ADDITIONAL DATA

% gravel =	0.0%
% sand =	15.3%
% silt and clay =	84.7%
% silt =	n/a
% clay =	n/a
moisture content =	40.1%

DATE TESTED	TESTED BY
11/21/19	KMS

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PARTICLE-SIZE ANALYSIS REPORT

PROJECT	CLIENT	PROJECT NO.	LAB ID
Camas High School Field House 26600 SE 15th Street Camas, Washington	Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	19276	S19-1116
		REPORT DATE 11/22/19	FIELD ID TP2.3
		DATE SAMPLED 11/05/19	SAMPLED BY MCK

MATERIAL DATA

MATERIAL SAMPLED	MATERIAL SOURCE	USCS SOIL TYPE
Poorly graded GRAVEL with Silt and Sand	Test Pit TP-02 depth = 9 feet	GP-GM, Poorly graded gravel with silt and sand

SPECIFICATIONS	AASHTO SOIL TYPE
none	A-2-7(0)

LABORATORY TEST DATA

LABORATORY EQUIPMENT	TEST PROCEDURE
Rainhart "Mary Ann" Sifter 637	ASTM D6913

ADDITIONAL DATA

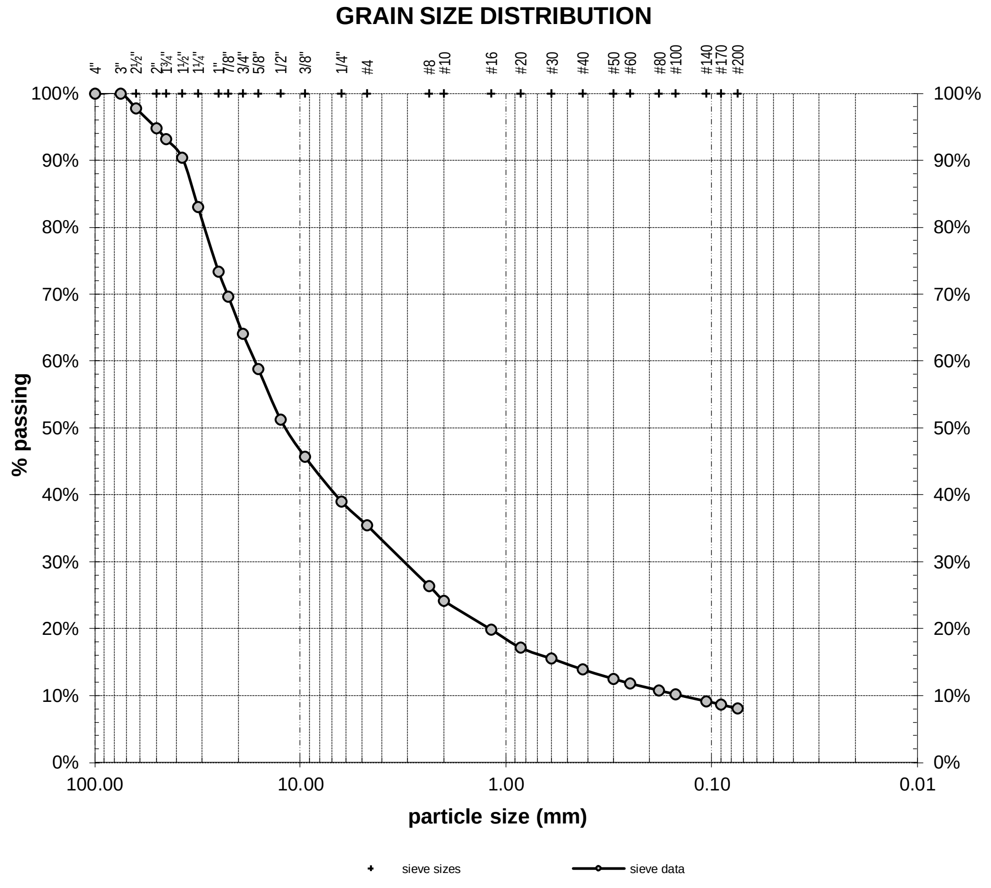
initial dry mass (g) = 17836.8
as-received moisture content = 18.7%
liquid limit = 47
plastic limit = 29
plasticity index = 18
fineness modulus = n/a

coefficient of curvature, C_C = 4.19
coefficient of uniformity, C_U = 118.56
effective size, $D_{(10)}$ = 0.140 mm
$D_{(30)}$ = 3.122 mm
$D_{(60)}$ = 16.612 mm

SIEVE DATA

% gravel = 64.6%
% sand = 27.3%
% silt and clay = 8.1%

	SIEVE SIZE		PERCENT PASSING			
			SIEVE		SPECS	
	US	mm	act.	interp.	max	min
GRAVEL	6.00"	150.0		100%		
	4.00"	100.0		100%		
	3.00"	75.0	100%			
	2.50"	63.0		98%		
	2.00"	50.0	95%			
	1.75"	45.0		93%		
	1.50"	37.5	90%			
	1.25"	31.5		83%		
	1.00"	25.0	73%			
	7/8"	22.4		70%		
	3/4"	19.0	64%			
	5/8"	16.0		59%		
	1/2"	12.5	51%			
	3/8"	9.50	46%			
	1/4"	6.30	39%			
	#4	4.75	35%			
SAND	#8	2.36		26%		
	#10	2.00	24%			
	#16	1.18		20%		
	#20	0.850	17%			
	#30	0.600		16%		
	#40	0.425	14%			
	#50	0.300		13%		
	#60	0.250	12%			
	#80	0.180		11%		
	#100	0.150	10%			
	#140	0.106		9%		
	#170	0.090		9%		
	#200	0.075	8%			



DATE TESTED	TESTED BY
11/19/19	BTT

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ATTERBERG LIMITS REPORT

PROJECT Camas High School Field House 26600 SE 15th Street Camas, Washington	CLIENT Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	PROJECT NO. 19276	LAB ID S19-1116
		REPORT DATE 11/22/19	FIELD ID TP2.3
		DATE SAMPLED 11/05/19	SAMPLED BY MCK

MATERIAL DATA

MATERIAL SAMPLED Poorly graded GRAVEL with Silt and Sand	MATERIAL SOURCE Test Pit TP-02 depth = 9 feet	USCS SOIL TYPE GP-GM, Poorly graded gravel with silt and sand

LABORATORY TEST DATA

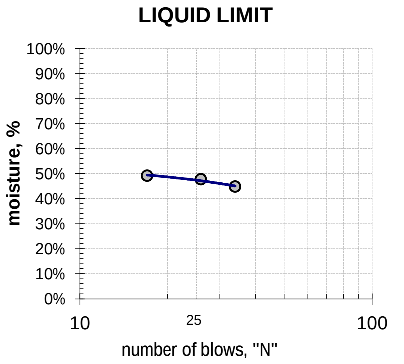
LABORATORY EOUIPMENT Liquid Limit Machine, Hand Rolled	TEST PROCEDURE ASTM D4318

ATTERBERG LIMITS

liquid limit = 47
plastic limit = 29
plasticity index = 18

LIQUID LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	34.55	34.45	34.82	
dry soil + pan weight, g =	30.30	30.04	30.22	
pan weight, g =	20.80	20.79	20.86	
N (blows) =	34	26	17	
moisture, % =	44.7 %	47.7 %	49.2 %	

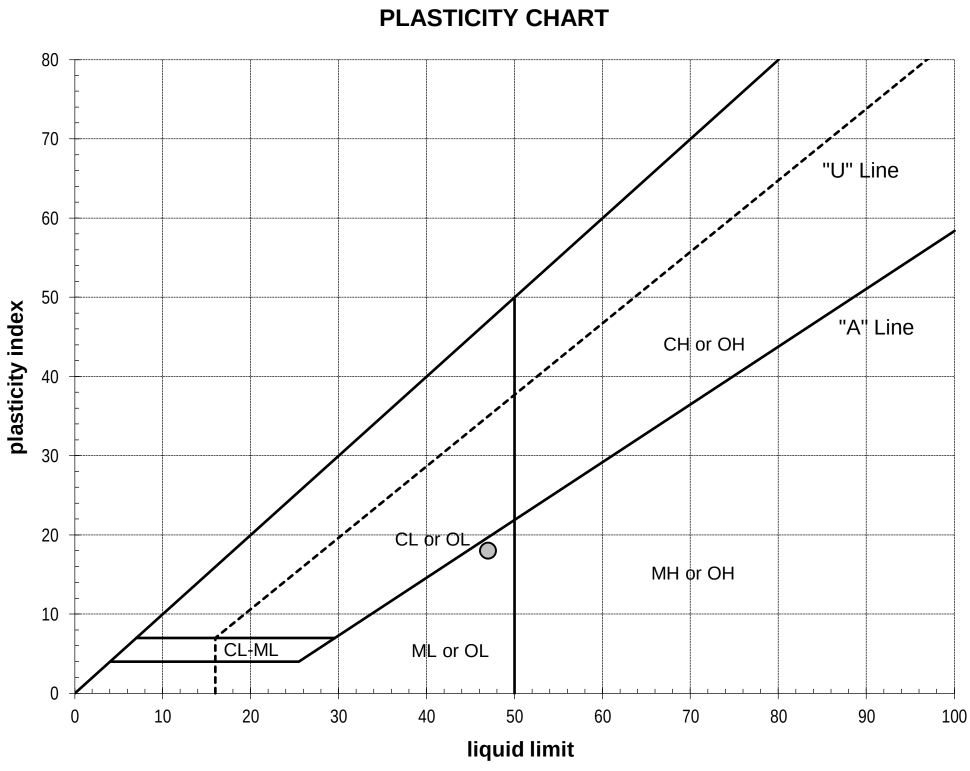


SHRINKAGE

shrinkage limit = n/a
shrinkage ratio = n/a

PLASTIC LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	27.60	27.15		
dry soil + pan weight, g =	26.05	25.67		
pan weight, g =	20.75	20.60		
moisture, % =	29.3 %	29.2 %		



ADDITIONAL DATA

% gravel = 64.6%
% sand = 27.3%
% silt and clay = 8.1%
% silt = n/a
% clay = n/a
moisture content = 18.7%

DATE TESTED 11/21/19	TESTED BY KMS

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PARTICLE-SIZE ANALYSIS REPORT

PROJECT	CLIENT	PROJECT NO.	LAB ID
Camas High School Field House 26600 SE 15th Street Camas, Washington	Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	19276	S19-1109
		REPORT DATE	FIELD ID
		11/20/19	SB1.9
		DATE SAMPLED	SAMPLED BY
		11/11/19	MCK

MATERIAL DATA

MATERIAL SAMPLED	MATERIAL SOURCE	USCS SOIL TYPE
Silty SAND	Soil Boring SB-01 depth = 35 feet	SM, Silty Sand
SPECIFICATIONS		AASHTO SOIL TYPE
none		A-7-5(5)

LABORATORY TEST DATA

LABORATORY EQUIPMENT	TEST PROCEDURE
Rainhart "Mary Ann" Sifter 637	ASTM D6913

ADDITIONAL DATA

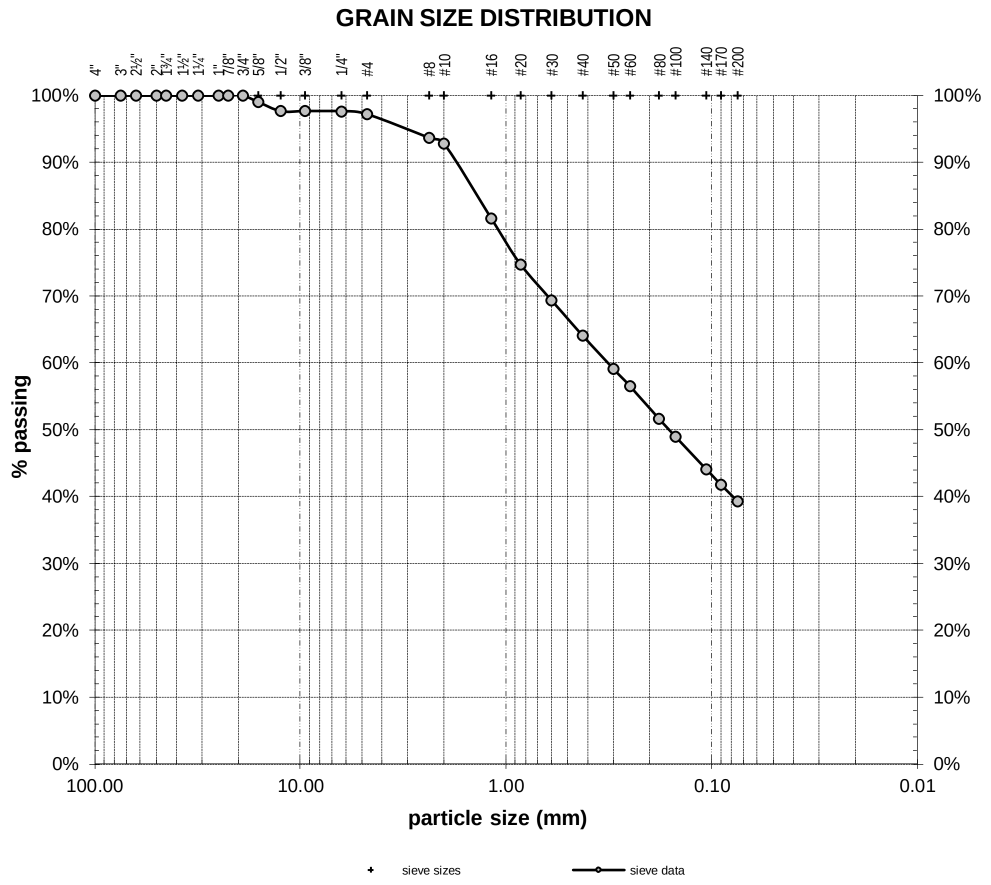
initial dry mass (g) = 112.40
as-received moisture content = 56.0%
liquid limit = 57
plastic limit = 33
plasticity index = 24
fineness modulus = n/a

coefficient of curvature, C_C = n/a
coefficient of uniformity, C_U = n/a
effective size, $D_{(10)}$ = n/a
$D_{(30)}$ = n/a
$D_{(60)}$ = 0.319 mm

SIEVE DATA

% gravel = 2.7%
% sand = 58.0%
% silt and clay = 39.3%

	SIEVE SIZE		PERCENT PASSING			
			SIEVE		SPECS	
	US	mm	act.	interp.	max	min
GRAVEL	6.00"	150.0		100%		
	4.00"	100.0		100%		
	3.00"	75.0		100%		
	2.50"	63.0		100%		
	2.00"	50.0		100%		
	1.75"	45.0		100%		
	1.50"	37.5		100%		
	1.25"	31.5		100%		
	1.00"	25.0		100%		
	7/8"	22.4		100%		
	3/4"	19.0	100%			
	5/8"	16.0		99%		
	1/2"	12.5	98%			
	3/8"	9.50		98%		
	1/4"	6.30	98%			
	#4	4.75	97%			
SAND	#8	2.36		94%		
	#10	2.00	93%			
	#16	1.18		82%		
	#20	0.850	75%			
	#30	0.600		69%		
	#40	0.425	64%			
	#50	0.300		59%		
	#60	0.250	57%			
	#80	0.180		52%		
	#100	0.150	49%			
	#140	0.106		44%		
	#170	0.090		42%		
	#200	0.075	39%			



DATE TESTED	TESTED BY
11/14/19	BTT

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ATTERBERG LIMITS REPORT

PROJECT	CLIENT	PROJECT NO.	LAB ID
Camas High School Field House 26600 SE 15th Street Camas, Washington	Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	19276	S19-1109
		REPORT DATE 11/20/19	FIELD ID SB1.9
		DATE SAMPLED 11/11/19	SAMPLED BY MCK

MATERIAL DATA

MATERIAL SAMPLED	MATERIAL SOURCE	USCS SOIL TYPE
Silty SAND	Soil Boring SB-01 depth = 35 feet	SM, Silty Sand

LABORATORY TEST DATA

LABORATORY EOUIPMENT	TEST PROCEDURE
Liquid Limit Machine, Hand Rolled	ASTM D4318

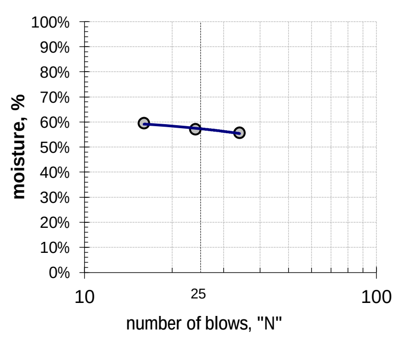
ATTERBERG LIMITS

liquid limit = 57
plastic limit = 33
plasticity index = 24

LIQUID LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	32.46	32.26	32.16	
dry soil + pan weight, g =	28.30	28.12	27.94	
pan weight, g =	20.82	20.86	20.84	
N (blows) =	34	24	16	
moisture, % =	55.6 %	57.1 %	59.4 %	

LIQUID LIMIT



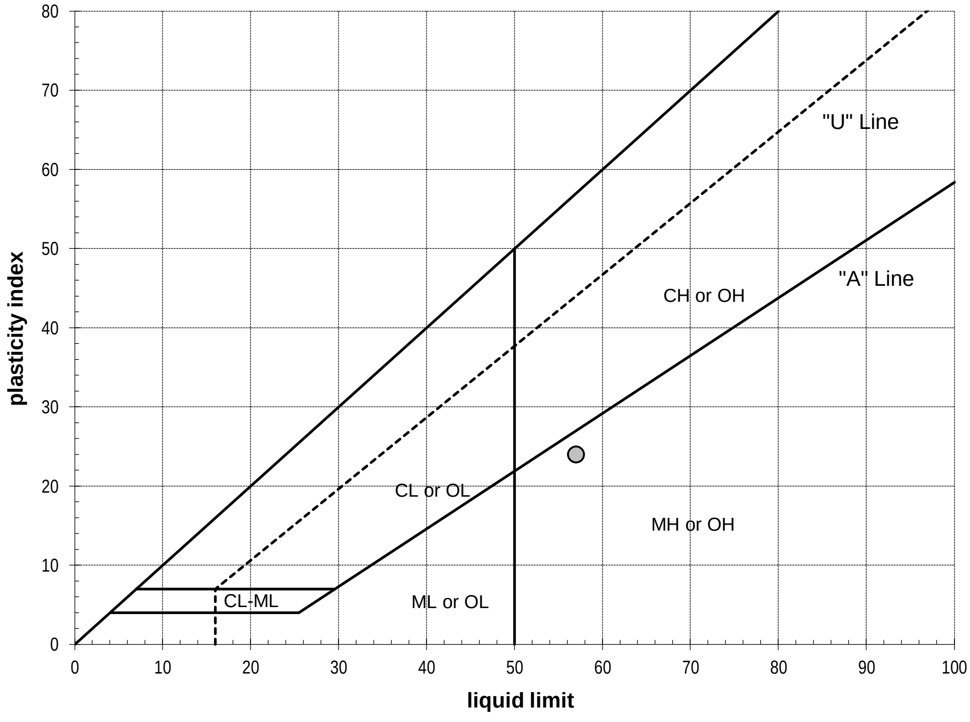
SHRINKAGE

shrinkage limit = n/a
shrinkage ratio = n/a

PLASTIC LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	27.17	27.46		
dry soil + pan weight, g =	25.60	25.76		
pan weight, g =	20.87	20.68		
moisture, % =	33.2 %	33.5 %		

PLASTICITY CHART



ADDITIONAL DATA

% gravel = 2.7%
% sand = 58.0%
% silt and clay = 39.3%
% silt = n/a
% clay = n/a
moisture content = 56.0%

DATE TESTED	TESTED BY
11/19/19	KMS

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MOISTURE CONTENT

PROJECT
Camas High School Field House
26600 SE 15th Street
Camas, Washington

CLIENT
Robertson Engineering, PC
1101 Broadway Street, Suite 201
Vancouver, Washington 98660

PROJECT NO. 19276

REPORT DATE 11/20/19

DATE SAMPLED 11/11/19

SAMPLED BY MCK

LABORATORY TEST DATA

LABORATORY EQUIPMENT
Despatch LEB2

TEST PROCEDURE
ASTM D2216, Method A

LAB ID	CONTAINER MASS	MOIST MASS + PAN	DRY MASS + PAN	MATERIAL DESCRIPTION	FIELD ID	SAMPLE DEPTH	MOISTURE CONTENT
S19-1105	86.83	350.94	283.13	sandy clay	SB1.1	2.5 feet	35%
S19-1106	87.70	308.23	260.08	sandy clay with gravel	SB1.3	7.5 feet	28%
S19-1107	87.20	370.48	324.81	clayey gravel with sand	SB1.4	15 feet	19%
S19-1108	87.37	313.29	264.70	sandy clay with gravel	SB1.6	25 feet	27%
S19-1109	87.61	276.89	208.95	Silty SAND weathered conglomerate	SB1.9	35 feet	56%
S19-1110	85.26	274.90	210.70	sandy silt/clay weathered conglomerate	SB1.11	45 feet	51%

NOTES:

DATE TESTED 11/13/19

TESTED BY KMS

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APPENDIX B
SUBSURFACE EXPLORATION LOGS

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TEST PIT LOG

PROJECT NAME Camas High School Field House	CLIENT Robertson Engineering, PC		PROJECT NO. 19276	TEST PIT NO. TP-1
PROJECT LOCATION Camas, Washington	CONTRACTOR L&S Contractors	EQUIPMENT Excavator	ENGINEER MCK	DATE 11/05/19
TEST PIT LOCATION See Figure 2	APPROX. SURFACE ELEVATION 378 ft amsl	GROUNDWATER DEPTH Not Encountered	START TIME 0923	FINISH TIME 1145

Depth (feet)	Sample Field ID	SCS Soil Survey Description	AASHTO Soil Type	USCS Soil Type	Graphic Log	LITHOLOGIC DESCRIPTION AND REMARKS	Moisture Content (%)	Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Infiltration Testing
0					▩	FILL. Approximately 8 to 10 inches of grass and topsoil underlain by apprent reworked tan, mottled, moist, medium dense clayey sand with gravel [Soil Type 1].					
		Hesson clay loam	A-7	CL	▨	Brown, moist, medium stiff sandy lean CLAY with gravel [Soil Type 2].					IT-1.1
5 10			A-7	GP-GM SM	○	Tan to orange-brown, mottled, weathered, moist, medium dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix [Soil Type 4]. Soil may represent unconsolidated to cemented, thick-bedded, pebble to boulder sedimentary CONGLOMERATE of Evarts, 2008.					D = 3.0-ft k = < 0.1 in/hr
15 20						Bottom of test pit at 14 feet bgs. Groundwater not observed to 14 feet bgs on 11/05/19.					

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TEST PIT LOG

PROJECT NAME Camas High School Field House	CLIENT Robertson Engineering, PC		PROJECT NO. 19276	TEST PIT NO. TP-2
PROJECT LOCATION Camas, Washington	CONTRACTOR L&S Contractors	EQUIPMENT Excavator	ENGINEER MCK	DATE 11/05/19
TEST PIT LOCATION See Figure 2	APPROX. SURFACE ELEVATION 381 ft amsl	GROUNDWATER DEPTH Not Encountered	START TIME 0958	FINISH TIME 1029

Depth (feet)	Sample Field ID	SCS Soil Survey Description	AASHTO Soil Type	USCS Soil Type	Graphic Log	LITHOLOGIC DESCRIPTION AND REMARKS	Moisture Content (%)	Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Infiltration Testing
0					▩	FILL. Approximately 6 to 8 inches of grass and topsoil underlain by apparent reworked tan, mottled, moist, medium dense clayey sand with gravel [Soil Type 1].					
	TP2.1	Hesson clay loam	A-7-6(47)	CH	▨	Gray, mottled, moist, stiff fat CLAY with sand [Soil Type 3].	40.1	84.7	76	50	
			A-7	CL	▧	Brown, moist, medium stiff sandy lean CLAY with gravel [Soil Type 2].					
5				GP-GM SM	○	Tan to orange-brown, mottled, weathered, moist, medium dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix [Soil Type 4]. Soil may represent unconsolidated to cemented, thick-bedded, pebble to boulder sedimentary CONGLOMERATE of Evarts, 2008.					
	TP2.3		A-2-7(0)		○		18.7	8.1	47	18	
10					○						
						Bottom of test pit at 13 feet bgs. Groundwater not observed to 13 feet bgs on 11/05/19.					
15											
20											

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TEST PIT LOG

PROJECT NAME Camas High School Field House	CLIENT Robertson Engineering, PC		PROJECT NO. 19276	TEST PIT NO. TP-3
PROJECT LOCATION Camas, Washington	CONTRACTOR L&S Contractors	EQUIPMENT Excavator	ENGINEER MCK	DATE 11/05/19
TEST PIT LOCATION See Figure 2	APPROX. SURFACE ELEVATION 378 ft amsl	GROUNDWATER DEPTH Not Encountered	START TIME 1031	FINISH TIME 1102

Depth (feet)	Sample Field ID	SCS Soil Survey Description	AASHTO Soil Type	USCS Soil Type	Graphic Log	LITHOLOGIC DESCRIPTION AND REMARKS	Moisture Content (%)	Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Infiltration Testing
0						Approximately 10 to 12 inches of grass and topsoil					
		Hesson clay loam	A-7	CH	▨	Tan to gray, moist, stiff fat CLAY with sand [Soil Type 3].					
5 10			A-7	GP-GM SM	○	Tan to orange-brown, mottled, weathered, moist, medium dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix [Soil Type 4]. Soil may represent unconsolidated to cemented, thick-bedded, pebble to boulder sedimentary CONGLOMERATE of Evarts, 2008.					
15 20						Bottom of test pit at 14 feet bgs. Groundwater not observed to 14 feet bgs on 11/05/19.					

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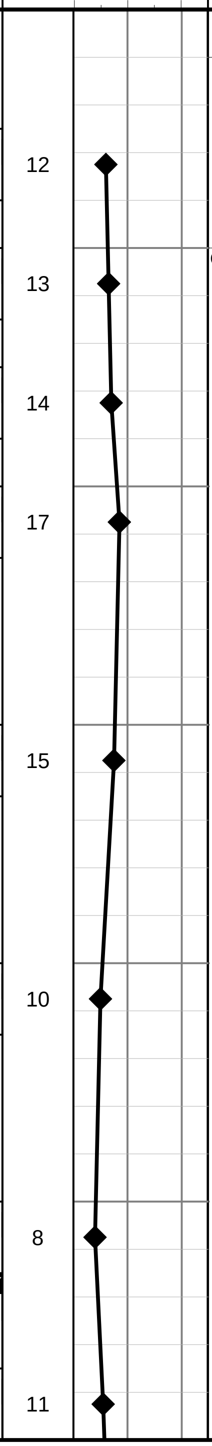
SOIL BORING LOG

PROJECT NAME Camas High School Field House	CLIENT Robertson Engineering, PC		PROJECT NO. 19276	BORING NO. SB-1
PROJECT LOCATION Camas, Washington	DRILLING CONTRACTOR Western States	DRILL RIG CME Track-Rig	ENGINEER MCK	PAGE NO. 1 of 2
BORING LOCATION See Figure 2	DRILLING METHOD Mud-rotary	SAMPLING METHOD SPT/SHELBY	START DATE 11/11/19	START TIME 0840
REMARKS None	APPROX. SURFACE ELEVATION 379 ft amsl	GROUNDWATER DEPTH Not Observed	FINISH DATE 11/11/19	FINISH TIME 1200



Depth (ft)	Elevation (ft amsl)	Field ID + Sample Type	SPT N-value (uncorrected)	USCS Soil Type	AASHTO Soil Type	Graphic Log	LITHOLOGIC DESCRIPTION AND REMARKS	Wet Density (PCF)	Moisture Content (%)	Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index
0							Approximately 6 to 8 inches of grass and topsoil.					
2	376	SPT SB1.1	12	CL	A-7		Brown, mottled, moist, stiff sandy lean CLAY with gravel [Soil Type 2].		35.0			
4												
6	372	SPT SB1.2	13	GP-GM SM	A-7-5(5)		Tan to orange-brown, mottled, moderately- to severly-weathered, moist, loose to dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix [Soil Type 4].					
8		SPT SB1.3	14				Soil may represent unconsolidated to cemented, thick-bedded, pebble to boulder sedimentary CONGLOMERATE of Evarts, 2008.		28.0			
10	368	SPT NR	17									
12												
14	364											
16		SPT SB1.4	15						19.0			
18	360											
20		SPT SB1.5	10									
22	356											
24												
26	352	SPT SB1.6	8						27.0			
28		SHELBY SB1.7										
30		SPT SB1.8	11									

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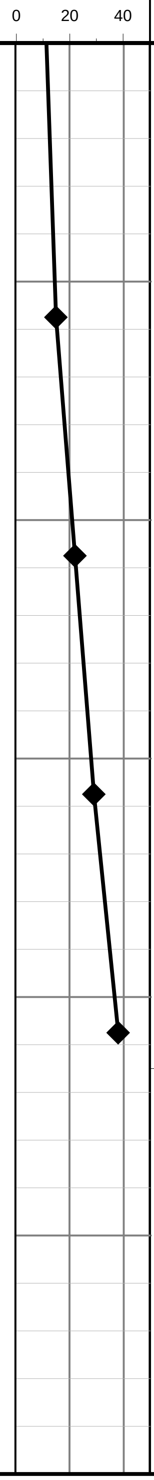
SOIL BORING LOG

PROJECT NAME Camas High School Field House	CLIENT Robertson Engineering, PC		PROJECT NO. 19276	BORING NO. SB-1
PROJECT LOCATION Camas, Washington	DRILLING CONTRACTOR Western States	DRILL RIG CME Track-Rig	ENGINEER MCK	PAGE NO. 2 of 2
BORING LOCATION See Figure 2	DRILLING METHOD Mud-rotary	SAMPLING METHOD SPT/SHELBY	START DATE 11/11/19	START TIME 0840
REMARKS None	APPROX. SURFACE ELEVATION 379 ft amsl	GROUNDWATER DEPTH Not Observed	FINISH DATE 11/11/19	FINISH TIME 1200



Depth (ft)	Elevation (ft amsl)	Field ID + Sample Type	SPT N-value (uncorrected)	USCS Soil Type	AASHTO Soil Type	Graphic Log	LITHOLOGIC DESCRIPTION AND REMARKS	Wet Density (PCF)	Moisture Content (%)	Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index
30							Tan to orange-brown, mottled, moderately- to severly-weathered, moist, loose to dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix [Soil Type 4].					
35	344	SPT SB1.9	15						56.0	39.3	57	24
40		SPT SB1.10	22									
45		SPT SB1.11	29						51.0			
50		SPT SB1.12	38									
51.5							Bottom of soil boring at 51.5 feet bgs. Groundwater not not measured due to mud-rotary drilling technique.					

Depth (ft): 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60
Elevation (ft amsl): 348, 344, 340, 336, 332, 328, 324, 320

APPENDIX C
SOIL CLASSIFICATION INFORMATION

Exhibit 11 CUP24-1001

SOIL DESCRIPTION AND CLASSIFICATION GUIDELINES

Particle-Size Classification

COMPONENT	ASTM/USCS		AASHTO	
	size range	sieve size range	size range	sieve size range
Cobbles	> 75 mm	greater than 3 inches	> 75 mm	greater than 3 inches
Gravel	75 mm – 4.75 mm	3 inches to No. 4 sieve	75 mm – 2.00 mm	3 inches to No. 10 sieve
Coarse	75 mm – 19.0 mm	3 inches to 3/4-inch sieve	-	-
Fine	19.0 mm – 4.75 mm	3/4-inch to No. 4 sieve	-	-
Sand	4.75 mm – 0.075 mm	No. 4 to No. 200 sieve	2.00 mm – 0.075 mm	No. 10 to No. 200 sieve
Coarse	4.75 mm – 2.00 mm	No. 4 to No. 10 sieve	2.00 mm – 0.425 mm	No. 10 to No. 40 sieve
Medium	2.00 mm – 0.425 mm	No. 10 to No. 40 sieve	-	-
Fine	0.425 mm – 0.075 mm	No. 40 to No. 200 sieve	0.425 mm – 0.075 mm	No. 40 to No. 200 sieve
Fines (Silt and Clay)	< 0.075 mm	Passing No. 200 sieve	< 0.075 mm	Passing No. 200 sieve

Consistency for Cohesive Soil

CONSISTENCY	SPT N-VALUE (BLOWS PER FOOT)	POCKET PENETROMETER (UNCONFINED COMPRESSIVE STRENGTH, tsf)
Very Soft	2	less than 0.25
Soft	2 to 4	0.25 to 0.50
Medium Stiff	4 to 8	0.50 to 1.0
Stiff	8 to 15	1.0 to 2.0
Very Stiff	15 to 30	2.0 to 4.0
Hard	30 to 60	greater than 4.0
Very Hard	greater than 60	-

Relative Density for Granular Soil

RELATIVE DENSITY	SPT N-VALUE (BLOWS PER FOOT)
Very Loose	0 to 4
Loose	4 to 10
Medium Dense	10 to 30
Dense	30 to 50
Very Dense	more than 50

Moisture Designations

TERM	FIELD IDENTIFICATION
Dry	No moisture. Dusty or dry.
Damp	Some moisture. Cohesive soils are usually below plastic limit and are moldable.
Moist	Grains appear darkened, but no visible water is present. Cohesive soils will clump. Sand will bulk. Soils are often at or near plastic limit.
Wet	Visible water on larger grains. Sand and silt exhibit dilatancy. Cohesive soil can be readily remolded. Soil leaves wetness on the hand when squeezed. Soil is much wetter than optimum moisture content and is above plastic limit.

Exhibit 11 CUP24-1001

AASHTO SOIL CLASSIFICATION SYSTEM

TABLE 1. Classification of Soils and Soil-Aggregate Mixtures

	Granular Materials			Silt-Clay Materials			
General Classification	(35 Percent or Less Passing .075 mm)			(More than 35 Percent Passing 0.075)			
Group Classification	A-1	A-3	A-2	A-4	A-5	A-6	A-7
Sieve analysis, percent passing:							
2.00 mm (No. 10)	-	-	-				
0.425 mm (No. 40)	50 max	51 min	-	-	-	-	-
0.075 mm (No. 200)	25 max	10 max	35 max	36 min	36 min	36 min	36 min
Characteristics of fraction passing 0.425 mm (No. 40)							
Liquid limit				40 max	41 min	40 max	41 min
Plasticity index	6 max	N.P.		10 max	10 max	11 min	11 min
General rating as subgrade	Excellent to good			Fair to poor			

Note: The placing of A-3 before A-2 is necessary in the "left to right elimination process" and does not indicate superiority of A-3 over A-2.

TABLE 2. Classification of Soils and Soil-Aggregate Mixtures

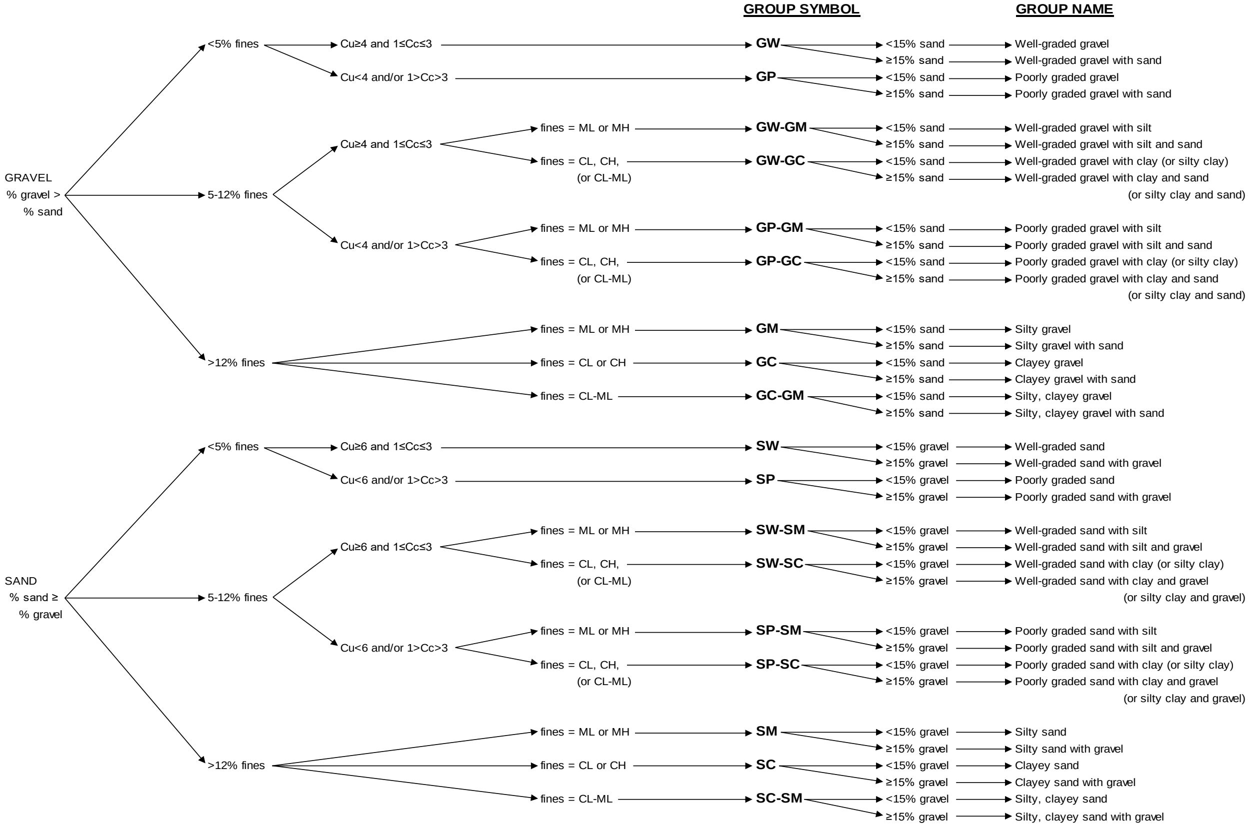
	Granular Materials							Silt-Clay Materials			
General Classification	(35 Percent or Less Passing 0.075 mm)							(More than 35 Percent Passing 0.075 mm)			
	A-1			A-2							A-7
Group Classification	A-1-a	A-1-b	A-3	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7-5, A-7-6
Sieve analysis, percent passing:											
2.00 mm (No. 10)	50 max	-	-	-	-	-	-	-	-	-	-
0.425 mm (No. 40)	30 max	50 max	51 min	-	-	-	-	-	-	-	-
0.075 mm (No. 200)	15 max	25 max	10 max	35 max	35 max	35 max	35 max	36 min	36 min	36 min	36 min
Characteristics of fraction passing 0.425 mm (No. 40)											
Liquid limit				40 max	41 min	40 max	41 min	40 max	41 min	40 max	41 min
Plasticity index	6 max		N.P.	10 max	10 max	11 min	11 min	10 max	10 max	11 min	11min
Usual types of significant constituent materials	Stone fragments, gravel and sand		Fine sand	Silty or clayey gravel and sand				Silty soils		Clayey soils	
General ratings as subgrade	Excellent to Good							Fair to poor			

Note: Plasticity index of A-7-5 subgroup is equal to or less than LL minus 30. Plasticity index of A-7-6 subgroup is greater than LL minus 30 (see Figure 2).

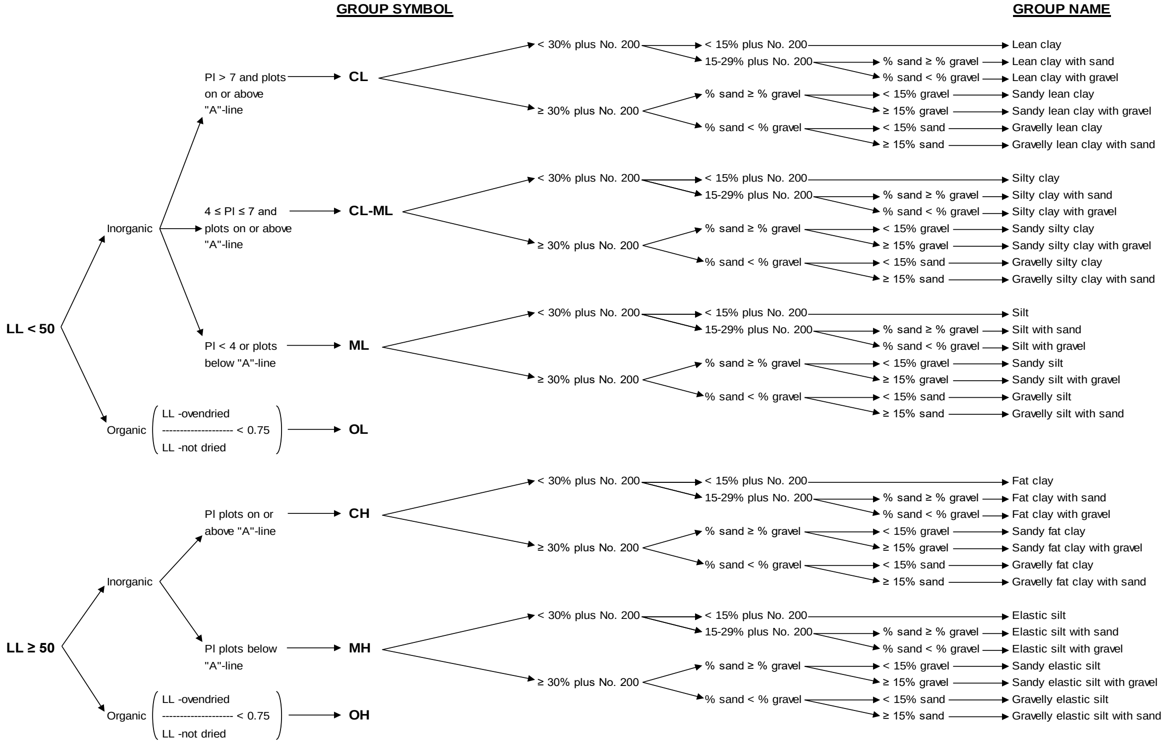
AASHTO = American Association of State Highway and Transportation Officials

Exhibit 11 CUP24-1001

USCS SOIL CLASSIFICATION SYSTEM



Flow Chart for Classifying Coarse-Grained Soils (More Than 50% Retained on No. 200 Sieve)



Flow Chart for Classifying Fine-Grained Soil (50% or More Passes No. 200 Sieve)

Exhibit 11 CUP24-1001

APPENDIX D
PHOTO LOG

Camas High School Field House

November 2019

Camas, Washington

Central Site Area, Facing Southwest

Camas High School Field House

November 2019

Camas, Washington

Eastern Site Area Facing South

Exhibit 11 CUP24-1001

Geotechnical ■ Environmental ■ Special Inspections
Columbia West
Engineering, Inc

Camas High School Field House

November 2019

Camas, Washington

Test Pit Profile, TP-1

Exhibit 11 CUP24-1001

Camas High School Field House

November 2019

Camas, Washington

Test Pit Profile, TP-2

Exhibit 11 CUP24-1001

Camas High School Field House

November 2019

Camas, Washington

Test Pit Profile, TP-3

Camas High School Field House

November 2019

Camas, Washington

Soil Boring, SB-1

Exhibit 11 CUP24-1001

APPENDIX E
REPORT LIMITATIONS AND IMPORTANT INFORMATION

Exhibit 11 CUP24-1001

Geotechnical ■ Environmental ■ Special Inspections
Columbia West
Engineering, Inc

Date: December 20, 2019
Project: Camas High School Field House
Camas, Washington

Geotechnical and Environmental Report Limitations and Important Information

Report Purpose, Use, and Standard of Care

This report has been prepared in accordance with standard fundamental principles and practices of geotechnical engineering and/or environmental consulting, and in a manner consistent with the level of care and skill typical of currently practicing local engineers and consultants. This report has been prepared to meet the specific needs of specific individuals for the indicated site. It may not be adequate for use by other consultants, contractors, or engineers, or if change in project ownership has occurred. It should not be used for any other reason than its stated purpose without prior consultation with Columbia West Engineering, Inc. (Columbia West). It is a unique report and not applicable for any other site or project. If site conditions are altered, or if modifications to the project description or proposed plans are made after the date of this report, it may not be valid. Columbia West cannot accept responsibility for use of this report by other individuals for unauthorized purposes, or if problems occur resulting from changes in site conditions for which Columbia West was not aware or informed.

Report Conclusions and Preliminary Nature

This geotechnical or environmental report should be considered preliminary and summary in nature. The recommendations contained herein have been established by engineering interpretations of subsurface soils based upon conditions observed during site exploration. The exploration and associated laboratory analysis of collected representative samples identifies soil conditions at specific discreet locations. It is assumed that these conditions are indicative of actual conditions throughout the subject property. However, soil conditions may differ between tested locations at different seasonal times of the year, either by natural causes or human activity. Distinction between soil types may be more abrupt or gradual than indicated on the soil logs. This report is not intended to stand alone without understanding of concomitant instructions, correspondence, communication, or potential supplemental reports that may have been provided to the client.

Because this report is based upon observations obtained at the time of exploration, its adequacy may be compromised with time. This is particularly relevant in the case of natural disasters, earthquakes, floods, or other significant events. Report conclusions or interpretations may also be subject to revision if significant development or other manmade impacts occur within or in proximity to the subject property. Groundwater conditions, if presented in this report, reflect observed conditions at the time of investigation. These conditions may change annually, seasonally or as a result of adjacent development.

Additional Investigation and Construction QA/QC

Columbia West should be consulted prior to construction to assess whether additional investigation above and beyond that presented in this report is necessary. Even slight variations in soil or site conditions may produce impacts to the performance of structural facilities if not adequately addressed. This underscores the importance of diligent QA/QC construction observation and testing to verify soil conditions do not differ materially or significantly from the interpreted conditions utilized for preparation of this report.

Therefore, this report contains several recommendations for field observation and testing by Columbia West personnel during construction activities. Actual subsurface conditions are more readily observed and discerned during the earthwork phase of construction when soils are exposed. Columbia West cannot accept responsibility for deviations from recommendations described in this report or future performance of structural facilities if another consultant is retained during the construction phase or Columbia West is not engaged to provide construction observation to the full extent recommended.

Collected Samples

Uncontaminated samples of soil or rock collected in connection with this report will be retained for thirty days. Retention of such samples beyond thirty days will occur only at client's request and in return for payment of storage charges incurred. All contaminated or environmentally impacted materials or samples are the sole property of the client. Client maintains responsibility for proper disposal.

Report Contents

This geotechnical or environmental report should not be copied or duplicated unless in full, and even then only under prior written consent by Columbia West, as indicated in further detail in the following text section entitled *Report Ownership*. The recommendations, interpretations, and suggestions presented in this report are only understandable in context of reference to the whole report. Under no circumstances should the soil boring or test pit excavation logs, monitor well logs, or laboratory analytical reports be separated from the remainder of the report. The logs or reports should not be redrawn or summarized by other entities for inclusion in architectural or civil drawings, or other relevant applications.

Report Limitations for Contractors

Geotechnical or environmental reports, unless otherwise specifically noted, are not prepared for the purpose of developing cost estimates or bids by contractors. The extent of exploration or investigation conducted as part of this report is usually less than that necessary for contractor's needs. Contractors should be advised of these report limitations, particularly as they relate to development of cost estimates. Contractors may gain valuable information from this report, but should rely upon their own interpretations as to how subsurface conditions may affect cost, feasibility, accessibility and other components of the project work. If believed necessary or relevant, contractors should conduct additional exploratory investigation to obtain satisfactory data for the purposes of developing adequate cost estimates. Clients or developers cannot insulate themselves from attendant liability by disclaiming accuracy for subsurface ground conditions without advising contractors appropriately and providing the best information possible to limit potential for cost overruns, construction problems, or misunderstandings.

Report Ownership

Columbia West retains the ownership and copyright property rights to this entire report and its contents, which may include, but may not be limited to, figures, text, logs, electronic media, drawings, laboratory reports, and appendices. This report was prepared solely for the client, and other relevant approved users or parties, and its distribution must be contingent upon prior express written consent by Columbia West. Furthermore, client or approved users may not use, lend, sell, copy, or distribute this document without express written consent by Columbia West. Client does not own nor have rights to electronic media files that constitute this report, and under no circumstances should said electronic files be distributed or copied. Electronic media is susceptible to unauthorized manipulation or modification, and may not be reliable.

Consultant Responsibility

Geotechnical and environmental engineering and consulting is much less exact than other scientific or engineering disciplines, and relies heavily upon experience, judgment, interpretation, and opinion often based upon media (soils) that are variable, anisotropic, and non-homogenous. This often results in unrealistic expectations, unwarranted claims, and uninformed disputes against a geotechnical or environmental consultant. To reduce potential for these problems and assist relevant parties in better understanding of risk, liability, and responsibility, geotechnical and environmental reports often provide definitive statements or clauses defining and outlining consultant responsibility. The client is encouraged to read these statements carefully and request additional information from Columbia West if necessary.

Exhibit 11 CUP24-1001

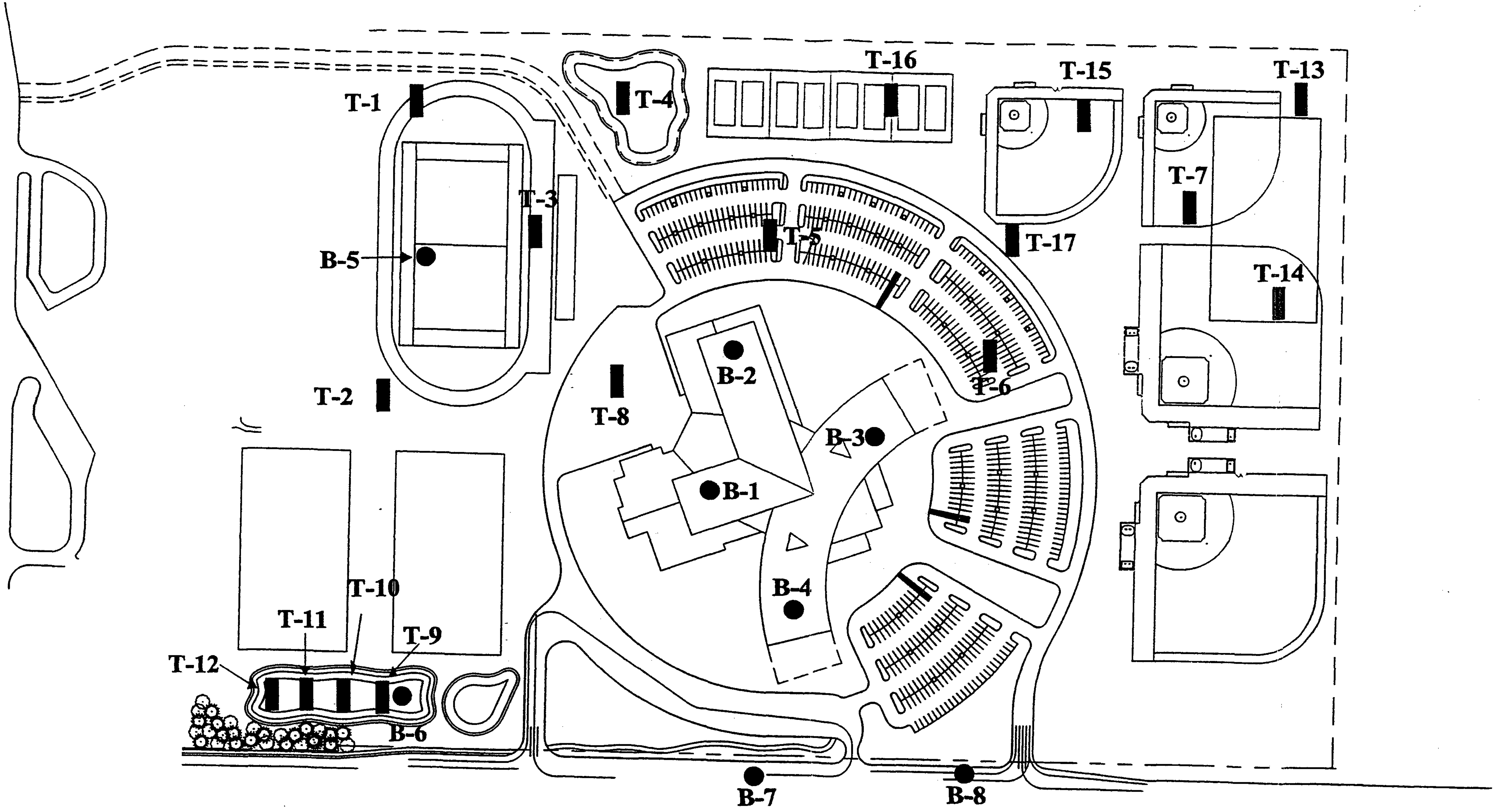
SECTION 5 – EXCERPT FROM PRIOR STORM REPORTS

Exhibit 12 CUP24-1001

Appendix B

Soils Data

Exhibit 12 CUP24-1001



LEGEND

B-8 ●.....APPROX. LOCATION OF EXPLORATORY BORING

T-17 ▬.....APPROX. LOCATION OF EXPLORATORY TRENCH

SITE PLAN

CAMAS HIGH SCHOOL
CAMAS, WASHINGTON

GEOCON
NORTHWEST
GEOTECHNICAL CONSULTANTS
8270 SW NIMBUS AVENUE - BEAVERTON, OREGON 97008
PHONE 503 626-9889 - FAX 503 626-8611

SCALE NO SCALE
DATE 07 - 27 - 2000
PROJECT NO. P1007 - 05 - 02
FIGURE 2
SHEET OF

X:\P1007WS.DWG \ RSS

5. INFILTRATION TESTING

5.1. Methodology

The infiltration tests were conducted as falling head permeability tests in general accordance with the King County Surface Water Design Manual. The tests were conducted by pushing a six-inch diameter infiltrometer standpipe into the soil at the desired test depth. The soil was prepared for infiltration testing under saturated conditions by filling the standpipe with water and thoroughly soaking the test zone for approximately one-half hour. Beginning with a three-foot head of water in the standpipe, the elapsed time required for the head to drop six inches is recorded. In soils with low permeability, the hydraulic head is allowed to drop for one hour and the measured drop in head is recorded.

5.2. Infiltration Test Results

Field infiltration tests were conducted in seven of the exploratory trenches, at varying depths, to evaluate soil infiltration capacity for use in design. The field infiltration rates provided in Table 1 are field measured infiltration rates in native soil and do not include a factor of safety.

Table 1: Infiltration Test Results

Exploratory Trench No.	Test Depth (ft)	Infiltration Rate (in/hr)	Depth to Groundwater (ft)
1	4	7.6	Not Encountered
1	10	250	Not Encountered
2	5	4.5	8
3	6	27	Not Encountered
4	8	14	Not Encountered
5	6	48	Not Encountered
7	7	250	10
8	8	<1	Not Encountered
9	6	<1	Not Encountered
11	5	<1	Not Encountered
13	9	45	Not Encountered
14	7	250	10
15	6.5	90	Not Encountered
16	7	<1	10

Soil types can vary significantly over relatively short distances. The infiltration rates noted above are representative of one discrete location and depth. Moderate to high infiltration rates were measured on the northeast and northwest portions of the site. In general, the soils within the southwest portion of the site have low measured infiltration rates. Installation of infiltration systems within the layer in which the field rate was measured is considered critical to proper performance of the systems. Because of near-surface fines content in the native soil, and the potential for eventual siltation of subsurface infiltration facilities, a conservative design safety factor should be applied to the field rate. If filter fabric is used to protect drain rock, the permeability of the geotextile should be considered in the design. Care should be taken during construction to avoid unnecessary compaction or contamination of native soils in the proposed infiltration zone. Construction disturbance, siltation and compaction with construction equipment can dramatically reduce soil infiltration capacity. Regular maintenance of the infiltration system is critical for proper performance.

A member of Geocon Northwest's geotechnical engineering staff should be retained to observe installation of the infiltration system to verify that subsurface conditions are consistent with those encountered during this investigation.

6. LABORATORY TESTING

Laboratory testing was performed on selected soil samples to evaluate moisture content, grain size distribution, plasticity index, expansion index, compaction characteristics, and California Bearing Ratio. Visual soil classification was performed both in the field and laboratory, in general accordance with the Unified Soil Classified System. Moisture content determinations (ASTM D2216) were performed on soil samples to assist in their evaluation. Compaction characteristics and the California Bearing Ratio for near surface samples were evaluated in substantial accordance with ASTM D1557 and ASTM D1883, respectively. Grain size analyses were performed on selected samples using procedures ASTM D421 and ASTM D422. The plasticity index was determined in general accordance with ASTM D4318. The expansion index was determined using procedure ASTM D4829. Moisture contents are indicated on the exploration logs, which are located in Appendix A of this report. The remaining laboratory test results for this project are included in Appendix B.

There appears to be little correlation between laboratory grain size analyses and the field measured infiltration rates. This is likely due to the combination of the presence of cobbles and boulders skewing the laboratory test results and the in situ weathering of the material.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1. General

7.1.1. It is our opinion that the proposed project is geotechnically feasible, provided the recommendations within this report are followed.

Exhibit 12 CUP24-1001

APPENDIX A

FIELD INVESTIGATION

The field investigation was performed on July 6,7,17, and 18, 2000, and consisted of a site reconnaissance, the advancement of six borings, the excavation of seventeen exploratory trenches, and fourteen field-infiltration tests. The approximate locations of the exploratory excavations are shown in Figure 2.

Borings were advanced to approximately 8 to 44 feet below the ground surface. In general, the borings were terminated due to refusal. Two additional shallow borings were advanced within SE 15th Street to evaluate the existing pavement section. The exploratory trenches were excavated to depths varying from 6 to 12 feet below the ground surface using a John Deere 550 rubber tired backhoe. Samples were obtained at selected depths during the field investigation and returned to the laboratory for additional testing. Logs of the exploratory borings and trenches are provided in the following pages.

Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 1

ELEV. (MSL.) ________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				ML	Medium stiff, moist, reddish-brown, SILT			
2								
	▨ B1-1					21		21.6
4					Medium dense, moist, reddish-brown, Silty GRAVEL			
	▨ B1-2			GM		15		36.1
6								
8	▨ B1-3			CL	Stiff, moist, mottled, CLAY, occasional gravels	10		31.8
10	▨ B1-4					18		25.6
12								
14								
	▨ B1-5			GM	Very dense, wet, brown, Silty SAND and gravel	>50		30.5
16								
18								
20			▼					
	▨ B1-6				Very dense, saturated, brown to gray SAND and gravel	48		23.8

BORING TERMINATED AT 21.5 FEET
Groundwater encountered at 20 feet

Figure A-1, Log of Boring B 1

NCHS

SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	▨ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 2

ELEV. (MSL.) ________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
					Medium dense, moist, brown, Silty SAND and GRAVEL			
2								
	⊠ B2-1			GM		16		26.2
4								
	⊠ B2-2					10		40.8
6								
					-Becomes loose			
8	⊠ B2-3					7		38.0
10	⊠ B2-4					21		38.2
					Stiff, moist, mottled, Clayey SILT, some gravel			
12				CL				
14								
	⊠ B2-5					50/5.5"		31.5
16								

BORING TERMINATED AT 16.5 FEET DUE TO REFUSAL
Groundwater was not encountered

Figure A-2, Log of Boring B 2

NCHS

SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊠ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

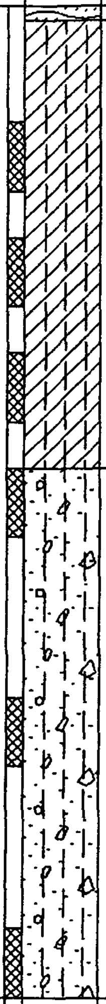
Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 3

ELEV. (MSL.) ________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
					Stiff, moist, mottled, Silty CLAY			
2								
	B3-1	▨		CL		13		24.6
4								
	B3-2	▨				14		36.3
6								
8	B3-3	▨			-Occasional gravels	27		28.3
10	B3-4	▨			Medium dense, moist, mottled, Silty SAND and gravel, some clay	33		30.0
12								
14								
	B3-5	▨		GM	-Cobbles	>50		21.5
16								
18								
20	B3-6	▨				50/35"		16.9

BORING TERMINATED AT 21.5 FEET DUE TO REFUSAL
Groundwater was not encountered

Figure A-3, Log of Boring B 3

NCHS

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
▨ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 4

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
					Stiff, damp, yellowish-brown SILT, some clay			
2								
	▨ B4-1			ML/CL		20		41.4
4								
					Stiff, damp, mottled, CLAY, some silt			
	▨ B4-2					12		36.6
6								
8	▨ B4-3					12		28.6
					Medium dense, moist, brown, Silty, medium to coarse-grained SAND, some clay			
10	▨ B4-4			SM/GM		47		27.2
					-Gravels below 10.5 feet			
12								
14								
	▨ B4-5					41		21.7
16					-Becomes wet to saturated, decreased fines, increased gravel and cobbles			
18								
20			▼					
	▨ B4-6					>50		18.7

BORING TERMINATED AT 21 FEET DUE TO REFUSAL
Groundwater encountered at 20 feet

Figure A-4, Log of Boring B 4

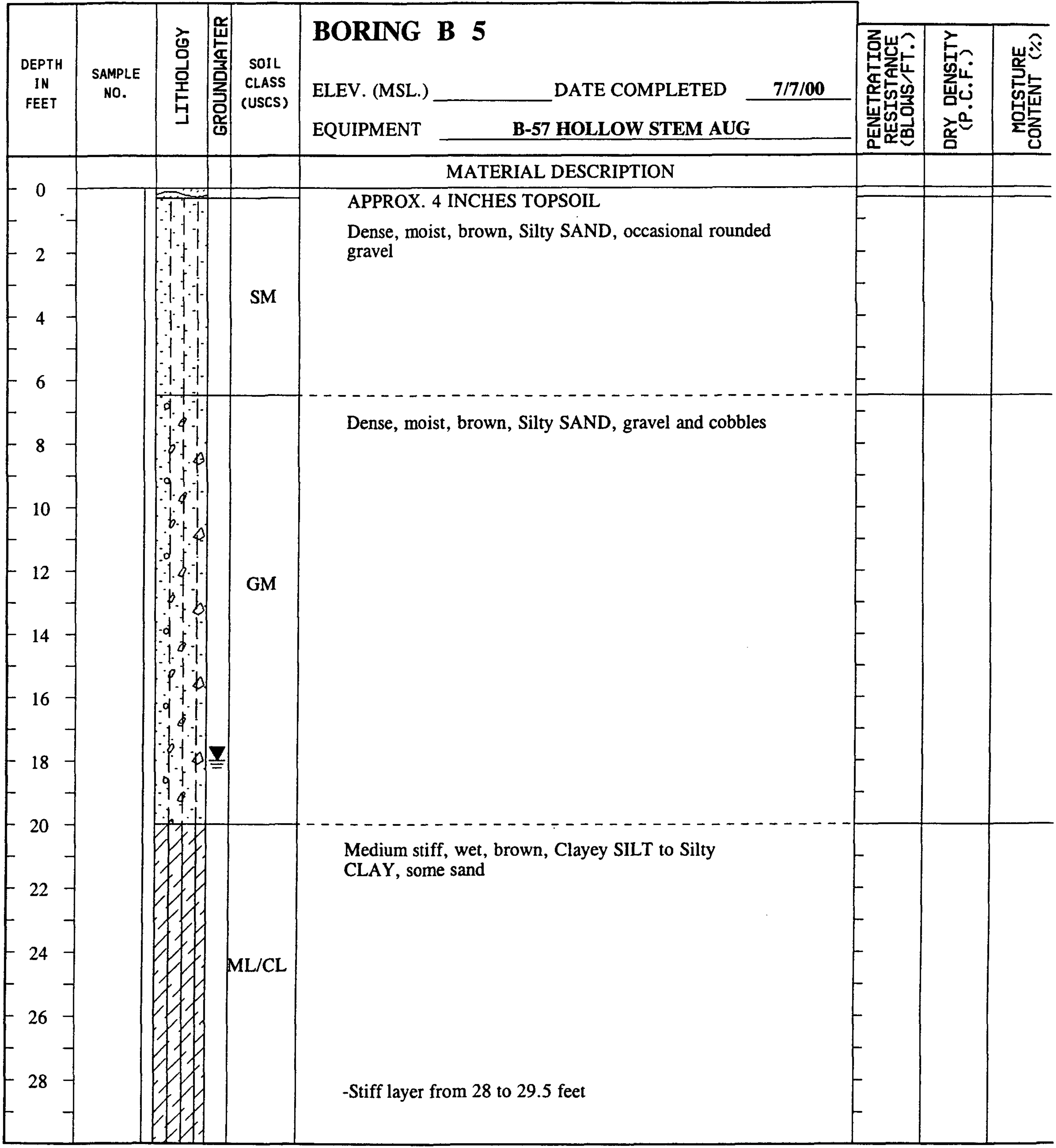
NCHS

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	▨ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02



BORING B 5

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				SM	Dense, moist, brown, Silty SAND, occasional rounded gravel			
6				GM	Dense, moist, brown, Silty SAND, gravel and cobbles			
18			▼					
20				ML/CL	Medium stiff, wet, brown, Clayey SILT to Silty CLAY, some sand			
28					-Stiff layer from 28 to 29.5 feet			

Figure A-5, Log of Boring B 5

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
▩ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 5

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT **B-57 HOLLOW STEM AUG**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30								
32					-Stiff layer from 33 to 34.5 feet			
34				ML/CL				
36								
38								
40								
42					-Becomes hard at 42 feet			
44					BORING TERMINATED AT 44 FEET DUE TO REFUSAL Groundwater encountered at 18 feet			

Figure A-6, Log of Boring B 5

NCHS

SAMPLE SYMBOLS ☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

☒ ... DISTURBED OR BAG SAMPLE ◩ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

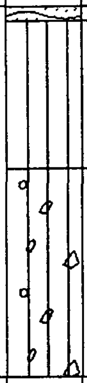
Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 6

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
2				ML	Medium stiff, moist, brown, SILT			
4 6				GM	Medium dense, moist, reddish-brown, Silty GRAVEL and cobbles -Scattered boulders			
8					BORING TERMINATED AT 8 FEET DUE TO REFUSAL Groundwater was not encountered			

Figure A-7, Log of Boring B 6

NCHS

SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	▨ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

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Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 7

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 3 INCHES ASPHALT			
					BASEROCK			
2					BORING TERMINATED AT NATIVE SOIL (2')			

Figure A-8, Log of Boring B 7

NCHS

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL

◧ ... STANDARD PENETRATION TEST

■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE

◩ ... CHUNK SAMPLE

▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 8

ELEV. (MSL.) ________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0		■			APPROX. 2 INCHES ASPHALT			
2		▨			**BASEROCK**			
					BORING TERMINATED AT NATIVE SOIL (2.25')			

Figure A-9, Log of Boring B 8

NCHS

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	☒ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

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Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 1

ELEV. (MSL.) ________ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
2					Dense, moist, light reddish-brown, Silty SAND, sub-rounded GRAVEL and COBBLES			
4	T1-1 ⊠							23.5
6				GM	-Decreasing fines with depth			
8								
10	T1-2 ⊠							25.6
12								

TRENCH TERMINATED AT 12.5 FEET
Infiltration test at 4 feet
Infiltration test at 10 feet
Groundwater was not encountered

Figure A-10, Log of Trench T 1

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
⊠ ... DISTURBED OR BAG SAMPLE
◩ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 2

ELEV. (MSL.) ______ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
				ML	Medium stiff, damp, brown, SILT			
2					Medium dense, moist, light reddish-brown, Silty SAND, occasional sub-rounded gravel and cobbles, some clay			
4								
6	☒ T2-1			SM/GM				
8			▼					

TRENCH TERMINATED AT 8.5 FEET
Infiltration test at 5 feet
Groundwater was encountered at 8 feet

Figure A-11, Log of Trench T 2

NCHS

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
☒ ... DISTURBED OR BAG SAMPLE
◩ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 3

ELEV. (MSL.) __________ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
				ML	Medium stiff, damp, brown, SILT			
2				GM	Dense, moist, reddish-brown, Silty SAND, sub-rounded GRAVEL and COBBLES			
4								
6	T3-1 ⊠			GM				19.2
8								

TRENCH TERMINATED AT 9 FEET DUE TO CAVING
Infiltration test at 6 feet
Groundwater was not encountered

Figure A-12, Log of Trench T 3

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
⊠ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

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Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 4

ELEV. (MSL.) ____________ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				ML	Medium stiff, damp, brown *SILT*			
2								
					Dense, moist, light reddish-brown, Silty SAND, some sub-rounded gravel and cobbles, decreasing fines with depth			
4								
6								
8	T4-1 ⊠			SM/GM				28.4
10								

TRENCH TERMINATED AT 11 FEET DUE TO CAVING
Infiltration test at 8 feet
Groundwater was not encountered

Figure A-13, Log of Trench T 4

NCHS

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊠ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

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Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 5

ELEV. (MSL.) ____________ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				ML	Medium stiff, damp, brown SILT			
2					Dense, moist, yellowish-brown, Silty SAND, sub-rounded GRAVEL and COBBLES			
4								
6	T5-1 ⊠							18.9
	T5-2 ⊠							26.5
8				CL	Stiff, moist, brown and gray, Silty CLAY			

TRENCH TERMINATED AT 9 FEET
Infiltration test at 6 feet
Groundwater was not encountered

Figure A-14, Log of Trench T 5

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
⊠ ... DISTURBED OR BAG SAMPLE
◧ ... STANDARD PENETRATION TEST
◩ ... CHUNK SAMPLE
■ ... DRIVE SAMPLE (UNDISTURBED)
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

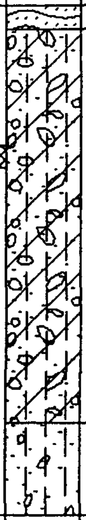
Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 6

ELEV. (MSL.) ____________ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
2					Medium dense to dense, moist to wet, light yellowish-brown, Clayey SILT, SAND and sub-rounded GRAVEL, occasional cobbles			
	T6-1	☒		GM				32.9
4								
6								
8								
10				SM	Dense, moist, reddish-brown, Silty SAND and sub-rounded gravel			

TRENCH TERMINATED AT 11 FEET
Groundwater was not encountered

Figure A-15, Log of Trench T 6

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
☒ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

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Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 7

ELEV. (MSL.) ______ DATE COMPLETED 7/7/00

EQUIPMENT FORD 555 BACKHOE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
					Moist, reddish-brown, Silty GRAVEL and COBBLES, some clay			
2								
4								
6				GM	-Decreasing fines with depth			
					-Loose gravels and cobbles			
8								
10			▼					

TRENCH TERMINATED AT 10 FEET
Infiltration test at 7 feet
Groundwater encountered at 10 feet

Figure A-16, Log of Trench T 7

NCHS

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	▩ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

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Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 8

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT FORD 555 BACKHOE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
					Moist, reddish-brown, Clayey GRAVEL, some medium to coarse-grained sand			
2	T8-1	⊠						18.6
4								
6				GM				
					-Decreasing gravel and cobbles with depth			
8	T8-2	⊠						
10								
12								
					TRENCH TERMINATED AT 12 FEET DUE TO CAVING Infiltration test at 8 feet Groundwater was not encountered			

Figure A-17, Log of Trench T 8

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
⊠ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

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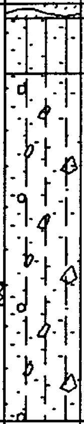
Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 9

ELEV. (MSL.) __________ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				SM	Medium stiff, damp, reddish-brown, Sandy SILT, some clay			
2					Very dense, moist, brown, Silty, coarse SAND, gravel, cobbles and boulders			
4								
6	T9-1 ☒			GM				
8								

TRENCH TERMINATED AT 9 FEET DUE TO REFUSAL
Infiltration test at 6 feet
Groundwater was not encountered

Figure A-18, Log of Trench T 9

NCHS1

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	☒ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

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Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 10

ELEV. (MSL.) ____________ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0				ML	APPROX. 4 INCHES TOPSOIL Medium stiff, reddish-brown, SILT			
2				GM	Dense, moist, Silty, coarse SAND. gravel, cobbles, and boulders -Decreasing fines with depth			
4								
6					-Weathering to clay			

TRENCH TERMINATED AT 7 FEET
Groundwater was not encountered

Figure A-19, Log of Trench T 10

NCHS1

SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	☒ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

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Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 11

ELEV. (MSL.) ____________ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0								
2				ML	Dense, moist, reddish-brown, Gravelly SILT with cobbles			
4					Medium dense, moist, subrounded GRAVEL and cobbles, some sand, silt and clay -Scattered boulders, caving observed			
	T11-1 ▨			GM				
6								
8					-Weathering to clay			

TRENCH TERMINATED AT 8 FEET
Infiltration test at 5 feet
Groundwater was not encountered

Figure A-20, Log of Trench T 11

NCHS1

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL
▨ ... DISTURBED OR BAG SAMPLE
◧ ... STANDARD PENETRATION TEST
◩ ... CHUNK SAMPLE
■ ... DRIVE SAMPLE (UNDISTURBED)
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 12

ELEV. (MSL.) ____________ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				ML	Medium stiff, moist, reddish-brown, SILT, scattered boulders			
2								
4								
6				GM	Medium dense, Silty SAND, gravel, and cobbles, weathering to clay			
8	T12-1 ☒							
10					TRENCH TERMINATED AT 10 FEET Groundwater was not encountered			

Figure A-21, Log of Trench T 12

NCHS1

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL

◧ ... STANDARD PENETRATION TEST

■ ... DRIVE SAMPLE (UNDISTURBED)

☒ ... DISTURBED OR BAG SAMPLE

◪ ... CHUNK SAMPLE

▼ ... WATER TABLE OR SEEPAGE

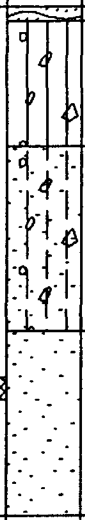
NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. P1007-05-02

TRENCH T 13

ELEV. (MSL.) ______ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
2				ML	Medium dense to dense, moist, reddish-brown, Gravelly SILT with some cobbles			
4 6				GM	Medium dense to dense, moist, brown, Silty, coarse SAND and gravel, occasional cobbles -			
8 10	T13-1 ☒			SM	Medium dense, moist, brown, coarse SAND, some gravel, occasional cobbles			
					TRENCH TERMINATED AT 11 FEET Infiltration test at 8 feet Groundwater was not encountered			

Figure A-22, Log of Trench T 13

NCHS1

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
☒ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 14

ELEV. (MSL.) ____________ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
2				ML	Medium dense, damp to moist, reddish-brown, SILT, scattered cobbles			
4					Medium dense, moist, brown, Silty SAND and gravel, scattered cobbles, occasional boulders			
6								
8	T14-1 ☒			GM				
10			▼					

TRENCH TERMINATED AT 10 FEET
Infiltration test at 7 feet
Groundwater encountered at 10 feet

Figure A-23, Log of Trench T 14

NCHS1

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	☒ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

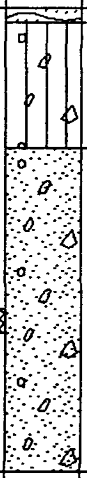
Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 15

ELEV. (MSL.) ______ DATE COMPLETED 7/18/00

EQUIPMENT FORD 555E



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
2				ML	Medium stiff, damp, reddish-brown, Gravelly SILT, scattered cobbles and boulders			
4					Dense, moist, brown, Silty SAND and gravel, occasional cobbles			
6								
	T15-1 ⊠			GM	-Decreasing fines with depth			
8								
10					-Slight weathering to clay			

TRENCH TERMINATED AT 10 FEET
Infiltration test at 6.5 feet
Groundwater was not encountered

Figure A-24, Log of Trench T 15

NCHS1

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊠ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

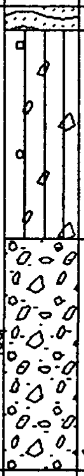
Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 16

ELEV. (MSL.) ____________ DATE COMPLETED 7/18/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
2 4				ML	Medium stiff, damp to moist, reddish-brown, Gravelly SILT			
6 8	T16-1 ▨			SM	Medium dense, moist, reddish-brown, Gravelly, medium-grained SAND			
10			▼		-Slightly weathering to clay			

TRENCH TERMINATED AT 10 FEET
Infiltration test at 7 feet
Groundwater encountered at 10 feet

Figure A-25, Log of Trench T 16

NCHS1

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
▨ ... DISTURBED OR BAG SAMPLE
◩ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

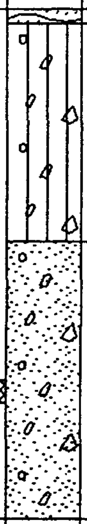
Exhibit 12 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 17

ELEV. (MSL.) ____________ DATE COMPLETED 7/18/00

EQUIPMENT FORD 555E



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
2 4				ML	Medium stiff, damp to moist, reddish-brown, Gravelly SILT			
6 8 10	T17-1 ▨			GM	Very dense, Cobbly SAND and GRAVEL, weathering to clay			

TRENCH TERMINATED AT 11 FEET
Groundwater was not encountered

Figure A-26, Log of Trench T 17

NCHS1

SAMPLE SYMBOLS		
☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
▨ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

TABLE B-I
SUMMARY OF LABORATORY MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-91

Sample No.	Depth (ft)	Material Description	Maximum Dry Density (pcf)	Optimum Moisture Content (% dry wt.)
Composite	1.0 – 3.0	SILT	103.2	20.8

TABLE B-2
SUMMARY OF PARTICLE SIZE DISTRIBUTION
ASTM D421 AND D422

Sample No.	Depth (ft)	% Gravel	% Sand	% Silt	% Clay
T1 – S2	7 – 8	16.1	51.1	32.8	
T2 – S3	6 - 7	21.4	37.5	27.6	13.5
T3 – S2	5.5 - 6	0.9	73.5	25.6	
T4 – S1	7 - 8	56.4	33.3	10.3	
T6 – S1	5 - 6	43.3	37.6	19.1	
T10 – S1	2 – 2.5	0	30.7	34	35.3
T11 – S1	7 - 8	0	51.7	26.3	22

TABLE B-3
SUMMARY OF LABORATORY PLASTICITY INDEX TEST RESULTS
ASTM D 4318

Sample No.	Depth (ft)	Plastic Limit	Liquid Limit	Plasticity Index
T1 – S2	7 - 8	31	59	28
T5 – S2	4 - 5	21	77	56
T6 – S1	5 – 6	26	56	30
T8 – S1	2 – 2.5	21	80	59
T8 – S2	4 - 5	24	70	46
T10 – S2	2 – 2.5	25	45	20

TABLE B-4
SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D4829

Sample No.	Depth (ft)	Water Content	Expansion Index
T5 – S2	4 - 5	16.9	93

Exhibit 12 CUP24-1001

GEOCON
NORTHWEST

GEOTECHNICAL CONSULTANTS

April 16, 2001
P1007-05-04

Mr. Doug McCudden
c/o Camas School District
2041 NE Ione Street
Camas, Washington 98607

Subject: NEW CAMAS HIGH SCHOOL
CAMAS, WASHINGTON
CONSULTATION

Dear Mr. McCudden,

Geocon Northwest, Inc. is pleased to provide this letter summarizing the results of the additional geotechnical evaluation requested by the project civil engineers to satisfy Clark County permitting requirements. The fieldwork was completed on April 6, 2001. A total of eleven exploratory trenches were excavated in locations requested by Otak. Table 1, Depth to Groundwater, summarizes the groundwater depth and soil conditions encountered during the field investigation.

An additional pit was excavated in the location of an existing culvert, where the outlet of two drainage tiles was observed. One tile consisted of a 6-inch-diameter clay pipe while the other consisted of a 10-inch-diameter cement mortar pipe. The general direction of the drainage systems was northeasterly from the outlet. A field measurement of the flow rate was obtained at the outlet. During the field investigation, the flow rate was measured at approximately 50 to 60 gallons per minute. This value includes the outflow from both sources.

Exhibit 12 CUP24-1001

Table1: Depth to Groundwater

	TEST PIT LOCATION			STATIC GROUNDWATER (ft)	GROUNDWATER SEEPAGE (ft)	GENERAL SOIL TYPE
	Site Reference	E/W distance (ft)	N/S distance (ft)			
1	NE Corner	300 W	350 S	8	None	Sand, gravel, cobbles
2	NE Corner	200 W	370 S	8	None	Sand, gravel, cobbles
3	NE Corner	100 W	400 S	8	None	Sand, gravel, cobbles
4	NE Corner	150 W	320 S	9	None	Sand, gravel, cobbles
5	NE Corner	250 W	320 S	8.5	None	Sand, gravel, cobbles
6	NW Corner	60 E	70 S	Not Encountered*	None	Silty sand, gravel, cobbles
7	NW Corner	60 E	140 S	Not Encountered*	None	Silty sand, gravel, cobbles
8	East Driveway	350 E	50 N	Not Encountered*	3, 8, and 9	Gray clay
9	East Driveway	600 E	50 N	Not Encountered*	7.5	Clayey gravel and cobbles
10	East Driveway	800 E	200 N	3	None	Silty sand, gravel, cobbles
11	East Driveway	400 E	200 N	5.5	None	Silty sand, gravel, cobbles

*Exploratory trenches where groundwater was not encountered were excavated to a depth of approximately 10 to 12 feet.

Exhibit 12 CUP24-1001

We have been requested to provide an estimate of the maximum "base flow" which may occur within the two drainage tiles to assist Otak in their assessment of the existing site drainage conditions. The measured flow of 50 to 60 gallons per minute (0.13 cubic feet per second, cfs) represents a value less than the theoretical maximum flow rate. Review of existing topographic maps indicated the area of capture of the drainage tiles is approximately 13 acres. Assuming a conservative (i.e. high) permeability value of 10^{-3} cm/sec for the soil within the capture area, a maximum theoretical base flow of 0.5 cubic feet per second was calculated for the existing two drain tile system.

It was also requested that we estimate a post construction (as built) value of the water flow into the proposed drainage swales to be constructed within the southeast portion of the property. A total surface area of approximately 9,161 square feet was determined by Otak for the swale area exposed to groundwater flow. Assuming a permeability value of 10^{-3} cm/sec and a hydraulic gradient of 10%, a maximum flow rate of 0.03 cubic feet per second was estimated for the post construction flow within the swale system. The assumed soil permeability value of 10^{-3} cm/sec is conservative as it represents the flow characteristics of a medium to fine grained sand. The majority of soils within the potential zone of groundwater flow are silts and clays.

We appreciate the opportunity to work with you on this project. If you have any questions, or require additional information, please contact the undersigned at your convenience.

Sincerely,

GEOCON NORTHWEST, INC.

Heather Devine

Heather Devine, P.E.
Geotechnical Engineer

Wesley Spang

Wesley Spang, Ph.D., P.E
President

cc: Mr. Don Proctor, Otak

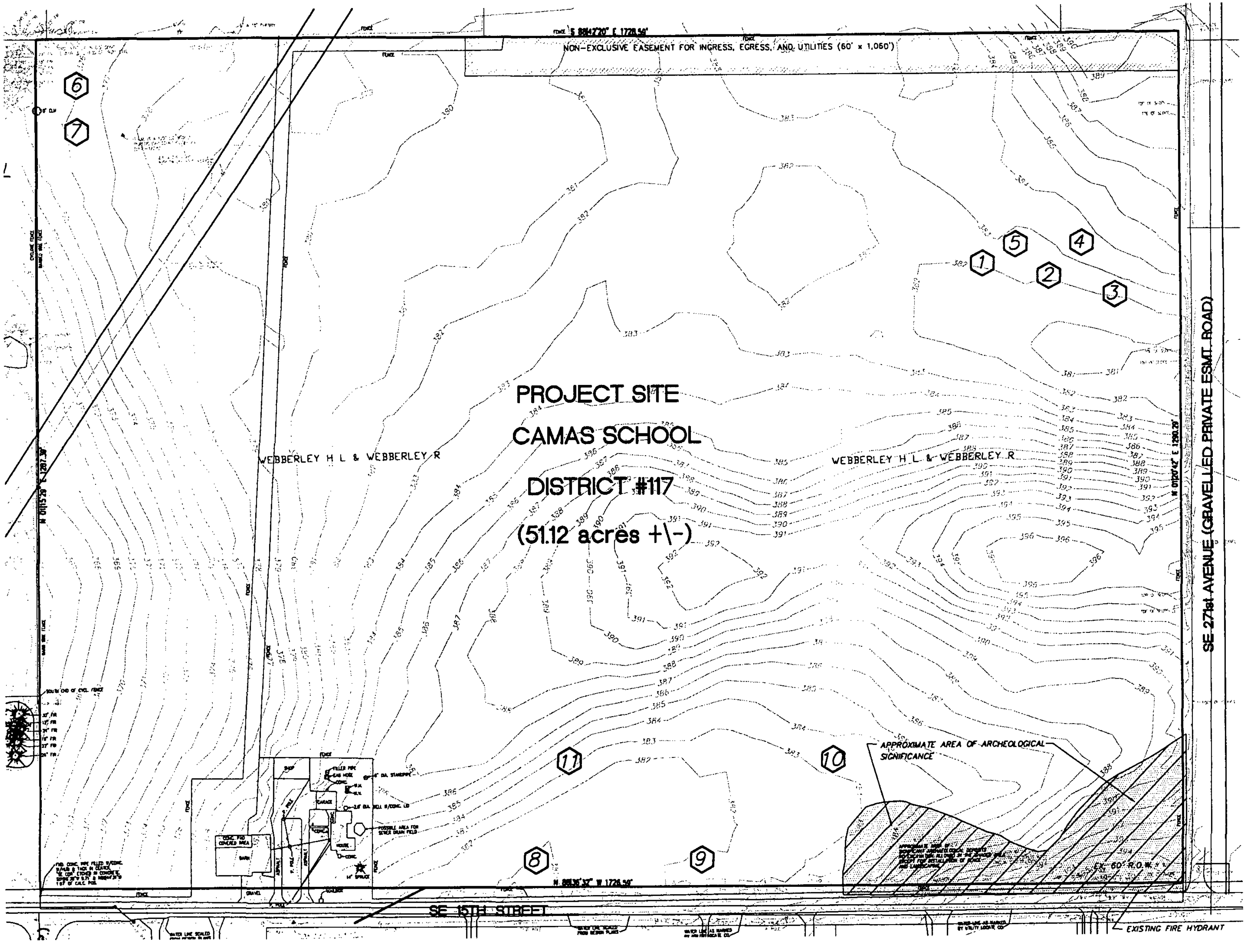
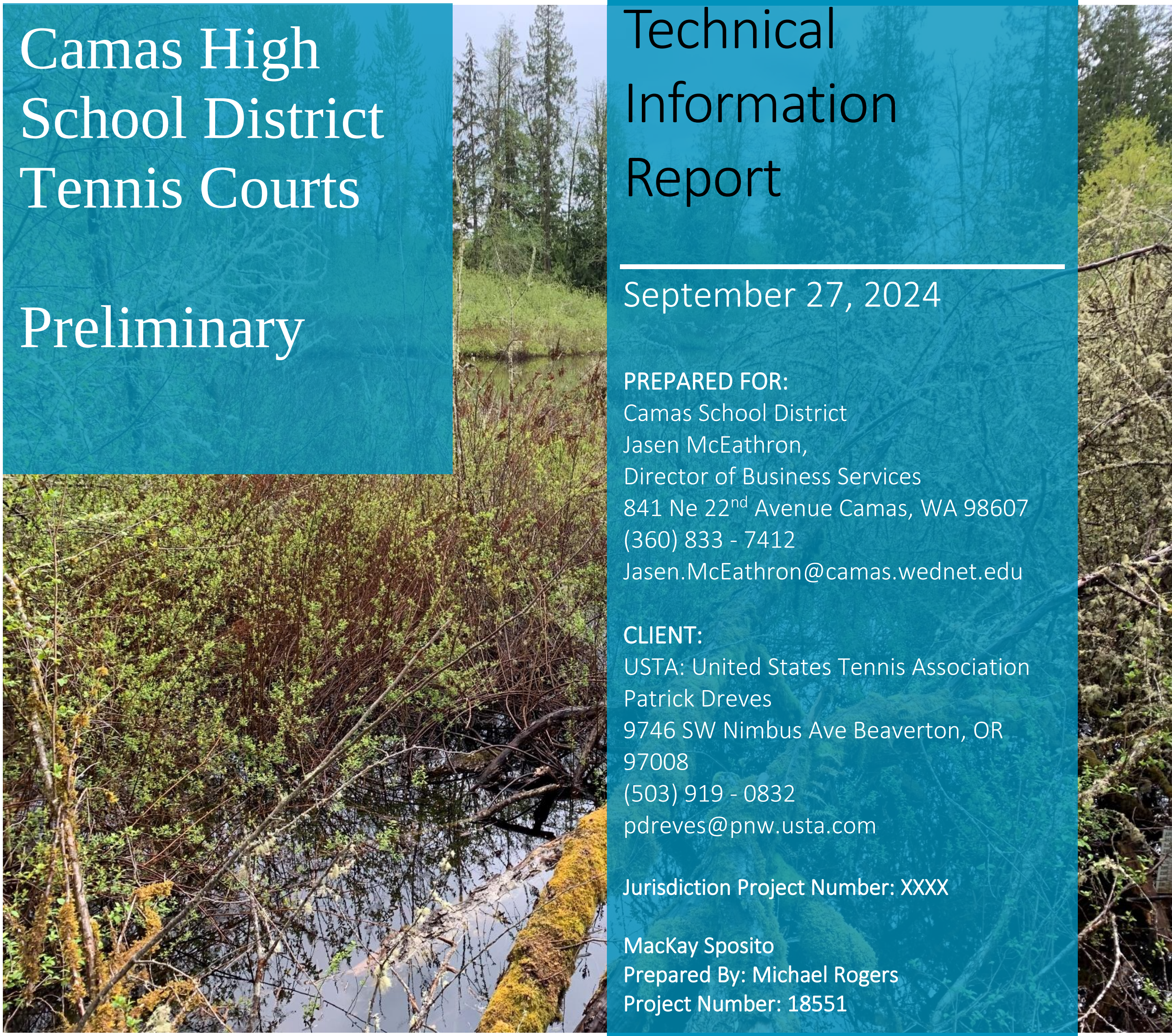

PROJECT SITE
CAMAS SCHOOL
DISTRICT #117
(51.12 acres +\-)
NON-EXCLUSIVE EASEMENT FOR INGRESS, EGRESS, AND UTILITIES (60' x 1,050')
S 88°42'20" E 1728.59'
N 88°36'32" W 1726.59'
N 01°20'42" E 1290.79'
WEBBERLEY H L & WEBBERLEY R
WEBBERLEY H L & WEBBERLEY R
SE 27th AVENUE (GRAVELLED PRIVATE ESMT. ROAD)
SE 15TH STREET
APPROXIMATE AREA OF ARCHEOLOGICAL SIGNIFICANCE
EX. 60' R.O.W.
EXISTING FIRE HYDRANT
WATER LINE AS MARKED BY UTILITY LOCATE CO.
1
2
3
4
5
6
7
8
9
10
11
FENCE
BARN
HOUSE
GARAGE
SHOP
GRAVEL
CONC.

Exhibit 13 CUP24-1001



Camas High School District Tennis Courts

Preliminary

Technical Information Report

September 27, 2024

PREPARED FOR:
Camas School District
Jasen McEathron,
Director of Business Services
841 Ne 22nd Avenue Camas, WA 98607
(360) 833 - 7412
Jasen.McEathron@camas.wednet.edu

CLIENT:
USTA: United States Tennis Association
Patrick Dreves
9746 SW Nimbus Ave Beaverton, OR 97008
(503) 919 - 0832
pdreves@pnw.usta.com

Jurisdiction Project Number: XXXX

MacKay Sposito
Prepared By: Michael Rogers
Project Number: 18551

GREGORY C. OEHLEY
STATE OF WASHINGTON
49506
REGISTERED
PROFESSIONAL ENGINEER

Exhibit 13 CUP24-1001

Preliminary Technical Information Report (TIR)

September 27, 2024
Clark County, Washington
Project Engineer

"I hereby state this Technical Information Report (TIR) has been prepared under my supervision and meets the standards of care and expertise which is usual and customary in this community for professional engineers. The TIR includes the required information per the 2021 Clark County Stormwater Manual and complies with CCC 40.386. The proposed stormwater design is feasible."

GREGORY C. OEHLEY
49506

Gregory Oehley, PE
Project Engineer

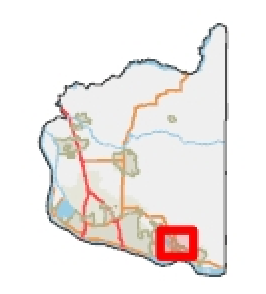
Exhibit 13 CUP24-1001

Maps

Exhibit 13 CUP24-1001

Vicinity Map

1: 36,112



Legend

☐ Taxlots

Major Roads

- — Interstate
- — State Route
- — Arterial
- — Forest Arterial

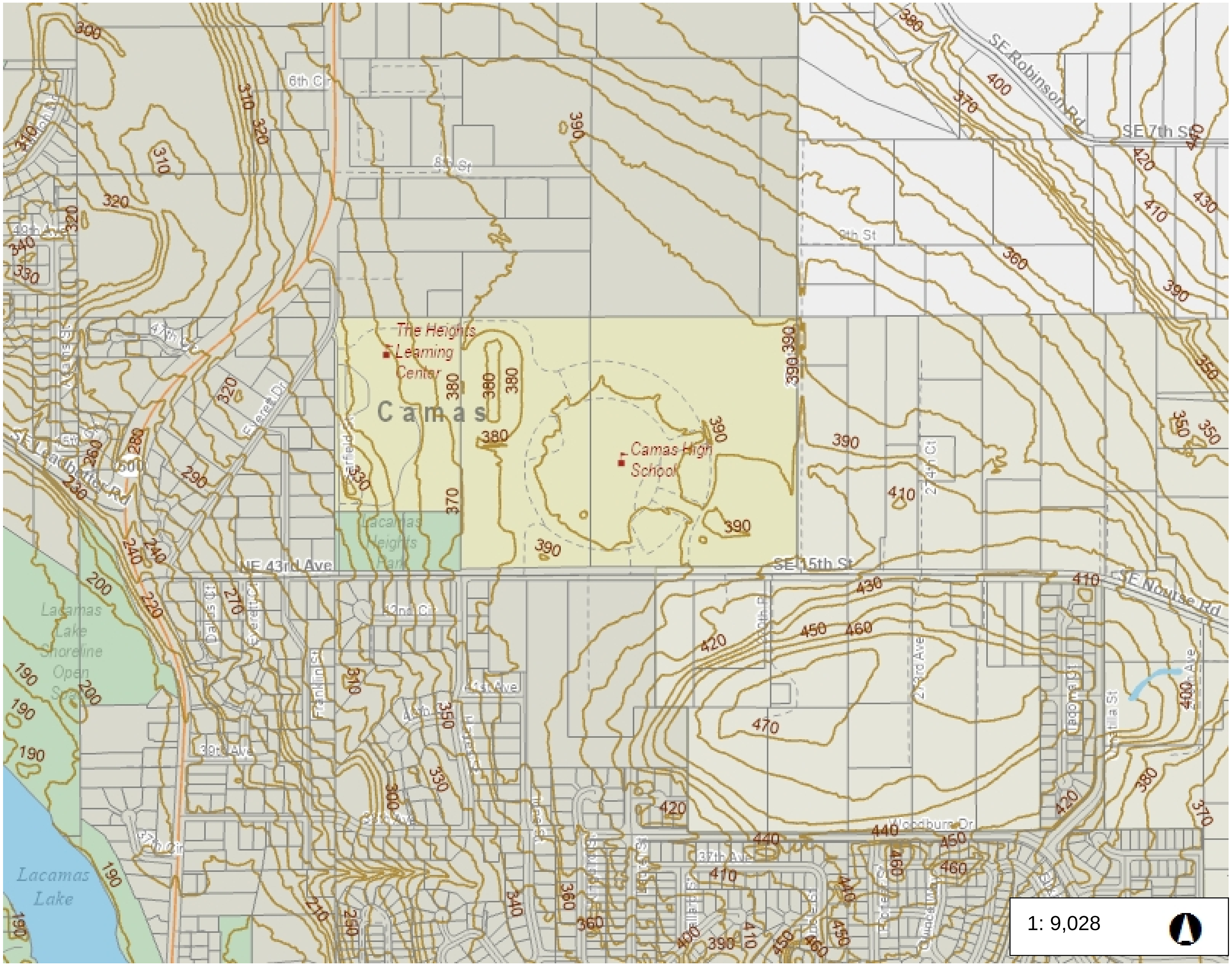
Notes:

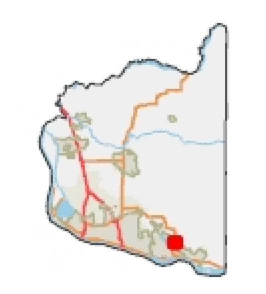
6,018.7 0 3,009.33 6,018.7 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Clark County, WA. GIS - http://gis.clark.wa.gov

Exhibit 13 CUP24-1001

Aerial with Contours





Legend

☐ Taxlots

— Contour Lines - 10 ft

Notes:

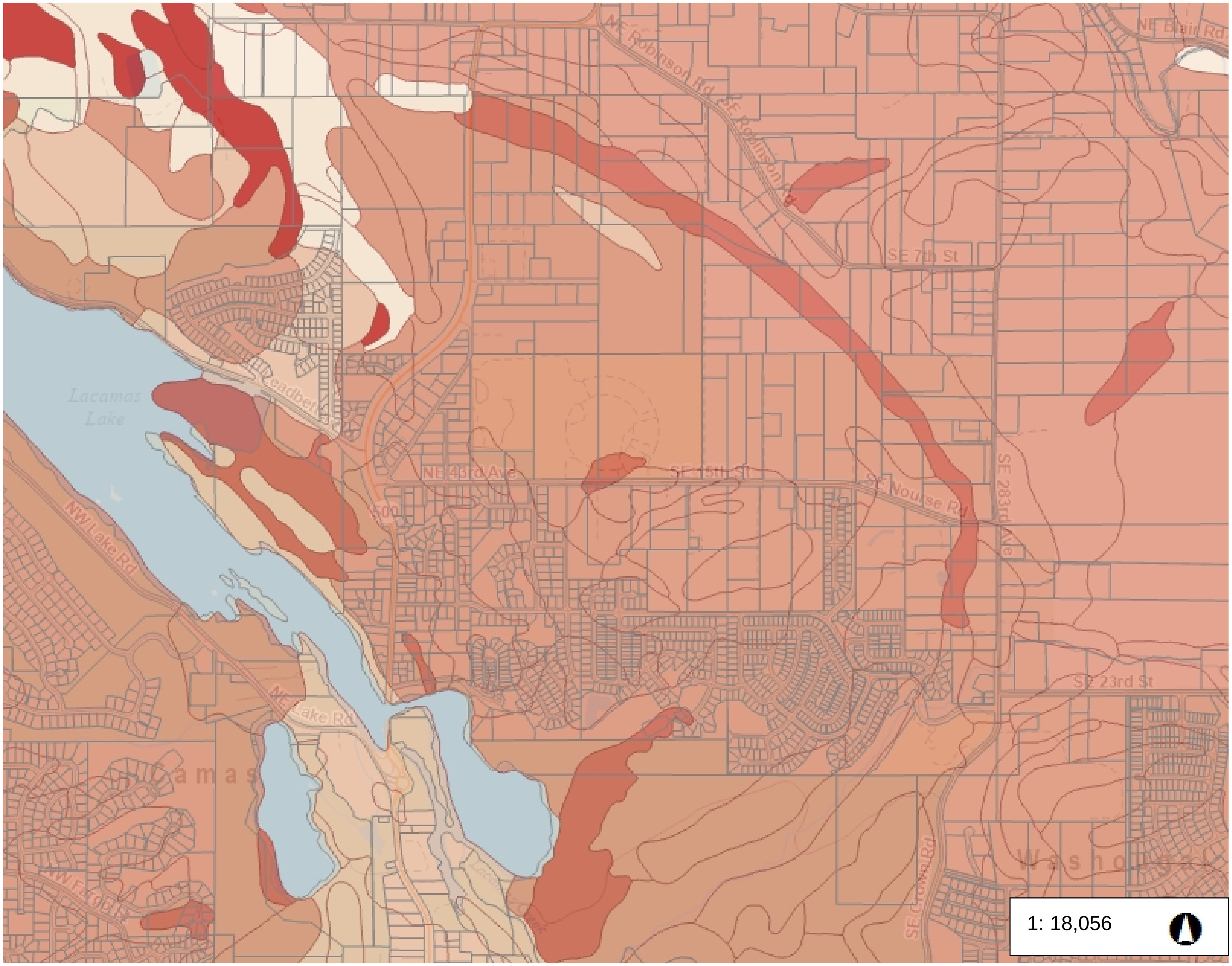
1: 9,028

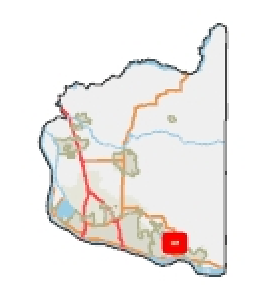
1,504.7 0 752.33 1,504.7 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Clark County, WA. GIS - http://gis.clark.wa.gov

Exhibit 13 CUP24-1001

WWHM Soil Group Classification





Legend

☐ Taxlots

WWHM Soil Group

- ■ 1 - Excessively drained soils
- ■ 2 - Well drained soils
- ■ 3 - Moderately drained soils
- ■ 4 - Poorly drained soils
- ■ 5 - Wetland soils
- ■ Unknown

Notes:

3,009.3 0 1,504.67 3,009.3 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Clark County, WA. GIS - http://gis.clark.wa.gov

Exhibit 13 CUP24-1001

Narrative

Exhibit 13 CUP24-1001

Contents

Tables

Technical Appendices

Appendix A	Clark County HydrologySoil Group Map WWHM Soil Group Classification Table 7: Estimated Physical and Chemical Properties of Soils Clark County Soil Group Table Figure B-5: Isopluvial Maps for Design Storms in Clark County – 100-year 24-hour Isopluvial
Appendix B	Figure I-3.2: Re-Development Flow Chart Figure I-3.3: Flow Chart for Determining MR #5 Requirements
Appendix C	WWHM2012 Modeling ▪ WWHM Water Quality Project Report ▪ WWHM Infiltration Trench Project Report
Appendix D	Geocon Northwest – Infiltration testing report and soil logs, dated July 27, 2000 Columbia West – Geotechnical Site investigation for Camas High School Field House, dated December 20, 2019
Appendix E	Camas Stormwater Sewer System Operations and Maintenance Manual, June 2022
Appendix F	City of Camas Pre-Application Report dated issued 5/14/2024
Appendix G	C1.0 Preliminary Development Plan CP-1 Existing Catchment Plan (Quality Control) CP-2 Developed Catchment Plan (Quantity Control) CP-3 Developed Catchment Plan (Quality Control)

Section A - Project Overview

Section A.1: Site Information

- *Location of the site, either with a parcel number, an address, or adjacent streets and distance to the nearest cross street.*

  The site is in the southeast quarter of the southwest quarter of Section 35, Township 2 North, Range 3 East of the Willamette Meridian and identified as parcel #178174000 and #178111000. The site is part of the Camas High School which is located at 26600 SE 15th St, Camas, WA 98607.

- *A description of the topography, natural drainage patterns, vegetative ground cover, and presence of critical areas, which include Critical Aquifer Recharge Areas, Flood Hazard Areas , Geologic Hazard Areas, Habitat Conservation Areas, Wetland Protection Areas, and Shoreline Master Program Areas. Critical areas that receive runoff from the site shall be described to a minimum of* X *mile away from the site boundary.*

  The proposed re-development site consists of tennis courts, paved walkways and landscaping/grassed areas. The site area has a stormwater system which provides treatment and detention which was installed with the construction of the school. All runoff from the site is infiltrated onsite. The project is mostly flat (tennis courts) with a strip of grassy area to the north which forms a shallow channel which conveys runoff to the existing field inlets and ultimately to the existing infiltration systems.

- *A description of existing on-site stormwater systems and their functions, including drainage patterns to and from adjacent properties. Identify the primary discharge point or points from the site, and the suitability of the use of these BMPs on the site.*

  The site is developed and contains a stormwater treatment (swale) system and two infiltration facilities for the disposal of runoff. These systems have been designed to meet the current standards and have been detailed in the as-built plans for the school and addition of the Fieldhouse. The technical information reports have been used in the design of this redevelopment, excerpts of which are contained in this report. Stormwater is collected and conveyed to the facilities via a network of catchbasins and pipes as detailed in the as-built plans.

- *A general description of proposed site improvements, including the size of improvements and proposed methods of mitigating stormwater runoff quantity and quality impacts.*

  The project includes resurfacing eight existing tennis courts, installing lighting and an air dome enclosure over the tennis courts as well as the placement of an entrance structure (with restrooms and a small locker area) utility extensions/connections, site improvements for access from the parking lot, additional parking spaces and landscaping.

Exhibit 13 CUP24-1001

Quantity Control:

See Appendix G for the utility and catchment plans used in the following discussion on stormwater function for the proposed site. Based on the catchment plan from the Camas High School Fieldhouse TIR (see Appendix G) the western portion of the proposed site currently flows to the existing stormwater infiltration facility directly west of our site. The eastern portion of our site is part of another catchment to the east which flows to an existing stormwater infiltration system to the east of our site. The dividing line (as shown on the plan) is approximately in the center of the existing tennis court. The tennis court slopes to the north and runoff flows from the court to the landscape tract directly to the north which contains two shallow channels which direct runoff to two existing field inlets which convey the runoff to the respective infiltration facilities.

The first step in our design was to determine the existing flow to the west facility and the existing flow to the east facility. Our proposed site area was divided into two catchments based on the existing condition named H1 which flows to the western facility and H2 which flows to the eastern facility. These catchments are shown on sheet CP-1 in Appendix G. The flows for these two catchments were determined using WWHM. The redevelopment of the site as stated above includes the installation of an air dome, a drive isle and additional parking. This results in an increase in stormwater which will need to be mitigated. The two existing facilities were not designed to accept the additional runoff which will be generated by the proposed redevelopment. An additional infiltration facility is proposed to mitigate for the excess runoff.

The developed catchment (as shown in Appendix G) consists of 4 catchments which have been sized according to the allowable flows as determined by the flow calculations for the existing condition. Catchment 1A and 1B will flow to the existing stormwater infiltration facility to the west and the area is sized such that it does not exceed the existing flow for that facility. In the same way, catchment 2 has been sized not to exceed the flow the existing eastern stormwater infiltration facility. The comparison of the existing to proposed flows for the 100-year storm as determined by WWHM (Report in Appendix C) for the two existing facilities are shown in the table below:

Contributing Catchments	Flow (100-year)
H1	0.7956
1A & 1B	0.7430

Table A1 - Flow to Existing Western Stormwater Infiltration Facility

Contributing Catchments	Flow (100-year)
H2	1.0066
2	0.9391

Table A2 - Flow to Existing Eastern Stormwater Infiltration Facility

The remaining area which consists of catchments 3 and 4 on the developed catchment plan will flow to the new stormwater infiltration facility which is located beneath the proposed east side parking area. This facility was also sized using WWHM. Based on previous infiltration testing as shown in the geotechnical report by Geocon Northwest in Appendix G, infiltration rates in the vicinity of the proposed facility range from less the 1in/hour (T-16) and up to 90 in/hour (T-15). Since our proposed facility is located approximately in between the two we have assumed a conservative rate of 30in/hour and applied a safety factor of 2 to that for a design rate of 15in/hour for calculations. Note that there are areas in the vicinity with infiltration rates up to 250 in/hour. The facility design is discussed in further detail in MR#7 on page 10 of this report,

The proposed stormwater system for quantity control has been designed and modeled per the latest edition of the Stormwater Management Manual for Western Washington (SMMWW).

Quality Control:

Proposed runoff from the pollution generating/paved areas will be collected and treated by StormFilter treatment catch basins before being infiltrated. Stormwater treatment is discussed in further detail in MR#6 on page 9 of this report.

The proposed stormwater system for quality control has been designed and modeled per the latest edition of the Stormwater Management Manual for Western Washington (SMMWW).

Section A.2: Determination of Applicable Minimum Requirements

Based upon the preliminary site layout, determine whether Minimum Requirements #1-#5 or #1-#9 apply to the project.

Site Characteristics	
The amount of existing hard surface	1.453 acres
The amount of new hard surface	2.158 acres
The amount of replaced hard surface	1.293 acres
The amount of native vegetation converted to lawn or landscaping	0.000acres
The amount of native vegetation converted to pasture	0.000 acres
The total amount of land-disturbing activity	2.746 acres
The amount of pollution-generating hard surface (PGHS): this includes pollution-generating impervious surface	0.631 acres (road and parking lot)
The amount of pollution-generating pervious surfaces (PGPS)	0.000 acres
The total amount of pollution-generating surfaces	0.631 acres
The total amount of non-pollution generating surfaces	2.115 acres

Table B1: Site Improvement Summary

Provide a statement that confirms which Minimum Requirements apply to the development activity. Trace on the flow chart (Figure I-3.1 or Figure I-3.2) to show how applicable Minimum Requirements were determined.

Based on Figure I-3.2: Flow Chart for Determining Requirements for Redevelopment (Appendix B), all minimum requirements #1 - #9 apply to this project. Figure I-3.2 comes from Stormwater Management Manual for Western Washington Requirements, Volume 1.

For development or redevelopment where Minimum Requirements #1-#9 must be met:

- *Provide the amount of effective impervious area in each TDA, and document through approved continuous flow model the increase in the 100-year flood frequency from pre-developed to developed conditions for each TDA.*

  All runoff from the site will be infiltrated and will not increase the flood frequency in the developed condition. Since 100% of runoff is infiltrated the effective impervious area is zero. Refer to Appendix C for continuous flow model.

- *List the TDAs that must meet the runoff treatment requirements listed in Minimum Requirement #6.*

  The total pollution generating hard surface (PGHS) which consists of roads and parking equals 0.631 acres which is greater than 5,000 square feet, therefore, construction of stormwater treatment facilities are required for this project.

- *List the TDAs that must meet the flow control requirements listed in Minimum Requirement #7.*

  The total effective impervious surface, which consists of roads, parking, sidewalks and roofs, is 2.16 acres which is greater than 10,000 square feet. Therefore, flow control requirements are required for this project.

- *List the TDAs that must meet the wetlands protection requirements listed in Minimum Requirement #8.*
  There are no wetlands on this site therefore, Minimum Requirement 8 is not applicable.

Section B - Minimum Requirements

This section shall discuss how each Minimum Requirement applicable to the project (as identified in Section A.2) will be met.

Minimum Requirement #1 - Preparation of Stormwater Site Plans

All projects meeting the thresholds in Section I-1.3 shall submit a Stormwater Site Plan for review by City of Camas. Stormwater Site Plans shall use site-appropriate development principles to retain native vegetation and minimize impervious surfaces to the extent feasible.
A development plan showing how the stormwater requirements are being met is included in the appendices. See the Preliminary Development Plan, found in Appendix G.

Minimum Requirement #2 - Construction Stormwater Pollution Prevention

The Construction Stormwater Pollution Prevention plan will be provided with final design.

Minimum Requirement #3 - Source Control of Pollution

Following construction, all new development and redevelopment projects meeting the Project Thresholds in I-3.3 Applicability of the Minimum Requirements shall apply all known, available, and reasonable Source Control BMPs. See Volume IV for source control BMPs.
The project includes resurfacing eight existing tennis courts, installing lighting and an enclosure over the tennis courts as well as the placement of an entrance structure (with restrooms and a small locker area) utility extensions/connections, site improvements for access from the parking lot, additional parking spaces and landscaping. In order to address the potential for undesirable concentrations of pollutants, the following BMPs have been identified to be applicable to this project:

- S410 Correcting Illicit Discharge to Storm Drains
- S408 Dust Control at Manufacturing Areas
- S411 Landscaping and Lawn/Vegetation Management
- S450 Irrigation
- S451 Building, Repair, Remodeling, Painting, and Construction
- S453 Formation of a Pollution Prevention Team
- S454 Preventative Maintenance/Good Housekeeping
- S455 Spill Prevention and Cleanup
- S456 Employee Training
- S457 Inspections
- S458 Record Keeping

Minimum Requirement #4 - Preservation of Natural Drainage Systems and Outfalls

Describe how natural drainage patterns are being maintained, and how discharges from the project site shall occur at the natural location, to the maximum extent practicable. The manner by which runoff is discharged from the project site must not cause a significant adverse impact to downstream receiving waters and down gradient properties. All outfalls require energy dissipation.

Currently all runoff from the existing site infiltrates onsite. In the re-developed state, all runoff will be collected and routed to treatment BMP's where applicable and to infiltration BMPs. All runoff will be infiltrated. Therefore, the natural drainage patterns will be preserved.

Minimum Requirement #5 - Onsite Stormwater Management BMPs

Describe how on-site stormwater management BMPs, including LID BMPs, will be effectively implemented on the site, in accordance with this Minimum Requirement.

Since 100% of runoff will be infiltrated, the Low Impact Development Performance Standard will be met. In the full WWHM report, the LID Performance standard is listed as "passed."

See Appendix C for the full WWHM report as well as screenshots of basins, water quality flows, and the infiltration trench.

1. *General*

- *Describe the suitability of the site for the selected BMPs, including hydrologic soil groups, geologic media, infiltration rates, slopes, and groundwater elevations.*

  A geotechnical study was conducted on this site by Geocon Northwest for the construction of the high school and later a report by Columbia West dated December 20, 2019 for the construction of the Fieldhouse. Boring logs identifying soils can be found in the reports which can be found in Appendix C. Soils in the area are identified as Hesson Clay loam (HcB) by the NRCS Soil Survey, with a Hydrologic Soil Group designation of C. Clark County GIS Maps Online shows a WWHM Soil Classification of Group 2 (Well drained soils). The onsite infiltration tests measured rates ranging from 0 in/hour to 250 in/hour at various depths, meaning that infiltration is a viable option and already used onsite. Based on the geotechnical reports and Camas Code, the factor of safety for the infiltration trenches is 2. Further testing in the proposed location of the infiltration trench will be necessary to determine the design rate for final design.

- *Summarize the pertinent results from geotechnical studies or other information used to complete the design of each on-site stormwater BMP.*

  A geotechnical study was conducted on this site by Geocon Northwest for the construction of the high school and later a report by Columbia West dated December 20, 2019 for the construction of the Fieldhouse. See Appendix D for the full reports. The onsite infiltration tests measured a rate of up to 250 in/hour. See test results and resulting design conclusions above.

- *Identify the design criteria in this manual for each on-site stormwater management BMP selected and describe how the criteria will be met.*

  The onsite soil has functional infiltration rates; therefore, infiltration will be utilized to dispose of runoff. BMPs have been designed according to the design guidelines in the Stormwater Manual for Western Washington. StormFilter treatment catch basins are a key component in managing stormwater runoff, particularly in urban areas where impervious surfaces like roads and parking lots prevent natural infiltration. Basic treatment catch basins are designed to remove sediments, debris, and some pollutants from stormwater before it enters the stormwater drainage system. A stormwater infiltration trench is also a Best Management Practice (BMP) designed to manage and treat stormwater runoff by allowing it to infiltrate into the ground. This technique is particularly effective in reducing runoff volume, recharging groundwater, and improving water quality by filtering pollutants through the soil. Based on this, the above BMP's have been chosen as to treat and dispose of stormwater.

2. *Low Impact Development (LID)*

- *Indicate whether a mandatory list is being used to select LID BMPs or if the LID Performance Standard will be met.*

  LID performance standards will be met since 100% of runoff is to be infiltrated on site, therefore a list is not required.

- *If using List #1 or List #2, provide written justification, including citation of site conditions identified in the soils report, for any on-site stormwater management BMPs that are determined to be infeasible for the project site. Complete the LID*

  No list has been used since the design performance standard will be met with 100% infiltration on site.

Minimum Requirement #6 - Runoff Treatment Analysis and Design

For land-disturbing activities where the thresholds within Minimum Requirement #6 (see Section I-3.4.6) indicate that runoff treatment facilities are required:

2.746 acres will be disturbed in construction. The total pollution generating hard surface (PGHS) that will be created with this project equals 0.631 acres, which is greater than 5,000 square feet. Therefore, construction of stormwater treatment facilities are required. To address treatment requirements, treatment cartridge catchbasins with ZPG will be used.

- *Document the level of treatment required (basic, enhanced, phosphorus, oil/water separation), based on procedures in Chapter* 3.

  Since this project is infiltrating storm water runoff into the ground and the project is over ¼ mile from a fish bearing stream, only basic treatment will be required according to Stormwater Manual for Western Washington, Volume 1 page 4-8.

- *Identify the BMPs used in the design and list the reference or design manual used to design them.*

  This project will be using treatment cartridges with ZPG media. References used for design include the Western Washington Storm Water Manual.

- *Include an analysis of initial construction costs and long-term maintenance costs.*

  Initial construction cost has not been estimated at this time. The long-term maintenance costs of cartridge media filters for stormwater management are influenced by inspection frequency, sediment accumulation rates, required maintenance tasks, replacement intervals and costs, labor requirements, manufacturer support programs, and available operational data. By carefully evaluating these factors during the selection process of filtration systems, site planners can better estimate potential long-term expenses associated with maintaining these critical components of stormwater management infrastructure. The costs will be estimated at the time of final design.

- *Show the approximate location and size of proposed runoff treatment facilities on the preliminary development plan.*

For the roof and most of the landscape areas, there is no runoff from pollution generating surfaces. Therefore, no treatment is required, and runoff will be sent directly to the infiltration trenches.

For Basin WQ1, WQ2, WQ3 and WQ4 shown on the Water Quality Catchment Plan in Appendix G, StormFilter catchbasins with treatment cartridges are proposed to treat the onsite pollution generated surface runoff. The sizing for the treatment catchbasins is based on the offline water quality flow from WWHM and is as follows:

Offline Water Quality Flow: 0.0114 CFS (5.116gpm)
Number of Cartridges: 5.116gpm/7.5gpm/cartridge = 1 Cartridge.

Offline Water Quality Flow: 0.0153 CFS (6.867gpm)
Number of Cartridges: 6.867gpm/7.5gpm/cartridge = 1 Cartridges.

Offline Water Quality Flow: 0.0325 CFS (14.586gpm)
Number of Cartridges: 14.586gpm/11.25gpm/cartridge = 2 Cartridges.

Offline Water Quality Flow: 0.0222 CFS (9.963gpm)
Number of Cartridges: 9.963gpm/5.0gpm/cartridge = 2 Cartridges.

While the StormFilter catchbasins with treatment cartridges are sized to only treat the pollution generating surfaces, an infiltration trench is sized to take all the excess runoff created by the additional impervious area in conjunction with the two existing infiltration facilities. WWHM was used to calculate the water quality flow to each StormFilter treatment catchbasin. The following table shows the required size for each StormFilter catchbasin in its respective sub-catchment. Each StormFilter catchbasin was sized to treat a minimum of 92% of all flow to them. The results are tabulated below:

Facility ID	Contributing Basins	Pervious Area (AC)	Impervious Area (AC)	WQ Flow Rate (cfs)	Cartridge (#) Size	StormFilter Flow Capacity (cfs)
1	WQ1	0.098	0.00	0.0114	(1) 18’’	0.017
2	WQ2	0.131	0.00	0.0153	(1) 18’’	0.017
3	WQ3	0.278	0.00	0.0325	(2) 18’’	0.034
4	WQ4	0.190	0.00	0.0222	(1) 27”	0.025

Table C1 - StormFilter Catchbasin Sizing

See Appendix C for WWHM Reports. In addition to the reports, screen shots of each facility have been provided.

Minimum Requirement #7 - Flow Control analysis and Design

For land-disturbing activities where the thresholds within Minimum Requirement #7 indicate that runoff treatment facilities are required:

To address flow control requirements, an infiltration trench is being utilized.

- *Summarize the site's suitability for infiltration, including tested infiltration rates, logs of soil borings and other information provided in the Soils Report.*

  A geotechnical study was conducted on this site by Geocon Northwest for the construction of the high school and later a report by Columbia West dated December 20, 2019 for the construction of the Fieldhouse. See Appendix C for full reports and results. From the onsite study, test pit locations are shown in the Geotechnical Report Geocon, attached in Appendix D. The proposed infiltration trench falls between test pits T-16 and T-15 which have infiltration rates of<1 in/hr to 90 in/hour respectively. Based on these rates, a 30 in/hour rate will be assumed as the measured rate until further testing in the exact location is done. Per Table 4-1 in the Camas Stormwater Manual for Western Washington a correction factor of 2 will be used (for general soils) resulting in a design infiltration rate of 15 in/hr. Per the Geotechnical Report, static groundwater was not encountered onsite for almost all test pits and at 10' for test pit T-16 and not encountered in test pit T-15 at 6.5ft deep. With infiltration rates ranging from <1 in/hour up to 250 in/hour randomly across the site further investigation will be necessary and conservative assumptions for the preliminary design have been made.

- *If infiltration is infeasible for flow control, provide the following additional information:*

  Infiltration is feasible for this site.

- *If infiltration is infeasible for flow control, provide the following additional information:*

  Infiltration is feasible for the site.

- *Identify the areas where flow control credits can be obtained for dispersion, LID, or other measures, in accordance with the requirements in SWMWW.*

  This is not necessary since infiltration is being used, therefore N/A.

- *Provide the approximate sizing and location of flow control facilities for each TDA.*

  For the developed basin, there are two existing infiltration trenches to which a portion of the runoff will be routed (not to exceed pre-development flows) and a new infiltration trench is proposed to meet flow control requirements for the remainder of the flow. The size of the trench is as follows:

Facility ID	Tributary Basins	Length (FT)	Width (FT)	Depth (FT)	Percent of 100-Year Storm Infiltrated (%)
IT3	3, 4	94	16	3	100

Table C2 - Infiltration Trench Sizing

- *Identify the criteria (and their sources) used to complete the analyses, including pre-developed and post-developed land use characteristics.*

  The design criteria used can be found in Appendix B in the Western Washington Stormwater Manual, and WWHM model found in Appendix C.

- *For sites considered to be historic prairie, submit a project site report prepared by a wetland scientist or horticulturist experienced in identifying soils, plant, and other evidence associated with historic prairies that demonstrates the existence of historic prairie on the project site.*

  Historic Prairie is not being utilized on this project therefore this section is not applicable.

- *Complete a hydrologic analysis for historic and developed site conditions, in accordance with the requirements of SWMMWW, using an approved continuous flow model. Compute historic and developed flow duration of all TDAs. Provide an output table from the approved continuous flow model.*

  See Appendix C for results from WWHM model showing pre-developed and developed site conditions.

- *Include and reference all hydrologic computations, equations, graphs, and any other aids necessary to clearly show the methodology and results.*

  All BMPs have been sized using WWHM program for the Washington State Department of Ecology. See Appendix C for results from WWHM model.

- *Include all maps, exhibits, graphics, and references used to determine predeveloped and developed site hydrology.*

  For maps see the maps section in Appendix A, for exhibits and references used to determine the predeveloped condition see Appendix A, Appendix B, and Appendix C. The existing site hydrology was determined using WWHM program (see Appendix C).

Minimum Requirement #8 - Wetlands Protection

All new development and redevelopment projects meeting the Project Thresholds in I-3.3 Applicability of the Minimum Requirements shall include Stormwater Management BMPs in accordance with the following thresholds, standards, and requirements to reduce the impacts of stormwater runoff to wetlands.

There are no wetlands on this site therefore this section does not apply.

Minimum Requirement #9 - Operation and Maintenance

- *Provide information on who will own, operate, and maintain the stormwater facilities, including LID BMPs that are considered in the design of treatment and flow control facilities meeting Minimum Requirements #5, #6 or #7.*

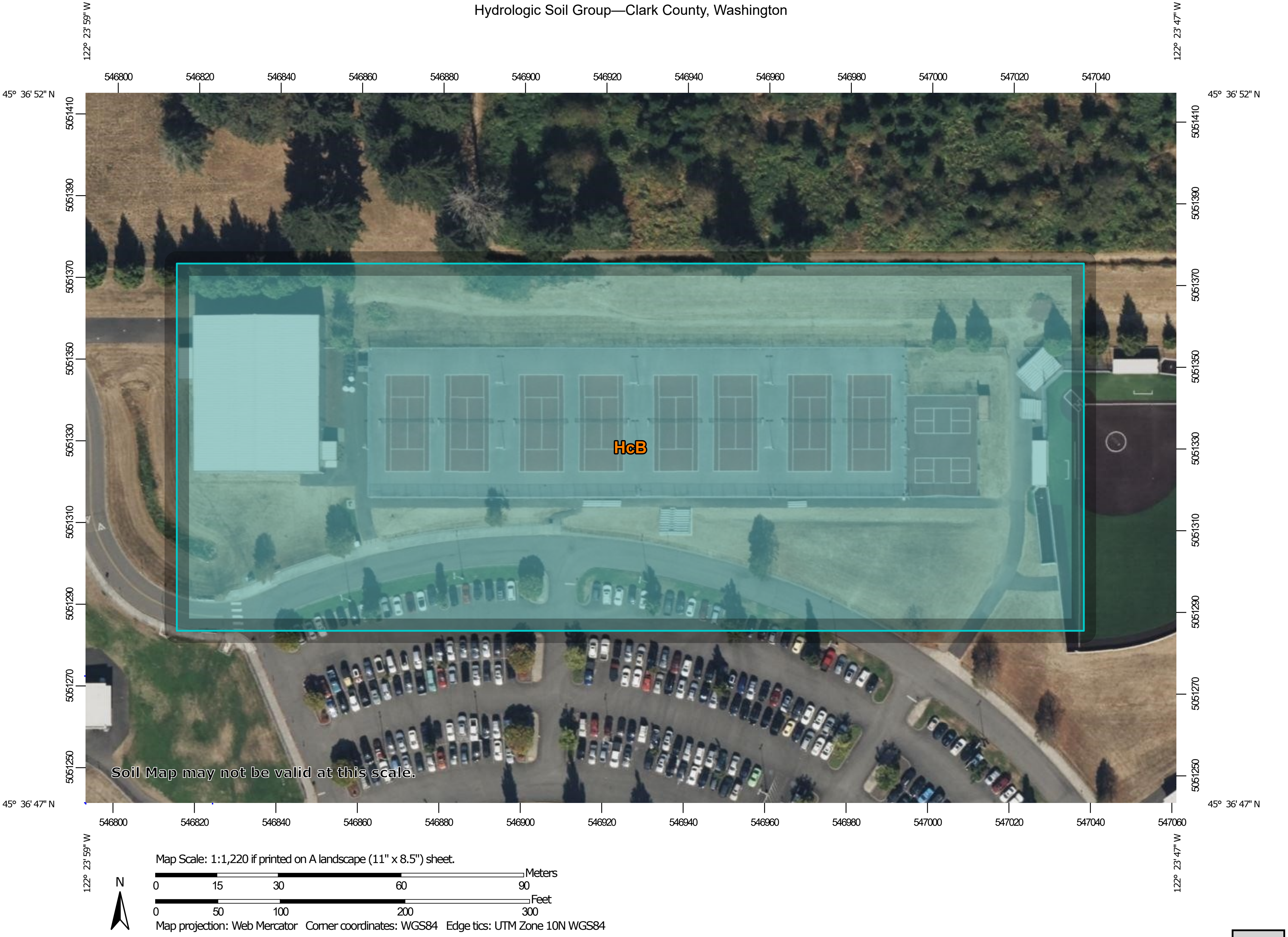
  Maintenance of the facilities will be in accordance with City of Camas Operations and Maintenance Manual in Appendix E. Onsite BMP’s will be owned and maintained by the Camas School District. There are no BMP’s expected to be in the right of way.

Exhibit 13 CUP24-1001

Appendix A

Clark County Hydrology Soil Group map
WWHM Soil Group Classification
Table 7: Estimated Physical and Chemical Properties of Soils
Clark County Soil Group
TableFigure B-5: Clark County – 100-year 24-hour Isopluvial

Hydrologic Soil Group—Clark County, Washington

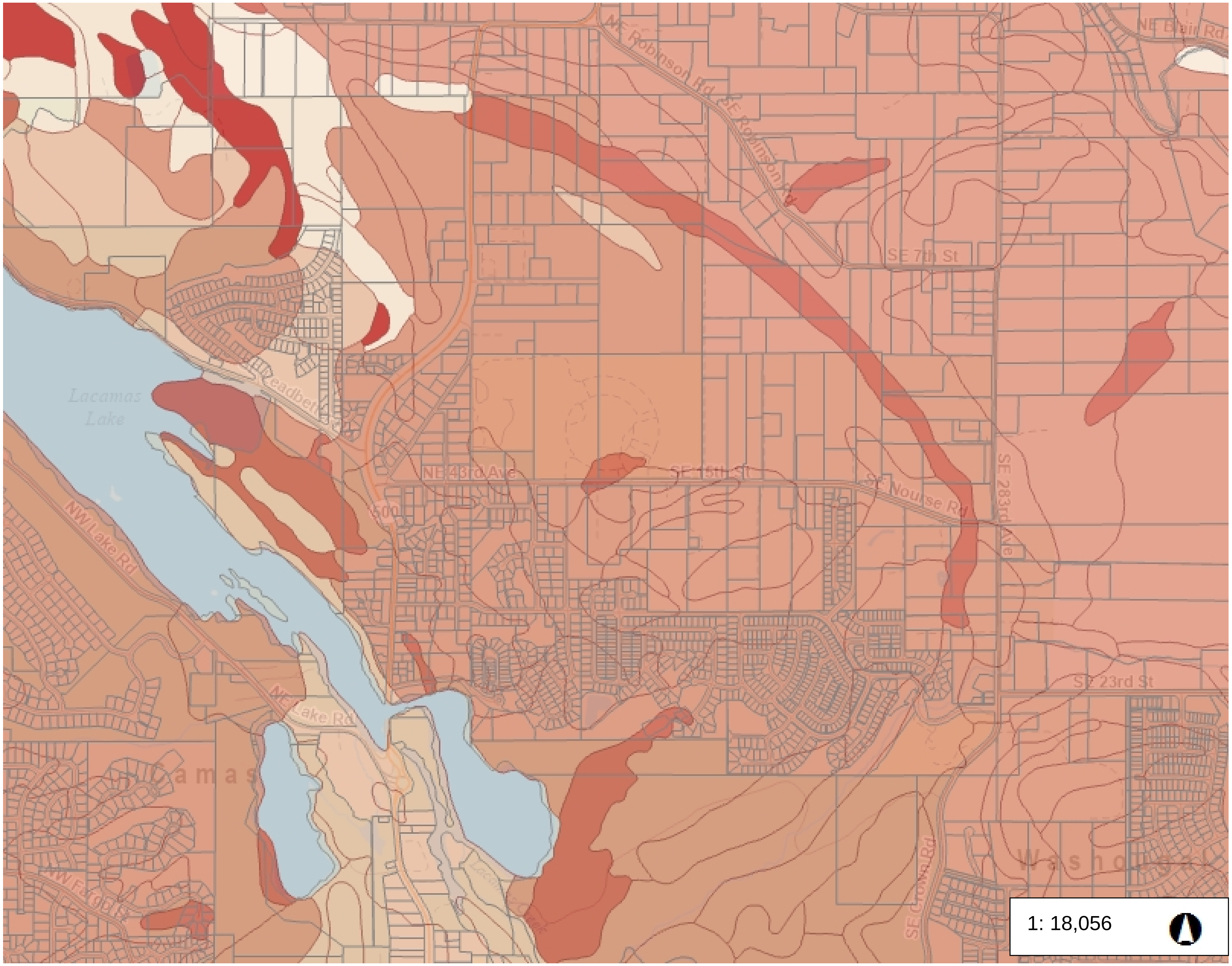


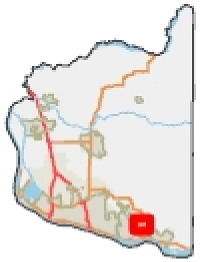
Map Scale: 1:1,220 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

Exhibit 13 CUP24-1001

WWHM Soil Group Classification





Legend

☐ Taxlots

WWHM Soil Group

- ■ 1 - Excessively drained soils
- ■ 2 - Well drained soils
- ■ 3 - Moderately drained soils
- ■ 4 - Poorly drained soils
- ■ 5 - Wetland soils
- ■ Unknown

Notes:

3,009.3 0 1,504.67 3,009.3 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Clark County, WA. GIS - http://gis.clark.wa.gov

Exhibit 13 CUP24-1001

TABLE 7.—*Estimated physical and chemical properties of the soils*

Soil series and map symbols	Depth from surface	Classification			Percentage passing sieve—			Permeability	Available water capacity	Reaction
		Dominant USDA texture	Unified	AASHO	No. 4 (4.76 mm.)[1]	No. 10 (2.0 mm.)	No. 200 (0.074 mm.)			
	Inches							*Inches per hour*	*Inches per inch of soil*	*pH*
Bear Prairie: BpB, BpC.	0–51	Silt loam	CL	A–6	90–100	85–95	75–85	0.63–2.0	0.19–0.21	4.6–5.5
	51–75	Gravelly loam	ML	A–4	70–80	65–75	50–60	0.63–2.0	0.14–0.16	5.1–6.0
Cinebar: CnB, CnD, CnE, CnG.	0–65	Silt loam and loam.	ML	A–4	90–100	85–95	60–70	0.63–2.0	0.19–0.21	5.1–6.5
CrE, CrG.	0–60	Silt loam	CL	A–4	70–80	60–80	50–70	0.63–2.0	0.12–0.14	5.1–5.5
Cispus: CsF.	0–24	Gravelly sandy loam.	SM	A–2	70–80	65–75	20–30	2.0–6.3	0.08–0.10	5.6–6.5
	24–53	Very cobbly sand	SM	A–1	35–50	30–50	5–10	>20.0	0.03–0.05	5.6–6.5
Cloquato: CtA.	0–40	Silt loam	ML	A–4	--------	100	70–80	0.63–0.20	0.19–0.21	5.6–7.3
	40–72	Sandy loam and sand.	SM	A–2	100	95–100	15–30	>6.3	0.08–0.10	5.6–7.3
Cove: CvA.	0–36	Clay	CH	A–7	--------	100	70–80	<0.06	0.14–0.16	5.6–7.3
	36–54	Gravelly silty clay loam.	CL	A–7	65–75	60–70	50–60	0.06–0.20	0.15–0.17	5.6–7.3
Cove, thin solum: CwA.	0–14	Silty clay loam	CL	A–7	--------	100	85–95	0.06–0.20	0.19–0.21	4.5–6.0
	14–21	Clay	CH	A–7	--------	100	70–80	<0.06	0.14–0.16	5.6–7.3
	21–60	Silt loam	ML or CL	A–4 or A–6.	--------	100	65–75	0.06–0.20	0.19–0.21	6.6–7.3
Dollar: DoB.	0–32	Loam	ML	A–4	100	90–95	60–70	0.63–2.0	0.16–0.18	4.5–6.0
	32–60	Loam (fragipan)	ML or CL	A–4	100	95–100	60–70	<0.06	0.06–0.08	-6.0
Fill land: Fn.	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Gee: GeB, GeD, GeE, GeF.	0–22	Silt loam	ML or CL	A–6	--------	100	70–85	0.63–2.0	0.19–0.21	5.1–6.0
	22–72	Silty clay loam	CL	A–6	--------	100	70–80	<0.06	0.06–0.08	5.1–6.0
Gumboot: GuB.	0–12	Silt loam	OL	A–7	90–95	85–95	75–85	0.63–2.0	0.19–0.21	4.5–7.3
	12–50	Gravelly silty clay loam, clay loam.	CL	A–6	90–100	85–95	65–75	0.06–0.2	0.19–0.21	6.1–7.3
	50–60	Very gravelly silty clay.	GC	A–7	40–50	35–50	25–35	<0.06	0.06–0.08	6.1–7.3
Hesson: HcB, HcD, HcE, HcF.	0–22	Clay loam	CL	A–7	85–95	85–95	65–75	0.63–2.0	0.19–0.21	4.5–6.0
	22–91	Clay	CH	A–7	85–90	85–90	75–85	0.2–0.63	0.14–0.16	4.5–6.0
HgB, HgD, HhE.	0–22	Gravelly clay loam.	SC	A–6	75–85	70–80	40–50	0.63–2.0	0.14–0.16	4.5–6.0
	22–91	Gravelly clay	CH	A–7	75–85	70–80	60–70	0.2–0.63	0.11–0.13	4.5–6.0
Hillsboro: HlA, HlB, HlC, HlD, HlE, HlF.	0–36	Loam	ML	A–4	--------	100	55–65	0.63–2.0	0.16–0.18	5.1–6.5
	36–62	Sandy loam and sand.	SM	A–1	95–100	95–100	15–25	2.0–6.3	0.10–0.12	5.6–7.3
HoA, HoB, HoC, HoD, HoE, HoG, HsB.	0–86	Silt loam (boulders on surface of HsB).	ML	A–4	--------	100	80–90	0.63–2.0	0.19–0.21	5.0–6.0

See footnotes at end of table.

Exhibit 13 CUP24-1001

Hydrologic Soil Groups for Soils in Clark County

U.S. Department of Agriculture
Soil Conservation Service

WATER FEATURES

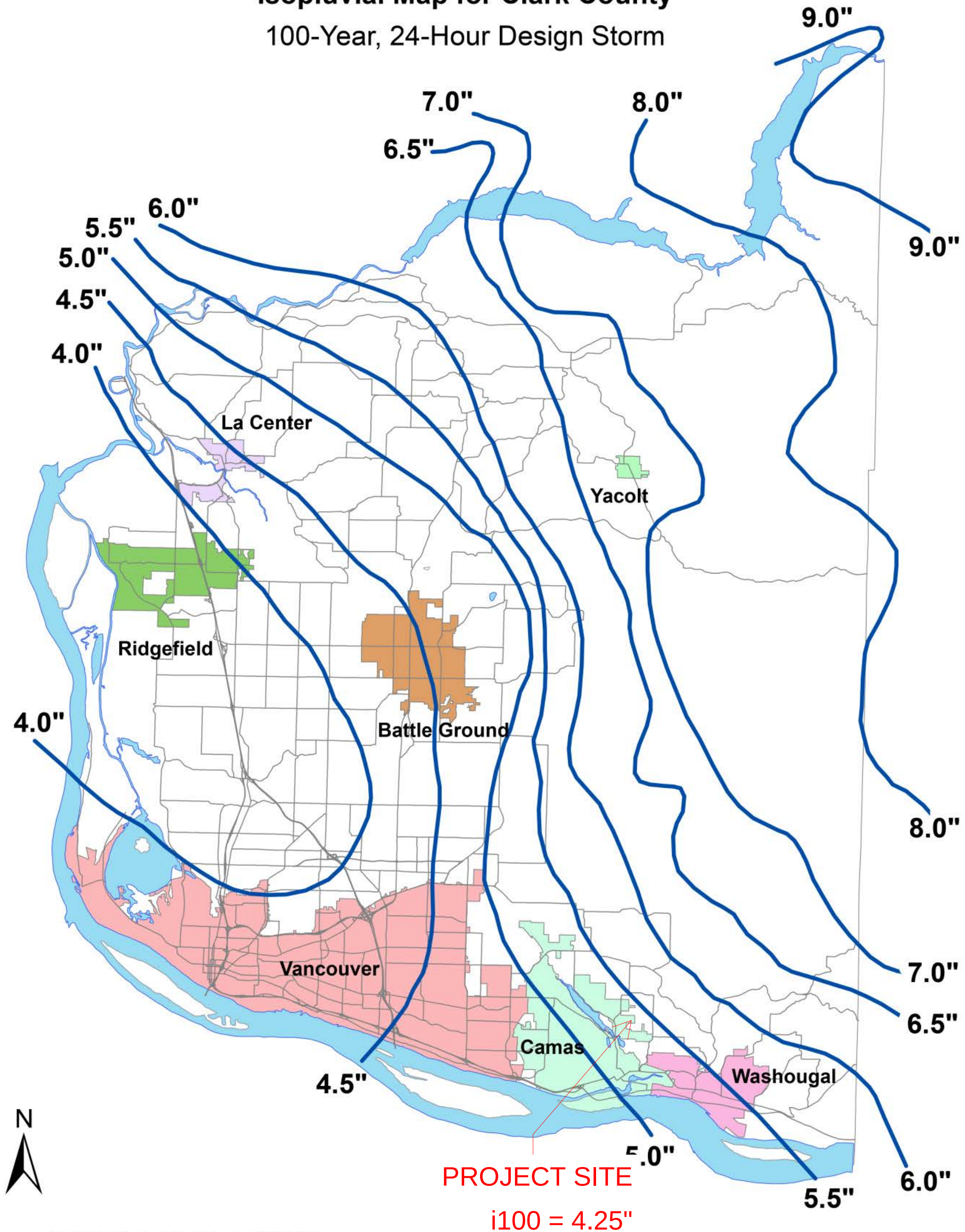
Survey Area: CLARK COUNTY, WASHINGTON

Map Symbol	Soil Name	Hydrologic Group	Clark County WWHM Soils Group
BpB	BEAR PRARIE	B	2
BpC	BEAR PRARIE	B	2
CnB	CINEBAR	B	2
CnD	CINEBAR	B	2
CnE	CINEBAR	B	2
CnG	CINEBAR	B	2
CrE	CINEBAR	B	2
CrG	CINEBAR	B	2
CsF	CISPUS	B	2
CtA	CLOQUATO	B	2
CvA	COVE	D	4
CwA	COVE	D	4
DoB	DOLLAR	C	3
Fn	FILL LAND	In-situ	N/A
GeB	GEE	C	4
GeD	GEE	C	4
GeE	GEE	C	4
GeF	GEE	C	4
GuB	GUMBOOT	D	4
HcB	HESSON	C	3
HeD	HELLSON	C	3
HcE	HESSON	C	3
HcF	HESSON	C	3
HgB	HESSON	C	3
HgD	HESSON	C	3
HhE	HESSON	C	3
HlA	HILLSBORO	B	2
HlB	HILLSBORO	B	2

Exhibit 13 CUP24-1001

Isopluvial Map for Clark County

100-Year, 24-Hour Design Storm



PROJECT SITE

i100 = 4.25"

Boundaries current as of 2015.

Exhibit 13 CUP24-1001

Appendix B

Figure I-3.2: Flow Chart for Determining Requirements for Redevelopment
Figure I-3.3: Chart for Determining MR#5 Requirements

Exhibit 13 CUP24-1001

Figure I-3.2: Flow Chart for Determining Requirements for Redevelopment

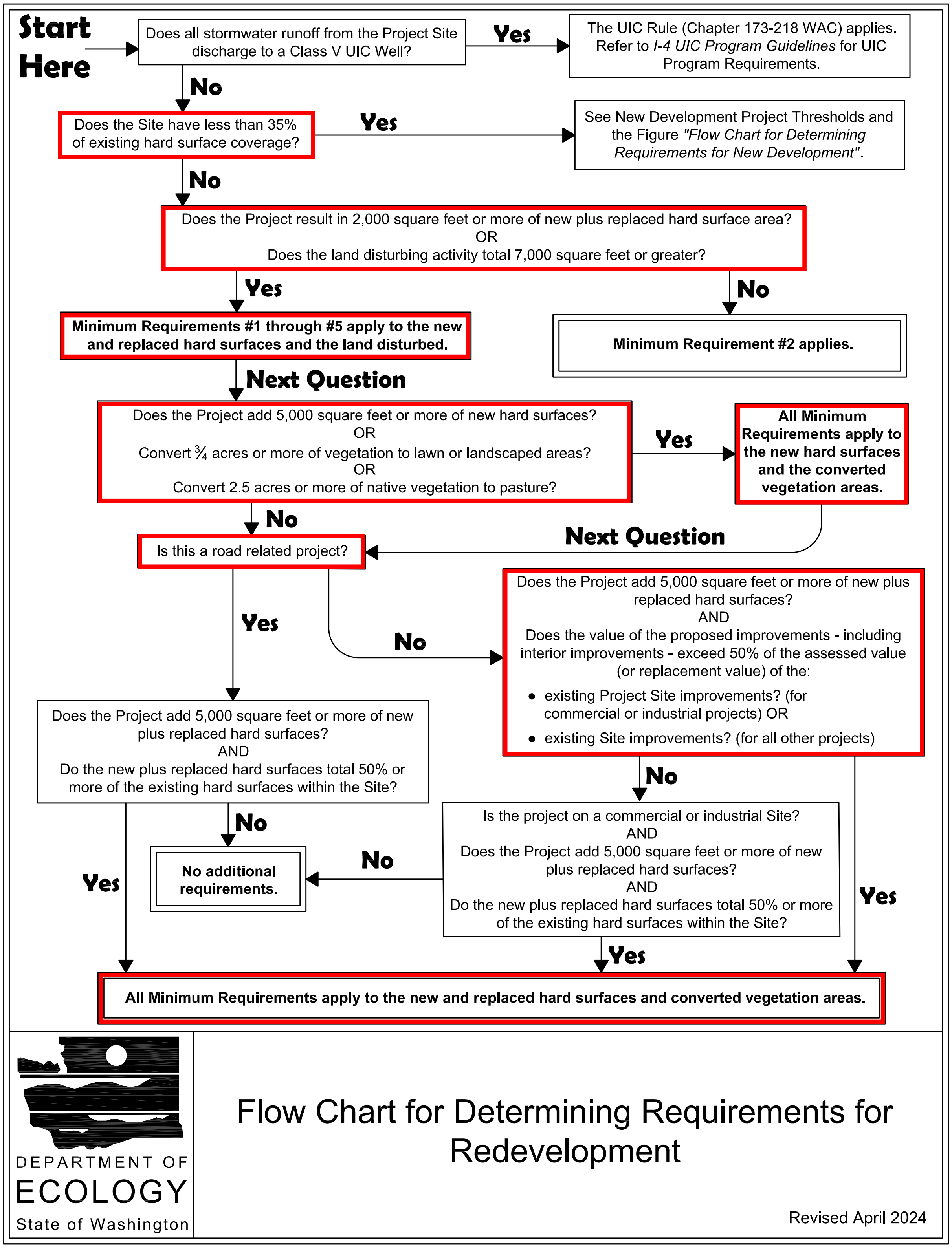


Exhibit 13 CUP24-1001

Figure I-3.3: Flow Chart for Determining MR #5 Requirements

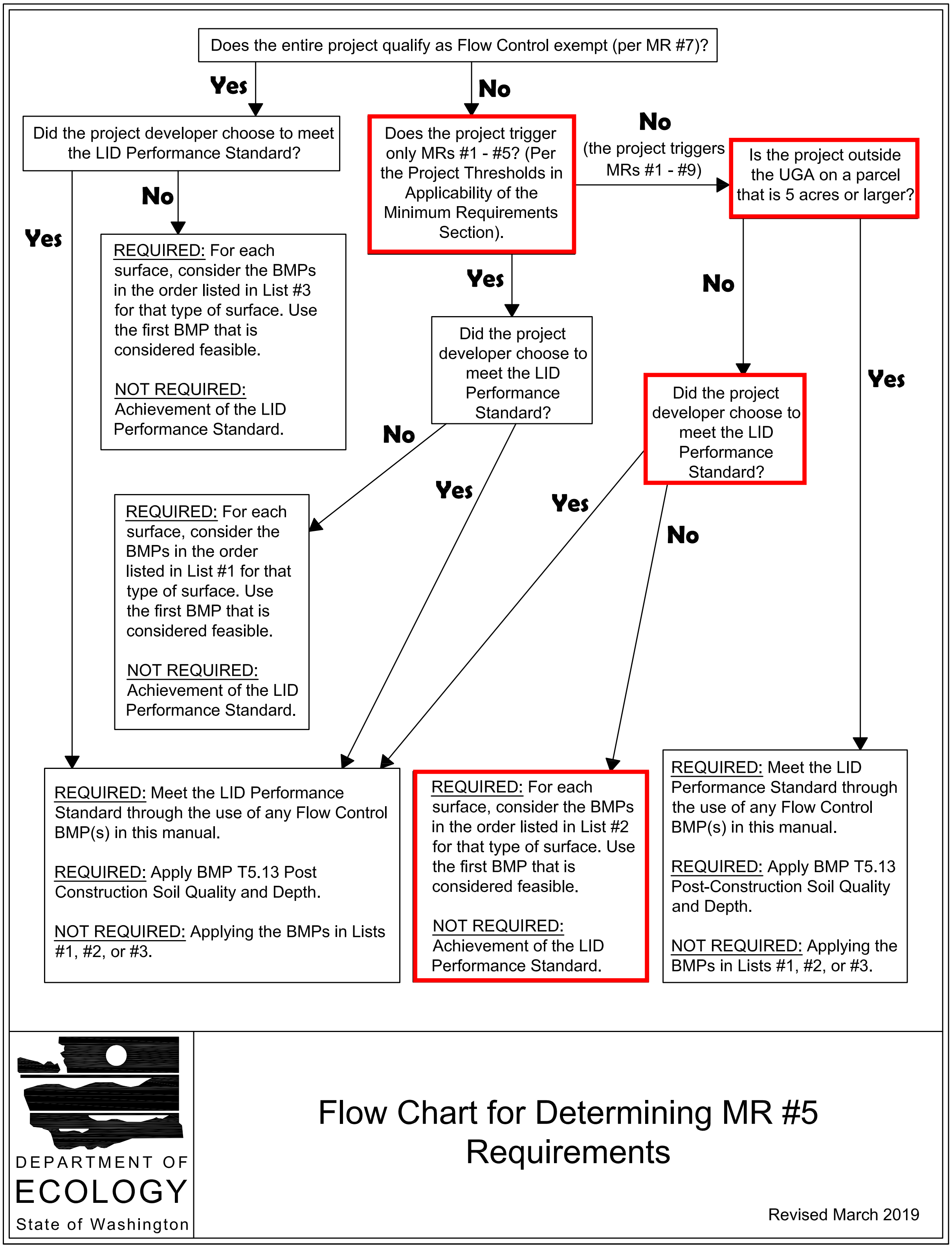


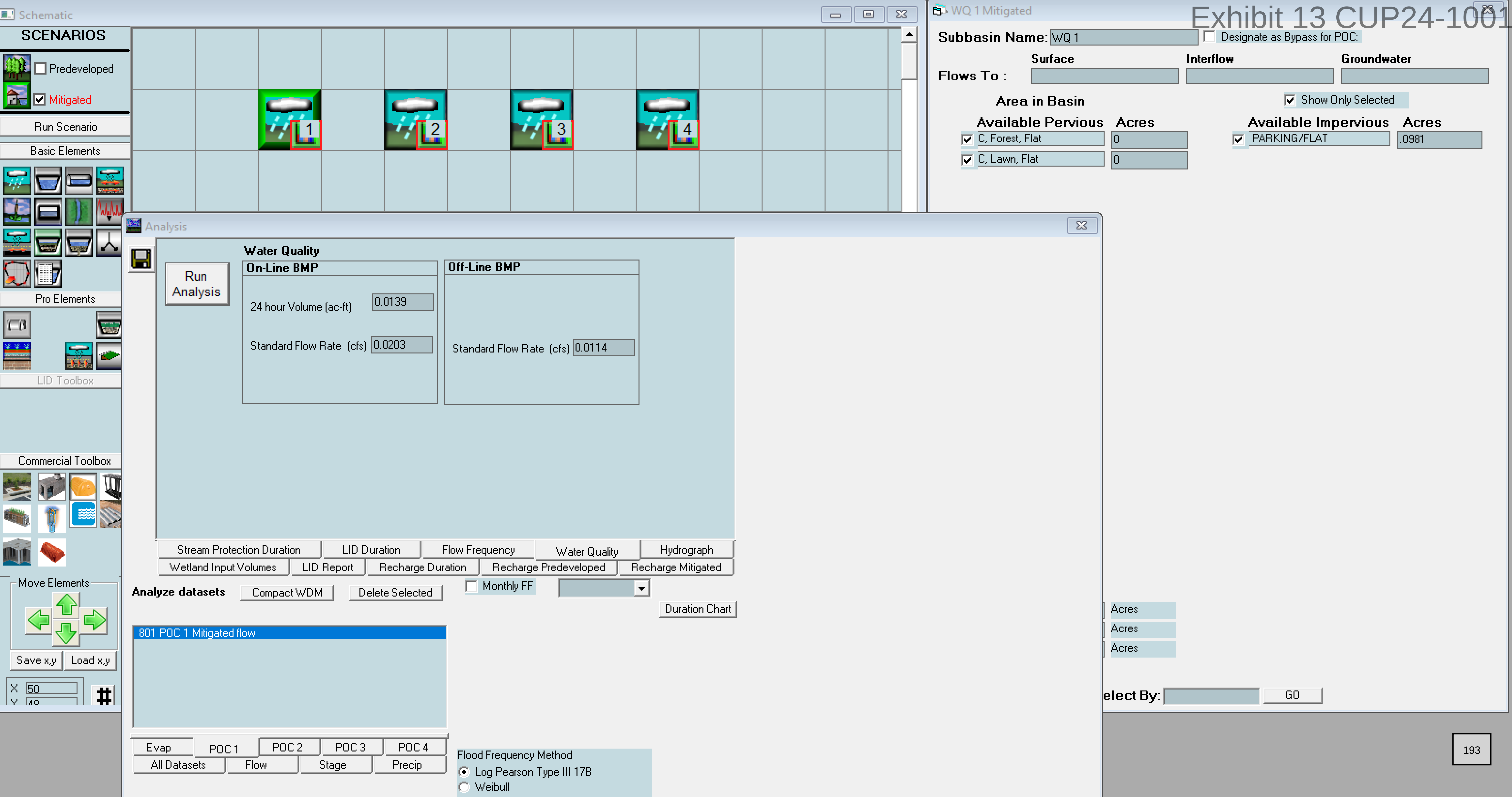
Exhibit 13 CUP24-1001

Appendix C

WWHM2012 Modeling

- WWHM Water Quality Project Report

Exhibit 13 CUP24-1001



☐ Predeveloped
☑ Mitigated

X 50
Y 48

WQ 1 Mitigated

Subbasin Name: WQ 1 ☐ Designate as Bypass for POC:

Flows To : **Surface** **Interflow** **Groundwater**

Area in Basin ☑ Show Only Selected

Available Pervious	Acres	Available Impervious	Acres
☑ C, Forest, Flat	0	☑ PARKING/FLAT	.0981
☑ C, Lawn, Flat	0		

Water Quality

On-Line BMP

24 hour Volume (ac-ft) 0.0139

Standard Flow Rate (cfs) 0.0203

Off-Line BMP

Standard Flow Rate (cfs) 0.0114

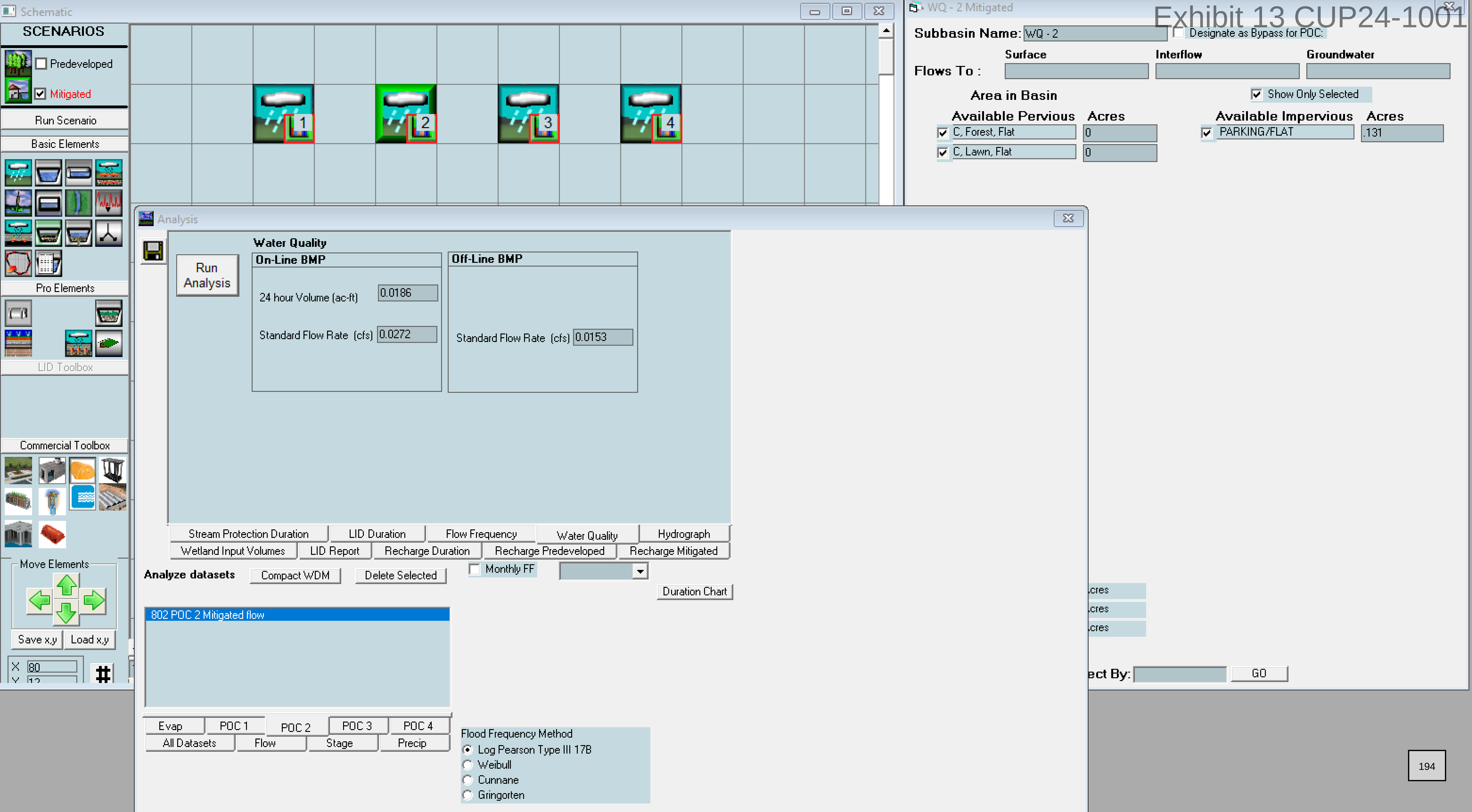
Analyze datasets

801 POC 1 Mitigated flow

☐ Monthly FF

Flood Frequency Method
● Log Pearson Type III 17B
○ Weibull

Exhibit 13 CUP24-1001



Schematic

SCENARIOS

☐ Predeveloped

☑ Mitigated

Analysis

Water Quality

On-Line BMP

24 hour Volume (ac-ft) 0.0186

Standard Flow Rate (cfs) 0.0272

Off-Line BMP

Standard Flow Rate (cfs) 0.0153

Analyze datasets

802 POC 2 Mitigated flow

☐ Monthly FF

Flood Frequency Method

● Log Pearson Type III 17B

○ Weibull

○ Cunnane

○ Gringorten

WQ - 2 Mitigated

Subbasin Name: WQ - 2

☐ Designate as Bypass for POC:

Flows To :

Surface	Interflow	Groundwater

Area in Basin

☑ Show Only Selected

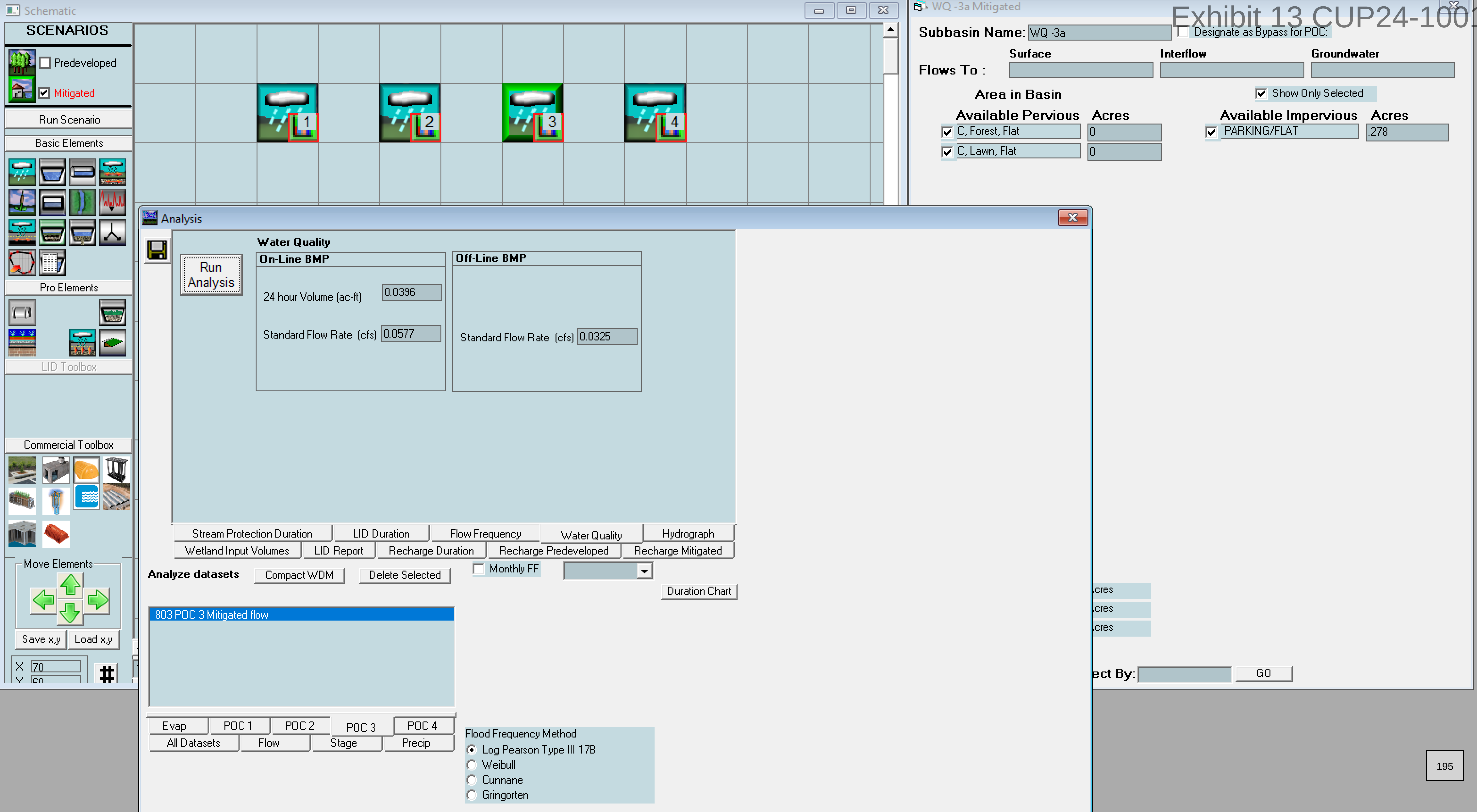
	Available Pervious	Acres
☑	C, Forest, Flat	0
☑	C, Lawn, Flat	0

	Available Impervious	Acres
☑	PARKING/FLAT	.131

X 80

Y 12

Exhibit 13 CUP24-1001



☐ Predeveloped
☑ Mitigated

X 70
Y 50

Water Quality

On-Line BMP

24 hour Volume (ac-ft) 0.0396

Standard Flow Rate (cfs) 0.0577

Off-Line BMP

Standard Flow Rate (cfs) 0.0325

Analyze datasets

☐ Monthly FF

803 POC 3 Mitigated flow

Flood Frequency Method
- ● Log Pearson Type III 17B
- ○ Weibull
- ○ Cunnane
- ○ Gringorten

WQ -3a Mitigated

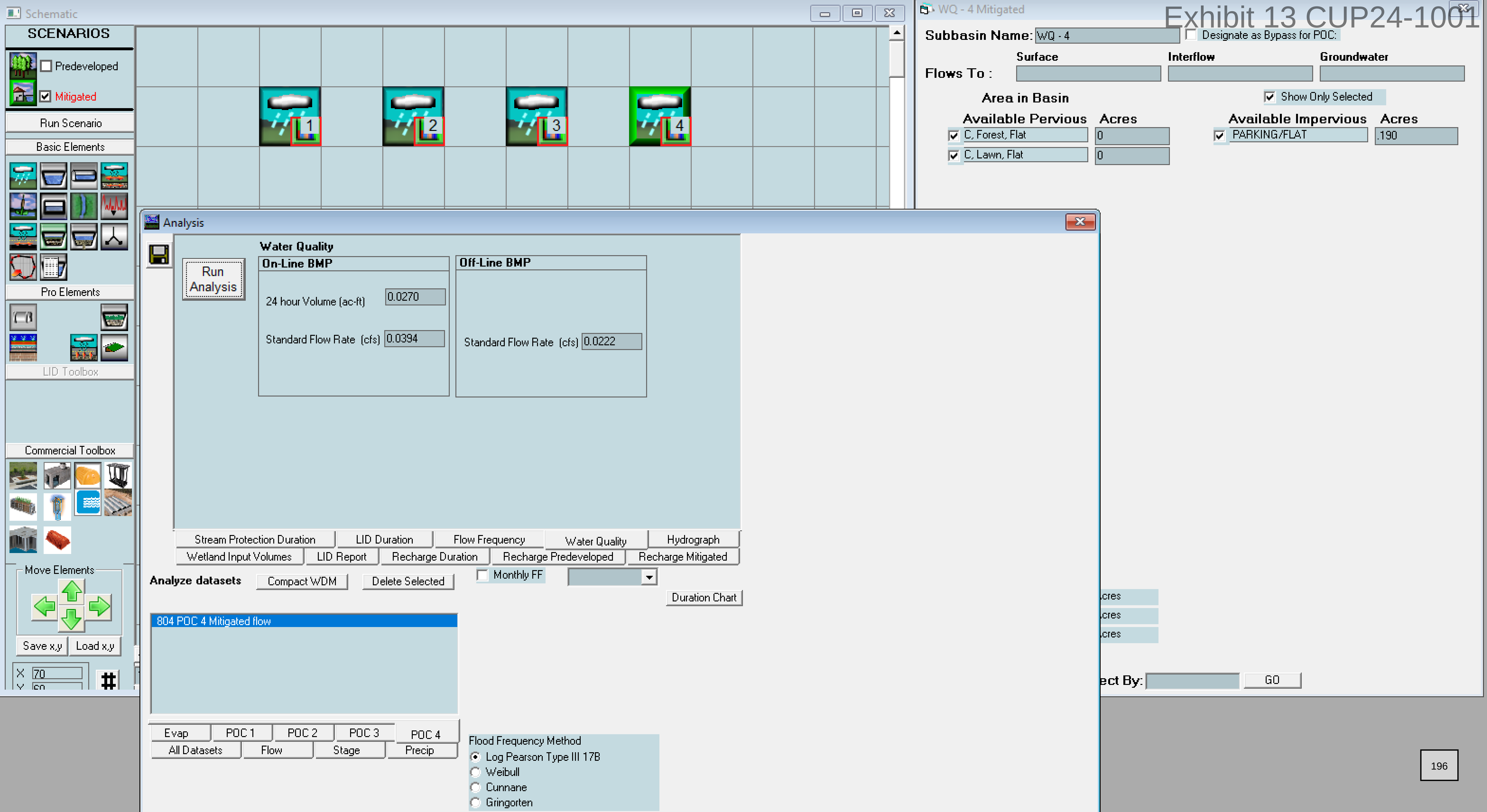
Subbasin Name: WQ -3a ☐ Designate as Bypass for POC:

Flows To : Surface Interflow Groundwater

Area in Basin ☑ Show Only Selected

Available Pervious	Acres	Available Impervious	Acres
☑ C, Forest, Flat	0	☑ PARKING/FLAT	.278
☑ C, Lawn, Flat	0		

Exhibit 13 CUP24-1001



☐ Predeveloped
☑ Mitigated

X 70
Y 50

Water Quality

On-Line BMP

24 hour Volume (ac-ft) 0.0270

Standard Flow Rate (cfs) 0.0394

Off-Line BMP

Standard Flow Rate (cfs) 0.0222

Analyze datasets

☐ Monthly FF

804 POC 4 Mitigated flow

Flood Frequency Method
● Log Pearson Type III 17B
○ Weibull
○ Cunnane
○ Gringorten

Subbasin Name: WQ - 4

☐ Designate as Bypass for POC:

Flows To : Surface | Interflow | Groundwater

Area in Basin

☑ Show Only Selected

Available Pervious	Acres
☑ C, Forest, Flat	0
☑ C, Lawn, Flat	0

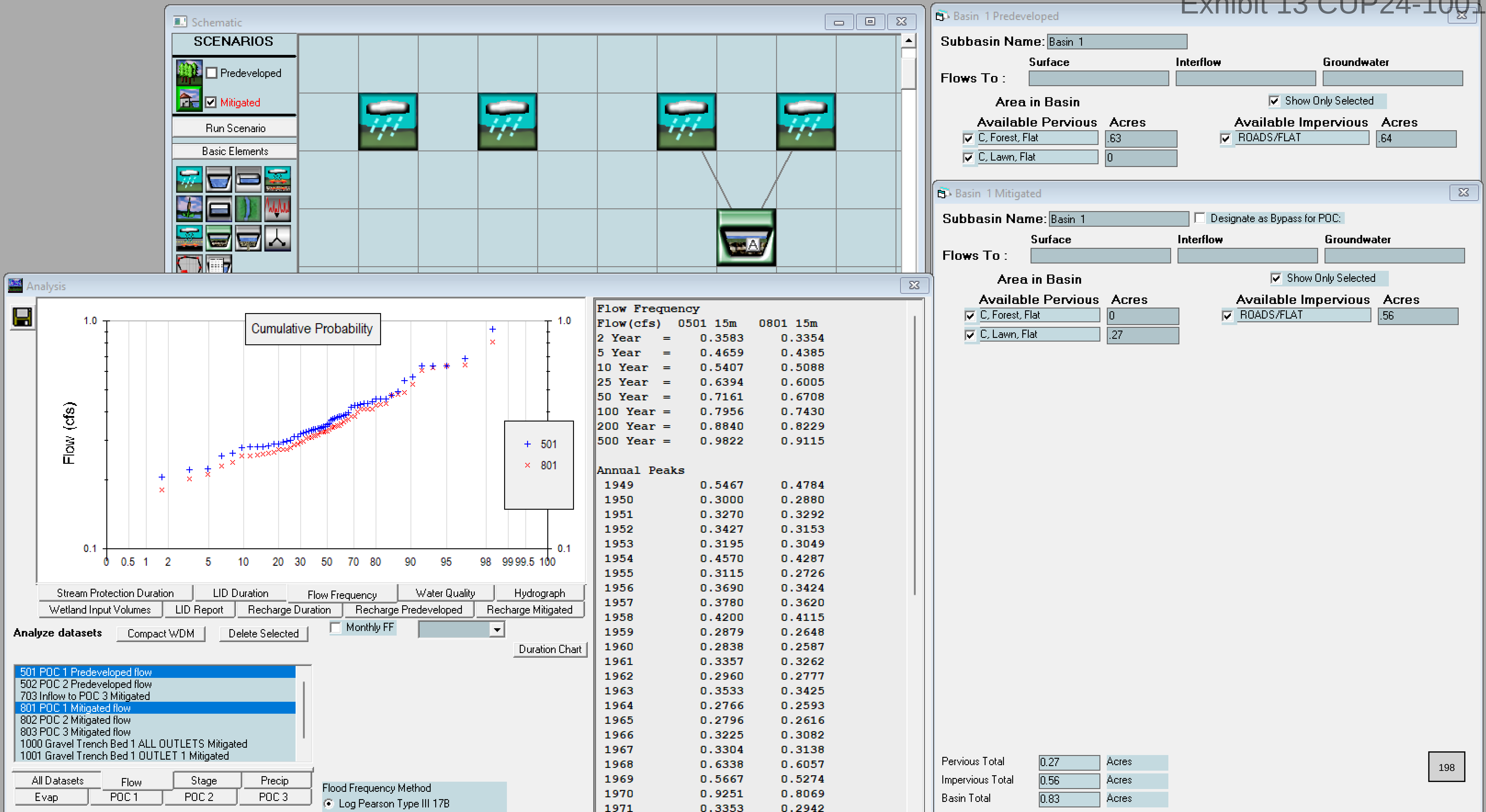
Available Impervious	Acres
☑ PARKING/FLAT	.190

Appendix C

WWHM2012 Modeling

- WWHM Infiltration Trench Project Report

Exhibit 13 CUP24-1001



☐ Predeveloped
☑ Mitigated

Analyze datasets

☐ Monthly FF

- 501 POC 1 Predeveloped flow
- 502 POC 2 Predeveloped flow
- 703 Inflow to POC 3 Mitigated
- 801 POC 1 Mitigated flow
- 802 POC 2 Mitigated flow
- 803 POC 3 Mitigated flow
- 1000 Gravel Trench Bed 1 ALL OUTLETS Mitigated
- 1001 Gravel Trench Bed 1 OUTLET 1 Mitigated

Flood Frequency Method
● Log Pearson Type III 17B

```
Flow Frequency
Flow(cfs)   0501 15m    0801 15m
2 Year    =    0.3583      0.3354
5 Year    =    0.4659      0.4385
10 Year   =    0.5407      0.5088
25 Year   =    0.6394      0.6005
50 Year   =    0.7161      0.6708
100 Year  =    0.7956      0.7430
200 Year  =    0.8840      0.8229
500 Year  =    0.9822      0.9115

Annual Peaks
 1949          0.5467      0.4784
 1950          0.3000      0.2880
 1951          0.3270      0.3292
 1952          0.3427      0.3153
 1953          0.3195      0.3049
 1954          0.4570      0.4287
 1955          0.3115      0.2726
 1956          0.3690      0.3424
 1957          0.3780      0.3620
 1958          0.4200      0.4115
 1959          0.2879      0.2648
 1960          0.2838      0.2587
 1961          0.3357      0.3262
 1962          0.2960      0.2777
 1963          0.3533      0.3425
 1964          0.2766      0.2593
 1965          0.2796      0.2616
 1966          0.3225      0.3082
 1967          0.3304      0.3138
 1968          0.6338      0.6057
 1969          0.5667      0.5274
 1970          0.9251      0.8069
 1971          0.3353      0.2942
```

Basin 1 Predeveloped

Subbasin Name: Basin 1

Flows To : Surface / Interflow / Groundwater

Area in Basin ☑ Show Only Selected

Available Pervious	Acres	Available Impervious	Acres
☑ C, Forest, Flat	.63	☑ ROADS/FLAT	.64
☑ C, Lawn, Flat	0		

Basin 1 Mitigated

Subbasin Name: Basin 1 ☐ Designate as Bypass for POC:

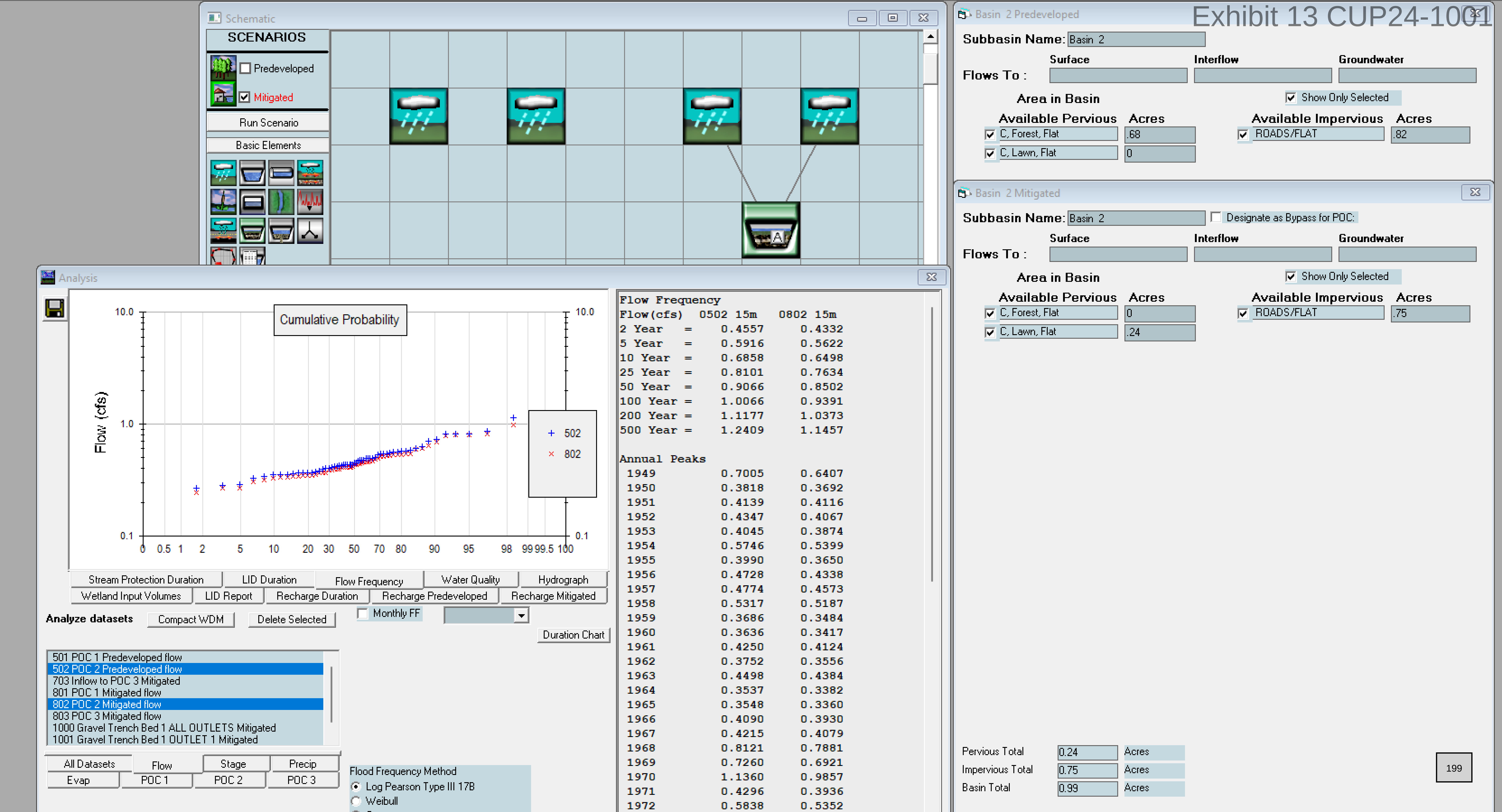
Flows To : Surface / Interflow / Groundwater

Area in Basin ☑ Show Only Selected

Available Pervious	Acres	Available Impervious	Acres
☑ C, Forest, Flat	0	☑ ROADS/FLAT	.56
☑ C, Lawn, Flat	.27		

Pervious Total	0.27	Acres
Impervious Total	0.56	Acres
Basin Total	0.83	Acres

Exhibit 13 CUP24-1001



☐ Predeveloped
☑ Mitigated

☐ Monthly FF

Analyze datasets

- 501 POC 1 Predeveloped flow
- 502 POC 2 Predeveloped flow
- 703 Inflow to POC 3 Mitigated
- 801 POC 1 Mitigated flow
- 802 POC 2 Mitigated flow
- 803 POC 3 Mitigated flow
- 1000 Gravel Trench Bed 1 ALL OUTLETS Mitigated
- 1001 Gravel Trench Bed 1 OUTLET 1 Mitigated

Flood Frequency Method
● Log Pearson Type III 17B
○ Weibull

```
Flow Frequency
Flow(cfs)  0502 15m   0802 15m
2 Year   =     0.4557     0.4332
5 Year   =     0.5916     0.5622
10 Year  =     0.6858     0.6498
25 Year  =     0.8101     0.7634
50 Year  =     0.9066     0.8502
100 Year =     1.0066     0.9391
200 Year =     1.1177     1.0373
500 Year =     1.2409     1.1457

Annual Peaks
 1949          0.7005     0.6407
 1950          0.3818     0.3692
 1951          0.4139     0.4116
 1952          0.4347     0.4067
 1953          0.4045     0.3874
 1954          0.5746     0.5399
 1955          0.3990     0.3650
 1956          0.4728     0.4338
 1957          0.4774     0.4573
 1958          0.5317     0.5187
 1959          0.3686     0.3484
 1960          0.3636     0.3417
 1961          0.4250     0.4124
 1962          0.3752     0.3556
 1963          0.4498     0.4384
 1964          0.3537     0.3382
 1965          0.3548     0.3360
 1966          0.4090     0.3930
 1967          0.4215     0.4079
 1968          0.8121     0.7881
 1969          0.7260     0.6921
 1970          1.1360     0.9857
 1971          0.4296     0.3936
 1972          0.5838     0.5352
```

Basin 2 Predeveloped

Subbasin Name: Basin 2

Flows To : Surface / Interflow / Groundwater

Area in Basin ☑ Show Only Selected

Available Pervious	Acres	Available Impervious	Acres
☑ C, Forest, Flat	.68	☑ ROADS/FLAT	.82
☑ C, Lawn, Flat	0		

Basin 2 Mitigated

Subbasin Name: Basin 2 ☐ Designate as Bypass for POC:

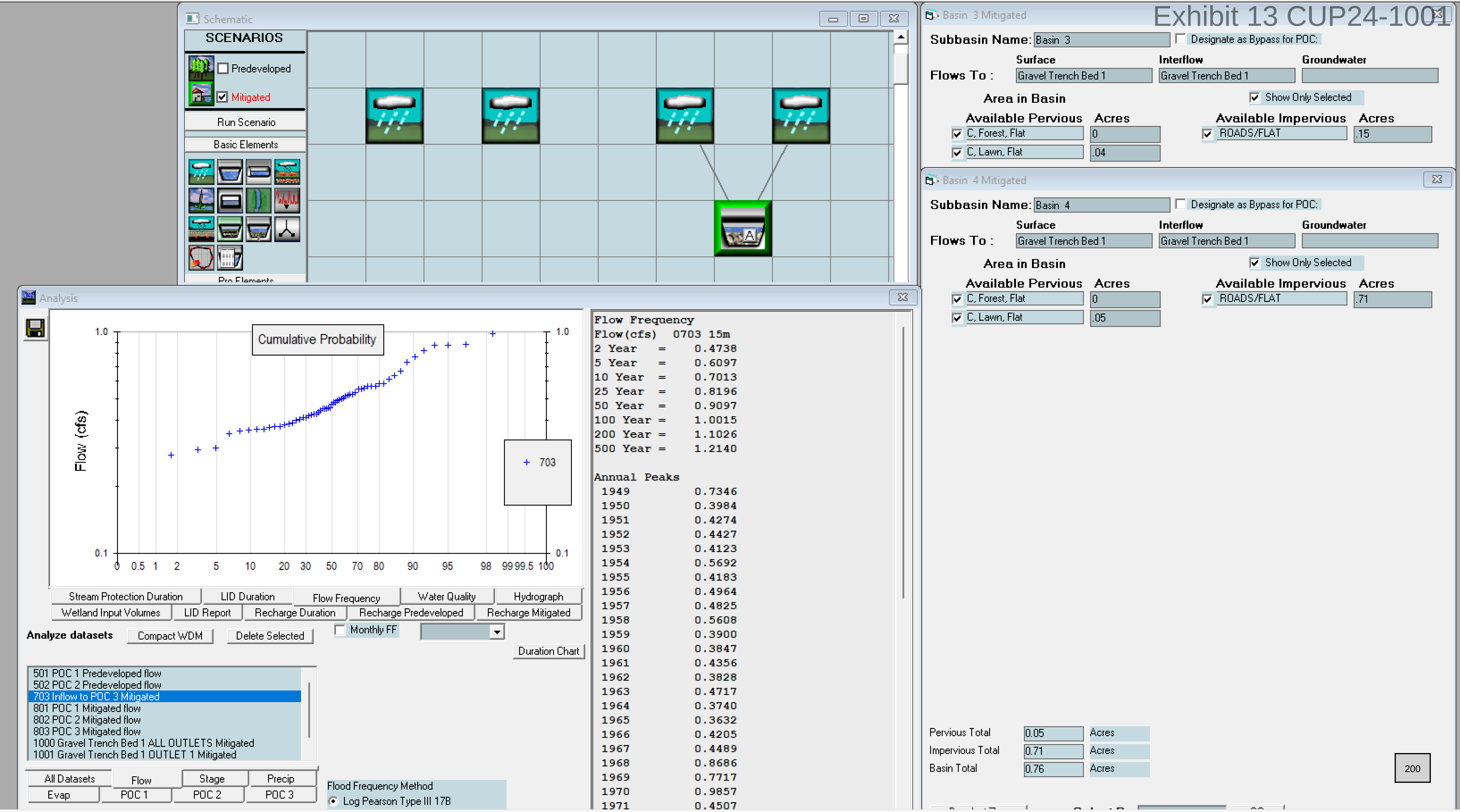
Flows To : Surface / Interflow / Groundwater

Area in Basin ☑ Show Only Selected

Available Pervious	Acres	Available Impervious	Acres
☑ C, Forest, Flat	0	☑ ROADS/FLAT	.75
☑ C, Lawn, Flat	.24		

Pervious Total 0.24 Acres
Impervious Total 0.75 Acres
Basin Total 0.99 Acres

Exhibit 13 CUP24-1001



☐ Predeveloped

☑ Mitigated

Analyze datasets

☐ Monthly FF

- 501 POC 1 Predeveloped flow
- 502 POC 2 Predeveloped flow
- 703 Inflow to POC 3 Mitigated
- 801 POC 1 Mitigated flow
- 802 POC 2 Mitigated flow
- 803 POC 3 Mitigated flow
- 1000 Gravel Trench Bed 1 ALL OUTLETS Mitigated
- 1001 Gravel Trench Bed 1 OUTLET 1 Mitigated

Flood Frequency Method

● Log Pearson Type III 17B

```
Flow Frequency
Flow(cfs)   0703 15m
2 Year    =    0.4738
5 Year    =    0.6097
10 Year   =    0.7013
25 Year   =    0.8196
50 Year   =    0.9097
100 Year  =    1.0015
200 Year  =    1.1026
500 Year  =    1.2140

Annual Peaks
 1949          0.7346
 1950          0.3984
 1951          0.4274
 1952          0.4427
 1953          0.4123
 1954          0.5692
 1955          0.4183
 1956          0.4964
 1957          0.4825
 1958          0.5608
 1959          0.3900
 1960          0.3847
 1961          0.4356
 1962          0.3828
 1963          0.4717
 1964          0.3740
 1965          0.3632
 1966          0.4205
 1967          0.4489
 1968          0.8686
 1969          0.7717
 1970          0.9857
 1971          0.4507
```

Basin 3 Mitigated

Subbasin Name: Basin 3 ☐ Designate as Bypass for POC:

	Surface	Interflow	Groundwater
Flows To :	Gravel Trench Bed 1	Gravel Trench Bed 1	

Area in Basin ☑ Show Only Selected

Available Pervious	Acres	Available Impervious	Acres
☑ C, Forest, Flat	0	☑ ROADS/FLAT	.15
☑ C, Lawn, Flat	.04		

Basin 4 Mitigated

Subbasin Name: Basin 4 ☐ Designate as Bypass for POC:

	Surface	Interflow	Groundwater
Flows To :	Gravel Trench Bed 1	Gravel Trench Bed 1	

Area in Basin ☑ Show Only Selected

Available Pervious	Acres	Available Impervious	Acres
☑ C, Forest, Flat	0	☑ ROADS/FLAT	.71
☑ C, Lawn, Flat	.05		

Pervious Total	0.05	Acres
Impervious Total	0.71	Acres
Basin Total	0.76	Acres

Exhibit 13 CUP24-1001

WWHM2012

PROJECT REPORT

General Model Information

WWHM2012 Project Name: 18551 - Covered Tennis Center

Site Name:	
Site Address:	
City:	camas
Report Date:	9/26/2024
Gage:	Lacamas
Data Start:	1948/10/01
Data End:	2008/09/30
Timestep:	15 Minute
Precip Scale:	1.300
Version Date:	2023/01/27
Version:	4.2.19

POC Thresholds

Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Forest, Flat	0.63
Pervious Total	0.63
Impervious Land Use	acre
ROADS FLAT	0.64
Impervious Total	0.64
Basin Total	1.27

Basin 2

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Forest, Flat	0.68
Pervious Total	0.68
Impervious Land Use	acre
ROADS FLAT	0.82
Impervious Total	0.82
Basin Total	1.5

Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Lawn, Flat	0.27
Pervious Total	0.27
Impervious Land Use	acre
ROADS FLAT	0.56
Impervious Total	0.56
Basin Total	0.83

Basin 2

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Lawn, Flat	0.24
Pervious Total	0.24
Impervious Land Use	acre
ROADS FLAT	0.75
Impervious Total	0.75
Basin Total	0.99

Exhibit 13 CUP24-1001

Basin 3

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Lawn, Flat	0.04
Pervious Total	0.04
Impervious Land Use	acre
ROADS FLAT	0.15
Impervious Total	0.15
Basin Total	0.19

Basin 4

Bypass:	No
GroundWater:	No
Pervious Land Use	acre
C, Lawn, Flat	0.05
Pervious Total	0.05
Impervious Land Use	acre
ROADS FLAT	0.71
Impervious Total	0.71
Basin Total	0.76

Exhibit 13 CUP24-1001

Routing Elements

Predeveloped Routing

Exhibit 13 CUP24-1001

Mitigated Routing

Infiltration Trench 1

Bottom Length: 94.00 ft.
Bottom Width: 16.00 ft.
Trench bottom slope 1: 0 To 1
Trench Left side slope 0: 0 To 1
Trench right side slope 2: 0 To 1
Material thickness of first layer: 3
Pour Space of material for first layer: 0.33
Material thickness of second layer: 0
Pour Space of material for second layer: 0
Material thickness of third layer: 0
Pour Space of material for third layer: 0
Infiltration On
Infiltration rate: 30
Infiltration safety factor: 0.5
Wetted surface area On
Total Volume Infiltrated (ac-ft.): 178.468
Total Volume Through Riser (ac-ft.): 0
Total Volume Through Facility (ac-ft.): 178.468
Percent Infiltrated: 100
Total Precip Applied to Facility: 0
Total Evap From Facility: 0
Discharge Structure
Riser Height: 5 ft.
Riser Diameter: 12 in.
Element Flows To:
Outlet 1 Outlet 2

Gravel Trench Bed Hydraulic Table

Stage(feet)	**Area(ac.)**	**Volume(ac-ft.)**	**Discharge(cfs)**	**Infilt(cfs)**
0.0000	0.034	0.000	0.000	0.000
0.0333	0.034	0.000	0.000	0.522
0.0667	0.034	0.000	0.000	0.522
0.1000	0.034	0.001	0.000	0.522
0.1333	0.034	0.001	0.000	0.522
0.1667	0.034	0.001	0.000	0.522
0.2000	0.034	0.002	0.000	0.522
0.2333	0.034	0.002	0.000	0.522
0.2667	0.034	0.003	0.000	0.522
0.3000	0.034	0.003	0.000	0.522
0.3333	0.034	0.003	0.000	0.522
0.3667	0.034	0.004	0.000	0.522
0.4000	0.034	0.004	0.000	0.522
0.4333	0.034	0.004	0.000	0.522
0.4667	0.034	0.005	0.000	0.522
0.5000	0.034	0.005	0.000	0.522
0.5333	0.034	0.006	0.000	0.522
0.5667	0.034	0.006	0.000	0.522
0.6000	0.034	0.006	0.000	0.522
0.6333	0.034	0.007	0.000	0.522
0.6667	0.034	0.007	0.000	0.522
0.7000	0.034	0.008	0.000	0.522
0.7333	0.034	0.008	0.000	0.522

Exhibit 13 CUP24-1001

0.7667	0.034	0.008	0.000	0.522
0.8000	0.034	0.009	0.000	0.522
0.8333	0.034	0.009	0.000	0.522
0.8667	0.034	0.009	0.000	0.522
0.9000	0.034	0.010	0.000	0.522
0.9333	0.034	0.010	0.000	0.522
0.9667	0.034	0.011	0.000	0.522
1.0000	0.034	0.011	0.000	0.522
1.0333	0.034	0.011	0.000	0.522
1.0667	0.034	0.012	0.000	0.522
1.1000	0.034	0.012	0.000	0.522
1.1333	0.034	0.012	0.000	0.522
1.1667	0.034	0.013	0.000	0.522
1.2000	0.034	0.013	0.000	0.522
1.2333	0.034	0.014	0.000	0.522
1.2667	0.034	0.014	0.000	0.522
1.3000	0.034	0.014	0.000	0.522
1.3333	0.034	0.015	0.000	0.522
1.3667	0.034	0.015	0.000	0.522
1.4000	0.034	0.016	0.000	0.522
1.4333	0.034	0.016	0.000	0.522
1.4667	0.034	0.016	0.000	0.522
1.5000	0.034	0.017	0.000	0.522
1.5333	0.034	0.017	0.000	0.522
1.5667	0.034	0.017	0.000	0.522
1.6000	0.034	0.018	0.000	0.522
1.6333	0.034	0.018	0.000	0.522
1.6667	0.034	0.019	0.000	0.522
1.7000	0.034	0.019	0.000	0.522
1.7333	0.034	0.019	0.000	0.522
1.7667	0.034	0.020	0.000	0.522
1.8000	0.034	0.020	0.000	0.522
1.8333	0.034	0.020	0.000	0.522
1.8667	0.034	0.021	0.000	0.522
1.9000	0.034	0.021	0.000	0.522
1.9333	0.034	0.022	0.000	0.522
1.9667	0.034	0.022	0.000	0.522
2.0000	0.034	0.022	0.000	0.522
2.0333	0.034	0.023	0.000	0.522
2.0667	0.034	0.023	0.000	0.522
2.1000	0.034	0.023	0.000	0.522
2.1333	0.034	0.024	0.000	0.522
2.1667	0.034	0.024	0.000	0.522
2.2000	0.034	0.025	0.000	0.522
2.2333	0.034	0.025	0.000	0.522
2.2667	0.034	0.025	0.000	0.522
2.3000	0.034	0.026	0.000	0.522
2.3333	0.034	0.026	0.000	0.522
2.3667	0.034	0.027	0.000	0.522
2.4000	0.034	0.027	0.000	0.522
2.4333	0.034	0.027	0.000	0.522
2.4667	0.034	0.028	0.000	0.522
2.5000	0.034	0.028	0.000	0.522
2.5333	0.034	0.028	0.000	0.522
2.5667	0.034	0.029	0.000	0.522
2.6000	0.034	0.029	0.000	0.522
2.6333	0.034	0.030	0.000	0.522
2.6667	0.034	0.030	0.000	0.522

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2.7000	0.034	0.030	0.000	0.522
2.7333	0.034	0.031	0.000	0.522
2.7667	0.034	0.031	0.000	0.522
2.8000	0.034	0.031	0.000	0.522
2.8333	0.034	0.032	0.000	0.522
2.8667	0.034	0.032	0.000	0.522
2.9000	0.034	0.033	0.000	0.522
2.9333	0.034	0.033	0.000	0.522
2.9667	0.034	0.033	0.000	0.522
3.0000	0.034	0.034	0.000	0.522

Exhibit 13 CUP24-1001

Analysis Results

POC 1

POC #1 was not reported because POC must exist in both scenarios and both scenarios must have been run.

POC 2

POC #2 was not reported because POC must exist in both scenarios and both scenarios must have been run.

POC 3

POC #3 was not reported because POC must exist in both scenarios and both scenarios must have been run.

Model Default Modifications

Total of 0 changes have been made.

PERLND Changes

No PERLND changes have been made.

IMPLND Changes

No IMPLND changes have been made.

Exhibit 13 CUP24-1001

Appendix

Predeveloped Schematic

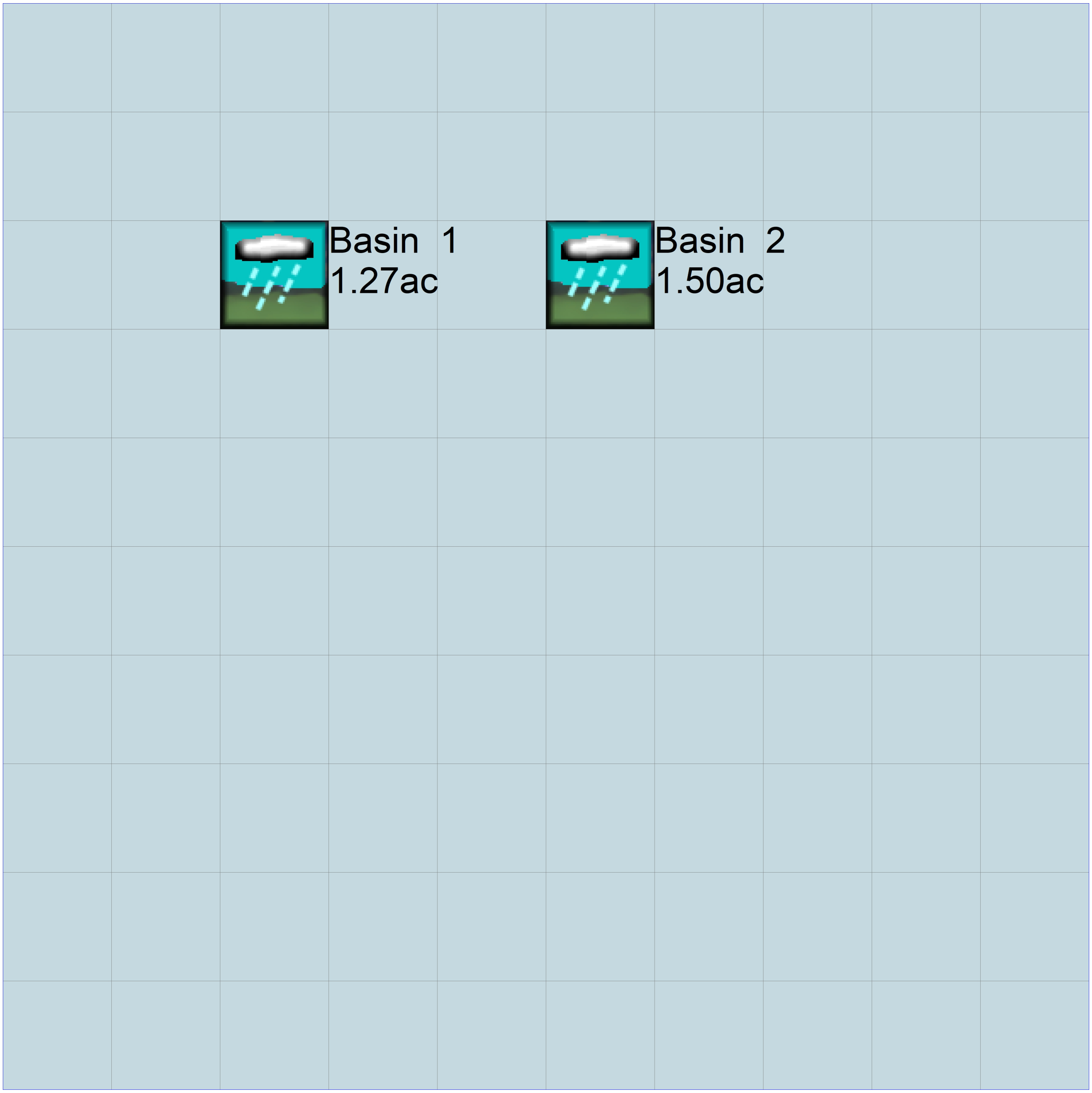

Exhibit 13 CUP24-1001

Mitigated Schematic

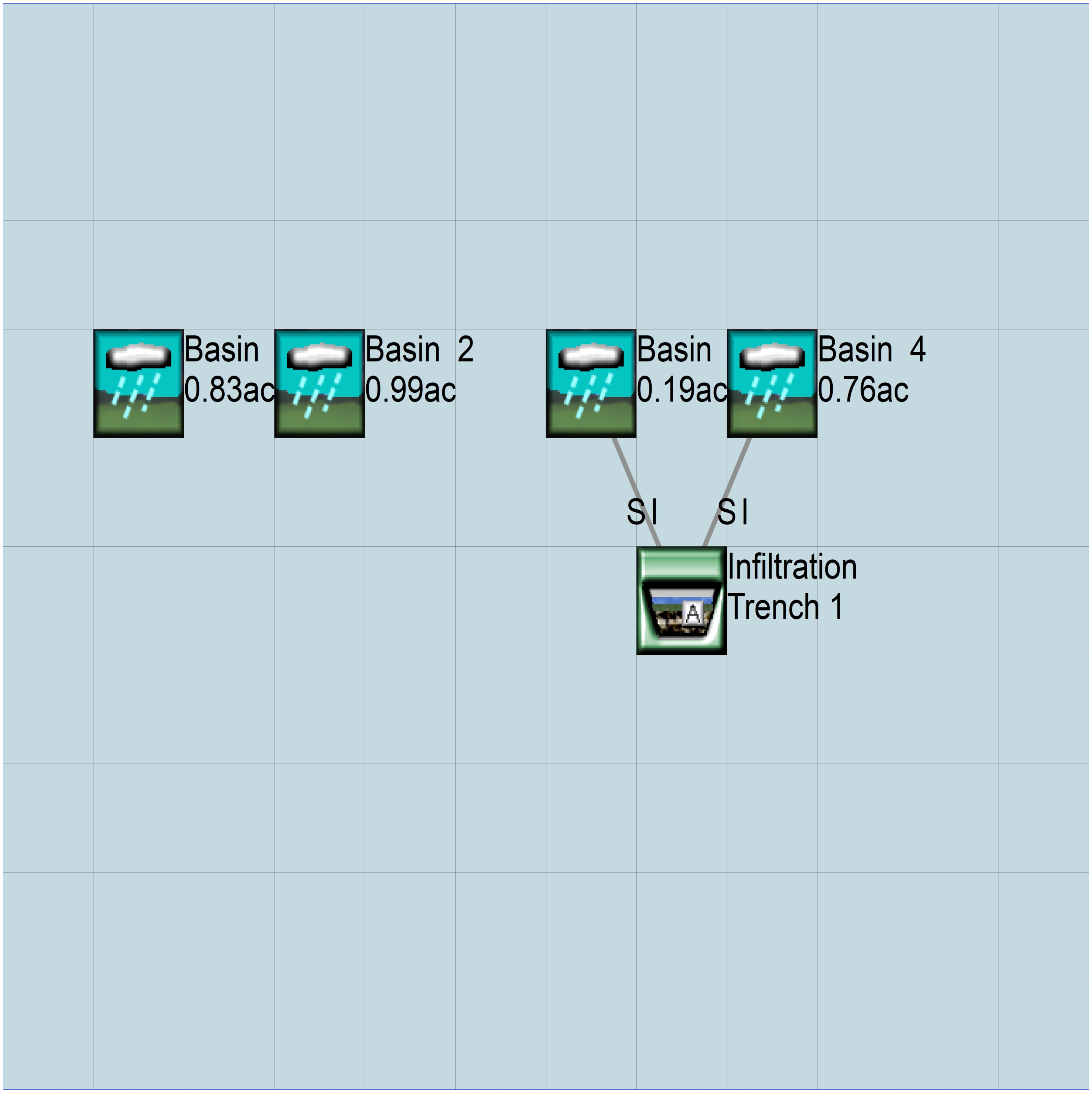

Exhibit 13 CUP24-1001

Predeveloped UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1948 10 01        END    2008 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                   UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------->***
<-ID->                                                              ***
WDM        26   18551 - Covered Tennis Center.wdm
MESSU      25   Pre18551 - Covered Tennis Center.MES
           27   Pre18551 - Covered Tennis Center.L61
           28   Pre18551 - Covered Tennis Center.L62
END FILES

OPN SEQUENCE
    INGRP              INDELT 00:15
      PERLND      10
      IMPLND       1
    END INGRP
END OPN SEQUENCE
DISPLY
  DISPLY-INFO1
    # -  #<----------Title----------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
  END OPCODE
  PARM
    #    #         K ***
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                            User  t-series Engl Metr ***
                                           in  out           ***
   10     C, Forest, Flat         1    1    1    1   27    0
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************* Active Sections *****************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
   10         0    0    1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ***************************** PIVL  PYR
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
   10         0    0    4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  PWAT-PARM1
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
   10         0    0    0    0    0    0    0    0    0    0    0
```

Exhibit 13 CUP24-1001

```
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
   10           0       4.5      0.08       400      0.05       0.5     0.996
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
   10           0         0         2         2         0         0         0
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                               ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
   10         0.2       0.5      0.35         6       0.5       0.7
  END PWAT-PARM4

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
              ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS       UZS      IFWS       LZS      AGWS      GWVS
   10           0         0         0         0       2.5         1         0
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                      in  out           ***
    1      ROADS/FLAT             1    1    1   27    0
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************* Active Sections *****************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL   ***
    1         0    0    1    0    0    0
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    *********
    1         0    0    4    0    0    4    1    9
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
    1         0    0    0    0    0
  END IWAT-PARM1

  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
    1         400      0.01       0.1       0.1
  END IWAT-PARM2

  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
    1           0         0
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
    # -  # ***  RETS      SURS
```

```
    1              0         0
  END IWAT-STATE1

END IMPLND

SCHEMATIC
<-Source->                  <--Area-->     <-Target->   MBLK   ***
<Name>   #                  <-factor->     <Name>   #   Tbl#   ***

******Routing******
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***



<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
    RCHRES       Name        Nexits   Unit Systems   Printer                 ***
    # -  #<------------------><---> User T-series  Engl Metr LKFG            ***
                                          in  out                            ***
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************* Active Sections *****************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ******************* PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
  END PRINT-INFO

  HYDR-PARM1
    RCHRES  Flags for each HYDR Section                                      ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
            FG FG FG FG  possible  exit  *** possible  exit      possible  exit
             *  *  *  *    *  *  *  *  *        *  *  *  *  *        ***
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO       LEN     DELTH     STCOR        KS      DB50       ***
  <------><--------><--------><--------><--------><--------><-------->       ***
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                         ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
          *** ac-ft     for each possible exit       for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
END SPEC-ACTIONS
FTABLES
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    1.3            PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    1.3            IMPLND   1 999 EXTNL  PREC
WDM      1 EVAP     ENGL    0.8            PERLND   1 999 EXTNL  PETINP
```

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```
WDM      1 EVAP     ENGL    0.8            IMPLND   1 999 EXTNL  PETINP

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>            <Name> # #<-factor->     <Name>                <Name> # #***

END MASS-LINK

END RUN
```

Mitigated UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1948 10 01        END    2008 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                   UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------>***
<-ID->                                                              ***
WDM        26   18551 - Covered Tennis Center.wdm
MESSU      25   Mit18551 - Covered Tennis Center.MES
           27   Mit18551 - Covered Tennis Center.L61
           28   Mit18551 - Covered Tennis Center.L62
END FILES

OPN SEQUENCE
    INGRP              INDELT 00:15
      PERLND      16
      IMPLND       1
      RCHRES       1
    END INGRP
END OPN SEQUENCE
DISPLY
  DISPLY-INFO1
    # -  #<----------Title----------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
  END OPCODE
  PARM
    #    #         K ***
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                          User  t-series Engl Metr ***
                                          in  out           ***
   16     C, Lawn, Flat           1    1    1    1   27    0
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************* Active Sections *****************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
   16         0    0    1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ***************************** PIVL  PYR
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
   16         0    0    4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  PWAT-PARM1
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
```

Exhibit 13 CUP24-1001

```
   16         0    0    0    0    0    0    0    0    0    0    0
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
   16             0       4.5      0.03       400      0.05       0.5     0.996
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
   16             0         0         2         2         0         0         0
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                               ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
   16           0.1      0.25      0.25         6       0.5      0.25
  END PWAT-PARM4

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
              ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS       UZS      IFWS       LZS      AGWS      GWVS
   16             0         0         0         0       2.5         1         0
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                      in  out           ***
    1      ROADS/FLAT              1    1    1   27    0
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************* Active Sections *****************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL   ***
    1         0    0    1    0    0    0
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    *********
    1         0    0    4    0    0    4    1    9
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
    1         0    0    0    0    0
  END IWAT-PARM1

  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
    1           400      0.01       0.1       0.1
  END IWAT-PARM2

  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
    1             0         0
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
```

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```
    # -  # ***  RETS      SURS
    1            0         0
  END IWAT-STATE1

END IMPLND

SCHEMATIC
<-Source->                  <--Area-->     <-Target->   MBLK   ***
<Name>   #                  <-factor->     <Name>   #   Tbl#   ***
Basin  3***
PERLND  16                        0.04     RCHRES   1      2
PERLND  16                        0.04     RCHRES   1      3
IMPLND   1                        0.15     RCHRES   1      5
Basin  4***
PERLND  16                        0.05     RCHRES   1      2
PERLND  16                        0.05     RCHRES   1      3
IMPLND   1                        0.71     RCHRES   1      5

******Routing******
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***



<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
    RCHRES       Name        Nexits   Unit Systems   Printer                 ***
    # -  #<------------------><---> User T-series  Engl Metr LKFG            ***
                                         in  out                             ***
    1     Gravel Trench Be-012    2    1    1    1   28    0    1
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************* Active Sections *****************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
    1         1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ******************* PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
    1         4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  HYDR-PARM1
    RCHRES  Flags for each HYDR Section                                      ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
            FG FG FG FG  possible  exit  *** possible  exit      possible  exit
             *  *  *  *    *  *  *  *  *       *  *  *  *  *         ***
    1        0  1  0  0    4  5  0  0  0       0  0  0  0  0       2  2  2  2  2
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO       LEN     DELTH     STCOR        KS      DB50       ***
  <------><--------><--------><--------><--------><--------><-------->       ***
    1             1      0.02       0.0       0.0       0.5       0.0
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                         ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
          *** ac-ft     for each possible exit       for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
```

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```
    1            0         4.0  5.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
END SPEC-ACTIONS
FTABLES
  FTABLE      1
   92    5
     Depth      Area    Volume  Outflow1  Outflow2  Velocity  Travel Time***
      (ft)   (acres) (acre-ft)    (cfs)      (cfs)   (ft/sec)    (Minutes)***
  0.000000  0.034527  0.000000  0.000000  0.000000
  0.033333  0.034527  0.000380  0.000000  0.522222
  0.066667  0.034527  0.000760  0.000000  0.522222
  0.100000  0.034527  0.001139  0.000000  0.522222
  0.133333  0.034527  0.001519  0.000000  0.522222
  0.166667  0.034527  0.001899  0.000000  0.522222
  0.200000  0.034527  0.002279  0.000000  0.522222
  0.233333  0.034527  0.002659  0.000000  0.522222
  0.266667  0.034527  0.003038  0.000000  0.522222
  0.300000  0.034527  0.003418  0.000000  0.522222
  0.333333  0.034527  0.003798  0.000000  0.522222
  0.366667  0.034527  0.004178  0.000000  0.522222
  0.400000  0.034527  0.004558  0.000000  0.522222
  0.433333  0.034527  0.004937  0.000000  0.522222
  0.466667  0.034527  0.005317  0.000000  0.522222
  0.500000  0.034527  0.005697  0.000000  0.522222
  0.533333  0.034527  0.006077  0.000000  0.522222
  0.566667  0.034527  0.006457  0.000000  0.522222
  0.600000  0.034527  0.006836  0.000000  0.522222
  0.633333  0.034527  0.007216  0.000000  0.522222
  0.666667  0.034527  0.007596  0.000000  0.522222
  0.700000  0.034527  0.007976  0.000000  0.522222
  0.733333  0.034527  0.008356  0.000000  0.522222
  0.766667  0.034527  0.008735  0.000000  0.522222
  0.800000  0.034527  0.009115  0.000000  0.522222
  0.833333  0.034527  0.009495  0.000000  0.522222
  0.866667  0.034527  0.009875  0.000000  0.522222
  0.900000  0.034527  0.010255  0.000000  0.522222
  0.933333  0.034527  0.010634  0.000000  0.522222
  0.966667  0.034527  0.011014  0.000000  0.522222
  1.000000  0.034527  0.011394  0.000000  0.522222
  1.033333  0.034527  0.011774  0.000000  0.522222
  1.066667  0.034527  0.012154  0.000000  0.522222
  1.100000  0.034527  0.012533  0.000000  0.522222
  1.133333  0.034527  0.012913  0.000000  0.522222
  1.166667  0.034527  0.013293  0.000000  0.522222
  1.200000  0.034527  0.013673  0.000000  0.522222
  1.233333  0.034527  0.014053  0.000000  0.522222
  1.266667  0.034527  0.014432  0.000000  0.522222
  1.300000  0.034527  0.014812  0.000000  0.522222
  1.333333  0.034527  0.015192  0.000000  0.522222
  1.366667  0.034527  0.015572  0.000000  0.522222
  1.400000  0.034527  0.015952  0.000000  0.522222
  1.433333  0.034527  0.016331  0.000000  0.522222
  1.466667  0.034527  0.016711  0.000000  0.522222
  1.500000  0.034527  0.017091  0.000000  0.522222
  1.533333  0.034527  0.017471  0.000000  0.522222
  1.566667  0.034527  0.017851  0.000000  0.522222
  1.600000  0.034527  0.018230  0.000000  0.522222
  1.633333  0.034527  0.018610  0.000000  0.522222
  1.666667  0.034527  0.018990  0.000000  0.522222
  1.700000  0.034527  0.019370  0.000000  0.522222
  1.733333  0.034527  0.019749  0.000000  0.522222
  1.766667  0.034527  0.020129  0.000000  0.522222
  1.800000  0.034527  0.020509  0.000000  0.522222
  1.833333  0.034527  0.020889  0.000000  0.522222
  1.866667  0.034527  0.021269  0.000000  0.522222
  1.900000  0.034527  0.021648  0.000000  0.522222
  1.933333  0.034527  0.022028  0.000000  0.522222
```

```
    1.966667  0.034527  0.022408  0.000000  0.522222
    2.000000  0.034527  0.022788  0.000000  0.522222
    2.033333  0.034527  0.023168  0.000000  0.522222
    2.066667  0.034527  0.023547  0.000000  0.522222
    2.100000  0.034527  0.023927  0.000000  0.522222
    2.133333  0.034527  0.024307  0.000000  0.522222
    2.166667  0.034527  0.024687  0.000000  0.522222
    2.200000  0.034527  0.025067  0.000000  0.522222
    2.233333  0.034527  0.025446  0.000000  0.522222
    2.266667  0.034527  0.025826  0.000000  0.522222
    2.300000  0.034527  0.026206  0.000000  0.522222
    2.333333  0.034527  0.026586  0.000000  0.522222
    2.366667  0.034527  0.026966  0.000000  0.522222
    2.400000  0.034527  0.027345  0.000000  0.522222
    2.433333  0.034527  0.027725  0.000000  0.522222
    2.466667  0.034527  0.028105  0.000000  0.522222
    2.500000  0.034527  0.028485  0.000000  0.522222
    2.533333  0.034527  0.028865  0.000000  0.522222
    2.566667  0.034527  0.029244  0.000000  0.522222
    2.600000  0.034527  0.029624  0.000000  0.522222
    2.633333  0.034527  0.030004  0.000000  0.522222
    2.666667  0.034527  0.030384  0.000000  0.522222
    2.700000  0.034527  0.030764  0.000000  0.522222
    2.733333  0.034527  0.031143  0.000000  0.522222
    2.766667  0.034527  0.031523  0.000000  0.522222
    2.800000  0.034527  0.031903  0.000000  0.522222
    2.833333  0.034527  0.032283  0.000000  0.522222
    2.866667  0.034527  0.032663  0.000000  0.522222
    2.900000  0.034527  0.033042  0.000000  0.522222
    2.933333  0.034527  0.033422  0.000000  0.522222
    2.966667  0.034527  0.033802  0.000000  0.522222
    3.000000  0.034527  0.034182  0.000000  0.522222
    3.033333  0.034527  0.035333  0.000000  0.522222
  END FTABLE  1
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    1.3            PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    1.3            IMPLND   1 999 EXTNL  PREC
WDM      1 EVAP     ENGL    0.8            PERLND   1 999 EXTNL  PETINP
WDM      1 EVAP     ENGL    0.8            IMPLND   1 999 EXTNL  PETINP

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
RCHRES   1 HYDR   RO     1 1        1      WDM   1000 FLOW     ENGL      REPL
RCHRES   1 HYDR   O      1 1        1      WDM   1001 FLOW     ENGL      REPL
RCHRES   1 HYDR   O      2 1        1      WDM   1002 FLOW     ENGL      REPL
RCHRES   1 HYDR   STAGE  1 1        1      WDM   1003 STAG     ENGL      REPL
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>            <Name> # #<-factor->     <Name>                <Name> # #***
  MASS-LINK        2
PERLND     PWATER SURO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    2

  MASS-LINK        3
PERLND     PWATER IFWO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    3

  MASS-LINK        5
IMPLND     IWATER SURO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    5
```

```
END MASS-LINK

END RUN
```

Exhibit 13 CUP24-1001

Predeveloped HSPF Message File

Mitigated HSPF Message File

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Legal Notice

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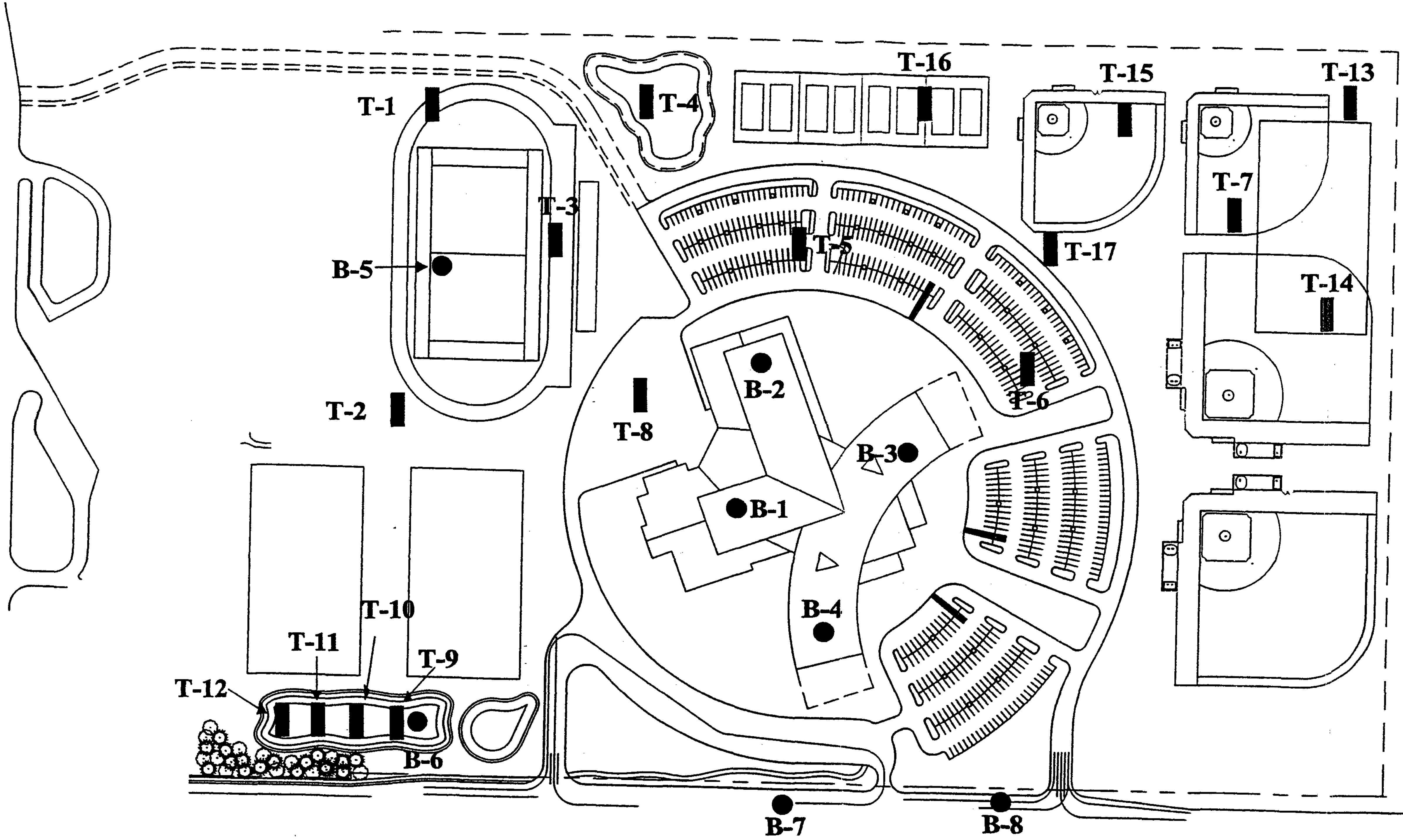
6200 Capitol Blvd. Ste F
Olympia, WA. 98501
Toll Free 1(866)943-0304
Local (360)943-0304

www.clearcreeksolutions.com

Appendix D-1

Geotechnical Engineering Evaluation, by Geocon Northwest

Exhibit 13 CUP24-1001



LEGEND

B-8 ●.....APPROX. LOCATION OF EXPLORATORY BORING

T-17 ▬.....APPROX. LOCATION OF EXPLORATORY TRENCH

SITE PLAN

CAMAS HIGH SCHOOL
CAMAS, WASHINGTON

GEOCON
NORTHWEST
GEOTECHNICAL CONSULTANTS
8270 SW NIMBUS AVENUE - BEAVERTON, OREGON 97008
PHONE 503 626-9889 - FAX 503 626-8611

SCALE NO SCALE
DATE 07 - 27 - 2000
PROJECT NO. P1007 - 05 - 02
FIGURE 2
SHEET OF

X:\P1007WS.DWG \ RSS

5. INFILTRATION TESTING

5.1. Methodology

The infiltration tests were conducted as falling head permeability tests in general accordance with the King County Surface Water Design Manual. The tests were conducted by pushing a six-inch diameter infiltrometer standpipe into the soil at the desired test depth. The soil was prepared for infiltration testing under saturated conditions by filling the standpipe with water and thoroughly soaking the test zone for approximately one-half hour. Beginning with a three-foot head of water in the standpipe, the elapsed time required for the head to drop six inches is recorded. In soils with low permeability, the hydraulic head is allowed to drop for one hour and the measured drop in head is recorded.

5.2. Infiltration Test Results

Field infiltration tests were conducted in seven of the exploratory trenches, at varying depths, to evaluate soil infiltration capacity for use in design. The field infiltration rates provided in Table 1 are field measured infiltration rates in native soil and do not include a factor of safety.

Table 1: Infiltration Test Results

Exploratory Trench No.	Test Depth (ft)	Infiltration Rate (in/hr)	Depth to Groundwater (ft)
1	4	7.6	Not Encountered
1	10	250	Not Encountered
2	5	4.5	8
3	6	27	Not Encountered
4	8	14	Not Encountered
5	6	48	Not Encountered
7	7	250	10
8	8	<1	Not Encountered
9	6	<1	Not Encountered
11	5	<1	Not Encountered
13	9	45	Not Encountered
14	7	250	10
15	6.5	90	Not Encountered
16	7	<1	10

Soil types can vary significantly over relatively short distances. The infiltration rates noted above are representative of one discrete location and depth. Moderate to high infiltration rates were measured on the northeast and northwest portions of the site. In general, the soils within the southwest portion of the site have low measured infiltration rates. Installation of infiltration systems within the layer in which the field rate was measured is considered critical to proper performance of the systems. Because of near-surface fines content in the native soil, and the potential for eventual siltation of subsurface infiltration facilities, a conservative design safety factor should be applied to the field rate. If filter fabric is used to protect drain rock, the permeability of the geotextile should be considered in the design. Care should be taken during construction to avoid unnecessary compaction or contamination of native soils in the proposed infiltration zone. Construction disturbance, siltation and compaction with construction equipment can dramatically reduce soil infiltration capacity. Regular maintenance of the infiltration system is critical for proper performance.

A member of Geocon Northwest's geotechnical engineering staff should be retained to observe installation of the infiltration system to verify that subsurface conditions are consistent with those encountered during this investigation.

6. LABORATORY TESTING

Laboratory testing was performed on selected soil samples to evaluate moisture content, grain size distribution, plasticity index, expansion index, compaction characteristics, and California Bearing Ratio. Visual soil classification was performed both in the field and laboratory, in general accordance with the Unified Soil Classified System. Moisture content determinations (ASTM D2216) were performed on soil samples to assist in their evaluation. Compaction characteristics and the California Bearing Ratio for near surface samples were evaluated in substantial accordance with ASTM D1557 and ASTM D1883, respectively. Grain size analyses were performed on selected samples using procedures ASTM D421 and ASTM D422. The plasticity index was determined in general accordance with ASTM D4318. The expansion index was determined using procedure ASTM D4829. Moisture contents are indicated on the exploration logs, which are located in Appendix A of this report. The remaining laboratory test results for this project are included in Appendix B.

There appears to be little correlation between laboratory grain size analyses and the field measured infiltration rates. This is likely due to the combination of the presence of cobbles and boulders skewing the laboratory test results and the in situ weathering of the material.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1. General

7.1.1. It is our opinion that the proposed project is geotechnically feasible, provided the recommendations within this report are followed.

Exhibit 13 CUP24-1001

APPENDIX A

FIELD INVESTIGATION

The field investigation was performed on July 6,7,17, and 18, 2000, and consisted of a site reconnaissance, the advancement of six borings, the excavation of seventeen exploratory trenches, and fourteen field-infiltration tests. The approximate locations of the exploratory excavations are shown in Figure 2.

Borings were advanced to approximately 8 to 44 feet below the ground surface. In general, the borings were terminated due to refusal. Two additional shallow borings were advanced within SE 15th Street to evaluate the existing pavement section. The exploratory trenches were excavated to depths varying from 6 to 12 feet below the ground surface using a John Deere 550 rubber tired backhoe. Samples were obtained at selected depths during the field investigation and returned to the laboratory for additional testing. Logs of the exploratory borings and trenches are provided in the following pages.

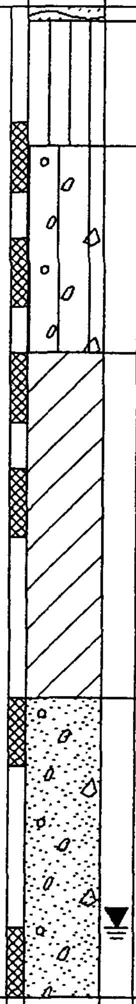
Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 1

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				ML	Medium stiff, moist, reddish-brown, SILT			
2								
	B1-1					21		21.6
4					Medium dense, moist, reddish-brown, Silty GRAVEL			
	B1-2			GM		15		36.1
6								
8	B1-3			CL	Stiff, moist, mottled, CLAY, occasional gravels	10		31.8
10	B1-4					18		25.6
12								
14								
	B1-5			GM	Very dense, wet, brown, Silty SAND and gravel	>50		30.5
16								
18								
20			▼					
	B1-6				Very dense, saturated, brown to gray SAND and gravel	48		23.8

BORING TERMINATED AT 21.5 FEET
Groundwater encountered at 20 feet

Figure A-1, Log of Boring B 1

NCHS

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL
▨ ... DISTURBED OR BAG SAMPLE
◧ ... STANDARD PENETRATION TEST
◪ ... CHUNK SAMPLE
■ ... DRIVE SAMPLE (UNDISTURBED)
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 2

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
					Medium dense, moist, brown, Silty SAND and GRAVEL			
2								
	B2-1			GM		16		26.2
4								
	B2-2					10		40.8
6								
					-Becomes loose			
8	B2-3					7		38.0
10	B2-4					21		38.2
12					Stiff, moist, mottled, Clayey SILT, some gravel			
				CL				
14								
	B2-5					50/5.5"		31.5
16								

BORING TERMINATED AT 16.5 FEET DUE TO REFUSAL
Groundwater was not encountered

Figure A-2, Log of Boring B 2

NCHS

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊠ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 3

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL Stiff, moist, mottled, Silty CLAY			
2								
	B3-1			CL		13		24.6
4								
	B3-2					14		36.3
6								
8	B3-3				-Occasional gravels	27		28.3
10	B3-4				Medium dense, moist, mottled, Silty SAND and gravel, some clay	33		30.0
12								
14								
	B3-5			GM	-Cobbles	>50		21.5
16								
18								
20	B3-6					50/35"		16.9
					BORING TERMINATED AT 21.5 FEET DUE TO REFUSAL Groundwater was not encountered			

Figure A-3, Log of Boring B 3

NCHS

SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	▨ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 4

ELEV. (MSL.) ______ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
					Stiff, damp, yellowish-brown SILT, some clay			
2								
	B4-1	▨		ML/CL		20		41.4
4								
					Stiff, damp, mottled, CLAY, some silt			
	B4-2	▨				12		36.6
6								
8	B4-3	▨				12		28.6
					Medium dense, moist, brown, Silty, medium to coarse-grained SAND, some clay			
10	B4-4	▨		SM/GM		47		27.2
					-Gravels below 10.5 feet			
12								
14								
	B4-5	▨				41		21.7
16					-Becomes wet to saturated, decreased fines, increased gravel and cobbles			
18								
20			▼					
	B4-6	▨				>50		18.7

BORING TERMINATED AT 21 FEET DUE TO REFUSAL
Groundwater encountered at 20 feet

Figure A-4, Log of Boring B 4

NCHS

SAMPLE SYMBOLS			
SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	▨ ... DISTURBED OR BAG SAMPLE	◣ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

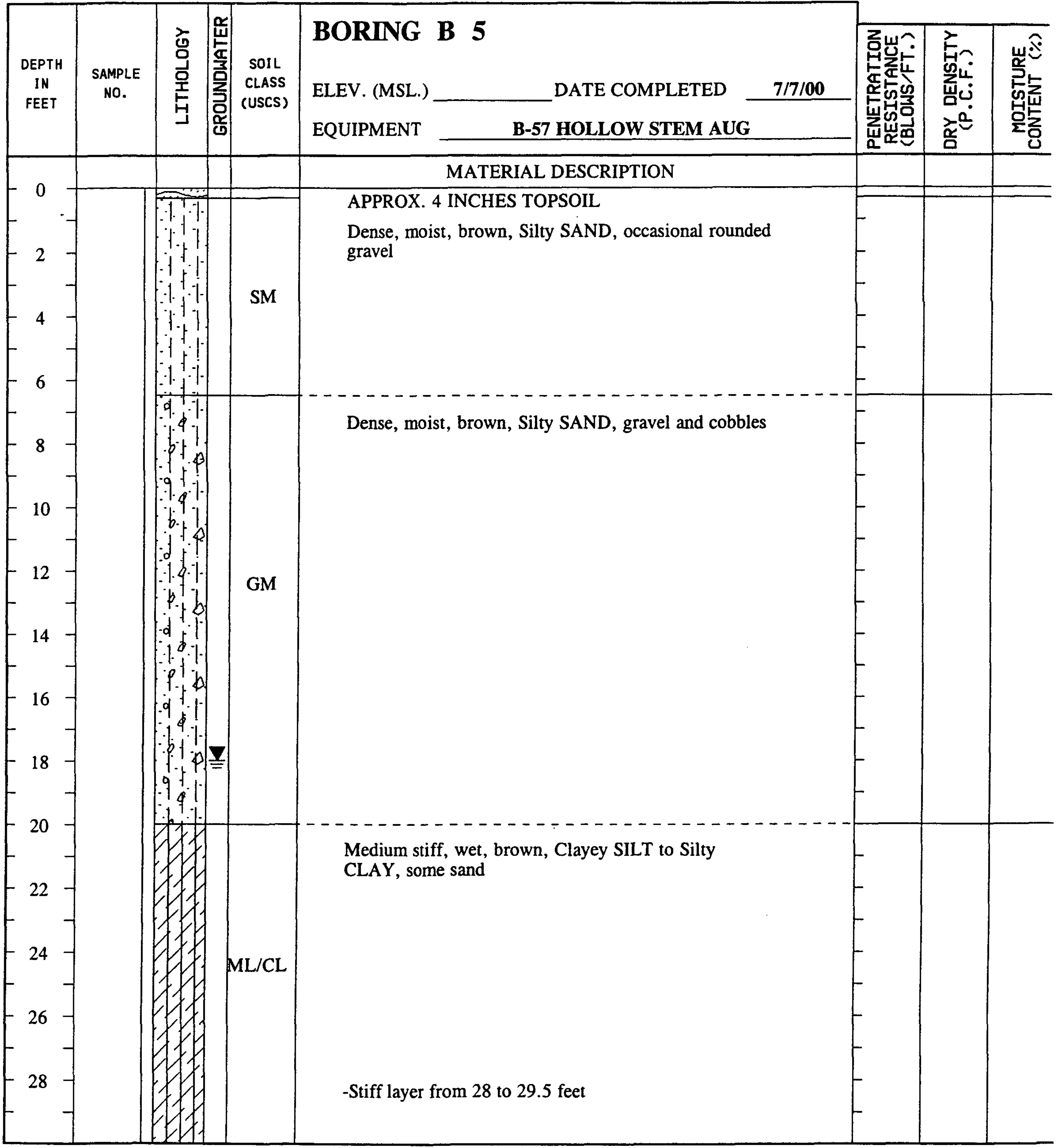
Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 5

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG



MATERIAL DESCRIPTION

APPROX. 4 INCHES TOPSOIL

Dense, moist, brown, Silty SAND, occasional rounded gravel

Dense, moist, brown, Silty SAND, gravel and cobbles

Medium stiff, wet, brown, Clayey SILT to Silty CLAY, some sand

-Stiff layer from 28 to 29.5 feet

Figure A-5, Log of Boring B 5

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
▨ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 5

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30								
32					-Stiff layer from 33 to 34.5 feet			
34				ML/CL				
36								
38								
40								
42					-Becomes hard at 42 feet			
44					BORING TERMINATED AT 44 FEET DUE TO REFUSAL Groundwater encountered at 18 feet			

Figure A-6, Log of Boring B 5

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
☒ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

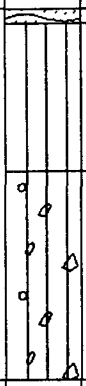
Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 6

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0 2				ML	APPROX. 4 INCHES TOPSOIL Medium stiff, moist, brown, SILT			
4 6				GM	Medium dense, moist, reddish-brown, Silty GRAVEL and cobbles -Scattered boulders			
8					BORING TERMINATED AT 8 FEET DUE TO REFUSAL Groundwater was not encountered			

Figure A-7, Log of Boring B 6

NCHS

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	▩ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

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Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

BORING B 7

ELEV. (MSL.) ____________ DATE COMPLETED 7/7/00

EQUIPMENT B-57 HOLLOW STEM AUG

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0		■			APPROX. 3 INCHES ASPHALT			
		▨			**BASEROCK**			
2					BORING TERMINATED AT NATIVE SOIL (2')			

Figure A-8, Log of Boring B 7

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
⊠ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING B 8** ELEV. (MSL.) ______ DATE COMPLETED 7/7/00 EQUIPMENT B-57 HOLLOW STEM AUG	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0		■			APPROX. 2 INCHES ASPHALT			
		▨			**BASEROCK**			
2		▨						
					BORING TERMINATED AT NATIVE SOIL (2.25')			

Figure A-9, Log of Boring B 8

NCHS

SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	☒ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 1

ELEV. (MSL.) ____________ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE

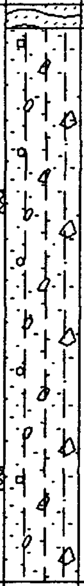
DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
2					Dense, moist, light reddish-brown, Silty SAND, sub-rounded GRAVEL and COBBLES			
4	T1-1 ⊠							23.5
6				GM				
8					-Decreasing fines with depth			
10	T1-2 ⊠							25.6
12								
					TRENCH TERMINATED AT 12.5 FEET Infiltration test at 4 feet Infiltration test at 10 feet Groundwater was not encountered			

Figure A-10, Log of Trench T 1

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
⊠ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

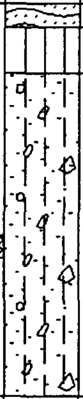
Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 2

ELEV. (MSL.) ________ DATE COMPLETED 7/6/00

EQUIPMENT **FORD 555 BACKHOE**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
				ML	Medium stiff, damp, brown, SILT			
2					Medium dense, moist, light reddish-brown, Silty SAND, occasional sub-rounded gravel and cobbles, some clay			
4								
6	⊠ T2-1			SM/GM				
8			▼					

TRENCH TERMINATED AT 8.5 FEET
Infiltration test at 5 feet
Groundwater was encountered at 8 feet

Figure A-11, Log of Trench T 2

NCHS

SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊠ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

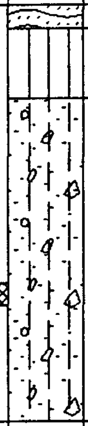
Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 3

ELEV. (MSL.) ____________ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
				ML	Medium stiff, damp, brown, SILT			
2					Dense, moist, reddish-brown, Silty SAND, sub-rounded GRAVEL and COBBLES			
4								
6	T3-1 ⊠			GM				19.2
8								

TRENCH TERMINATED AT 9 FEET DUE TO CAVING
Infiltration test at 6 feet
Groundwater was not encountered

Figure A-12, Log of Trench T 3

NCHS

SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊠ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 4

ELEV. (MSL.) ____________ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				ML	Medium stiff, damp, brown *SILT*			
2								
					Dense, moist, light reddish-brown, Silty SAND, some sub-rounded gravel and cobbles, decreasing fines with depth			
4								
6								
8	T4-1 ☒			SM/GM				28.4
10								
					TRENCH TERMINATED AT 11 FEET DUE TO CAVING Infiltration test at 8 feet Groundwater was not encountered			

Figure A-13, Log of Trench T 4

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
☒ ... DISTURBED OR BAG SAMPLE
◩ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. P1007-05-02

TRENCH T 5

ELEV. (MSL.) ______ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				ML	Medium stiff, damp, brown SILT			
2					Dense, moist, yellowish-brown, Silty SAND, sub-rounded GRAVEL and COBBLES			
4								
6	T5-1 ⊠							18.9
	T5-2 ⊠							26.5
8				CL	Stiff, moist, brown and gray, Silty CLAY			

TRENCH TERMINATED AT 9 FEET
Infiltration test at 6 feet
Groundwater was not encountered

Figure A-14, Log of Trench T 5

NCHS

SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊠ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

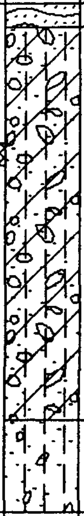
Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 6

ELEV. (MSL.) ____________ DATE COMPLETED 7/6/00

EQUIPMENT FORD 555 BACKHOE

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
2 4 6 8	☒ T6-1			GM	Medium dense to dense, moist to wet, light yellowish-brown, Clayey SILT, SAND and sub-rounded GRAVEL, occasional cobbles			32.9
10				SM	Dense, moist, reddish-brown, Silty SAND and sub-rounded gravel			

TRENCH TERMINATED AT 11 FEET
Groundwater was not encountered

Figure A-15, Log of Trench T 6

NCHS

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
☒ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**TRENCH T 7** ELEV. (MSL.) ______ DATE COMPLETED 7/7/00 EQUIPMENT FORD 555 BACKHOE	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
0					APPROX. 6 INCHES TOPSOIL			
2 4 6 8				GM	Moist, reddish-brown, Silty GRAVEL and COBBLES, some clay -Decreasing fines with depth -Loose gravels and cobbles			
10			▼		TRENCH TERMINATED AT 10 FEET Infiltration test at 7 feet Groundwater encountered at 10 feet			

Figure A-16, Log of Trench T 7

NCHS

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊠ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

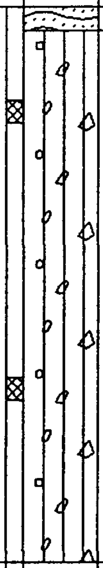
Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 8

ELEV. (MSL.) ________ DATE COMPLETED 7/7/00

EQUIPMENT FORD 555 BACKHOE



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
					Moist, reddish-brown, Clayey GRAVEL, some medium to coarse-grained sand			
2	☒ T8-1							18.6
4								
6				GM				
					-Decreasing gravel and cobbles with depth			
8	☒ T8-2							
10								
12					TRENCH TERMINATED AT 12 FEET DUE TO CAVING Infiltration test at 8 feet Groundwater was not encountered			

Figure A-17, Log of Trench T 8

NCHS

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	☒ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

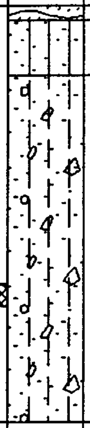
Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 9

ELEV. (MSL.) ____________ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				SM	Medium stiff, damp, reddish-brown, Sandy SILT, some clay			
2					Very dense, moist, brown, Silty, coarse SAND, gravel, cobbles and boulders			
4								
6	T9-1 ☒			GM				
8								

TRENCH TERMINATED AT 9 FEET DUE TO REFUSAL

Infiltration test at 6 feet

Groundwater was not encountered

Figure A-18, Log of Trench T 9

NCHS1

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	☒ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 10

ELEV. (MSL.) ____________ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				ML	Medium stiff, reddish-brown, SILT			
2								
					Dense, moist, Silty, coarse SAND. gravel, cobbles, and boulders -Decreasing fines with depth			
4				GM				
6								
					-Weathering to clay			

TRENCH TERMINATED AT 7 FEET
Groundwater was not encountered

Figure A-19, Log of Trench T 10

NCHS1

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	☒ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 11

ELEV. (MSL.) ______ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0 2				ML	Dense, moist, reddish-brown, Gravelly SILT with cobbles			
4 6	T11-1 ⊠			GM	Medium dense, moist, subrounded GRAVEL and cobbles, some sand, silt and clay -Scattered boulders, caving observed -Weathering to clay			
8					TRENCH TERMINATED AT 8 FEET Infiltration test at 5 feet Groundwater was not encountered			

Figure A-20, Log of Trench T 11

NCHS1

SAMPLE SYMBOLS		
☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
⊠ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 12

ELEV. (MSL.) ____________ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
2				ML	Medium stiff, moist, reddish-brown, SILT, scattered boulders			
4								
6				GM	Medium dense, Silty SAND, gravel, and cobbles, weathering to clay			
8	T12-1 ⊠							
10					TRENCH TERMINATED AT 10 FEET Groundwater was not encountered			

Figure A-21, Log of Trench T 12

NCHS1

SAMPLE SYMBOLS		
☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
⊠ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 13

ELEV. (MSL.) ____________ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
2				ML	Medium dense to dense, moist, reddish-brown, Gravelly SILT with some cobbles			
4 6				GM	Medium dense to dense, moist, brown, Silty, coarse SAND and gravel, occasional cobbles -			
8 10	T13-1 ▨			SM	Medium dense, moist, brown, coarse SAND, some gravel, occasional cobbles			

TRENCH TERMINATED AT 11 FEET
Infiltration test at 8 feet
Groundwater was not encountered

Figure A-22, Log of Trench T 13

NCHS1

SAMPLE SYMBOLS	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	▨ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. P1007-05-02

TRENCH T 14

ELEV. (MSL.) ____________ DATE COMPLETED 7/17/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
2				ML	Medium dense, damp to moist, reddish-brown, SILT, scattered cobbles			
4 6 8	T14-1 ▨			GM	Medium dense, moist, brown, Silty SAND and gravel, scattered cobbles, occasional boulders			
10			▼					

TRENCH TERMINATED AT 10 FEET
Infiltration test at 7 feet
Groundwater encountered at 10 feet

Figure A-23, Log of Trench T 14

NCHS1

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	▨ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 15

ELEV. (MSL.) ____________ DATE COMPLETED 7/18/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
2				ML	Medium stiff, damp, reddish-brown, Gravelly SILT, scattered cobbles and boulders			
4				GM	Dense, moist, brown, Silty SAND and gravel, occasional cobbles			
6								
	T15-1 ⊠				-Decreasing fines with depth			
8								
10					-Slight weathering to clay			

TRENCH TERMINATED AT 10 FEET
Infiltration test at 6.5 feet
Groundwater was not encountered

Figure A-24, Log of Trench T 15

NCHS1

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	⊠ ... DISTURBED OR BAG SAMPLE	◩ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. P1007-05-02

TRENCH T 16

ELEV. (MSL.) ____________ DATE COMPLETED 7/18/00

EQUIPMENT FORD 555E

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 6 INCHES TOPSOIL			
2				ML	Medium stiff, damp to moist, reddish-brown, Gravelly SILT			
4								
6					Medium dense, moist, reddish-brown, Gravelly, medium-grained SAND			
	T16-1 ⊠			SM				
8								
10			▼		-Slightly weathering to clay			

TRENCH TERMINATED AT 10 FEET
Infiltration test at 7 feet
Groundwater encountered at 10 feet

Figure A-25, Log of Trench T 16

NCHS1

SAMPLE SYMBOLS
☐ ... SAMPLING UNSUCCESSFUL
◧ ... STANDARD PENETRATION TEST
■ ... DRIVE SAMPLE (UNDISTURBED)
⊠ ... DISTURBED OR BAG SAMPLE
◪ ... CHUNK SAMPLE
▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

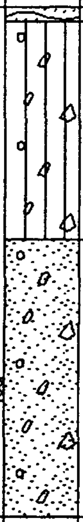
Exhibit 13 CUP24-1001

PROJECT NO. P1007-05-02

TRENCH T 17

ELEV. (MSL.) ____________ DATE COMPLETED 7/18/00

EQUIPMENT FORD 555E



DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					APPROX. 4 INCHES TOPSOIL			
				ML	Medium stiff, damp to moist, reddish-brown, Gravelly SILT			
2								
4								
6					Very dense, Cobbly SAND and GRAVEL, weathering to clay			
8	T17-1 ☒			GM				
10								

TRENCH TERMINATED AT 11 FEET
Groundwater was not encountered

Figure A-26, Log of Trench T 17

NCHS1

SAMPLE SYMBOLS			
	☐ ... SAMPLING UNSUCCESSFUL	◧ ... STANDARD PENETRATION TEST	■ ... DRIVE SAMPLE (UNDISTURBED)
	☒ ... DISTURBED OR BAG SAMPLE	◪ ... CHUNK SAMPLE	▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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TABLE B-I
SUMMARY OF LABORATORY MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-91

Sample No.	Depth (ft)	Material Description	Maximum Dry Density (pcf)	Optimum Moisture Content (% dry wt.)
Composite	1.0 – 3.0	SILT	103.2	20.8

TABLE B-2
SUMMARY OF PARTICLE SIZE DISTRIBUTION
ASTM D421 AND D422

Sample No.	Depth (ft)	% Gravel	% Sand	% Silt	% Clay
T1 – S2	7 – 8	16.1	51.1	32.8	
T2 – S3	6 - 7	21.4	37.5	27.6	13.5
T3 – S2	5.5 - 6	0.9	73.5	25.6	
T4 – S1	7 - 8	56.4	33.3	10.3	
T6 – S1	5 - 6	43.3	37.6	19.1	
T10 – S1	2 – 2.5	0	30.7	34	35.3
T11 – S1	7 - 8	0	51.7	26.3	22

TABLE B-3
SUMMARY OF LABORATORY PLASTICITY INDEX TEST RESULTS
ASTM D 4318

Sample No.	Depth (ft)	Plastic Limit	Liquid Limit	Plasticity Index
T1 – S2	7 - 8	31	59	28
T5 – S2	4 - 5	21	77	56
T6 – S1	5 – 6	26	56	30
T8 – S1	2 – 2.5	21	80	59
T8 – S2	4 - 5	24	70	46
T10 – S2	2 – 2.5	25	45	20

TABLE B-4
SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D4829

Sample No.	Depth (ft)	Water Content	Expansion Index
T5 – S2	4 - 5	16.9	93

GEOCON
NORTHWEST

GEOTECHNICAL CONSULTANTS

April 16, 2001
P1007-05-04

Mr. Doug McCudden
c/o Camas School District
2041 NE Ione Street
Camas, Washington 98607

Subject: NEW CAMAS HIGH SCHOOL
CAMAS, WASHINGTON
CONSULTATION

Dear Mr. McCudden,

Geocon Northwest, Inc. is pleased to provide this letter summarizing the results of the additional geotechnical evaluation requested by the project civil engineers to satisfy Clark County permitting requirements. The fieldwork was completed on April 6, 2001. A total of eleven exploratory trenches were excavated in locations requested by Otak. Table 1, Depth to Groundwater, summarizes the groundwater depth and soil conditions encountered during the field investigation.

An additional pit was excavated in the location of an existing culvert, where the outlet of two drainage tiles was observed. One tile consisted of a 6-inch-diameter clay pipe while the other consisted of a 10-inch-diameter cement mortar pipe. The general direction of the drainage systems was northeasterly from the outlet. A field measurement of the flow rate was obtained at the outlet. During the field investigation, the flow rate was measured at approximately 50 to 60 gallons per minute. This value includes the outflow from both sources.

8270 SW Nimbus Avenue ■ Beaverton, Oregon 97008 ■ Telephone (503) 626-9889 ■ Fax (503) 626-8611

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Table1: Depth to Groundwater

	TEST PIT LOCATION			STATIC GROUNDWATER (ft)	GROUNDWATER SEEPAGE (ft)	GENERAL SOIL TYPE
	Site Reference	E/W distance (ft)	N/S distance (ft)			
1	NE Corner	300 W	350 S	8	None	Sand, gravel, cobbles
2	NE Corner	200 W	370 S	8	None	Sand, gravel, cobbles
3	NE Corner	100 W	400 S	8	None	Sand, gravel, cobbles
4	NE Corner	150 W	320 S	9	None	Sand, gravel, cobbles
5	NE Corner	250 W	320 S	8.5	None	Sand, gravel, cobbles
6	NW Corner	60 E	70 S	Not Encountered*	None	Silty sand, gravel, cobbles
7	NW Corner	60 E	140 S	Not Encountered*	None	Silty sand, gravel, cobbles
8	East Driveway	350 E	50 N	Not Encountered*	3, 8, and 9	Gray clay
9	East Driveway	600 E	50 N	Not Encountered*	7.5	Clayey gravel and cobbles
10	East Driveway	800 E	200 N	3	None	Silty sand, gravel, cobbles
11	East Driveway	400 E	200 N	5.5	None	Silty sand, gravel, cobbles

*Exploratory trenches where groundwater was not encountered were excavated to a depth of approximately 10 to 12 feet.

Exhibit 13 CUP24-1001

We have been requested to provide an estimate of the maximum "base flow" which may occur within the two drainage tiles to assist Otak in their assessment of the existing site drainage conditions. The measured flow of 50 to 60 gallons per minute (0.13 cubic feet per second, cfs) represents a value less than the theoretical maximum flow rate. Review of existing topographic maps indicated the area of capture of the drainage tiles is approximately 13 acres. Assuming a conservative (i.e. high) permeability value of 10^{-3} cm/sec for the soil within the capture area, a maximum theoretical base flow of 0.5 cubic feet per second was calculated for the existing two drain tile system.

It was also requested that we estimate a post construction (as built) value of the water flow into the proposed drainage swales to be constructed within the southeast portion of the property. A total surface area of approximately 9,161 square feet was determined by Otak for the swale area exposed to groundwater flow. Assuming a permeability value of 10^{-3} cm/sec and a hydraulic gradient of 10%, a maximum flow rate of 0.03 cubic feet per second was estimated for the post construction flow within the swale system. The assumed soil permeability value of 10^{-3} cm/sec is conservative as it represents the flow characteristics of a medium to fine grained sand. The majority of soils within the potential zone of groundwater flow are silts and clays.

We appreciate the opportunity to work with you on this project. If you have any questions, or require additional information, please contact the undersigned at your convenience.

Sincerely,

GEOCON NORTHWEST, INC.

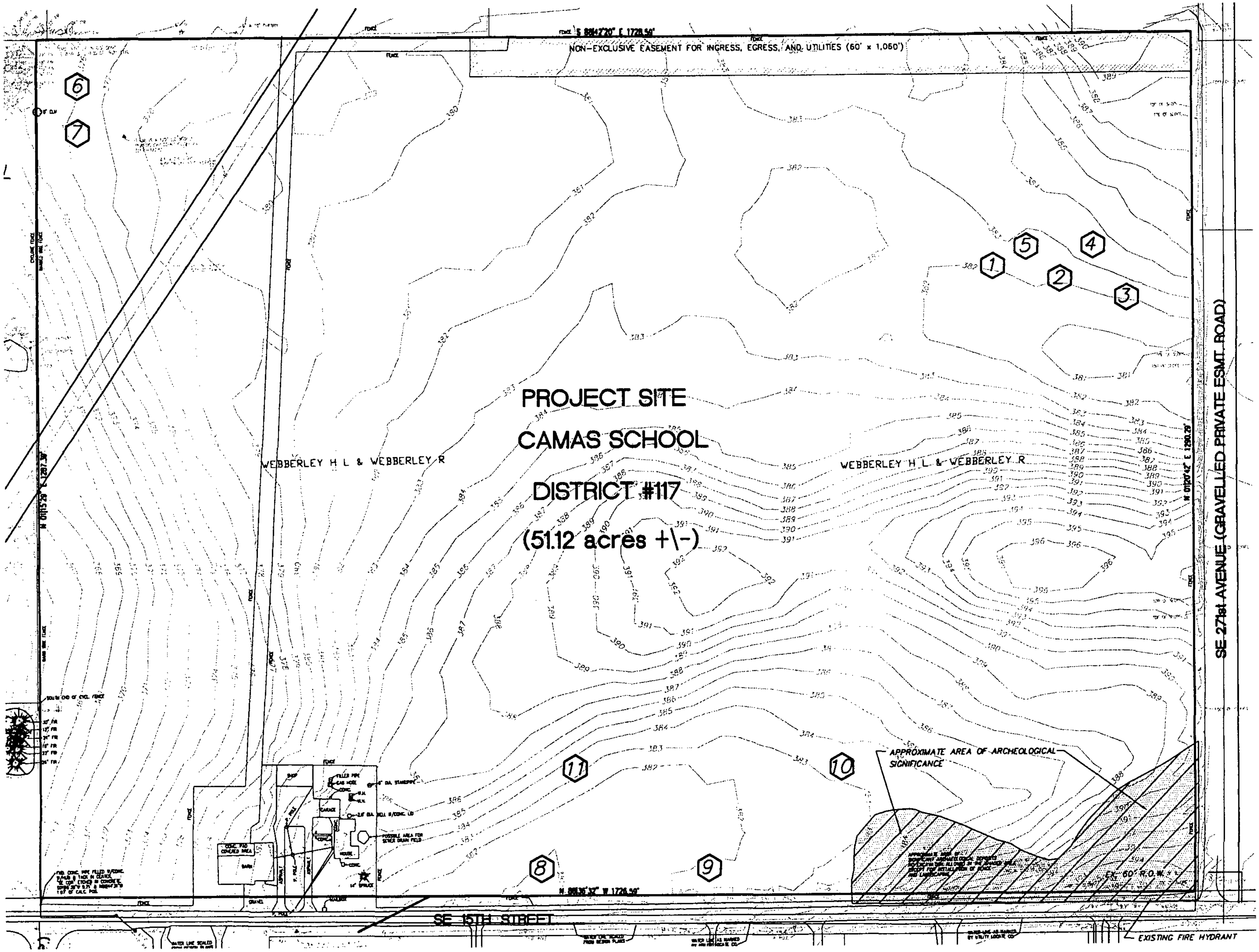
Heather Devine

Heather Devine, P.E.
Geotechnical Engineer

Wesley Spang

Wesley Spang, Ph.D., P.E
President

cc: Mr. Don Proctor, Otak


S 88°42'20" E 1728.59'
NON-EXCLUSIVE EASEMENT FOR INGRESS, EGRESS, AND UTILITIES (60' x 1,050')
PROJECT SITE
CAMAS SCHOOL
DISTRICT #117
(51.12 acres +\-)
WEBBERLEY H L & WEBBERLEY R
WEBBERLEY H L & WEBBERLEY R
SE 27th AVENUE (GRAVELLED PRIVATE ESMT. ROAD)
N 01°20'42" E 1290.29'
SE 15TH STREET
N 88°36'32" W 1726.59'
APPROXIMATE AREA OF ARCHEOLOGICAL SIGNIFICANCE
EX. 60' R.O.W.
EXISTING FIRE HYDRANT
WATER LINE AS MARKED BY UTILITY LOCATE CO.
FENCE
SHOP
FILLER PIPE
GAS HOSE
CONC.
6" DIA. STANDPIPE
GARAGE
HOUSE
BARN
CONC. PAD COVERED AREA
POSSIBLE AREA FOR SEWER DRAIN FIELD
14" SPRUCE
ASPHALT
P. POLE
GRAVEL
MAILBOX
1
2
3
4
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Appendix D-2

Geotechnical Engineering Report , by Columbia West dated December 20, 2024

Exhibit 13 CUP24-1001

Geotechnical Site Investigation

Camas High School Field House

Camas, Washington

December 20, 2019

Geotechnical ▪ Environmental ▪ Special Inspections

Columbia West

Engineering, Inc

11917 NE 95th Street
Vancouver, Washington
98682
Phone: 360-823-2900
Fax: 360-823-2901

www.columbiawestengineering.com

Geotechnical ▪ Environmental ▪ Special Inspections
Columbia West
Engineering, Inc

GEOTECHNICAL SITE INVESTIGATION
CAMAS HIGH SCHOOL FIELD HOUSE
CAMAS, WASHINGTON

Prepared For:	**Mr. Chris Robertson** **Robertson Engineering, PC** **1101 Broadway Street #201** **Vancouver, WA 98660**
Site Location:	**26600 SE 15th Street** **Parcel No. 178111000** **Camas, Washington**
Prepared By:	**Columbia West Engineering, Inc.** **11917 NE 95th Street** **Vancouver, Washington 98682** **Phone: 360-823-2900** **Fax: 360-823-2901**
Date Prepared:	**December 20, 2019**

Exhibit 13 CUP24-1001

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GEOTECHNICAL SITE INVESTIGATION
CAMAS HIGH SCHOOL FIELD HOUSE
CAMAS, WASHINGTON

1.0 INTRODUCTION

Columbia West Engineering, Inc. (Columbia West) was retained by Robertson Engineering, PC to conduct a geotechnical site investigation for the proposed Camas High School Field House project located in Camas, Washington. The purpose of the investigation was to observe and assess subsurface soil conditions at specific locations and provide geotechnical engineering analyses, planning, and design recommendations for proposed development. The specific scope of services was outlined in a proposal contract dated August 23, 2019. This report summarizes the investigation and provides field assessment documentation and laboratory analytical test reports. This report is subject to the limitations expressed in Section 6.0, *Conclusion and Limitations*, and Appendix E.

1.1 General Site Information

As indicated on Figures 1 and 2, the subject site is located at 26600 SE 15th Street in Camas, Washington. The proposed development area is comprised of a portion of tax parcel 178111000 totaling approximately 1.15 acres. The regulatory jurisdictional agency is the City of Camas, Washington. The approximate latitude and longitude are N 45° 36' 51" and W 122° 23' 58", and the legal description is a portion of the SE ¼ of Section 35, T2N, R3E Willamette Meridian.

1.2 Proposed Development

Correspondence with the design team indicates that proposed development will consist of an athletic field house structure and associated underground utilities, stormwater management facilities, and asphalt concrete access drives and walkways. Columbia West has not reviewed preliminary grading plans but understands that minor cut and fill will likely be proposed at the property. This report is based upon proposed development as described above and may not be applicable if modified.

2.0 REGIONAL GEOLOGY AND SOIL CONDITIONS

The subject site lies within the Willamette Valley/Puget Sound Lowland, a wide physiographic depression flanked by the mountainous Coast Range on the west and the Cascade Range on the east. Inclined or uplifted structural zones within the Willamette Valley/Puget Sound Lowland constitute highland areas and depressed structural zones form sediment-filled basins. The site is located in the eastern portion of the Portland/Vancouver Basin, an open, somewhat elliptical, northwest-trending syncline approximately 60 miles wide.

According to the *Geologic Map of the Camas Quadrangle, Clark County, Washington, and Multnomah County, Oregon* (USGS Geological Survey, Scientific Investigations Map 3017, 2008), site soils are mapped as Pleistocene- and Pliocene-aged, unconsolidated to cemented, thick bedded, pebble to boulder sedimentary conglomerate (Qtc).

The *Web Soil Survey* (United States Department of Agriculture, Natural Resource Conservation Service [USDA NRCS], 2019 Website) identifies surface soils as Hesson clay loam. Hesson series soils are generally fine-textured sands, silts, and clays with low permeability, moderate to high water capacity, and low shear strength. Hesson soils are generally moisture sensitive, somewhat compressible, and described as having low to moderate shrink-swell potential. The erosion hazard of these soils is slight primarily based primarily upon slope grade.

3.0 REGIONAL SEISMOLOGY

Recent research and subsurface mapping investigations within the Pacific Northwest appear to suggest the historic potential risk for a large earthquake event with strong localized ground movement may be underestimated. Past earthquakes in the Pacific Northwest appear to have caused landslides and ground subsidence, in addition to severe flooding near coastal areas. Earthquakes may also induce soil liquefaction, which occurs when elevated horizontal ground acceleration and velocity cause soil particles to interact as a fluid as opposed to a solid. Liquefaction of soil can result in lateral spreading and temporary loss of bearing capacity and shear strength.

There are at least four major known fault zones in the vicinity of the site that may be capable of generating potentially destructive horizontal accelerations. These fault zones are described briefly in the following text.

Portland Hills Fault Zone

The Portland Hills Fault Zone consists of several northwest-trending faults located along the northeastern margin of the Tualatin Mountains, also known as the Portland Hills, and the southwest margin of the Portland Basin. The fault zone is approximately 25 to 30 miles in length and is located approximately 15 miles west-southwest of the site. According to *Seismic Design Mapping, State of Oregon* (Geomatrix Consultants, 1995), there is no definitive consensus among geologists as to the zone fault type. Several alternate interpretations have been suggested.

According to the *USGS Earthquake Hazards Program*, the fault was originally mapped as a down-to-the-northeast normal fault, but has also been mapped as part of a regional-scale zone of right-lateral, oblique slip faults, and as a steep escarpment caused by asymmetrical folding above a south-west dipping, blind thrust fault. The Portland Hills fault offsets Miocene-aged Columbia River Basalts, and Miocene- to Pliocene-aged sedimentary rocks of the Troutdale Formation. No fault scarps on surficial Quaternary-aged deposits have been described along the fault trace, and the fault is mapped as buried by the Pleistocene-aged Missoula flood deposits.

However, evidence suggests that fault movement has impacted shallow Holocene-aged deposits and deeper Pleistocene-aged sediments. Seismologists recorded a magnitude (M) 3.2 earthquake in November 2012, and a M3.9 earthquake in April 2003 thought to be associated with the fault zone near Kelly Point Park. A M3.5 earthquake also possibly associated with the Portland Hills Fault Zone occurred approximately 1.3 miles east of the fault in 1991. Therefore, the Portland Hills Fault Zone is generally thought to be potentially active and capable of producing potentially damaging earthquakes.

Gales Creek-Newberg-Mt. Angel Fault Zone

Located approximately 36 miles west-southwest of the site, the northwest-striking, approximately 50-mile long Gales Creek-Newberg-Mt. Angel Structural Zone forms the northwestern boundary between the Oregon Coast Range and the Willamette Valley, and consists of a series of discontinuous northwest-trending faults. The southern end of the fault zone forms the southwest margin of the Tualatin basin. Possible late-Quaternary-aged geomorphic surface deformation may exist along the structural zone (Geomatrix Consultants, 1995).

According to the *USGS Earthquake Hazards Program*, the Mount Angel fault is mapped as a high-angle, reverse-oblique fault, which offsets Miocene-aged rocks of the Columbia River Basalts, and Miocene and Pliocene-aged sedimentary rocks. The fault appears to have controlled emplacement of the Frenchman Spring Member of the Wanapum Basalts, and thus must have a history that predates the Miocene age of these rocks. No unequivocal evidence of deformation of Quaternary-aged deposits has been described, but a thick sequence of sediments deposited by the Missoula floods covers much of the southern part of the fault trace.

Although no definitive evidence of impacts to Holocene-aged sediments have clearly been identified, the Mount Angel fault appears to have been the location of minor earthquake swarms in 1990 near Woodburn, Oregon, and a M5.6 earthquake in March 1993 near Scotts Mills, approximately four miles south of the mapped extent of the Mt. Angel fault. It is unclear if the earthquake occurred along the fault zone or a parallel structure. Therefore, the Gales Creek-Newberg-Mt. Angel Structural Zone is considered potentially active.

Lacamas Lake-Sandy River Fault Zone

The northwest-trending Lacamas Lake Fault and northeast-trending Sandy River Fault intersect north of Camas, Washington approximately 0.8 miles south-southwest of the site, and form part of the northeastern margin of the Portland basin. According to *Geology and Groundwater Conditions of Clark County Washington* (USGS Water Supply Paper 1600, Mundorff, 1964) and the *Geologic Map of the Lake Oswego Quadrangle* (Oregon DOGAMI Series GMS-59, 1989), the Lacamas Lake fault zone consists of shear contact between the Troutdale Formation and underlying Oligocene-aged andesite-basalt bedrock. Secondary shear contact associated with the fault zone may have produced a series of prominent northwest-southeast geomorphic lineaments in proximity to the site.

According to the *USGS Earthquake Hazards Program* the fault has been mapped as a normal fault with down-to-the-southwest displacement and has also been described as a steeply northeast or southwest-dipping, oblique, right-lateral, slip-fault. The trace of the Lacamas Lake fault is marked by the very linear lower reach of Lacamas Creek. No fault scarps on Quaternary-aged surficial deposits have been described. The Lacamas Lake fault offsets Pliocene-aged sedimentary conglomerates generally identified as the Troutdale formation, and Pliocene- to Pleistocene-aged basalts generally identified as the Boring Lava formation.

Recent seismic reflection data across the probable trace of the fault under the Columbia River yielded no unequivocal evidence of displacement underlying the Missoula flood deposits, however, recorded mild seismic activity during the recent past indicates this area may be potentially seismogenic.

Cascadia Subduction Zone

The Cascadia Subduction Zone has recently been recognized as a potential source of strong earthquake activity in the Portland/Vancouver Basin. This phenomenon is the result of the earth's large tectonic plate movement. Geologic evidence indicates that volcanic ocean floor activity along the Juan de Fuca ridge in the Pacific Ocean causes the Juan de Fuca Plate to perpetually move east and subduct under the North American Continental Plate. The subduction zone results in historic volcanic and potential earthquake activity in proximity to the plate interface, believed to lie approximately 20 to 50 miles west of the general location of the Oregon and Washington coast (Geomatrix Consultants, 1995).

4.0 GEOTECHNICAL AND GEOLOGIC FIELD INVESTIGATION

A geotechnical field investigation consisting of visual reconnaissance, three test pits (TP-1 through TP-3), one infiltration test, and one soil boring (SB-1) was conducted at the site on November 5 and 11, 2019. Test pits were explored with a track-mounted excavator. Soil borings were explored with a track-mounted mud-rotary drill system. Subsurface soil profiles were logged in accordance with Unified Soil Classification System (USCS) specifications. Disturbed and relatively undisturbed soil samples were collected from relevant soil horizons and submitted for laboratory analysis. Analytical laboratory test results are presented in Appendix A. Exploration locations are indicated on Figure 2. Subsurface exploration logs are presented in Appendix B. Soil descriptions and classification information are provided in Appendix C. A photo log is presented in Appendix D.

4.1 Surface Investigation and Site Description

The approximate 1.15-acre subject site is located at 26600 SE 15th Street in Camas, Washington. The subject site is located on the Camas High School campus and is bounded by an access drive to the west, an access drive and parking lots to the south, tennis courts to the east, and undeveloped acreage to the north. No existing buildings were observed on the site. Observed utility infrastructure included an underground storm line extending southeast from the central portion of the site to the adjacent stormwater facility. The western and northern portions of the site consist of open, landscaped areas with several mature trees bordering the northern site boundary.

Field reconnaissance and topographic mapping published by *Clark County Maps Online* indicates relatively flat terrain with slope grades of 0 to 5 percent and site elevations ranging from 378 to 382 feet above mean sea level (amsl).

4.2 Subsurface Exploration and Investigation

Test pit explorations TP-1 through TP-3 were advanced at the site to a maximum depth of 14 feet below ground surface (bgs). Soil boring exploration (SB-1) was advanced to a maximum depth of 51 ½ feet bgs. Exploration locations were selected to observe subsurface soil characteristics in proximity to proposed development areas and are indicated on Figure 2. Detailed field logs of the encountered materials are presented in Appendix B, *Subsurface Exploration Logs.*

4.2.1 Soil Type Description

The field investigation indicated the presence of approximately 6 to 12 inches of sod and topsoil in the areas observed. Underlying the topsoil layer, undocumented fill and subsurface soils resembling native USDA Hesson soil series descriptions were encountered. Subsurface lithology may generally be described by soil types identified in the following text.

Soil Type 1 – Undocumented FILL

Soil Type 1 represents undocumented FILL and was observed to primarily consist of tan, mottled, moist, medium dense clayey sand with gravel. Soil Type 1 was observed at ground surface in explorations TP-1 and TP-2 and extended to an observed depth of approximately 24 inches. Soil Type 1 was underlain by Soil Type 2 in test pit TP-1 and Soil Type 3 in test pit TP-2. Additional recommendations regarding Soil Type 1 are provided in Section 5.1.1, *Undocumented Fill.*

Soil Type 2 – Sandy Lean CLAY with Gravel

Soil Type 2 was observed to primarily consist of brown, mottled, moist, medium stiff to stiff sandy lean CLAY with gravel. Soil Type 2 was observed below the topsoil layer in soil boring SB-1, below Soil Type 1 in test pit TP-1, and below Soil Type 3 in test pit TP-2. Soil Type 2 extended to observed depths ranging from approximately 3 to 5 feet bgs where it was underlain by Soil Type 4.

Soil Type 3 – Fat CLAY with Sand

Soil Type 3 was observed to primarily consist of gray to tan, mottled, moist, stiff fat CLAY with sand. Soil Type 3 was observed below the topsoil layer in test pit TP-3 and below Soil Type 1 in test pit TP-2. Soil Type 3 extended to an observed depth of approximately 2 ½ feet bgs, where it was underlain by Soil Type 2 in TP-2 and Soil Type 4 in TP-3.

Recommendations regarding the suitability of Soil Type 3 to be reused as structural fill or bear structural foundations are presented respectively in Section 5.2, *Engineered Structural Fill* and Section 5.4, *Foundations*.

Analytical laboratory testing conducted upon a representative soil sample obtained from test pit TP-2 indicated approximately 85 percent by weight passing the No. 200 sieve and an in situ moisture content of approximately 40 percent. Atterberg Limits analysis indicated a liquid limit of 76 percent and a plasticity index of 50 percent. The laboratory tested sample of Soil Type 3 is classified CH according to USCS specifications and A-7-6(47) according to AASHTO specifications.

Soil Type 4 – Sedimentary CONGLOMERATE

Soil Type 4 was observed to consist of tan to orange-brown, moderately- to severely-weathered, moist, loose to dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix. Soil Type 4 was observed below Soil Type 2 in explorations TP-1, TP-2, and SB-1 and below Soil Type 3 in test pit TP-3. Soil Type 4 extended to the maximum depth of exploration in each of the observed locations. Soil Type 4 may represent unconsolidated to cemented, thick-bedded, pebble to boulder sedimentary conglomerate (QTc) of Evarts, 2008.

Analytical laboratory testing conducted upon representative soils samples obtained from explorations TP-2 and SB-1 indicated approximately 8 to 39 percent by weight passing the No. 200 sieve and in situ moisture contents ranging from approximately 19 to 56 percent. Atterberg Limits analysis indicated liquid limits ranging from 47 to 57 percent and plasticity index ranging from 18 to 24 percent. Laboratory tested samples of Soil Type 4 are classified GP-GM and SM according to USCS specifications and A-2-7(0) and A-7-5(5) according to AASHTO specifications.

4.2.2 Groundwater

Groundwater was not encountered in the test pit explorations to the maximum explored depth of 14 feet bgs. Due to the use of mud-rotary drilling techniques, depth to groundwater was not measured within soil boring SB-1. Review of nearby well logs obtained from the State of Washington Department of Ecology indicates that groundwater levels in the area are approximately 18 to 180 feet bgs. Variations in groundwater elevations likely reflect the screened interval depth of these wells, changes in ground surface elevation, and the presence of multiple aquifers and confining units.

Groundwater levels are often subject to seasonal variance and may rise during extended periods of increased precipitation. Perched groundwater may also be present in localized areas. Seeps and springs may become evident during site grading, primarily along slopes or in areas cut below existing grade. Structures, roads, and drainage design should be planned accordingly.

5.0 DESIGN RECOMMENDATIONS

The geotechnical site investigation suggests the proposed development is generally compatible with surface and subsurface soils, provided the recommendations presented in this report are utilized and incorporated into the design and construction processes. The primary geotechnical concerns associated with the site are undocumented fill and high-plasticity soils. Design recommendations are presented in the following text sections.

5.1 Site Preparation and Grading

Vegetation, organic material, unsuitable fill, and deleterious material that may be encountered should be cleared from areas identified for structures and site grading. Vegetation, other organic material, and debris should be removed from the site. Stripped topsoil should also be removed, or used only as landscape fill in nonstructural areas with slopes less than 25 percent. The stripping depth for sod and highly organic topsoil is anticipated to vary between approximately 6 and 12 inches. Stripping depths may increase in areas of heavy organics or disturbed soil. Actual stripping depths should be determined based upon visual observations made during construction when soil conditions are exposed. The post-construction maximum depth of landscape fill placed or spread at any location onsite should not exceed one foot.

Previously disturbed soil, debris, or unconsolidated fill encountered during grading or construction activities should be removed completely and thoroughly from structural areas. This includes old foundations, basement walls, utilities, associated soft soils, and debris. Excavation areas should be backfilled with engineered structural fill.

Test pits excavated during site exploration were backfilled loosely with onsite soils. These test pits should be located and properly backfilled with structural fill during site improvements construction. Trees, stumps, and associated roots should also be removed from structural areas, individually and carefully. Resulting cavities and excavation areas should be backfilled with engineered structural fill.

Site grading activities should be performed in accordance with requirements specified in the 2015 *International Building Code* (IBC), Chapter 18 and Appendix J, with exceptions noted in the text herein. Site preparation, soil stripping, and grading activities should be observed and documented by Columbia West.

5.1.1 Undocumented Fill

As previously described, undocumented fill was observed in areas proposed for development. Approximate locations where undocumented fill was observed are indicated on Figure 2. The undocumented fill was observed to primarily consist of tan, mottled, moist, medium dense clayey sand with gravel. Undocumented fill extended to an approximate depth of 24 inches in locations observed.

Undocumented fill and other previously disturbed soils or debris are not suitable for bearing structures in their current state and should be removed completely and thoroughly from proposed building envelopes. In some areas, undocumented fill may directly overlie vegetation and the original topsoil layer. This material should also be removed completely. Upon removal of undocumented fill, Columbia West should observe the exposed subgrade to verify adequate support conditions.

Based upon Columbia West’s investigation, most undocumented fill soils (clean clayey sand with gravel) appear to be acceptable for reuse as structural fill, provided materials are observed to exhibit index properties similar to those observed during this investigation and that construction adheres to the specifications presented in this report. Portions of undocumented fill found to contain highly organic soils, debris, or other deleterious material are not suitable for re-use and should be thoroughly removed. Recommendations regarding the suitability of reusing existing fill soils as structural fill material should be provided in the field by Columbia West during construction. It should be noted that the limited scope of exploration conducted for this investigation cannot wholly eliminate uncertainty regarding the presence of unsuitable soils in areas not explored.

5.2 Engineered Structural Fill

Areas proposed for fill placement should be appropriately prepared as described in the preceding text. Surface soils should then be scarified and compacted prior to additional fill placement. Engineered structural fill should be placed in loose lifts not exceeding 12 inches in depth and compacted using standard conventional compaction equipment. The soil moisture content should be within two percentage points of optimum conditions. A field density at least equal to 95 percent of the maximum dry density, obtained from the standard Proctor moisture-density relationship test (ASTM D698), is recommended for structural fill placement. Engineered structural fill placed on sloped grades should be benched to provide a horizontal surface for compaction.

Compaction of engineered structural fill should be verified by nuclear gauge field compaction testing performed in accordance with ASTM D6938. Field compaction testing should be performed for each vertical foot of engineered fill placed followed by subsequent proof-roll evaluation where feasible. Engineered fill placement should be observed by Columbia West.

Engineered structural fill placement activities should be performed during dry summer months if possible. Some clean native soils (Soil Type 2 and Soil Type 4) may be suitable for use as structural fill if adequately dried or moisture-conditioned to achieve recommended compaction specifications. Native soils with a plasticity index greater than 25 should be evaluated and approved by Columbia West prior to re-use as structural fill. Native fat CLAY soils (Soil Type 3) are not anticipated to be suitable for reuse as structural fill.

Fine-textured soils may require addition of moisture during late summer months or after extended periods of warm dry weather. Compacted fine-textured fill soils should be covered shortly after placement. If adequate compaction is not achievable with clean native soils, import structural fill consisting of granular fill meeting WSDOT specifications for *Gravel Borrow 9-03.14(1)* is recommended.

Representative samples of proposed engineered structural fill should be submitted for laboratory analysis and approval by Columbia West prior to placement. Laboratory analyses should include particle-size gradation and standard Proctor moisture-density analysis.

5.3 Cut and Fill Slopes

Fill placed on existing grades steeper than 5H:1V should be horizontally benched at least 10 feet into the slope. Fill slopes greater than six feet in height should be vertically keyed into existing subsurface soil. A typical fill slope cross-section is shown in Figure 3. Drainage implementations, including subdrains or perforated drain pipe trenches, may also be necessary in proximity to cut and fill slopes if seeps or springs are encountered. Drainage design may be performed on a case-by-case basis. Extent, depth, and location of drainage may be determined in the field by Columbia West during construction when soil conditions are exposed. Failure to provide adequate drainage may result in soil sloughing, settlement, or erosion.

Final cut or fill slopes at the site should not exceed 2H:1V or 20 feet in total height without individual slope stability analysis. The values above assume a minimum horizontal setback for loads of 10 feet from top of cut or fill slope face or overall slope height divided by three (H/3), whichever is greater. A minimum slope setback detail for structures is presented in Figure 4.

Concentrated drainage or water flow over the face of slopes should be prohibited, and adequate protection against erosion is required. Fill slopes should be constructed by placing fill material in maximum 12-inch level lifts, compacting as described in Section 5.2, *Engineered Structural Fill* and horizontally benching where appropriate. Fill slopes should be overbuilt, compacted, and trimmed at least two feet horizontally to provide adequate compaction of the outer slope face. Proper cut and fill slope construction is critical to overall project stability and should be observed and documented by Columbia West.

5.4 Foundations

Foundations for proposed structures are anticipated to consist of shallow continuous perimeter or column spread footings. Correspondence with the project structural engineer, Kramer Ghelen and Associates, Inc., indicates that foundation loads are not anticipated to exceed approximately 4 kips per foot for perimeter footings or 75 kips per column. If actual loading exceeds anticipated loading, additional analysis should be conducted for the specific load conditions and proposed footing dimensions. Footings should be designed by a licensed structural engineer and conform to the recommendations below.

The existing ground surface should be prepared as described in Section 5.1, *Site Preparation and Grading*, and Section 5.2, *Engineered Structural Fill*. Foundations should bear only upon firm, native soils (Soil Type 2 or Soil Type 4) or engineered structural fill.

To evaluate bearing capacity for proposed structures, serviceability and reliability of shear resistance for subsurface soils was considered. Allowable bearing capacity is typically a function of footing dimension and subsurface soil properties, including settlement and shear resistance. Based upon in situ field testing and laboratory analysis, an estimated allowable static bearing capacity of 3,000 psf may be achieved by adhering to the following design and construction recommendations. Footings should maintain a minimum embedment depth of 36 inches below the lowest adjacent grade and bear only upon Soil Type 2, Soil Type 4, or engineered structural fill. Soil Types 1 or 3, if encountered within proposed foundation alignments, should be over-excavated to expose Soil Type 2 or 4. Over-excavations which extend beyond the minimum embedment recommendation may be backfilled with 1 ¼”-0 crushed aggregate compacted to at least 95 percent of the modified Proctor maximum dry density (ASTM D1557).

Bearing capacity may be increased by one-third for transient lateral forces such as seismic or wind. The estimated coefficient of friction between in situ compacted native soil or engineered structural fill and in-place poured concrete is 0.40. Lateral forces may also be resisted by an assumed passive soil equivalent fluid pressure of 250 psf/f against embedded footings.

Footings should extend to a depth at least 36 inches below lowest adjacent grade to provide adequate bearing capacity and protection against frost heave. Foundations constructed during wet weather conditions will require over-excavation of saturated subgrade soils and granular structural backfill prior to concrete placement. Over-excavation recommendations should be provided by Columbia West during foundation excavation and construction. Excavations adjacent to foundations should not extend within a 2H:1V angle projected down from the outside bottom footing edge without additional geotechnical analysis.

Foundations should not be permitted to bear upon undocumented fill (Soil Type 1), disturbed soil, or Soil Type 3. Because soil is often heterogeneous and anisotropic, Columbia West should observe foundation excavations prior to placing forms or reinforcing bar to verify subgrade support conditions are as anticipated in this report.

5.4.1 Luminaire, Signal, and Sign Foundations

Foundations for luminaire, signal, and sign poles should be designed in accordance with the *International Building Code (IBC) Chapter 18* by a licensed structural engineer. Based upon review of *IBC* literature, and SPT blow count observations made during the field exploration, the allowable lateral bearing pressure for foundations installed in competent native Soil Type 2, Soil Type 4, or engineered structural fill is 150 psf/ft up to a maximum of 2,500 psf. Columbia West should be contacted to review foundation designs and evaluate compatibility with geotechnical design assumptions.

5.5 Slabs on Grade

The proposed structures may have slab-on-grade floors. Slabs should be supported on firm, competent, in situ native soil or engineered structural fill. Disturbed soils and unsuitable fills in proposed slab locations should be removed and replaced with structural fill.

Preparation and compaction beneath slabs should be performed in accordance with the recommendations presented in Section 5.1, *Site Preparation and Grading* and Section 5.2, *Engineered Structural Fill*. Slabs should be underlain by at least 6 inches of free-draining 1¼" - 0 crushed aggregate meeting WSDOT 9-03.9(3). Geotextile filter fabric conforming to *WSDOT 2010 Standard Specification M 41-10, 9-33.2(1), Geotextile Properties, Table 3: Geotextile for Separation or Soil Stabilization* may be used below the crushed aggregate to increase subgrade support. The modulus of subgrade reaction is estimated to be 100 psi/inch. If desired, a moisture barrier may be constructed beneath the slabs. Slabs should be appropriately waterproofed in accordance with the desired type of finished flooring. Slab thickness and reinforcement should be designed by an experienced structural engineer in accordance with anticipated loads.

5.6 Static Settlement

Total long-term static footing displacement for shallow foundations constructed as described in this report is not anticipated to exceed approximately 1 inch. Differential settlement between comparably loaded footing elements is not expected to exceed approximately ½ inch over a span of 50 feet. The resulting vertical displacement after loading may be due to elastic distortion, dissipation of excess pore pressure, or soil creep.

Exhibit 13 CUP24-1001

5.7 Excavation

Soils at the site were explored to a maximum depth of approximately 51 ½ feet using a track-mounted mud-rotary drill system. Blasting or specialized rock-excavation techniques are not anticipated.

Groundwater was not encountered within test pit explorations to the maximum excavated depth of 14 feet bgs. However, perched groundwater layers may exist at shallower depths depending on seasonal fluctuations of the water table.

Based upon laboratory analysis and field testing, near-surface soils may be Washington State Industrial Safety and Health Administration (WISHA) Type C. For temporary open-cut excavations deeper than four feet, but less than 20 feet in soils of these types, the maximum allowable slope is 1.5H:1V. WISHA soil type should be confirmed during field construction activities by the contractor. Soil is often anisotropic and heterogeneous, and it is possible that WISHA soil types determined in the field may differ from those described above.

Site-specific shoring design may be required if open-cut excavations are infeasible or if excavations are proposed adjacent to existing infrastructure. Typical methods for stabilizing excavations consist of soldier piles and timber lagging, sheet pile walls, tiebacks and shotcrete, or pre-fabricated hydraulic shoring. Because lateral earth pressure distributions acting on below-grade structures are dependent upon the type of shoring system used, Columbia West should be contacted to conduct additional analysis when shoring type, excavation depths, and locations are known.

The contractor should be held responsible for site safety, sloping, and shoring. Columbia West is not responsible for contractor activities and in no case should excavation be conducted in excess of all applicable local, state, and federal laws.

5.8 Lateral Earth Pressure

If retaining walls are proposed, lateral earth pressures should be carefully considered in the design process. Hydrostatic pressure and additional surcharge loading should also be considered. Retained material may include engineered structural backfill or undisturbed native soil. Structural wall backfill should consist of imported granular material meeting *Section 9-03.12(2)* of WSDOT Standard Specifications. Backfill should be prepared and compacted to at least 95 percent of maximum dry density as determined by the modified Proctor test (ASTM D1557). Recommended parameters for lateral earth pressures for retained soils and engineered structural backfill consisting of imported granular fill meeting WSDOT specifications for *Gravel Backfill for Walls 9-03.12(2)* are presented in Table 1.

The design parameters presented in Table 1 are valid for static loading cases only and are based upon in situ undistributed native soils or compacted granular fill. The recommended earth pressures do not include surcharge loads, dynamic loading, hydrostatic pressure, or seismic design.

If seismic design is required for unrestrained walls, seismic forces may be calculated by superimposing a uniform lateral force of $10H^2$ pounds per lineal foot of wall, where H is the total wall height in feet. The resultant force should be applied at 0.6H from the base of the wall. If sloped backfill conditions are proposed for the site, Columbia West should be contacted for additional analysis and associated recommendations.

Table 1. Lateral Earth Pressure Parameters for Level Backfill

Retained Soil	Equivalent Fluid Pressure for Level Backfill			Wet Density	Drained Internal Angle of Friction
	At-rest	Active	Passive		
Undisturbed native Sandy Lean CLAY with Gravel (Soil Type 2)	59 pcf	40 pcf	331 pcf	115 pcf	29°
Undisturbed native Fat CLAY with Sand (Soil Type 3)	69 pcf	50 pcf	242 pcf	110 pcf	22°
Undisturbed native Sedimentary CONGLOMERATE (Soil Type 4)	53 pcf	34 pcf	424 pcf	120 pcf	34°
Approved Structural Backfill Material	52 pcf	32 pcf	568 pcf	135 pcf	38°
WSDOT 9-03.12(2) compacted aggregate backfill					

** The upper 6 inches of soil should be neglected in passive pressure calculations. If exterior grade from top or toe of retaining wall is sloped, Columbia West should be contacted to provide location-specific lateral earth pressures.*

A continuous one-foot-thick zone of free-draining, washed, open-graded 1-inch by 2-inch drain rock and a 4-inch perforated gravity drain pipe is assumed behind retaining walls. Geotextile filter fabric should be placed between the drain rock and backfill soil. Specifications for drain pipe design are presented in Section 5.11, *Drainage*. If walls cannot be gravity drained, saturated base conditions and/or applicable hydrostatic pressures should be assumed.

Final retaining wall design should be reviewed and approved by Columbia West. Retaining wall subgrade and backfill activities should also be observed and tested for compliance with recommended specifications by Columbia West during construction.

5.9 Seismic Design Considerations

According to the *American Society of Civil Engineers* (ASCE) *ASCE 7 Hazard Tool,* the anticipated peak ground and maximum considered earthquake spectral response accelerations resulting from seismic activity for the subject site are summarized in Table 2.

Table 2. Approximate Probabilistic Ground Motion Values for 'firm rock' sites based on subject property longitude and latitude

	2% Probability of Exceedance in 50 yrs
Peak Ground Acceleration	0.367 g
0.2 sec Spectral Acceleration	0.864 g
1.0 sec Spectral Acceleration	0.369 g

The listed probabilistic ground motion values are based upon "firm rock" sites with an assumed shear wave velocity of 2,500 ft/s in the upper 100 feet of soil profile. These values should be adjusted for site class effects by applying site coefficients Fa, Fv, and

F_{PGA} as defined in *ASCE 7-10, Tables 11.4-1, 11.4-2, and 11.8-1*. The site coefficients are intended to more accurately characterize estimated peak ground and respective earthquake spectral response accelerations by considering site-specific soil characteristics and index properties.

The *Site Class Map of Clark County, Washington* (Washington State Department of Natural Resources, 2004) indicates that site soils may represented by Site Class B to C as defined by the *ASCE 7, Chapter 20 Table 20.3-1*. However, subsurface exploration, in situ soil testing, and review of geologic mapping indicates that site soils exhibit characteristics of Site Class D. This site class designation indicates that some amplification of seismic energy may occur during a seismic event because of subsurface conditions.

Localized peak ground accelerations exceeding the adjusted values may occur in some areas in direct proximity to an earthquake's origin. This may be a result of amplification of seismic energy due to depth to competent bedrock, compression and shear wave velocity of bedrock, presence and thickness of loose, unconsolidated alluvial deposits, soil plasticity, grain size, and other factors.

Identification of specific seismic response spectra is beyond the scope of this investigation. If site structures are designed in accordance with recommendations specified in the *2015 IBC*, the potential for peak ground accelerations in excess of the adjusted and amplified values should be understood.

5.10 Soil Liquefaction and Dynamic Settlement

According to the *Liquefaction Susceptibility Map of Clark County Washington* (Washington State Department of Natural Resources, 2004), the site is mapped as very low susceptibility for liquefaction.

Liquefaction, defined as the transformation of the behavior of a granular material from a solid to a liquid due to increased pore-water pressure and reduced effective stress, may occur when granular materials quickly compact under cyclic stresses caused by a seismic event. The effects of liquefaction may include immediate ground settlement and lateral spreading.

Soils most susceptible to liquefaction are generally saturated, cohesionless, loose to medium-dense sands within 50 feet of the ground surface. Recent research has also indicated that low plasticity silts and clays may also be subject to sand-like liquefaction behavior if the plasticity index determined by the Atterberg Limits analysis is less than 8. Potentially liquefiable soils located above the existing, historic, or expected ground water levels do not generally pose a liquefaction hazard. It is important to note that changes in perched ground water elevation may occur due to project development or other factors not observed at the time of investigation.

The above-mentioned criteria were not observed during the geotechnical site investigation. Therefore, the potential for liquefaction of site soils is considered to be very low.

5.11 Drainage

At a minimum, site drainage should include surface water collection and conveyance to properly designed stormwater management structures and facilities. Drainage design in general should conform to City of Camas regulations. Finished site grading should be conducted with positive drainage away from structures. Depressions or shallow areas that may retain ponding water should be avoided. Roof drains, low-point drains, and perimeter foundation drains are recommended for structures. Drains should consist of separate systems and gravity flow with a minimum two-percent slope away from foundations into the stormwater system or approved discharge location.

Perimeter foundation drains should consist of 3-inch perforated PVC pipe surrounded by a minimum of 1 ft^3 of clean, washed drain rock per linear foot of pipe and wrapped with geotextile filter fabric. Open-graded drain rock with a maximum particle size of 3 inches and less than 2 percent passing the No. 200 sieve is recommended. Geotextile filter fabric should consist of Mirafi 140N or approved equivalent, with an apparent opening size (AOS) between No. 70 and No. 100 sieve. The water permittivity should be greater than 1.5/sec. Figure 5 presents a typical perimeter footing drain. Perimeter drains may limit increased hydrostatic pressure beneath footings and assist in reducing potential perched moisture areas.

Subdrains should also be considered if portions of the site are cut below surrounding grades. Shallow groundwater, springs, or seeps should be conveyed via drainage channel or perforated pipe into the stormwater management system or an approved discharge. Recommendations for design and installation of perforated drainage pipe may be performed on a case-by-case basis by Columbia West during construction. Failure to provide adequate surface and sub-surface drainage may result in soil slumping or unanticipated settlement of structures exceeding tolerable limits. A typical perforated drain pipe trench detail is presented in Figure 6.

Foundation drains and subdrains should be closely monitored after construction to assess their effectiveness. If additional surface or shallow subsurface seeps become evident, the drainage provisions may require modification or additional drains. Columbia West should be consulted to provide appropriate recommendations.

5.12 Infiltration Testing Results

To investigate the feasibility of subsurface disposal of stormwater, Columbia West conducted in situ infiltration testing at one location within the project area on November 5, 2019. Results, location, and associated depth of in situ infiltration testing are presented in Table 3. The reported infiltration rate, as defined by the soil coefficient of permeability, reflects approximate raw observed data, without application of a factor of safety. Soils in the tested location were observed and sampled where appropriate to adequately characterize the subsurface profile. Tested native soils were visually classified as CL, sandy lean CLAY with gravel.

Single-ring, falling head infiltration testing was performed by inserting a three-inch diameter pipe into the soil at the noted depth. The test was conducted by filling the apparatus with water and measuring time relative to changes in hydraulic head at regular intervals. Using Darcy's Law for saturated flow in homogenous media, the coefficient of permeability (k) was then calculated.

Table 3. Infiltration Test Data

Test Number	Location (See Figure 2)	Approximate Test Depth (feet bgs)	Approximate Depth to Groundwater on 11-05-19 (feet bgs)	USCS Soil Type (*Indicates Visual Classification)	Passing No. 200 Sieve (%)	Infiltration Rate (Coefficient of Permeability, k) (inches/hour)
IT-1.1	TP-1	3.0	Not Encountered to 14 feet	CL, Sandy Lean CLAY with Gravel*	–	< 0.1

Due to the observed presence of fine-textured, low permeability soils, subsurface disposal of concentrated stormwater is likely infeasible and is not recommended without further study.

5.13 Bituminous Asphalt and Portland Cement Concrete

Correspondence with the design team indicates that proposed development includes private asphalt paved access drives and walkways. Columbia West recommends adherence to City of Camas paving guidelines for roadway improvements in the public right-of-way. General recommendations for private onsite flexible pavement sections are summarized in Table 4.

Table 4. Private Onsite Flexible Pavement Section Recommendations

Pavement Section Layer	**Minimum Layer Thickness**		**Specifications**
	Passenger Vehicle Parking and Access Drives	***Heavy Truck Access Drives**	
Asphalt concrete surface HMA Class ½" PG 64-22	3 inches	4 inches	91 percent of maximum Rice density (ASTM D2041)
Base course (WSDOT 9-03.9(3) 1¼"-0 crushed aggregate	8 inches	12 inches	95 percent of maximum modified Proctor density (ASTM D1557)
Scarified and compacted existing subgrade material	12 inches	12 inches	Compacted to 95 percent of maximum modified Proctor density (ASTM D1557)

*General recommendation based upon maximum traffic loading of up to 15 heavy trucks per day. If actual truck traffic exceeds 15 trucks per day, reduced pavement serviceability and design life should be expected.

For dry weather construction, pavement surface sections should bear upon competent subgrade consisting of scarified and compacted native soil or engineered structural fill. Wet weather pavement construction is discussed in Section 5.14, *Wet Weather Construction Methods and Techniques*. Subgrade conditions should be evaluated and tested by Columbia West prior to placement of crushed aggregate base. Subgrade evaluation should include nuclear gauge density testing and wheel proof-roll observations conducted with a loaded 12-cubic yard, double-axle dump truck or equivalent. Nuclear gauge density testing should be conducted at 150-foot intervals or as determined by the onsite geotechnical engineer. Subgrade soil should be compacted to at least 95 percent of the modified Proctor dry density, as determined by ASTM D1557. Areas of observed deflection or rutting during proof-roll evaluation should be excavated to a firm surface and replaced with compacted crushed aggregate.

Crushed aggregate base should be compacted and tested in accordance with the specifications outlined above. Asphalt concrete pavement should be compacted to at least 91 percent of maximum Rice density. Nuclear gauge density testing should be conducted to verify adherence to recommended specifications. Testing frequency should be in accordance with Washington Department of Transportation and City of Camas specifications.

Portland cement concrete curbs and sidewalks should be installed in accordance with City of Camas specifications. Curb and sidewalk aggregate base should be observed and proof-rolled by Columbia West. Soft areas that deflect or rut should be stabilized prior to pouring concrete. Concrete should be tested during installation in accordance with ASTM C171, C138, C231, C143, C1064, and C31. This includes casting of cylinder specimens at a frequency of four cylinders per 100 cubic yards of poured concrete. Recommended field concrete testing includes slump, air entrainment, temperature, and unit weight.

5.14 Wet Weather Construction Methods and Techniques

Wet weather construction often results in significant shear strength reduction and soft areas that may rut or deflect. Installation of granular working layers may be necessary to provide a firm support base and sustain construction equipment. Granular layers should consist of all-weather gravel, two- to four-inch gabion, or other similar material (six-inch maximum size with less than five percent passing the No. 200 sieve).

Construction equipment traffic across exposed soil should be minimized. Equipment traffic induces dynamic loading, which may result in weak areas and significant reduction in shear strength for wet soils. Wet weather construction may also result in generation of significant excess quantities of soft wet soil. This material should be removed from the site or stockpiled in a designated area.

Construction during wet weather conditions may require increased base thickness. Over-excavation of subgrade soils or subgrade amendment with lime and/or cement may be necessary to provide a firm base upon which to place crushed aggregate. Geotextile filter fabric is also recommended. If soil amendment with lime or cement is considered, Columbia West should be contacted to provide appropriate recommendations based upon observed field conditions and desired performance criteria.

Crushed aggregate base should be installed in a single lift with trucks end-dumping from an advancing pad of granular fill. During extended wet periods, stripping activities may also need to be conducted from an advancing pad of granular fill. Once installed, the crushed aggregate base should be compacted with several passes from a static drum roller. A vibratory compactor is not recommended because it may further disturb the subgrade. Subdrains may also be necessary to provide subgrade drainage and maintain structural integrity.

Crushed aggregate base should be compacted to at least 95 percent of maximum dry density according to the modified Proctor density test (ASTM D1557). Compaction should be verified by nuclear gauge density testing. Observation of a proof-roll with a loaded dump truck is also recommended as an indication of the compacted aggregate's performance.

It should be understood that wet weather construction is risky and costly. Columbia West should observe and document wet weather construction activities. Proper construction methods and techniques are critical to overall project integrity.

5.15 Erosion Control Measures

Based upon field observations and laboratory testing, the erosion hazard for site soils in flat to shallow-gradient portions of the property is likely to be low. The potential for erosion generally increases in sloped areas. Therefore, disturbance to vegetation in sloped areas should be minimized during construction activities. Soil is also prone to erosion if unprotected and unvegetated during periods of increased precipitation. Erosion can be minimized by performing construction activities during dry summer months.

Site-specific erosion control measures should be implemented to address the maintenance of exposed areas. This may include silt fence, biofilter bags, straw wattles, or other suitable methods. During construction activities, exposed areas should be well-compacted and protected from erosion with visqueen, surface tackifier, or other means, as appropriate. Temporary slopes or exposed areas may be covered with straw, crushed aggregate, or riprap in localized areas to minimize erosion. Erosion and water runoff during wet weather conditions may be controlled by application of strategically placed channels and small detention depressions with overflow pipes.

After grading, exposed surfaces should be vegetated as soon as possible with erosion-resistant native vegetation. Jute mesh or straw may be applied to enhance vegetation. Once established, vegetation should be properly maintained. Disturbance to existing native vegetation and surrounding organic soil should also be minimized during construction activities.

5.16 Utility Installation

Utility installation may require subsurface excavation and trenching. Excavation, trenching and shoring should conform to federal (Occupational Safety and Health Administration) (OSHA) (29 CFR, Part 1926) and *WISHA* (WAC, Chapter 296-155) regulations. Site soils may slough when cut vertically and sudden precipitation events or perched groundwater may result in accumulation of water within excavation zones and trenches.

Utilities should be installed in general accordance with manufacturer's recommendations. Utility trench backfill should consist of *WSDOT 9-03.19 Bank Run Gravel for Trench Backfill* or *WSDOT 9-03.14(2) Select Borrow* with a maximum particle size of 2 ½-inches. Trench backfill material within 18 inches of the top of utility pipes should be hand compacted (i.e., no heavy compaction equipment). The remaining backfill should be compacted to at least 95 percent of maximum dry density as determined by the standard Proctor moisture-density test (ASTM D698). Clean, free-draining, fine bedding sand is recommended for use in the pipe zone. With exception of the pipe zone, backfill should be placed in loose lifts not exceeding 12 inches in thickness.

Compaction of utility trench backfill material should be verified by nuclear gauge field compaction testing performed in accordance with ASTM D6938. It is recommended that field compaction testing be performed at 200-foot intervals along the utility trench centerline at the surface and midpoint depth of the trench. Compaction frequency and

Exhibit 13 CUP24-1001

specifications may be modified for non-structural areas in accordance with recommendations of the site geotechnical engineer.

6.0 CONCLUSION AND LIMITATIONS

This geotechnical site investigation report was prepared in accordance with accepted standard conventional principles and practices of geotechnical engineering. This investigation pertains only to material tested and observed as of the date of this report, and is based upon proposed site development as described in the text herein. This report is a professional opinion containing recommendations established by engineering interpretations of subsurface soils based upon conditions observed during site exploration. Soil conditions may differ between tested locations or over time. Slight variations may produce impacts to the performance of structural facilities if not adequately addressed. This underscores the importance of diligent QA/QC construction observation and testing to verify soil conditions are as anticipated in this report.

Therefore, this report contains several recommendations for field observation and testing by Columbia West personnel during construction activities. Columbia West cannot accept responsibility for deviations from recommendations described in this report. Future performance of structural facilities is often related to the degree of construction observation by qualified personnel. These services should be performed to the full extent recommended.

This report is not an environmental assessment and should not be construed as a representative warranty of site subsurface conditions. The discovery of adverse environmental conditions, or subsurface soils that deviate from those described in this report, should immediately prompt further investigation. The above statements are in lieu of all other statements expressed or implied.

This report was prepared solely for the client and is not to be reproduced without prior authorization from Columbia West. Final engineering plans and specifications for the project should be reviewed and approved by Columbia West as they relate to geotechnical and grading issues prior to final design approval. Columbia West is not responsible for independent conclusions or recommendations made by other parties based upon information presented in this report. Unless a particular service was expressly included in the scope, it was not performed and there should be no assumptions based upon services not provided. Additional report limitations and important information about this document are presented in Appendix E. This information should be carefully read and understood by the client and other parties reviewing this document.

Sincerely,

COLUMBIA WEST ENGINEERING, Inc.

Lance V. Lehto, PE, GE
President

LANCE V. LEHTO
36301
12-20-19

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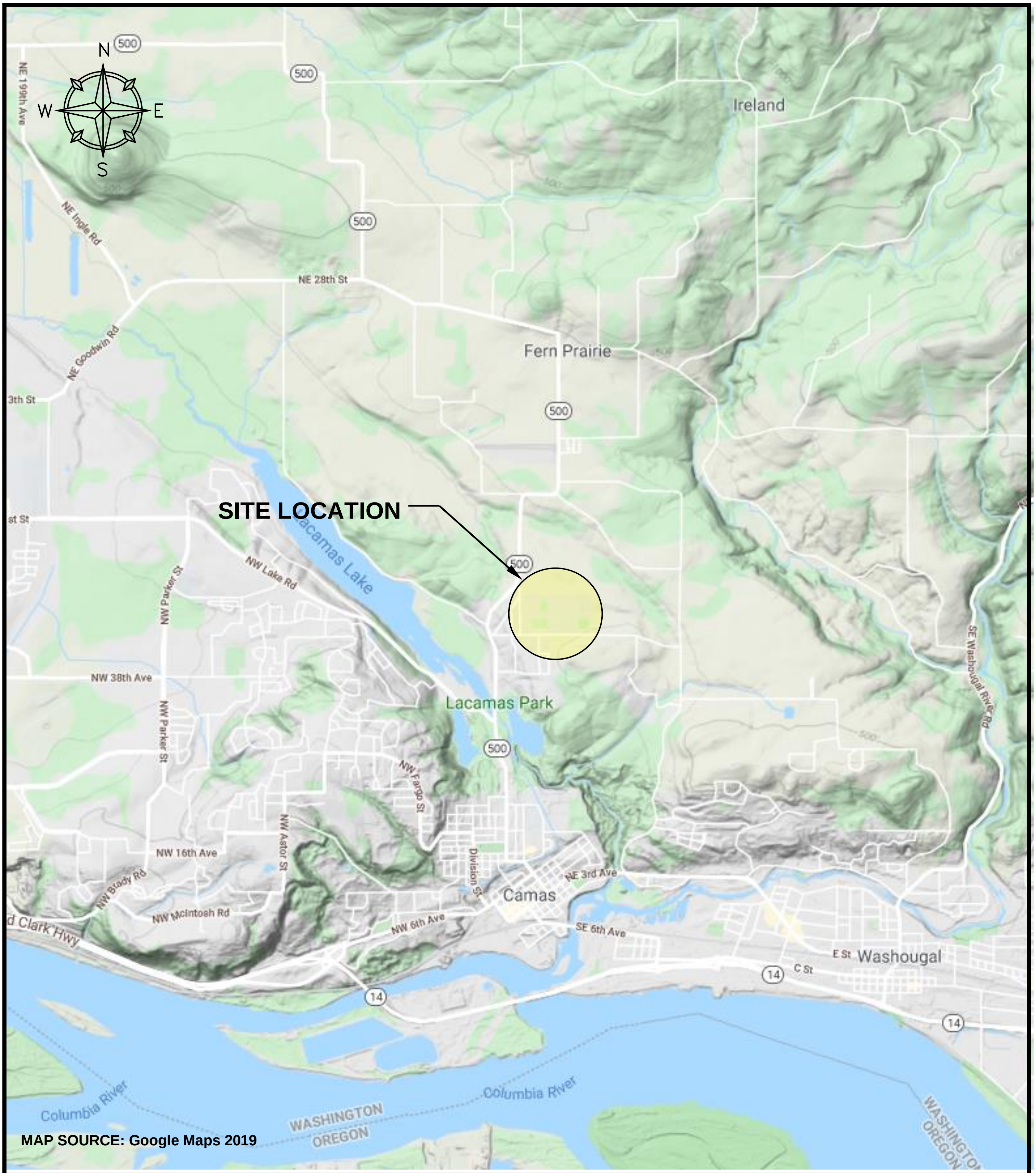
FIGURES



MAP SOURCE: Google Maps 2019

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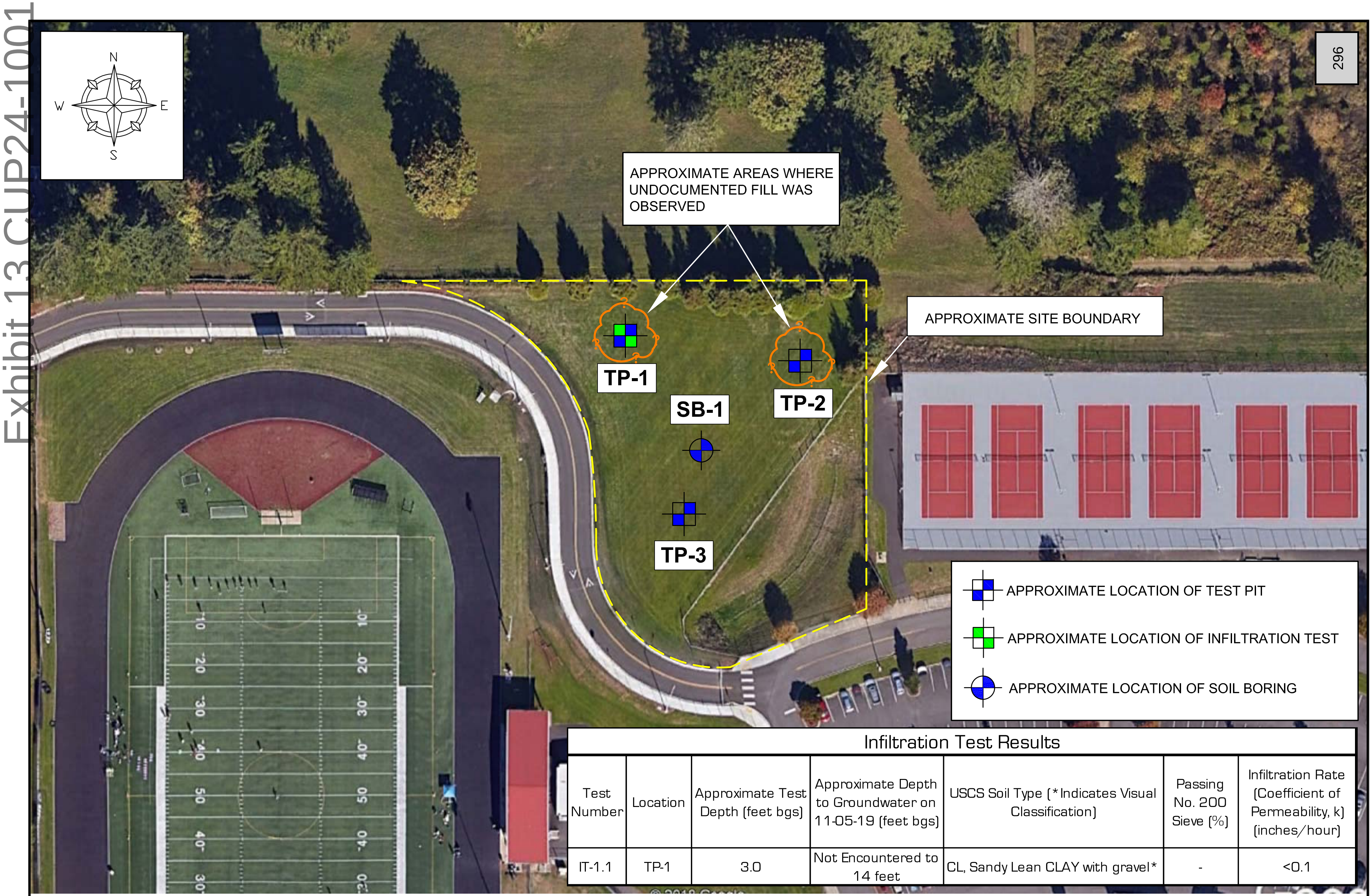
Checked: GLW	Date: 11/18/19		
Client: ROBERTSON	Rev	By	Date
Job No.: 19276			
CAD File: FIGURE 1			
Scale: NTS			

SITE LOCATION MAP

CAMAS HIGH SCHOOL
FIELD HOUSE
CAMAS, WASHINGTON

FIGURE
1



Infiltration Test Results

Test Number	Location	Approximate Test Depth (feet bgs)	Approximate Depth to Groundwater on 11-05-19 (feet bgs)	USCS Soil Type (*Indicates Visual Classification)	Passing No. 200 Sieve (%)	Infiltration Rate (Coefficient of Permeability, k) (inches/hour)
IT-1.1	TP-1	3.0	Not Encountered to 14 feet	CL, Sandy Lean CLAY with gravel*	-	<0.1

NOTES:
1. SITE LOCATION: 26600 SE 15TH STREET, CAMAS, WASHINGTON.
2. SITE CONSISTS OF A PORTION OF PARCEL 178111000 TOTALING APPROXIMATELY 1.15 ACRES.
3. DRAWING IS NOT TO SCALE.
4. AERIAL IMAGE SOURCED FROM GOOGLE EARTH.
5. EXPLORATION LOCATIONS ARE APPROXIMATE AND NOT SURVEYED.
6. TEST PITS BACKFILLED LOOSELY WITH ONSITE SOIL ON NOVEMBER 5, 2019.
7. SOIL BORING BACKFILLED WITH BENTONITE ON NOVEMBER 11, 2019.
8. INFILTRATION RATES ARE APPROXIMATE COEFFICIENTS OF PERMEABILITY AND DO NOT INCLUDE A FACTOR OF SAFETY.

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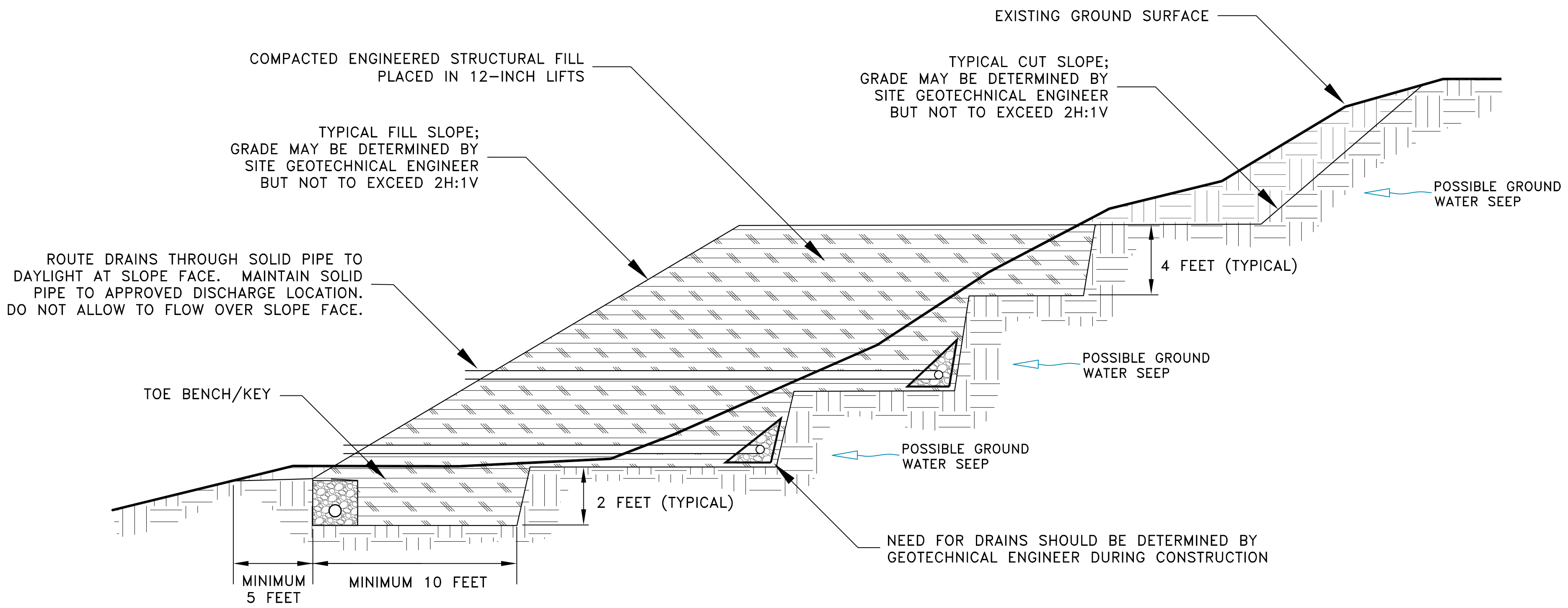
EXPLORATION LOCATION MAP

CAMAS HIGH SCHOOL
FIELD HOUSE
CAMAS, WASHINGTON

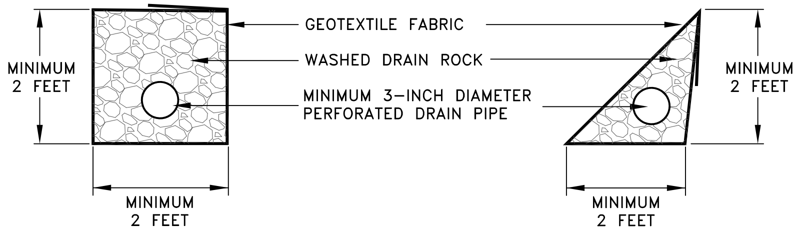
FIGURE
2

Exhibit 13 CUP24-1001

TYPICAL CUT AND FILL SLOPE CROSS-SECTION



TYPICAL DRAIN SECTION DETAIL



DRAIN SPECIFICATIONS

GEOTEXTILE FABRIC SHALL CONSIST OF MIRAFI 140N OR APPROVED EQUIVALENT WITH AOS BETWEEN No. 70 AND No. 100 SIEVE.

WASHED DRAIN ROCK SHALL BE OPEN-GRADED ANGULAR DRAIN ROCK WITH LESS THAN 2 PERCENT PASSING THE No. 200 SIEVE AND A MAXIMUM PARTICLE SIZE OF 3 INCHES.

NOTES:
1. DRAWING IS NOT TO SCALE.
2. SLOPES AND PROFILES SHOWN ARE APPROXIMATE.
3. DRAWING REPRESENTS TYPICAL FILL AND CUT SLOPE SECTION, AND MAY NOT BE SITE-SPECIFIC.

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Scale: NONE

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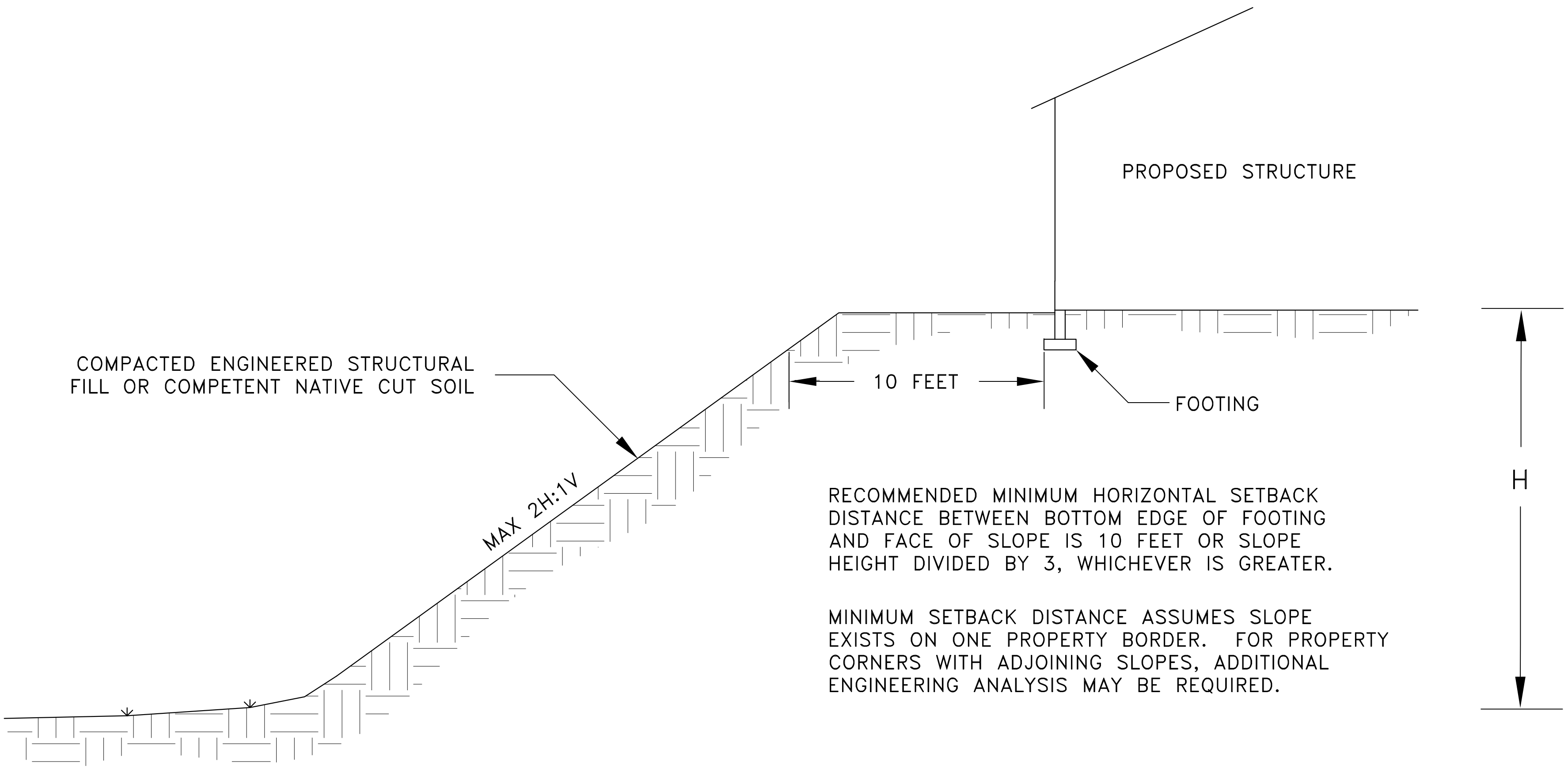
TYPICAL CUT AND FILL SLOPE CROSS-SECTION

CAMAS HIGH SCHOOL
FIELD HOUSE
CAMAS, WASHINGTON

FIGURE
3

Exhibit 13 CUP24-1001

MINIMUM FOUNDATION SLOPE SETBACK DETAIL



RECOMMENDED MINIMUM HORIZONTAL SETBACK DISTANCE BETWEEN BOTTOM EDGE OF FOOTING AND FACE OF SLOPE IS 10 FEET OR SLOPE HEIGHT DIVIDED BY 3, WHICHEVER IS GREATER.

MINIMUM SETBACK DISTANCE ASSUMES SLOPE EXISTS ON ONE PROPERTY BORDER. FOR PROPERTY CORNERS WITH ADJOINING SLOPES, ADDITIONAL ENGINEERING ANALYSIS MAY BE REQUIRED.

NOTES:
1. DRAWING IS NOT TO SCALE.
2. SLOPES AND PROFILES SHOWN ARE APPROXIMATE.
3. DRAWING REPRESENTS TYPICAL FOUNDATION SETBACK DETAIL, AND MAY NOT BE SITE-SPECIFIC.

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Job No: 19276				
CAD File: FIGURE 4				
Scale: NONE				

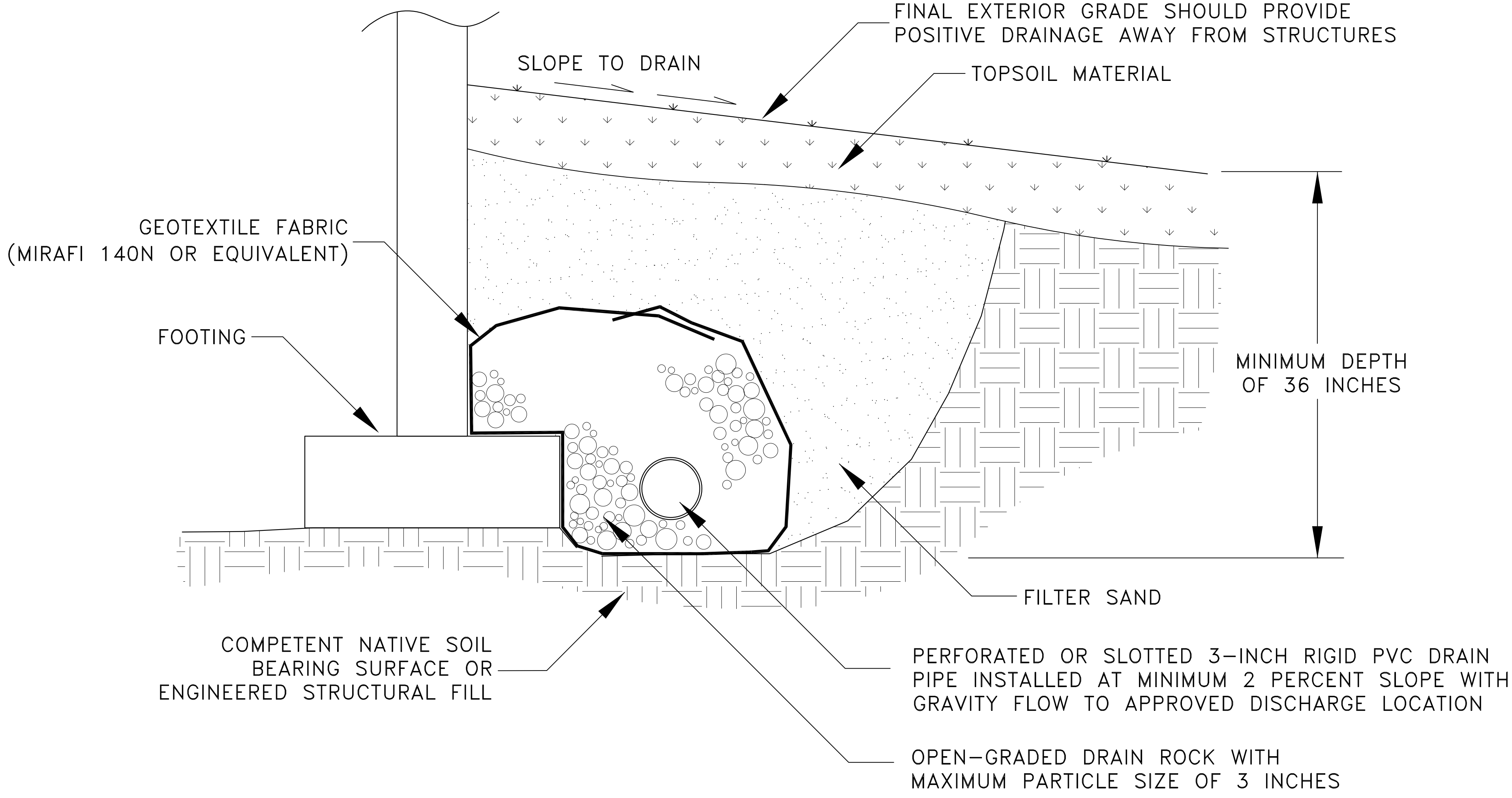
TYPICAL MINIMUM
SLOPE SETBACK DETAIL

CAMAS HIGH SCHOOL
FIELD HOUSE
CAMAS, WASHINGTON

FIGURE
4

Exhibit 13 CUP24-1001

TYPICAL PERIMETER FOOTING DRAIN DETAIL



NOTES:
1. DRAWING IS NOT TO SCALE.
2. DRAWING REPRESENTS TYPICAL FOOTING DRAIN DETAIL AND MAY NOT BE SITE-SPECIFIC.

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Rev	By	Date

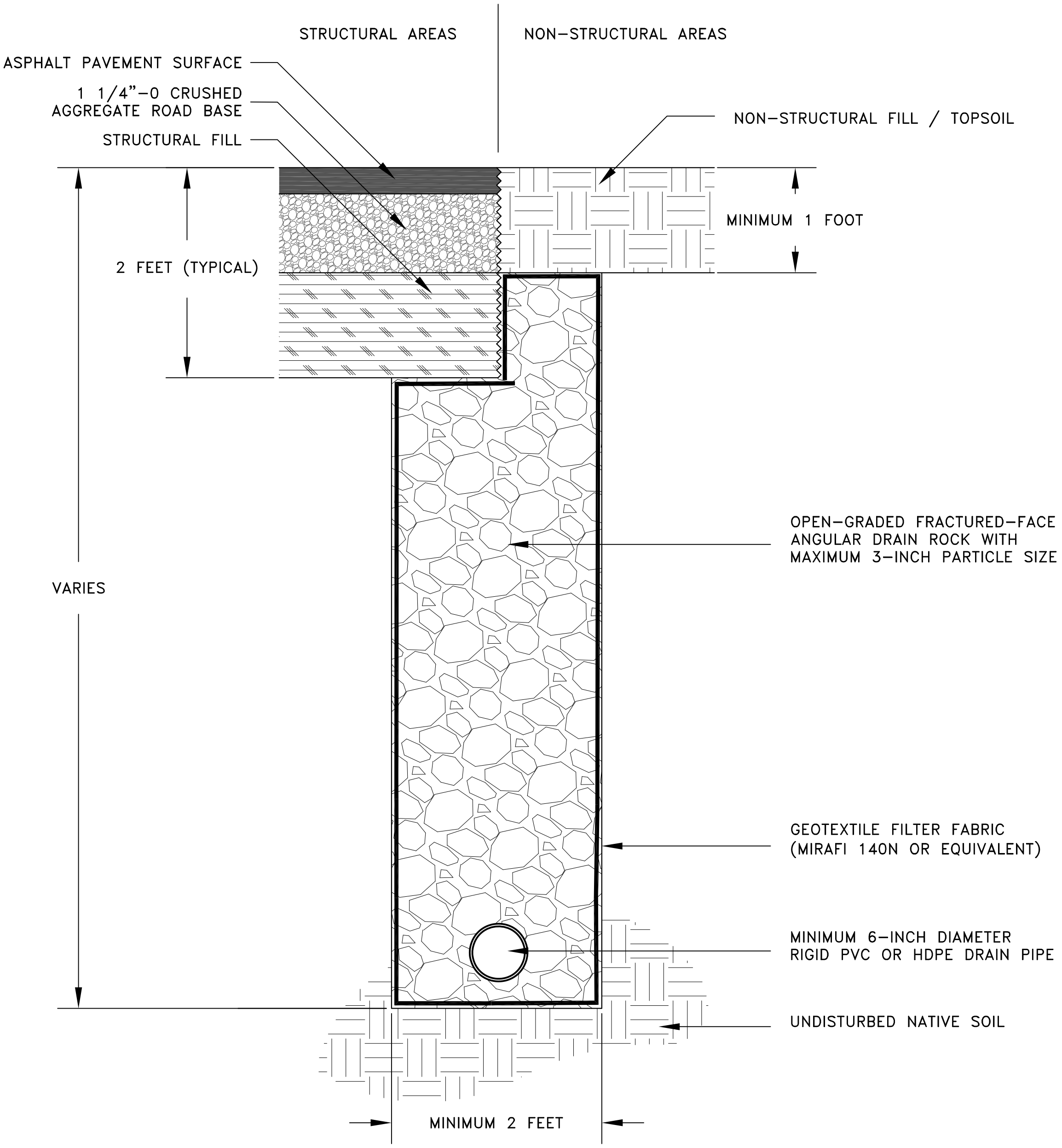
TYPICAL PERIMETER FOOTING DRAIN DETAIL

CAMAS HIGH SCHOOL
FIELD HOUSE
CAMAS, WASHINGTON

FIGURE
5

Exhibit 13 CUP24-1001

TYPICAL PERFORATED DRAIN PIPE TRENCH DETAIL



NOTE: LOCATION, INVERT ELEVATION, DEPTH OF TRENCH, AND EXTENT OF PERFORATED PIPE REQUIRED MAY BE MODIFIED BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION BASED UPON FIELD OBSERVATION AND SITE-SPECIFIC SOIL CONDITIONS.

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Date: 11/18/19

Rev	By	Date

TYPICAL PERFORATED
DRAIN PIPE TRENCH DETAIL

CAMAS HIGH SCHOOL FIELD HOUSE
CAMAS, WASHINGTON

FIGURE
300

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APPENDIX A
LABORATORY TEST RESULTS

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PARTICLE-SIZE ANALYSIS REPORT

PROJECT	CLIENT	PROJECT NO.	LAB ID
Camas High School Field House 26600 SE 15th Street Camas, Washington	Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	19276	S19-1115
		REPORT DATE	FIELD ID
		11/22/19	TP2.1
		DATE SAMPLED	SAMPLED BY
		11/05/19	MCK

MATERIAL DATA

MATERIAL SAMPLED	MATERIAL SOURCE	USCS SOIL TYPE
Fat CLAY with Sand	Test Pit TP-02 depth = 2 feet	CH, Fat Clay with Sand

SPECIFICATIONS	AASHTO SOIL TYPE
none	A-7-6(47)

LABORATORY TEST DATA

LABORATORY EQUIPMENT	TEST PROCEDURE
Rainhart "Mary Ann" Sifter 637	ASTM D6913

ADDITIONAL DATA

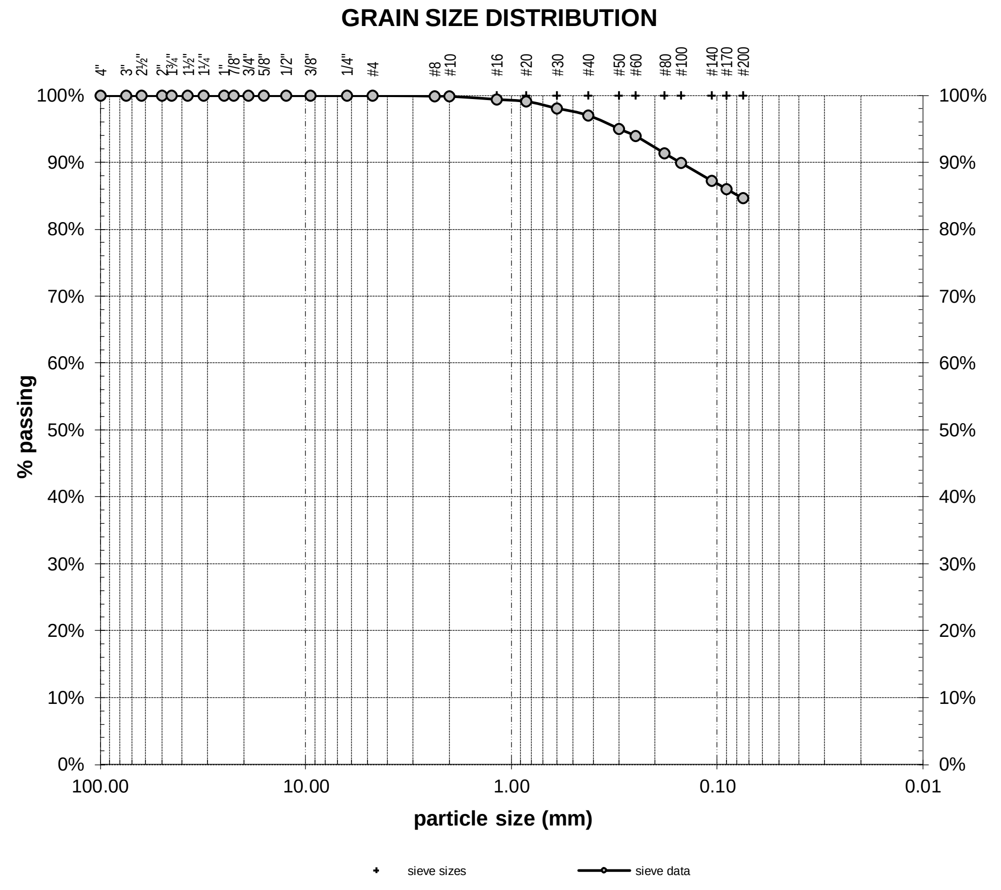
initial dry mass (g) =	159.83		
as-received moisture content =	40.1%	coefficient of curvature, C_C =	n/a
liquid limit =	76	coefficient of uniformity, C_U =	n/a
plastic limit =	26	effective size, $D_{(10)}$ =	n/a
plasticity index =	50	$D_{(30)}$ =	n/a
fineness modulus =	n/a	$D_{(60)}$ =	n/a

SIEVE DATA

% gravel = 0.0%
% sand = 15.3%
% silt and clay = 84.7%

	SIEVE SIZE		PERCENT PASSING			
			SIEVE		SPECS	
	US	mm	act.	interp.	max	min
GRAVEL	6.00"	150.0		100%		
	4.00"	100.0		100%		
	3.00"	75.0		100%		
	2.50"	63.0		100%		
	2.00"	50.0		100%		
	1.75"	45.0		100%		
	1.50"	37.5		100%		
	1.25"	31.5		100%		
	1.00"	25.0		100%		
	7/8"	22.4		100%		
	3/4"	19.0		100%		
	5/8"	16.0		100%		
	1/2"	12.5		100%		
	3/8"	9.50		100%		
	1/4"	6.30		100%		
	#4	4.75	100%			
SAND	#8	2.36		100%		
	#10	2.00	100%			
	#16	1.18		99%		
	#20	0.850	99%			
	#30	0.600		98%		
	#40	0.425	97%			
	#50	0.300		95%		
	#60	0.250	94%			
	#80	0.180		91%		
	#100	0.150	90%			
	#140	0.106		87%		
	#170	0.090		86%		
	#200	0.075	85%			

GRAIN SIZE DISTRIBUTION



DATE TESTED	TESTED BY
11/19/19	BTT

COLUMBIA WEST ENGINEERING, INC. authorized signature

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ATTERBERG LIMITS REPORT

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		REPORT DATE	FIELD ID
		11/22/19	TP2.1
		DATE SAMPLED	SAMPLED BY
		11/05/19	MCK

MATERIAL DATA

MATERIAL SAMPLED	MATERIAL SOURCE	USCS SOIL TYPE
Fat CLAY with Sand	Test Pit TP-02 depth = 2 feet	CH, Fat Clay with Sand

LABORATORY TEST DATA

LABORATORY EOUIPMENT	TEST PROCEDURE
Liquid Limit Machine, Hand Rolled	ASTM D4318

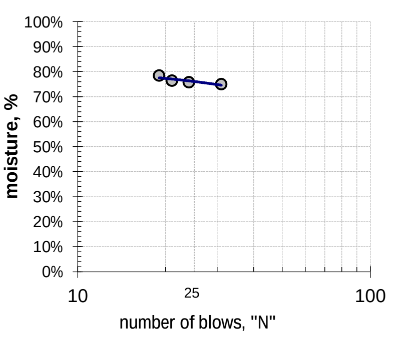
ATTERBERG LIMITS

liquid limit = 76
plastic limit = 26
plasticity index = 50

LIQUID LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	32.21	31.56	31.49	31.50
dry soil + pan weight, g =	27.37	26.91	26.78	26.85
pan weight, g =	20.91	20.77	20.61	20.92
N (blows) =	31	24	21	19
moisture, % =	74.9 %	75.7 %	76.3 %	78.4 %

LIQUID LIMIT



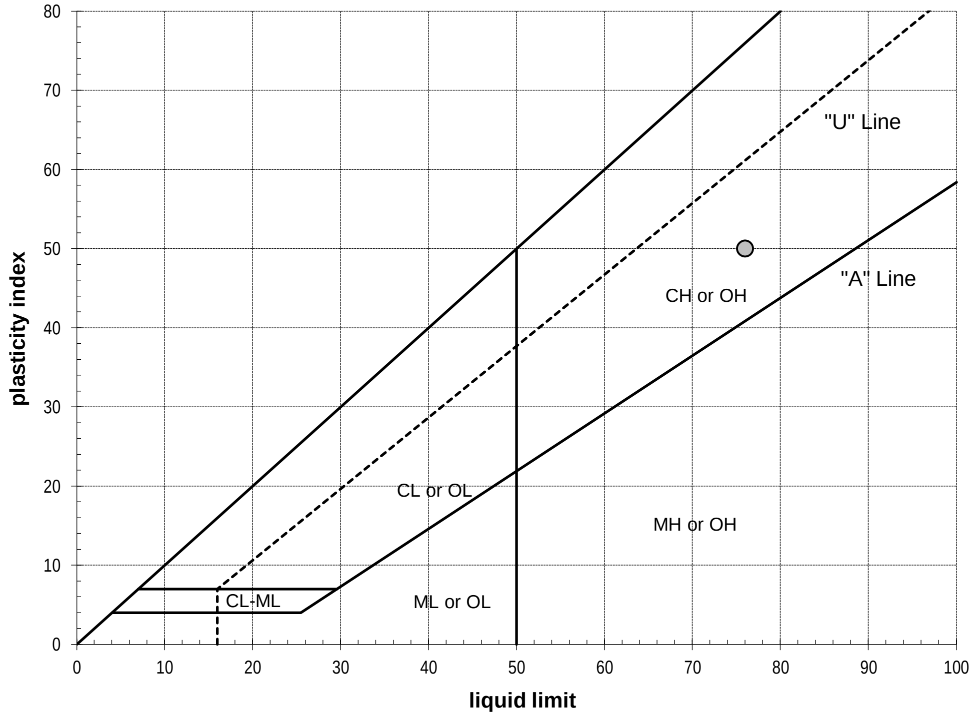
SHRINKAGE

shrinkage limit = n/a
shrinkage ratio = n/a

PLASTIC LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	27.15	27.23		
dry soil + pan weight, g =	25.85	25.93		
pan weight, g =	20.74	20.87		
moisture, % =	25.4 %	25.7 %		

PLASTICITY CHART



ADDITIONAL DATA

% gravel = 0.0%
% sand = 15.3%
% silt and clay = 84.7%
% silt = n/a
% clay = n/a
moisture content = 40.1%

DATE TESTED	TESTED BY
11/21/19	KMS

COLUMBIA WEST ENGINEERING, INC. authorized signature

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PARTICLE-SIZE ANALYSIS REPORT

PROJECT	CLIENT	PROJECT NO.	LAB ID
Camas High School Field House 26600 SE 15th Street Camas, Washington	Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	19276	S19-1116
		REPORT DATE	FIELD ID
		11/22/19	TP2.3
		DATE SAMPLED	SAMPLED BY
		11/05/19	MCK

MATERIAL DATA

MATERIAL SAMPLED	MATERIAL SOURCE	USCS SOIL TYPE
Poorly graded GRAVEL with Silt and Sand	Test Pit TP-02 depth = 9 feet	GP-GM, Poorly graded gravel with silt and sand

SPECIFICATIONS	AASHTO SOIL TYPE
none	A-2-7(0)

LABORATORY TEST DATA

LABORATORY EQUIPMENT	TEST PROCEDURE
Rainhart "Mary Ann" Sifter 637	ASTM D6913

ADDITIONAL DATA

initial dry mass (g) = 17836.8
as-received moisture content = 18.7%
liquid limit = 47
plastic limit = 29
plasticity index = 18
fineness modulus = n/a

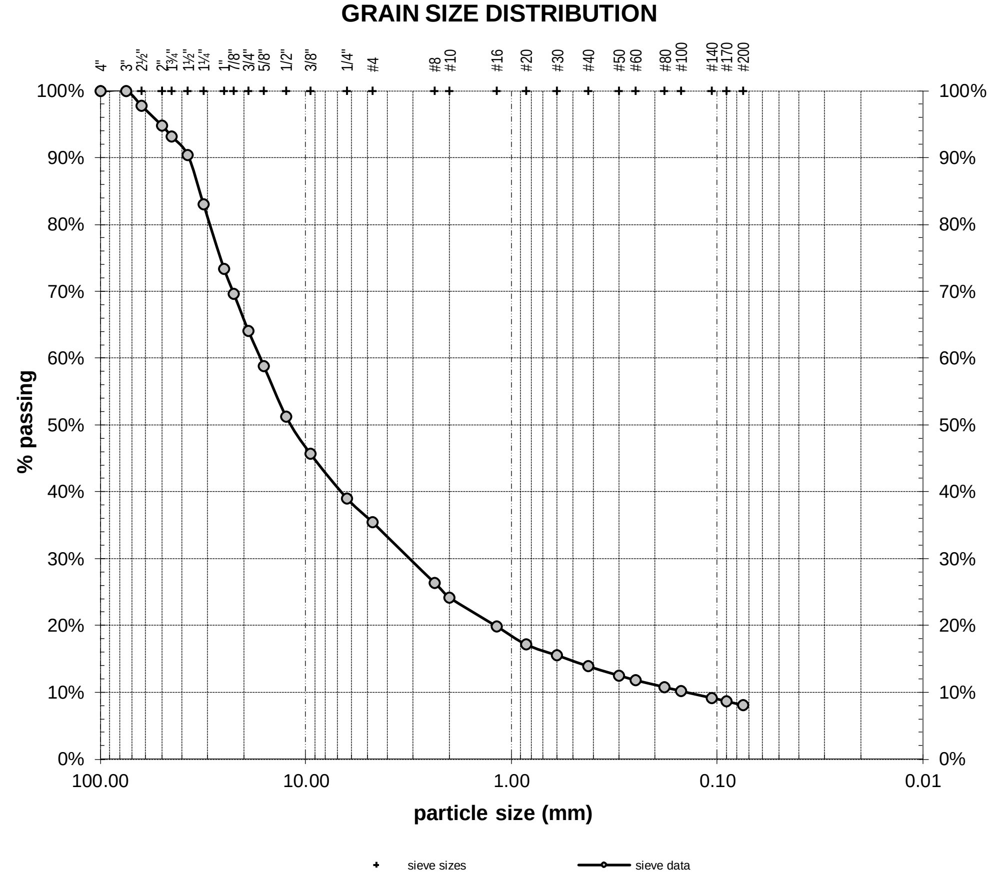
coefficient of curvature, C_C = 4.19
coefficient of uniformity, C_U = 118.56
effective size, $D_{(10)}$ = 0.140 mm
$D_{(30)}$ = 3.122 mm
$D_{(60)}$ = 16.612 mm

SIEVE DATA

% gravel = 64.6%
% sand = 27.3%
% silt and clay = 8.1%

	SIEVE SIZE		PERCENT PASSING			
			SIEVE		SPECS	
	US	mm	act.	interp.	max	min
GRAVEL	6.00"	150.0		100%		
	4.00"	100.0		100%		
	3.00"	75.0	100%			
	2.50"	63.0		98%		
	2.00"	50.0	95%			
	1.75"	45.0		93%		
	1.50"	37.5	90%			
	1.25"	31.5		83%		
	1.00"	25.0	73%			
	7/8"	22.4		70%		
	3/4"	19.0	64%			
	5/8"	16.0		59%		
	1/2"	12.5	51%			
	3/8"	9.50	46%			
	1/4"	6.30	39%			
	#4	4.75	35%			
SAND	#8	2.36		26%		
	#10	2.00	24%			
	#16	1.18		20%		
	#20	0.850	17%			
	#30	0.600		16%		
	#40	0.425	14%			
	#50	0.300		13%		
	#60	0.250	12%			
	#80	0.180		11%		
	#100	0.150	10%			
	#140	0.106		9%		
	#170	0.090		9%		
	#200	0.075	8%			

GRAIN SIZE DISTRIBUTION



DATE TESTED	TESTED BY
11/19/19	BTT

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ATTERBERG LIMITS REPORT

PROJECT	CLIENT	PROJECT NO.	LAB ID
Camas High School Field House 26600 SE 15th Street Camas, Washington	Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	19276	S19-1116
		REPORT DATE 11/22/19	FIELD ID TP2.3
		DATE SAMPLED 11/05/19	SAMPLED BY MCK

MATERIAL DATA

MATERIAL SAMPLED	MATERIAL SOURCE	USCS SOIL TYPE
Poorly graded GRAVEL with Silt and Sand	Test Pit TP-02 depth = 9 feet	GP-GM, Poorly graded gravel with silt and sand

LABORATORY TEST DATA

LABORATORY EOUIPMENT	TEST PROCEDURE
Liquid Limit Machine, Hand Rolled	ASTM D4318

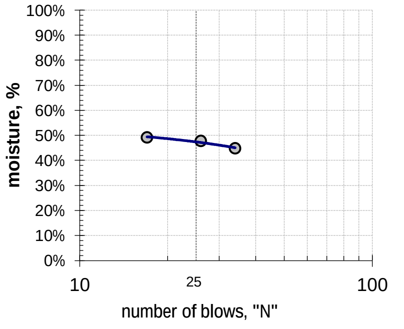
ATTERBERG LIMITS

liquid limit = 47
plastic limit = 29
plasticity index = 18

LIQUID LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	34.55	34.45	34.82	
dry soil + pan weight, g =	30.30	30.04	30.22	
pan weight, g =	20.80	20.79	20.86	
N (blows) =	34	26	17	
moisture, % =	44.7 %	47.7 %	49.2 %	

LIQUID LIMIT



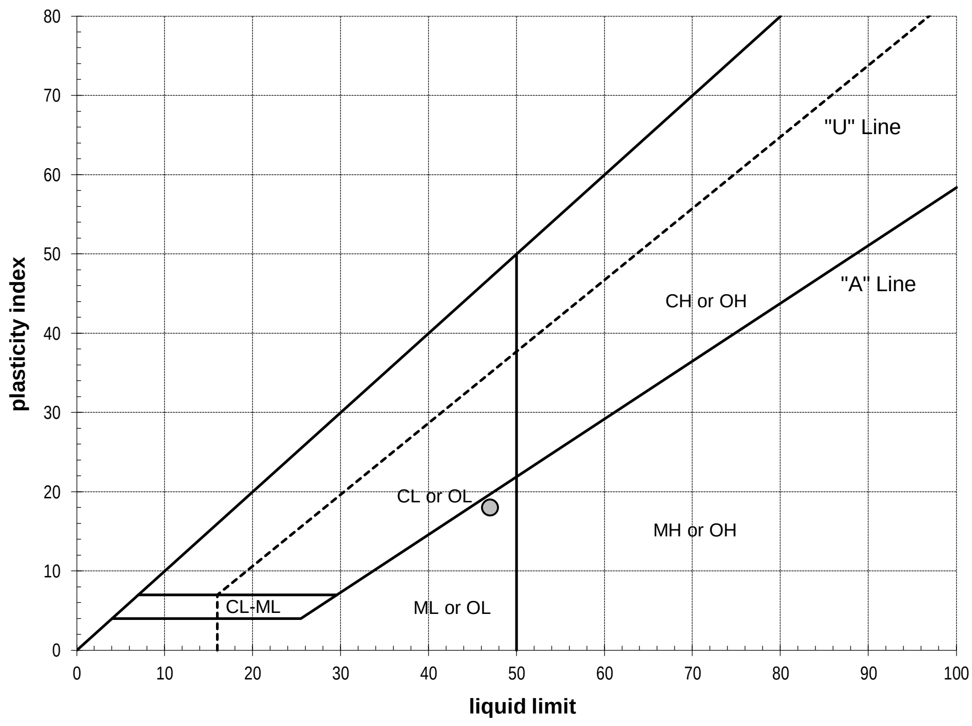
SHRINKAGE

shrinkage limit = n/a
shrinkage ratio = n/a

PLASTIC LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	27.60	27.15		
dry soil + pan weight, g =	26.05	25.67		
pan weight, g =	20.75	20.60		
moisture, % =	29.3 %	29.2 %		

PLASTICITY CHART



ADDITIONAL DATA

% gravel = 64.6%
% sand = 27.3%
% silt and clay = 8.1%
% silt = n/a
% clay = n/a
moisture content = 18.7%

DATE TESTED	TESTED BY
11/21/19	KMS

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PARTICLE-SIZE ANALYSIS REPORT

PROJECT
Camas High School Field House
26600 SE 15th Street
Camas, Washington

CLIENT
Robertson Engineering, PC
1101 Broadway Street, Suite 201
Vancouver, Washington 98660

PROJECT NO.	LAB ID
19276	S19-1109
REPORT DATE	FIELD ID
11/20/19	SB1.9
DATE SAMPLED	SAMPLED BY
11/11/19	MCK

MATERIAL DATA

MATERIAL SAMPLED
Silty SAND

MATERIAL SOURCE
Soil Boring SB-01
depth = 35 feet

USCS SOIL TYPE
SM, Silty Sand

SPECIFICATIONS
none

AASHTO SOIL TYPE
A-7-5(5)

LABORATORY TEST DATA

LABORATORY EQUIPMENT
Rainhart "Mary Ann" Sifter 637

TEST PROCEDURE
ASTM D6913

ADDITIONAL DATA

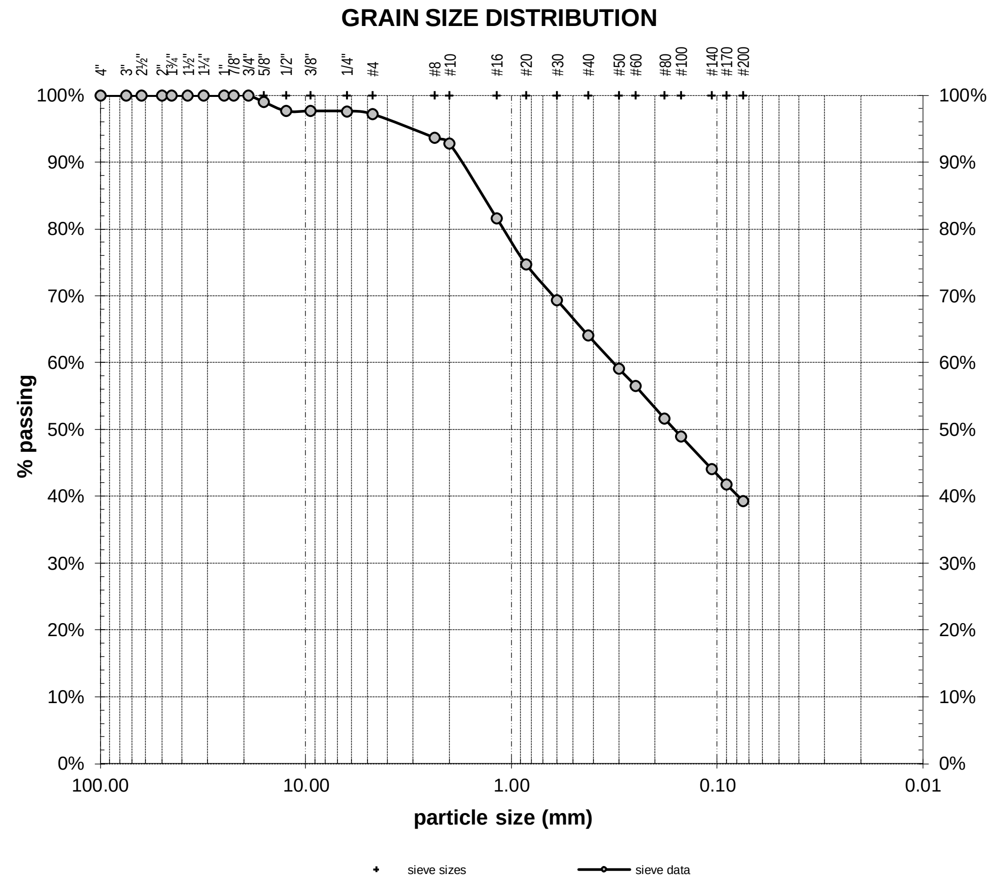
initial dry mass (g) = 112.40
as-received moisture content = 56.0%
liquid limit = 57
plastic limit = 33
plasticity index = 24
fineness modulus = n/a

coefficient of curvature, C_C = n/a
coefficient of uniformity, C_U = n/a
effective size, $D_{(10)}$ = n/a
$D_{(30)}$ = n/a
$D_{(60)}$ = 0.319 mm

SIEVE DATA

% gravel = 2.7%
% sand = 58.0%
% silt and clay = 39.3%

	SIEVE SIZE		PERCENT PASSING			
			SIEVE		SPECS	
	US	mm	act.	interp.	max	min
GRAVEL	6.00"	150.0		100%		
	4.00"	100.0		100%		
	3.00"	75.0		100%		
	2.50"	63.0		100%		
	2.00"	50.0		100%		
	1.75"	45.0		100%		
	1.50"	37.5		100%		
	1.25"	31.5		100%		
	1.00"	25.0		100%		
	7/8"	22.4		100%		
	3/4"	19.0	100%			
	5/8"	16.0		99%		
	1/2"	12.5	98%			
	3/8"	9.50		98%		
	1/4"	6.30	98%			
	#4	4.75	97%			
SAND	#8	2.36		94%		
	#10	2.00	93%			
	#16	1.18		82%		
	#20	0.850	75%			
	#30	0.600		69%		
	#40	0.425	64%			
	#50	0.300		59%		
	#60	0.250	57%			
	#80	0.180		52%		
	#100	0.150	49%			
	#140	0.106		44%		
	#170	0.090		42%		
	#200	0.075	39%			



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ATTERBERG LIMITS REPORT

PROJECT	CLIENT	PROJECT NO.	LAB ID
Camas High School Field House 26600 SE 15th Street Camas, Washington	Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	19276	S19-1109
		REPORT DATE 11/20/19	FIELD ID SB1.9
		DATE SAMPLED 11/11/19	SAMPLED BY MCK

MATERIAL DATA

MATERIAL SAMPLED	MATERIAL SOURCE	USCS SOIL TYPE
Silty SAND	Soil Boring SB-01 depth = 35 feet	SM, Silty Sand

LABORATORY TEST DATA

LABORATORY EOUIPMENT	TEST PROCEDURE
Liquid Limit Machine, Hand Rolled	ASTM D4318

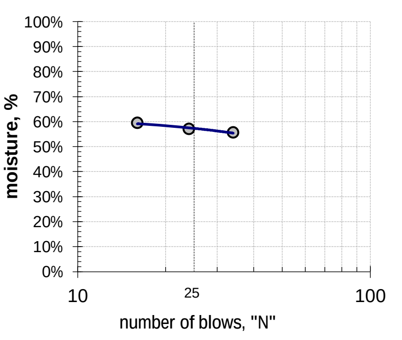
ATTERBERG LIMITS

liquid limit = 57
plastic limit = 33
plasticity index = 24

LIQUID LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	32.46	32.26	32.16	
dry soil + pan weight, g =	28.30	28.12	27.94	
pan weight, g =	20.82	20.86	20.84	
N (blows) =	34	24	16	
moisture, % =	55.6 %	57.1 %	59.4 %	

LIQUID LIMIT



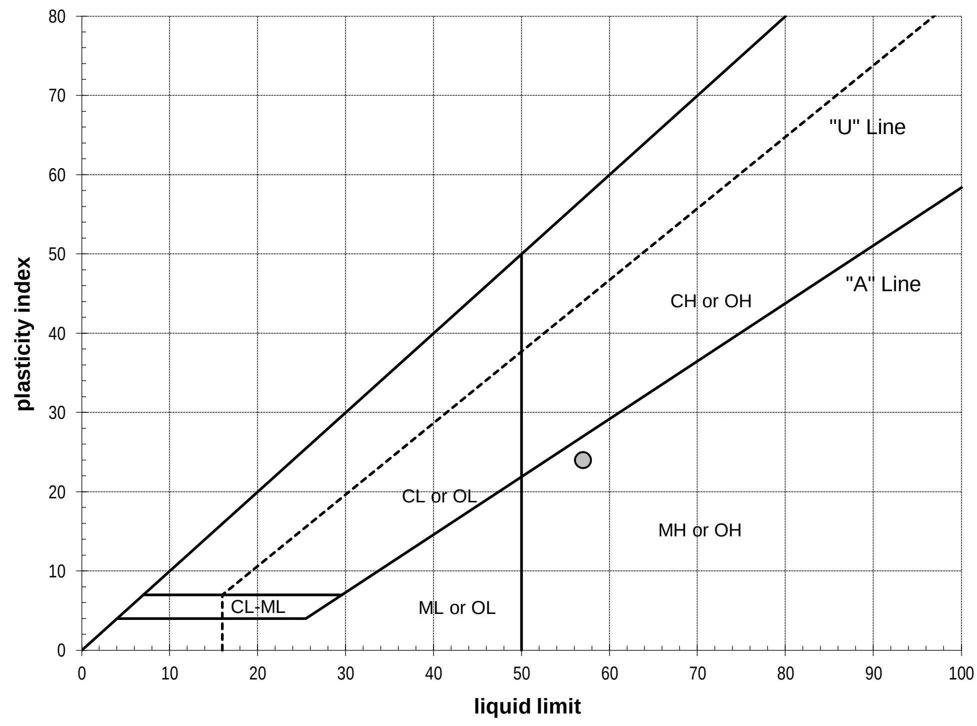
SHRINKAGE

shrinkage limit = n/a
shrinkage ratio = n/a

PLASTIC LIMIT DETERMINATION

	❶	❷	❸	❹
wet soil + pan weight, g =	27.17	27.46		
dry soil + pan weight, g =	25.60	25.76		
pan weight, g =	20.87	20.68		
moisture, % =	33.2 %	33.5 %		

PLASTICITY CHART



ADDITIONAL DATA

% gravel = 2.7%
% sand = 58.0%
% silt and clay = 39.3%
% silt = n/a
% clay = n/a
moisture content = 56.0%

DATE TESTED	TESTED BY
11/19/19	KMS

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MOISTURE CONTENT

PROJECT Camas High School Field House 26600 SE 15th Street Camas, Washington	CLIENT Robertson Engineering, PC 1101 Broadway Street, Suite 201 Vancouver, Washington 98660	PROJECT NO. 19276	REPORT DATE 11/20/19
		DATE SAMPLED 11/11/19	
		SAMPLED BY MCK	

LABORATORY TEST DATA

LABORATORY EQUIPMENT
Despatch LEB2

TEST PROCEDURE
ASTM D2216, Method A

LAB ID	CONTAINER MASS	MOIST MASS + PAN	DRY MASS + PAN	MATERIAL DESCRIPTION	FIELD ID	SAMPLE DEPTH	MOISTURE CONTENT
S19-1105	86.83	350.94	283.13	sandy clay	SB1.1	2.5 feet	35%
S19-1106	87.70	308.23	260.08	sandy clay with gravel	SB1.3	7.5 feet	28%
S19-1107	87.20	370.48	324.81	clayey gravel with sand	SB1.4	15 feet	19%
S19-1108	87.37	313.29	264.70	sandy clay with gravel	SB1.6	25 feet	27%
S19-1109	87.61	276.89	208.95	Silty SAND weathered conglomerate	SB1.9	35 feet	56%
S19-1110	85.26	274.90	210.70	sandy silt/clay weathered conglomerate	SB1.11	45 feet	51%

NOTES:

DATE TESTED
11/13/19

TESTED BY
KMS

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APPENDIX B
SUBSURFACE EXPLORATION LOGS

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TEST PIT LOG

PROJECT NAME Camas High School Field House	CLIENT Robertson Engineering, PC		PROJECT NO. 19276	TEST PIT NO. TP-1
PROJECT LOCATION Camas, Washington	CONTRACTOR L&S Contractors	EQUIPMENT Excavator	ENGINEER MCK	DATE 11/05/19
TEST PIT LOCATION See Figure 2	APPROX. SURFACE ELEVATION 378 ft amsl	GROUNDWATER DEPTH Not Encountered	START TIME 0923	FINISH TIME 1145

Depth (feet)	Sample Field ID	SCS Soil Survey Description	AASHTO Soil Type	USCS Soil Type	Graphic Log	LITHOLOGIC DESCRIPTION AND REMARKS	Moisture Content (%)	Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Infiltration Testing
0					▩	FILL. Approximately 8 to 10 inches of grass and topsoil underlain by apprent reworked tan, mottled, moist, medium dense clayey sand with gravel [Soil Type 1].					
		Hesson clay loam	A-7	CL	▨	Brown, moist, medium stiff sandy lean CLAY with gravel [Soil Type 2].					
			A-7	GP-GM SM	⧄	Tan to orange-brown, mottled, weathered, moist, medium dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix [Soil Type 4].					IT-1.1 ⊓ D = 3.0-ft k = < 0.1 in/hr
5					⧄	Soil may represent unconsolidated to cemented, thick-bedded, pebble to boulder sedimentary CONGLOMERATE of Evarts, 2008.					
10					⧄						
						Bottom of test pit at 14 feet bgs. Groundwater not observed to 14 feet bgs on 11/05/19.					
15											
20											

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TEST PIT LOG

PROJECT NAME Camas High School Field House	CLIENT Robertson Engineering, PC		PROJECT NO. 19276	TEST PIT NO. TP-2
PROJECT LOCATION Camas, Washington	CONTRACTOR L&S Contractors	EQUIPMENT Excavator	ENGINEER MCK	DATE 11/05/19
TEST PIT LOCATION See Figure 2	APPROX. SURFACE ELEVATION 381 ft amsl	GROUNDWATER DEPTH Not Encountered	START TIME 0958	FINISH TIME 1029

Depth (feet)	Sample Field ID	SCS Soil Survey Description	AASHTO Soil Type	USCS Soil Type	Graphic Log	LITHOLOGIC DESCRIPTION AND REMARKS	Moisture Content (%)	Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Infiltration Testing
0					▩	FILL. Approximately 6 to 8 inches of grass and topsoil underlain by apparent reworked tan, mottled, moist, medium dense clayey sand with gravel [Soil Type 1].					
	TP2.1	Hesson clay loam	A-7-6(47)	CH	▨	Gray, mottled, moist, stiff fat CLAY with sand [Soil Type 3].	40.1	84.7	76	50	
			A-7	CL	▨	Brown, moist, medium stiff sandy lean CLAY with gravel [Soil Type 2].					
5				GP-GM SM	▧	Tan to orange-brown, mottled, weathered, moist, medium dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix [Soil Type 4]. Soil may represent unconsolidated to cemented, thick-bedded, pebble to boulder sedimentary CONGLOMERATE of Evarts, 2008.					
	TP2.3		A-2-7(0)				18.7	8.1	47	18	
10											
						Bottom of test pit at 13 feet bgs. Groundwater not observed to 13 feet bgs on 11/05/19.					
15											
20											

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TEST PIT LOG

PROJECT NAME Camas High School Field House	CLIENT Robertson Engineering, PC	PROJECT NO. 19276	TEST PIT NO. TP-3
PROJECT LOCATION Camas, Washington	CONTRACTOR L&S Contractors EQUIPMENT Excavator	ENGINEER MCK	DATE 11/05/19
TEST PIT LOCATION See Figure 2	APPROX. SURFACE ELEVATION 378 ft amsl GROUNDWATER DEPTH Not Encountered	START TIME 1031	FINISH TIME 1102

Depth (feet)	Sample Field ID	SCS Soil Survey Description	AASHTO Soil Type	USCS Soil Type	Graphic Log	LITHOLOGIC DESCRIPTION AND REMARKS	Moisture Content (%)	Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index	Infiltration Testing
0					⁘	Approximately 10 to 12 inches of grass and topsoil					
		Hesson clay loam	A-7	CH	▨	Tan to gray, moist, stiff fat CLAY with sand [Soil Type 3].					
5 10			A-7	GP-GM SM	○	Tan to orange-brown, mottled, weathered, moist, medium dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix [Soil Type 4]. Soil may represent unconsolidated to cemented, thick-bedded, pebble to boulder sedimentary CONGLOMERATE of Evarts, 2008.					
15 20						Bottom of test pit at 14 feet bgs. Groundwater not observed to 14 feet bgs on 11/05/19.					

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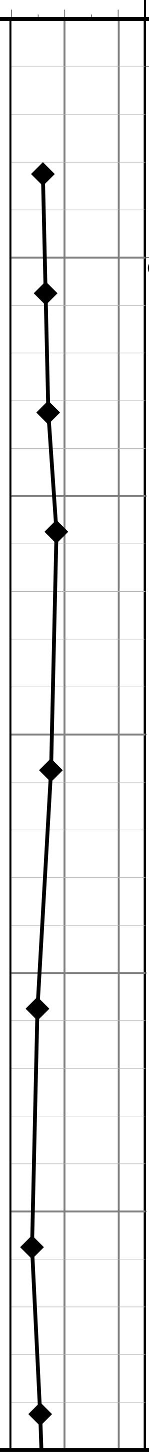
SOIL BORING LOG

PROJECT NAME Camas High School Field House	CLIENT Robertson Engineering, PC		PROJECT NO. 19276	BORING NO. SB-1
PROJECT LOCATION Camas, Washington	DRILLING CONTRACTOR Western States	DRILL RIG CME Track-Rig	ENGINEER MCK	PAGE NO. 1 of 2
BORING LOCATION See Figure 2	DRILLING METHOD Mud-rotary	SAMPLING METHOD SPT/SHELBY	START DATE 11/11/19	START TIME 0840
REMARKS None	APPROX. SURFACE ELEVATION 379 ft amsl	GROUNDWATER DEPTH Not Observed	FINISH DATE 11/11/19	FINISH TIME 1200

Depth (ft)	Elevation (ft amsl)	Field ID + Sample Type	SPT N-value (uncorrected)	USCS Soil Type	AASHTO Soil Type	Graphic Log	LITHOLOGIC DESCRIPTION AND REMARKS	Wet Density (PCF)	Moisture Content (%)	Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index
0							Approximately 6 to 8 inches of grass and topsoil.					
				CL	A-7		Brown, mottled, moist, stiff sandy lean CLAY with gravel [Soil Type 2].					
2	376	SPT SB1.1	12						35.0			
4												
		SPT SB1.2	13	GP-GM SM	A-7-5(5)		Tan to orange-brown, mottled, moderately- to severly-weathered, moist, loose to dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix [Soil Type 4].					
6	372											
8		SPT SB1.3	14						28.0			
10	368	SPT NR	17				Soil may represent unconsolidated to cemented, thick-bedded, pebble to boulder sedimentary CONGLOMERATE of Evarts, 2008.					
12												
14	364	SPT SB1.4	15						19.0			
16												
18	360											
20		SPT SB1.5	10									
22	356											
24		SPT SB1.6	8						27.0			
26	352	SHELBY SB1.7										
28		SPT SB1.8	11									
30												



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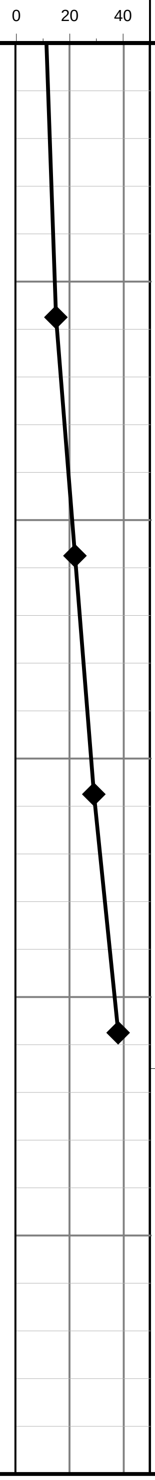
SOIL BORING LOG

PROJECT NAME Camas High School Field House	CLIENT Robertson Engineering, PC		PROJECT NO. 19276	BORING NO. SB-1
PROJECT LOCATION Camas, Washington	DRILLING CONTRACTOR Western States	DRILL RIG CME Track-Rig	ENGINEER MCK	PAGE NO. 2 of 2
BORING LOCATION See Figure 2	DRILLING METHOD Mud-rotary	SAMPLING METHOD SPT/SHELBY	START DATE 11/11/19	START TIME 0840
REMARKS None	APPROX. SURFACE ELEVATION 379 ft amsl	GROUNDWATER DEPTH Not Observed	FINISH DATE 11/11/19	FINISH TIME 1200



Depth (ft)	Elevation (ft amsl)	Field ID + Sample Type	SPT N-value (uncorrected)	USCS Soil Type	AASHTO Soil Type	Graphic Log	LITHOLOGIC DESCRIPTION AND REMARKS	Wet Density (PCF)	Moisture Content (%)	Passing No. 200 Sieve (%)	Liquid Limit	Plasticity Index
30							Tan to orange-brown, mottled, moderately- to severly-weathered, moist, loose to dense sedimentary CONGLOMERATE of poorly-graded gravel in a sand, silt, and clay matrix [Soil Type 4].					
	348											
32												
34												
	344	SPT SB1.9	15						56.0	39.3	57	24
36												
38												
	340											
40		SPT SB1.10	22									
42												
	336											
44												
		SPT SB1.11	29						51.0			
46												
	332											
48												
50		SPT SB1.12	38									
	328											
52							Bottom of soil boring at 51.5 feet bgs. Groundwater not not measured due to mud-rotary drilling technique.					
54												
	324											
56												
58												
	320											
60												

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APPENDIX C
SOIL CLASSIFICATION INFORMATION

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SOIL DESCRIPTION AND CLASSIFICATION GUIDELINES

Particle-Size Classification

COMPONENT	ASTM/USCS		AASHTO	
	size range	sieve size range	size range	sieve size range
Cobbles	> 75 mm	greater than 3 inches	> 75 mm	greater than 3 inches
Gravel	75 mm – 4.75 mm	3 inches to No. 4 sieve	75 mm – 2.00 mm	3 inches to No. 10 sieve
Coarse	75 mm – 19.0 mm	3 inches to 3/4-inch sieve	-	-
Fine	19.0 mm – 4.75 mm	3/4-inch to No. 4 sieve	-	-
Sand	4.75 mm – 0.075 mm	No. 4 to No. 200 sieve	2.00 mm – 0.075 mm	No. 10 to No. 200 sieve
Coarse	4.75 mm – 2.00 mm	No. 4 to No. 10 sieve	2.00 mm – 0.425 mm	No. 10 to No. 40 sieve
Medium	2.00 mm – 0.425 mm	No. 10 to No. 40 sieve	-	-
Fine	0.425 mm – 0.075 mm	No. 40 to No. 200 sieve	0.425 mm – 0.075 mm	No. 40 to No. 200 sieve
Fines (Silt and Clay)	< 0.075 mm	Passing No. 200 sieve	< 0.075 mm	Passing No. 200 sieve

Consistency for Cohesive Soil

CONSISTENCY	SPT N-VALUE (BLOWS PER FOOT)	POCKET PENETROMETER (UNCONFINED COMPRESSIVE STRENGTH, tsf)
Very Soft	2	less than 0.25
Soft	2 to 4	0.25 to 0.50
Medium Stiff	4 to 8	0.50 to 1.0
Stiff	8 to 15	1.0 to 2.0
Very Stiff	15 to 30	2.0 to 4.0
Hard	30 to 60	greater than 4.0
Very Hard	greater than 60	-

Relative Density for Granular Soil

RELATIVE DENSITY	SPT N-VALUE (BLOWS PER FOOT)
Very Loose	0 to 4
Loose	4 to 10
Medium Dense	10 to 30
Dense	30 to 50
Very Dense	more than 50

Moisture Designations

TERM	FIELD IDENTIFICATION
Dry	No moisture. Dusty or dry.
Damp	Some moisture. Cohesive soils are usually below plastic limit and are moldable.
Moist	Grains appear darkened, but no visible water is present. Cohesive soils will clump. Sand will bulk. Soils are often at or near plastic limit.
Wet	Visible water on larger grains. Sand and silt exhibit dilatancy. Cohesive soil can be readily remolded. Soil leaves wetness on the hand when squeezed. Soil is much wetter than optimum moisture content and is above plastic limit.

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AASHTO SOIL CLASSIFICATION SYSTEM

TABLE 1. Classification of Soils and Soil-Aggregate Mixtures

General Classification	Granular Materials (35 Percent or Less Passing .075 mm)			Silt-Clay Materials (More than 35 Percent Passing 0.075)			
Group Classification	A-1	A-3	A-2	A-4	A-5	A-6	A-7
Sieve analysis, percent passing:							
2.00 mm (No. 10)	-	-	-				
0.425 mm (No. 40)	50 max	51 min	-	-	-	-	-
0.075 mm (No. 200)	25 max	10 max	35 max	36 min	36 min	36 min	36 min
Characteristics of fraction passing 0.425 mm (No. 40)							
Liquid limit				40 max	41 min	40 max	41 min
Plasticity index	6 max	N.P.		10 max	10 max	11 min	11 min
General rating as subgrade	Excellent to good			Fair to poor			

Note: The placing of A-3 before A-2 is necessary in the "left to right elimination process" and does not indicate superiority of A-3 over A-2.

TABLE 2. Classification of Soils and Soil-Aggregate Mixtures

General Classification	Granular Materials (35 Percent or Less Passing 0.075 mm)							Silt-Clay Materials (More than 35 Percent Passing 0.075 mm)			
	A-1			A-2							A-7
Group Classification	A-1-a	A-1-b	A-3	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7-5, A-7-6
Sieve analysis, percent passing:											
2.00 mm (No. 10)	50 max	-	-	-	-	-	-	-	-	-	-
0.425 mm (No. 40)	30 max	50 max	51 min	-	-	-	-	-	-	-	-
0.075 mm (No. 200)	15 max	25 max	10 max	35 max	35 max	35 max	35 max	36 min	36 min	36 min	36 min
Characteristics of fraction passing 0.425 mm (No. 40)											
Liquid limit				40 max	41 min	40 max	41 min	40 max	41 min	40 max	41 min
Plasticity index	6 max		N.P.	10 max	10 max	11 min	11 min	10 max	10 max	11 min	11min
Usual types of significant constituent materials	Stone fragments, gravel and sand		Fine sand	Silty or clayey gravel and sand				Silty soils		Clayey soils	
General ratings as subgrade	Excellent to Good							Fair to poor			

Note: Plasticity index of A-7-5 subgroup is equal to or less than LL minus 30. Plasticity index of A-7-6 subgroup is greater than LL minus 30 (see Figure 2).

AASHTO = American Association of State Highway and Transportation Officials

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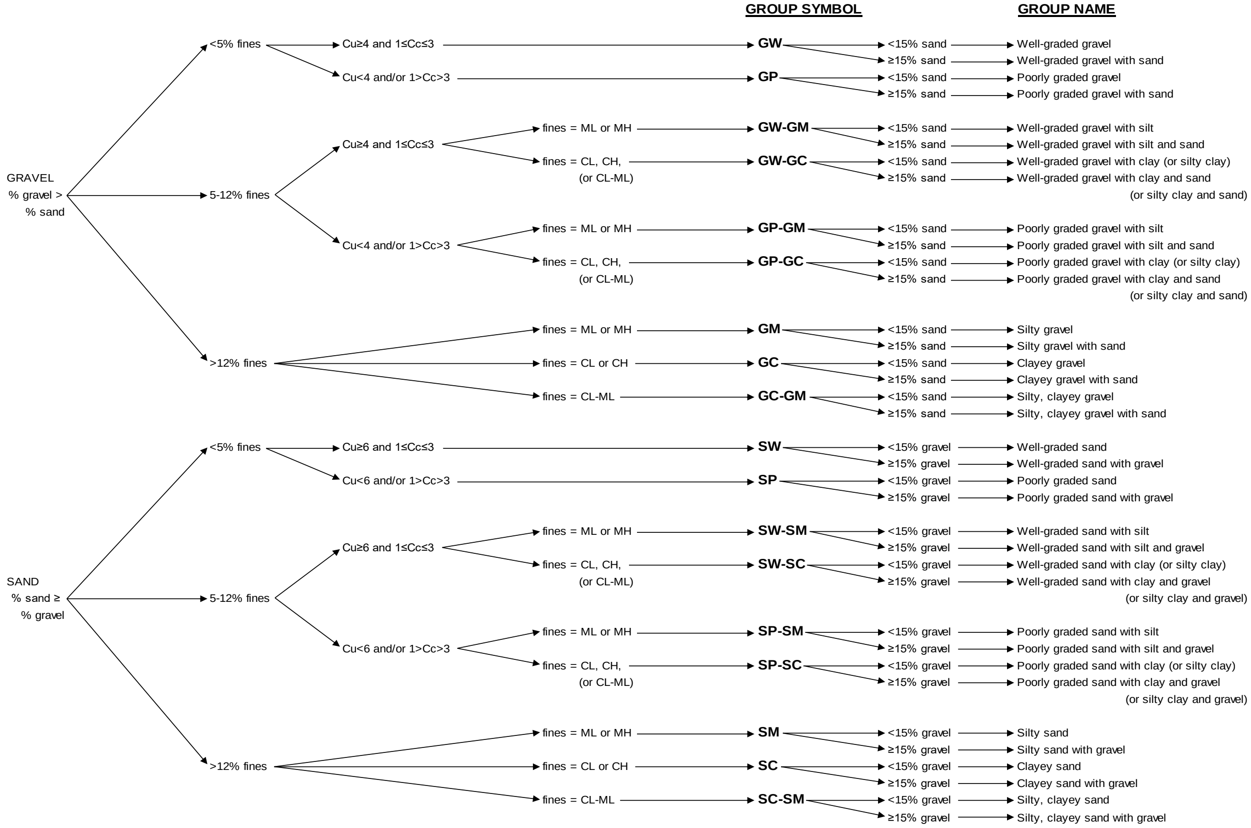
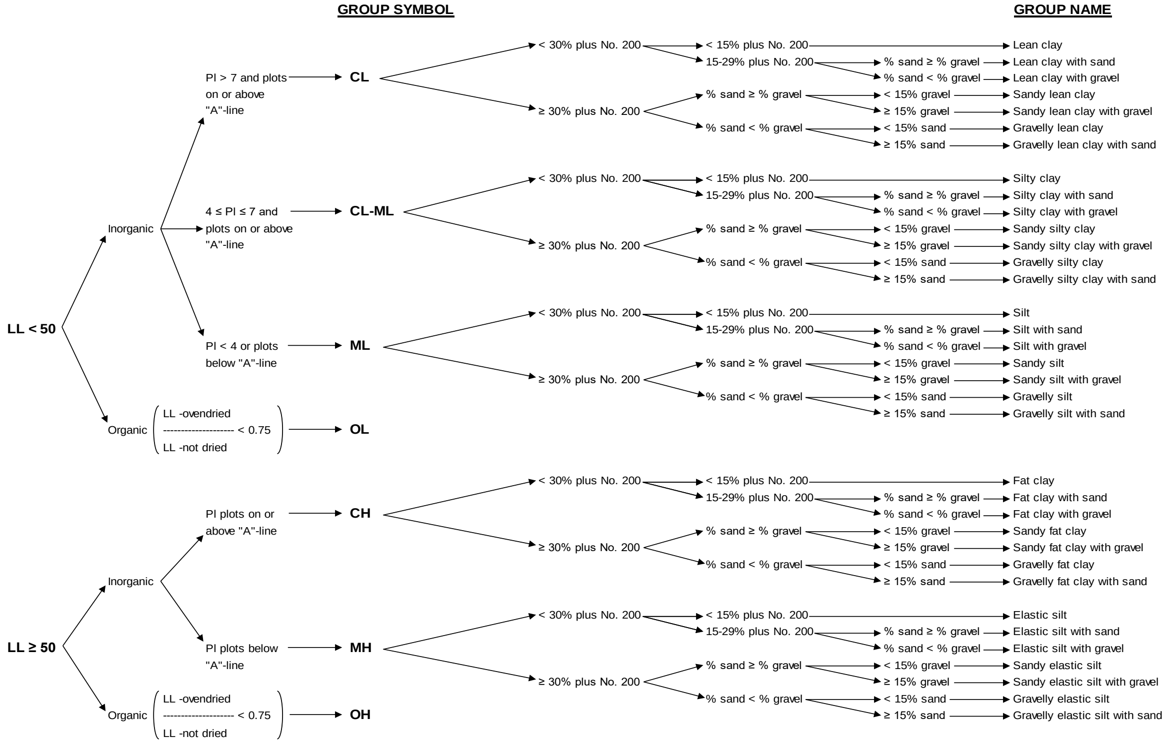
USCS SOIL CLASSIFICATION SYSTEM



Flow Chart for Classifying Coarse-Grained Soils (More Than 50% Retained on No. 200 Sieve)



Flow Chart for Classifying Fine-Grained Soil (50% or More Passes No. 200 Sieve)

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APPENDIX D
PHOTO LOG

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Camas High School Field House

November 2019

Camas, Washington

Central Site Area, Facing Southwest

Camas High School Field House

November 2019

Camas, Washington

Eastern Site Area Facing South

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Geotechnical ■ Environmental ■ Special Inspections
Columbia West
Engineering, Inc

Camas High School Field House

November 2019

Camas, Washington

Test Pit Profile, TP-1

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November 2019

Camas, Washington

Test Pit Profile, TP-2

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Test Pit Profile, TP-3

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Columbia West
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Camas High School Field House

November 2019

Camas, Washington

Soil Boring, SB-1

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APPENDIX E
REPORT LIMITATIONS AND IMPORTANT INFORMATION

Geotechnical ■ Environmental ■ Special Inspections
Columbia West
Engineering, Inc

Date: December 20, 2019
Project: Camas High School Field House
Camas, Washington

Geotechnical and Environmental Report Limitations and Important Information

Report Purpose, Use, and Standard of Care

This report has been prepared in accordance with standard fundamental principles and practices of geotechnical engineering and/or environmental consulting, and in a manner consistent with the level of care and skill typical of currently practicing local engineers and consultants. This report has been prepared to meet the specific needs of specific individuals for the indicated site. It may not be adequate for use by other consultants, contractors, or engineers, or if change in project ownership has occurred. It should not be used for any other reason than its stated purpose without prior consultation with Columbia West Engineering, Inc. (Columbia West). It is a unique report and not applicable for any other site or project. If site conditions are altered, or if modifications to the project description or proposed plans are made after the date of this report, it may not be valid. Columbia West cannot accept responsibility for use of this report by other individuals for unauthorized purposes, or if problems occur resulting from changes in site conditions for which Columbia West was not aware or informed.

Report Conclusions and Preliminary Nature

This geotechnical or environmental report should be considered preliminary and summary in nature. The recommendations contained herein have been established by engineering interpretations of subsurface soils based upon conditions observed during site exploration. The exploration and associated laboratory analysis of collected representative samples identifies soil conditions at specific discreet locations. It is assumed that these conditions are indicative of actual conditions throughout the subject property. However, soil conditions may differ between tested locations at different seasonal times of the year, either by natural causes or human activity. Distinction between soil types may be more abrupt or gradual than indicated on the soil logs. This report is not intended to stand alone without understanding of concomitant instructions, correspondence, communication, or potential supplemental reports that may have been provided to the client.

Because this report is based upon observations obtained at the time of exploration, its adequacy may be compromised with time. This is particularly relevant in the case of natural disasters, earthquakes, floods, or other significant events. Report conclusions or interpretations may also be subject to revision if significant development or other manmade impacts occur within or in proximity to the subject property. Groundwater conditions, if presented in this report, reflect observed conditions at the time of investigation. These conditions may change annually, seasonally or as a result of adjacent development.

Additional Investigation and Construction QA/QC

Columbia West should be consulted prior to construction to assess whether additional investigation above and beyond that presented in this report is necessary. Even slight variations in soil or site conditions may produce impacts to the performance of structural facilities if not adequately addressed. This underscores the importance of diligent QA/QC construction observation and testing to verify soil conditions do not differ materially or significantly from the interpreted conditions utilized for preparation of this report.

Therefore, this report contains several recommendations for field observation and testing by Columbia West personnel during construction activities. Actual subsurface conditions are more readily observed and discerned during the earthwork phase of construction when soils are exposed. Columbia West cannot accept responsibility for deviations from recommendations described in this report or future

Exhibit 13 CUP24-1001

performance of structural facilities if another consultant is retained during the construction phase or Columbia West is not engaged to provide construction observation to the full extent recommended.

Collected Samples

Uncontaminated samples of soil or rock collected in connection with this report will be retained for thirty days. Retention of such samples beyond thirty days will occur only at client's request and in return for payment of storage charges incurred. All contaminated or environmentally impacted materials or samples are the sole property of the client. Client maintains responsibility for proper disposal.

Report Contents

This geotechnical or environmental report should not be copied or duplicated unless in full, and even then only under prior written consent by Columbia West, as indicated in further detail in the following text section entitled *Report Ownership*. The recommendations, interpretations, and suggestions presented in this report are only understandable in context of reference to the whole report. Under no circumstances should the soil boring or test pit excavation logs, monitor well logs, or laboratory analytical reports be separated from the remainder of the report. The logs or reports should not be redrawn or summarized by other entities for inclusion in architectural or civil drawings, or other relevant applications.

Report Limitations for Contractors

Geotechnical or environmental reports, unless otherwise specifically noted, are not prepared for the purpose of developing cost estimates or bids by contractors. The extent of exploration or investigation conducted as part of this report is usually less than that necessary for contractor's needs. Contractors should be advised of these report limitations, particularly as they relate to development of cost estimates. Contractors may gain valuable information from this report, but should rely upon their own interpretations as to how subsurface conditions may affect cost, feasibility, accessibility and other components of the project work. If believed necessary or relevant, contractors should conduct additional exploratory investigation to obtain satisfactory data for the purposes of developing adequate cost estimates. Clients or developers cannot insulate themselves from attendant liability by disclaiming accuracy for subsurface ground conditions without advising contractors appropriately and providing the best information possible to limit potential for cost overruns, construction problems, or misunderstandings.

Report Ownership

Columbia West retains the ownership and copyright property rights to this entire report and its contents, which may include, but may not be limited to, figures, text, logs, electronic media, drawings, laboratory reports, and appendices. This report was prepared solely for the client, and other relevant approved users or parties, and its distribution must be contingent upon prior express written consent by Columbia West. Furthermore, client or approved users may not use, lend, sell, copy, or distribute this document without express written consent by Columbia West. Client does not own nor have rights to electronic media files that constitute this report, and under no circumstances should said electronic files be distributed or copied. Electronic media is susceptible to unauthorized manipulation or modification, and may not be reliable.

Consultant Responsibility

Geotechnical and environmental engineering and consulting is much less exact than other scientific or engineering disciplines, and relies heavily upon experience, judgment, interpretation, and opinion often based upon media (soils) that are variable, anisotropic, and non-homogenous. This often results in unrealistic expectations, unwarranted claims, and uninformed disputes against a geotechnical or environmental consultant. To reduce potential for these problems and assist relevant parties in better understanding of risk, liability, and responsibility, geotechnical and environmental reports often provide definitive statements or clauses defining and outlining consultant responsibility. The client is encouraged to read these statements carefully and request additional information from Columbia West if necessary.

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SECTION 5 – EXCERPT FROM PRIOR STORM REPORTS

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Appendix E

City of Camas Stormwater Sewer System Operations and Maintenance Manual

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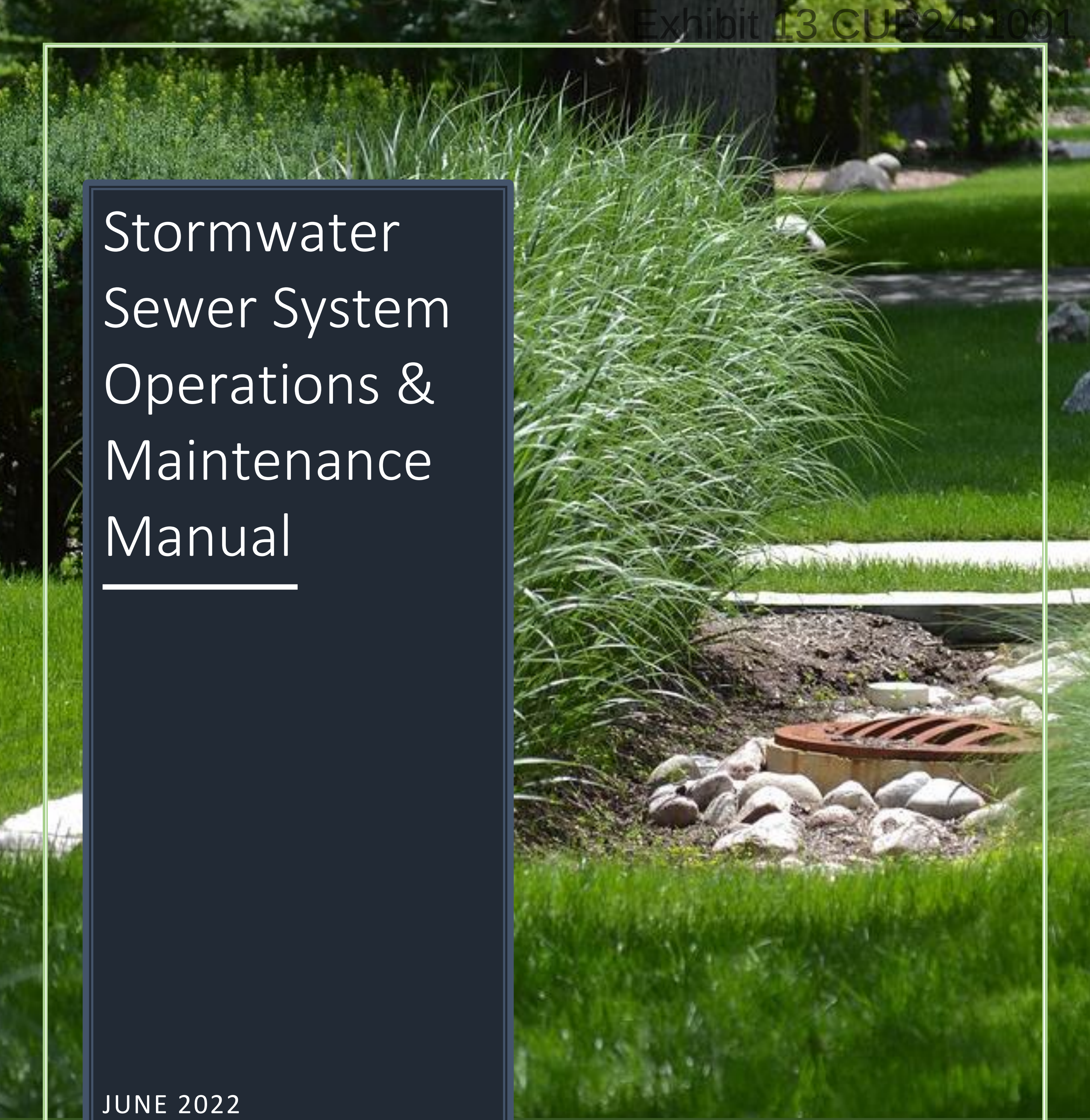

Stormwater Sewer System Operations & Maintenance Manual

JUNE 2022

City of Camas
Stormwater Division | Public Works

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Table of Contents

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Introduction

Background

All public and privately owned, roads, parking lots, residential developments, commercial or industrial developments, or school facilities have various components that make up a storm system. These components consist of conveyance pipes, catch basins, manholes, roadside ditches, stormwater facilities (such as bioswales, detention ponds, wet ponds, treatment filters, etc.), landscaping and any other structure that collects, conveys, controls, and/or treats stormwater. Regardless of the component, all storm systems eventually discharge into 'waters of the state' which are streams, rivers, lakes, and wetlands.

Under the Federal Clean Water Act (FCWA) and in compliance with the Department of Ecology's NPDES Phase II Permit, 'waters of the state' are to be protected from contamination. This in turn protects threatened and endangered species under the Federal Endangered Species Act (FESA).

One way to protect 'waters of the state' is to provide the proper maintenance of all storm system components. It is the responsibility of the City of Camas (City) to ensure that all components of the public storm system be properly maintained and operated. The City is responsible for those components that are located within the City's right-of-way, such as the conveyance pipes, manholes, catch basins, roadside ditches, and stormwater facilities. A large part of the stormwater facilities in the City are privately owned and maintained by the property owners. These property owners include, but are not limited to, Homeowners Associations (HOAs), school district, businesses, and commercial/industrial site owners.

Purpose

This manual is intended to help, both public and private stormwater facility maintenance operators, meet the requirements of City Municipal Code 14.02.090 for proper maintenance and operation of the various storm system components. Proper maintenance will help to assure that:

- Stormwater facilities operate as they were designed;
- Storm systems are cleaned of the pollutants that they trap, such as sediment and oils, so that storm systems are not overwhelmed and become pollutant sources;
- Pollutant sources are removed, or minimized, prior to entering the storm system.

Along with keeping a site from flooding, properly maintained storm system can help reduce surface water and groundwater pollution. Most sites have some type of stormwater control component designed to limit the environmental and flooding damage caused by stormwater runoff. These components require more labor intensive maintenance than a system of pipes and catch basins.

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Manual Layout

This manual is broken out into various best management practice (BMP) maintenance components. For each BMP maintenance component, this manual will:

- Briefly describe the component type, e.g. facility or activity.
- Describes potential maintenance issues and/or problems.
- Describes conditions when maintenance is required.
- Minimum performance standards and suggested maintenance methods.

Additional information may be found in other manuals, such as the Washington Department of Ecology's *Stormwater Management Manual for Western Washington (SWMMWW), Vols. V*, and Ecology's LID manual.

Inspection of a stormwater facility will determine if conditions require a maintenance action. The maintenance standard is not the required condition at all times. Exceeding a condition, between inspections and/or maintenance, does not automatically constitute a violation of these standards. The inspection and maintenance schedules should be adjusted to minimize the length of time that a facility is in a condition that requires maintenance.

Emergent Treatment Technologies

Some stormwater treatment facilities are designed and installed with emerging technologies that are not standard at the time of their installation. If not found in this manual, a treatment facility may be an emerging technology approved by Washington Department of Ecology; the maintenance standards can be found at Emerging Stormwater Treatment Technologies.

Mosquito Control

Mosquitoes are annoying and sometimes pose a serious risk to public health. They can transmit diseases such as West Nile Virus and equine encephalitis. Above-ground stormwater facilities should be designed to allow water to flow through or infiltrate in less than 48 hours. Presence of mosquitos in a stormwater facility may indicate a clogged outlet, compromised infiltration capacity, or other defect that should trigger inspection and may require maintenance.

If mosquitos are identified during a stormwater facility maintenance or inspection and are a concern, a request to the Clark County Mosquito Control District for service or information regarding mosquito control can be made online at Mosquito Control District or at the 24-hour request line, 360-397-8430.

Material Disposal and Spills

The disposal of waste, e.g. sediment or standing water, from the maintenance of the stormwater facilities and storm system components shall be conducted in accordance with federal, state, and local regulations, including the Solid Waste Handling Standards chapter 173-350 WAC, Minimum Functional Standards for Solid

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Waste Handling chapter 173-304 WAC and Appendix IV-B: Management of Street Waste Solids and Liquids of the SWMMWW. Dangerous waste must be handled following, Dangerous Waste Regulations chapter 173-303 WAC. Vegetation to be recycled and disposed of at local receptacle locations.

For major spills, coordinate removal/cleanup with the City at 360-817-1563 and notify Department of Ecology at 360-407-6300.

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Vegetated Facilities

Biofiltration Swale

Biofiltration swales use grass or other dense vegetation to filter sediment and oily materials out of stormwater. Usually, they look like flat-bottomed channels with grass growing in them. As water passes through the vegetation, pollutants are removed through the effects of filtration, infiltration and settling.

See SWMMWW Appendix V-A, Table V-A.8 for biofiltration swale maintenance standards. If available, reference record drawings for seed mix and groundcover replacements, or see SWMMWW BMP T9.10, Tables V-7.3 and V-7.4. Presence of cattails is a sign that that there is water ponding and the facility is not functioning as design. Cattails will need to be removed and further investigation may be required.

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Wet Biofiltration Swale

A wet biofiltration swale is a variation of basic biofiltration swale for use where the centerline slope is slight, groundwater table are high, or a continuous low base flow is likely to result in wet soil conditions for long periods of time. Where continuously wet soil exceeds about 2 weeks, typically grasses will die. Thus, vegetation specifically adapted to wet soil conditions is needed. Different vegetation requires modification of several of the design and maintenance requirements from the basic biofiltration swale.

See SWMMWW Appendix V-A, Table V-A.9 for wet biofiltration swale maintenance standards. If available, reference record drawings for seed mix and groundcover replacements, or see SWMMWW BMP T9.20, Table V-7.5. Removal of cattail is required when vegetation is crowded out by very dense clumps of cattails, prevents water flow, or alters the designed functionality.

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Filter Strip

Filter strips are linear strips of grass that remove sediment and oils from stormwater by filtering it. Stormwater is treated as it sheet flows across the filter strip. Usually, filter strips are placed along the edge of linear paved areas, such as parking lots and roads. Where designed filter strips are installed; road shoulders should only be graded to maintain level flow off the road.

See SWMMWW Appendix V-A, Table V-A.10 for filter strip maintenance standards. If available, reference record drawings for seed mix replacement, or see SWMMWW BMP T9.10, Table V-7.3.

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Detention Pond

Detention pond facilities are designed to hold and slowly release stormwater by use of a pond with a specially designed control structure. Styles vary greatly from well-manicured to natural appearing. Generally, native vegetation is preferred for reduced maintenance and enhance wildlife habitat. Some facilities are designed to appear as natural water bodies or are in a park-like setting.

See SWMMWW Appendix V-A, Table V-A.1 for detention pond maintenance standards. If available, reference record drawings for seed mix replacement, or see SWMMWW BMP D.1, Table V-12.3. Removal of cattail is required when vegetation is crowded out by very dense clumps of cattails, prevents water flow, or alters the designed functionality.

Wet Pond

A wet pond is an open basin that retains a permanent pool of water year-round or only during the wet season. The volume of the wet pond allows sediment and other pollutants to settle out of the runoff. Wetland vegetation is typically planted within the wet pond to provide additional treatment through nutrient removal. Detention quantity control can be provided with additional temporary storage volume above the permanent pool elevation.

See SWMMWW Appendix V-A, Table V-A.11 for wet pond maintenance standards. If available, reference record drawings for seed mix and plants replacement, or see SWMMWW BMP D.1, Table V-12.3 for seed mix and BMP T10.10, Table V-8.1 for plants. Removal of cattail is required when vegetation is crowded out by very dense clumps of cattails, prevents water flow, or alters the designed functionality.

Infiltration Facility

Infiltration facilities dispose of water by holding it in an area where it can soak into the ground. These are open facilities that may either drain rapidly and have grass bases or have perpetual ponds where water levels rise and fall with stormwater flows. Infiltration facilities may be designed to handle all of the runoff from an area or they may overflow and bypass larger storms.

Since the facility is designed to pass water into the ground, generally after passing through a sediment trap/manhole, anything that can cause the base to clog will reduce the performance and is a large concern. Generally, infiltration basins are managed like detention ponds, but with greater emphasis on maintaining the capacity to infiltrate stormwater.

See SWMMWW Appendix V-A, Table V-A.2 for infiltration facility maintenance standards. If available, reference record drawings for seed mix replacement, or see SWMMWW BMP D.1, Table V-12.3. Removal of cattail is required when vegetation is crowded out by very dense clumps of cattails, prevents water flow, or alters the designed functionality.

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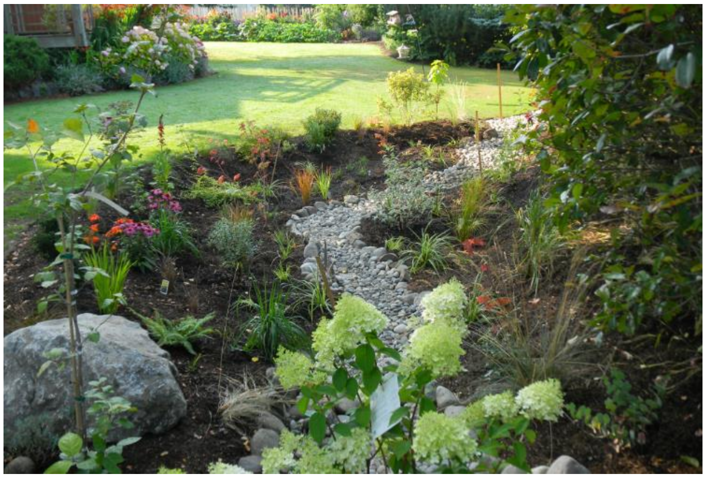
Rain Garden

Rain gardens are non-engineered, shallow, landscaped depressions with compost-amended soils and adapted plants. The depression temporarily stores stormwater runoff from adjacent areas. Some or all the influent stormwater passes through the amended soil profile and into the underlying native soil. Stormwater that exceeds the storage capacity is designed to overflow to an adjacent drainage system.

If available, reference record drawings for plant replacements, or see Rain Garden Handbook for Western Washington, Appendix A for recommendation on rain garden plants. Presence of cattails is a sign that that there is water ponding and the facility is not functioning as design. Cattails will need to be removed and further investigation may be required.



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Rain Garden			
Maintenance Component	**Defect or Problem**	**Conditions When Maintenance Is Needed**	**Minimum Maintenance Required**
General	Trash and Debris	Evidence of trash and debris	Remove trash and debris
Side slopes	Erosion	Persistent soil erosion on slopes	Replenish mulch areas throughout rain garden - on the sides and bottom of the rain garden and around the perimeter (and on berm if applicable).
Bottom area	Sediment	Visible sediment that reduces drainage rate	Remove sediment accumulation
		Sediment deposited from water entering the rain garden	Remove sediment, determine the source, and stabilize area
	Leaves	Matted accumulation of leaves reducing drainage rate	Remove leaves
Ponded water	Ponding	Ponded water remains for more than 3 days after the end of a storm	Remove sediment, leaf litter and/or debris accumulation
Pipe inlet/outlet	Pipe	Water is backing up in pipe	Clear pipes of sediment and debris with snake and/or flush with water
		Damaged or cracked drain pipes	Repair or seal cracks, or replace as needed
Inlet rock pad	Erosion	Rock or cobble is removed, missing and flow is eroding soil.	Replace rock and reestablish pad
Weeds	Weeds	Weeds are present	Remove weeds and apply mulch after weeding
Vegetation	Dying Vegetation	Dying, dead or unhealthy plants	Remove diseased plants or plant parts and dispose, then replace
	Sight Distance	Vegetation reduces sight distances and sidewalk	Keep sidewalks and sight distances on roadways clear
	Blockage	Vegetation is crowding inlets and outlets	Remove vegetation crowding inlets and outlets
	Poor Vegetation Growth	Yellowing, poor growth, poor flowering, spotting or curled leaves, weak roofs, or stems	Test soil to identify specific nutrient deficiencies.
			Do not use synthetic fertilizers
			Consider selecting different plant for soil conditions
Mulch	Bare Soil	Bare spots are present or mulch depth less than 2 inches	Supplement mulch with hand tools to a depth of 2 to 3 inches, keep mulch away from woody stems.

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Bioretention

Bioretention facilities are engineered facilities that store and treat stormwater by filtering it through a specified soil profile. Water that enters the facility ponds in an earthen depression or other basin (e.g., concrete planter) before it infiltrates into the underlaying bioretention soil. Stormwater that exceeds the surface storage capacity overflow to an adjacent drainage system. Treated water is either infiltrated into the underlying native soil or collected by an underdrain and discharged. An underdrain system can be comprised of perforated or slotted pipe, wrapped in an aggregate blanket.

See SWMMWW Appendix V-A, Table V-A.21 for bioretention maintenance standards. If available, reference record drawings for plant replacements, or see LID Technical Guidance Manual for Puget Sound, Appendix 1 for plant recommendations. Presence of cattails is a sign that that there is water ponding and the facility is not functioning as design. Cattails will need to be removed and further investigation may be required.

Conveyance Ditch

Ditches are often manmade open-channels that convey stormwater runoff. These ditches are maintained to prevent localized flooding.

Conveyance Ditch

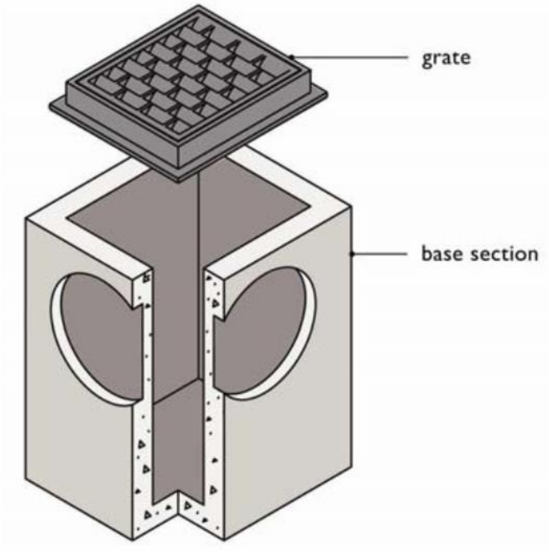
Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Minimum Maintenance Required
General	Sediment	Sediment exceeds 20% of ditch depth or affects the historic or designed hydraulic capacity.	Remove sediment deposits. When finished, ditch should be level from side to side and drain freely in intended direction.
	Standing Water	Excessive standing water in ditch between storms due to ditch not draining freely	If possible, repair cause of poor drainage. This may include but is not limited to the following activities: remove sediment or trash blockages, improve grade of ditch.
	Eroded or Unstable Side Slopes	When grass is sparse, bare or eroded, patches occur in more than 20% of the ditch	Determine why grass growth is poor and correct that condition. Replant with plugs of grass at eight-inch intervals or reseed. If cause is excessive moisture replace grass with wetland plantings.
	Vegetation	Grass is excessively tall (greater than 15 inches). Nuisance weeds and other vegetation start to take over ditch.	Mow vegetation and/or remove nuisance vegetation so that flow is not impeded. Grass should be mowed to a height of 3 to 4 inches.
	Bare Soil	Poor vegetation coverage.	Reseed poor vegetation areas. Reference "Low Grow" seed mix, see SWMMWW BMP C120 Table II-3.4
	Inlet/Outlet Pipes or Culverts	Inlet/outlet area clogged with sediment and/or debris	Remove material so that there is no clogging or blockage in the inlet and outlet area
	Trash and Debris	Any trash and debris which exceed 1 cubic feet per 1,000 square feet. In general, there should be no visual evidence of dumping.	Remove trash and debris from ditch.
	Erosion/Scouring	Eroded or scoured ditch bottom	Permanently stabilize ditch bottom

Stormwater Structures

Catch Basin

A catch basin is an underground concrete structure with a slotted grate that collects stormwater runoff and route it through the underground pipes. Catch basins typically provide a sump below the outlet pipe to allow sediment and debris to settle out of the stormwater runoff. Some catch basins are fitted with a spill control device such as an inverted elbow on the outlet pipe to control grease or oils. The most common tool for cleaning catch basins is a vactor truck which is used to remove sediment and debris from the sump. The sediment and oils if not removed from the catch basins have the potential to pollute downstream waterbodies. Unless you have Occupational Safety and Health Administration (OSHA) approved confined space training and equipment, never enter a catch basin. There is a considerable risk of poisonous gas and injury.

See SWMMWW Appendix V-A, Table V-A.5 for catch basin maintenance standards.



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Field/Ditch Inlet

An inlet is a concrete, plastic or steel structure fitted with a slotted grate to collect stormwater runoff and route through underground pipes. A field inlet has a flat grate, and a ditch inlet has an angled grate. These inlets typically provide a sump below the outlet pipe to allow sediment and debris to settle out of the stormwater runoff. Some of these inlets are fitted with a spill control device such as an inverted elbow on the outlet pipe to control grease or oils. The most common tool for cleaning out the inlet is a vactor truck which is used to remove sediment and debris from the sump. The sediment and oils if not removed from the inlet has the potential to pollute downstream water bodies. Unless you have OSHA approved confined space training and equipment, never enter an inlet. There is a considerable risk of poisonous gas and injury.

Field Inlet

Ditch Inlet

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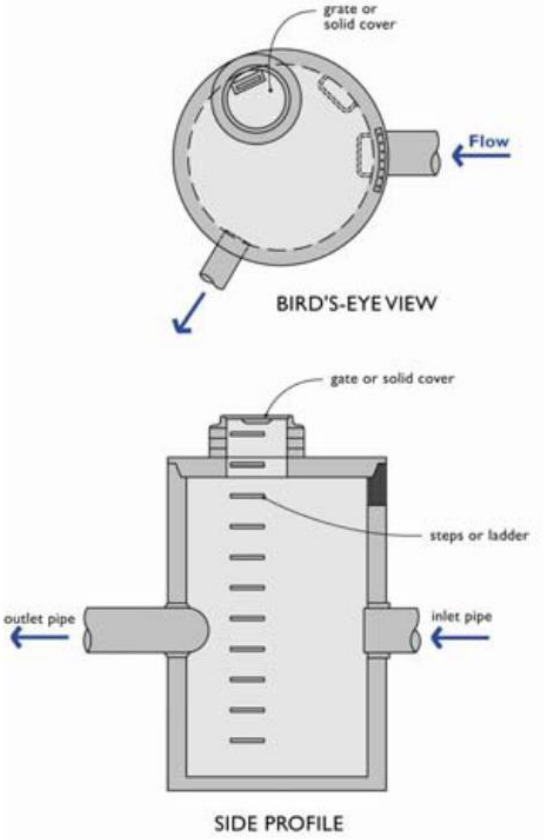
Field Inlet/Ditch Inlet

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Minimum Maintenance Required
General	Trash & Debris	Trash or debris blocking inletting capacity by more than 10%.	Remove trash or debris blocking grate opening.
		Dead animals or vegetation that could generate odors that could cause complaints or dangerous gases (e.g., methane).	Remove dead animals or vegetation present within the field/ditch inlet.
	Sediment	Sediment has accumulated to within six inches of the invert of the lowest pipe	Remove sediment
	Structure Damage to Frame and/or Top Slab	Top slab has holes larger than 2 square inches or cracks wider than 1/4 inch.	Repair top slab to be free of holes and cracks.
		Frame not sitting flush on top slab, i.e., separation of more than 3/4 inch of the frame from the top slab. Frame not securely attached	Make adjustments so that frame is sitting flush on the riser rings or top slab and is firmly attached.
	Fractures or Cracks in Field Inlet Walls/Bottom	Grout fillet has separated or cracked wider than 1/2 inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering catch basin through cracks.	Regrout pipe and secure at field inlet wall.
	Settlement/ Misalignment	If failure of field inlet has created a safety, function, or design problem.	Replace or repair field inlet to design standards.
	Vegetation	Vegetation growing across and blocking more than 10% of the inlet opening.	Remove vegetation blockage from basin opening.
	Contamination and Pollution	Any evidence of oil, gasoline, contaminants, or other pollutants	Identify and remove source. Notify City at (360) 817-1567.
Metal Grates	Grate Not in Place	Grate is missing or only partially in place. Any open field inlet requires maintenance.	Replace missing grate, cover field inlet
	Grate opening Unsafe	Grate with opening wider than 7/8 inch.	Repair grate opening
	Damaged or Missing.	Grate missing or broken member(s) of the grate.	Replace missing grate or repair broken member(s)

Manhole

Manholes are large cylindrical underground structures usually set at storm sewer pipe connections. Manholes are used in storm sewer system at any change in direction, slope, pipe material or pipe size. Some manholes have sumps and fitted with stormwater flow control structures such as orifices or weirs. Unless you have OSHA approved confined space training and equipment, never enter a manhole. There is a considerable risk of poisonous gas and injury.



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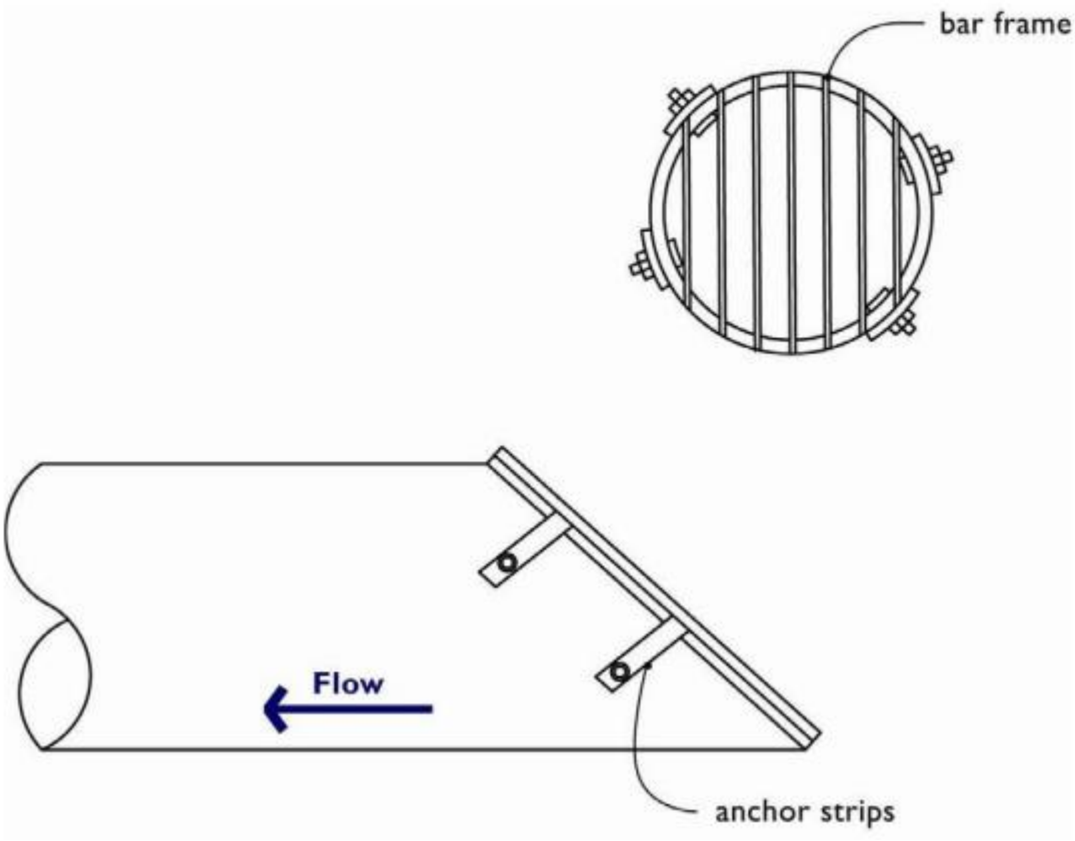
Manhole			
Maintenance Component	**Defect or Problem**	**Conditions When Maintenance Is Needed**	**Minimum Maintenance Required**
General	Trash and Debris	Trash or debris has accumulated to within six inches of the invert of the lowest pipe.	Remove all trash or debris from manhole.
		Trash or debris in any inlet or outlet pipe blocking more than 1/3 of its height.	Remove trash or debris from inlet and outlet pipes.
	Sediment	Sediment has accumulated to within six inches of the invert of the lowest pipe.	Remove all sediment from manhole
	Structure Damage to Frame and/or Top Slab	Top slab has holes larger than 2 square inches or cracks wider than 1/4 inch.	Repair top slab to be free of holes and cracks.
		Frame not sitting flush on top slab, i.e., separation of more than 3/4 inch of the frame from the top slab. Frame not securely attached	Make adjustments so that frame is sitting flush on the riser rings or top slab and is firmly attached.
	Fractures or Cracks in Manhole Walls/Bottom	Grout fillet has separated or cracked wider than 1/2 inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering manhole through cracks.	Regrout pipe and secure at manhole wall.
	Settlement/ Misalignment	If failure of manhole has created a safety, function, or design problem.	Replace or repair manhole to design standards.
Cover	Cover Not in Place	Cover is missing or only partially in place. Any open manhole requires maintenance.	Replace missing cover, cover manhole.
	Locking Mechanism Not Working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts into frame have less than 1/2 inch of thread.	Repair opening mechanism
	Cover Difficult to Remove	One maintenance person cannot remove lid after applying normal lifting pressure.	Make adjustments so that one maintenance person can remove the manhole cover.
Ladder	Ladder Rungs Unsafe	Ladder is unsafe due to missing rungs, not securely attached to basin wall, misalignment, rust, cracks, or sharp edges.	Repair or replace ladder to meet design standards and allow maintenance person safe access.
Control Structure/Flow Restrictor	See Control Structure/Flow Restrictor		

Debris Barrier

Debris barriers and trash racks are barred covers to pipe openings. They prevent large objects from entering pipes and keeps pets and people out of the pipes as well.

See SWMMWW Appendix V-A, Table V-A.6 for debris barrier maintenance standards.



Profile View

Sediment Trap

A sediment trap is a concrete structure typically fitted with slotted grate or multiple slotted grates. The concrete structure provides a storage volume (sump) below the outlet pipe to allow sediment and debris to settle out of the stormwater runoff. A sediment trap can be a fully enclosed concrete structure (above or below ground) with a sump, inlet pipe(s) and outlet pipe.

Sediment Trap			
Maintenance Component	**Defect or Problem**	**Conditions When Maintenance Is Needed**	**Minimum Maintenance Required**
General	Trash and Debris	Trash and debris which is located immediately in front of the sediment trap opening or is blocking the inlet capacity of the basin by more than 10%	Remove trash and debris
		Dead animals or vegetation that could generate odors that could cause complaints or dangerous gases (e.g., methane).	Remove dead animals or vegetation present within the sediment trap.
	Sediment (non-enclosed structure)	Sediment depth exceeds 2 inches.	Remove sediment
	Sediment (enclosed structure)	Sediment depth within 6 inches from lowest invert	Remove sediment
	Fractures or Cracks in Sediment Trap	Grout fillet has separated or cracked wider than 1/2 inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering sediment trap through cracks.	Regrout pipe and secure at sediment trap wall.
	Settlement/ Misalignment	If failure of sediment trap has created a safety, function, or design problem.	Replace or repair sediment trap to design standards.
	Vegetation	Vegetation growing across and blocking more than 10% of the sediment trap opening	Remove vegetation
	Contaminants and Pollution	Any evidence of oil, gasoline, contaminants, or other pollutants	Remove contaminants and/or pollutants. (Coordinate removal/cleanup with local water quality response agency)
Slotted Grate	Trash and Debris	Trash and debris that is blocking more than 20% of the grate surface inlet capacity	Remove trash and debris from grate
	Damaged or Missing Grate	Grate missing or broken member(s) of the grate	Replace or repair grate to design standards.
Cover (enclosed structure)	Cover Not in Place	Cover is missing or only partially in place.	Replace missing cover
	Cover Difficult to Remove	One maintenance person cannot remove lid after applying normal lifting pressure or latch broken	Make adjustments so that one maintenance person can remove the cover and/or repair broken latch.

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Energy Dissipater

Energy dissipaters are critical for preventing erosion at storm drain outfalls. There are a variety of designs, including wire gabion baskets, rock splash pads, trenches, and specially designed pools or manholes. They are installed on or near the inlet or outlet to a closed pipe system to prevent erosion at these locations.

See SWMMWW Appendix V-A, Table V-A.7 for energy dissipater maintenance standards.

Discharge Point

Stormwater facility discharge points may convey drainage from the stormwater facility into open channels, ditches, ponds, wetlands, streams, or lakes. Stormwater facility discharge points need to be assessed to make sure stormwater is not causing any negative impacts to these drainage areas.

Discharge Point			
Maintenance Component	**Defect or Problem**	**Conditions When Maintenance Is Needed**	**Minimum Maintenance Required**
Monitoring	Contaminants and Pollution	Any evidence of oil, gasoline, sewage, contaminants, or other pollutants	Identify and remove source. The effluent discharge should be clear and free of odor. Notify City at (360) 817-1567.
	Ditch or Stream Banks Eroding	Erosion, scouring, or head cuts in ditch or stream banks downstream of facility discharge point due to flow channelization or higher flows.	Stabilize ditch or stream banks. Report to City for engineer evaluation.
General	Missing or Moved Rock	Only one layer of rock exists above native soil in an area five square feet or larger, or any exposure of native soil	Replace or repair rock pad to design standards
	Erosion	Soil erosion in or adjacent to rock pad	Replace or repair rock pad to design standards
	Sediment	Sediment blocking 20% of the pipe diameter	Remove sediment
	Obstructions	Roots or debris enters pipe or deforms pipe, reducing flow	Remove roots from pipe by mechanical methods; do not use root-dissolving chemicals in storm sewer pipes. If necessary, remove vegetation over the line.
	Pipe Rusted or Deteriorated	Any part of the piping that is crushed or deformed excessively or any other failure to the piping	Repair or replace pipe
Energy Dissipater	See Energy Dissipater		

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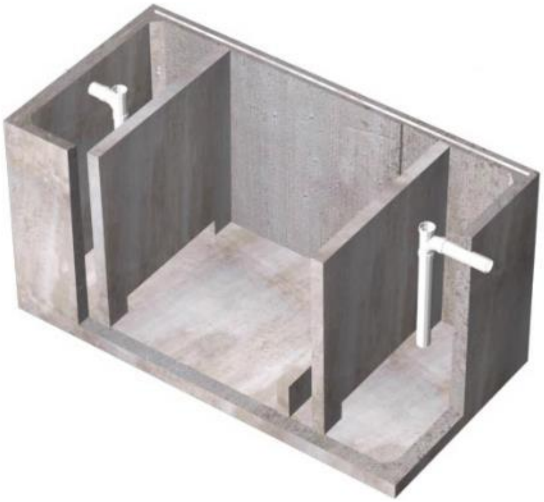
Oil/Water Separators

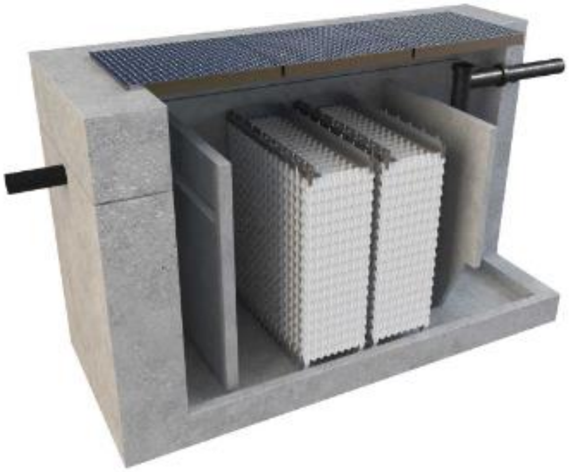
An oil/water separator is an underground vault that treats stormwater by mechanically separating oil from water. The oil rises to the surface and floats on the water and sediment settles to the bottom. Oil/water separators are typically utilized in locations where high oil concentrations in the stormwater runoff are anticipated (e.g., service and fuel stations). Oil/water separators are most commonly used as the first pretreatment facility in a series of stormwater management facilities.

These facilities have special problems for maintenance and should be serviced by contractors. The main issues are working in confined spaces and properly handling any sludge and oil cleaned from vaults or oil/water separators. Manufacturer's recommendations for maintenance should be followed at a minimum.

See SWMMWW Appendix V-A, Table V-A.16 for baffle oil/water separator maintenance standards and Table V-A.17 for coalescing plate oil/water separator maintenance standards.



Baffle Oil/Water Separator



Coalescing Plate Oil/Water Separator

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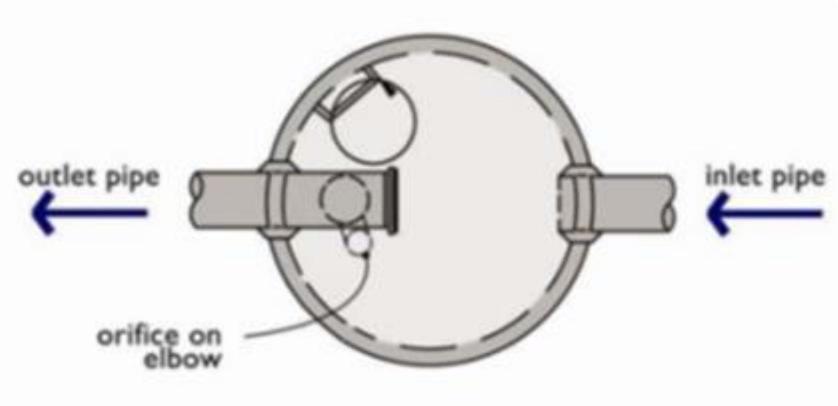
Flow Control Structures/Flow Restrictors

Flow control structures and flow restrictors direct or restrict flow in or out of facility components. Outflow controls on detention facilities are a common example where flow control structures slowly release stormwater at a specific rate. The flow is regulated by a combination of orifices (holes with specifically sized diameters) and weirs (plates with rectangular or ‘V’ shaped notch). Lack of maintenance of the control structure can result in the plugging of an orifice. If these flow controls are damaged, plugged, bypassed, or not working properly, the facility could overtop or release water too quickly.

See SWMMWW Appendix V-A, Table V-A.4 for control structure/flow restrictor maintenance standards.



Plan View

Storm Sewer Pipe

Storm sewer pipes convey stormwater. Storm pipes are constructed of many different types of materials and are sometimes perforated to allow groundwater to be collected by the storm system. Storm pipes are cleaned to remove sediment or blockages when problems are identified. Storm pipes must be clear of obstructions and breaks to prevent localized flooding.

Storm Sewer Pipe			
Maintenance Component	**Defect or Problem**	**Conditions When Maintenance Is Needed**	**Minimum Maintenance Required**
General	Obstructions, Including Roots	Obstruction exists in pipe, reducing flow capacity	Remove obstruction. Use mechanical methods. Do not put root-dissolving chemicals in storm sewer pipes. If necessary, remove the vegetation over the line.
	Pipe Dented or Broken	Inlet/outlet pipe damaged or broken	Repair or replace pipe
	Pipe rusted or deteriorated	Any part of the piping that is crushed or deformed excessively or any other failure to the piping	Repair or replace pipe
	Sediment and Debris	Sediment or debris depth is greater than 15% of the pipe diameter	Clean pipe. Evaluate source of sediment upstream of the pipe and stabilize if possible.
	Broken Trash Screen	Trash screen is broken or missing parts	Repair or replace trash screen
	Contaminants and Pollution	Any evidence of oil, gasoline, contaminants, or other pollutants	Identify and remove source. Notify City at (360) 817-1567.

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Closed Detention System

A closed detention system functions similarly to a detention pond but with the storage volume provided by an underground structure. The structure is typically constructed of large diameter pipe, plastic chamber structure or a concrete vault. These systems are typically utilized for sites that do not have space available for an above-ground system and are more commonly associated with commercial sites.

Underground detention systems are enclosed spaces where harmful chemicals and vapors can accumulate. Therefore, the maintenance of these facilities should be conducted by an individual trained and certified to work in hazardous confined spaces.

See SWMMWW Appendix V-A, Table V-A.3 for closed detention maintenance standards.

Drywell

Drywells are perforated, open-bottomed manholes used to infiltrate stormwater into the ground. While not the intended use, drywells trap sediment and some of the oil pollutants in stormwater runoff. Drywells are more likely to fill with oily sediment in areas that lack swales or other treatment facilities. Fine oil sediment can clog drywells and lead to localized street flooding. Also, pollutants discharged into drywells can migrate into groundwater. Drywells were often installed in closed topographic depressions, areas with will-drained soils, or areas having inadequate storm sewers. Often, drywells contain groundwater.

Drywell			
Maintenance Component	**Defect or Problem**	**Conditions When Maintenance Is Needed**	**Minimum Maintenance Required**
General	Does not Dissipate Stormwater	Does not dissipate stormwater	Replace or repair
	Opening Clogged	Openings are clogged, reducing capacity	Clear openings or convert existing drywell to a sediment trap and install a new drywell or drainage trench. To convert to a sediment trap: grout holes, cover base with concrete, and add piping. Alterations to any storm facility cannot be done without approval from the City of Camas.
	Standing Water	Standing water indicates the drywell is into the groundwater table	Rebuild drywell to prevent stormwater from going directly into groundwater
	Trash and Debris	Trash or debris blocking any inlet or outlet pipe	Remove trash and debris
	Sediment	Sediment in drywell exceeds 60 percent of the depth below the lowest pipe	Remove sediment
	Structure Damage	Structure unsound	Replace or repair drywell to design standards.
	Contaminants and Pollution	Any evidence of oil, gasoline, contaminants, or other pollutants	Identify and remove source. Notify City at (360) 817-1567.
Cover	Cover Not in Place	Cover is missing or only partially in place.	Replace missing cover
	Cover Difficult to Remove	One maintenance person cannot remove cover after applying normal lifting pressure.	Make adjustments so that one maintenance person can remove the drywell cover.

Pond Leveler System

The pond leveler system consists of an intake cage and outlet pipe. This system is used to bypass beaver dams. The pond leveler system creates a permanent leak through the beaver dam that the beavers cannot stop.

Pond Leveler			
Maintenance Component	**Defect or Problem**	**Conditions When Maintenance Is Needed**	**Minimum Maintenance Required**
Intake Cage	Debris and sediment	Debris and sediment build up around cage	Remove debris and sediment build up around cage. Recommended tools: potato rake and a narrow, stiff shop broom.
	Structure	Broken cage, resulting in holes larger than 6" diameter.	Repair hole with similar cage material, attach with hog rings.
	Obstruction to inflow pipe	Debris obstructing pipe flow inside intake cage	Remove obstruction
Outflow Pipe	Obstruction	Debris obstructing outflow	Remove obstruction

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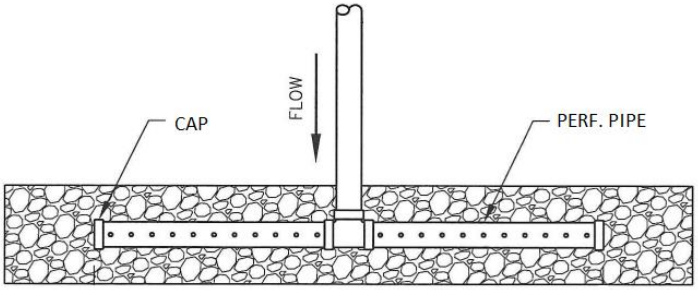
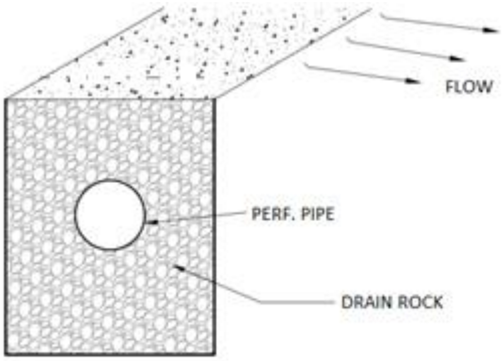
Dispersion Trench

Dispersion trench are grave-filled trenches, which serve to spread runoff over vegetated pervious areas. This BMP reduce peak flows, provide some infiltration, and water quality benefits.



Plan View



Cross Section

Dispersion Trench			
Maintenance Component	**Defect or Problem**	**Conditions When Maintenance Is Needed**	**Minimum Maintenance Required**
General	Trash and Debris	Any trash and debris which exceed 1 cubic feet per 1,000 square feet. In general, there should be no visual evidence of dumping.	Remove trash and debris from site.
	Poisonous Vegetation and noxious weeds	Any poisonous or nuisance vegetation which may constitute a hazard to maintenance personnel or the public. Any evidence of noxious weeds as defined by State or local regulations.	Remove noxious weeds. Compliance with State or local eradication policies required. Apply requirements of adopted IPM policies for the use of herbicides.
	Contaminants and Pollution	Any evidence of oil, gasoline, contaminants, or other pollutants	Identify and remove source. Notify City at (360) 817-1567.
	Rodent Holes	Any evidence of rodent holes.	Fill holes.
Perforated Pipe	Sediment and/or obstruction	Sediment and/or obstruction impeding the flow, causing backup	Remove sediment and/or obstruction

Special Facilities

Manufactured Media Filter

Manufacture media filters are passive, flow-through, stormwater treatment systems. They are comprised of manholes or vaults that house media-filled filter cartridges. Stormwater passes through a filtering medium, which traps particulates and/or absorb pollutants such as dissolved metals and hydrocarbons. Once filtered through the media, the treated stormwater is directed to a collection pipe or discharge to a pond or open channel drainage way.

The filter media can be housed in cartridge filters enclosed in concrete vaults or catch basins. Structures will have vault doors or manhole lids for maintenance access. Various types of filter media are available from different manufactures. Determine the type of filter media used and consult manufacturer for maintenance recommendations.

See SWMMWW Appendix V-A, Table V-A.15 for manufactured media filters maintenance standards.

Manufactured Media Filter – Additional Maintenance Standards

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Minimum Maintenance Required
Below Ground Vault or Manhole	Sediment Accumulation in Vault (no first chamber)	Sediment depth exceeds 4-inches on vault floor.	Remove sediment from vault floor. May require replacing media cartridges, consult manufacturer.

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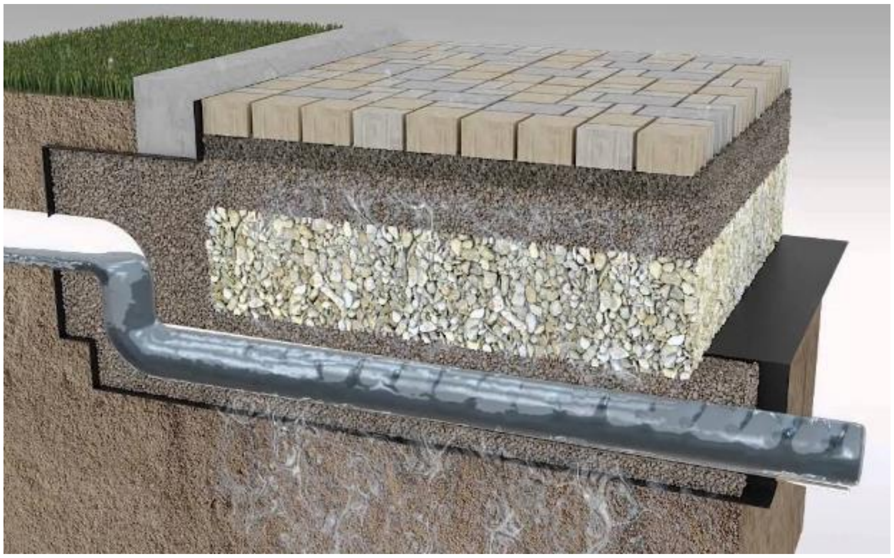
Permeable Pavement

Permeable pavement is a paving system which allows rainfall to percolate through the surface into the underlying soil or an aggregate bed, where stormwater is stored and infiltrated to underlying subgrade, or removed by an overflow drainage system.

See SWMMWW Appendix V-A, Table V-A.22 for permeable pavement maintenance standards.



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Modular Wetland

Modular wetlands linear is a biofiltration system that utilizes horizontal flow which allows for a smaller footprint, higher treatment capacity and design versatility. This system can be utilized downstream of storage for additional volume control and treatment. The modular wetland is contained in an underground vault that has different chambers containing media. Some modular wetlands can have plants growing out of it, but it is not required for the system to function. Once filtered through the media, the treated stormwater is directed to a collection pipe or discharge to a pond or open channel drainage way.

Modular Wetland			
Maintenance Component	**Defect or Problem**	**Conditions When Maintenance Is Needed**	**Minimum Maintenance Required**
General	Missing or damaged components	Missing or damaged internal components or cartridges	Replace missing or repair damaged internal components or cartridges
Inlet or Outlet	Obstruction	Obstruction to inlet or outlet that impedes flow	Remove obstruction
Pretreatment Chamber	Floatables	Excessive accumulation of floatables, in which the length and width of the chamber is fully impacted more than 18"	Remove floatables
	Sediment	Excessive accumulation of sediment, more than 6"in depth	Remove sediment
Filter Cartridges	Sediment	Excessive accumulation of sediment on media, more than 85% clogged (blackish color)	Replace media
Vegetation (if applicable)	Overgrown	Overgrown vegetation	Trim/prune vegetation in accordance with landscaping and safety needs
Structure	Cracks in structure	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through cracks	Repair cracks in vault

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Tree Box Filter

Tree box filter is a stormwater treatment system incorporating high performance biofiltration media to remove pollutants from stormwater runoff.

Tree Box Filter

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Minimum Maintenance Required
Inlet	Excessive sediment or trash accumulation	Accumulated sediments or trash impair free flow of water into system	Remove sediment and/or trash
Mulch cover	Trash and debris	Excessive trash and/or debris accumulation	Remove trash and/or debris.
	Standing water	Ponding of water over mulch due to excessive fine sediment accumulation or spill of petroleum oils	Remove mulch and replace, contact manufacturer for advice
Vegetation	Plant not growing or in poor condition	Soil/mulch too wet, evidence of spill, incorrect plant selection, pest infestation, vandalism to plants	Plants should be healthy and pest free, contact manufacturer for advice
	Plant growth excessive	Plants should be appropriate to the species and location	Trim/prune plants in accordance with landscaping and safety needs
Structure	Cracks in structure	Cracks wider than 1/2 inch or evidence of soil particles entering the structure through cracks	Repair cracks in vault

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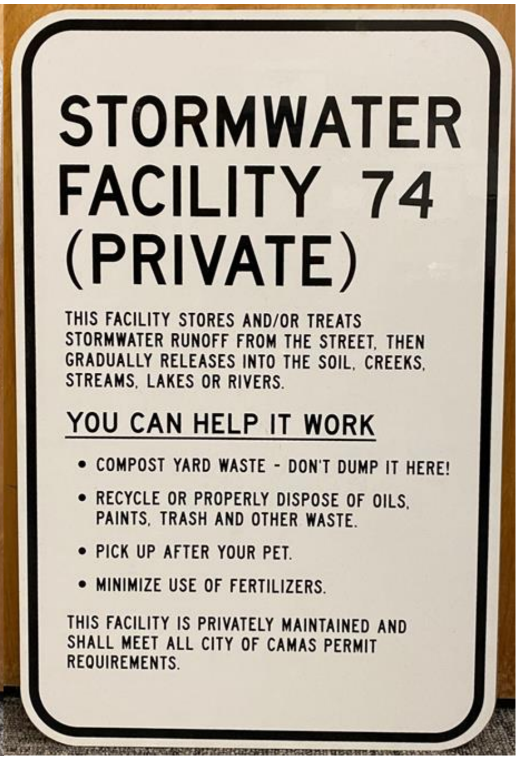
Miscellaneous Items

Fences, Gates and Water Quality Signs

Fences are installed around the perimeter of stormwater facilities as a means of protecting the public, as they restrict entrance to the facility. Gates are installed to allow for maintenance access. Gates will be secured, typically with a double lock system (daisy chain) that allows access to the City and to the property owner's maintenance crew.

Water Quality Signs are installed on the fences, or on sign poles, within public view as a means of educating the public as to the presence of a stormwater facility. These signs also have a number located in the upper right hand corner that is cross referenced, at the City, to an address and maintenance responsibility. The publicly owned storm facility signs are green and the privately owned storm facility signs are white.

Public Storm Sign (Green)



Private Storm Sign (White)

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Fence, Gate and Water Quality Sign			
Maintenance Component	**Defect or Problem**	**Conditions When Maintenance Is Needed**	**Minimum Maintenance Required**
General	Gate or Fence Allows Unauthorized Entry	Openings in fence, missing gate, openings beneath fence allowing unauthorized access	Repaired gate and/or fence to prevent unauthorized access
	Locking Mechanism	Mechanism cannot be opened by one maintenance person with proper tools	Repair/replace lock
		No lock on gate, allows unauthorized entry	Add lock
	Damaged Parts	Posts out of plumb more than six inches	Plumb post
		Top rails of plump more than six inches	Repair top rails so that it is free of bends greater than 1 inch
	Erosion	Erosion has resulted in an opening under a fence that allows entry by people or pets	Replace soil under fence so that no opening exceeds 4 inches in height
	Sign	Sign is leaning more than 8 inches off vertical	Reset sign to plumb
		Sign is missing or 20% of surface is unreadable	Replace sign

Access Roads and Easements

Many stormwater facilities have access roads to bring in heavy equipment for facility maintenance. These roads are typically gravel and should be maintained for inspection access and ease of equipment entry. All facilities should allow access for the inspection process. The easement area should be adequately or otherwise stabilized. Bare soil areas will generate higher levels of stormwater runoff and increase erosion and sedimentation in stormwater facilities.

Access Road and Easements

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Minimum Maintenance Required
General	Erosion	Soils are bare or eroded	Seed or use other stabilization BMP
	Road Surface	Conditions of road surface may lead to erosion of the facility or limit access	Repair road
	Erosion of Ground Surface	Noticeable rills are seen in landscaped areas	Identify causes of erosion and implement BMPs to slow down/spread out the water. Fill, contour, and seed eroded areas. If needed, re-grade affected areas.
	Trash and Debris	Any trash and debris which exceed 1 cubic feet per 1,000 square feet. In general, there should be no visual evidence of dumping.	Remove trash and debris from site.
	Poisonous Vegetation and Noxious Weeds	Any poisonous or nuisance vegetation which may constitute a hazard to maintenance personnel or the public. Any evidence of noxious weeds as defined by State or local regulations.	Remove noxious weeds. Compliance with State or local eradication policies required. Apply requirements of adopted IPM policies for the use of herbicides.
	Tree Growth and Hazard Trees	Tree growth does not allow maintenance access or interferes with maintenance activity (i.e., slope mowing, silt removal, vactoring, or equipment movements). If dead, diseased, or dying trees are identified.	Remove hazardous tree that impede with maintenance access and activities. Remove trees that are damaging the pipe system and/or blocking drain inlet. Remove dead, diseased, or dying trees. Harvested trees should be recycled into mulch or other beneficial uses (e.g., alders for firewood).
	Weeds (Non-poisonous)	Weeds growing in more than 20% of the landscaped area (tree and shrubs only).	Remove weeds
	Insects	When insects such as wasps and hornets interfere with maintenance activities.	Destroy or remove insects from site. Apply insecticides in compliance with adopted IPM policies.

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Pavement Sweeping

Pavement sweeping is performed as a means of removing sand, dirt, and litter from streets and curb gutters. Sweeping also reduces dust during dry weather. Pavement sweeping plays a large part in stormwater maintenance because it limits the amount of sediment washed into the municipal storm sewer system. The water quality procedure for street sweeping focuses on sediment removal and disposal. Reducing the amount of sediment washed into catch basins, curb inlets, detention facilities, drywells, and other facilities can save money because sweeping is generally cheaper that removing sediment from facilities. Sweeping also helps protect facilities from clogging with sediment.

Typically, the City sweeps the downtown area once a week and the whole city about three times per year. Most of the downtown area does not have water quality treatment. Pavement sweeping is the main source for pollution control.

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Repair/Replacement Activities

Minor Culvert Repair (Not in a Stream)

This activity is for the replacement or repair of culverts and inlets. It applies only to structures that are in ditches that are specifically for storm drainage. These are ditches that do not carry water during dry weather. If there is any question about whether the ditch is a storm drain or a stream, consult with the Washington Department of Fish and Wildlife and the City of Camas Public Works Department.

Major Culvert Repair (at a Stream Crossing)

This activity is the replacement or repair of culverts and inlets bridging a stream or ditch with flowing water during dry weather. If there is any question about whether the ditch is a storm drain or a stream, consult the Washington Department of Fish and Wildlife and the City of Camas Public Works Department.

These projects must meet all regulatory requirements such as State Environmental Policy Act (SEPA), Shoreline Permit, Hydraulic Project Approval (HPA) and Flood Plain.

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Vegetation Management

The City recognizes the special importance of the rivers, streams, wetlands, ponds, and stormwater control and treatment facilities. The sensitive nature of such habitat, their plant and animal communities, and their direct link with other waterways require that we establish specific policies to ensure their health. All landscape management decisions for controlling unwanted vegetation, diseases, and pests should follow the Integrated Pest Management (IPM) principles and decision-making rationale.

Integrated Pest Management (IPM) Principles

1. Correctly identify the pest problem and understand their life cycle. Refer to online resources such as Washington State Noxious Weed Control Board and Washington Invasive Species Council.
2. Every landscape has a population of some pest insects, weeds, and diseases. Once the pest has been identified and studied, determine if low levels of the pest are tolerable. Small numbers of certain pests may not be harmful. If this is the case, simply continue to monitor the pest population.
3. If pest exceed tolerance thresholds, choose a safe and effective control method.
    a. Cultural methods of vegetation and pest control are preferred and are first employed. Cultural control changes the pest’s environment: landscape fabric, mulch, soil amendments, altering the irrigation method of duration, crop rotation, crop covers, etc.
    b. Mechanical means of vegetation and pest control are next in line of preference and are utilized where feasible. Mechanical means consist of digging, hand-pulling, mowing, tilling, trapping, etc.
    c. Biological methods of vegetation and pest control are considered before chemical means, where they are feasible. Biological control uses natural enemies: beneficial insects, managed grazing, bird boxes and perches, etc.
    d. Chemical methods are used only when no other feasible methods exist. Chemical control is the use of pesticides to remove vegetation and pests.
4. Observe and record the results of the control treatment. Evaluate the effectiveness. If necessary, modify maintenance practices to support a healthy landscape and prevent recurrence of the pest.

A licensed pesticide applicator is required for performing any chemical application in stormwater facilities. Applicators must be licensed in Washington State with an aquatic endorsement (WAC 16-228-1545). Applicator must submit a copy of their license to the City prior to starting work. Aquatic pesticide products are recommended. No chemical application shall be applied directly in the water. Do not apply pesticide when it is raining. Check the weather and ensure there are multiple dry days before and after application. Do not apply pesticide on windy days to prevent drift movement of pesticide from target areas.

For vegetated areas outside of stormwater facilities, Washington State pesticide application laws and rules are followed, Chapter 17.21 RCW and Chapter 16-228 WAC.

Plants and Groundcover

Use plants that will thrive in the growing conditions of each facility. Growing conditions are affected by moisture, soil conditions, and light. Plants native to western Washington are preferred. Recommended plants, seed mixes and groundcover list for biofiltration swales, bioretention systems, rain gardens, and other facility types are given in the respective BMP maintenance sections. It is best to reference the stormwater facility record drawings for vegetation replacements, if available. Fertilization of vegetated stormwater facilities should be avoided.

The City has adopted a list of approved plants for use in development projects, and to assist homeowners in choosing appropriate plantings. The list also has prohibited undesirable plants. Only plants approved for use on the City of Camas Plant Materials are allowed within the City's right-of-way.

Mulches and other ground coverings are useful during the installation and restoration of landscapes as well as their ongoing maintenance. Mulches meet a variety of needs. They suppress weeds, help to retain moisture around plants, reduce possible erosion and provide visual enhancement. Possible risk impacts to consider when using mulch are inadvertent introduction of non-native plants or migration of mulch material into waterways.

Possible scenarios where trees should be removed and/or trimmed in a stormwater facility (always check if the stormwater facility has a liner before tree removal):

- Trees that pose a risk to a stormwater structure due to root growth should be removed.
- Trees that are growing on spillways that would impede drainage should be removed.
- Hazardous trees should be removed.
- Trees/shrubs that hinder accessibility to access roads should be trimmed or removed.

Exhibit 13 CUP24-1001

References

Clark County. (July 2021). *Clark County Stormwater Manual 2015 Book 4 Stormwater Facility Operation and Maintenance*. https://clark.wa.gov/sites/default/files/media/document/2021-11/CCSM%20Book%204%20Maintenance%20and%20Operations.pdf

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Exhibit 13 CUP24-1001

Appendix F

City of Camas Pre-Application Final Report dated 5/14/2024

Pre-Application Meeting Notes
Camas High School District Tennis Courts
Planning Case Number: PA24-08

Meeting held via Zoom: May 2, 2024
Notes issued via email: May 14, 2024

Applicant:
Martin Snell, MacKay Sposito
18405 SE Mill Plain Boulevard, Suite 100
Vancouver, WA 98683
msnell@mackaysposito.com

Representing City of Camas: Yvette Sennewald, Senior Planner
Robert Maul, Planning Manager
Randy Miller, Fire Marshal
Brian Smith, Building Official
Ahmed Yanka, Engineering

Location:	Camas High School 29600 SE 15th Street
Tax Accounts:	178111000 and 178174000
Zoning:	R-7.5
Description:	The project includes resurfacing eight existing tennis courts, installing lighting and an enclosure over the tennis courts as well as the placement of an entrance structure (with restrooms and a small locker area) utility extensions/connections, site improvements for access from the parking lot, additional parking spaces and landscaping.

NOTICE: Notwithstanding any representation by City staff at a pre-application conference, staff is not authorized to waive any requirement of the City Code. Any omission or failure by staff to recite to an applicant all relevant applicable code requirements shall not constitute a waiver by the City of any standard or requirement. [CMC 18.55.060 (C)] This pre-application conference shall be valid for a period of 180 days from the date it is held. If no application is filed within 180 days of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. [CMC 18.55.060 (D)] Any changes to the code or other applicable laws, which take effect between the pre-application conference and submittal of an application, shall be applicable. [CMC 18.55.060 (D)]. **A link to the Camas Municipal Code (CMC) can be found on the City of Camas website, http://www.cityofcamas.us/ on the main page under "Business and Development".**

PLANNING DIVISION **Yvette Sennewald |817-7269**

Applicable codes for development include Title 16 Environment, and Title 18 Zoning, of the Camas Municipal Code (CMC), which can be found on the city website. Please note it remains the applicant's responsibility to review the CMC and address all applicable provisions. The following pre-application notes are based on application materials and site plan submitted on March 29, 2024.

Type III Conditional Use Permit	Fees (as of 2/29/24)
Conditional Use Permit	$4,949
Minor Design Review	$495

Application Requirements
Your proposal is required to comply with the general application requirements per CMC Section **18.55.110.**

The following items are required to be submitted for consideration of the proposed project:

1. **APPLICATION.** Required materials are listed at CMC18.55.110 (A through G) and include the following:
    - A completed city application form and required fees,
    - A complete list of the permit approvals sought by the applicant for this project,
    - One set of mailing labels for property owners as noted in CMC Section 18.55.110,
    - A detailed narrative description that describes the proposed development, existing site conditions, existing structures, public facilities and services, and other natural features. The narrative should also include ownership and maintenance of open spaces, stormwater facilities, public trails, and critical areas. It should also address any proposed building conditions or restrictions.
    - Three sets of drawings and an electronic copy (sent as a PDF by email). All documents and reports must be submitted as separate pdf files.
    - A copy of Preapplication meeting notes,
    - Preliminary Civil plans,
    - A vicinity map showing location of the site, and
    - Copy of a full title report.
2. **CONDITIONAL USE PERMIT**. The application should include photos of adjacent properties, and a description of the development patterns of the area. The applicant must include a written narrative that responds to each of the criteria in CMC §18.43.050 Criteria:

    > *A. The proposed use will not be materially detrimental to the public welfare, or injurious to the property or improvements in the vicinity of the proposed use, or in the district in which the subject property is situated.*
    >
    > *B. The proposed use shall meet or exceed the development standards that are required in the zoning district in which the subject property is situated.*

C. The proposed use shall be compatible with the surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design.

D. Appropriate measures have been taken to minimize the possible adverse impacts that the proposed use may have on the area in which it is located.

E. The proposed use is consistent with the goals and policies expressed in the comprehensive plan.

F. Any special conditions and criteria established for the proposed use have been satisfied. In granting a conditional use permit the hearings examiner may stipulate additional requirements to carry out the intent of the Camas Municipal Code and comprehensive plan.

3. **DESIGN REVIEW**. An application for design review must include (at a minimum) building elevations, materials, exterior colors, and landscaping plans. Preliminary site plan should show all existing conditions per CMC Section 17.11.030.B.6(a-p),

Landscaping Regulations. A Landscape, Tree, and Vegetation plan must be submitted pursuant to CMC 18.13.040.A. If trees are proposed for removal, a Tree Survey is required and must be prepared by a certified arborist or professional forester.

Development sign. The applicant must install a 4'x8' sign on the property that provides details about the project, site plan, contact information, and includes space for public hearing information to be filled in when a date is scheduled. Staff can provide a handout if requested.

BUILDING DIVISION Brian Smith | 817-1568

- The structure will be reviewed under the most current building codes as adopted by the State of Washington. Specifically, the requirements of IBC 3102 regulate this type of structure.
- The plans will need to be prepared by a State of Washington licensed architect.
- Structural drawings and calculations will be required and shall be prepared and stamped by a Professional Engineer licensed by the State of Washington.
- A separate construction permit from the Camas/Washougal Fire Marshal's office may be required, contact the Fire Marshal's Office to confirm.
- Impact fees and System Development charges will be applicable.
- If the structure is conditioned compliance with the Washington State Energy Code will be required.

ENGINEERING DIVISION Ahmed Yanka | 817-7258

Applicant's 'Proposed Scope of Work' are not applicable to Engineering.

Responses to the Applicant's TIA questions are addressed separately.

General Requirements:

Exhibit 13 CUP24-1001

1. Civil site construction plans shall be prepared by a licensed Washington State Engineer in accordance with the *Camas Design Standards Manual (CDSM)* and CMC 17.19.040.
2. Engineering site improvement plans are to be submitted to Community Development (CDev) Engineering for review and approval.
3. The Community Development Engineering Dept. is responsible for plan review (PR) and construction inspection (CI). A 3% PR&CI fee is collected by engineering for all infrastructure improvements.
    a. The 3% fee is based on an engineer's estimate.
    b. The engineer's estimate is to include all improvements outside of the proposed building footprints.
    c. *Payment of the 1% plan review (PR) portion is required when the civil plans are submitted for first review*.
    d. Payment of the 2% construction inspection (CI) portion is to be paid prior to release of approved construction drawings by the CDev Engineering Dept.
4. The applicant will be required to purchase all permanent traffic control signs, street name signs, street lighting, and traffic control markings for the proposed development.
5. A general encroachment permit, certificate of insurance, and approved traffic control plan (TCP) is required prior to the start of any work within the right-of-way.

Traffic/Transportation:

1. As the change in use is from tennis courts for high school usage to a USTA Tennis Center, the applicant is to provide a TIA memo addressing the potential increase in AM and PM Peak hour trip distribution to and from the site.
2. Based on the information requested above, an intersection impact analysis may be required.
3. If the Traffic Engineer has any additional questions, they can contact the City Engineer, James (Curleigh) Carothers.

Streets:

1. The proposed tennis court improvements, including construction of a new on-site access road to be located on the north side of the existing tennis courts, which are north of the Camas High School parking lot.
2. The high school has an existing ingress and egress at SE 15th Street and an existing egress onto NE Garfield Street.
3. Per the 2016 Transportation Comprehensive Plan Map:
    a. SE 15th Street is designated as an existing 3-lane fully improved road along the frontage of the high school.
4. NE Garfield Street is designated as a local road without sidewalk improvements on the west side of the road nor in the vicinity of the intersection of the high school's North Access Road and NE Garfield Street.
    a. The applicant is not required to construct any improvements on NE Garfield Street.
5. The applicant is proposing a new 16-foot-wide one-way drive aisle around the existing tennis courts with approximately 56 new parking stalls.

   a. The proposed one-way drive aisle is shown to intersect the existing drive aisle and parking lot and to be located between the existing baseball field and easternmost tennis court. The easternmost tennis court is proposed to be eliminated in order to construct the new drive aisle.
   b. The proposed egress for the new one-way drive aisle is shown as a new intersection with the existing North Access Road.
   c. The new road is to be signed as one-way at the east intersection and 'stop controlled' at the west intersection.

Stormwater:

1. The proposed tennis court is within combined parcels of 2,281,238 sf (52.37 acres) in size per Clark County records.
2. Stormwater treatment and detention shall be designed in accordance with the latest edition of Ecology's *Stormwater Management Manual for Western Washington (SWMMWW)*. The current Ecology manual is the 2019 version.
3. Refer to Ecology's *Figure I-3.2 Flow Chart for Determining Requirements for Re-Development (Vol. I, Chapter 3, Page 90)*.
   a. As the project results in 5,000 sf, or greater, of new plus replaced hard surface area; then Minimum Requirements (MR) #1- #9 will apply.
4. The applicant will be responsible for determining if the existing stormwater conveyance and treatment and detention system at the southeast corner of the site is adequately sized for additional stormwater discharge from the proposed road construction.
5. A revised TIR will be required addressing the proposed changes.
6. A designated concrete washout area (BMP C154, Vol. II, Chap. 3, pgs. 320-326) is to be shown on the site plans. The washout area is to be removed prior to issuance of final acceptance.

Erosion Control

1. If the new proposed improvements are greater than an acre of land-disturbing activities the applicant will be required to obtain an *NPDES Construction Stormwater General Permit* from Ecology and provide an ESC bond to the city.
2. The applicant will be responsible for all erosion and sediment control measures to ensure that sediment laden water does not leave the site or impact adjacent parcels.
3. Mud tracking onto the road surface is discouraged and any mud tracking is to be cleaned up immediately.

Water:

1. There is an existing 2.5-inch schedule 40 PVC water service at the southwest corner and another water service located approximately 325-feet of the southeast corner.
2. A new water service to the proposed bathrooms is to be shown on the proposed site plans.
3. All taps to be performed by a tapping Contractor approved by the City's Water/Sewer Dept.

4. Utility trenching and trench backfill are to be per CDSM Detail G2. Surface restoration will be per CDSM Detail G2A.

Sanitary Sewer:

1. There is an existing 6-inch PVC sanitary STEF main that runs along the southside of the proposed tennis court location in the High School parking lot.
2. A new sanitary sewer lateral to the proposed bathrooms is to be shown on the proposed site plans.
3. All taps to be performed by a tapping Contractor approved by the City's Water/Sewer Dept.
4. Utility trenching and trench backfill are to be per CDSM Detail G2. Surface restoration will be per CDSM Detail G2A.

City Approved Tapping Contractors:

1. A&A Drilling Services, Inc (water & pressure sewer):
    a. 16734 SE Kens Ct. #B, Milwaukie, OR 97267, 800-548-3827, http://www.aadrilling.com

2. Ferguson Waterworks (water only):
    a. 14103 NW 3rd Court, Vancouver, WA 98685, 360-896-8708, https://www.ferguson.com/branch/nw-3rd-ct-vancouver-wa-waterworks

Parks/Trails:

1. Not applicable.

Garbage & Recycling:

1. Applicant to use existing garbage & recycling system.

Impact Fees & System Development Charges (SDCs):

1. Camas High School is in the South District.
2. Impact Fees and SDCs are collected at the time of building permit issuance.
3. Impact fees and SDCs are adjusted on January 1st of each year.

Impact Fees for 2024:

1. Traffic Impact Fees - $3,988.00 per PM Peak Hour Trip
2. School Impact Fees (SIF) (Camas) – NA
3. Park/Open Space Impact Fees (PIF) – NA
4. Fire Impact Fees (FIF) - $0.69 sf

System Development Charges (SDCs) for 2024:

1. Water
    a. 3/4" meter - $9,056.00 + $450.00 connection fee

2. Sewer
    a. Residential - $7,184.00 + $199.00 STEP/STEF Inspection

FIRE MARSHAL **Randy Miller | 834-6191**

No building or structure regulated by the building and/or fire code shall be erected, constructed, enlarged, altered, repaired, moved, converted, or demolished unless a separate permit for each building or structure has first been obtained from the CWFMO Camas Municipal Code 15.04.030.D.12.a

Any inadvertent omission or failure to site or include any applicable codes or code language by the Fire Marshal's office or the City shall not be considered a waiver by the applicant.

1) Permit(s) with the Fire Marshals Office required.
    a. Site Plan
    b. New Construction/Life Safety Permit required with the FMO
    c. Other permits may be required as this project is further explained in use and design.

3. Contact the FMO if you have any questions: 360-834-6191 or FMO@cityofcamas.us

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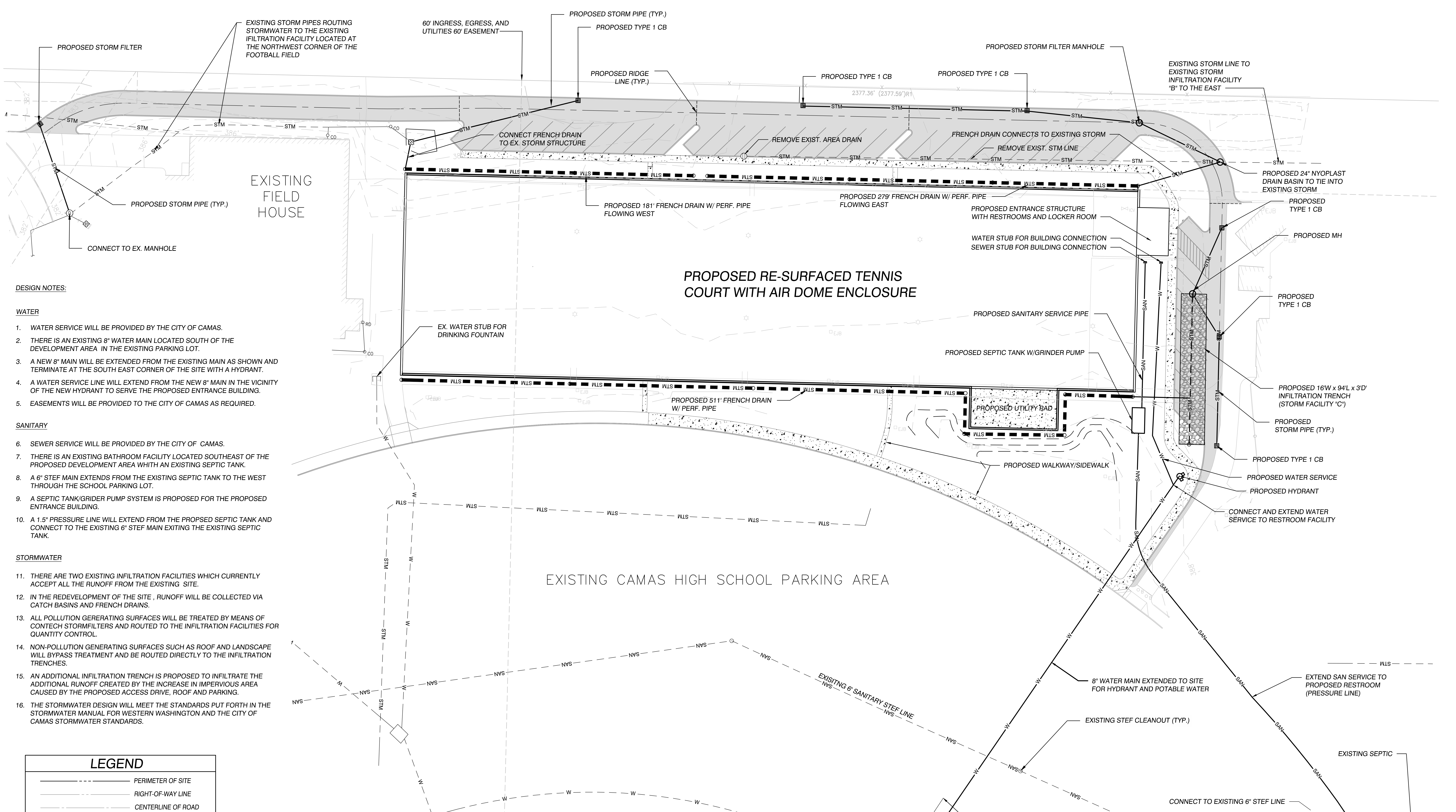
Appendix G

Preliminary Utility Plan
Proposed Basins Map (Camas High School Fieldhouse TIR)
Existing Catchment Plan (Quantity Control)
Developed Catchment Plan (Quantity Control)
Developed Catchment Plan (Quality Control)

Exhibit 13 CUP24-1001



DESIGN NOTES:

WATER

1. WATER SERVICE WILL BE PROVIDED BY THE CITY OF CAMAS.
2. THERE IS AN EXISTING 8" WATER MAIN LOCATED SOUTH OF THE DEVELOPMENT AREA IN THE EXISTING PARKING LOT.
3. A NEW 8" MAIN WILL BE EXTENDED FROM THE EXISTING MAIN AS SHOWN AND TERMINATE AT THE SOUTH EAST CORNER OF THE SITE WITH A HYDRANT.
4. A WATER SERVICE LINE WILL EXTEND FROM THE NEW 8" MAIN IN THE VICINITY OF THE NEW HYDRANT TO SERVE THE PROPOSED ENTRANCE BUILDING.
5. EASEMENTS WILL BE PROVIDED TO THE CITY OF CAMAS AS REQUIRED.

SANITARY

6. SEWER SERVICE WILL BE PROVIDED BY THE CITY OF CAMAS.
7. THERE IS AN EXISTING BATHROOM FACILITY LOCATED SOUTHEAST OF THE PROPOSED DEVELOPMENT AREA WHITH AN EXISTING SEPTIC TANK.
8. A 6" STEF MAIN EXTENDS FROM THE EXISTING SEPTIC TANK TO THE WEST THROUGH THE SCHOOL PARKING LOT.
9. A SEPTIC TANK/GRIDER PUMP SYSTEM IS PROPOSED FOR THE PROPOSED ENTRANCE BUILDING.
10. A 1.5" PRESSURE LINE WILL EXTEND FROM THE PROPSED SEPTIC TANK AND CONNECT TO THE EXISTING 6" STEF MAIN EXITING THE EXISTING SEPTIC TANK.

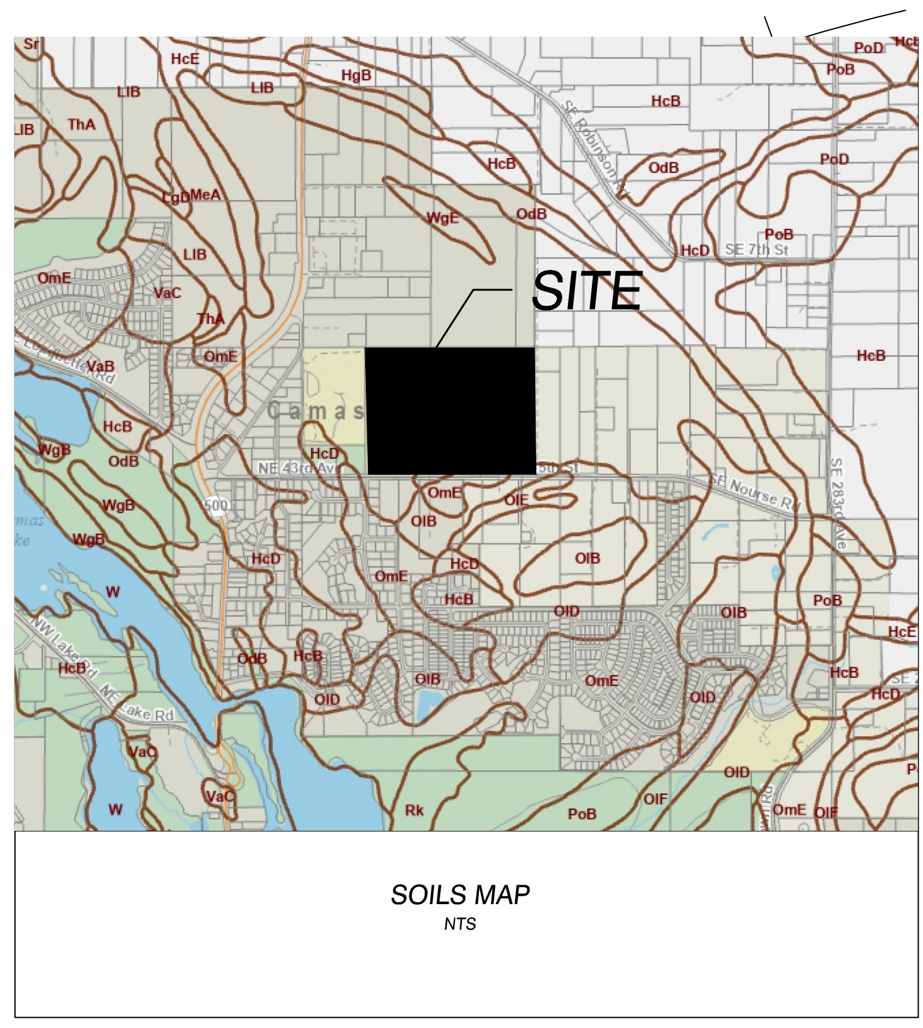
STORMWATER

11. THERE ARE TWO EXISTING INFILTRATION FACILITIES WHICH CURRENTLY ACCEPT ALL THE RUNOFF FROM THE EXISTING SITE.
12. IN THE REDEVELOPMENT OF THE SITE , RUNOFF WILL BE COLLECTED VIA CATCH BASINS AND FRENCH DRAINS.
13. ALL POLLUTION GERERATING SURFACES WILL BE TREATED BY MEANS OF CONTECH STORMFILTERS AND ROUTED TO THE INFILTRATION FACILITIES FOR QUANTITY CONTROL.
14. NON-POLLUTION GENERATING SURFACES SUCH AS ROOF AND LANDSCAPE WILL BYPASS TREATMENT AND BE ROUTED DIRECTLY TO THE INFILTRATION TRENCHES.
15. AN ADDITIONAL INFILTRATION TRENCH IS PROPOSED TO INFILTRATE THE ADDITIONAL RUNOFF CREATED BY THE INCREASE IN IMPERVIOUS AREA CAUSED BY THE PROPOSED ACCESS DRIVE, ROOF AND PARKING.
16. THE STORMWATER DESIGN WILL MEET THE STANDARDS PUT FORTH IN THE STORMWATER MANUAL FOR WESTERN WASHINGTON AND THE CITY OF CAMAS STORMWATER STANDARDS.

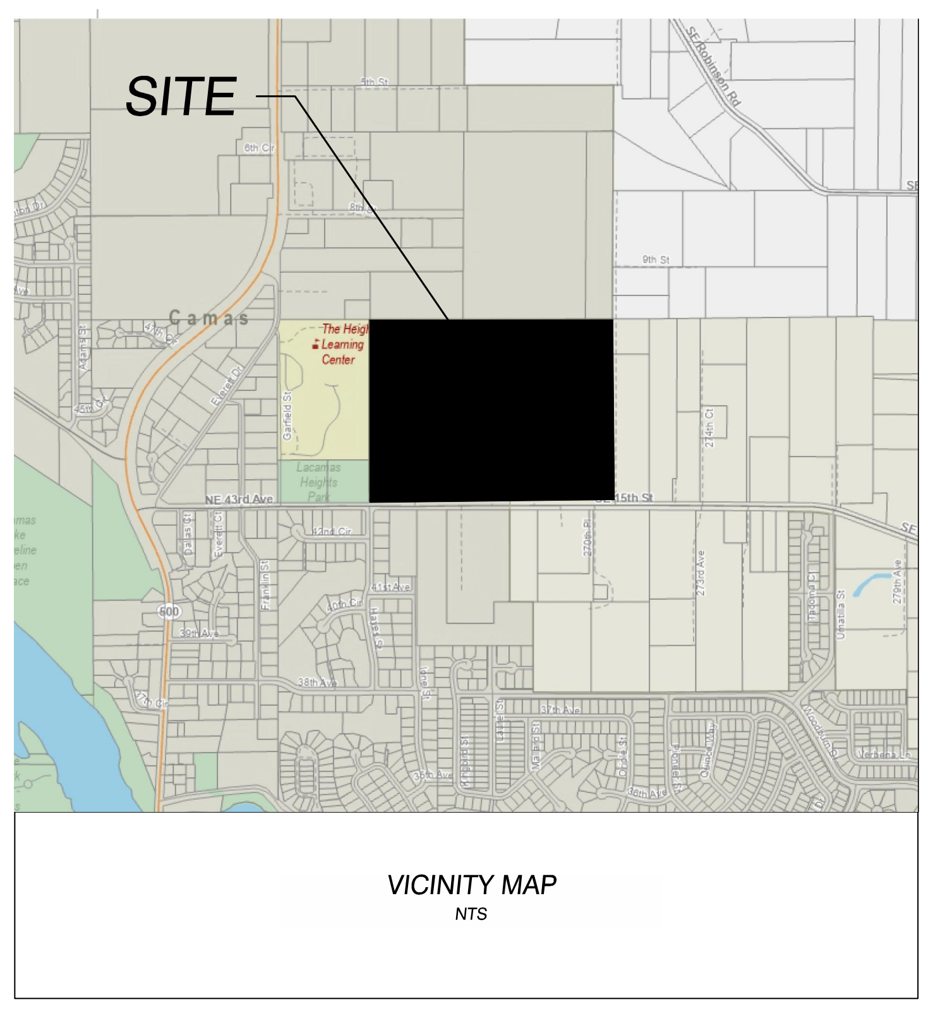
LEGEND

	PERIMETER OF SITE
	RIGHT-OF-WAY LINE
	CENTERLINE OF ROAD
	FACE OF CURB
	LOT LINE
	EASEMENT LINE
STM	STORM SEWER LINE
STM	EXIST STORM SEWER
SAN	SANITARY SEWER LINE
SAN	EXIST SANITARY SEWER
W	WATER SERVICE LINE
W	EXIST WATER LINE
123	GRADED CONTOUR LINE
123	EXIST CONTOUR LINE

○	MANHOLE	W	WATER SERVICE METER
⊗	WATER VALVE AND BOX	T	TELEPHONE RISER
	FIRE HYDRANT ASSEMBLY	G	GAS RISER
○	CLEAN OUT	E	ELECTRIC RISER
▥	CATCH BASIN	☼	UTILITY POLE
△	THRUST BLOCK		UTILITY POLE W/ LIGHT
			SIGN POST



SOILS MAP
NTS



VICINITY MAP
NTS

FILE: W:\18551 USTA Covered Tennis Center\500 Design\502 Drawings\Sheets\18551 - Prelim Utility Plan.GCO.dwg PLOTSTYLE: Utilities.stb

MacKay Sposito
ENERGY PUBLIC WORKS LAND DEVELOPMENT
www.mackaysposito.com

GREGORY C. OEHLER
49506

9/19/2024

USTA COVERED TENNIS CENTER
CAMAS, WASHINGTON

PRELIMINARY UTILITY PLAN

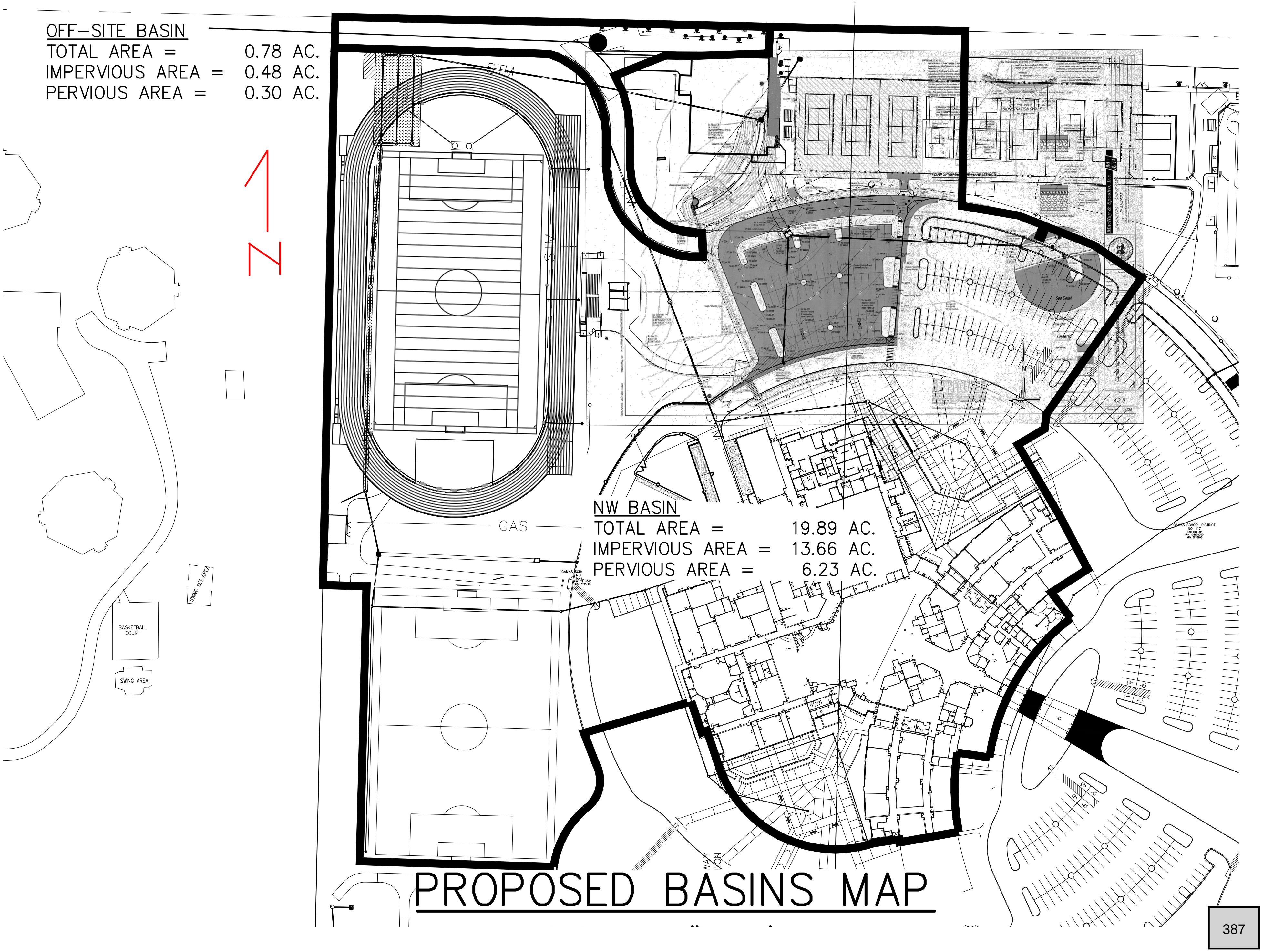
REVISIONS:

JOB NO.:	18551
DATE:	9/16/2024
SCALE: H:1"=40'	V: N/A
DESIGNED BY:	MDR
DRAWN BY:	MDR
CHECKED BY:	GCO

PRELIMINARY

C1.0

Exhibit 13 CUP24-1001

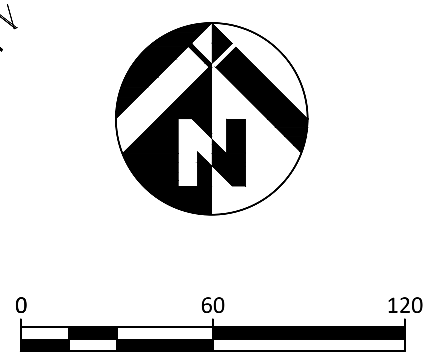


PROPOSED BASINS MAP

Exhibit 13 CUP24-1001

FILE: W:\18551 USTA Covered Tennis Center\500 Design\501 Documents\Technical Files\Stormwater\TIRA - Maps\Working Docs\18551 - Existing Basin Map.dwg PLOTSTYLE: Cover.stb

BASIN	IMPERVIOUS AREA (AC)	PERVIOUS AREA (AC)	TOTAL
H1	0.64	0.63	1.27
H2	0.82	0.68	1.5
TOTAL	1.46	1.31	2.77



SCALE: 1" = 60'

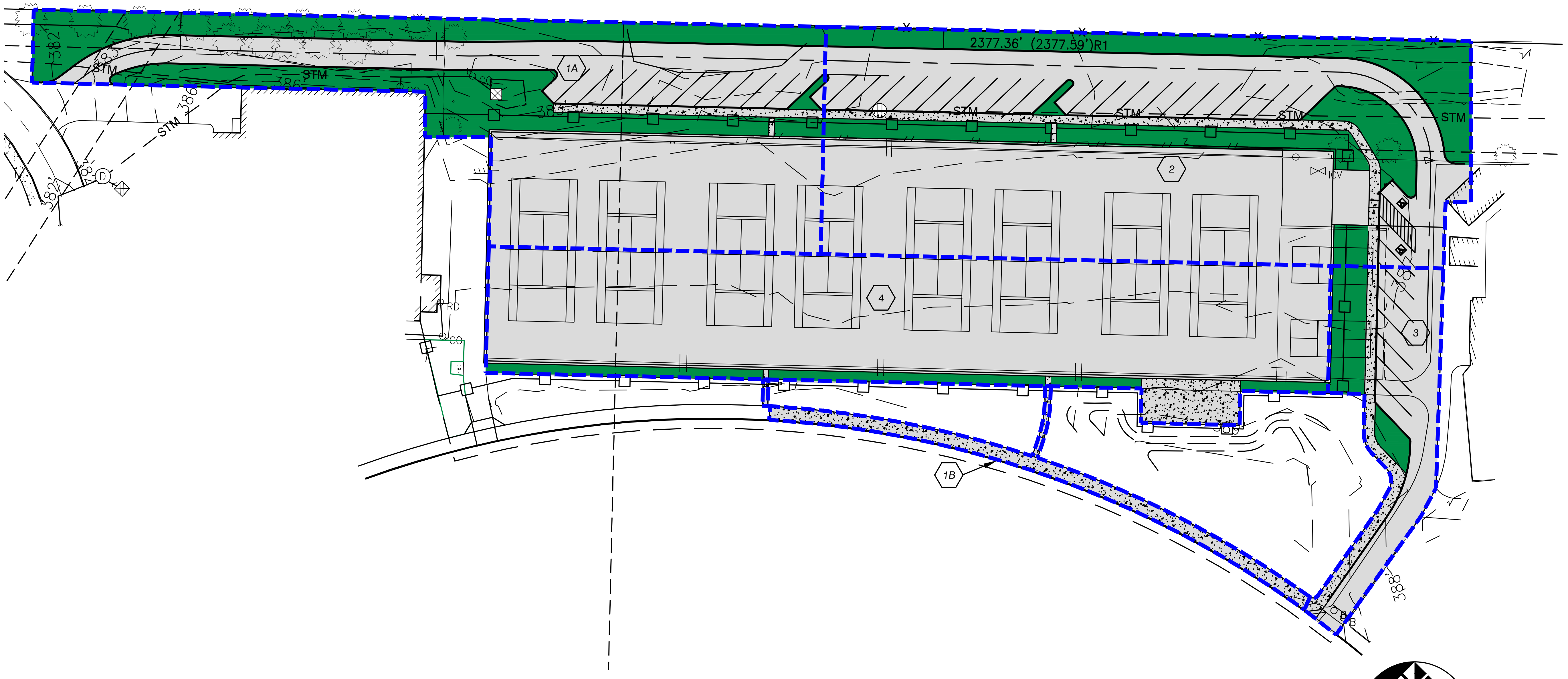
MacKay Sposito
ENERGY PUBLIC WORKS LAND DEVELOPMENT
www.mackaysposito.com

COVERED TENNIS CENTER
EXISTING CATCHMENT PLAN (QUANTITY CONTROL)

PROJECT NO.:	18551
DRAWN BY:	MDR
CHECKED BY:	GCO
DATE:	9/25/2024
SHEET NO.	CP-1

Exhibit 13 CUP24-1001

FILE: W:\18551 USTA Covered Tennis Center\500 Design\501 Documents\Technical Files\Stormwater\TIRA - Maps\Working Docs\18551 - Proposed Basin Map.dwg   PLOTSTYLE: Cover.stb



BASIN	IMPERVIOUS AREA (AC)	PERVIOUS AREA (AC)
1A	0.50	0.27
1B	0.06	0.00
2	0.75	0.24
3	0.15	0.04
4	0.71	0.05
TOTAL	2.17	0.60

0 60 120

SCALE: 1" = 60'

MacKay Sposito

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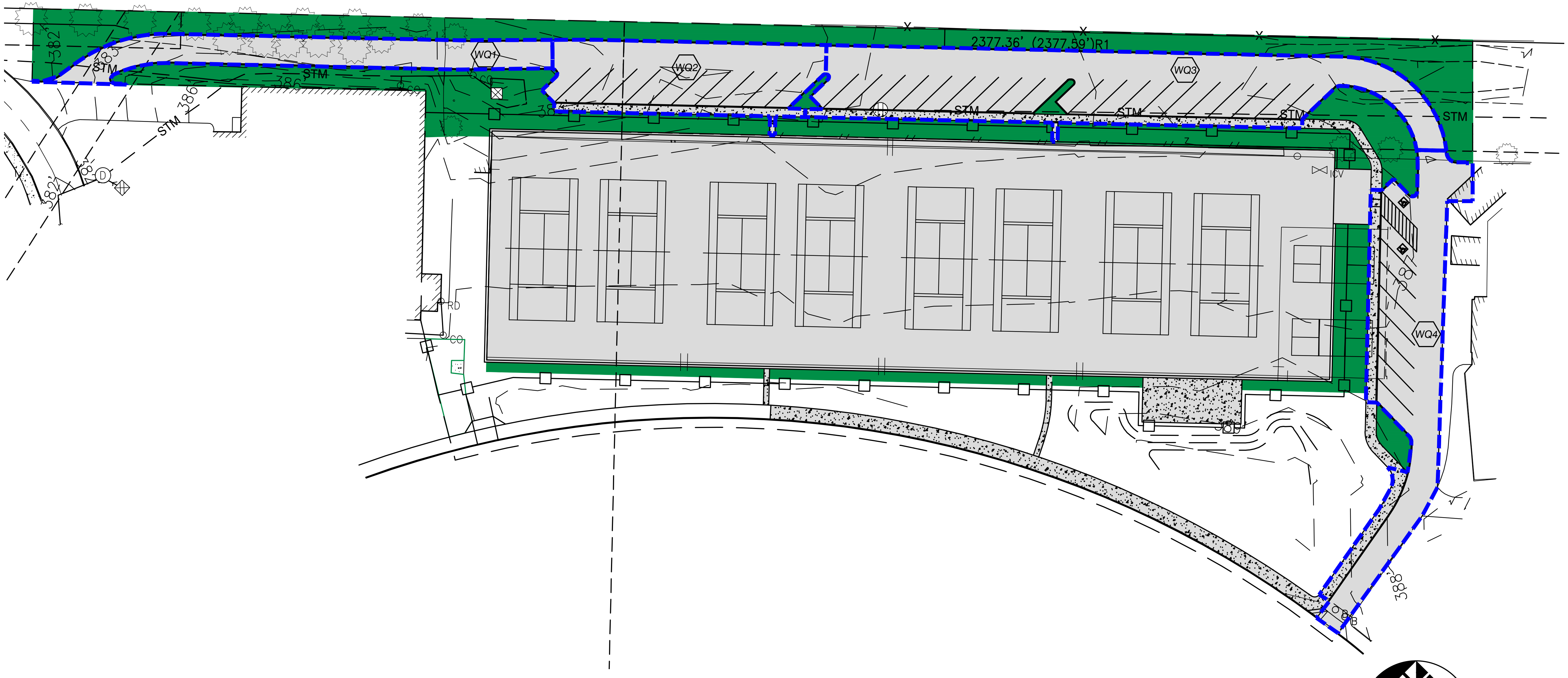
COVERED TENNIS CENTER

DEVELOPED CATCHMENT PLAN (QUANTITY CONTROL)

PROJECT NO.:	18551
DRAWN BY:	MDR
CHECKED BY:	GCO
DATE:	9/25/2024
SHEET NO.	CP-2

Exhibit 13 CUP24-1001

FILE: W:\18551 USTA Covered Tennis Center\500 Design\501 Documents\Technical Files\Stormwater\TIRA - Maps\Working Docs\18551 - Proposed WQ Basin Map.dwg PLOTSTYLE: Cover.stb



BASIN	IMPERVIOUS AREA (AC)	PERVIOUS AREA (AC)
WQ1	0.098	0.00
WQ2	0.131	0.00
WQ3	0.278	0.00
WQ4	0.190	0.00
TOTAL	0.697	0.00

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COVERED TENNIS CENTER
DEVELOPED CATCHMENT PLAN
(QUALITY CONTROL)

PROJECT NO.:	18551
DRAWN BY:	MDR
CHECKED BY:	GCO
DATE:	9/25/2024
SHEET NO.	CP-3

Exhibit 14 CUP24-1001

lancaster mobley

1130 SW Morrison St., Suite 318
Portland, OR 97205
503.248.0313
lancastermobley.com

Memorandum

9/19/2024

DANIEL STUMPF
57946

Daniel W Stumpf

Digitally signed by Daniel W Stumpf
DN: c=US, o=Washington, dnQualifier=A01410C00000182365DC634000047E4, cn=Daniel W Stumpf
Date: 2024.09.19 12:41:34 -07'00'

To: **Jasen McEathron**
Camas School District No. 117

From: **Daniel Stumpf, PE**

Date: **September 19, 2024**

Subject: **USTA Tennis Center**
Trip Generation Study

Introduction

This memorandum details a trip generation study prepared for a proposed United States Tennis Association (USTA) Tennis Center to be located at the existing tennis courts of Camas High School, addressed at 26900 SE 15th Street in Camas, Washington. The proposal will retain the project site's eight existing tennis courts and the USTA will allow the high school preferential use during the Spring and Fall terms; however, the courts will be enclosed and the facility operated by the USTA during non-school hours of use.

Supporting data are included as attachments to this memorandum.

Location Description

Project Site Description

The project site is located within the Camas High School Campus (assessor parcels 178111000 and 178174000), near the north edge of the campus. Located in a predominately residential area, the site is surrounded by The Heights Learning Center preschool to the west, and low-density residential uses/undeveloped land surrounding the campus in all other directions. Access between the high school and the greater transportation system is provided via three driveways along NE 43rd Avenue/SE 15th Street and a single driveway along NE Garfield Street.

Vicinity Roadways

Camas High School takes access to two nearby roadways: NE 43rd Avenue/SE 15th Street and NE Garfield Street. Table 1 provides a description of these vicinity roadways.

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Speed (MPH)	On-Street Parking	Curbs & Sidewalks	Bicycle Lanes
NE 43rd Avenue/ SE 15th Street	Camas/Clark County	Arterial	25/40	Not Permitted	Partial Both Sides	None
NE Garfield Street	Camas	Local Street	10	Not Permitted	Partial East Side	None

Table Notes: Functional Classification based on City of Camas Traffic Impact Fee Update Figure 1.

Figure 1 below presents an aerial image of the nearby vicinity with Camas High School outlined in yellow.

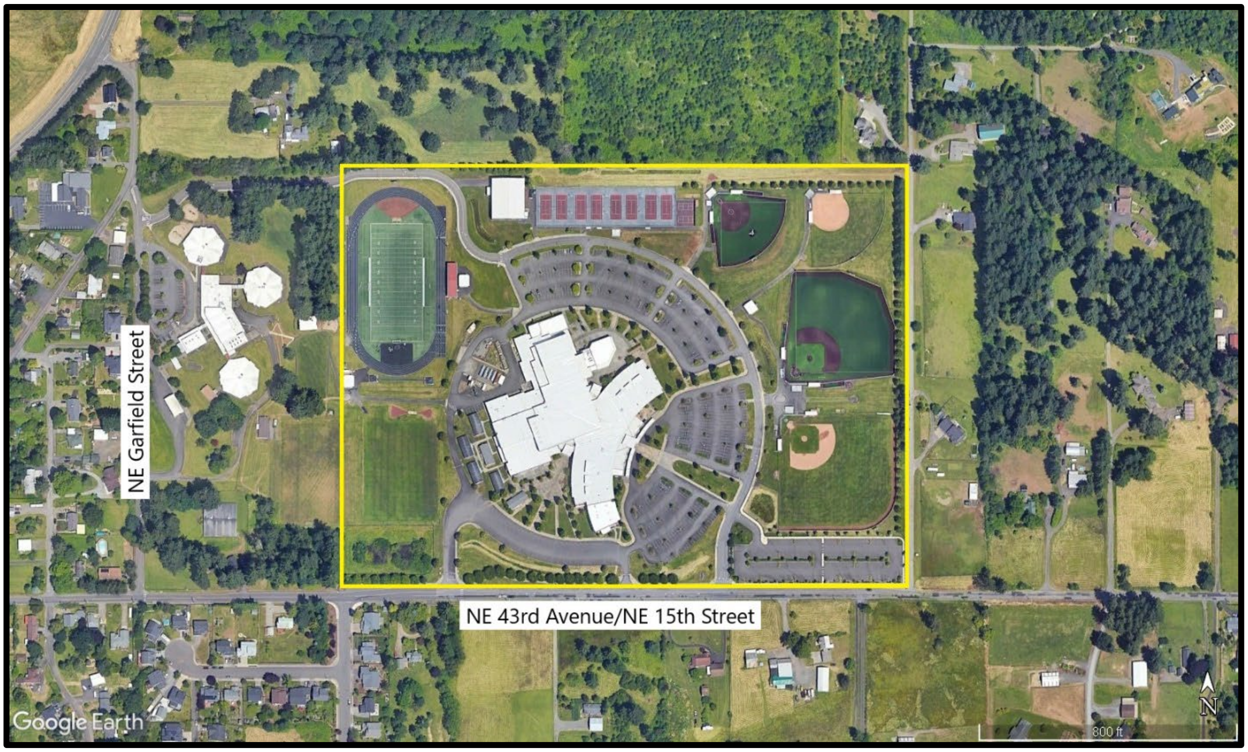

Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth)

Trip Generation Analysis

Existing School and Proposed Facility Operations

As described in the *Introduction*, the proposal will retain and enclose the project site's eight existing tennis courts. The USTA will allow the high school preferential use of the facility during the Spring and Fall terms when the girl's and boy's tennis seasons run; however, the facility will be operated and in use by the USTA during the Summer and Winter during off-school hours.

Under existing conditions when the tennis courts are used by the school's tennis teams during the Spring and Fall terms, practices are typically held between 4:00 PM and 6:00 PM while meets are held between 3:30 PM and 6:00 PM. When not in use by the school, the courts are open to the general public, albeit formal classes and tournaments may not be organized on a regular basis. Low usage of the facilities typically occurs during the Winter term due to weather and lack of daylight.

Since no additional courts will be constructed as part of the proposal, the capacity of patrons the courts could accommodate at any given time will not change, rather the hours of use may be extended during inclement weather and at timeframes outside the AM and PM peak hours during low light conditions. Additionally, the USTA/Camas School District (CSD) facility is not expected to generate significantly more users of the facility during the Winter months relative to the high school during the normal school year. During the Summer school break, the joint facility will be open for use by both the USTA and the school, noting the Summer school break does not necessarily mean a complete break of school activity (i.e., high school athletic practices begin prior to the start of the school year). It is anticipated the Summer window for school inactivity of the courts will be temporary and limited to approximately six weeks.

Trip Generation Methodology & Data Collection

According to the *ITE Trip Generation Manual, 11th Edition*[1], the land use code that best reflects the existing and proposed tennis courts is code 490, *Tennis Courts*. However, code 490 estimates trip generation based on the number of tennis courts, where the proposal will not change the number of courts within the high school campus. Based on correspondence with City of Camas staff, the collection of trip generation data at a comparable indoor facility and the Camas High School was conducted to estimate existing and proposed site trip generation.

To estimate trip generation of Camas High School under existing conditions, traffic counts were collected at each of the four school driveways on Thursday, September 12, 2024, over a 24-hour period. The day of data collection was selected for the following reasons:

- The school's tennis program was in session.
- The school was operating on a regular bell schedule (i.e., no late/early start or dismissal).
- No major holidays were scheduled within a one-week period of the data collection date.

Table 2 presents the existing AM peak hour, PM peak hour, and daily trips recorded at the high school. The traffic count data is included as an attachment to this memorandum.

Table 2: Camas High School Trip Generation Summary

Analysis Period		High School Trips		
		Entering	Exiting	Total
AM Peak Hour	7:45 AM - 8:45 AM	868	394	1,262
PM Peak Hour	5:00 PM - 6:00 PM	238	189	427
Daily Total	12:00 AM - 12:00 AM	2,575	2,573	5,148

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[1] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.

To estimate trip generation of the proposed USTA/CSD facility, which will include covered courts and extended off-school hour usage, traffic count data was collected at a comparable covered tennis court facility. Based on correspondence with City of Camas staff, traffic counts were collected at the Evergreen Tennis Center located at 5225 NW 38th Avenue in Camas, Washington. According to the Evergreen Tennis Center's website, the facility provides four indoor/covered courts with the ability to reserve courts or attend tennis lessons. Data collection at the Evergreen Tennis Center was conducted on Tuesday, August 13, 2024, over a 24-hour period.

Table 3 presents the existing AM peak hour, PM peak hour, and daily trips recorded at the Evergreen Tennis Center. The table also includes a calculation of trip generation during the off-school hours (assumed to be between 6:00 PM to 8:00 AM) and derives trip generation rates based on the number of courts. The traffic count data is included as an attachment to this memorandum.

Table 3: Evergreen Tennis Center Trip Generation Summary

Analysis Period		Evergreen Tennis Center Trips			Number of Courts	Trips Generated per Court		
		Entering	Exiting	Total		% Entering	% Exiting	Rate [Trips/Court]
AM Peak Hour	7:15/7:30/ 7:45 AM - 8:15/8:30/ 8:45 AM	8	0	8	4	100%	0%	2.00
PM Peak Hour	5:00 PM - 6:00 PM	14	13	27	4	52%	48%	6.75
Daily Total	12:00 AM - 12:00 AM	108	110	218	4	50%	50%	54.50
Off-School Hours*	6:00 PM - 8:00 AM	12	16	28	4	43%	57%	7.00

** Camas High School's regular bell schedule occurs between 8:45 AM - 3:15 PM, noting the school's tennis program may continue through 6:00 PM. It is assumed any early morning user's of the facility will not utilize the USTA/CSD facilities after 8:00 AM to avoid school traffic .*

Analysis Findings

As described in the *Existing School and Proposed Facility Operations* section, the proposed USTA/CSD facility will operate as follows:

- The facility will be closed to the general public during school hours. The regular school bell time is scheduled between 8:45 AM – 3:15 PM, noting the school's tennis programs may continue using the facilities through 6:00 PM. It is further assumed the facility will be closed starting at approximately 8:00 AM in order to avoid impacting school traffic circulation during the student arrival period.

- No AM or PM peak hour trips to/from the USTA/CSD facility are assumed be generated during the regular school tennis season. Although a portion of the AM peak hour trips generated by the Evergreen Tennis Center occur prior to 8:00 AM, the facility opens at 8:00 AM on weekdays whereby these trips (both staff and player entering trips) would not occur at the proposed USTA/CSD facility.
- During the off-school tennis season, the proposed USTA/CSD facility will not generate more trips than what the school's tennis programs will generate. This is because the number of courts available for use by USTA and the CSD does not change (i.e., the capacity, or number of tennis players, using the facility will be limited by the fixed number of available/open courts).

Based on the existing Camas High School trip generation, the Evergreen Tennis Center trip generation, and the aforementioned assumptions, the proposed USTA/CSD facility is projected to generate 0 additional AM and PM peak hour trips and an additional 56 average weekday trips. The trip generation analysis as summarized in Table 4.

Table 4: Trip Generation Analysis Summary

Analysis Period	Number of Courts	High School Trips		
		Entering	Exiting	Total
Existing Conditions (Camas High School)				
AM Peak Hour	8 courts	868	394	1,262
PM Peak Hour	8 courts	238	189	427
Daily Total	8 courts	2,575	2,573	5,148
Proposed USTA/CSD Facility				
AM Peak Hour	8 courts	0	0	0
PM Peak Hour	8 courts	0	0	0
Daily Total	8 courts	24	32	56
Total Trips Generated				
AM Peak Hour	8 courts	868	394	1,262
PM Peak Hour	8 courts	238	189	427
Daily Total	8 courts	2,599	2,605	5,204
Percent Increase in Site Trip Generation				
AM Peak Hour	-	0.00%	0.00%	0.00%
PM Peak Hour	-	0.00%	0.00%	0.00%
Daily Total	-	0.93%	1.24%	1.09%

According to the City of Camas Transportation Impact Study (TIS) Guidelines, the preparation of a TIS is required if a proposed development is expected to generate 200 or more daily vehicle trips. If fewer than 200 daily trips are generated, the preparation of a TIS may be necessary at the discretion of the City Engineer.

Based on correspondence with City staff, the preparation of this trip generation analysis is sufficient to report the transportation impacts of the USTA/CSD facility given the low number of additional daily trips that are expected to be generated.

Conclusions

Based on data collected at Camas High School and a comparable indoor/covered tennis facility, the proposed USTA/CSD is projected to generate 0 AM and PM peak hour trips and an additional 56 average weekday trips. Accordingly, all nearby transportation facilities are not expected to experience significant site trip impacts from this proposal.

If you have any questions regarding the preparation of this scoping memorandum, please don't hesitate to contact us.

Exhibit 14 CUP24-1001

USTA/CSD Covered Tennis Center Proposed Conceptual Layout

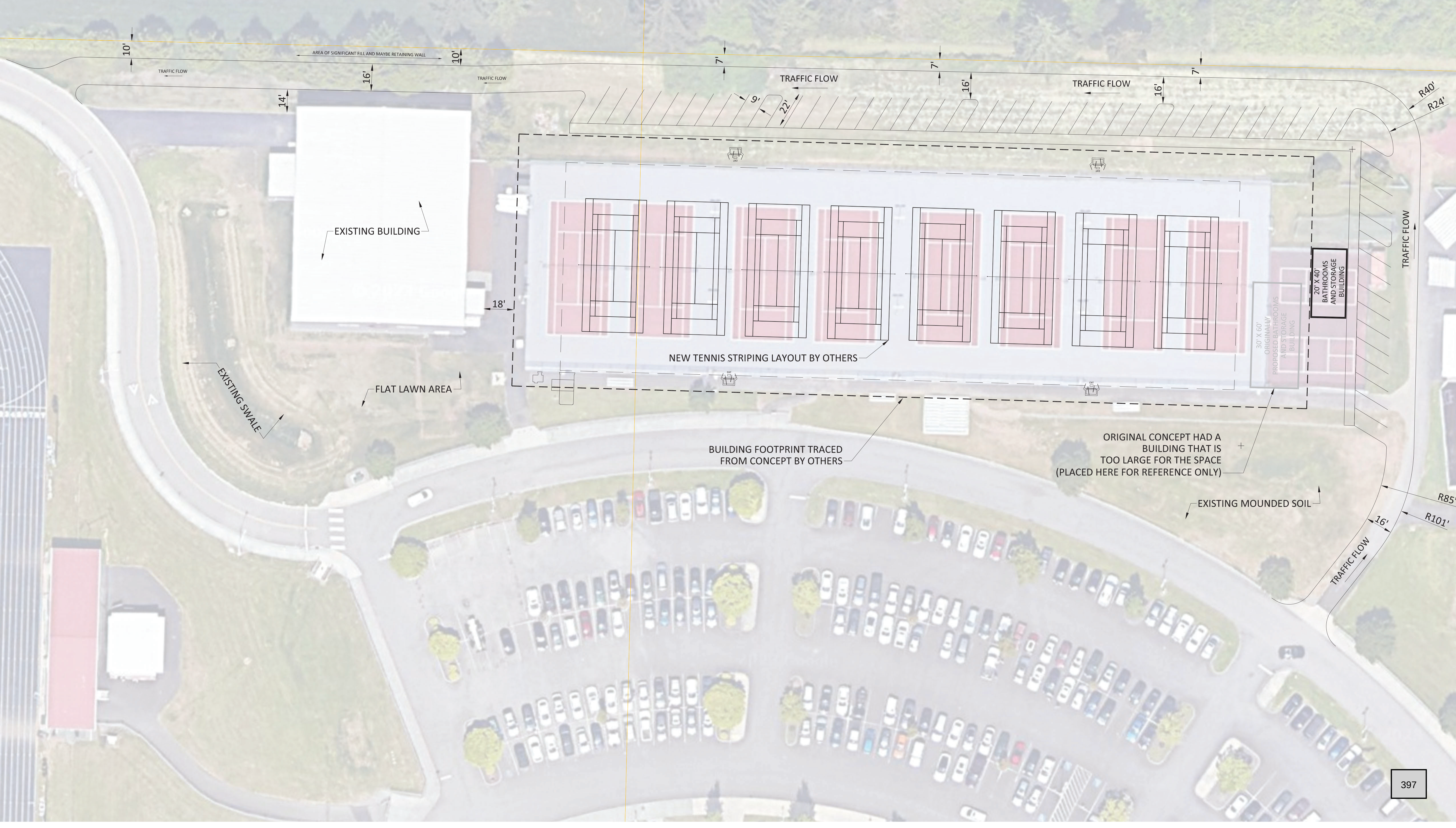

Exhibit 14 CUP24-1001

All Traffic Data Servcies, LLC
alltrafficdata.net
303-216-2439

Site Code: 1
North DWY E.O NE Garfield St

Start Time	12-Sep-24 Thu	IN	OUT							Total
12:00 AM		0	0							0
01:00		0	0							0
02:00		0	0							0
03:00		0	0							0
04:00		0	0							0
05:00		0	0							0
06:00		7	0							7
07:00		102	23							125
08:00		**309**	**80**							**389**
09:00		0	0							0
10:00		0	0							0
11:00		0	0							0
12:00 PM		0	0							0
01:00		0	0							0
02:00		54	11							65
03:00		**70**	**200**							**270**
04:00		49	49							98
05:00		50	27							77
06:00		25	57							82
07:00		11	28							39
08:00		4	47							51
09:00		2	7							9
10:00		2	1							3
11:00		0	2							2
Total		685	532							1217
Percent		56.3%	43.7%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	309	80	-	-	-	-	-	-	389
PM Peak	-	15:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	70	200	-	-	-	-	-	-	270
Grand Total		685	532							1217
Percent		56.3%	43.7%							
ADT		ADT 1,217		AADT 1,217						

Exhibit 14 CUP24-1001

All Traffic Data Servcies, LLC
alltrafficdata.net
303-216-2439

Site Code: 2
W DWY N.O NE 43rd Ave

Start Time	12-Sep-24 Thu	IN	OUT							Total
12:00 AM		0	0							0
01:00		0	0							0
02:00		0	0							0
03:00		0	0							0
04:00		0	0							0
05:00		0	0							0
06:00		2	8							10
07:00		**16**	19							35
08:00		4	**42**							**46**
09:00		1	4							5
10:00		0	5							5
11:00		2	1							3
12:00 PM		0	1							1
01:00		2	7							9
02:00		2	3							5
03:00		2	**62**							**64**
04:00		9	6							15
05:00		13	11							24
06:00		**19**	22							41
07:00		11	17							28
08:00		3	9							12
09:00		0	0							0
10:00		1	0							1
11:00		0	0							0
Total		87	217							304
Percent		28.6%	71.4%							
AM Peak	-	07:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	16	42	-	-	-	-	-	-	46
PM Peak	-	18:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	19	62	-	-	-	-	-	-	64
Grand Total		87	217							304
Percent		28.6%	71.4%							
ADT		ADT 304		AADT 304						

Exhibit 14 CUP24-1001

All Traffic Data Servcies, LLC
alltrafficdata.net
303-216-2439

Site Code: 3
Middle DWY N.O SE 15th St

Start Time	12-Sep-24 Thu	IN	OUT							Total
12:00 AM		0	0							0
01:00		0	0							0
02:00		0	0							0
03:00		0	0							0
04:00		0	0							0
05:00		1	0							1
06:00		12	1							13
07:00		69	0							69
08:00		**80**	**2**							**82**
09:00		4	1							5
10:00		4	1							5
11:00		2	0							2
12:00 PM		1	1							2
01:00		4	1							5
02:00		9	3							12
03:00		**38**	**11**							**49**
04:00		4	5							9
05:00		7	6							13
06:00		12	8							20
07:00		7	9							16
08:00		1	2							3
09:00		0	0							0
10:00		0	1							1
11:00		0	0							0
Total		255	52							307
Percent		83.1%	16.9%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	80	2	-	-	-	-	-	-	82
PM Peak	-	15:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	38	11	-	-	-	-	-	-	49
Grand Total		255	52							307
Percent		83.1%	16.9%							
ADT		ADT 307		AADT 307						

Exhibit 14 CUP24-1001

All Traffic Data Servcies, LLC
alltrafficdata.net
303-216-2439

Site Code: 4
E DWY N.O SE 15th St

Start Time	12-Sep-24 Thu	IN	OUT							Total
12:00 AM		1	1							2
01:00		0	0							0
02:00		0	0							0
03:00		0	0							0
04:00		0	0							0
05:00		1	0							1
06:00		23	1							24
07:00		138	61							199
08:00		**393**	**278**							**671**
09:00		52	53							105
10:00		71	53							124
11:00		44	51							95
12:00 PM		50	46							96
01:00		44	56							100
02:00		141	86							227
03:00		146	**457**							**603**
04:00		94	115							209
05:00		**168**	145							313
06:00		84	125							209
07:00		49	99							148
08:00		25	101							126
09:00		5	19							24
10:00		19	23							42
11:00		0	2							2
Total		1548	1772							3320
Percent		46.6%	53.4%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	393	278	-	-	-	-	-	-	671
PM Peak	-	17:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	168	457	-	-	-	-	-	-	603
Grand Total		1548	1772							3320
Percent		46.6%	53.4%							
ADT		ADT 3,320		AADT 3,320						

Exhibit 14 CUP24-1001

Camas High School Trip Generation Calculations

Start Date: 9/12/2024
Start Time: 12:00:00 AM

	Site Code: 1 Location 1: North DWY E.O Garfield St Garfield St			Site Code: 2 Location 1: W DWY N.O NE 43rd Ave Garfield St			Site Code: 3 Location 1: Middle DWY N.O SE 15th StGarfield St			Site Code: 4 Location 1: E DWY N.O SE 15th St Garfield St			CHS Total			
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	PEAK HOUR
9/12/2024 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 12:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	
9/12/2024 12:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	
9/12/2024 01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 05:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	
9/12/2024 05:45 AM	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	
9/12/2024 06:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	
9/12/2024 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9/12/2024 06:30 AM	1	0	1	0	0	0	2	0	2	7	1	8	10	1	11	
9/12/2024 06:45 AM	5	0	5	2	8	10	10	1	11	16	0	16	33	9	42	
9/12/2024 07:00 AM	4	1	5	2	7	9	10	0	10	23	7	30	39	15	54	
9/12/2024 07:15 AM	56	10	66	5	4	9	8	0	8	66	30	96	135	44	179	
9/12/2024 07:30 AM	12	12	24	5	6	11	16	0	16	17	10	27	50	28	78	
9/12/2024 07:45 AM	30	0	30	4	2	6	35	0	35	32	14	46	101	16	117	428
9/12/2024 08:00 AM	85	2	87	4	0	4	31	0	31	100	48	148	220	50	270	644
9/12/2024 08:15 AM	129	24	153	0	24	24	38	1	39	175	103	278	342	152	494	959
9/12/2024 08:30 AM	92	47	139	0	15	15	9	1	10	104	113	217	205	176	381	1262
9/12/2024 08:45 AM	3	7	10	0	3	3	2	0	2	14	14	28	19	24	43	1188
9/12/2024 09:00 AM	0	0	0	0	1	1	2	0	2	10	13	23	12	14	26	
9/12/2024 09:15 AM	0	0	0	1	0	1	0	1	1	12	6	18	13	7	20	
9/12/2024 09:30 AM	0	0	0	0	2	2	1	0	1	22	9	31	23	11	34	
9/12/2024 09:45 AM	0	0	0	0	1	1	1	0	1	8	25	33	9	26	35	
9/12/2024 10:00 AM	0	0	0	0	0	0	0	0	0	7	8	15	7	8	15	
9/12/2024 10:15 AM	0	0	0	0	1	1	2	0	2	11	4	15	13	5	18	
9/12/2024 10:30 AM	0	0	0	0	2	2	1	0	1	30	21	51	31	23	54	
9/12/2024 10:45 AM	0	0	0	0	2	2	1	1	2	23	20	43	24	23	47	
9/12/2024 11:00 AM	0	0	0	0	1	1	1	0	1	5	17	22	6	18	24	
9/12/2024 11:15 AM	0	0	0	1	0	1	0	0	0	12	5	17	13	5	18	
9/12/2024 11:30 AM	0	0	0	0	0	0	1	0	1	13	24	37	14	24	38	
9/12/2024 11:45 AM	0	0	0	1	0	1	0	0	0	14	5	19	15	5	20	

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9/12/2024	12:00 PM	0	0	0	0	0	0	0	0	0	10	10	20	10	10	20	
9/12/2024	12:15 PM	0	0	0	0	0	0	1	1	2	17	15	32	18	16	34	
9/12/2024	12:30 PM	0	0	0	0	1	1	0	0	0	9	15	24	9	16	25	
9/12/2024	12:45 PM	0	0	0	0	0	0	0	0	0	14	6	20	14	6	20	
9/12/2024	01:00 PM	0	0	0	0	0	0	0	0	0	14	22	36	14	22	36	
9/12/2024	01:15 PM	0	0	0	1	0	1	1	1	2	8	14	22	10	15	25	
9/12/2024	01:30 PM	0	0	0	1	2	3	1	0	1	8	15	23	10	17	27	
9/12/2024	01:45 PM	0	0	0	0	5	5	2	0	2	14	5	19	16	10	26	
9/12/2024	02:00 PM	1	7	8	1	1	2	1	1	2	15	44	59	18	53	71	
9/12/2024	02:15 PM	2	0	2	1	0	1	0	1	1	21	8	29	24	9	33	
9/12/2024	02:30 PM	13	0	13	0	2	2	5	1	6	50	18	68	68	21	89	
9/12/2024	02:45 PM	38	4	42	0	0	0	3	0	3	55	16	71	96	20	116	
9/12/2024	03:00 PM	35	113	148	1	9	10	31	0	31	47	167	214	114	289	403	
9/12/2024	03:15 PM	20	69	89	0	39	39	4	4	8	39	170	209	63	282	345	
9/12/2024	03:30 PM	9	13	22	1	8	9	2	6	8	38	94	132	50	121	171	
9/12/2024	03:45 PM	6	5	11	0	6	6	1	1	2	22	26	48	29	38	67	
9/12/2024	04:00 PM	10	11	21	0	2	2	1	3	4	22	24	46	33	40	73	
9/12/2024	04:15 PM	6	4	10	2	2	4	1	0	1	22	20	42	31	26	57	
9/12/2024	04:30 PM	16	19	35	1	1	2	0	2	2	29	35	64	46	57	103	
9/12/2024	04:45 PM	17	15	32	6	1	7	2	0	2	21	36	57	46	52	98	331
9/12/2024	05:00 PM	4	5	9	3	7	10	2	0	2	19	36	55	28	48	76	334
9/12/2024	05:15 PM	8	7	15	3	0	3	0	0	0	46	24	70	57	31	88	365
9/12/2024	05:30 PM	4	5	9	2	2	4	4	3	7	55	49	104	65	59	124	386
9/12/2024	05:45 PM	34	10	44	5	2	7	1	3	4	48	36	84	88	51	139	427
9/12/2024	06:00 PM	9	19	28	5	3	8	4	2	6	41	64	105	59	88	147	
9/12/2024	06:15 PM	4	15	19	4	4	8	3	3	6	11	26	37	22	48	70	
9/12/2024	06:30 PM	4	6	10	8	14	22	3	2	5	14	11	25	29	33	62	
9/12/2024	06:45 PM	8	17	25	2	1	3	2	1	3	18	24	42	30	43	73	
9/12/2024	07:00 PM	5	6	11	4	6	10	3	4	7	14	18	32	26	34	60	
9/12/2024	07:15 PM	4	5	9	6	3	9	2	3	5	17	16	33	29	27	56	
9/12/2024	07:30 PM	0	6	6	1	5	6	2	2	4	13	30	43	16	43	59	
9/12/2024	07:45 PM	2	11	13	0	3	3	0	0	0	5	35	40	7	49	56	
9/12/2024	08:00 PM	1	44	45	2	9	11	1	1	2	7	72	79	11	126	137	
9/12/2024	08:15 PM	2	2	4	0	0	0	0	0	0	7	20	27	9	22	31	
9/12/2024	08:30 PM	1	0	1	1	0	1	0	1	1	4	5	9	6	6	12	
9/12/2024	08:45 PM	0	1	1	0	0	0	0	0	0	7	4	11	7	5	12	
9/12/2024	09:00 PM	2	3	5	0	0	0	0	0	0	3	7	10	5	10	15	
9/12/2024	09:15 PM	0	3	3	0	0	0	0	0	0	1	8	9	1	11	12	
9/12/2024	09:30 PM	0	1	1	0	0	0	0	0	0	0	4	4	0	5	5	
9/12/2024	09:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	
9/12/2024	10:00 PM	0	1	1	0	0	0	0	0	0	1	0	1	1	1	2	
9/12/2024	10:15 PM	0	0	0	1	0	1	0	1	1	3	0	3	4	1	5	
9/12/2024	10:30 PM	0	0	0	0	0	0	0	0	0	10	2	12	10	2	12	
9/12/2024	10:45 PM	2	0	2	0	0	0	0	0	0	5	21	26	7	21	28	
9/12/2024	11:00 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	
9/12/2024	11:15 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	2	2	
9/12/2024	11:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	
9/12/2024	11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
												Total	2575	2573	5148		

Exhibit 14 CUP24-1001

All Traffic Data Services, LLC
12200 W 52nd Ave
Wheat Ridge, CO 80033
www.alltrafficdata.net

Site Code: 1
Station ID: 1
Evergreen Tennis Facility Driveway

Start Time	13-Aug-24 Tue	In	Out							Total
12:00 AM		0	0							0
01:00		0	0							0
02:00		0	0							0
03:00		0	0							0
04:00		0	0							0
05:00		0	0							0
06:00		0	0							0
07:00		6	0							6
08:00		3	0							3
09:00		9	7							16
10:00		**15**	2							**17**
11:00		2	**14**							16
12:00 PM		**25**	19							**44**
01:00		3	8							11
02:00		15	**20**							35
03:00		7	6							13
04:00		12	12							24
05:00		5	6							11
06:00		5	6							11
07:00		0	5							5
08:00		1	0							1
09:00		0	5							5
10:00		0	0							0
11:00		0	0							0
Total		108	110							218
Percent		49.5%	50.5%							
AM Peak	-	10:00	11:00	-	-	-	-	-	-	10:00
Vol.	-	15	14	-	-	-	-	-	-	17
PM Peak	-	12:00	14:00	-	-	-	-	-	-	12:00
Vol.	-	25	20	-	-	-	-	-	-	44
Grand Total		108	110							218
Percent		49.5%	50.5%							
ADT		ADT 218		AADT 218						

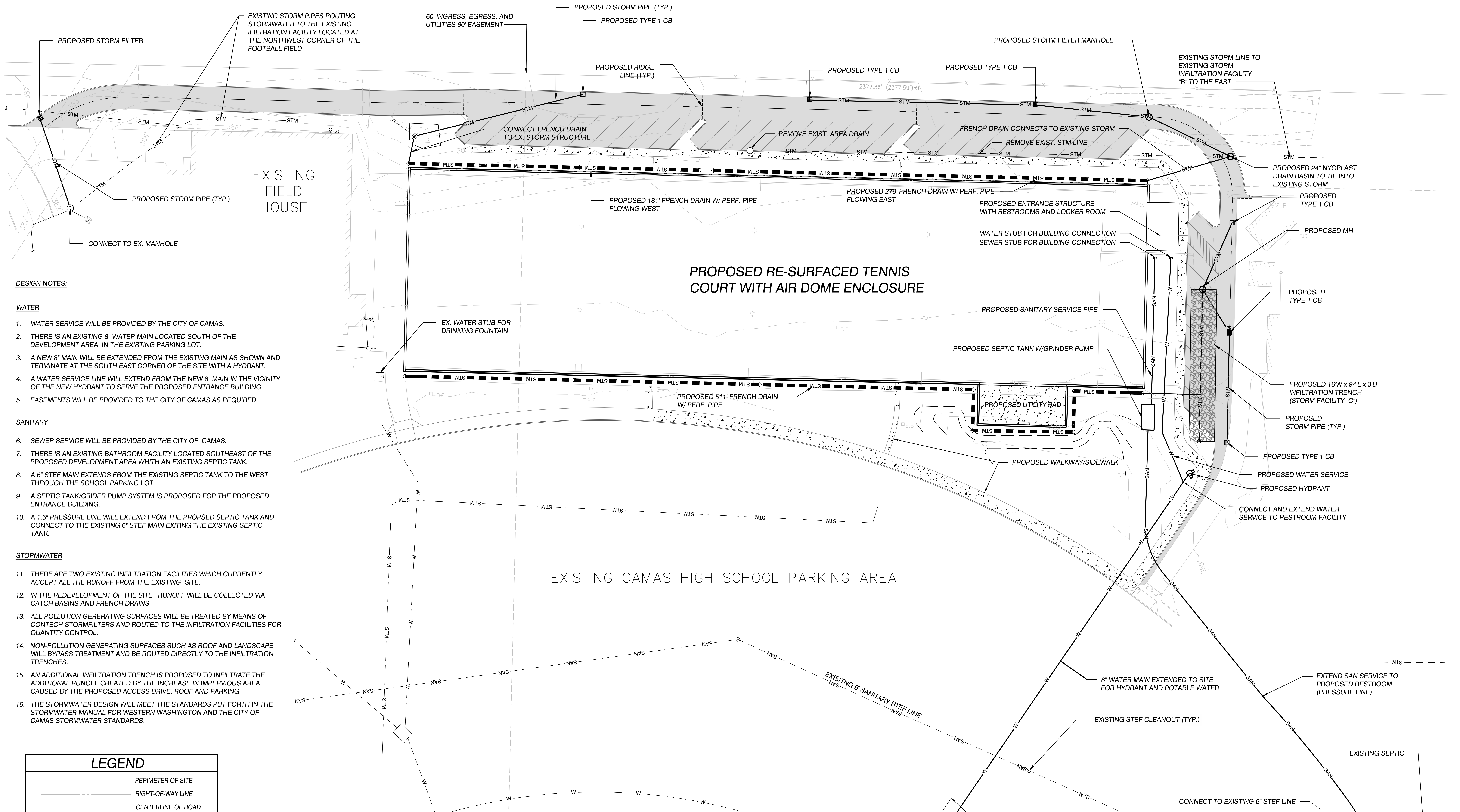
Exhibit 14 CUP24-1001

Start Date: 8/13/2024
Start Time: 12:00:00 AM
Site Code: 1
Station ID: 1
Location 1: Evergreen Tennis Facility Driveway

Date	Time	In	Out	Total	Peak Hr
8/13/2024	12:00 AM	0	0	0	
8/13/2024	12:15 AM	0	0	0	
8/13/2024	12:30 AM	0	0	0	
8/13/2024	12:45 AM	0	0	0	
8/13/2024	01:00 AM	0	0	0	
8/13/2024	01:15 AM	0	0	0	
8/13/2024	01:30 AM	0	0	0	
8/13/2024	01:45 AM	0	0	0	
8/13/2024	02:00 AM	0	0	0	
8/13/2024	02:15 AM	0	0	0	
8/13/2024	02:30 AM	0	0	0	
8/13/2024	02:45 AM	0	0	0	
8/13/2024	03:00 AM	0	0	0	
8/13/2024	03:15 AM	0	0	0	
8/13/2024	03:30 AM	0	0	0	
8/13/2024	03:45 AM	0	0	0	
8/13/2024	04:00 AM	0	0	0	
8/13/2024	04:15 AM	0	0	0	
8/13/2024	04:30 AM	0	0	0	
8/13/2024	04:45 AM	0	0	0	
8/13/2024	05:00 AM	0	0	0	
8/13/2024	05:15 AM	0	0	0	
8/13/2024	05:30 AM	0	0	0	
8/13/2024	05:45 AM	0	0	0	
8/13/2024	06:00 AM	0	0	0	
8/13/2024	06:15 AM	0	0	0	
8/13/2024	06:30 AM	0	0	0	
8/13/2024	06:45 AM	0	0	0	
8/13/2024	07:00 AM	0	0	0	
8/13/2024	07:15 AM	0	0	0	
8/13/2024	07:30 AM	0	0	0	
8/13/2024	07:45 AM	6	0	6	6
8/13/2024	08:00 AM	2	0	2	8
8/13/2024	08:15 AM	0	0	0	8
8/13/2024	08:30 AM	0	0	0	8
8/13/2024	08:45 AM	1	0	1	3
8/13/2024	09:00 AM	0	2	2	
8/13/2024	09:15 AM	6	0	6	
8/13/2024	09:30 AM	3	5	8	
8/13/2024	09:45 AM	0	0	0	
8/13/2024	10:00 AM	1	0	1	
8/13/2024	10:15 AM	2	1	3	
8/13/2024	10:30 AM	2	1	3	
8/13/2024	10:45 AM	10	0	10	
8/13/2024	11:00 AM	2	12	14	
8/13/2024	11:15 AM	0	1	1	
8/13/2024	11:30 AM	0	1	1	
8/13/2024	11:45 AM	0	0	0	
8/13/2024	12:00 PM	4	1	5	
8/13/2024	12:15 PM	13	3	16	
8/13/2024	12:30 PM	5	14	19	
8/13/2024	12:45 PM	3	1	4	
8/13/2024	01:00 PM	2	3	5	
8/13/2024	01:15 PM	0	1	1	
8/13/2024	01:30 PM	1	3	4	
8/13/2024	01:45 PM	0	1	1	
8/13/2024	02:00 PM	3	1	4	
8/13/2024	02:15 PM	8	1	9	
8/13/2024	02:30 PM	2	18	20	
8/13/2024	02:45 PM	2	0	2	
8/13/2024	03:00 PM	2	0	2	
8/13/2024	03:15 PM	0	1	1	
8/13/2024	03:30 PM	1	1	2	
8/13/2024	03:45 PM	4	4	8	
8/13/2024	04:00 PM	0	1	1	
8/13/2024	04:15 PM	6	1	7	
8/13/2024	04:30 PM	2	5	7	
8/13/2024	04:45 PM	4	5	9	24
8/13/2024	05:00 PM	2	2	4	27

Exhibit 14 CUP24-1001

8/13/2024	05:15 PM	1	0	1	21
8/13/2024	05:30 PM	1	4	5	19
8/13/2024	05:45 PM	1	0	1	11
8/13/2024	06:00 PM	0	1	1	
8/13/2024	06:15 PM	4	1	5	
8/13/2024	06:30 PM	1	3	4	
8/13/2024	06:45 PM	0	1	1	
8/13/2024	07:00 PM	0	1	1	
8/13/2024	07:15 PM	0	1	1	
8/13/2024	07:30 PM	0	0	0	
8/13/2024	07:45 PM	0	3	3	
8/13/2024	08:00 PM	1	0	1	
8/13/2024	08:15 PM	0	0	0	
8/13/2024	08:30 PM	0	0	0	
8/13/2024	08:45 PM	0	0	0	
8/13/2024	09:00 PM	0	0	0	
8/13/2024	09:15 PM	0	0	0	
8/13/2024	09:30 PM	0	5	5	
8/13/2024	09:45 PM	0	0	0	
8/13/2024	10:00 PM	0	0	0	
8/13/2024	10:15 PM	0	0	0	
8/13/2024	10:30 PM	0	0	0	
8/13/2024	10:45 PM	0	0	0	
8/13/2024	11:00 PM	0	0	0	
8/13/2024	11:15 PM	0	0	0	
8/13/2024	11:30 PM	0	0	0	
8/13/2024	11:45 PM	0	0	0	
	Total	108	110	218	
6:00 PM - 8:00AM		12	16	28	



DESIGN NOTES:

WATER

1. WATER SERVICE WILL BE PROVIDED BY THE CITY OF CAMAS.
2. THERE IS AN EXISTING 8" WATER MAIN LOCATED SOUTH OF THE DEVELOPMENT AREA IN THE EXISTING PARKING LOT.
3. A NEW 8" MAIN WILL BE EXTENDED FROM THE EXISTING MAIN AS SHOWN AND TERMINATE AT THE SOUTH EAST CORNER OF THE SITE WITH A HYDRANT.
4. A WATER SERVICE LINE WILL EXTEND FROM THE NEW 8" MAIN IN THE VICINITY OF THE NEW HYDRANT TO SERVE THE PROPOSED ENTRANCE BUILDING.
5. EASEMENTS WILL BE PROVIDED TO THE CITY OF CAMAS AS REQUIRED.

SANITARY

6. SEWER SERVICE WILL BE PROVIDED BY THE CITY OF CAMAS.
7. THERE IS AN EXISTING BATHROOM FACILITY LOCATED SOUTHEAST OF THE PROPOSED DEVELOPMENT AREA WHITH AN EXISTING SEPTIC TANK.
8. A 6" STEF MAIN EXTENDS FROM THE EXISTING SEPTIC TANK TO THE WEST THROUGH THE SCHOOL PARKING LOT.
9. A SEPTIC TANK/GRIDER PUMP SYSTEM IS PROPOSED FOR THE PROPOSED ENTRANCE BUILDING.
10. A 1.5" PRESSURE LINE WILL EXTEND FROM THE PROPSED SEPTIC TANK AND CONNECT TO THE EXISTING 6" STEF MAIN EXITING THE EXISTING SEPTIC TANK.

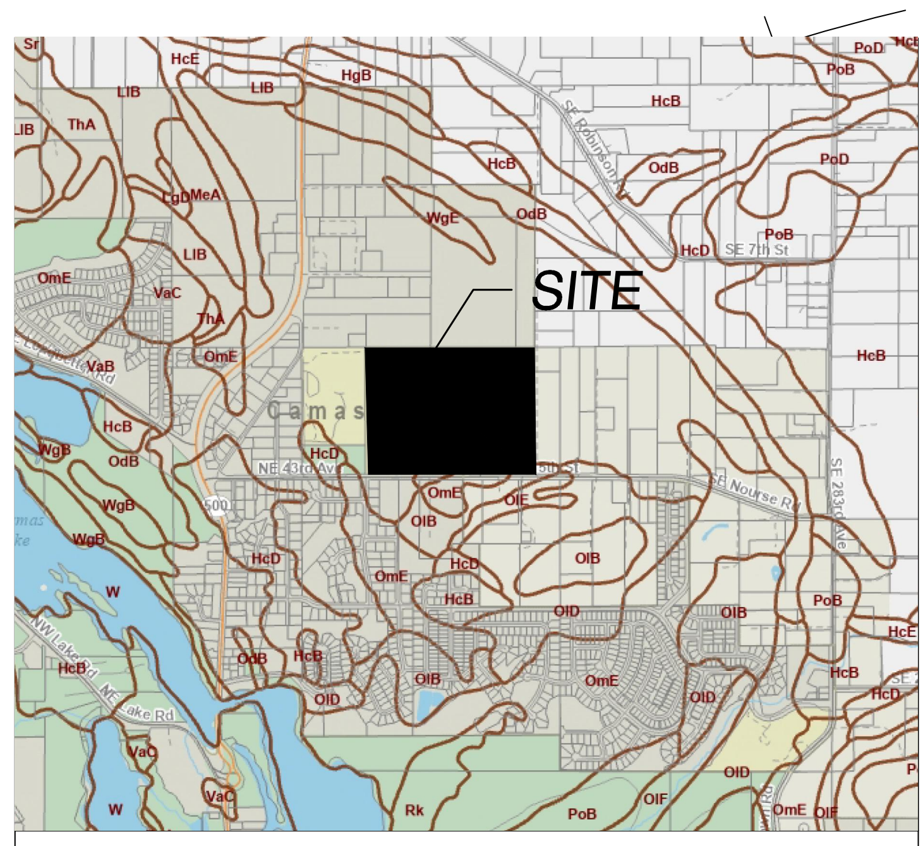
STORMWATER

11. THERE ARE TWO EXISTING INFILTRATION FACILITIES WHICH CURRENTLY ACCEPT ALL THE RUNOFF FROM THE EXISTING SITE.
12. IN THE REDEVELOPMENT OF THE SITE , RUNOFF WILL BE COLLECTED VIA CATCH BASINS AND FRENCH DRAINS.
13. ALL POLLUTION GERERATING SURFACES WILL BE TREATED BY MEANS OF CONTECH STORMFILTERS AND ROUTED TO THE INFILTRATION FACILITIES FOR QUANTITY CONTROL.
14. NON-POLLUTION GENERATING SURFACES SUCH AS ROOF AND LANDSCAPE WILL BYPASS TREATMENT AND BE ROUTED DIRECTLY TO THE INFILTRATION TRENCHES.
15. AN ADDITIONAL INFILTRATION TRENCH IS PROPOSED TO INFILTRATE THE ADDITIONAL RUNOFF CREATED BY THE INCREASE IN IMPERVIOUS AREA CAUSED BY THE PROPOSED ACCESS DRIVE, ROOF AND PARKING.
16. THE STORMWATER DESIGN WILL MEET THE STANDARDS PUT FORTH IN THE STORMWATER MANUAL FOR WESTERN WASHINGTON AND THE CITY OF CAMAS STORMWATER STANDARDS.

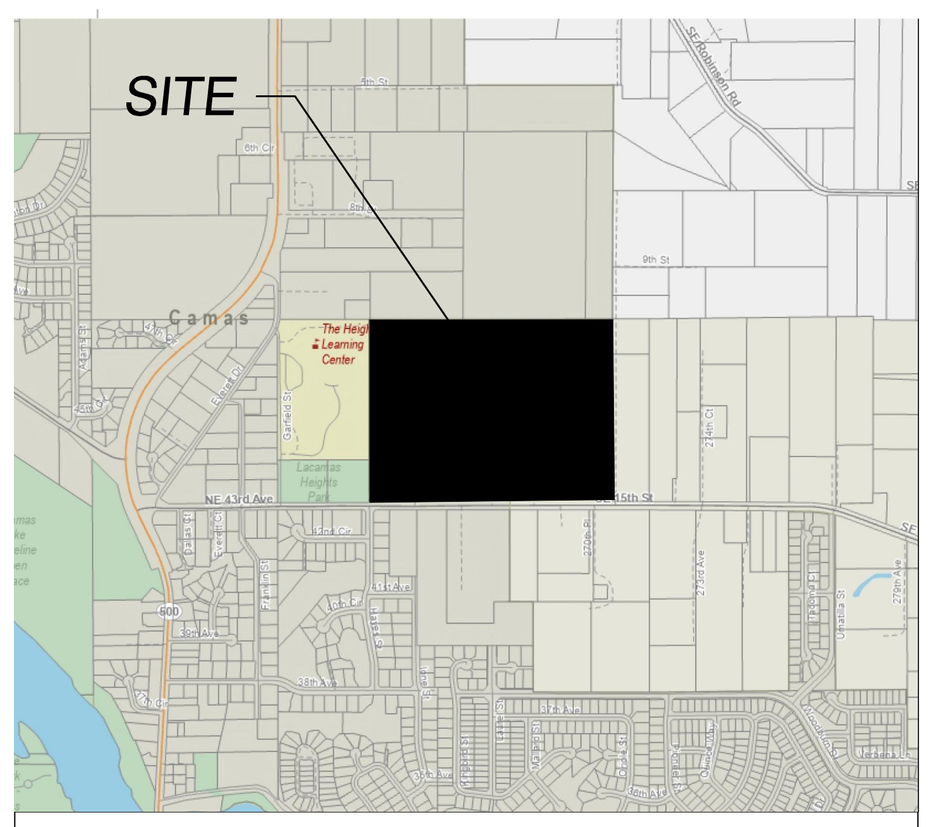
LEGEND

	PERIMETER OF SITE
	RIGHT-OF-WAY LINE
	CENTERLINE OF ROAD
	FACE OF CURB
	LOT LINE
	EASEMENT LINE
STM	STORM SEWER LINE
STM	EXIST STORM SEWER
SAN	SANITARY SEWER LINE
SAN	EXIST SANITARY SEWER
W	WATER SERVICE LINE
W	EXIST WATER LINE
123	GRADED CONTOUR LINE
123	EXIST CONTOUR LINE

○	MANHOLE	W	WATER SERVICE METER
⊗	WATER VALVE AND BOX	T	TELEPHONE RISER
	FIRE HYDRANT ASSEMBLY	G	GAS RISER
○	CLEAN OUT	E	ELECTRIC RISER
▥	CATCH BASIN		UTILITY POLE
△	THRUST BLOCK		UTILITY POLE W/ LIGHT
			SIGN POST



SOILS MAP
NTS



VICINITY MAP
NTS

0 30 60
SCALE: 1" = 30'

FILE: W:\18551 USTA Covered Tennis Center\500 Design\502 Drawings\Sheets\18551 - Prelim Utility Plan.GCO.dwg PLOTSTYLE: Utilities.stb

MacKay Sposito
ENERGY PUBLIC WORKS LAND DEVELOPMENT
www.mackaysposito.com

GREGORY C. OEHLER
49506

9/19/2024

USTA COVERED TENNIS CENTER
CAMAS, WASHINGTON

PRELIMINARY UTILITY PLAN

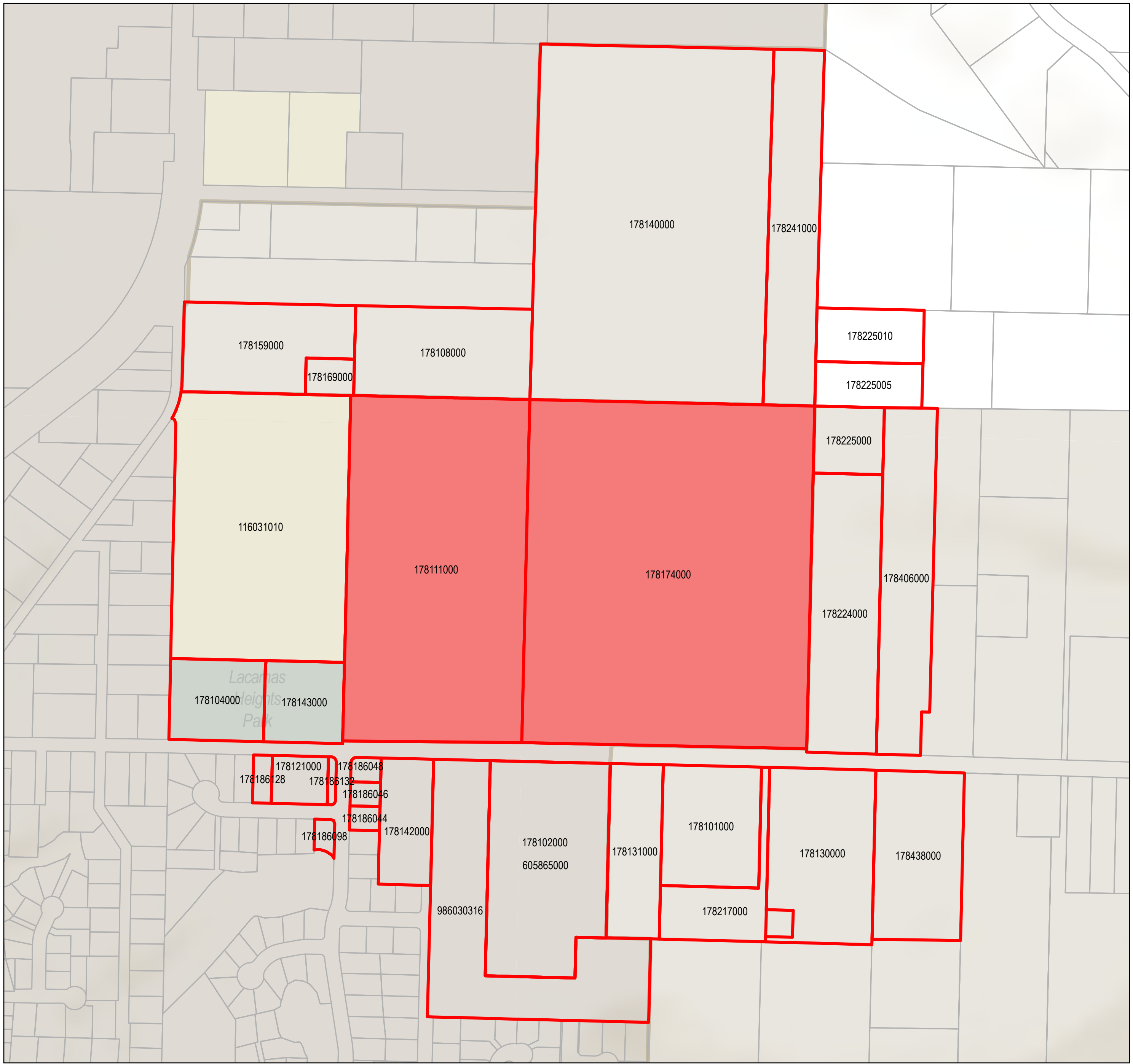
REVISIONS:

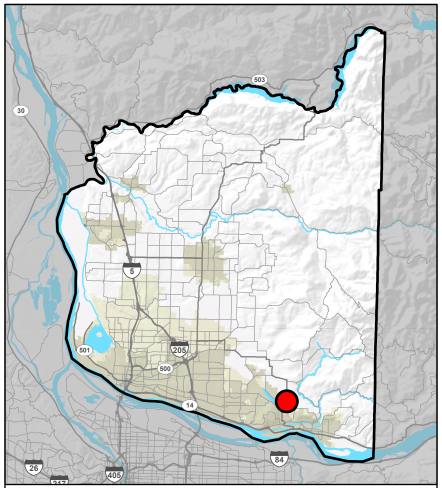
JOB NO.:	18551
DATE:	9/16/2024
SCALE: H:1"=40'	V: N/A
DESIGNED BY:	MDR
DRAWN BY:	MDR
CHECKED BY:	GCO

PRELIMINARY

C1.0

Exhibit 16 CUP24-1001





PID(s): 178111000, 178174000, 300-Foot Buffer

KEY

- 🟥 Subject Property
- ☐ Buffer Selection
- ☐ Parcels

N

NOTE: *Information shown on this map was collected from several sources. Clark County accepts no responsibility for any inaccuracies that may be present.*

0 275 550 825 Feet

c:\usr_proj\xxOrdID311675_937751\xx991687\MailingListPacket\MailingListPacket_layout.aprx, Printed on: Sep 24, 2024

GIS Order Number: 311675

Exhibit 16 CUP24-1001

BUHMAN BRADLEY B & BUHMAN PAULA J
26621-A SE 15 ST
CAMAS, WA 98607

CAMAS WOODS LLC
19120 SE 34TH ST STE 103
VANCOUVER, WA 98683

HAGENSEN MARK & HAGENSEN LORI
1008 SE 271ST AVE
CAMAS, WA 98607

REKDAHL DONALD A & REKDAHL SHIRLEY M TRUSTEES
921 SE GARDNER RD
CAMAS, WA 98607

REKDAHL DONALD A & REKDAHL SHIRLEY M TRUSTEES
921 SE GARDNER RD
CAMAS, WA 98607

TRAUTMAN THOMAS L & TRAUTMAN REBECCA J
915 SE 271ST AVE
CAMAS, WA 98607

REKDAHL DONALD A & REKDAHL SHIRLEY M TRUSTEES
921 SE GARDNER RD
CAMAS, WA 98607

DODAK ERON J & HOLMQUIST JENNIFER L
1009 SE 271ST AVE
CAMAS, WA 98607

CAMAS SCHOOL DISTRICT #117
841 NE 22ND AVE
CAMAS, WA 98607

CAMAS SCHOOL DISTRICT #117
841 NE 22ND AVE
CAMAS, WA 98607

CAMAS SCHOOL DISTRICT #117
841 NE 22ND AVE
CAMAS, WA 98607

KRULIKOVSKIY ROMAN N ETAL
1101 SE 271ST AVE
CAMAS, WA 98607

BULLETSET ANN
27208 SE 15TH ST
CAMAS, WA 98607

WATSON KAY & WATSON EDWARD
1317 SE 271ST AVE
CAMAS, WA 98607

CITY OF CAMAS
616 NE 4TH AVE
CAMAS, WA 98607

FENG DAVID & SHUM CHRISTY
739 NE 42ND CIR
CAMAS, WA 98607

CLINE ELLEN JEAN
PO BOX 520
CAMAS, WA 98607

BECKER DAVID R JR & BECKER CAROLYN ETAL
23007 NE 179TH ST
BRUSH PRAIRIE, WA 98606

MCCARTHY MARTIN & MCCARTHY TONI
PO BOX 1083
CAMAS, WA 98607

D2 EQUITY LLC
2115 SE 192ND AVE
CAMAS, WA 98607

MCNELEY ADAM C & BUHMAN MCNELEY HEIDI L
26621 SE 15TH ST
CAMAS, WA 98607

GILLAS JEANETTE M TRUSTEE
26813 SE 15TH ST
CAMAS, WA 98607

BLOMDAHL JOSH
27001 SE 15TH ST
CAMAS, WA 98607

GREEN SUSAN L
27031 SE 15TH ST
CAMAS, WA 98607

KRAUTSCHEID THOMAS & KRAUTSCHEID TERRI
1701 SE 270TH PL
CAMAS, WA 98607

WOLLAM JEAN A & WOLLAM ROGER
27305 SE 15TH ST
CAMAS, WA 98607

WING DANIEL L & WING AMY C
3009 NE 163RD ST
RIDGEFIELD, WA 98642

VANDOMELEN ANNETTE M & FICKES PAUL E COTRUSTEES
4200 NE HAYES ST
CAMAS, WA 98607

KUKARTSEV GENNADIY & SHABANOVA VIKTORIYA
828 NE 42ND CIR
CAMAS, WA 98607

BUHMAN BRADLEY B & BUHMAN PAULA J
26621 SE 15TH ST
CAMAS, WA 98607

Exhibit 16 CUP24-1001

CITY OF CAMAS
616 NE 4TH AVE
CAMAS, WA 98607

Exhibit 16 CUP24-1001

Owner Name	Mailing Address
BECKER DAVID R JR & BECKER CAROLYN ETAL	23007 NE 179TH ST, BRUSH PRAIRIE, WA, 98606
BLOMDAHL JOSH	27001 SE 15TH ST, CAMAS, WA, 98607
BUHMAN BRADLEY B & BUHMAN PAULA J	26621-A SE 15 ST, CAMAS, WA, 98607
BUHMAN BRADLEY B & BUHMAN PAULA J	26621 SE 15TH ST, CAMAS, WA, 98607
BULLETSET ANN	27208 SE 15TH ST, CAMAS, WA, 98607
CAMAS SCHOOL DISTRICT #117	841 NE 22ND AVE, CAMAS, WA, 98607
CAMAS WOODS LLC	19120 SE 34TH ST STE 103, VANCOUVER, WA, 98683
CITY OF CAMAS	616 NE 4TH AVE, CAMAS, WA, 98607
CLINE ELLEN JEAN	PO BOX 520, CAMAS, WA, 98607
D2 EQUITY LLC	2115 SE 192ND AVE, CAMAS, WA, 98607
DODAK ERON J & HOLMQUIST JENNIFER L	1009 SE 271ST AVE, CAMAS, WA, 98607
FENG DAVID & SHUM CHRISTY	739 NE 42ND CIR, CAMAS, WA, 98607
GILLAS JEANETTE M TRUSTEE	26813 SE 15TH ST, CAMAS, WA, 98607
GREEN SUSAN L	27031 SE 15TH ST, CAMAS, WA, 98607
HAGENSEN MARK & HAGENSEN LORI	1008 SE 271ST AVE, CAMAS, WA, 98607
KRAUTSCHEID THOMAS & KRAUTSCHEID TERRI	1701 SE 270TH PL, CAMAS, WA, 98607
KRULIKOVSKIY ROMAN N ETAL	1101 SE 271ST AVE, CAMAS, WA, 98607
KUKARTSEV GENNADIY & SHABANOVA VIKTORIYA	828 NE 42ND CIR, CAMAS, WA, 98607
MCCARTHY MARTIN & MCCARTHY TONI	PO BOX 1083, CAMAS, WA, 98607
MCNELEY ADAM C & BUHMAN MCNELEY HEIDI L	26621 SE 15TH ST, CAMAS, WA, 98607
REKDAHL DONALD A & REKDAHL SHIRLEY M TRUSTEES	921 SE GARDNER RD, CAMAS, WA, 98607
TRAUTMAN THOMAS L & TRAUTMAN REBECCA J	915 SE 271ST AVE, CAMAS, WA, 98607
VANDOMELEN ANNETTE M & FICKES PAUL E COTRUSTEES	4200 NE HAYES ST, CAMAS, WA, 98607
WATSON KAY & WATSON EDWARD	1317 SE 271ST AVE, CAMAS, WA, 98607
WING DANIEL L & WING AMY C	3009 NE 163RD ST, RIDGEFIELD, WA, 98642
WOLLAM JEAN A & WOLLAM ROGER	27305 SE 15TH ST, CAMAS, WA, 98607

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Number of Records 26
Number of Pages 1
Date Created 9/24/2024
Employee
Employee Name Jesse Manley

Exhibit 16 CUP24-1001

Occupant PID 605865000
26621 SE 15TH ST UNIT A
CAMAS, WA 98607

Occupant PID 178241000
1008 SE 271ST AVE
CAMAS, WA 98607

Occupant PID 178159000
920 SE GARDNER RD
CAMAS, WA 98607

Occupant PID 178225010
915 SE 271ST AVE
CAMAS, WA 98607

Occupant PID 178169000
921 SE GARDNER RD
CAMAS, WA 98607

Occupant PID 178225005
1009 SE 271ST AVE
CAMAS, WA 98607

Occupant PID 116031010
4600 NE GARFIELD ST
CAMAS, WA 98607

Occupant PID 178111000
26600 SE 15TH ST
CAMAS, WA 98607

Occupant PID 178174000
26900 SE 15TH ST
CAMAS, WA 98607

Occupant PID 178225000
1101 SE 271ST AVE
CAMAS, WA 98607

Occupant PID 178406000
27208 SE 15TH ST
CAMAS, WA 98607

Occupant PID 178224000
1317 SE 271ST AVE
CAMAS, WA 98607

Occupant PID 178104000
707 NE 43RD AVE
CAMAS, WA 98607

Occupant PID 178186128
739 NE 42ND CIR
CAMAS, WA 98607

Occupant PID 178121000
816 NE 43RD AVE
CAMAS, WA 98607

Occupant PID 178186048
4232 NE HAYES ST
CAMAS, WA 98607

Occupant PID 178142000
945 NE 43RD AVE
CAMAS, WA 98607

Occupant PID 178131000
26813 SE 15TH ST
CAMAS, WA 98607

Occupant PID 178101000
27001 SE 15TH ST
CAMAS, WA 98607

Occupant PID 178217000
27031 SE 15TH ST
CAMAS, WA 98607

Occupant PID 178130000
1701 SE 270TH PL
CAMAS, WA 98607

Occupant PID 178438000
27305 SE 15TH ST
CAMAS, WA 98607

Occupant PID 178186046
4216 NE HAYES ST
CAMAS, WA 98607

Occupant PID 178186044
4200 NE HAYES ST
CAMAS, WA 98607

Occupant PID 178186098
828 NE 42ND CIR
CAMAS, WA 98607

Occupant PID 178102000
26621 SE 15TH ST
CAMAS, WA 98607

Exhibit 16 CUP24-1001

PID	Situs Address			
605865000	26621 SE 15TH ST UNIT A	CAMAS	WA	98607
178140000			WA	0
178241000	1008 SE 271ST AVE	CAMAS	WA	98607
178159000	920 SE GARDNER RD	CAMAS	WA	98607
178108000			WA	0
178225010	915 SE 271ST AVE	CAMAS	WA	98607
178169000	921 SE GARDNER RD	CAMAS	WA	98607
178225005	1009 SE 271ST AVE	CAMAS	WA	98607
116031010	4600 NE GARFIELD ST	CAMAS	WA	98607
178111000	26600 SE 15TH ST	CAMAS	WA	98607
178174000	26900 SE 15TH ST	CAMAS	WA	98607
178225000	1101 SE 271ST AVE	CAMAS	WA	98607
178406000	27208 SE 15TH ST	CAMAS	WA	98607
178224000	1317 SE 271ST AVE	CAMAS	WA	98607
178104000	707 NE 43RD AVE	CAMAS	WA	98607
178186128	739 NE 42ND CIR	CAMAS	WA	98607
178121000	816 NE 43RD AVE	CAMAS	WA	98607
178186132			WA	0
178186048	4232 NE HAYES ST	CAMAS	WA	98607
178142000	945 NE 43RD AVE	CAMAS	WA	98607
986030316			WA	0
178131000	26813 SE 15TH ST	CAMAS	WA	98607
178101000	27001 SE 15TH ST	CAMAS	WA	98607
178217000	27031 SE 15TH ST	CAMAS	WA	98607
178130000	1701 SE 270TH PL	CAMAS	WA	98607
178438000	27305 SE 15TH ST	CAMAS	WA	98607
178186046	4216 NE HAYES ST	CAMAS	WA	98607
178186044	4200 NE HAYES ST	CAMAS	WA	98607
178186098	828 NE 42ND CIR	CAMAS	WA	98607
178102000	26621 SE 15TH ST	CAMAS	WA	98607
178143000			WA	0

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Number of Records 31
Number of Pages 1
Date Created 9/24/2024
Employee
Employee Name Jesse Manley

Exhibit 17 CUP24-1001

Pre-Application Meeting Notes
Camas High School District Tennis Courts
Planning Case Number: PA24-08

Meeting held via Zoom: May 2, 2024
Notes issued via email: May 14, 2024

Applicant:
Martin Snell, MacKay Sposito
18405 SE Mill Plain Boulevard, Suite 100
Vancouver, WA 98683
msnell@mackaysposito.com

Representing City of Camas:
Yvette Sennewald, Senior Planner
Robert Maul, Planning Manager
Randy Miller, Fire Marshal
Brian Smith, Building Official
Ahmed Yanka, Engineering

Location: Camas High School
29600 SE 15th Street

Tax Accounts: 178111000 and 178174000

Zoning: R-7.5

Description: The project includes resurfacing eight existing tennis courts, installing lighting and an enclosure over the tennis courts as well as the placement of an entrance structure (with restrooms and a small locker area) utility extensions/connections, site improvements for access from the parking lot, additional parking spaces and landscaping.

NOTICE: Notwithstanding any representation by City staff at a pre-application conference, staff is not authorized to waive any requirement of the City Code. Any omission or failure by staff to recite to an applicant all relevant applicable code requirements shall not constitute a waiver by the City of any standard or requirement. [CMC 18.55.060 (C)] This pre-application conference shall be valid for a period of 180 days from the date it is held. If no application is filed within 180 days of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. [CMC 18.55.060 (D)] Any changes to the code or other applicable laws, which take effect between the pre-application conference and submittal of an application, shall be applicable. [CMC 18.55.060 (D)]. **A link to the Camas Municipal Code (CMC) can be found on the City of Camas website, http://www.cityofcamas.us/ on the main page under "Business and Development".**

STAFF NOTES

PLANNING DIVISION

Yvette Sennewald |817-7269

Applicable codes for development include Title 16 Environment, and Title 18 Zoning, of the Camas Municipal Code (CMC), which can be found on the city website. Please note it remains the applicant's responsibility to review the CMC and address all applicable provisions. The following pre-application notes are based on application materials and site plan submitted on March 29, 2024.

Type III Conditional Use Permit	Fees (as of 2/29/24)
Conditional Use Permit	$4,949
Minor Design Review	$495

Application Requirements

Your proposal is required to comply with the general application requirements per CMC Section **18.55.110.**

The following items are required to be submitted for consideration of the proposed project:

1. **APPLICATION.** Required materials are listed at CMC18.55.110 (A through G) and include the following:

    - A completed city application form and required fees,
    - A complete list of the permit approvals sought by the applicant for this project,
    - One set of mailing labels for property owners as noted in CMC Section 18.55.110,
    - A detailed narrative description that describes the proposed development, existing site conditions, existing structures, public facilities and services, and other natural features. The narrative should also include ownership and maintenance of open spaces, stormwater facilities, public trails, and critical areas. It should also address any proposed building conditions or restrictions.
    - Three sets of drawings and an electronic copy (sent as a PDF by email). All documents and reports must be submitted as separate pdf files.
    - A copy of Preapplication meeting notes,
    - Preliminary Civil plans,
    - A vicinity map showing location of the site, and
    - Copy of a full title report.

2. **CONDITIONAL USE PERMIT**. The application should include photos of adjacent properties, and a description of the development patterns of the area. The applicant must include a written narrative that responds to each of the criteria in CMC §18.43.050 Criteria:

    > *A. The proposed use will not be materially detrimental to the public welfare, or injurious to the property or improvements in the vicinity of the proposed use, or in the district in which the subject property is situated.*
    >
    > *B. The proposed use shall meet or exceed the development standards that are required in the zoning district in which the subject property is situated.*

C. The proposed use shall be compatible with the surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design.

D. Appropriate measures have been taken to minimize the possible adverse impacts that the proposed use may have on the area in which it is located.

E. The proposed use is consistent with the goals and policies expressed in the comprehensive plan.

F. Any special conditions and criteria established for the proposed use have been satisfied. In granting a conditional use permit the hearings examiner may stipulate additional requirements to carry out the intent of the Camas Municipal Code and comprehensive plan.

3. **DESIGN REVIEW**. An application for design review must include (at a minimum) building elevations, materials, exterior colors, and landscaping plans. Preliminary site plan should show all existing conditions per CMC Section 17.11.030.B.6(a-p),

Landscaping Regulations. A Landscape, Tree, and Vegetation plan must be submitted pursuant to CMC 18.13.040.A. If trees are proposed for removal, a Tree Survey is required and must be prepared by a certified arborist or professional forester.

Development sign. The applicant must install a 4'x8' sign on the property that provides details about the project, site plan, contact information, and includes space for public hearing information to be filled in when a date is scheduled. Staff can provide a handout if requested.

BUILDING DIVISION **Brian Smith | 817-1568**

- The structure will be reviewed under the most current building codes as adopted by the State of Washington. Specifically, the requirements of IBC 3102 regulate this type of structure.
- The plans will need to be prepared by a State of Washington licensed architect.
- Structural drawings and calculations will be required and shall be prepared and stamped by a Professional Engineer licensed by the State of Washington.
- A separate construction permit from the Camas/Washougal Fire Marshal's office may be required, contact the Fire Marshal's Office to confirm.
- Impact fees and System Development charges will be applicable.
- If the structure is conditioned compliance with the Washington State Energy Code will be required.

ENGINEERING DIVISION **Ahmed Yanka | 817-7258**

Applicant's 'Proposed Scope of Work' are not applicable to Engineering.

Responses to the Applicant's TIA questions are addressed separately.

General Requirements:

Exhibit 17 CUP24-1001

1. Civil site construction plans shall be prepared by a licensed Washington State Engineer in accordance with the *Camas Design Standards Manual (CDSM)* and CMC 17.19.040.
2. Engineering site improvement plans are to be submitted to Community Development (CDev) Engineering for review and approval.
3. The Community Development Engineering Dept. is responsible for plan review (PR) and construction inspection (CI). A 3% PR&CI fee is collected by engineering for all infrastructure improvements.
    a. The 3% fee is based on an engineer's estimate.
    b. The engineer's estimate is to include all improvements outside of the proposed building footprints.
    c. *Payment of the 1% plan review (PR) portion is required when the civil plans are submitted for first review*.
    d. Payment of the 2% construction inspection (CI) portion is to be paid prior to release of approved construction drawings by the CDev Engineering Dept.
4. The applicant will be required to purchase all permanent traffic control signs, street name signs, street lighting, and traffic control markings for the proposed development.
5. A general encroachment permit, certificate of insurance, and approved traffic control plan (TCP) is required prior to the start of any work within the right-of-way.

Traffic/Transportation:

1. As the change in use is from tennis courts for high school usage to a USTA Tennis Center, the applicant is to provide a TIA memo addressing the potential increase in AM and PM Peak hour trip distribution to and from the site.
2. Based on the information requested above, an intersection impact analysis may be required.
3. If the Traffic Engineer has any additional questions, they can contact the City Engineer, James (Curleigh) Carothers.

Streets:

1. The proposed tennis court improvements, including construction of a new on-site access road to be located on the north side of the existing tennis courts, which are north of the Camas High School parking lot.
2. The high school has an existing ingress and egress at SE 15th Street and an existing egress onto NE Garfield Street.
3. Per the 2016 Transportation Comprehensive Plan Map:
    a. SE 15th Street is designated as an existing 3-lane fully improved road along the frontage of the high school.
4. NE Garfield Street is designated as a local road without sidewalk improvements on the west side of the road nor in the vicinity of the intersection of the high school's North Access Road and NE Garfield Street.
    a. The applicant is not required to construct any improvements on NE Garfield Street.
5. The applicant is proposing a new 16-foot-wide one-way drive aisle around the existing tennis courts with approximately 56 new parking stalls.

   a. The proposed one-way drive aisle is shown to intersect the existing drive aisle and parking lot and to be located between the existing baseball field and easternmost tennis court. The easternmost tennis court is proposed to be eliminated in order to construct the new drive aisle.
   b. The proposed egress for the new one-way drive aisle is shown as a new intersection with the existing North Access Road.
   c. The new road is to be signed as one-way at the east intersection and 'stop controlled' at the west intersection.

Stormwater:

1. The proposed tennis court is within combined parcels of 2,281,238 sf (52.37 acres) in size per Clark County records.
2. Stormwater treatment and detention shall be designed in accordance with the latest edition of Ecology's *Stormwater Management Manual for Western Washington (SWMMWW)*. The current Ecology manual is the 2019 version.
3. Refer to Ecology's *Figure I-3.2 Flow Chart for Determining Requirements for Re-Development (Vol. I, Chapter 3, Page 90)*.
   a. As the project results in 5,000 sf, or greater, of new plus replaced hard surface area; then Minimum Requirements (MR) #1- #9 will apply.
4. The applicant will be responsible for determining if the existing stormwater conveyance and treatment and detention system at the southeast corner of the site is adequately sized for additional stormwater discharge from the proposed road construction.
5. A revised TIR will be required addressing the proposed changes.
6. A designated concrete washout area (BMP C154, Vol. II, Chap. 3, pgs. 320-326) is to be shown on the site plans. The washout area is to be removed prior to issuance of final acceptance.

Erosion Control

1. If the new proposed improvements are greater than an acre of land-disturbing activities the applicant will be required to obtain an *NPDES Construction Stormwater General Permit* from Ecology and provide an ESC bond to the city.
2. The applicant will be responsible for all erosion and sediment control measures to ensure that sediment laden water does not leave the site or impact adjacent parcels.
3. Mud tracking onto the road surface is discouraged and any mud tracking is to be cleaned up immediately.

Water:

1. There is an existing 2.5-inch schedule 40 PVC water service at the southwest corner and another water service located approximately 325-feet of the southeast corner.
2. A new water service to the proposed bathrooms is to be shown on the proposed site plans.
3. All taps to be performed by a tapping Contractor approved by the City's Water/Sewer Dept.

4. Utility trenching and trench backfill are to be per CDSM Detail G2. Surface restoration will be per CDSM Detail G2A.

Sanitary Sewer:

1. There is an existing 6-inch PVC sanitary STEF main that runs along the southside of the proposed tennis court location in the High School parking lot.
2. A new sanitary sewer lateral to the proposed bathrooms is to be shown on the proposed site plans.
3. All taps to be performed by a tapping Contractor approved by the City's Water/Sewer Dept.
4. Utility trenching and trench backfill are to be per CDSM Detail G2. Surface restoration will be per CDSM Detail G2A.

City Approved Tapping Contractors:

1. A&A Drilling Services, Inc (water & pressure sewer):
    a. 16734 SE Kens Ct. #B, Milwaukie, OR 97267, 800-548-3827, http://www.aadrilling.com

2. Ferguson Waterworks (water only):
    a. 14103 NW 3rd Court, Vancouver, WA 98685, 360-896-8708, https://www.ferguson.com/branch/nw-3rd-ct-vancouver-wa-waterworks

Parks/Trails:

1. Not applicable.

Garbage & Recycling:

1. Applicant to use existing garbage & recycling system.

Impact Fees & System Development Charges (SDCs):

1. Camas High School is in the South District.
2. Impact Fees and SDCs are collected at the time of building permit issuance.
3. Impact fees and SDCs are adjusted on January 1st of each year.

Impact Fees for 2024:

1. Traffic Impact Fees - $3,988.00 per PM Peak Hour Trip
2. School Impact Fees (SIF) (Camas) – NA
3. Park/Open Space Impact Fees (PIF) – NA
4. Fire Impact Fees (FIF) - $0.69 sf

Exhibit 17 CUP24-1001

System Development Charges (SDCs) for 2024:

1. Water
    a. 3/4" meter - $9,056.00 + $450.00 connection fee

2. Sewer
    a. Residential - $7,184.00 + $199.00 STEP/STEF Inspection

FIRE MARSHAL Randy Miller | 834-6191

No building or structure regulated by the building and/or fire code shall be erected, constructed, enlarged, altered, repaired, moved, converted, or demolished unless a separate permit for each building or structure has first been obtained from the CWFMO Camas Municipal Code 15.04.030.D.12.a

Any inadvertent omission or failure to site or include any applicable codes or code language by the Fire Marshal's office or the City shall not be considered a waiver by the applicant.

1) Permit(s) with the Fire Marshals Office required.
    a. Site Plan
    b. New Construction/Life Safety Permit required with the FMO
    c. Other permits may be required as this project is further explained in use and design.

3. Contact the FMO if you have any questions: 360-834-6191 or FMO@cityofcamas.us

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SCOPE OF WORK

Air structure will be approximately 450’ long x 130’ wide x 43’ high – 58500sf

1) FABRIC MEMBRANE:

a. Outer Fabric: Vinyl coated Opaque polyester fabric with acrylic exterior top-coating. The exterior surface color of the fabric will be white.

b. Liner Fabric: 15oz per square yard high gloss finish vinyl coated polyester fabric. The structure will be manufactured with blue liner 3m high along the sides of structure, and the remainder being white.

c. Skylight: This can be provided at No Charge. (Recommended on larger domes).

d. Insulation: Hi-performance reflective insulation with an E-value of 0.03 and an average R value of 10. The insulation is constructed of 2 layers of polyethylene bubbles with low emissivity aluminum foil laminated on both sides. Air structure will be prepared to facilitate installing insulation between inner and outer membranes. The insulation will be installed on site by the supplier.

e. Divider Nets: Seven (7) divider nets measuring 130’ x 10’.

f. Sections: The dome will be manufactured in 4 sections fastened using aluminum joining plates with velcro fastened fabric covers to the outside.

g. Flame Resistance: The outer and liner fabric have been tested for flame resistance and meet California fire marshal requirements, UL 214, NFPA 701, UBC (#42-1 & #55-5), and ULC S109 Standard for Flame Tests of Flame Resistant Fabrics and Films.

h. Seams and Edges: All seams are dielectrically welded to form the dome’s profile. Membrane shall be manufactured with rope edge to suit extruded profile anchoring system.

i. Openings: The fabric membrane will be provided with openings to accommodate:

- 1 - Three-leaf revolving door and one (1) pedestrian airlock combo will be provided.
- 6 - Single-width exit doors
- 1 - Extra width exit door
- Mechanical Unit openings as required

2) DOORS AND OTHER ACCESS COMPONENTS:

a. Single-Width Emergency Exits: Supply 6 steel-framed aluminum balanced exit doors with cast-in bracing which will have a clear opening of 40”. Each exit will be provided with combination emergency/exit light pack.

b. Extra-Width Emergency Exit: Supply 1 steel-framed aluminum balanced exit door with cast in bracing which will have an extra wide opening for ease of lift access, maintenance equipment, etc..

c. Revolving Door / Pedestrian Airlock: One 3 - leaf revolving door and one pedestrian airlock. Revolving door is 93” wide x 84” deep x 83” high. Doors have been specifically designed to allow easy change out of bearings. Pedestrian airlock is 86” wide x 84” deep x 83” high, with Lexan windows and is designed to meet CSA/ADA requirements. Pedestrian airlocks have custom attached ramps as part of door system.

Exhibit 18 CUP24-1001

3) LIGHTING:

a. Hanging Light Fixtures: Thirty-Two (64) – 412 watt LED hanging lights c/w wire and cord ends running from fixture location to closest perimeter base (extra three feet of wire provided at attachment point of grade beam and electrician is to provide and install the plug ends to match his receptacle)

4) MECHANICAL EQUIPMENT:

a. Mechanical Design Parameters: The air structure mechanical equipment has been designed using a winter outside design temp of 27F. Supply air volume of a minimum 13,798cfm.

b. Heat and Inflation Unit: Over/Under discharge configuration, indirect fired natural gas HEAT AND INFLATION UNIT with 1.50 million BTU output. Voltages to suit 480 volt 3 phase.

c. Standby Inflation Unit – Fizer Standby 36-1.

d. Remote Control Panel: The remote control panel will incorporate all necessary switching, indicator lights, auto/manual pressure controls, thermostats and pressure indicators to control the heating, cooling and pressure in the dome. Wind and Snow sensor - System senses wind conditions and snow accumulation.

Note: 4 a, b, c and d above all voltage to suit 3 phase 480.

5) AIR STRUCTURE RETENTION:

a. Retention Channel: Supply only 1170lf of anodized aluminum channel to be installed by grade beam contractor. Purchaser to supply 1170lf of utility or pressure treated 2” x 4” for grade beam installation and air structure retention.

b. Restraining Cables: Not required

c. Lengthwise Restraining Cables: Not required

d. Anchor Plates: Not required

6) OTHER HARDWARE AND SERVICES:

a. Turnbuckles and Hardware Openings: Turnbuckles and hardware for all openings for the provided components above is included.

b. Mechanical Start Up: Mechanical Start-up is included.

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Exhibit 19 CUP24-1001

USTA/CSD Covered Tennis Center Proposed Conceptual Layout

Exhibit 20 CUP24-1001

COMMUNITY DEVELOPMENT DEPARTMENT
616 NE 4th Avenue
Camas, WA 98607
www.cityofcamas.us

October 28, 2024

Martin Snell
msnell@mackaysposito.com

Jasen McEathron
Jasen.McEathron@camas.wednet.edu

RE: CUP24-1001 - Application Review for Camas High School Tennis Courts – 26900 SE 15th Street

Dear Applicant,

Thank you for your submittal for the Camas High School Tennis Court project. I am the case planner assigned to this project. The purpose of this letter is to inform you that the application submitted on October 1, 2024, has been deemed incomplete and there are items that need to be addressed before we move forward with the review process.

Once the items below are submitted, staff will review the information to verify whether the application can be deemed complete. As a reminder, staff is not authorized to waive any requirement of the City Code. Any omission or failure by staff to recite applicable code requirements shall not constitute a waiver by the City of any standard or requirement.

The items necessary for completeness are as follows:

PLANNING

- Please submit photo of Development Sign once installed on project site.

If you have any questions related to this project, please feel free to contact me by email: YSennewald@cityofcamas.us or by phone: (360) 817-7269.

Respectfully,

Yvette Sennewald

Yvette Sennewald, Senior Planner

Exhibit 21 CUP24-1001

Notice of Proposed Development

"Camas High School Tennis Courts Conditional Use and Design Review"

An application is on file with the City of Camas for review of a Conditional Use and Design Review to allow the school district to upgrade the existing tennis court facilities (resurfacing, air dome structure, additional parking, landscaping, restroom/locker room facilities) and permit the facilities to be used by the USTA PNW organization during the off-seasons and other times when they are not in use by high school programing.

For more information regarding this project contact:
Applicant Contact: James Cramer, 360-823-1332
City Contact: Yvette Sennewald, 360-817-7269

Public Hearing Schedule: *(to be filled in 14 days, or more, prior to hearing)*

Hearing Date/Time: ______________________________

Hearing Location: ______________________________

____

Exhibit 21 CUP24-1001

Exhibit 21 CUP24-1001

Notice of Proposed Development

"Camas High School Tennis Courts Conditional Use and Design Review"

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For more information regarding this project contact:
Applicant Contact: James Cramer, 360-823-1332
City Contact: Yvette Sennewald, 360-817-7269

Public Hearing Schedule: (to be filled in 14 days, or more, prior to hearing)

Hearing Date/Time: ____________

Hearing Location: ____________

____

Exhibit 21 CUP24-1001

Exhibit 22 CUP24-1001

City of Camas
WASHINGTON

COMMUNITY DEVELOPMENT DEPARTMENT
616 NE 4th Avenue
Camas, WA 98607
www.cityofcamas.us

December 17, 2024

Martin Snell
msnell@mackaysposito.com

Jasen McEathron
Jasen.McEathron@camas.wednet.edu

RE: CUP24-1001: Completeness Review for Camas High School Tennis Courts – 26900 SE 15th Street

Dear Applicant,

The purpose of this letter is to inform you that the above application submitted on October 1, 2024, has been **deemed technically complete** in accordance with Camas Municipal Code (CMC) Section 18.55.130.

Staff will begin reviewing the application materials and will contact you if there are any comments, questions, or clarification needed prior to scheduling a public hearing. When the public hearing date has been determined, the development sign will need to be updated with the hearing information.

Should you have any questions related to this project, please feel free to contact me by email: YSennewald@cityofcamas.us or by phone: (360) 817-7269.

Respectfully,

Yvette Sennewald, Senior Planner

Exhibit 23 CUP24-1001

NOTICE OF APPLICATION FOR A CONDITIONAL USE PERMIT FOR THE REDEVELOPMENT OF CAMAS HIGH SCHOOL TENNIS COURTS

(Planning Case: CUP24-1001)

NOTICE IS HEREBY GIVEN that an application for a Conditional Use Permit to redevelop the existing tennis courts and adjacent landscaping parking, and drive aisles located at Camas High School was received on October 1, 2024, and deemed technically complete on December 17, 2024. A public hearing is required for the development proposal and will be scheduled at a later date. A separate public hearing notice will be mailed to all property owners within 300-feet of the subject development and published in the Post Record.

Location: The approximate 3.32-acre site is part of the larger approximately 52.37 acre site and is zoned R-7.5 – Single Family Residential, is situated on the northerly side of SE 15th Street, between NE Garfield Street and SE 71st Street, located at 26900 SE 15th Street in the SE ¼ of Section 35 Township 2 North, Range 3 East, Camas, WA, also known as Parcel Numbers 178111000 and 178174000.

Application Materials: The application included the following: project narrative, and preliminary development plans. Application materials are available for review from the Community Development Department during regular business hours Monday – Friday 8am-5pm.

Questions/Comments: For questions related to this application, please contact Yvette Sennewald, Senior Planner, at (360) 817-1568 or by email at communitydevelopment@cityofcamas.us.

Published in the Post Record on December 26, 2024 Legal Publication 971130
Posted at Camas City Hall, Camas Library, City of Camas website at: http://www.cityofcamas.us
Mailed to property owners within 300-feet on December 26, 2024

Exhibit 23 CUP24-1001

Vicinity Map

Preliminary Site Plan

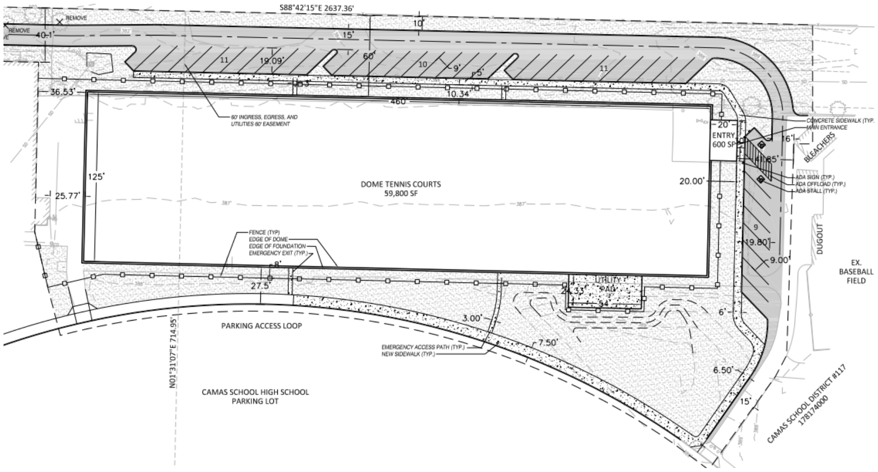

Exhibit 24 CUP24-1001

COMMUNITY DEVELOPMENT DEPARTMENT
616 NE 4th Avenue
Camas, WA 98607
www.ci.camas.wa.us

Date Published: January 2, 2025

To Whom It May Concern:

Please find enclosed a Determination of Non-Significance (DNS) for the redevelopment of the **Camas High School Tennis Courts (Planning Case Number CUP24-1001)** that was issued pursuant to the State Environmental Policy Act (SEPA) Rules, Chapter 197-11, Washington Administrative Code. The enclosed review comments reflect evaluation of the environmental checklist by the lead agency as required by WAC 197-11-330(1)(a)(i).

The following materials were submitted with the initial application:

- Application Form and Fees
- Applicant's Narrative
- Archaeological Predetermination*
- Geotechnical Study
- Project Plans
- Preliminary Geotechnical Report
- Preliminary Grading Plan
- Preliminary Landscape Plan
- SEPA checklist
- Stormwater Drainage Report

All application materials are available for review upon request from the Community Development Department. *Archaeological information is exempt from public disclosure, consistent with RCW 42.56.300.

Written comments may be submitted on this determination within fourteen (14) days of its issuance, after which the DNS will be reconsidered in light of the comments received.

Please address all correspondence to:
City of Camas, SEPA Official
Community Development Department
616 NE Fourth Avenue
Camas, Washington 98607
communitydevelopment@cityofcamas.us

Exhibit 24 CUP24-1001

Distribution:

Applicant
C-Tran
Camas School District
Camas Building Official, Brian Smith
Camas Communications Director, Bryan Rachal
Camas Engineering Department Managers and Staff
Camas Fire Department, Randy Miller
Camas Finance Director, Cathy Huber Nickerson
Camas Community Development Director, Alan Peters
Camas Mayor and City Council Members
Camas Parks and Recreation Interim Director, Bryan Rachal
Camas Planning Manager and Staff
Camas Police Chief, Tina Jones
Camas Public Works Director, Steve Wall
Camas Public Library, Connie Urquhart
Camas-Washougal Post Record
Chinook Indian Nation
Cultural Resource Program, Cowlitz Indian Tribe
Cultural Resource Program, Yakama Indian Nation
Clark County Department of Environmental Services
Clark County Department of Transportation
Clark County Natural Resources Council
Clark Public Utilities
Department of Ecology
Department of Fish and Wildlife, Region 5
Department of Natural Resources, SEPA Center
Southwest Clean Air Agency
US Army Corps of Engineers
Vancouver - Clark Parks & Recreation
Washington Office of Archaeology & Historic Preservation
Washington State Department of Transportation
Washington State Parks and Recreation Commission, Environmental Program
Property Owners within 300 feet *(mailed the SEPA Determination & map)*

Exhibit 24 CUP24-1001

State Environmental Policy Act
Determination of Non-Significance

CASE NO: CUP24-1001: Proposed Redevelopment of Camas High School Tennis Courts

APPLICANT:
MacKay Sposito, Steven McAtee
18405 SE Mill Plain Blvd. #100
Vancouver, WA 98683

REQUEST: Conditional Use Permit, Minor Design Review, and SEPA Review for the proposed redevelopment of the existing tennis courts and adjacent landscaping, parking, and drive aisles on approximately 3.32 acres within the subject 52.37-acre subject site, situated in the R-7.5 Single Family Residential Zone.

LOCATION:
29600 SE 15TH STREET, CAMAS, WA 98607
PARCEL NUMBERS 178111-000 AND 178147-000

LEGAL DESCRIPTION: THE PROJECT IS LOCATED IN THE CITY OF CAMAS IN THE SE ¼ of Section 35 Township 2 North, Range 3 EAST OF THE WILLAMETTE MERIDIAN

SEPA DETERMINATION: DETERMINATION OF NON-SIGNIFICANCE (DNS)

COMMENT DEADLINE: **JANUARY 16, 2025, AT 5:00 P.M.**

As lead agency under the State Environmental Policy Act (SEPA) Rules [Chapter 197-11, Washington Administrative Code (WAC)], the City of Camas must determine if there are possible significant adverse environmental impacts associated with this proposal. The options include the following:

- DS = Determination of Significance (The impacts cannot be mitigated through conditions of approval and, therefore, requiring the preparation of an Environmental Impact Statement (EIS).
- MDNS = Mitigated Determination of Non-Significance (The impacts can be addressed through conditions of approval), or;
- DNS = Determination of Non-Significance (The impacts can be addressed by applying the Camas Municipal Code).

Exhibit 24 CUP24-1001

<u>Determination</u>:

Determination of Non-Significance (DNS). The City of Camas, as lead agency for review of this proposal, has determined that this proposal does not have a probable significant adverse impact on the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(e). This decision was made after review of a completed environmental checklist, and other information on file with the City of Camas.

<u>Date of Publication & Comment Period</u>:

Publication date of this DNS is **<u>January 2, 2025</u>**, and is issued under WAC 197-11-340. The lead agency will not act on this proposal until the close of the 14-day comment period which ends on **<u>January 16, 2025</u>**. Comments may be sent by email to communitydevelopment@cityofcamas.us or regular mail to:

City of Camas SEPA Official
Community Development Department
616 NE Fourth Avenue
Camas, Washington 98607

<u>Responsible Official</u>: Robert Maul (360) 817-1568

1/2/25
Date of publication

Robert Maul, Planning Manager and
Responsible Official

Exhibit 24 CUP24-1001

SEPA[1] Environmental Checklist

Purpose of checklist

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization, or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. **You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown.** You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to **all parts of your proposal**, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for lead agencies

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B, plus the Supplemental Sheet for Nonproject Actions (Part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in "Part B: Environmental Elements" that do not contribute meaningfully to the analysis of the proposal.

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[1] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/Checklist-guidance

A. Background

Find help answering background questions[2]

1. **Name of proposed project, if applicable:**

   Camas High School Tennis Courts Conditional Use and Design Review

2. **Name of applicant:**

   Camas School District No. 117 Attn: Jasen McEathron

3. **Address and phone number of applicant and contact person:**

   841 NE 22nd Ave. Camas, WA 98607 |(360) 833-7412 | Jasen.McEathron@camas.wednet.edu

4. **Date checklist prepared:**

   September 26, 2024

5. **Agency requesting checklist:**

   City of Camas, WA

6. **Proposed timing of schedule (including phasing, if applicable):**

   Construction is anticipated to take place upon approval and procurement of all applicable reviews and permits. The projection would be Summer and Fall of 2025.

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

   The proposal includes resurfacing eight (8) existing tennis courts, installing lighting and an enclosure over the tennis courts as well as the placement of an entrance structure (with restrooms and a small locker area) utility extensions/connections, site improvements for access from the parking lot, additional parking spaces and landscaping.

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

   Archaeological Letter – Department of Archeology & Historic Preservation, February 17, 2010

   Stormwater Technical Information Report (TIR) – MacKay Sposito, September 2024

   Geotechnical Site Investigation – Columbia West Engineering, Inc., December 20, 2019

   Trip Generation Study – Lancaster Mobley, September 19, 2024

9. **Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

   There are no known other applications pending that directly affect this site to the Applicant's knowledge.

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[2] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-A-Background

10. List any government approvals or permits that will be needed for your proposal, if known.

Conditional Use Approval

Design Review Approval

Grading and Utilities Plan Approval

Stormwater Plan Approval

Erosion Control Plan Approval

Grading Permit

SEPA determination

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The project includes resurfacing eight (8) existing tennis courts, installing lighting and an enclosure over the tennis courts as well as the placement of an entrance structure (with restrooms and a small locker area) utility extensions/connections, site improvements for access from the parking lot, additional parking spaces and landscaping.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The site address is the site of the Camas High School campus located at 29600 SE 15th Street, Camas, WA. The property consists of Tax Parcels 178111-000 and 178174-000 hereby known as the "subject property." The total area of the subject property is 2,281,238 square foot (sf) or 52.37 acres in size per Clark County records and is zoned R-7.5. It should be noted that the district operates a comprehensive high school under a conditional use permit.

The proposed redevelopment of the existing tennis courts and adjacent landscaping, parking and drive isle(s) consists of 144,798 sf or 3.32 acres of the overall subject property. For the purposes of this project narrative, the area proposed for redevelopment will hereby be referred to as the "project area."

Exhibit 24 CUP24-1001

B. Environmental Elements

1. Earth

Find help answering earth questions[3]

a. General description of the site:

Circle or highlight one: [✓ Flat], rolling, hilly, steep slopes, mountainous, other:

b. What is the steepest slope on the site (approximate percent slope)?

Field reconnaissance and topographic mapping published by Clark County Maps Online indicates relatively flat terrain with slope grades of 0 to 5 percent and site elevations ranging from 378 to 382 feet above mean sea level (amsl).

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Clark County Records lists soils onsite as Non-Hydric / HcB*,* Hydric / MnA*,* Non-Hydric / OlB*, and* Non-Hydric / OmE*.*

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No known surface indications or history of unstable soils are located in the immediate vicinity.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Per the Stormwater Technical Informational Report, ill placed on existing grades steeper than 5H:1V should be horizontally benched at least 10 feet into the slope. Fill slopes greater than six feet in height should be vertically keyed into existing subsurface soil. A typical fill slope cross-section is shown in Figure 3. Drainage implementations, including subdrains or perforated drain pipe trenches, may also be necessary in proximity to cut and fill slopes if seeps or springs are encountered. Drainage design may be performed on a case-by-case basis. Extent, depth, and location of drainage may be determined in the field by Columbia West during construction when soil conditions are exposed. Failure to provide adequate drainage may result in soil sloughing, settlement, or erosion.

Final cut or fill slopes at the site should not exceed 2H:1V or 20 feet in total height without individual slope stability analysis. The values above assume a minimum horizontal setback for loads of 10 feet from top of cut or fill slope face or overall slope

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[3] https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-earth

height divided by three (H/3), whichever is greater. A minimum slope setback detail for structures is presented in Figure 4.

Concentrated drainage or water flow over the face of slopes should be prohibited, and adequate protection against erosion is required. Fill slopes should be constructed by placing fill material in maximum 12-inch level lifts, compacting as described in Section 5.2, Engineered Structural Fill and horizontally benching where appropriate. Fill slopes should be overbuilt, compacted, and trimmed at least two feet horizontally to provide adequate compaction of the outer slope face. Proper cut and fill slope construction is critical to overall project stability and should be observed and documented by Columbia West.

f. Could erosion occur because of clearing, construction, or use? If so, generally describe.

Per the Stormwater Technical Informational Report, the erosion hazard for site soils in flat to shallow-gradient portions of the property is likely to be low. The potential for erosion generally increases in sloped areas. Therefore, disturbance to vegetation in sloped areas should be minimized during construction activities. Soil is also prone to erosion if unprotected and unvegetated during periods of increased precipitation. Erosion can be minimized by performing construction activities during dry summer months.

Site-specific erosion control measures should be implemented to address the maintenance of exposed areas. This may include silt fence, biofilter bags, straw wattles, or other suitable methods. During construction activities, exposed areas should be well-compacted and protected from erosion with visqueen, surface tackifier, or other means, as appropriate. Temporary slopes or exposed areas may be covered with straw, crushed aggregate, or riprap in localized areas to minimize erosion. Erosion and water runoff during wet weather conditions may be controlled by application of strategically placed channels and small detention depressions with overflow pipes.

After grading, exposed surfaces should be vegetated as soon as possible with erosion-resistant native vegetation. Jute mesh or straw may be applied to enhance vegetation. Once established, vegetation should be properly maintained. Disturbance to existing native vegetation and surrounding organic soil should also be minimized during construction activities.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The project area includes total impervious area of approximately 30 percent.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

An Erosion/Sedimentation Control plan with site-specific BMPs, as approved by the City of Camas, shall be designated for the construction of the improvements to ensure that *sediment and sediment laden runoff does not leave the site. Such measures include, but may not be limited to, sediment control fencing and inlet protection.*

2. Air

Find help answering air questions[4]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Construction equipment and vehicles will generate dust and particulate emissions during the construction period. Other emission sources include small power tools including, but not limited to, small gas-powered equipment used for landscape maintenance. The quantities of those emissions are unknown. The project may minimally increase automobile emissions in the vicinity due to additional vehicular traffic accessing and using the facility.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None known.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

If necessary, water will be utilized for dust control as needed during construction of on-site improvements. Emission control measures for vehicles and equipment are regulated under the Camas Municipal Code Standards, Washington State Department of Ecology (DOE) and U.S. Environmental Protection Agency (EPA). It is anticipated that all vehicles and equipment will be in compliance with these regulations.

3. Water

Find help answering water questions[5]

a. Surface:

Find help answering surface water questions[6]

1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If

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[4] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-Air

[5] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water

[6] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water/Environmental-elements-Surface-water

yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Per Clark County GIS, there are mapping indicators for potential critical areas (wetlands) on the site. Previous development of the subject site indicated the presence of a wetland which has been mapped within the southwest corner of the subject property. The location of the delineated/mapped wetland is approximately 975-feet from the project area. After confirmation with city staff, it has been determined that the proposed development will not require a Critical Areas Report or additional wetland delineation at this time.

2. **Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

   No.

3. **Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

   None.

4. **Will the proposal require surface water withdrawals or diversions? Give a general description, purpose, and approximate quantities if known.**

   No.

5. **Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

   The proposal does not lie within a 100-year floodplain.

6. **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

   The proposal does not involve any discharges of waste materials to surface waters.

b. Ground:[7]

1. **Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give a general description, purpose, and approximate quantities if known.**

   No. Public water systems are available throughout the area. Groundwater will not be withdrawn from a well for drinking water or other purposes. Water will not be discharged to groundwater.

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[7] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water/Environmental-elements-Groundwater

2. **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

   No such discharge is anticipated.

c. **Water Runoff (including stormwater):**

1. **Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

   All runoff from the site is infiltrated onsite. The project is mostly flat (tennis courts) with a strip of grassy area to the north which forms a shallow channel which conveys runoff to the existing field inlets and ultimately to the existing infiltration systems. The site is developed and contains a stormwater treatment (swale) system and two infiltration facilities for the disposal of runoff. These systems have been designed to meet the current standards and have been detailed in the as-built plans for the school and addition of the Fieldhouse.

2. **Could waste materials enter ground or surface waters? If so, generally describe.**

   Possible spills including fuels such as diesel or gasoline could potentially occur on the site during construction. Without adequate erosion control or stormwater mitigation, waste materials could possibly enter ground or surface waters. However, the proposed stormwater treatment and erosion control measures will minimize the potential for waste materials to be conveyed to ground or surface waters.

3. **Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.**

   The proposal may alter onsite drainage patterns slightly, given the increase in impervious surface, but this will be minimal as well as be accommodated through appropriate water quantity and quality treatment facilities design/implementation.

d. **Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:**

   This proposal will meet or exceed the City of Camas' and Washington State Department of Ecology's erosion control standards.

4. Plants

[Find help answering plants questions]

a. **Check the types of vegetation found on the site:**

☒ **deciduous tree: alder, maple, aspen, other**

☐ **evergreen tree: fir, cedar, pine, other**

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☒ **shrubs**

☒ **grass**

☐ **pasture**

☐ **crop or grain**

☐ **orchards, vineyards, or other permanent crops.**

☐ **wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other**

☐ **water plants: water lily, eelgrass, milfoil, other**

☐ **other types of vegetation**

b. What kind and amount of vegetation will be removed or altered?

A total of seven (7) trees as well as grass vegetation located within the proposed project area will be removed.

c. List threatened and endangered species known to be on or near the site.

According to Clark County GIS records, there are no mapping indicators associated with the property with regards to habitat and species resources.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.

The proposal will conform to the City of Camas requirements for landscaping and portions of the site are not proposed for development.

e. List all noxious weeds and invasive species known to be on or near the site.

No noxious weeds and invasive species other than the possible presence of Himalayan Blackberries are known to be located on or near the site.

5. Animals

Find help answering animal questions[8]

a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site.

Examples include:

- **[✓ Birds:] hawk, heron, eagle, [✓ songbirds,] other:**
- **Mammals: [✓ deer,] bear, elk, beaver, other:**
- **Fish: bass, salmon, trout, herring, shellfish, other:**

b. List any threatened and endangered species known to be on or near the site.

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[8] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-5-Animals

According to Clark County GIS records, there are no mapping indicators associated with the property with regards to habitat and species resources.

c. Is the site part of a migration route? If so, explain.

The site is located within what is commonly referred to as the Pacific Flyway. This Flyway is the general migratory route for various species of ducks, geese, and other migratory waterfowl. The Flyway stretches from Alaska to Mexico and from the Pacific Ocean to the Rocky Mountains. Neotropical birds, such as Robins, may also seasonally utilize or be near the site.

d. Proposed measures to preserve or enhance wildlife, if any.

New landscaping will be implemented throughout the proposed development to enhance wildlife habitats on site.

e. List any invasive animal species known to be on or near the site.

No invasive animal species are known to be on or near the site.

6. Energy and natural resources

Find help answering energy and natural resource questions[9]

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Buildings will receive electrical service from Clark Public Utilities.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No, construction should not affect the potential use of solar energy by adjacent.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

All construction on the site will be designed to comply with the state adopted codes and policies related to energy conservation.

7. Environmental health

Health Find help with answering environmental health questions[10]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.

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[9] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-6-Energy-natural-resou

[10] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-7-Environmental-health

No. There are no known environmental health hazards that will occur as a result of this proposal. Heavy equipment and a variety of materials may be utilized to construct the project.

1. **Describe any known or possible contamination at the site from present or past uses.**

   No known or possible contamination currently exists or is known to have occurred on the site.

2. **Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

   No known hazardous chemicals/conditions will affect project the development and design of the proposed development.

3. **Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

   No toxic or hazardous chemicals are anticipated to be stored, used, or produced during the project's development or construction.

4. **Describe special emergency services that might be required.**

   No emergency services are anticipated to be required at this time. The standard emergency services such as police, fire and emergency medical services will be used on an as-needed basis in the future.

5. **Proposed measures to reduce or control environmental health hazards, if any.**

   Contractors will be expected to comply with applicable local, state and federal regulations relating to the construction and operation of the project. All construction is anticipated to be inspected according to industry requirements and standards.

b. Noise

1. **What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

   There is limited noise in the area generated from traffic and residential uses which is not anticipated to affect the proposed development.

2. **What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site)?**

   Construction of the project will create noise on-site in the short-term. This would be limited to construction hours of operation as allowed by the City of Camas. Long-term noise impacts will be minimal and limited to traffic to and from the site, landscaping equipment and general noise from patrons on-site. Mechanical equipment associated with the dome air structure will create some amount of noise.

3. **Proposed measures to reduce or control noise impacts, if any:**

   Per CMC 9.32.050, construction activities will not occur before 7 a.m. or after 7 p.m. Monday through Friday, before 7 a.m. or after 5 p.m. on Saturdays or anytime on Sundays or the following holidays: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day or Christmas Day. Regarding noise associated with mechanical equipment, the proposed placement of the equipment pad and equipment behind an earthen berm will mitigate the noise generated by the equipment. The substantial physical distance between the mechanical equipment and off-site adjacent uses makes the noise impact practically imperceptible.

8. Land and shoreline use

Find help answering land and shoreline use questions[11]

a. **What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.**

The site address is the site of the Camas High School campus located at 29600 SE 15th Street, Camas, WA. The property consists of Tax Parcels 178111-000 and 178174-000 hereby known as the "subject property." The total area of the subject property is 2,281,238 square foot (sf) or 52.37 acres in size per Clark County records and is zoned R-7.5.

The proposed redevelopment of the existing tennis courts and adjacent landscaping, parking and drive isle(s) consists of 144,798 sf or 3.32 acres of the overall subject property. For the purposes of this project narrative, the area proposed for redevelopment will hereby be referred to as the "project area."

The subject property has been developed into the Camas High School campus. The subject property includes a primary building used for educational programming, auditorium and gym space for activities and athletics, as well as accessory uses including various sports fields, tennis courts and associated parking in addition to landscaping throughout the existing development. The subject property includes frontage on SE 15th Street which is a 3-lane, fully improved arterial road. A secondary ingress/egress point of access is in the northwest portion of the site. This access point extends through the west adjacent property (The Heights Learning Center, Property ID: 116031010) and connects to NE Garfield Street right-of-way, designated as a local road.

The project area currently features eight (8) tennis courts and two (2) pickleball courts, all of which are fenced and equipped with overhead lighting for added convenience. The facilities are surrounded by internal landscaping, and there is pedestrian access that connects the project area to the existing parking lot located to the south.

Existing uses adjacent to the project site:

NORTH:	*North Shore Higher Density Residential (HD-NS)*
EAST:	*Single Family Residential (R1-6) with Urban Holding - 10 (UH-10) overlay*
SOUTH:	*Residential-7,500 (R-7.5) with Urban Holding - 10 (UH-10) overlay*
WEST:	*Residential-10,000 (R-10) with Airport Overlay - Zone C overlay and Neighborhood Park (NP)*

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[11] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-8-Land-shoreline-use

The proposed use is not anticipated to affect the neighboring and/or adjacent land uses.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

No.

1. Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?

No.

c. Describe any structures on the site.

The subject property has been developed into the Camas High School campus. The subject property includes a primary building used for educational programming and auditorium and gym space for activities and athletics. In addition to the primary structure there are six (6) portable/temporary classroom structures, an approximate 12,500-sf field house structure as well as a few small equipment structures located at various sports fields throughout the campus.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

The site is currently zoned Residential-7,500 (R-7.5).

f. What is the current comprehensive plan designation of the site?

SFM

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

Per Clark County GIS, there are mapping indicators for potential critical areas (wetlands) on the site. Previous development of the subject site indicated the presence of a wetland which has been mapped within the southwest corner of the subject property. The location of the delineated/mapped wetland is approximately 975-feet from the project area. After confirmation with city staff, it has been determined that the proposed development will not require a Critical Areas Report or additional wetland delineation at this time.

i. Approximately how many people would reside or work in the completed project?

Approximately 200 employees.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any.

Not applicable.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

The applicant shall obtain all necessary land use approvals.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

Not applicable.

9. Housing

Find help answering housing questions[12]

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Not applicable.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None

c. Proposed measures to reduce or control housing impacts, if any:

Not applicable.

10. Aesthetics

Find help answering aesthetics questions[13]

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The proposed dome air structure will have a maximum height of approximately 40 feet.

b. What views in the immediate vicinity would be altered or obstructed?

No known views are anticipated to be altered or obstructed due to the proposed site development.

c. Proposed measures to reduce or control aesthetic impacts, if any:

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[12] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-9-Housing

[13] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-10-Aesthetics

The site will be screened through landscaping buffers to reduce any perceived aesthetic impacts as well and will acquire the necessary city approval for design review.

11. Light and glare

Find help answering light and glare questions[14]

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Lighting may be provided with luminaires along various structure edges to increase safety and security around the buildings throughout the proposed school campus. Lighting schemes will also consider light distribution to ensure security at exits, parking areas, and pedestrian paths. In addition to building lighting, pedestrian lighting may be integrated through the proposed parking lot and pedestrian infrastructure for pedestrian safety.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

c. What existing off-site sources of light or glare may affect your proposal?

Existing residential uses and traffic may cause only minimal light and glare and should not adversely impact the proposed redevelopment of the site.

d. Proposed measures to reduce or control light and glare impacts, if any:

Lights will be installed and shielded to minimize dispersion and control any potential offsite impacts. Intensity of lighting will be kept at a level to assure safety on the site, but will meet all applicable City of Camas light shielding and glare reductions.

12. Recreation

Find help answering recreation questions

a. What designated and informal recreational opportunities are in the immediate vicinity?

The subject property itself includes various sports amenities such as tennis and pickleball courts, baseball, soccer and football fields along with an events tract surrounding the football field. The Lacamas Regional Park is in close proximity to the subject property and includes amenities such as hiking trails and access to Round Lake. Additionally, sidewalk infrastructure is in the immediate vicinity.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Not applicable.

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[14] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-11-Light-glare

13. Historic and cultural preservation

Find help answering historic and cultural preservation questions[15]

a. **Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.**

No.

b. **Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.**

None known at this time.

c. **Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.**

The subject property is the site of the Camas High School, which has been previously developed including the project area that improvements where improvements are being proposed. The Department of Archeology and historic Preservation (DAHP) previously provided findings stating:
"…the archaeological site on the Camas High School property, except the area you set aside for protection, was destroyed by the construction of the high school in 2002. Given that the archaeological deposits identified during the archaeological predetermination and subsequent survey were between 0 and 50 centimeters below ground surface, we agree that there is unlikely to be any intact archaeology remaining. Therefore, no further archaeological work will be required for the current expansion."

d. **Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.**

In the event any archaeological or historic materials are encountered during project activity, work in the immediate area must stop and the following actions taken:

1. *Implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering; and*
2. *Take reasonable steps to ensure the confidentiality of the discovery site; and,*
3. *Take reasonable steps to restrict access to the site of discovery. If human remains are uncovered, appropriate law enforcement agencies shall be notified first, and the above steps followed. If remains are determined to be Native, consultation with the effected Tribes will take place in order to mitigate the final disposition of said remains.*

---

[15] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-13-Historic-cultural-p

14. Transportation

Find help with answering transportation questions[16]

a. **Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.**

The subject property includes frontage on SE 15th Street which is a 3-lane, fully improved arterial road. A secondary ingress/egress point of access is in the northwest portion of the site. This access point extends through the west adjacent property (The Heights Learning Center, Property ID: 116031010) and connects to NE Garfield Street right-of-way, designated as a local road.

b. **Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?**

C-Tran operates within Camas city limits. The closest stop to the subject property is located approximately 2 miles southwest at the intersection of NE 3rd Ave. & Franklin St. (Stop ID 6048).

c. **Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).**

No.

d. **Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

No

e. **How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?**

A Trip Generation Study was completed by Lancaster Mobley on September 19, 2024. Based on data collected at Camas High School and a comparable indoor/covered tennis facility, the proposed USTA/CSD is projected to generate 0 AM and PM peak hour trips and an additional 56 average weekday trips. Accordingly, all nearby transportation facilities are not expected to experience significant site trip impacts from this proposal.

f. **Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.**

No

g. **Proposed measures to reduce or control transportation impacts, if any:**

---

[16] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-14-Transportation

Exhibit 24 CUP24-1001

A Trip Generation Study was completed by Lancaster Mobley on September 19, 2024 which states, "… all nearby transportation facilities are not expected to experience significant site trip impacts from this proposal."

15. Public services

Find help answering public service questions[17]

a. **Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.**

Yes, a minimal increase in public services may result from the additional recreational programing offered through the proposed development.

b. **Proposed measures to reduce or control direct impacts on public services, if any.**

None

16. Utilities

Find help answering utilities questions[18]

a. **Circle utilities currently available at the site: [✓ electricity], [✓ natural gas], [✓ water], refuse service, [✓ telephone], [✓ sanitary sewer], septic system, other:**

b. **Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

Utilities will be included with the proposed development. Water (Camas), electricity (Clark Public Utilities), and phone (several providers). The stormwater system within adjacent right-of-way will be the Cities. Sanitary Sewer is available via City of Camas.

C. Signature

Find help about who should sign[19]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

---

[17] https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-15-public-services

[18] https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-16-utilities

[19] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-C-Signature

Exhibit 24 CUP24-1001

X Jasen McEathron

Type name of signee: *Jasen McEathron*

Position and agency/organization: *Director of Business Services |Camas School District No. 117*

Date submitted: ***9/30/2024***

Exhibit 25 CUP24-1001

In re: Camas High School Tennis Courts

) NO. CUP24-1001
)
) AFFIDAVIT OF MAILING
)
)
)
)
)
Respondent.)

STATE OF WASHINGTON)
) ss.
CLARK COUNTY)

I, Carey Certo, on oath says:

I, Carey Certo, on January 2, 2025, I directed a true and correct copy of the SEPA Determination of Non-Significance be served upon the parties herein, in the above-entitled action, by depositing with the U.S. Post Office, Vancouver, Washington, a postage-prepaid envelope containing same addressed as follows: See attached list.

Carey Certo
SIGNATURE

SUBSCRIBED and SWORN to before me this 4th day of February, 2025.

Aireanna Baldwin
Notary Public
State of Washington
My Appointment Expires 10/1/2028
Commission Number 183848

Aireanna Baldwin
Notary Public in and for the State of Washington, residing at Clark County
My appointment expires: 10/1/2028

Page 1 – Affidavit of Mailing

Exhibit 25 CUP24-1001

BUHMAN BRADLEY B & BUHMAN PAULA J
26621-A SE 15 ST
CAMAS, WA 98607

REKDAHL DONALD A & REKDAHL SHIRLEY M TRUSTEES
921 SE GARDNER RD
CAMAS, WA 98607

~~REKDAHL DONALD A & REKDAHL SHIRLEY M TRUSTEES~~
~~921 SE GARDNER RD~~
~~CAMAS, WA 98607~~

~~CAMAS SCHOOL DISTRICT #117~~
~~841 NE 22ND AVE~~
~~CAMAS, WA 98607~~

BULLETSET ANN
27208 SE 15TH ST
CAMAS, WA 98607

FENG DAVID & SHUM CHRISTY
739 NE 42ND CIR
CAMAS, WA 98607

MCCARTHY MARTIN & MCCARTHY TONI
PO BOX 1083
CAMAS, WA 98607

GILLAS JEANETTE M TRUSTEE
26813 SE 15TH ST
CAMAS, WA 98607

KRAUTSCHEID THOMAS & KRAUTSCHEID TERRI
1701 SE 270TH PL
CAMAS, WA 98607

VANDOMELEN ANNETTE M & FICKES PAUL E COTRUSTEES
4200 NE HAYES ST
CAMAS, WA 98607

CAMAS WOODS LLC
19120 SE 34TH ST STE 103
VANCOUVER, WA 98683

~~REKDAHL DONALD A & REKDAHL SHIRLEY M TRUSTEES~~
~~921 SE GARDNER RD~~
~~CAMAS, WA 98607~~

DODAK ERON J & HOLMQUIST JENNIFER L
1009 SE 271ST AVE
CAMAS, WA 98607

~~CAMAS SCHOOL DISTRICT #117~~
~~841 NE 22ND AVE~~
~~CAMAS, WA 98607~~

WATSON KAY & WATSON EDWARD
1317 SE 271ST AVE
CAMAS, WA 98607

CLINE ELLEN JEAN
PO BOX 520
CAMAS, WA 98607

D2 EQUITY LLC
2115 SE 192ND AVE
CAMAS, WA 98607

BLOMDAHL JOSH
27001 SE 15TH ST
CAMAS, WA 98607

WOLLAM JEAN A & WOLLAM ROGER
27305 SE 15TH ST
CAMAS, WA 98607

KUKARTSEV GENNADIY & SHABANOVA VIKTORIYA
828 NE 42ND CIR
CAMAS, WA 98607

HAGENSEN MARK & HAGENSEN LORI
1008 SE 271ST AVE
CAMAS, WA 98607

TRAUTMAN THOMAS L & TRAUTMAN REBECCA J
915 SE 271ST AVE
CAMAS, WA 98607

CAMAS SCHOOL DISTRICT #117
841 NE 22ND AVE
CAMAS, WA 98607

KRULIKOVSKIY ROMAN N ETAL
1101 SE 271ST AVE
CAMAS, WA 98607

~~CITY OF CAMAS~~
~~616 NE 4TH AVE~~
~~CAMAS, WA 98607~~

BECKER DAVID R JR & BECKER CAROLYN ETAL
23007 NE 179TH ST
BRUSH PRAIRIE, WA 98606

MCNELEY ADAM C & BUHMAN MCNELEY HEIDI L
26621 SE 15TH ST
CAMAS, WA 98607

GREEN SUSAN L
27031 SE 15TH ST
CAMAS, WA 98607

WING DANIEL L & WING AMY C
3009 NE 163RD ST
RIDGEFIELD, WA 98642

BUHMAN BRADLEY B & BUHMAN PAULA J
26621 SE 15TH ST
CAMAS, WA 98607

Exhibit 25 CUP24-1001

CITY OF CAMAS
616 NE 4TH AVE
CAMAS, WA 98607

Exhibit 25 CUP24-1001

State Environmental Policy Act
Determination of Non-Significance

CASE NO:	CUP24-1001: Proposed Redevelopment of Camas High School Tennis Courts
APPLICANT:	MacKay Sposito, Steven McAtee 18405 SE Mill Plain Blvd. #100 Vancouver, WA 98683
REQUEST:	Conditional Use Permit, Minor Design Review, and SEPA Review for the proposed redevelopment of the existing tennis courts and adjacent landscaping, parking, and drive aisles on approximately 3.32 acres within the subject 52.37-acre subject site, situated in the R-7.5 Single Family Residential Zone.

LOCATION:	29600 SE 15TH STREET, CAMAS, WA 98607 PARCEL NUMBERS 178111-000 AND 178147-000
LEGAL DESCRIPTION:	THE PROJECT IS LOCATED IN THE CITY OF CAMAS IN THE SE ¼ of Section 35 Township 2 North, Range 3 EAST OF THE WILLAMETTE MERIDIAN
SEPA DETERMINATION:	DETERMINATION OF NON-SIGNIFICANCE (DNS)
COMMENT DEADLINE:	**JANUARY 16, 2025, AT 5:00 P.M.**

As lead agency under the State Environmental Policy Act (SEPA) Rules [Chapter 197-11, Washington Administrative Code (WAC)], the City of Camas must determine if there are possible significant adverse environmental impacts associated with this proposal. The options include the following:

- DS = Determination of Significance (The impacts cannot be mitigated through conditions of approval and, therefore, requiring the preparation of an Environmental Impact Statement (EIS).

- MDNS = Mitigated Determination of Non-Significance (The impacts can be addressed through conditions of approval), or;

- DNS = Determination of Non-Significance (The impacts can be addressed by applying the Camas Municipal Code).

Exhibit 25 CUP24-1001

Determination:

Determination of Non-Significance (DNS). The City of Camas, as lead agency for review of this proposal, has determined that this proposal does not have a probable significant adverse impact on the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(e). This decision was made after review of a completed environmental checklist, and other information on file with the City of Camas.

Date of Publication & Comment Period:

Publication date of this DNS is **January 2, 2025**, and is issued under WAC 197-11-340. The lead agency will not act on this proposal until the close of the 14-day comment period which ends on **January 16, 2025**. Comments may be sent by email to communitydevelopment@cityofcamas.us or regular mail to:

City of Camas SEPA Official
Community Development Department
616 NE Fourth Avenue
Camas, Washington 98607

Responsible Official: Robert Maul (360) 817-1568

1/2/25

Robert Maul, Planning Manager and Responsible Official

Date of publication

Exhibit 25 CUP24-1001

Exhibit 26 CUP24-1001

Carey Certo

From: Yvette Sennewald
Sent: Friday, March 14, 2025 8:39 AM
To: Carey Certo
Subject: FW: Request Regarding Existing Easement for Planning Case CUP24-1001

From: Steve Waugh
Sent: Thursday, January 2, 2025 3:57 PM
To: communitydevelopment@cityofcamas.us
Cc: Andy Swanson <andy@hsr-capital.com>; Steve Waugh <swaugh@hsr-capital.com>
Subject: Request Regarding Existing Easement for Planning Case CUP24-1001

Dear Yvette,

We are writing regarding Planning Case CUP24-1001 and the recent notice of application for the Conditional Use Permit related to the redevelopment of the Camas High School Tennis Courts.

We kindly request that the applicant and City of Camas include the 60-foot access and utility easement owned by HSR Capital on the tennis center site into the public record for the proposed hearing. Additionally, we ask that this easement be noted on all proposed land use and engineering plans associated with this case. For clarity, we have no immediate plans to relinquish our rights to this easement currently. The easement serves parcel 178140-000 to the north of the tennis center and is under the name Camas Woods LLC, which is an HSR Capital specific project LLC.

For your reference, we have attached several maps provided by our engineer showing the easement highlighted in green along with the recorded document number.

Please let us know if you require any further documentation or additional details.

Thank you for your attention to this matter. We appreciate your assistance.

HSR

Steve L. Waugh
Chief Development Officer

☎ 360 903 4239 ✉ swaugh@hsr-capital.com
hsr-capital.com
19120 SE 34th Street #103 Vancouver WA 98683

Exhibit 27 CUP24-1001

Carey Certo

From:	Robert Maul
Sent:	Monday, January 27, 2025 10:59 AM
To:	Yvette Sennewald; Carey Certo
Cc:	Alan Peters; Anita Ashton; Curleigh (Jim) Carothers
Subject:	FW: Easement for Planning CASE24-1001

Please add to the record.

From: Steve Waugh <swaugh@hsr-capital.com>
Sent: Monday, January 27, 2025 10:10 AM
To: Robert Maul <RMaul@cityofcamas.us>
Cc: Andy Swanson <andy@hsr-capital.com>; Bryce Hanson <BryceH@aks-eng.com>; andreottim <andreottim@aks-eng.com>
Subject: Easement for Planning CASE24-1001

Robert Maul
City of Camas
616 NE 4th Avenue
Camas, WA 98607
Subject: Easement for Planning Case CUP24-1001

Dear Mr. Maul,

We wanted to confirm that HSR Capital, LLC has no plans to relinquish the 60-foot access and utility easement at this time. We need to keep this option open until our abutting development project Camas Woods is fully entitled and we know for sure that access to the east isn't needed.

Thank you for your understanding. Let us know if you need anything further.

Sincerely,

HSR Capital, LLC
19120 SE 34th Street # 103
Vancouver, WA 98683

Carey Certo

From:	Yvette Sennewald
Sent:	Wednesday, March 12, 2025 4:26 PM
To:	Carey Certo
Subject:	FW: CHS Tennis Court Improvement project

From: Clark Vitek <clark@theviteks.com>
Sent: Wednesday, January 22, 2025 11:07 AM
To: Yvette Sennewald <YSennewald@cityofcamas.us>
Subject: Re: CHS Tennis Court Improvement project

Is the traffic study referenced available as public record?

The SEPA report mentions 56 weekday trips and 0 peak hour trips. This is highly suspect. Based on 8 courts, I estimate there will be at least 32 trips per 60-90 minutes during all hours of operation, and some of these will be peak hour trips. This is an attempt to avoid scrutiny and TIF. I would have commented in the SEPA period except for the fact that the "old system" didn't provide any information or a notice that it was no longer working. As such, I will bring these concerns to the CUP hearing, but I would like to review the traffic study for errors or misrepresentations first.

The only access to this commercial center is through a school parking lot.

I note also that the proposed lane width on the north side of the new structure is 15 feet, this does not meet city of camas standard for commercial fire lane access. Regardless of whether a fire lane is available on the south side, a vehicle fire or other emergency in the north parking area will not be able to be accessed except from the south side, several hundred feet away. Has the fire Marshal's office reviewed this preliminary plan? If so, I would like to inspect that review as well.

Did the applicant submit architectural review including fire/life/safety information, ability to comply with building codes for restrooms/etc. Current building code requires sprinklers or occupancy limit of 49 for non-sprinklered, or 6 month temporary structure (take down in summer months). Is any of this addressed in the application to date?

Sorry to ask so many questions, but these seem like important considerations for what is effectively a site plan application and the attachment in the portal below do not seem to have any of the details.

Thanks,

Clark

Carey Certo

From:	Yvette Sennewald
Sent:	Wednesday, March 12, 2025 4:28 PM
To:	Carey Certo
Subject:	FW: CHS Tennis Court Improvement project

From: Clark Vitek <clark@theviteks.com>
Sent: Monday, February 10, 2025 12:31 PM
To: Yvette Sennewald <YSennewald@cityofcamas.us>
Subject: Re: CHS Tennis Court Improvement project

Yvette:

Thank you for your earlier communications on this project. I have a couple new concerns and suggest that the City may need to revisit its scheduling of this public hearing for reason that there are gross omissions and errors in the application that render it "not technically complete" for the purpose of going forward to a public hearing.

First issue: The language posted in the notice and on the sign does not describe the actual hours of proposed conditional usage. Hours of proposed conditional use are a critical consideration for public comment. In fact, the language posted could be interpreted by a reasonable person to imply the proposed conditional use is "outside of school hours", since most would assume the school uses its own facilities during the regular school hours. This is not my understanding of the proposed conditional use by USTA. The proposed conditional use is actually during the school day while kids are present and sharing the same access routes and facilities. The public is entitled to a full and complete understanding of the proposed hours of conditional use. I would be an error for the city to accept the application as technically complete and move to public hearing if in fact there was no information provided by the applicant on the actual proposed operational hours for conditional use.

Second Issue: With respect to the traffic impact and TIF discussion below, this is also potentially an error on the part of the city that suggests the application should be returned and the public hearing re-scheduled.

It was an error by the City to accept the traffic information provided as technically complete when it is obviously incorrect, grossly misleading, or deliberately false on the part of the applicant. The trip counts provided by the applicant to the City in its SEPA package, section 14(e) stated 54 new daily trips and zero peak hour trips. These values were picked up and repeated in the local newspaper ("Camas High School's tennis court revamp gets environmental OK from City", January 10, 2025 edition). The city should not have accepted this traffic study and moved the application forward to public hearing because the submitted values grossly differ from what would be suggested by using the ITE Trip Generation Manual, 11th Edition, Land Use Code 491, which is 3.82 net new trips per court per hour. Utilizing the ITE manual, it is likely the projected trips are 6 to 7 times higher than that reported by the applicant and now circulated in the press.

As examples I can send you: Kirkland and Lake Oswego indoor court projects both use 38.75 trips per court per day (3.2 to 3.4 per court PM peak hour). The City of Camas approved Evergreen Tennis (Camas

2013) also used the ITE manual for calculations. Based on the 10 courts of the Camas High project the basic ITE calculated number would be 38.2 new trips per **hour** of conditioned operation for the full facility, not 54 per day. This is a significant difference that the public should be entitled to understanding and not proceed to public hearing unless explained more completely or correctly by the applicant. This traffic will be driving through the high school parking lot, probably during a lot of the same hours the kids will be there. The city has a basic obligation to ensure that information put forward for public hearing is at least following industry standard calculations, or is otherwise reasonably correct so as not to project a false impression of the project's potential impact. In this case the applicant has potentially significantly minimized the traffic impact in its representations to the city and the public.

If allowed to proceed to public hearing without requiring the applicant to provide more complete information on proposed hours of operations, and complete/correct the traffic impact calculations, this may be viewed as procedural bias on the part of City Planning. The above omissions and errors are critical to providing the public an understanding of the actual proposed conditional use and being prepared to comment at the public hearing.

Thanks again,

Clark Vitek

From: Clark Vitek <clark@theviteks.com>
Sent: Friday, January 24, 2025 2:59 PM
To: Yvette Sennewald <YSennewald@cityofcamas.us>
Subject: Re: CHS Tennis Court Improvement project

Thank you for the information and correction, for some reason I thought it was 20 ft regardless of 1 or 2 way.

Have a good weekend!

Clark

On 1/24/25 14:55, Yvette Sennewald wrote:

> Hi Clark,
>
> I have shared your questions/concerns with Engineering and Fire staff and have been informed that these items will be discussed and conditioned, if applicable, in the staff report.
>
> Engineering staff will meet to discuss the TIA concerns and they will also discuss the fire access with the Fire Marshal's Office. Camas Design Standards Manual requires a minimum 15-foot-wide drive aisle width for one-way vehicle movements. The site plan shows a 16-foot-wide drive aisle. If the Fire Marshal wants that to be any wider, a condition will be added in the staff report.
>
> Thank you,
> Yvette

Carey Certo

From:	Yvette Sennewald
Sent:	Wednesday, March 12, 2025 4:30 PM
To:	Carey Certo
Subject:	FW: CHS Tennis Court Improvement project

From: Clark Vitek <clark@theviteks.com>
Sent: Monday, February 10, 2025 4:09 PM
To: Yvette Sennewald <YSennewald@cityofcamas.us>
Subject: Re: CHS Tennis Court Improvement project

Yvette

As supporting data, here is our trip count this week at Evergreen Tennis (4 courts). We have a scheduling system that gives me players names which I counted. Everyone comes in their own car, each player visit = 2 trips, one incoming and one outgoing. Weather permitting these are a typical weekday snapshot for us.

Evergreen Tennis (2/10/2025 – 2/14/2025, scheduled)								
	mon	tues	wed	thurs	fri	average/day	Average/day/court	Average/hr/court
trips	212	200	244	160	180	199.2	49.8	3.86

Note that the ITE Trip Generation Manual cited below (11th edition), Land Use Code 491 provides 3.82 per court per hour.

Once the actual proposed weekday operating hours are provided by the applicant this strongly suggests using the ITE provided 3.82 per court per hour as the expected basic trip count for the USTA Camas High School 10 court project, i.e. 38 or 39 trips per hour, not 54 per day.

Clark

Carey Certo

From: Yvette Sennewald
Sent: Wednesday, March 12, 2025 4:31 PM
To: Carey Certo
Subject: FW: CHS Tennis Court Improvement project
Attachments: kirkland_4court.pdf; lakeoswego_8court.pdf

From: Clark Vitek <clark@theviteks.com>
Sent: Monday, February 10, 2025 9:16 PM
To: Yvette Sennewald <YSennewald@cityofcamas.us>
Subject: Re: CHS Tennis Court Improvement project

thanks again. Here are the Kirkland (4 court) and Lake Oswego (8 court) studies referenced (excerpts as attachments, and both from publicly available documents).

Kirkland (4 courts): 155 new daily trips, 13 during PM peak hour

Lake Oswego (8 courts): 310 new daily trips, 27 during PM peak hour

the study provided in the original application is simply not credible with respect to total new trips, and the PM peak hour claim of zero trips should be enforced with conditioned operating hours if applicant is claiming to have no trip ends due to no operations open to the public, all seasons, during the PM peak hour. This is highly doubtful claim on its own.

Clark

Transportation Engineering NorthWest

Technical Memorandum

DATE: August 4, 2010

TO: Thang Nguyen, P.E.
City of Kirkland

FROM: Chris Forster, P.E.
TENW

RE: Central Park Tennis Club Four Court Tennis Building
Trip Generation/Impact Fee Assessment
TENW Project No. 4412

This memorandum documents our trip generation and impact fee assessment for the proposed Central Park Tennis Club (CPTC) Four Court Tennis Building project. The Central Park Tennis Club is located at 12630 NE 59th Street in Kirkland, Washington (see **Attachment A** site vicinity map).

Project Description

The project site is located on the south side of NE 60th Street between 125th Lane NE and 128th Avenue NE. The project would consist of a new four court tennis building to be located on the southern portion of the site currently occupied by the Club's main parking area. As part of the project, the parking lot would be reconfigured and capacity increased from approximately 70 parking stalls to 105 parking stalls. In addition, the Club's main vehicular site access from 127th Avenue NE would be eliminated and replaced with a new connection to NE 60th Street via 125th Lane NE. A preliminary site plan is provided in **Attachment B**. The project is expected to be completed by summer 2011.

Trip Generation

The trip generation estimate for the proposed CPTC Four Court Tennis Building was based on the trip rates (trips per court) published in the Institute of Transportation Engineers (ITE) *Trip Generation* Manual, 8th edition for Land Use Code (LUC) 491 (Racquet/Tennis Club).

The weekday daily and PM peak hour trip generation associated with the proposed project are summarized in **Attachment C**. As shown in **Attachment C**, the proposed project is estimated to generate 155 new weekday daily trips, with 13 new trips occurring during the weekday PM peak hour (6 entering, 7 exiting).

The applicant requests that a concurrency test be conducted using the estimated trip generation summarized above. A concurrency application is being submitted with this memo.

the findings of the transportation analysis, and any recommended mitigations. Table 1 lists important characteristics of the study area and proposed project.

Table 1: Key Study Area and Proposed Lake Oswego Tennis Center Characteristics

Characteristics	Information
Study Area	
Number of Study Intersections	Four
Analysis Period	Weekday AM and PM Peak Hour (one hour between 7-9 AM or 4-6 PM)
Proposed Tennis Center	
Land Use	8 Court Indoor Tennis Facility
AM Peak Hour Project Trips	10 (5 in, 5 out)
PM Peak Hour Project Trips	27 (14 in, 13 out)
Daily Project Trips	310 (155 in, 155 out)
Access Points	Access provided via Atherton Road, approximately 150-175 feet west of Stafford Road Emergency access provided via gravel road adjacent to north end of site, approximately 100-125 feet west of Stafford Road
Other Transportation Facilities	There are no existing on-street bike lanes in the vicinity of the proposed project.
Bicycle and Pedestrian Facilities	There is an existing off-street multi-use path along both sides of Stafford Road between Atherton Drive/Rosemont Road and Overlook Drive and along the north side of Rosemont Road east of the roundabout. There are no bicycle or pedestrian facilities along Stafford Road south of Atherton Drive/Rosemont Road. There is also an existing off-street multi-use path along the south side of Atherton Drive (adjacent to undeveloped land/farm land), connecting to curbside sidewalks on Atherton Drive in the developed/residential area east of the project site.

Carey Certo

From:	Yvette Sennewald
Sent:	Wednesday, March 12, 2025 4:31 PM
To:	Carey Certo
Subject:	FW: CHS Tennis Court Improvement project
Attachments:	SchoolBoardCamasDec9.pdf

From: Clark Vitek <clark@theviteks.com>
Sent: Thursday, February 13, 2025 11:07 AM
To: Yvette Sennewald <YSennewald@cityofcamas.us>
Subject: Re: CHS Tennis Court Improvement project

Yvette:

A couple new questions

-Has the public hearing for this project been rescheduled? Is it possible to register to get updates as an interested party in this project? I can't seem to find where the public hearing date/time is posted online.

-Is it possible to review the actual traffic study that was submitted with the SEPA application? (public record request)

-Has the fire marshal provided any initial comments/review for the CUP application? In particular applicable code, occupancy limits, and requirement for fire suppression systems (or not) in the proposed "Bubble"? (also public record request)

I am preparing written public comments to provide to the school board for their Feb 24 meeting that will include my general observations on likely traffic generation using ITE standard methodology as well as comments on fire code I believe are applicable. I would just like to ensure my comments are not in conflict with any interpretations already provided by the fire marshal office, or if somehow I am missing some consideration in their traffic study that resulted in 54 daily trips vs 38 per hour (ITE Method).

As you may know, the CUP process is being driven by district staff and Mckay-Sposito and they are not obligated to bring every concern raised by the City (or others) back to the school board. However, any member of the public can submit written public comments for the full board at the next board meeting. So, this is the process we have been using to raise concerns and advocate for the school board to consider other alternatives (example earlier submission, which is public record attached to the Dec 9 school board meeting).

Thanks,

Clark Vitek

Exhibit 28 CUP24-1001

To: Camas School Board, meeting December 9, 2024

From: Caryn & Clark Vitek, owners of Evergreen Tennis

Re: Covered Court alternative to the proposed USTA Tennis Center on Camas High School

We oppose the proposed USTA Tennis Center on Camas High School. We do not believe that it is in the best interest of the school district, the Camas High School student athletes, or the Camas community residents.

The approved motion by the board at its July 22, 2024 general meeting was to "approve the facility use and management agreement with USTA, as submitted." Due to significant deficiencies identified in the agreement, including no actual defined shared use between the high school and the USTA, we ask the board to open up its directive to staff to investigate other alternatives for repairing and covering the tennis courts, including options that do not require a long term use and management agreement with the USTA PNW.

1. The proposed USTA PNW Tennis Center is a **complex and costly** solution to providing covered tennis courts that would require **significant site improvements that can be avoided**: these include fire suppression sprinklers, new restrooms and office building, a conditional use permit from the city, additional parking lot and driveway construction, and associated traffic impact fees.

2. A public tennis center will conduct business on top of school hours, introducing more traffic and parking conflicts. For security reasons, school campuses are generally not open to the public for business. The Camas community did not pass school bonds with tax-payer funds for the purpose of transferring school property use to an outside vendor's control.

3. Camas High School will want Varsity, JV, and C-Team to practice and hold all matches on the courts. This is going to conflict with USTA PNW envisioned afternoon programs. The shared use of a tennis center between the USTA and the school is incompatible.

4. We advocate for the school to build its own **pavilion court cover** providing weather protection over the outdoor courts. A pavilion will not require new site development, it can be installed at less cost than a tennis center, it will provide unrestricted use for the school athletes, it avoids the pandemonium of a tennis center on top of the school, it allows the Camas community to still have free access to the outdoor courts during non-school days, as it does now. Most importantly, the school retains full control over the use of the school property.

5. The pavilion can be **multi-use** for a variety of athletics, PE programs and school events. Outside of school days, the pavilion could be offered for rental for tournaments, camps and events, generating recurring revenue to the District.

6. We believe resurfacing the existing tennis courts is possible without entirely reconstructing them and starting over as proposed by USTA PNW. The cracks are extensive, but appear to be thermal and not structural. The district should seek bids to repair the cracks, seal and resurface the courts.

Based on the above concerns, we ask the School Board to re-consider its decision to proceed with building a USTA PNW tennis center on the Camas High School campus. We encourage the School Board to investigate a simpler outdoor pavilion court cover that could achieve the goal of covered courts, while preserving maximum control over opportunities for the school's present and future use.

Carey Certo

From: Yvette Sennewald
Sent: Wednesday, March 12, 2025 4:33 PM
To: Carey Certo
Subject: FW: CHS Tennis Court Improvement project
Attachments: School_Board_Feb24_Vitek.pdf

From: Clark Vitek <clark@theviteks.com>
Sent: Friday, February 21, 2025 12:04 PM
To: Yvette Sennewald <YSennewald@cityofcamas.us>
Subject: Re: CHS Tennis Court Improvement project

Yvette:

Please see attached information we shared as public comment to the Camas School Board for February 24 meeting and share with engineering as information related to this CUP.

In addition to the attached comments, I would like to add some details with respect to TIF calculation:

The applicant's study submitted showed 27 PM Peak Hour trips for 4 courts, which could be expected to scale to 68 PM Peak hour trips for the 10 court project proposed (8 tennis and 2 pickleball). It should be noted that the study was conducted during summer break for the schools (August 12, 2024), so the claim that no PM peak hour trips would be introduced at the High School due to school use from 3-6 PM would be invalid. In fact, the school's tennis season only runs about 4 months per year, so the claim of "no PM Peak hour trips" due to school use 3 PM - 6 PM would be not valid for 8 of 12 months. The suggestion that undercovered courts have credits for existing PM Peak hour trips is also invalid because the courts are not generally used by the public (it is not a park) and all-weather year round operations is a use change from current use during good weather only. In summary, The proposal to cover the courts and operate year round as a commercial center will certainly generate some new PM Peak hour trips compared to existing conditions.

I will check the portal periodically for a revised/updated traffic impact statement. Are we certain that any new documents loaded will now be viewable by the public?

The concern is that if they wish to revise their application materials before the public hearing, the revised submissions may not be viewable by the public as was the case for the original application materials (resolved on Feb 13). I am concerned even if checking regularly, I may not be able to see if anything new is uploaded.

Thanks,

Clark Vitek

Exhibit 28 CUP24-1001

evergreentennis.net

February 21, 2025

To: Camas School Board, Superintendent John Anzalone and Jasen McEathron

From: Clark and Caryn Vitek, Evergreen Tennis

Re: Opposition to the proposed USTA PNW Tennis Center at Camas High School

We have reviewed the application for Conditional Use Permit (CUP) filed by the district on October 1, 2024. The proposal to operate as a public tennis center is not in the best interest of the district or student athletes. In addition to the written comments provided at the December and January general meetings, here are two new concerns specific to the CUP application:

1. Traffic Impact: The submitted Traffic Impact Statement (page 4 Analysis Findings) contains the following: *"The facility will be closed to the general public during school hours. The regular school bell time is scheduled between 8:45 AM - 3:15 PM, noting the school's tennis programs may continue using the facilities through 6:00 PM."* As a result of these restricted hours, the traffic impact was stated to be "56 new trips per day and none during the PM peak hour (5-6 PM)". This calculation assumes trips generated only after 6 PM and before 8 AM year round. We note that if the facility is opened to the public during the school day in the future, Table 3 of the District's commissioned study would calculate up to **545 new trips per day, almost 10 times higher than previously stated.** We believe the school board and our community should fully understand the potential for increased traffic that commercial operations on the High School campus could introduce. If the proposed tennis center is intended to be open during school hours, the school board, the city, and the public should be made aware of this impact.

2. Site Plan eliminates key spectator areas: The proposed site plan shows a "bubble" 125 ft wide. The existing outdoor courts configuration is 120 ft wide with a chain link fence and bleachers outside the fence. **The "bubble" will eliminate any spectator viewing area outside the courts.** During high school matches the teammates, coaches, students, and parents all watch matches from outside the courts and on the bleachers. This will no longer be possible and will degrade the competitive experience. Student-athletes can no longer learn by watching teammates compete, coaches cannot watch individual matches, and parents cannot watch their own kid's court directly. By contrast, a pavilion-style cover would preserve and enhance the existing spectator opportunities with open viewing around all of the courts.

We ask the school board to rescind its July 22, 2024 approval of a 30-year operating contract for a commercial tennis center on the high school campus. Instead, we encourage the board to consider the alternative of covering the courts with a pavilion-style cover. The district should retain full control over school property for school use, without the site work, utilities, new parking and infrastructure required to support commercial use.

Thank you,

Caryn Vitek

Caryn and Clark Vitek, Owners
Evergreen Tennis

Exhibit 28 CUP24-1001

Carey Certo

From: Yvette Sennewald
Sent: Wednesday, March 12, 2025 4:34 PM
To: Carey Certo
Subject: FW: CUP24-1001 additional comments
Attachments: Evergreen Tennis Submittal - Final - 07-23-13_Code_Review.pdf

-----Original Message-----
From: Clark Vitek <clark@theviteks.com>
Sent: Wednesday, March 5, 2025 11:19 AM
To: Yvette Sennewald <YSennewald@cityofcamas.us>
Subject: Re: CUP24-1001 additional comments

Yvette

To illustrate the concern below, attached is the code review submitted with our preliminary site plan application in 2013 (Quamash - now Evergreen Tennis).

I understand this is at the development director's discretion to require architectural review by a qualified architect. But, if sometimes required for type 1 or 2 decisions, it would seem especially important on a conditional use type III application. The reason is that the public needs to fully understand what is actually being proposed in terms of use and occupancy, and it makes no sense to put forward a plan for public comment and scheduled hearing including a proposed structure that may not be capable of compliance with the building code in regard to planned occupancy and use. The applicant may find they need to change the size or shape, or construction type, or limit to 6 months seasonal use for the year. Seasonal use is common for "bubble" structures to be classified as "temporary" IBC structures. Or, arch review may reveal that they may need more restrooms and another larger building to
accommodate the conditional use.   So, these details matter for a type
III application, and therefore the applicant should be required to submit an architectural review clearly describing the planned paths for compliance with IBC for their the 50,000+ square foot structure, just as was required in 2013 for our structures of less than half that size and on a Type 2 decision (reference PA13-18, page 4 "A code analysis and plans shall be prepared by an architect licensed by the State of Washington").

Thanks,
Clark Vitek

On 2/27/25 12:49, Clark Vitek wrote:

Yvette

In addition to comments already provided regarding applicant's traffic impact statement I would like to add the following comments to the record

In the project narrative, the applicant did not provide sufficient technical information to address expected building and fire code compliance of the proposed air supported structure.

Typically, the City would require a statement in the narrative to address expected building and fire code compliance for a proposed new (in this case 56,000 square foot) structure.

The narrative should have addressed the following specific IBC topics:

Exhibit 28 CUP24-1001

(chapter references are to the IBC)

Building Occupancy Classification- Chapter 3 including anticipated Occupant Load (from chapter 3), egress components width, exit and exit doorways, exit access travel distance

Allowable Heights and Areas - Chapter 5, including consideration for occupancy type and occupant load, construction type, automated fire protection systems (or not)

Type of Construction - Chapter 6

Plumbing Systems - Chapter 29 (based on occupant load from Chapter 3)

The above are related concerns to the traffic impact statement because the application is vague with regard to the the actual hours of proposed conditional use and the occupancy type and anticipated occupant load of the structure during times of proposed conditional use. The traffic impact statement suggests the structure will only be used after 6 PM for example, but elsewhere in the narrative it is suggested that the structure will be used at times not in use by the school. The applicant's proposal and willingness to add 41 parking spaces is not consistent with the statement that the structure will only be used at times not in use by the school, because at these times the school's existing parking lot would be almost 100% empty.

Lacking any consistent details on the proposed hours and occupancy of the proposed conditional use, it is impossible to expect the public has been sufficiently informed about this project to comment at public hearing later this month.

The applicant should be required to submit a proper architectural review of the proposed structure addressing all IBC, occupancy, occupant load, plumbing and/or fire code requirements, signed by a registered architect in the state of Washington.

This design review should be made available for public review and comment along with any revised traffic impact statement for a period sufficient for public review prior to hearing.

Sincerely,

Clark Vitek

Exhibit 28 CUP24-1001

Building Code Check:

Date: **23 July 2013.** by: **Mark D DiLoreto, AIA**

8809
REGISTERED
ARCHITECT
MARK D. DILORETO
STATE OF WASHINGTON

Code Used: **2012 IBC with 07/01/13**
Washington Amendments.

FOUR COURT STRUCTURE – 25,920 Sq. Ft.

Proposed building –
Structure: non-combustible steel
Skin: non-combustible Membrane Fabric

Building Occupancy Classification – Chapter 3

Section 303.4 – Page 41
Assembly Group A-3 – Indoor Tennis Courts (without spectator seating)

Section 303.1.1 – Page 41
Small Buildings and Tenant Spaces
A building… used for assembly purposes with an *occupant load* of less than 50 persons shall be classified as a Group B occupancy.

Use Business Group B Use and Occupancy

Type of Construction – Chapter 6

Proposed Type: IIB - Section 602.2 – Page 107
…Building Elements listed in Table 601 are of noncombustible materials, except as permitted in section 603 and elsewhere in the code.

Table 601 – Fire Resistance rating requirements for building elements (hours) – Page 107
All elements of Type IIB have "0" hours requirement.

Use Type IIB Construction

Allowable Heights and Area – Chapter 5

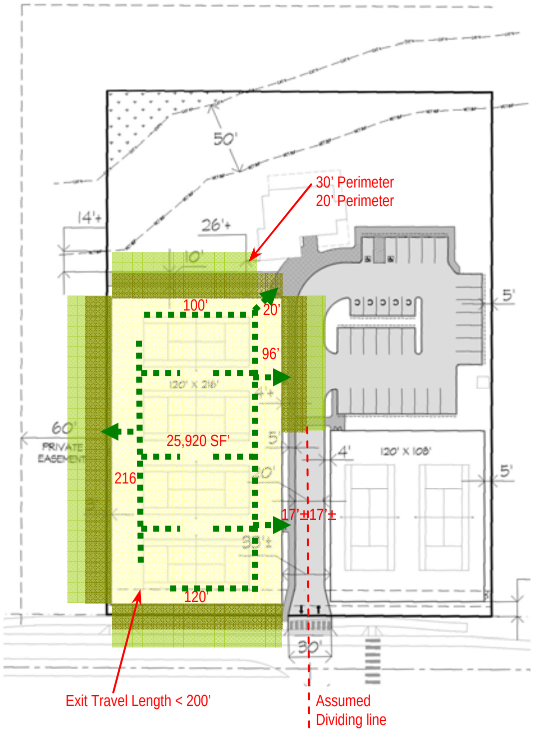
Proposed Area: 25,920 square feet.

Table 503 – Page 96 Allowable Building Heights and Areas

Group B Type IIB: 3 stories and 23,000 square feet

Exhibit 28 CUP24-1001

Area Modification (Section 506.1):



Equation 5-1 506.1 – Page 98

Area = Allowable Area + Allowable Area x Increase due to Frontage*

23,000+(23,000*0.57) = 36,222.70 sf allowed > Proposed 25,920 ✓

*Equation 5-2 506.2.1 – Area Increase due to Frontage – Page 98

(Perimeter Frontage greater than 20 feet/Full Perimeter)-0.25)/(Width‡/30)
(maximum 1)

((552/672)-0.25)/(29.82/30)=0.57

Proposed Building Perimeter: (2x120)+(2x216) = 672 linear feet

Frontage Width ≥ 30 feet on the North Façade:100'
Frontage Width = 25 feet on the North Façade: 20'
Frontage Width ≥ 20 & 30 feet on East Façade: 96'
Frontage ≥ 20 feet: S, W, N, & Partial E Facades: 120+216+120+96 = 552'
Frontage ≥ 30 feet: S, W, & Partial N & E Facades: 120+216+100+96 = 552'

‡ Equation 5-3 506.2.1 – Weighted Average Width of Open Space – Page 98

(Length 1 x Open Space Width 1 + Length 2 x Open Space Width 2)/ Perimeter Frontage greater than 20 feet

Width = ((652*30)+(20*25))/552=29.82

Exhibit 28 CUP24-1001

Proposed Area of 25,920 Square Feet is Allowed with Frontage Increase

Table 602 - Fire Resistance for Exterior Walls Based Upon Fire Separation Distance – Page 108

For Walls ≥ 10 feet Fire Separation, Occupancy Group B, Construction Type IIB, allows 0 Fire Resistance Rating. This structure has 10' or greater fire separation on all sides.

Exterior Walls Require 0 Hour Fire Resistance

Table 705.8 - Maximum area of exterior wall openings based upon fire separation distance and degree of opening protection. – Page 116

South, West, North, and East Sides which have 30 feet or greater fire separation are allowed **unlimited** opening of the façade area in unprotected, non-sprinklered structures.

North Side that has 25 to less than 30 feet fire separation is allowed **70%** opening of the façade area in an unprotected, non-sprinklered structure.

East Side that has 15 feet to less than 20 feet fire separation is allowed **25%** opening of the façade area in an unprotected, non-sprinklered structure

Means of Egress
Occupant Load – From Section 303.1.1 – Page 41 - Assumed 49 occupants

Also 1004.1.2 –Exception: "Where approved by the building official, the actual number of occupant for whom each occupied space, floor, or building is designed, although less than those determined by calculation shall be permitted to be used in the determination of the design occupant load.

Egress Components Width – 1005.3.2 – Page 242
0.2" per occupant: 0.2*49=10"- other factors control.

Exit and Exit Doorways – 1015 – Page 262
1015.1 – Two exits or exit access doorways from any space shall be provided.
Exception Table 1015.1 – Occupancy B – Maximum occupant load- - 49.
Only one exit is required due to occupant load…
Table 1016.2 Exit Access Travel Distance
Occupancy Group B – Unsprinklered = 200'

Maximum Length of Egress Travel = 200'
Proposed Maximum Length: 130'
Proposed Number of Exits: 4

Exhibit 28 CUP24-1001

Chapter 29 – Plumbing Systems - Page 547

Table 2902.1 (Washington Amendments) Min. Number of Required Plumbing Fixtures

Occupant Load – From Section 303.1.1 – Page 41 - Assumed **49** occupants

> Also 1004.1.2 –Exception: "Where approved by the building official, the actual number of occupant for whom each occupied space, floor, or building is designed, although less than those determined by calculation shall be permitted to be used in the determination of the design occupant load.

2902.1 Minimum Number of Fixtures – Page 547 (Washington Amendments)
… Types of occupancies not shown in Table 2902.1 shall be determined individually by the *Building Official* based on the occupancy which most nearly resembles the proposed occupancy.

Occupancy A-3 – Gymnasiums (Male - 1/125; Female 1/65)
Assumed 49 Occupants: 25 Men and 25 Women

Minimum Toilet Fixtures This Structure: Male 1; Female 1

2902.3.2 Location of toilet facilities in occupancies other than malls

> In occupancies other than covered and open mall buildings, the required public and employee toilet facilities shall be locate in each building not more than one story above or below the space required to be provided with toilet facility, or conveniently in a building adjacent thereto on the same property, and the path of travel to such faculties shall not exceed a distance of 500 feet.

Toilet Facilities to be housed on site in the renovated existing structure

TWO COURT STRUCTURE – 12,960 Sq. Ft.

Proposed building –
Structure: non-combustible steel
Skin: non-combustible Membrane Fabric

Building Occupancy Classification – Chapter 3
Section 303.4 – Page 41
Assembly Group A-3 – Indoor Tennis Courts (without spectator seating)

Section 303.1.1 – Page 41
Small Buildings and Tenant Spaces
A building… used for assembly purposes with an *occupant load* of less than 50 persons shall be classified as a Group B occupancy.

Use Business Group B Use and Occupancy

Type of Construction – Chapter 6
Proposed Type: IIB - Section 602.2 – Page 107
…Building Elements listed in Table 601 are of noncombustible materials, except as permitted in section 603 and elsewhere in the code.

Table 601 – Fire Resistance rating requirements for building elements (hours) – Page 107
All elements of Type IIB have "0" hours requirement.

Use Type IIB Construction

Allowable Heights and Area – Chapter 5
Proposed Area: 12,960 square feet

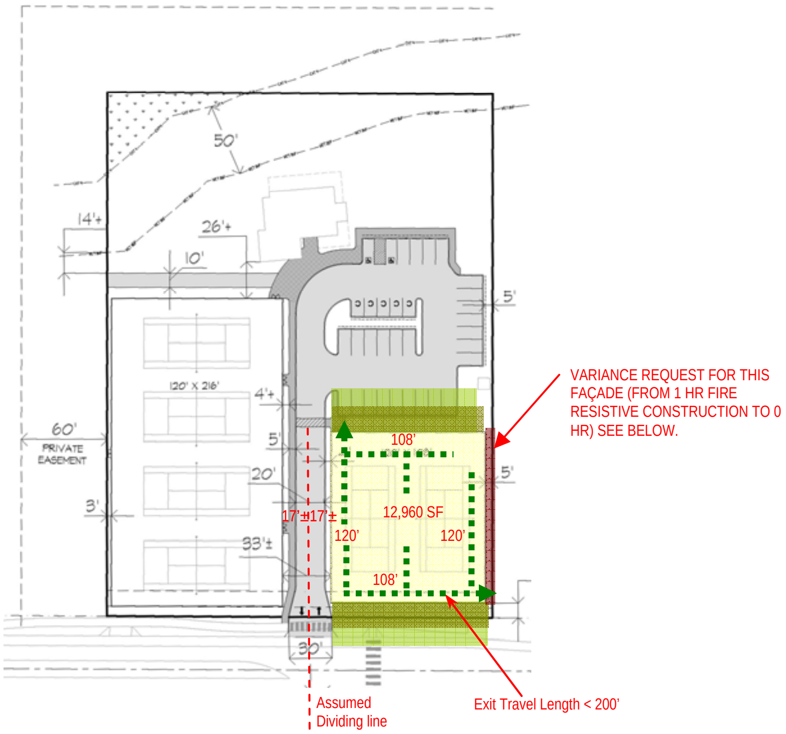
Table 503 – Page 96 Allowable Building Heights and Areas

Group B Type IIB: 3 stories and 23,000 square feet

Area Modification (Section 506.1): Not Required.

Proposed Area of 12,960 Square Feet Is Allowed

Exhibit 28 CUP24-1001



VARIANCE REQUEST FOR THIS FAÇADE (FROM 1 HR FIRE RESISTIVE CONSTRUCTION TO 0 HR) SEE BELOW.

Assumed Dividing line

Exit Travel Length < 200'

<u>Table 602 - Fire Resistance for Exterior Walls Based Upon Fire Separation Distance – Page 108</u>

For Walls ≥ 10 feet Fire Separation, Occupancy Group B, Construction Type IIB, allows 0 Fire Resistance Rating. This structure has 10' or greater fire separation South, West and North sides. 5' fire separation on East Side requires 1 hour Fire Resistance Rating.

South, West and North Exterior Walls Require 0 Hour Fire Resistance

<u>Request Variance for East Side from 1 Hour to 0 Hour Fire Resistance Requirement:</u>

Because: the structure and covering are non-combustible and because the Court Cover Material is non-flammable, self-extinguishing per NFP 701;

Because: the material is self extinguishing, they serve the same purpose in the unlikely event of a fire sourced inside or outside the building;

Because: The building materials will not contribute to the spread of the fire, and will serve as a potential 120 foot fire break (concrete and pavement) to help contain and limit the spread of the outside fire source.

Table 705.8 - Maximum area of exterior wall openings based upon fire separation distance and degree of opening protection. – Page 116

South and North Sides which have 30 feet or greater fire separation are allowed **unlimited** opening of the façade area in unprotected, non-sprinklered structures.

West Side that has 15 feet to less than 20 feet fire separation is allowed **25%** opening of the façade area in an unprotected, non-sprinklered structure

East Side that has 5 feet to less than 10 feet fire separation is allowed **10%** opening of the façade area in an unprotected, non-sprinklered structure.

Means of Egress

Occupant Load – From Section 303.1.1 – Page 41 - Assumed 49 occupants

Also 1004.1.2 –Exception: "Where approved by the building official, the actual number of occupant for whom each occupied space, floor, or building is designed, although less than those determined by calculation shall be permitted to be used in the determination of the design occupant load.

Egress Components Width – 1005.3.2 – Page 242
0.2" per occupant: 0.2*49=10"- other factors control.

Exit and Exit Doorways – 1015 – Page 262
1015.1 – Two exits or exit access doorways from any space shall be provided.
Exception Table 1015.1 – Occupancy B – Maximum occupant load - 49.
Only one exit is required due to occupant load…
Table 1016.2 Exit Access Travel Distance
Occupancy Group B – Unsprinklered = 200'

Maximum Length of Egress Travel = 200'
Proposed Maximum Length: 115'
Proposed Number of Exits: 2

Exhibit 28 CUP24-1001

Chapter 29 – Plumbing Systems - Page 547

Table 2902.1 (Washington Amendments) Min. Number of Required Plumbing Fixtures

Occupant Load – From Section 303.1.1 – Page 41 - Assumed **49** occupants

> Also 1004.1.2 –Exception: "Where approved by the building official, the actual number of occupant for whom each occupied space, floor, or building is designed, although less than those determined by calculation shall be permitted to be used in the determination of the design occupant load.

2902.1 Minimum Number of Fixtures – Page 547 (Washington Amendments)
… Types of occupancies not shown in Table 2902.1 shall be determined individually by the *Building Official* based on the occupancy which most nearly resembles the proposed occupancy.

Occupancy A-3 – Gymnasiums (Male - 1/125; Female 1/65)
Assumed 49 Occupants: 25 Men and 25 Women

Minimum Toilet Fixtures This Structure: Male 1; Female 1

2902.3.2 Location of toilet facilities in occupancies other than malls

> In occupancies other than covered and open mall buildings, the required public and employee toilet facilities shall be locate in each building not more than one story above or below the space required to be provided with toilet facility, or conveniently in a building adjacent thereto on the same property, and the path of travel to such faculties shall not exceed a distance of 500 feet.

Toilet Facilities to be housed on site in the renovated existing structure

Exhibit 28 CUP24-1001

EXISTING STRUCTURE – 2,904 Sq. Ft.

Existing building – First Floor: 2,054 sq.ft.
Second Floor: 850 sq. ft.

Building Occupancy Classification – Chapter 3

Section 304 – Page 42

Business Group B – Professional Services (Tennis Court Management, Lockers, Small Retail Area)

Use Business Group B Use and Occupancy

Type of Construction – Chapter 6

Existing Type: VB - Section 602.5 – Page 109

Construction in which the structural elements, exterior walls and interior walls are of any materials permitted by this code.

Table 601 – Fire Resistance rating requirements for building elements (hours) – Page 107

All elements of Type VB have "0" hours requirement.

Type VB Construction

Allowable Heights and Area – Chapter 5

Existing Area: 2 Stories 2,904 total square feet

Table 503 – Page 96 Allowable Building Heights and Areas

Group B Type VB: 2 stories and 9,000 square feet

Area Modification (Section 506.1): Not Required.

Existing Area of 2,904 Square Feet and 2 Stories Is Allowed

Table 602 - Fire Resistance for Exterior Walls Based Upon Fire Separation Distance – Page 108

For Walls ≥ 10 feet Fire Separation, Occupancy Group B, Construction Type VB, allows 0 Fire Resistance Rating. This structure has 10' or greater fire separation on all sides.

Exterior Walls Require 0 Hour Fire Resistance

Exhibit 28 CUP24-1001

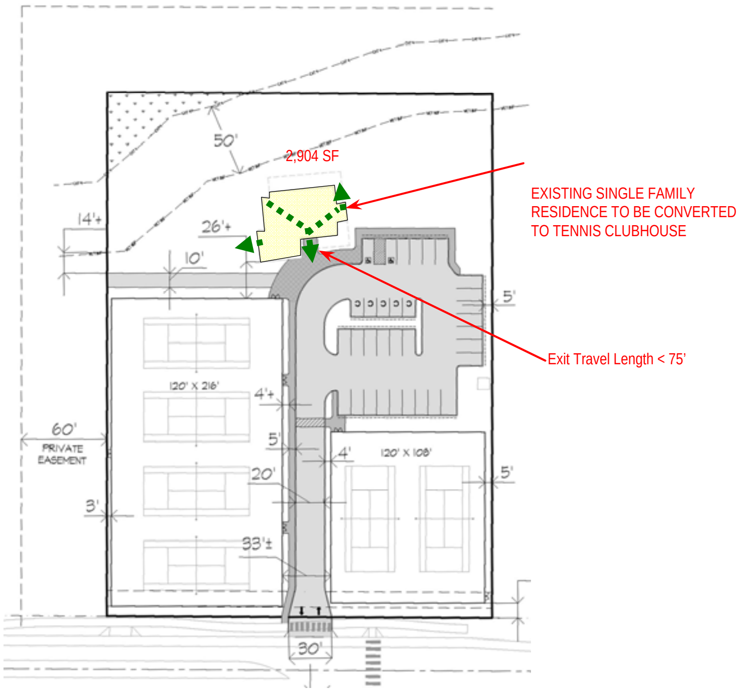


Table 705.8 - Maximum area of exterior wall openings based upon fire separation distance and degree of opening protection. – Page 116

South, West, North, and East Sides which have 30 feet or greater fire separation are allowed **unlimited** opening of the façade area in unprotected, non-sprinklered structures.

South Side that has 25 to less than 30 feet fire separation is allowed **70%** opening of the façade area in an unprotected, non-sprinklered structure.

Means of Egress

Occupant Load – Table 1004.1.2 – Page 241 – Business Areas – 100 gross
Upper Floor 850/100 = 8.5 (9 occupants)
Lower Floor 2,054/100 = 20.5 (21 occupants)
30 occupants total

Egress Components Width – 1005.3.2 – Page 242
0.2" per occupant: 0.2*30=6"- other factors control.

Exit and Exit Doorways – 1015 – Page 262
1015.1 – Two exits or exit access doorways from any space shall be provided.
Exception Table 1015.1 – Occupancy B – Maximum occupant load- - 49.
Only one exit is required due to occupant load…

Table 1021.2 (2) - Stories with one exit or access to one exit for other occupancies Second Story – Occupancy B Maximum 29 occupants and 75 feet maximum exit access travel distance. Proposed 9 occupants and 65' max. travel distance

Upper Floor Only Requires One Exit

First Story (2) Occupancy B Maximum 49 occupants and 75 feet maximum exit access travel distance. Proposed 30 (upper and lower combined) occupants and 50' max. travel distance

Lower Floor Only Requires One Exit
Proposed Maximum Length: 65'
Proposed Number of Exits: 3

Chapter 29 – Plumbing Systems - Page 547

Table 2902.1 (Washington Amendments) Min. Number of Required Plumbing Fixtures

Occupant Load – From Table 1004.1.2– Page 41 - **30** occupants

2902.1 Minimum Number of Fixtures – Page 547 (Washington Amendments)

Occupancy B – Business (Male/Female – 1 per 25 for first 50 and 1 per 50 for the remainder exceeding 50.

30 Occupants: 15 Men and 15 Women

Minimum Toilet Fixtures This Structure: Male 1; Female 1

2902.3.2 Location of toilet facilities in occupancies other than malls

In occupancies other than covered and open mall buildings, the required public and employee toilet facilities shall be locate in each building not more than one story above or below the space required to be provided with toilet facility, or conveniently in a building adjacent thereto on the same property, and the path of travel to such faculties shall not exceed a distance of 500 feet.

Toilet Facilities to be housed on site in the renovated existing structure

Exhibit 29 CUP24-1001

lancaster mobley

1130 SW Morrison St., Suite 318
Portland, OR 97205
503.248.0313
lancastermobley.com

Memorandum

To: **James E Carothers, City of Camas**
Anita Ashton, City of Camas

From: **Daniel Stumpf, PE**

Date: **March 4, 2025**

Subject: **USTA/CSD PNW Tennis Center**
Public Comments Response Memorandum

3/4/2025

Daniel Stumpf
57946

Daniel W Stumpf

Digitally signed by Daniel W Stumpf
Date: 2025.03.04 13:14:55 -08'00'

Introduction

This memorandum serves as a supplemental analysis and response to public comments received and issued by City of Camas staff for the proposed USTA/CSD PNW Tennis Center application. Public comments addressed in this response memorandum generally pertain to the *USTA Tennis Center Trip Generation Study*, dated September 19, 2024, and were posed by Clark and Caryn Vitek of Evergreen Tennis, located at 5225 NW 38th Avenue. Transportation related comments are directed toward trip generation methodologies, operational hours of the proposed USTA/CSD facility, and transportation safety.

The following sections include additional analysis conducted by the applicant, which further reviews site trip generation, and discussion of key transportation concerns raised by interested parties with responses following. To keep this response memorandum concise and to avoid issuing redundant responses, in some cases lengthy comments were abbreviated and responses to similar comments refer to prior sections of this memorandum.

The supplemental analysis in this memorandum may serve as an addendum to the *USTA Tennis Center Trip Generation Study*.

Supplemental Analysis

Based on subsequent correspondence with the Camas School District after initially preparing the trip generation study for the application, the hours of operation of the USTA/CSD facility have been adjusted. Although subject to change, during the regular school tennis seasons the USTA/CSD facility may utilize the facilities from approximately 9:00 AM to 2:30 PM, and from approximately 6:00 PM to close. The intent of scheduling these hours is to:

- Avoid the AM bell time, which occurs at 8:45 AM, and the associated school traffic congestion which occurs before and after.

Exhibit 29 CUP24-1001

- Avoid the PM bell time, which generally occurs at 3:15 PM (notwithstanding the once a month Wednesday early release time of 1:00 PM), and the associated school traffic congestion which occurs before and after.
- Allow the Camas High School tennis programs priority use of the courts, where practices are held between approximately 4:00 PM to 6:00 PM and meets are held between approximately 3:30 PM to 6:00 PM.

Additionally, the school's PE courses will be allowed preferential use of the courts when needed. Based on correspondence with school district staff, it is estimated PE classes may occupy approximately four of the eight tennis courts.

As described in the application's trip generation study, to estimate trip generation of the USTA/CSD facility traffic count data was collected at the Evergreen Tennis Center on Tuesday, August 13, 2024, over a 24-hour period. Noting the Evergreen Tennis Center operates with four tennis courts, trip generation rates on a per court basis were calculated. The following is an updated version of Table 3 from the 2024 study which revises the "Off-School Hours" row of the Evergreen Tennis Center's trip generation.

Table 1: Evergreen Tennis Center Trip Generation Summary

Analysis Period		Evergreen Tennis Center Trips			Number of Courts	Trips Generated per Court		
		Entering	Exiting	Total		% Entering	% Exiting	Rate [Trips/Court]
AM Peak Hour	7:15/7:30/ 7:45 AM - 8:15/8:30/ 8:45 AM	8	0	8	4	100%	0%	2.00
PM Peak Hour	5:00 PM - 6:00 PM	14	13	27	4	52%	48%	6.75
Daily Total	12:00 AM - 12:00 AM	108	110	218	4	50%	50%	54.50
Off-School Hours (Outside Bell Times)*	6:00 PM - 8:00 AM	12	16	28	4	43%	57%	7.00
During School Hours*	9:00 AM - 2:30 PM	65	52	117	4	56%	44%	29.25
Total USTA Use Hours*		77	68	145	4	53%	47%	36.25

** Camas High School's regular bell times occur at 8:45 AM and 3:15 PM, noting the school's tennis program may continue through 6:00 PM. USTA may use the proposed tennis court facilities between the hours of 9:00 AM - 2:30 PM to avoid school traffic congestion, and from 6:00 PM to close.*

As described in the *Existing School and Proposed Facility Operations* section of the 2024 trip generation study and incorporating the revisions to the USTA's allowed hours of use, the proposed USTA/CSD facility will operate as follows:

- The facility will be open to the general public during school hours between 9:00 AM to 2:30 PM. This time period takes into consideration the need to avoid school traffic congestion associated with the school bell times (i.e., congestion which may start at approximately 8:00 AM and 2:30 PM), and noting the school's tennis programs may continue using the facilities through 6:00 PM.
- No new AM or PM peak hour trips to/from the USTA/CSD facility are assumed to be generated during the regular school tennis season per the reasoning below:
    - Although a portion of the AM peak hour trips generated by the Evergreen Tennis Center occur prior to 8:00 AM, the facility opens at 8:00 AM on weekdays whereby these trips (both staff and player entering trips) will not occur at the proposed USTA/CSD facility during this time period. Instead, these trips were assumed to shift over to the hour between 9:00 AM to 10:00 AM.
    - The school will be allowed preferential use of the courts between the hours of 4:00 PM to 6:00 PM, whereby no PM peak hour trip generation from USTA can occur.
- The proposed USTA/CSD facility will not generate more trips than the school's tennis program. This is because the number of courts available for use by the USTA, the Camas School District, or the general public does not change (i.e., the capacity, or number of tennis players, using the facility will be limited by the fixed number of available/open courts).
- Although the high school may use approximately half of the tennis courts during the day for PE courses (i.e., between 9:00 AM – 2:30 PM), for the purposes of this analysis it is assumed the USTA will be allowed full use of all eight tennis courts.

Based on the above, the proposed USTA/CSD facility is expected to generate 0 additional AM and PM peak hour trips and an additional 290 average weekday trips. Note this 290 net new daily trip estimate is conservative and does not consider the school's use of the courts for PE courses, current trip generation associated with the existing eight tennis and two pickleball courts, or trip reductions associated with the removal of the two pickleball courts. The updated trip generation analysis is summarized in Table 4.

Table 2: Trip Generation Analysis Summary

Analysis Period	Number of Courts	High School Trips		
		Entering	Exiting	Total
Existing Conditions (Camas High School)				
AM Peak Hour	8 courts	868	394	1,262
PM Peak Hour	8 courts	238	189	427
Daily Total	8 courts	2,575	2,573	5,148
Proposed USTA/CSD Facility				
AM Peak Hour	8 courts	0	0	0
PM Peak Hour	8 courts	0	0	0
Daily Total	8 courts	154	136	290
Total Trips Generated				
AM Peak Hour	8 courts	868	394	1,262
PM Peak Hour	8 courts	238	189	427
Daily Total	8 courts	2,729	2,709	5,438
Percent Increase in Site Trip Generation				
AM Peak Hour	-	0.00%	0.00%	0.00%
PM Peak Hour	-	0.00%	0.00%	0.00%
Daily Total	-	5.98%	5.29%	5.63%

Evergreen Tennis (Clark and Caryn Vitek)

Comment 1 – Email Dated January 22, 2025

The SEPA report mentions 56 weekday trips and 0 peak hour trips. This is highly suspect. Based on 8 courts, I estimate there will be at least 32 trips per 60-90 minutes during all hours of operation, and some of these will be peak hour trips.

…

It was an error by the City to accept the traffic information provided as technically complete when it is obviously incorrect, grossly misleading, or deliberately false on the part of the applicant. The trip counts provided by the applicant to the City in its SEPA package, section 14(e) stated 54 new daily trips and zero peak hour trips. These values were picked up and repeated in the local newspaper ("Camas High School's tennis court revamp gets environmental OK from City", January 10, 2025 edition). The city should not have accepted this traffic study and moved the application forward to public hearing because the submitted values grossly differ from what would be suggested by using the ITE Trip Generation Manual, 11th Edition, Land Use Code 491, which is 3.82 net new trips per court per hour. Utilizing the ITE manual, it is likely the projected trips are 6 to 7 times higher than that reported by the applicant and now circulated in the press.

The trip estimates in the SEPA report were based on the "net new trips" generated by the eight proposed covered tennis courts relative to the eight existing tennis courts plus the two pickleball courts (both pickleball courts will be removed). These trip numbers are additional trips that will be added to the transportation system beyond what the existing tennis and pickleball courts are estimated to generate. Since no new courts will be constructed (i.e., generally no additional capacity for tennis players/users of the courts will be created), only an increase in daily trip generation is expected by extending the tennis court operation period into the evening hours between mid-Fall to mid-Spring when daylight hours are shorter. Note that after preparing the 2024 trip generation study, the Camas School District notified Lancaster Mobley that the USTA may operate within the proposed tennis facilities from approximately 9:00 AM to 2:30 PM, subsequently allowing general public use of the facilities during these school day hours. With this change in available hours of use by the USTA, the daily trip generation estimates were increased to 290 net new trips.

Note that no trip reductions associated with the removal of the pickleball courts were considered. Therefore, the "net new trip" estimates provided in the SEPA report, notwithstanding the subsequent 290 net new daily trips revision, may be considered conservative estimates of the net new trips the proposed facility will generate. If basing trip generation on the number of courts and using data from ITE code 491, *Racquet/Tennis Club*, the number of trips generated by the proposed tennis court facility should decrease with the removal of the two pickleball courts.

For clarification on the reference to the ITE Trip Generation Manual, 11th Edition, data from land use code 491 indicates 3.82 "PM peak hour of adjacent street traffic" trips will be generated. This means during the "peak one hour" of traffic between 4:00 PM and 6:00 PM approximately 3.82 trips may be generated per court based on data from land use code 491. This does not mean 3.82 trips will be generated per court "per hour" throughout the day.

Comment 2 – Email Dated February 10, 2025

As examples I can send you: Kirkland and Lake Oswego indoor court projects both use 38.75 trips per court per day (3.2 to 3.4 per court PM peak hour). The City of Camas approved Evergreen Tennis (Camas 2013) also used the ITE manual for calculations. Based on the 10 courts of the Camas High project the basic ITE calculated number would be 38.2 new trips per hour of conditioned operation for the full facility, not 54 per day… This traffic will be driving through the high school parking lot, probably during a lot of the same hours the kids will be there… In this case the applicant has potentially significantly minimized the traffic impact in its representations to the city and the public.

The following provides a few clarifying points about the aforementioned studies and comments:

- Both studies referenced above are dated August 2010 and February 2013. The current ITE Trip Generation Manual, 11th Edition, was published in September 2021. The trip generation estimates described in both studies appear to rely on outdated data from ITE Trip Generation Manuals that are two to three editions removed from the current 11th Edition.
- The proposed facility will be consist of eight tennis courts, not ten courts.
- The 54 trips per day estimate is the "net new daily trips" generated by the proposed eight tennis court facility relative to the existing eight tennis court and two pickleball court facility. Note this estimate was updated to 290 "net new daily trips" based on subsequent correspondence with the school district and the change in hours the USTA is allowed to use the facilities.
- As described in **Emails from Clark Vitek Comment 1**:
    - Data from land use code 491, *Racquet/Tennis Club*, indicates 3.82 "PM peak hour of adjacent street traffic" trips will be generated per court, not 3.82 trips "per hour".
    - If basing trip generation on the number of courts, the overall trip generation of the USTA/CSD facility should decrease with the removal of the two pickleball courts. To maintain a conservative estimate of potential net new trip generation, no trip reductions were considered with the removal of the pickleball courts.
- Regarding traffic traveling through the school parking lot while students are present, the proposed facility will operate between the hours of approximately 9:00 AM (after the AM bell) and approximately 2:30 PM (before the PM bell time and prior to when the Camas High School tennis teams are scheduled to use the facilities). Therefore, a majority of trip impacts will occur when students are either in class or off-campus. Additionally, the overall daily trips generated by the proposed tennis facility will be significantly less than those generated by the high school. Based on this evaluation limited safety or operational issues associated with traffic from the tennis courts are expected to occur.

Exhibit 29 CUP24-1001

Comment 3 – Email Dated February 10, 2025

If allowed to proceed to public hearing without requiring the applicant to provide more complete information on proposed hours of operations, and complete/correct the traffic impact calculations, this may be viewed as procedural bias on the part of City Planning…

Although subject to change, during the regular school tennis seasons the USTA will be allowed to utilize the facilities from approximately 9:00 AM to 2:30 PM, and from approximately 6:00 PM to close. The intent of scheduling these hours is to:

- Avoid the AM bell time, which occurs at 8:45 AM, and the associated school traffic congestion which occurs before and after.
- Avoid the PM bell time, which generally occurs at 3:15 PM, and the associated school traffic congestion which occurs before and after.
- Allow the Camas High School tennis programs priority use of the courts, where practices are held between approximately 4:00 PM to 6:00 PM and meets are held between approximately 3:30 PM to 6:00 PM.

The 2024 trip generation study did not consider the possible use of the proposed USTA/CSD facilities between the hours of approximately 9:00 AM to 2:30 PM. Therefore, daily trip generation estimates were re-evaluated as described in the **Supplemental Analysis** section of this memorandum.

Comment 4 – Email Dated February 10, 2025

As supporting data, here is our trip count this week at Evergreen Tennis (4 courts). We have a scheduling system that gives me players names which I counted. Everyone comes in their own car, each player visit = 2 trips, one incoming and one outgoing. Weather permitting these are a typical weekday snapshot for us.

Evergreen Tennis (2/10/2025 – 2/14/2025, scheduled)

- *Monday: 212 trips*
- *Tuesday: 200 trips*
- *Wednesday: 244 trips*
- *Thursday: 160 trips*
- *Friday: 180 trips*
- *Average/day: 199.2 trips*
- *Average/day/court: 49.8 trips*
- *Average/hr/court: 3.86 trips*

Note that the ITE Trip Generation Manual cited below (11th edition), Land Use Code 491 provides 3.82 per court per hour.

Traffic counts used to develop the trip generation estimates in the application's trip generation study was based on data collected at the same Evergreen Tennis facility. Data was collected on Tuesday, August 13, 2024, over a 24-hour period. Based on the collected data, the Evergreen Tennis facility was found to generate the following:

- 8 AM peak hour trips (2 AM peak hour trips per court).
- 27 PM peak hour trips (6.75 PM peak hour trips per court).
- 218 average daily trips (54.5 average daily trips per court).

The collected data approximately matches the estimates provided by the concerned party. These estimates were used to calculate the net new trips generated by the proposed USTA/CSD facility, relative to the existing tennis and pickleball courts.

Regarding the ITE Trip Generation Manual, 11th Edition, trip generation rate, refer to **Emails from Clark Vitek Comment 1**. For the process used to evaluate net new trips generated, refer to the **Supplemental Analysis** section.

Comment 5 – Email Dated February 10, 2025

Once the actual proposed weekday operating hours are provided by the applicant this strongly suggests using the ITE provided 3.82 per court per hour as the expected basic trip count for the USTA Camas High School 10 court project, i.e. 38 or 39 trips per hour, not 54 per day.

Refer to **Emails from Clark Vitek Comment 3** regarding USTA's hours of use at the proposed facility. Refer to **Emails from Clark Vitek Comment 1** regarding the number of tennis courts that will be incorporated in the development of the proposed USTA/CSD facility.

Regarding the use of the ITE Trip Generation Manual, it was discussed with the City of Camas prior to preparing the trip generation study that utilizing data from either land use code 490, *Tennis Courts*, or 491, *Racquet/Tennis Club*, based on the number of courts would yield no increase in site trip generation because no new tennis courts are being constructed. On the contrary, with the removal of the two pickleball courts this method of trip generation would show a decrease in expected site trips generated between pre- and post-development scenarios. Since the construction of the covered facility could extend the hours of use of the courts during night hours or periods of inclement weather, and because the USTA/CSD facility will allow public use of the facility for a portion of the school day, the intent of using trip generation data from the existing Evergreen Tennis facility and superimposing those trips generated on top of the school's existing trip generation was considered. However, because the USTA is not allowed by the school district to use the facility at/near the AM and PM school bell times or during the periods when the high school tennis program is in session (i.e., the mid-afternoon to early evening hours), no new AM or PM peak hour trips will be generated by the proposed facility, and only a portion of the daily trips generated by Evergreen Tennis were applied to the proposed facility.

Note the net new daily trip estimate (revised in the **Supplemental Analysis** section of this memorandum) is a conservative estimate by not considering the school's use of the courts for PE courses, current trip generation associated with the existing eight tennis and two pickleball courts, or trip reductions associated with the removal of the two pickleball courts.

Comment 6 – Email Dated February 13, 2025

thanks again. Here are the Kirkland (4 court) and Lake Oswego (8 court) studies referenced (excerpts as attachments, and both from publicly available documents).

…

the study provided in the original application is simply not credible with respect to total new trips, and the PM peak hour claim of zero trips should be enforced with conditioned operating hours if applicant is claiming to have no trip ends due to no operations open to the public, all seasons, during the PM peak hour. This is highly doubtful claim on its own.

Regarding the Kirkland and Lake Oswego studies, as well as the net new trips that will be generated by the proposed USTA/CSD facility relative to the existing eight tennis courts and two pickleball courts, refer to **Emails from Clark Vitek Comments 1**, **2**, and **5**

Comment 7 – Email Dated February 21, 2025

The applicant's study submitted showed 27 PM Peak Hour trips for 4 courts, which could be expected to scale to 68 PM Peak hour trips for the 10 court project proposed (8 tennis and 2 pickleball). It should be noted that the study was conducted during summer break for the schools (August 12, 2024), so the claim that no PM peak hour trips would be introduced at the High School due to school use from 3-6 PM would be invalid. In fact, the school's tennis season only runs about 4 months per year, so the claim of "no PM Peak hour trips" due to school use 3 PM - 6 PM would be not valid for 8 of 12 months. The suggestion that undercovered courts have credits for existing PM Peak hour trips is also invalid because the courts are not generally used by the public (it is not a park) and all-weather year round operations is a use change from current use during good weather only. In summary, The proposal to cover the courts and operate year round as a commercial center will certainly generate some new PM Peak hour trips compared to existing conditions.

As described previously in the memorandum, the proposed USTA/CSD facility will include the removal of the two pickleball courts while maintaining the eight existing courts. Aside from removing the pickleball courts, the only physical change to the existing tennis court facilities will be the construction of a covered/enclosed structure around the courts. The proposed development "will not" retain 10 courts and therefore the scalable trip generation estimate described above is inaccurate. No new courts are being constructed whereby actual trip generation should theoretically decrease based on the argument described above (i.e., [8 proposed courts - 10 existing courts] × [27 PM peak hour trips ÷ 4 courts] = -13 to -14 PM peak hour trips).

The potential issue raised with the collection of traffic counts at the Evergreen Tennis center during Camas High School's Summer break has no relevance. The Evergreen Tennis facility operates independent of Camas High School, whereby trip generation associated with the high school has no influence on the trip generation associated with the Evergreen Tennis center, or vice versa.

The Camas High School boys' and girls' tennis programs operate during the Fall and Spring terms of the school year. During the off-season of the school's tennis programs the courts are open for general use by the public. To counter the argument that the covered USTA/CSD facility would generate new (i.e., more) PM peak hour trips compared to existing conditions:

- The Camas High School tennis programs will be given priority use of the courts, where practices are held between approximately 4:00 PM to 6:00 PM and meets are held between approximately 3:30 PM to 6:00 PM. During this period no new PM peak hour trip generation can occur.
- An argument could be made that the USTA/CSD facility could generate fewer trips on a per tennis court basis than the existing "open to public use" tennis courts. This is because the USTA/CSD facility would require an access fee for use of the facilities, which could dissuade some members of the general public from using the school tennis courts in lieu of other "free use" facilities in the area. The notion that a "free use" tennis court facility could generate more trips than a "members or fee only" facility is supported by data in the ITE Trip Generation Manual, 11th Edition:

- ITE Code 490, Tennis Courts
    - ITE Description: *Tennis courts are indoor or outdoor facilities specifically designed for playing tennis. Tennis courts can either be public or private facilities and do not typically include any ancillary facilities other than limited spectator seating.*
    - PM Peak Hour Trip Generation Rate: 4.21 trips per tennis court.
- ITE Code 491, Racquet/Tennis Club
    - ITE Description: *A racquet/tennis club is a privately-owned facility that primarily caters to racquet sports (tennis, racquetball, pickle ball, handball, squash) both indoor and outdoor. This land use may also provide ancillary facilities, such as a whirlpool, sauna, spa, weight room, snack bar, or retail store. Some sites offer daycare. Some sites offer competitive team sports. These facilities are membership clubs that may allow access to the general public for a fee.*
    - PM Peak Hour Trip Generation Rate: 3.82 trips per tennis court.

If using the higher trip generating ITE code 490 in lieu of code 491 to represent both the existing "free use" courts and the proposed USTA/CSD courts, no new increase in trip generation will occur, notwithstanding the two pickleball courts that will be removed. Based solely on this ITE data, the proposed tennis court facility is not projected to generate additional new PM peak hour trips beyond what is currently generated.

Evergreentennis.net Memorandum

1. Traffic Impact: The submitted Traffic Impact Statement (page 4 Analysis Findings) contains the following: "The facility will be closed to the general public during school hours. The regular school bell time is scheduled between 8:45 AM - 3:15 PM, noting the school's tennis programs may continue using the facilities through 6:00 PM." As a result of these restricted hours, the traffic impact was stated to be "56 new trips per day and none during the PM peak hour (5-6 PM)". This calculation assumes trips generated only after 6 PM and before 8 AM year round. We note that if the facility is opened to the public during the school day in the future, Table 3 of the District's commissioned study would calculate up to 545 new trips per day, almost 10 times higher than previously stated. We believe the school board and our community should fully understand the potential for increased traffic that commercial operations on the High School campus could introduce. If the proposed tennis center is intended to be open during school hours, the school board, the city, and the public should be made aware of this impact.

The USTA use hours of the proposed courts has changed since preparing the application's 2024 trip generation study. The updated operation hours of the USTA/CSD facility and the resulting trip generation estimates are described in the **Supplemental Analysis** and **Emails from Clark Vitek Comment 1** sections of this response memorandum. To summarize, the proposed USTA/CSD facility is expected to generate 0 net new AM and PM peak hour trips, and 290 net new daily trips. Note this 290 net new daily trip estimate is conservative and does not consider the school's use of the courts for PE courses, current trip generation associated with the existing eight tennis and two pickleball courts, or trip reductions associated with the removal of the two pickleball courts.

Regarding the 545 new trips per day estimate provided in the evergreentennis.net memorandum, the estimate assumes that 10 new tennis courts will generate 54.50 new daily trips per court. This 54.50 daily trips per court rate was referenced from Table 3 of the application's 2024 trip generation study, where data was collected over a 24-hour period at the Evergreen Tennis facility. There are several flaws with the assertion that the proposed USTA/CSD facility will generate 545 new daily trips if the courts were completely opened to the public throughout the day:

- The new daily trip estimate does not consider the number of daily trips currently generated by the high school's existing eight tennis courts and two pickleball courts. The above analysis assumes no trips are currently generated by the existing courts.
- The above estimate assumes USTA will have sole use of the facility, and Camas High School will not use the facilities for their tennis programs or PE courses, and will allow USTA to operate during the school bell times when traffic congestion is present in the area.
- The proposed USTA/CSD facility will consist of eight tennis courts, not ten. No new courts are being constructed, rather, two pickleball courts are being removed. Assuming the Camas School District relinquishes all rights to use the proposed USTA/CSD courts, and the existing eight tennis courts and two pickleball courts do not currently generate any trips, at most the facility may generate 436 new daily trips.

Conclusion

Based on the additional transportation analysis and evaluation of local concerns, the proposed USTA/CSD tennis courts facility will have a minimal impact on the overall transportation system, and no transportation safety or operational issues will be introduced with the development of this project.

If you have any questions regarding this memorandum, feel free to contact me at daniel@lancastermobley.com or at (503) 248-0313.

Exhibit 30 CUP24-1001

Community Development Department

Notice of Public Hearing

Proposed Redevelopment of Camas High School Tennis Courts

Planning Case CUP24-1001

A public hearing will be held on **Thursday, March 20, 2025, at 4:00 p.m.,** or soon thereafter, before the City's Hearings Examiner to consider a proposal for a Conditional Use Permit for the proposed redevelopment of the existing tennis courts and adjacent landscaping, parking, and drive aisles at Camas High School, situated on approximately 3.32 acres within the subject 52.37-acre subject site. The project site is located at 26900 SE 15th Street, Parcel Numbers 178111-000 and 178147-000, and is within the R-7.5 – Single-Family Residential Zone. The application was submitted on October 1, 2024, and deemed technically complete on December 17, 2024. The public hearing will be held remotely and in person at city hall.

Questions/Comments: The public hearing will follow the quasi-judicial process described within Camas Municipal Code §18.55.180. Comments related to this development may be submitted as follows: (1) In person by testifying at the public hearing; (2) by regular mail to Community Development Department staff, Yvette Sennewald, Senior Planner, at Camas City Hall, 616 Northeast Fourth Avenue, Camas, WA 98607; (3) by phone at (360) 817-1568; or (4) by email to: communitydevelopment@cityofcamas.us. It is preferable that written comments be received at least five working days prior to the public hearing, to be available with the online agenda and materials. After the agenda has been posted online, all other written comments must be received no later than noon (12:00 p.m.) the day of the hearing, for those comments to be handed to the Hearings Examiner by Staff. Written and oral comments may also be submitted in person during the hearing.

Application Materials: The application included the following: project narrative, development plans and environmental reports, as required for a complete application pursuant to Camas Municipal Code (CMC) §18.55.110. The application materials are also available for viewing at the Community Development Department (616 NE 4th Avenue, Camas, WA) during regular business hours Monday – Friday 8 a.m-5 p.m.

Participate: All citizens are entitled to have equal access to the services, benefits, and programs of the City of Camas. Please contact the **City Clerk at (360) 817-1591** for special accommodations if needed. The city will provide translators for non-English speaking persons who request assistance at least three working days prior to a public meeting or hearing.

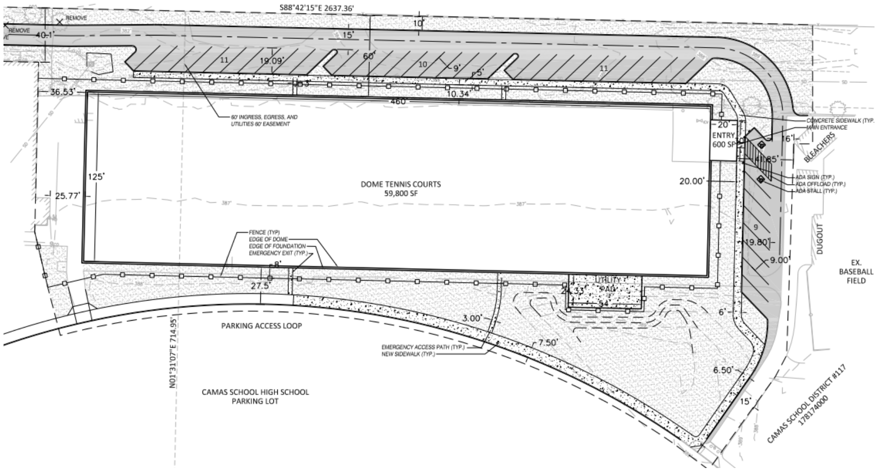
More Information: The public hearing agenda and supporting documents will be available for review on the City's website at the "Minutes, Agendas & Videos" link within the drop-down menu that is labeled "Your Government" or follow this link: http://www.cityofcamas.us/yourgovernment/minuteagendavideo.

Published in the Post Record on March 6, 2025
Legal Publication #989260
Posted at Camas City Hall, Camas Library, City of Camas website at: http://www.cityofcamas.us
Mailed to property owners within 300-feet on March 5, 2025

Exhibit 30 CUP24-1001

Vicinity Map

Preliminary Site Plan



Carey Certo

From: Robert Maul
Sent: Thursday, March 6, 2025 10:39 AM
To: Brian Smith
Cc: Yvette Sennewald; Alan Peters; Carey Certo
Subject: RE: CUP24-1001 additional comments

Thanks, Brian.

We will add this to the record.

From: Brian Smith <BSmith@cityofcamas.us>
Sent: Thursday, March 6, 2025 10:28 AM
To: Robert Maul <RMaul@cityofcamas.us>
Cc: Yvette Sennewald <YSennewald@cityofcamas.us>; Alan Peters <APeters@cityofcamas.us>
Subject: RE: CUP24-1001 additional comments

Robert,
The Building and Fire code requirements Mr. Vitek is referring to below will be reviewed for compliance under the City's Building Permit Plan Review and Fire Life Safety Permit Plan Review process.
Additionally, below is an excerpt from my preapp comments for PA24-08 for the Camas High School Tennis Court Cover.

- *The structure will be reviewed under the most current building codes as adopted by the State of Washington. Specifically, the requirements of IBC 3102 that regulate the proposed type of structure.*
- *The plans will need to be prepared by a State of Washington licensed architect. (Which will include a full life safety and code compliance analysis.)*
- *Structural drawings and calculations will be required and shall be prepared and stamped by a professional engineer licensed by the State of Washington.*

Brian Smith, CBO, ACO
Building Official
Desk 360-817-7243
www.cityofcamas.us | bsmith@cityofcamas.us

The City of Camas has gone digital! Apply for permits online through our new Civic Access Portal at www.cityofcamas.us/permits.

-----Original Message-----
From: Robert Maul <RMaul@cityofcamas.us>
Sent: Wednesday, March 5, 2025 11:40 AM
To: Brian Smith <BSmith@cityofcamas.us>
Cc: Yvette Sennewald <YSennewald@cityofcamas.us>; Alan Peters <APeters@cityofcamas.us>
Subject: FW: CUP24-1001 additional comments

fyi

Exhibit 31 CUP24-1001

-----Original Message-----
From: Yvette Sennewald <YSennewald@cityofcamas.us>
Sent: Wednesday, March 5, 2025 11:22 AM
To: Robert Maul <RMaul@cityofcamas.us>; Curleigh (Jim) Carothers <jcarothers@cityofcamas.us>; Anita Ashton <AAshton@cityofcamas.us>; Steven McAtee <smcatee@mackaysposito.com>; James Cramer <jcramer@mackaysposito.com>
Subject: FW: CUP24-1001 additional comments

FYI
-----Original Message-----
From: Clark Vitek <clark@theviteks.com>
Sent: Wednesday, March 5, 2025 11:19 AM
To: Yvette Sennewald <YSennewald@cityofcamas.us>
Subject: Re: CUP24-1001 additional comments

Yvette

To illustrate the concern below, attached is the code review submitted with our preliminary site plan application in 2013 (Quamash - now Evergreen Tennis).

I understand this is at the development director's discretion to require architectural review by a qualified architect. But, if sometimes required for type 1 or 2 decisions, it would seem especially important on a conditional use type III application. The reason is that the public needs to fully understand what is actually being proposed in terms of use and occupancy, and it makes no sense to put forward a plan for public comment and scheduled hearing including a proposed structure that may not be capable of compliance with the building code in regard to planned occupancy and use. The applicant may find they need to change the size or shape, or construction type, or limit to 6 months seasonal use for the year. Seasonal use is common for "bubble" structures to be classified as "temporary" IBC structures. Or, arch review may reveal that they may need more restrooms and another larger building to accommodate the conditional use.   So, these details matter for a type III application, and therefore the applicant should be required to submit an architectural review clearly describing the planned paths for compliance with IBC for their the 50,000+ square foot structure, just as was required in 2013 for our structures of less than half that size and on a Type 2 decision (reference PA13-18, page 4 "A code analysis and plans shall be prepared by an architect licensed by the State of Washington").

Thanks,

Clark Vitek

On 2/27/25 12:49, Clark Vitek wrote:
> Yvette
>
> In addition to comments already provided regarding applicant's traffic
> impact statement I would like to add the following comments to the
> record

Exhibit 31 CUP24-1001

>
> In the project narrative, the applicant did not provide sufficient
> technical information to address expected building and fire code
> compliance of the proposed air supported structure.
>
> Typically, the City would require a statement in the narrative to
> address expected building and fire code compliance for a proposed new
> (in this case 56,000 square foot) structure.
>
> The narrative should have addressed the following specific IBC topics:
>
> (chapter references are to the IBC)
>
> Building Occupancy Classification- Chapter 3 including anticipated
> Occupant Load (from chapter 3), egress components width, exit and exit
> doorways, exit access travel distance
>
> Allowable Heights and Areas - Chapter 5, including consideration for
> occupancy type and occupant load, construction type, automated fire
> protection systems (or not)
>
> Type of Construction - Chapter 6
>
> Plumbing Systems - Chapter 29 (based on occupant load from Chapter 3)
>
> The above are related concerns to the traffic impact statement because
> the application is vague with regard to the the actual hours of
> proposed conditional use and the occupancy type and anticipated
> occupant load of the structure during times of proposed conditional
> use. The traffic impact statement suggests the structure will only be
> used after 6 PM for example, but elsewhere in the narrative it is
> suggested that the structure will be used at times not in use by the
> school. The applicant's proposal and willingness to add 41 parking
> spaces is not consistent with the statement that the structure will
> only be used at times not in use by the school, because at these times
> the school's existing parking lot would be almost 100% empty.
>
> Lacking any consistent details on the proposed hours and occupancy of
> the proposed conditional use, it is impossible to expect the public
> has been sufficiently informed about this project to comment at public
> hearing later this month.
>
> The applicant should be required to submit a proper architectural
> review of the proposed structure addressing all IBC, occupancy,
> occupant load, plumbing and/or fire code requirements, signed by a
> registered architect in the state of Washington.
>
> This design review should be made available for public review and
> comment along with any revised traffic impact statement for a period
> sufficient for public review prior to hearing.
>
>

Exhibit 31 CUP24-1001

> Sincerely,
>
> Clark Vitek
>
>
>
>

Carey Certo

From:	Jennifer Betcher <jenniferbetcher@gmail.com>
Sent:	Tuesday, March 18, 2025 2:06 PM
To:	Community Development Email
Subject:	Inquiry about tennis courts

I have two questions for the meeting on Thursday:

1) Would Camas School District still have to shutter their Odyssey Middle School campus if this project wasn't happening?

2) Doesn't it look bad for CSD to be spending $1 million on this project when they are doing budget cuts that eliminate teacher jobs? Is there any harm in waiting to see how education funding shakes out before we do this project?

I'm not against improvements to our recreational opportunities here in Camas. My concern is that we are losing one of the most amazing campuses our school district has to offer its children for the sake of covering tennis courts. If you saw firsthand how well Odyssey Middle School works in the building it currently uses, you would question the timing of this project, too.

Thank you,

Jennifer Betcher

Carey Certo

From: Robert Maul
Sent: Wednesday, March 19, 2025 10:27 AM
To: Carey Certo; Yvette Sennewald
Subject: FW: Inquiry about tennis courts

From: Jennifer Betcher <jenniferbetcher@gmail.com>
Sent: Tuesday, March 18, 2025 4:52 PM
To: McEathron, Jasen M. <Jasen.McEathron@camas.wednet.edu>
Subject: Re: Inquiry about tennis courts

Thank you for taking the time to explain how it works. I just wish that what little funding exists could go toward academics rather than athletics, but I understand the situation and appreciate how difficult this budget crunch must be for students, teachers and administrators alike.

Thank you,
Jenny
On Tue, Mar 18, 2025 at 3:43 PM McEathron, Jasen M. <Jasen.McEathron@camas.wednet.edu> wrote:

> Hello Jennifer:
>
> I believe you called earlier today, my apologies I've had several meetings today. For this project we are using Capital Projects funds that are restricted for capital use only and cannot be used to fund general operations. It is fairly common for government entities to manage various funds that have explicit legal purposes. That said, your question is commonly asked because home/private business finance typically does not have the same restrictions. This project is further unique with the private-nonprofit USTA willing to fund two-thirds of the project, which is a rare opportunity. Again, I understand it seems odd to make operational budget cuts and spend money on capital construction at the same time. These are just two legally separate funds. Hopefully this helps address your questions. Thank you for reaching out.
>
> Best Regards,
> **Jasen McEathron**
> Director of Business Services
> **Camas School District No. 117**
> 841 NE 22nd Ave.
> Camas, WA 98607
> 360-833-7412 office direct
> 360-607-3413 cell
>
> ---
>
> **From:** Robert Maul <RMaul@cityofcamas.us>
> **Sent:** Tuesday, March 18, 2025 3:21 PM
> **To:** jenniferbetcher@gmail.com
> **Cc:** McEathron, Jasen M. <Jasen.McEathron@camas.wednet.edu>; Carey Certo <CCerto@cityofcamas.us>; Yvette Sennewald <YSennewald@cityofcamas.us>; Anita Ashton <AAshton@cityofcamas.us>
> **Subject:** FW: Inquiry about tennis courts

Good afternoon, Jennifer.

Your questions have been received and will be part of the record. As a matter of process, the City's role is to oversee permitting for the proposed use, building and fire safety issues. The city has no say in school funding, spending, or capital improvement projects. The hearing this week is to see if the proposed redeveloped tennis courts can meet city code for zoning, engineering, building and fire. The hearing examiner presiding over the hearing also has no role in school funding, spending, and capital plans.

I have copied Jasen McEathron from the Camas School District who can speak to district financial planning and investment.
I hope this provides some clarity for the process at least. Please let us know if you have any additional questions or need any additional information.

Regards,
Robert

Robert Maul
Planning Manager
Desk 360-817-7255
www.cityofcamas.us rmaul@cityofcamas.us

The City of Camas has gone digital! Apply for permits online through our new Civic Access Portal at www.cityofcamas.us/permits

---

From: Community Development Email <communitydevelopment@cityofcamas.us>
Sent: Tuesday, March 18, 2025 2:11 PM
To: Yvette Sennewald <YSennewald@cityofcamas.us>
Cc: Robert Maul <RMaul@cityofcamas.us>
Subject: FW: Inquiry about tennis courts

See email below from Jennifer. I will add it to the record.

She left me a voicemail and when I called her back she just wanted to make sure I received her email and would like to have her questions answered prior to the hearing on Thursday. She will also be attending the hearing on Thursday.

Carey Certo
Administrative Support Assistant

Community Development
Office: 360-817-1568 x 2
www.cityofcamas.us | ccerto@cityofcamas.us

The permit center is closed daily 12-1pm

The City of Camas has gone digital! Apply for permits online through our new Civic Access Portal at www.cityofcamas.us/permits.

From: Jennifer Betcher <jenniferbetcher@gmail.com>
Sent: Tuesday, March 18, 2025 2:06 PM
To: Community Development Email <communitydevelopment@cityofcamas.us>
Subject: Inquiry about tennis courts

I have two questions for the meeting on Thursday:

1) Would Camas School District still have to shutter their Odyssey Middle School campus if this project wasn't happening?

2) Doesn't it look bad for CSD to be spending $1 million on this project when they are doing budget cuts that eliminate teacher jobs? Is there any harm in waiting to see how education funding shakes out before we do this project?

I'm not against improvements to our recreational opportunities here in Camas. My concern is that we are losing one of the most amazing campuses our school district has to offer its children for the sake of covering tennis courts. If you saw firsthand how well Odyssey Middle School works in the building it currently uses, you would question the timing of this project, too.

Thank you,

Jennifer Betcher

Exhibit 34 CUP24-1001

MacKay Sposito

Vancouver Office

18405 SE Mill Plain Boulevard, Suite 100, Vancouver, WA 98683
360-695-3411 | www.mackaysposito.com

MEMORANDUM

TO: Yvette Sennewald

FROM: Steven McAtee, Planning & Entitlement Project Manager, Mackay Sposito

RE: Response to public comments.
Conditional Use Permit 24-1001 Camas High School Tennis Court Redevelopment

DATE: March 18, 2025

The following memorandum addresses the public comments received regarding the Conditional Use Permit for the Camas High School Tennis Court Redevelopment. It summarizes and clarifies the concerns raised and identifies the project's compliance with the applicable approval criteria.

The applicant respectfully requests that this document be entered into the record for consideration by the Hearings Examiner. Please confirm receipt at your earliest convenience.

Clarity of Operational Hours

The proposed facility's operational hours have been outlined in submitted application materials and identified in the staff report. The district and USTA propose the estimated hours to be 9:00 AM to 2:30 PM, and from approximately 6:00 PM to close. These days/time of operation are designed to avoid peak school traffic times, ensuring minimal impact on circulation and congestion.

Architectural and Fire Safety Considerations

Any concerns about building and fire code compliance are unrelated to the CUP approval criteria and will be addressed during the building permit review process.

This project will undergo final engineering plan and building permit approval which will address all applicable fire and safety regulations.

Availability of Project Documentation

The application process has followed all legal public notice requirements, including published notices and mailed notifications to property owners within 300 feet of the project site. Signs were posted at

Exhibit 34 CUP24-1001

the subject property with project details such as proposed development, application type, hearing date, and hearing location.

Application documents, such as the traffic study, SEPA determination, and CUP application, are available to the public in accordance with city procedures. The request for alternative methods of document access (such as full electronic disclosure) is not relevant to this CUP request. Full electronic disclosure is not part of the city's public review process.

Parking & Traffic Considerations

Lancaster Mobley, the project's traffic engineering consultant, provided a response to recent public comments. Per this response, there will be no net increase in AM or PM peak hour trips. Please see the additional traffic information in the included response dated March 4, 2025.

Public Hearing Timing and Process

Mr. and Mrs. Vitek's requests to delay the hearing are not based on any deficiencies in the application process. The hearing date was set following the proper legal notification process, ensuring that any and all interested parties had adequate time to review and comment. The staff report has been issued and the conditions of approval ensure that all required standards are met before final project implementation.

Procedural Bias

All applicable requirements have been met, and conditions of approval have been identified based on the Camas Municipal Code. Claims that the process is biased are not supported by any evidence and do not relate to CUP compliance.

Tennis Court Surfacing Costs

Concerns about the type and cost of surfacing materials are not relevant to this CUP approval. All design and maintenance considerations will be handled by the project owners (Camas School District and USTA PNW) and are not within the scope of land use approval.

Alternative Building Type Analysis

The project's dome structure has been carefully designed to fit within the context of a high school athletic campus. The staff report confirms that the facility meets or exceeds all zoning and design requirements for the R-7.5 zoning district.

Additionally, the proposed air-supported structure is a proven design for tennis facilities nationwide, offering weather protection and extended seasonal use. The requirement for a CUP does not mandate the analysis of alternative structures, as long as the proposal complies with applicable development standards.

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Final Conclusion

- The concerns raised in public comments largely fall outside the scope of the Conditional Use Permit approval criteria.
- All applicable requirements have been met, and conditions of approval further mitigate any potential impacts.
- The project enhances community recreational opportunities, aligns with comprehensive plan goals, and provides a valuable resource for both students and the public.

We respectfully request that the Hearings Examiner approve this Conditional Use Permit based on compliance with the Camas Municipal Code and the staff report's findings.

Carey Certo

From:	Clark Vitek <clark@theviteks.com>
Sent:	Wednesday, March 19, 2025 3:57 PM
To:	Community Development Email
Cc:	Yvette Sennewald; Caryn
Subject:	Opposition to CUP24-1001
Attachments:	Vitek_Comments_March19_CUP24-1001.pdf

Please see attached written comments for the hearings examiner in opposition to CUP24-1001.

We will attend in person to present brief additional oral comments.

Note that the attached comments were made necessary in addition to our previous comments (agenda packet 28) due to changes in the applicant's traffic impact analysis. The updated traffic analysis was only made public last Friday with release of the agenda packet. As such our attached comments supersede our earlier comments contained in exhibit 29 of the packet. The attached comments address the revised analysis provided by the applicant on March 4 (exhibit 29).

It would be understandable to not post the revised analysis to the public portal if it was merely a response to our earlier comments and the applicant was simply defending their original submission. But in fact they completely changed the assumptions, analysis and conclusions and it also appears that staff has not updated its staff report or conclusions based on the revised analysis provided by the applicant. The staff report still makes reference to the original analysis conclusions, not the updated analysis conclusions.

Regarding our Exhibit 31 comments, some public statements were made by the applicant's representative Jasen McEathren in the local press (Columbian, March 12) regarding the occupancy and use of the proposed structure. These statements required further updating our previous comments related to agenda exhibit 31.

Thank you and we'll see you tomorrow

Clark Vitek

Exhibit 35 CUP24-1001

March 19, 2025

To: Hearings Examiner
City of Camas

From: Clark and Caryn Vitek, owners
Evergreen Tennis
Camas, WA

RE: CUP24-1001 Opposition

Introduction

Schools in residential zones are NOT an appropriate location for commercial businesses. The city of Camas has several available parcels appropriately zoned for the commercial use proposed in CUP24-1001. We question why the city (or school) would want to introduce a commercial operation “open to the general public” onto a school campus during the school day. The only access to this proposed commercial development is through the school’s driveway and parking lot, while children are present.

A supplemental traffic analysis dated March 4, 2025 was released in the agenda packet on March 14, 2025, leading us to new comments below detailing errors in the applicant’s estimates of the traffic impact. We further note that the proposed hours of commercial use have yet to be clearly defined by the applicant and were not detailed in any materials previously available for public review, such as the project narrative. In addition, the applicant has not sufficiently detailed the occupancy type and occupant load of the proposed structures in order to determine compliance with development standards including parking, site plan and setbacks, and traffic impact.

Summary of Traffic Impact concerns

- The original application and submitted SEPA questionnaire response stated “56 average new weekday trips and zero peak hour trips”. This conclusion was based in part on analysis that assumed hours of commercial operation only after 6pm.
- The original analysis included credits (reductions) in anticipated trip counts for assumed current public use of the eight existing outdoor courts.
- The applicant’s March 4, 2025 supplemental analysis added 9am-2:30pm hours for commercial operations on school days, and stated a revised trip count of “290 net new daily trips.” (exhibit 29, page 490 last paragraph and page 491 table 2). This is an increase of over 500% from the widely circulated and publicly quoted value in the local press of “only 56 net new weekday trips,” taken from the original application and SEPA questionnaire response.
- Staff appears to have missed the update to “290 trips” and incorrectly concludes that this is less than 200 trips that would require a full TIA/TIS. (see agenda packet staff report page 11 second paragraph, which still references the “56 trip” conclusion of the original study, not the updated study submitted on March 4, 2025, exhibit item 29).
- The applicant’s March 4, 2025 supplemental traffic analysis was made available for public review for the first time on March 14 and still contains significant errors and assumptions that grossly understate the traffic impact of this project:
    1. The calculations do not include any increase in traffic for public use outside of the high school tennis seasons, approximately 8 months of the year. Accounting for this would

Exhibit 35 CUP24-1001

increase the average daily trip count and result in some PM peak hour trips for which the applicant would be responsible for traffic impact fees.
2. The supplemental analysis still reduces the trip counts based on credits for assumed existing public use of the courts. The school superintendent and business services manager both have stated to us that the existing outdoor tennis courts are "not open to the public." In addition,the existing outdoor tennis courts can not be used on 170-200 inclement weather days per year. All public use in the new covered facility on inclement weather days would result in new trip generation. The applicant has not provided any supporting evidence for the assumed reductions (trip credits) based on existing use of the 8 outdoor courts by the public.

- To assess traffic impact for a proposed commercial use in residential zone, and allow the public to review and comment on the impact to the surrounding residential district, including the school where their children are in attendance, the applicant should be required to fully state the anticipated traffic generation by hour, day of the week, and week of the year. Traffic impact for a conditional use proposal is not only intended to analyze peak impacts on the adjacent roadway for infrastructure capacity, but also to quantify traffic generated at times that the current use does not generate (such as after dark, new days of week, or different times of year) so the public can be informed and comment on the full potential for increased noise, nuisance and safety concerns that the proposed commercial use will introduce.

Traffic Impact concern details

The study provided with the original application concluded there would be "56 average weekday trips and zero peak hour trips." We raised the concern that this conclusion was based on incomplete or incorrect information regarding the operating hours for planned commercial use by the general public. The applicant then provided a supplemental analysis dated March 4, 2025 (agenda packet item 29). This amended analysis provided a new but soft statement of the proposed commercial operating hours ("subject to change") of "9 AM - 2:30 PM" and "after 6 PM." The amended analysis concludes "the proposed USTA/CSD facility is expected to generate 0 net new AM and PM peak hour trips, and 290 net new daily trips." (reference: agenda packet page 490 last paragraph). We note that the staff report provided (agenda packet, page 10 and 11 "Traffic Impact Analysis") still contains a reference to the original submitted conclusion of "56 trips per day" but makes no reference to the new analysis conclusion of "290 net new daily trips" provided by the applicant on March 4, 2025. As a result staff incorrectly concludes the proposed development "will not exceed an additional 200 average daily trips (ADTs) that would trigger a TIA/TIS, therefore a transportation impact analysis (TIA/TIS) is not required." This conclusion is not supported by the updated analysis provided by the applicant on March 4. Table 2 of the updated analysis (page 491 of the agenda packet) which clearly shows the applicant is no longer claiming "56 trips" but "290 net new trips" by their revised analysis method. We believe this value is still incorrect for the reasons that follow.

The first error is that the new traffic analysis provided only accounts for public hours of use during spring and fall, about 4 months of the year when the high school teams are active with practices and competitions. The other 8 months of the year, based on applicant's statement that hours are "subject to change," it is expected that the USTA PNW will utilize the facility for commercial operations at all possible hours. For example, we note that the USTA PNW currently operates its Vancouver Tennis Center for 14 hours per day, using 90 minute session times. Avoiding congestion at the bell times at Camas High School, when the students arrive and depart from the parking lot, can be easily arranged with staggered scheduling of the start of the 90 minute sessions (e.g. start 60 minutes before and end 30 minutes after the bell times). So there is no reason to assume public use cannot start until 9:30am.

The Vancouver Tennis Center hours are generally 7:30am – 9:30pm, open 14 hours per day to the public, generating trips during the adjacent roadway AM and PM peak hours.

The applicant's traffic analysis does not account for any trips generated in the tennis "off season" months, when the hours of use would not be restricted by HS tennis teams use, and would therefore expand use by the public. This would include trip generation during the hours presently excluded in the analysis, including the peak PM hour.

It should be assumed in the provided calculations that that the courts will be fully utilized by the general public outside of the school tennis seasons, for 8 months of the year, 14 hours per day, requiring an updated trip generation calculation including AM and PM peak times trip counts.
The second error is that the applicant's engineer uses an incorrect assumption about existing public use of the outdoor tennis courts, stating that the use of indoor courts does not increase trip generation because the number of courts available for use by the USTA, the Camas School District, or the general public "does not change" (page 490). The net new trip generation provided is then reduced by the applicant's analysis as a result of credits for the assumed existing trips vs. proposed new commercial use trip generation.

Existing use of the courts by the public is an incorrect assumption:

- The courts are not available now for use by the general public during school hours. In a phone call with John Anzalone, Caryn Vitek was told that the outdoor courts are "technically not open to the general public". In a follow up meeting on December 4, 2024 with John Anzalone, Jasen McEathren and Tracey Malone, the statement that the public is not allowed on courts during school hours was repeated. As a practical observation, the courts are not used during school hours by the public because there is a lack of parking available for public use of the courts when school is in session, and all visitors to the school are required to check in at the school entrance, which is a restriction on access to the campus for security reasons. The applicant's engineer provided no evidence or traffic counts supporting that there is any existing public use of the tennis courts on school days and during school hours, yet erroneously assumed the courts are fully utilized by the public in the provided reduction credits to trip generation calculations and the conclusion of "zero trips during PM peak hour".

- The outdoor courts are not available now for use by the general public due to inclement weather for approximately 170-200 days per year that the weather is unsuitable for outdoor use. The construction of new weather-protected indoor courts will yield significant new potential for increased average daily trip generation at all hours of operation vs. existing use of outdoor courts just based on the number of inclement weather days.

Based on the above considerations, the traffic analysis provided is in error to provide reductions in the estimated trip generation based on assumed existing public use of the outdoor courts. There is no significant existing public use of the outdoor courts. The outdoor courts can only be used in good weather and on weekends/non-school days. The operation of a commercial tennis center that is fully weather protected, marketed to the public for all available hours and will include USTA instructional programs, court rentals, competitive play events such as adult city leagues and USTA tournaments will generate significant new traffic onto the high school campus. The new commercial use should be considered an entirely new use by the public with no comparable (or conforming) existing public use with respect to trip generation.

The applicant should be required to provide a new traffic impact analysis that clearly states the hours of proposed operation as a commercial tennis center per day of the week and by week of year based on an executed shared use agreement with the school, with no reduction credits applied for existing public use. The stated hours of commercial operations should be conditioned and the applicant required to revise its conditional use permit by new application to alter the conditioned hours in the future. "Subject to change" is not an acceptable statement for a conditional use approval, the hours for commercial operations in a residential zone should be clearly stated and conditioned. Since a correct and complete traffic impact analysis will certainly include some PM peak hour trips, the project should be conditioned to pay traffic impact fees as other commercial applicants have been required to pay in the past for very similar projects (e.g. Evergreen Tennis). Based on the available information in both submissions by the applicant, and standard industry practice, we request to condition this project to calculate the traffic impact utilizing the applicant's study result of 55 trips per day per court. For eight courts, the applicant's revised submission would result in 440 average daily trips with 54 trips in the PM peak hour subject to transportation impact fees (TIF). Alternatively, as suggested previously the ITE trip generation value of 3.8 trips per court, for eight courts, for 14 hours/day would result in 426 daily trips with 31 PM peak hours trips. These values may need to be increased further based on additional planned uses for the facility including USTA marketed programs and tournaments that require spectator acommodation and do not occur at the study facility.

There is a potential due process concern given that the applicant provided the incorrect low number of "56 trips and none during the peak hour" in its original application. This value was repeated in the local press during the SEPA review period, and is materially altered now (500% higher) based on the applicant's March 4 submission, and further incorrect if the conditions we propose above are accepted. The original traffic analysis provided by the applicant, along with several other application materials, were not made available in the city system for public review until February 13, 2025, almost a month after the SEPA comment period had closed on January 16, 2025. We believe that the public, including those concerned about the impact of traffic on the environment, should have the opportunity to fully understand and comment on the potential traffic impact of this project based on a correct and complete statement of the potential trip generation. As such the applicant should be required to revise its SEPA questionnaire response based on the final corrected trip generation analysis, and the SEPA review period should be re-opened for public comment for 30 days. The public may feel differently about 500 or more trips per day than they did about the incorrectly stated and publicized value of "only 56". Public and proper staff review has been denied in this case due to the applicant withholding the actual planned hours of use in its original application and traffic analysis. The issue that the city's software system was not providing public access to the underlying application documents until after the comment period had closed is not the applicant's fault, but completely impaired the ability for public access to review and comment on the veracity of the original application materials during the SEPA public comment period. By revision of its analysis on March 4, the applicant admits to signficant error and incomplete disclosure of traffic impact in its initial application and SEPA response.

Occupancy Type and Use, Occupant Load, and Parking Calculations

We raised the concern in a letter to city staff that the applicant did not provide sufficient details to understand the IBC occupancy use type and occupant load for the proposed 59,000 square foot air supported structure. We suggested that it is not possible to assess the site plan provided without at least some of these details. The building official response (agenda packet item 31) suggests that the fire, life safety concerns will be addressed at building approval stage. However, the site plan, traffic impact analysis, and parking calculations under review now for conditional use permit depend upon this information. Some statement of IBC occupancy type and the proposed occupant load (max occupancy)

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is needed for evaluation of the proposed conditional use as a commercial business on a school campus. As an example, in response to our observation to the school board that the existing spectator areas are outside the footprint of the proposed "bubble", and therefore would no longer be usable, Jason McEathren, the applicant's business services manager, responded to the Columbian newspaper (print edition front page, March 12, 2025) that the plan is to move the current spectator areas "inside" the bubble. This would imply that in addition to the typical presumed occupancy class of A-3 for tennis participants, there is some component of A-4 occupancy planned (spectator viewing area). However, nothing in the project narrative or site plans details the existing vs. proposed spectator areas or their expected occupant load. With respect to CMC 18.11.130 "parking" under review for this hearing, this difference is noted as a "tennis courts/club" (3 per court based on participants), which was used for the parking calculations submitted, vs. "Stadium/sports arena" (based on spectator area size and type of seating or accommodation). The amount of space within the 59,000 square foot facility dedicated to playing area vs. spectator area determines the parking requirements, and as of March 12 the applicant has publicly stated that the spectator areas will be located inside the proposed structure. Similarly, for traffic generation analysis, since the USTA has publicly announced plans to market tournaments and competitions, the amount and type of spectator areas provided is a factor to include in the potential trip generation. We note that the facility used for the applicant's traffic study (Evergreen Tennis) does not host any USTA marketed tournaments. There is no analysis provided based on occupant load to determine if the lobby and bathrooms proposed can support the building occupancy proposed (and resulting impacts on site plan, utilities plan, stormwater, etc) because the occupant types and loads are not defined or estimated anywhere in the application. Our suggestion (Agenda packet item 31) was to require the applicant to submit an architectural code review prior to approval of a conditional use permit. Waiting until building permit application stage will likely result in necessary changes to the site plan and related requirements for conditional use due to incomplete disclosure by the applicant of the full intended use and occupancy of the proposed structure. This will necessitate future changes to parking, traffic analysis, and other plans that are intended to be inclusive now in the conditional use review.

Signed,

Caryn Vitek

Clark and Caryn Vitek
5225 NW 38th Ave
Camas, WA 98671

Carey Certo

From:	Robert Maul
Sent:	Thursday, March 20, 2025 11:43 AM
To:	Carey Certo; Yvette Sennewald
Subject:	FW: School District Ped. Access Options [IMAN-PDX.FID4723015]

From: Robert Maul
Sent: Thursday, March 20, 2025 9:06 AM
To: McEathron, Jasen M. <Jasen.McEathron@camas.wednet.edu>
Cc: Curleigh (Jim) Carothers <jcarothers@cityofcamas.us>
Subject: RE: School District Ped. Access Options [IMAN-PDX.FID4723015]

Good morning, Jasen.

The City has discussed alternative pedestrian access points from the HSP project to the school site. Staff has made clear to HSR capital and AKS Engineering a preference for Option A as depicted below given it would link up to existing sidewalk infrastructure on the school site. Options 2 and 3 would require a lot of new sidewalks to meet complete streets for the northern development. I have copied the city engineer on this email for reference.

Please let me know if you have any questions.

Regards,

Robert

From: McEathron, Jasen M. <Jasen.McEathron@camas.wednet.edu>
Sent: Thursday, March 13, 2025 12:39 PM
To: Robert Maul <RMaul@cityofcamas.us>
Subject: FW: School District Ped. Access Options [IMAN-PDX.FID4723015]

Robert:

Please see below and let me know how we might correct the record here. Much appreciated.

Jasen McEathron
Director of Business Services
Camas School District No. 117
841 NE 22nd Ave.
Camas, WA 98607
360-833-7412 office direct
360-607-3413 cell

From: Mullaney, Patrick J. <PMullaney@schwabe.com>
Sent: Thursday, March 13, 2025 12:04 PM
To: McEathron, Jasen M. <Jasen.McEathron@camas.wednet.edu>
Subject: FW: School District Ped. Access Options [IMAN-PDX.FID4723015]

Hi Jasen: See below re: response from Steve Morasch. Let me know if you would like to discuss.

Patrick

Patrick Mullaney

Of Counsel
D: (206) 407-1575
C: (206) 612-7744
pmullaney@schwabe.com

Schwabe

From: Steve C. Morasch <stevem@landerholm.com>
Sent: Thursday, March 13, 2025 11:08 AM
To: Mullaney, Patrick J. <PMullaney@schwabe.com>
Cc: Lila L. Soelberg <Lila.soelberg@landerholm.com>
Subject: RE: School District Ped. Access Options

I got your message and have followed up with HSR. Apparently, the city of Camas had asked them to keep that original path off of Rekdahl Street in case they ever decided they wanted to add access from the east portion so HSR is hesitant to relinquish anything until they get their preliminary plat approval. This was a city of Camas requirement and they are in for land use approval, which they expect to have in April. Once they get their preliminary plat land use of approval and know what the conditions of approval will be, they will be ready to talk about modifying/relinquishing the easement.

Steve C. Morasch | Attorney at Law
LANDERHOLM
Legal advisors. Trusted advocates.
805 Broadway Street, Suite 1000
Vancouver, WA 98660
T: 360-696-3312 | T: 360-558-5912 | F: 360-558-5913
www.landerholm.com

From: Mullaney, Patrick J. <PMullaney@schwabe.com>
Sent: Thursday, February 20, 2025 1:24 PM

To: Steve C. Morasch <stevem@landerholm.com>
Subject: School District Ped. Access Options [IMAN-PDX.FID4450073]

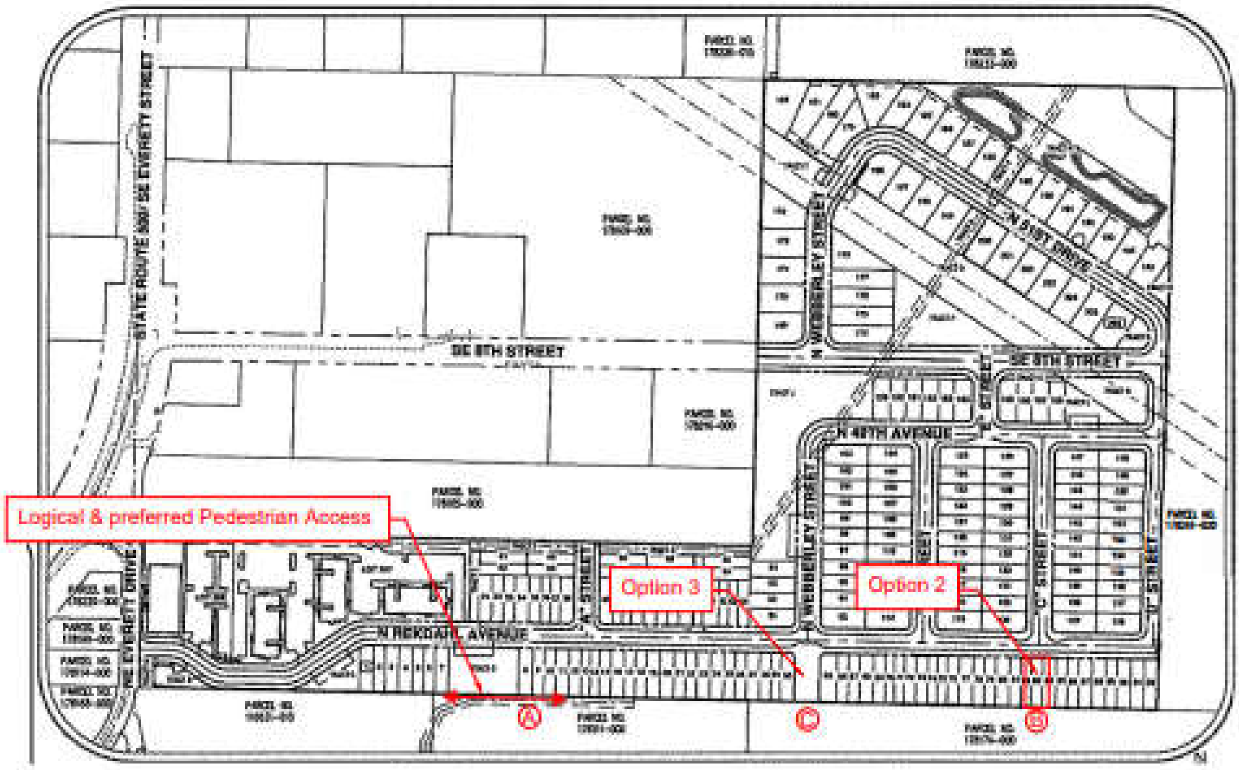
Hi Steve:

Thanks for speaking with me last night. Below is the conceptual plan I mentioned regarding possible routes for the pedestrian access between the proposed plat and the high school. The District prefers Option A, which originates in a currently designated open space tract. Also, I think that by moving the route from Option C, the development may be able to pick up an extra lot. In an addition to being the most logical route for pedestrians crossing the high school property, Option A would preserve potential plat access to the eastern portion of the easement and the private road, SE 271st Avenue, if that were something that the City would approve/require.

Please let me know if you have any questions. The District would welcome a discussion with your client to hopefully reach a consensus on the proposed options.

Sincerely,
Patrick

Preliminary Plat for Camas Woods Subdivision (SUB24-1002)



A) Most Logical Pedestrian Access: - - - - - - - - - - - -

- Close access to existing sidewalk
- Good sight distance
- Keeps pedestrians from crossing busy parking lot

B) Second most Logical Access Point - - - - - - - - - - - -

- Shorter pedestrian route option C.
- Connection across flatter ground
- Will not access across proposed tennis parking

C) Current Access as shown on Preliminary Plat dated 12-23-24 - - - -

- Longest pedestrian route
- Connection point to school site has most grade issues
- Option has crosses existing parking lot and proposed tennis parking lot.

Patrick Mullaney

Of Counsel
D: (206) 407-1575
C: (206) 612-7744
pmullaney@schwabe.com

Schwabe

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HSR

HSR Capital / Camas Woods LLC

Date: March 24, 2025

To: Hearing Examiner
C/O: City of Camas – Community Development Department
Subject: Follow-Up Statement on CUP24-1001–Camas High School Tennis Court Redevelopment
From: Andy Swanson, CEO | President
On Behalf of: HSR Capital / Camas Woods LLC

Dear Hearing Examiner,

We respectfully submit this letter as a follow-up to our original comment submitted during the SEPA review period for CUP24-1001, the proposed Camas High School Tennis Court Redevelopment project. We appreciate the opportunity to provide additional clarification while the public record remains open.

1. Previous SEPA Comments Not Addressed

Our initial correspondence, which included a description of our access and utility easement appears in the record as Exhibits 26 & 27; however, the accompanying map exhibits were omitted from the project packet available online and as was presented during the hearing. We have attached these exhibits to make sure they are included in the record (see attached maps). Our comments and concerns were not addressed during the public hearing or referenced in the current staff recommended conditions of approval. We respectfully request that our concerns be formally acknowledged and considered as part of the Hearing Examiner's review.

2. Easement Rights and Intent

We would like to restate our position regarding the 60-foot-wide access and utility easement that exists across the northern portion of the Camas High School property, benefiting parcel 178140-000 (owned by Camas Woods LLC).

- At this stage of the Camas Woods entitlement process, it is essential that we retain this easement to ensure flexibility for future access, utilities, and compliance with fire, life, and safety requirements.
- Until final engineering and/or plat approval is granted for Camas Woods, we cannot relinquish our rights to the easement, as it could become critical to site development and emergency access.
- Should the Camas Woods project receive final approvals with no reliance on this easement, we would be open to discussions with the School District and City about vacating or modifying the easement.

3. Potential Impacts of the Tennis Court Project

Although current plans for our Camas Woods project do not show an access road within the easement, it is premature to conclude that it will not be necessary in the future. Removing or obstructing the easement at this stage could compromise future development options or lead to unforeseen delays.

Exhibit 37 CUP24-1001

We appreciate the City and the Hearing Examiner’s attention to these matters, and we look forward to working collaboratively to ensure successful outcomes for both the Camas School District and our Camas Woods project.

Sincerely,

Andy Swanson
CEO | President
HSR Capital
503.936.8514
andy@hsr-capital.com
www.hsr-capital.com
19120 SE 34th Street #103
Vancouver, WA 98683

Carey Certo

From: Yvette Sennewald
Sent: Friday, March 14, 2025 8:39 AM
To: Carey Certo
Subject: FW: Request Regarding Existing Easement for Planning Case CUP24-1001

From: Steve Waugh
Sent: Thursday, January 2, 2025 3:57 PM
To: communitydevelopment@cityofcamas.us
Cc: Andy Swanson <andy@hsr-capital.com>; Steve Waugh <swaugh@hsr-capital.com>
Subject: Request Regarding Existing Easement for Planning Case CUP24-1001

Dear Yvette,

We are writing regarding Planning Case CUP24-1001 and the recent notice of application for the Conditional Use Permit related to the redevelopment of the Camas High School Tennis Courts.

We kindly request that the applicant and City of Camas include the 60-foot access and utility easement owned by HSR Capital on the tennis center site into the public record for the proposed hearing. Additionally, we ask that this easement be noted on all proposed land use and engineering plans associated with this case. For clarity, we have no immediate plans to relinquish our rights to this easement currently. The easement serves parcel 178140-000 to the north of the tennis center and is under the name Camas Woods LLC, which is an HSR Capital specific project LLC.

For your reference, we have attached several maps provided by our engineer showing the easement highlighted in green along with the recorded document number.

Please let us know if you require any further documentation or additional details.

Thank you for your attention to this matter. We appreciate your assistance.

HSR

Steve L. Waugh
Chief Development Officer
☎ 360 903 4239 ✉ swaugh@hsr-capital.com
hsr-capital.com
19120 SE 34th Street #103 Vancouver WA 98683

Exhibit 37 CUP24-1001

Carey Certo

From:	Robert Maul
Sent:	Monday, January 27, 2025 10:59 AM
To:	Yvette Sennewald; Carey Certo
Cc:	Alan Peters; Anita Ashton; Curleigh (Jim) Carothers
Subject:	FW: Easement for Planning CASE24-1001

Please add to the record.

From: Steve Waugh <swaugh@hsr-capital.com>
Sent: Monday, January 27, 2025 10:10 AM
To: Robert Maul <RMaul@cityofcamas.us>
Cc: Andy Swanson <andy@hsr-capital.com>; Bryce Hanson <BryceH@aks-eng.com>; andreottim <andreottim@aks-eng.com>
Subject: Easement for Planning CASE24-1001

WARNING: This message originated outside the City of Camas Mail system. DO NOT CLICK on links or open attachments unless you recognize the sender and are expecting the content. If you recognize the sender as a city employee and you see this message this email is a phishing email. If you are unsure, click the Phish Alert button to redirect the email for ITD review.

Robert Maul
City of Camas
616 NE 4th Avenue
Camas, WA 98607
Subject: Easement for Planning Case CUP24-1001

Dear Mr. Maul,

We wanted to confirm that HSR Capital, LLC has no plans to relinquish the 60-foot access and utility easement at this time. We need to keep this option open until our abutting development project Camas Woods is fully entitled and we know for sure that access to the east isn't needed.

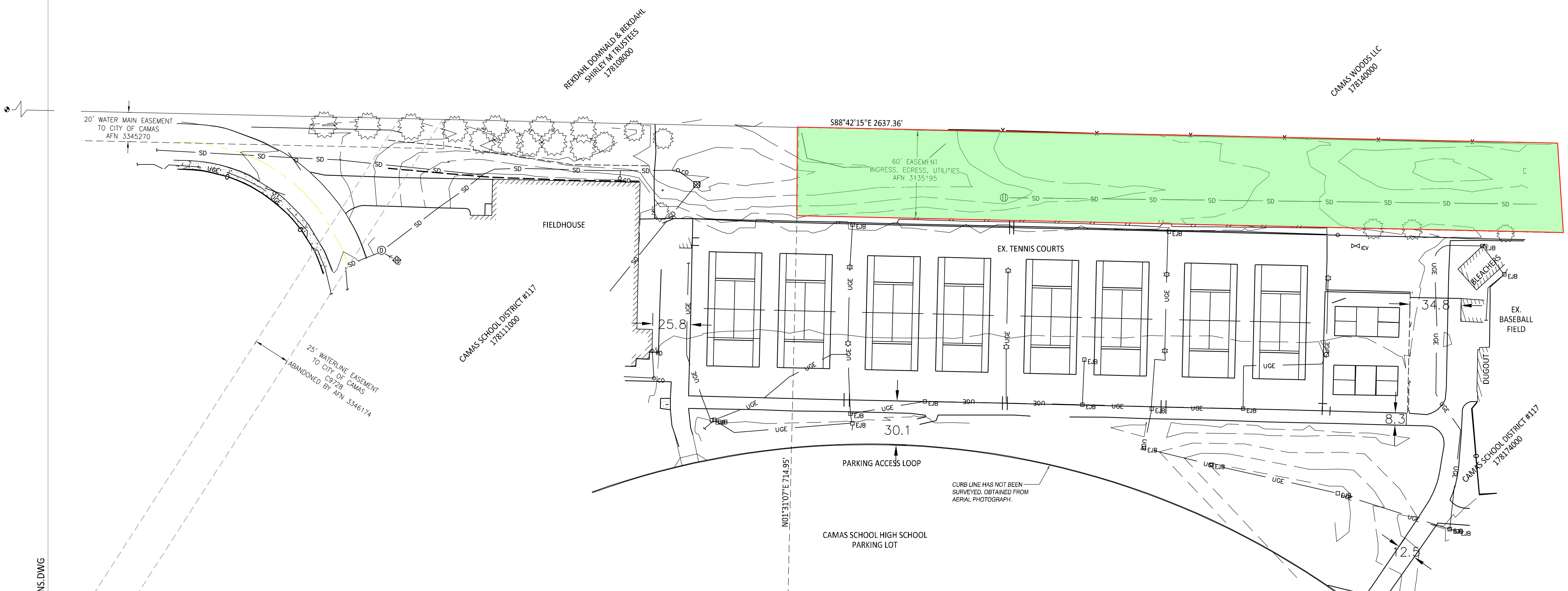
Thank you for your understanding. Let us know if you need anything further.

Sincerely,

HSR Capital, LLC
19120 SE 34th Street # 103
Vancouver, WA 98683

Exhibit 37 CUP24-1001

VICINITY MAP SE 1/4 SEC. 35 T2N R3E W.M.
NTS



EXISTING CONDITIONS NOTES

EXISTING SITE DATA:

PRESENT USE:	CAMAS HIGH SCHOOL
EXISTING ZONING:	RESIDENTIAL-7,500 (R-7.5)
GROSS SITE AREA:	PARCEL 178111000 IS 20.31 ACRES (884,704 SF) ACCORDING TO CLARK COUNTY GIS, 32.06 ACRES (1,396,534 SF) ACCORDING TO CLARK COUNTY GIS.
PROJECT AREA:	3.32 AC (144,798 SF)
TRANSIT ROUTES & STOPS:	NONE IN THE VICINITY

EXISTING IMPROVEMENTS NOTES:

EXISTING STRUCTURES:	AS SHOWN
EXISTING DRIVEWAYS:	AS SHOWN
EXISTING PARKING:	AS SHOWN
EXISTING LOADING:	AS SHOWN
EXISTING PEDESTRIAN AND BICYCLE PATHS:	AS SHOWN
EXISTING PASSIVE OR ACTIVE RECREATIONAL FACILITIES OR OPEN SPACE:	AS SHOWN
EXISTING UTILITIES:	AS SHOWN
EXISTING EASEMENTS:	AS SHOWN
EXISTING WELLS:	NONE KNOWN
EXISTING SEPTIC SYSTEMS:	NONE KNOWN

ENVIRONMENTAL & SIGNIFICANT NATURAL CONDITIONS NOTES:

TOPOGRAPHY:	AS SHOWN
WATERCOURSES AND DRAINAGE PATTERNS:	NO MAPPING INDICATORS
100 YEAR FLOODPLAIN:	NO MAPPING INDICATORS
DESIGNATED SHORELINES AREAS:	NO MAPPING INDICATORS
HIGH SEASONABLE WATER TABLE OR IMPERMEABLE SOILS:	NO MAPPING NDICATORS
WATER BODIES AND KNOWN WETLANDS:	NO MAPPING INDICATORS
WETLAND DELINEATION:	NO MAPPING INDICATORS
UNSTABLE GROUND, LANDSLIDE HAZARD AREAS & AREAS HAVING SEVERE EROSION POTENTIAL:	NO MAPPING INDICATORS
AREAS HAVING WEAK FOUNDATIONAL SOILS:	NO MAPPING INDICATORS
SLOPES EXCEEDING 15%:	NONE KNOWN
SIGNIFICANT VEGETATION OR WILDLIFE HABITAT:	NO MAPPING INDICATORS
SIGNIFICANT HISTORIC, CULTURAL OR ARCHAEOLOGICAL RESOURCES:	NONE KNOWN
ROCK OUTCROPPINGS:	NONE KNOWN

NOTES:

THE LOCATION OF EXISTING UTILITY FACILITIES HAS NOT BEEN RESEARCHED. UNDERGROUND UTILITIES SHOWN HEREON ARE FROM TIES TO UTILITY PAINT MARKS MADE IN RESPONSE TO "ONE-CALL CONCEPTS" UTILITY NOTIFICATION. THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE DELINEATION OF SUCH UNDERGROUND UTILITIES BY THE RESPECTIVE UTILITY OWNERS, NOR THE EXISTENCE OF BURIED OBJECTS WHICH ARE NOT SHOWN ON THIS PLAN.

FIELD WORK FOR THIS SURVEY WAS PERFORMED JULY, 2024.

FILE: W:\18551 USTA COVERED TENNIS CENTER\500 DESIGN\502 DRAWINGS\SHEETS\18551 EX1.0 EXISTING CONDITIONS.DWG

LEGEND:

Ⓓ	EXISTING STORM MANHOLE
⊠	EXISTING STORM CATCH BASIN (SQUARE)
○ CO	EXISTING STORM CLEAN OUT
◍	EXISTING STORM CATCH BASIN (ROUND)
◉	FOUND IRON PIPE
●	FOUND MONUMENT AS SHOWN
◕	FOUND SECTION CORNER AS SHOWN
○ B	EXISTING BOLLARD
□ EJB	EXISTING ELECTRIC JUNCTION BOX
○	EXISTING HOSE BIB
⋈ ICV	EXISTING IRRIGATION CONTROL VALVE
☼	EXISTING LIGHT POLE
▨	EXISTING BUILDING
▭	EXISTING CONCRETE
▭	EXISTING ASPHALT
—o—	EXISTING CYCLONE FENCE
R1	REFERENCE PER RECORD OF SURVEY BOOK 71 – PAGE 212

BENCHMARK

THE SITE BENCHMARK IS BASED UPON SAID POINT NO. 1 BEING A SET 1/2" X 30" IRON ROD WITH A RED PLASTIC CAP INSCRIBED "MSI CONTROL".

ELEVATION = 381.78'

Know what's below.
Call before you dig.

MacKay Sposito
ENERGY PUBLIC WORKS LAND DEVELOPMENT
www.mackaysposito.com

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###

USTA CAMAS HIGH SCHOOL
CAMAS, WA

EXISTING CONDITIONS PLAN
###

REVISIONS:
###
###
###
###
###
###
###

JOB NO.:	18551
DATE:	09/03/24
SCALE:	1"=30'-0"
DESIGNED BY:	JAN
DRAWN BY:	JAN
CHECKED BY:	MS/SM

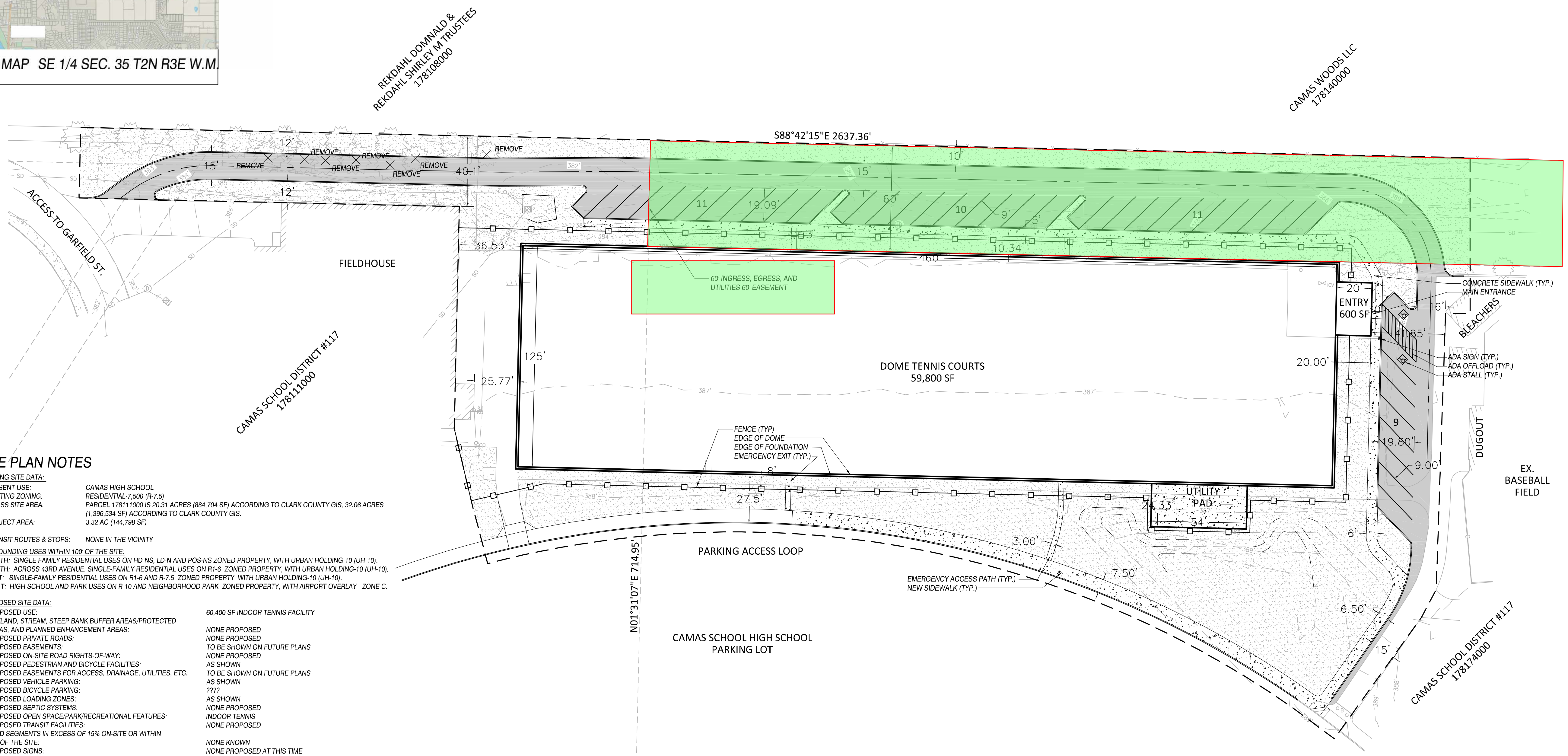
####

EX 1.0

NO. #### OF ###

Exhibit 37 CUP24-1001

VICINITY MAP SE 1/4 SEC. 35 T2N R3E W.M.
NTS



SITE PLAN NOTES

EXISTING SITE DATA:

PRESENT USE:	CAMAS HIGH SCHOOL
EXISTING ZONING:	RESIDENTIAL-7,500 (R-7.5)
GROSS SITE AREA:	PARCEL 178111000 IS 20.31 ACRES (884,704 SF) ACCORDING TO CLARK COUNTY GIS, 32.06 ACRES (1,396,534 SF) ACCORDING TO CLARK COUNTY GIS.
PROJECT AREA:	3.32 AC (144,798 SF)
TRANSIT ROUTES & STOPS:	NONE IN THE VICINITY

SURROUNDING USES WITHIN 100' OF THE SITE:

NORTH: SINGLE FAMILY RESIDENTIAL USES ON HD-NS, LD-N AND POS-NS ZONED PROPERTY, WITH URBAN HOLDING-10 (UH-10).
SOUTH: ACROSS 43RD AVENUE. SINGLE-FAMILY RESIDENTIAL USES ON R1-6 ZONED PROPERTY, WITH URBAN HOLDING-10 (UH-10).
EAST: SINGLE-FAMILY RESIDENTIAL USES ON R1-6 AND R-7.5 ZONED PROPERTY, WITH URBAN HOLDING-10 (UH-10).
WEST: HIGH SCHOOL AND PARK USES ON R-10 AND NEIGHBORHOOD PARK ZONED PROPERTY, WITH AIRPORT OVERLAY - ZONE C.

PROPOSED SITE DATA:

PROPOSED USE:	60,400 SF INDOOR TENNIS FACILITY
WETLAND, STREAM, STEEP BANK BUFFER AREAS/PROTECTED AREAS, AND PLANNED ENHANCEMENT AREAS:	NONE PROPOSED
PROPOSED PRIVATE ROADS:	NONE PROPOSED
PROPOSED EASEMENTS:	TO BE SHOWN ON FUTURE PLANS
PROPOSED ON-SITE ROAD RIGHTS-OF-WAY:	NONE PROPOSED
PROPOSED PEDESTRIAN AND BICYCLE FACILITIES:	AS SHOWN
PROPOSED EASEMENTS FOR ACCESS, DRAINAGE, UTILITIES, ETC:	TO BE SHOWN ON FUTURE PLANS
PROPOSED VEHICLE PARKING:	AS SHOWN
PROPOSED BICYCLE PARKING:	????
PROPOSED LOADING ZONES:	AS SHOWN
PROPOSED SEPTIC SYSTEMS:	NONE PROPOSED
PROPOSED OPEN SPACE/PARK/RECREATIONAL FEATURES:	INDOOR TENNIS
PROPOSED TRANSIT FACILITIES:	NONE PROPOSED
ROAD SEGMENTS IN EXCESS OF 15% ON-SITE OR WITHIN 500' OF THE SITE:	NONE KNOWN
PROPOSED SIGNS:	NONE PROPOSED AT THIS TIME
PROPOSED LIGHTING:	AS SHOWN ON LIGHTING PLAN
PROPOSED LOTS, TRACTS, ETC:	NONE PROPOSED
EXISTING BUILDINGS TO REMAIN:	AS SHOWN ON PLAN
PROPOSED LANDSCAPING (LANDSCAPE PLAN):	AS SHOWN ON THE LANDSCAPE PLAN
PROPOSED BUILDINGS:	AS SHOWN - INFLATABLE DOME
ABOVE-GROUND UTILITIES:	REFER TO CIVIL ENGINEERING PLANS
PROPOSED FENCES:	AS SHOWN

ALL PROPOSED ADA ACCESSIBLE PARKING AND AISLES SHALL HAVE A MAXIMUM SLOPE OF 1:48.
ALL ACCESSIBLE ROUTES OF TRAVEL MEET ACCESSIBILITY STANDARDS.

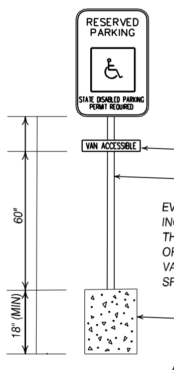
IF ANY CULTURAL OR HISTORICAL RESOURCES ARE DISCOVERED IN THE COURSE OF UNDERTAKING THE DEVELOPMENT ACTIVITY, THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC PRESERVATION (DAHP) IN OLYMPIA AND CITY OF CAMAS DEVELOPMENT REVIEW SERVICES MUST BE NOTIFIED. FAILURE TO COMPLY WITH THESE STATE REQUIREMENTS MAY CONSTITUTE A CLASS C FELONY SUBJECT TO IMPRISONMENT AND/OR FINES.

SITE PLAN CALCULATIONS

TOTAL SITE AREA	2,281,238 SF
PROJECT AREA	144,798 SF
BUILDING AREA	60,400 SF (41%)
LANDSCAPE AREA	42,454 SF (29%)
PAVED AREA	41,944 SF (30%)

PARKING CALCULATIONS

PARKING REQUIRED	8 TENNIS COURTS, 600 SF GROSS FLOOR AREA OF RELATED USE. 3 SPACES PER COURT + 1 PER 260 SF RELATED GFA + 1 PER EMPLOYEE 8 COURTS(3*8)=24 + (600 SF / 260 SF)=2.3(3) + 3 EMPLOYEES=30 REQUIRED SPACES
PARKING PROVIDED	41 STALLS, WHICH INCLUDES THE FOLLOWING: 41 STANDARD STALLS, WHICH INCLUDES 2 ADA STALLS



1) HANDICAPPED SIGN SHALL BE 70 SQ.IN.(MIN) PORCELAIN ON STEEL.

2) BEADED TEXT OR EQUAL DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND TEXT STATING "STATE DISABLED PARKING PERMIT REQUIRED".

3) SIGN PROVIDED BY CONTRACTOR.

VAN PARKING (WHERE REQUIRED)

2" (ID) STANDARD GALVANIZED PIPE

EVERY ACCESSIBLE PARKING SPACE WILL BE IDENTIFIED BY A SIGN, LOCATED AT 60 INCHES TO THE BOTTOM OF THE SIGN ABOVE THE PARKING SURFACE, LOCATED AT THE HEAD OF THE PARKING SPACE. THE SIGN SHALL INCLUDE INTERNATIONAL SYMBOL OF ACCESS AND THE PHRASE "STATE DISABLED PARKING PERMIT REQUIRED". VAN ACCESSIBLE SPACES SHALL HAVE AN ADDITIONAL SIGN IDENTIFYING THE SPACES AS "VAN ACCESSIBLE" WAC 51-20-3107(C).

18" DIAMETER POURED CONCRETE BASE

NOT TO SCALE

ADA AISLE WIDTHS SHALL BE 8' FOR VAN ACCESSIBLE AND 5' OTHERWISE. SLOPES SHALL BE LESS THAN 5%. THE INTERNATIONAL SYMBOL USED WITHIN A PARKING SPACE SHALL BE 'WHITE ON BLUE' BACKGROUND. SEE ENGINEERING PLANS FOR RAMP AND SYMBOL DETAILS.

LEGEND:

Ⓓ	EXISTING STORM MANHOLE
☒	EXISTING STORM CATCH BASIN (SQUARE)
○ CO	EXISTING STORM CLEAN OUT
⦶	EXISTING STORM CATCH BASIN (ROUND)
○ B	EXISTING BOLLARD
□ EJB	EXISTING ELECTRIC JUNCTION BOX
○	EXISTING HOSE BIB
⋈ ICV	EXISTING IRRIGATION CONTROL VALVE
☼	EXISTING LIGHT POLE
▨	EXISTING BUILDING
▭	EXISTING CONCRETE
▭	EXISTING PAVEMENT
—○—	EXISTING CYCLONE FENCE
—	PROPOSED CYCLONE FENCE
═	PROPOSED CURB
▭	PROPOSED CONCRETE PAVING
▬	PROPOSED ASHPALT PAVING
━	PROPOSED BUILDING EDGE AND FOUNDATION
▭	LANDSCAPE AREA
✕ REMOVE	EXISTING TREE TO REMOVE

APPLICANT:
USTA: UNITED STATES TENNIS ASSOCIATION
PATRICK DREVES
9746 SW NIMBUS AVE
BEAVERTON, OR 97008
(503) 919-0832
pdreves@pnw.usta.com

OWNER/APPLICANT:
CAMAS SCHOOL DISTRICT
JASEN MCEATHRON, DIRECTOR OF BUSINESS SERVICES
841 NE 22ND AVENUE
CAMAS, WA 98607
360-833-7412
jasen.McEathron@camas.wednet.edu

CONTACT:
MACKAY SPOSITO, INC.
ATTN: STEVEN MCATEE
18405 SE MILL PLAIN BLVD. SUITE 100
VANCOUVER, WA 98683
(360) 695-3411
smcatee@mackaysposito.com

0 30 60
SCALE: 1" = 30'

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USTA CAMAS HIGH SCHOOL
CAMAS, WA

PRELIMINARY SITE PLAN
###

REVISIONS:
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###
###

JOB NO.:	18551
DATE:	09/03/24
SCALE:	1"=30'-0"
DESIGNED BY:	JAN
DRAWN BY:	JAN
CHECKED BY:	MS/SM

####

SP 1.0

NO. #### OF ###

FILE: W:\18551 USTA COVERED TENNIS CENTER\500 DESIGN\502 DRAWINGS\BASE\18551-PBASE_PRELIMINARY.DWG

CUP24-1001 Traffic Impact
Additional Comments for Open Public Record
March 25, 2024

Introduction and Summary

The Camas High School outdoor tennis courts were originally developed and currently used as ITE land use code 525 "Institutional - High School." For traffic generation analysis, when tennis courts are part of a high school, they are typically included within the broader land use category of the school because they are an integrated part of the high school's facilities. The trip generation characteristics for the entire high school (students, staff, events, sports and extracurricular activities) are captured under ITE Land Use Code 525, encompassing all facilities on campus, including the tennis courts.

A repeated error in the applicant’s submitted traffic analysis, and during testimony at the March 20 hearing, is the statement that the existing eight outdoor courts at Camas High School are currently land use code 490 “Tennis Courts”. ITE Land Use Code 490 applies to independent or public tennis courts that are not associated with a larger facility, such as a school, park, or recreational complex. These courts have distinct trip generation patterns, which differ from those integrated within a school.

The existing outdoor tennis courts were not developed and do not operate separately from the high school. There is no existing dedicated public access or parking, as a separated development would have. The correct and only ITE land use code to apply to the existing condition at all of the high school’s athletic facilities is “Institutional - High School” ITE Land Use Code 525.

The proposed conditional use as an indoor tennis center will ***change*** the use for a portion of the high school from ITE land use code 525 “High School” to land use code 491 “Racket/Tennis Club.”

We calculate that the difference in proposed vs. existing land uses will result in an increase to the expected trip generation of 430 net new average Daily trips, along with 38 net new PM Peak Hour trips, as calculated below. This is above the City of Camas threshold of 200 net new Daily trips that requires a TIA/TIS to be prepared.

Background

To estimate both the existing and proposed trips, the ITE trip generation manual, 11th edition, provides trip generation values based on land use categories or codes. For some land use categories, such as code 491 "Racket/Tennis Club," the values provided are noted in the manual as potentially low quality due to a relatively low number of determining studies included for these facility types.

For the proposed project at the Camas High School, the applicant commissioned a study of traffic counts at Evergreen Tennis, 5225 NW 38th Ave, which is a four court indoor tennis club in a commercial zone within the City of Camas. The results of the study are summarized in applicant’s March 4, 2025 “Supplemental Analysis” (hearing packet ex. 29, page 489 table 1). This study observed 54.5 Daily trips per court and 6.75 trips per court during the PM Peak hour. In addition, in an email dated February 10, 2025 (ex. 28, page 467,) Evergreen Tennis provided additional data to the city based on a 5-day sample period in February 2025 showing 49.8 daily trips per court. In response, the applicant agreed that this is a similar value to its own study conclusions, “the collected data approximately match the estimates provided by the concerned party." (ex. 29, page 494, last paragraph).

Therefore, in the calculations provided below, we utilize the applicant's values for estimating trip generation at the proposed facility. These values are stated as ***"54.5 Daily trips per court and 6.75 trips per court during the PM Peak hour"*** (ex. 29 page 489 table 1).

Existing Use of CHS Tennis Courts, ITE Land Use Code 525 "High School"

A repeated error in the applicant's submitted analysis, and during testimony at the March 20 hearing, is the statement that the existing eight outdoor courts at Camas High School are the same ITE land use as the proposed land use for an indoor tennis center. The current approved land use of the Camas High School tennis courts, along with the rest of the high school, is an institutional land use "High School," ITE land use code 525 (see Attachment A). The existing eight outdoor tennis courts were only previously approved as part of the High School; they were not approved or developed separately with separate land use considerations applied, nor separate traffic and parking analysis conducted as a land use code 490 development. The only approved existing use of the outdoor tennis courts from a land use and planning perspective is the high school's own use in its educational and athletic programs. Therefore only use under ITE code 525 "High School" should be considered to provide an estimate of the existing traffic generation conditions.

For ITE land use code 525, the expected PM peak hour generation is stated at 0.14 trips per student. This is because even though the bell schedule is earlier in the day, it is recognized that there is always some activity in the PM peak hour on weekdays at a high school. This includes athletics such as tennis, but also other extracurricular activities such as rehearsals for the arts and various clubs that hold meetings and events at hours outside of the regular school day. ITE Land Use Code 525 is intended to be inclusive of all traffic generation by the school, including extracurricular uses and athletics.

For apportioning the PM peak hour trips to the existing eight outdoor tennis courts, we use the ITE provided land use code 525 value of 0.14 trips per tennis participating student athlete. This represents existing ITE trip generation attributable to high school use of the tennis courts. The boys fall tennis season and the girls spring tennis season is approximately four months in total per year. The tennis seasons are when the courts are in use by the high school teams for tennis practices and matches.

Because the proposed use is indoors and the existing use is outdoors, further corrections to the existing use estimate are necessary to remove outdoor inclement weather days. We used the 20 year average rain probability during the Boys Fall season and Girls Spring season (see Attachment B for data). The Boys Fall season shows a 26% probability of existing use getting rained out (16 of 61 rainy days in September and October) and the Girls Spring season shows a 41% probability of existing use getting rained out (25 of 61 rainy days in March and April). For purposes of calculation, an average rain out probability for both seasons of 33.5% is used.

Outside of the high school tennis team seasons, 8 months of the year, the existing PM Peak hour trips attributed to high school use of its existing outdoor tennis courts is zero. We note that in summer months (July and August) it is typically too hot in the afternoon to play or practice on uncovered outdoor tennis courts, and in the winter (Nov-Feb), the probability of rain in Camas on any given day climbs to an average of 43% and the outdoor courts generally do not dry out enough to support any after school uses in the winter months.

Exhibit 38 CUP24-1001

Proposed Project Net New Trip Generation (Average Daily Trips and PM Peak Hour Trips)

The net new trip generation for the proposed project is the applicant's provided value of trips minus the existing use trip credits. We use the applicant's stated 54.5 Daily trips per court with no adjustments for conditioning the hours of operation. Since we do not have the full expected hours of operation stated at this time, it is anticipated that the USTA PNW will seek to maximize commercial hours of operation, if not specifically conditioned to more limited hours. Most likely, it will operate similar to the hours it operates at the Vancouver Tennis Center, typically 7:30 AM to 9:30 PM. The applicant has stated its hours open to the public will "avoid the bell times" and that hours are "subject to change." Unless the commercial hours are specifically conditioned, we expect the applicant will simply schedule the start and end session times open to the public to operate commercially while avoiding the bell times. For example, the first session 7:30-9 AM sufficiently avoids the morning bell time of 8:45 AM and an afternoon session of 3-4:30 PM would avoid the afternoon bell time at 3:15 PM, allowing the center to operate commercially throughout the entire school day.

We will assume student athlete tennis participants are 100 each for the Boys and Girls seasons and that they arrive to school in the morning and depart during the PM Peak hour at the level stated for ITE land use code 525 of 0.14 trips per tennis student athlete, and twice that amount at 0.28 (coming and going) for the average daily trip count calculation. On rain days the existing PM Peak hour trips are excluded from existing use credit as outdoor practice or matches on the tennis courts would be canceled.

Net New Trips for the proposed project is calculated as Trips minus Existing Use Trip Credits adjusted for rain out probability, as follows:

During High School Tennis Seasons (4 months/year)

Net New Daily Trip Generation = Trips – Existing Trips x (1-RainOutProbability)
=(54.5 daily trips per court x 8 courts) – (0.28 trips per athlete x 100) x (1-0.335) = 417

Net New PM Peak Hour Trip Generation = Trips – Existing Trips x (1-RainOutProbability)
=(0.14 trips per athlete x 100) - (0.14 trips per athlete x 100) x (1 – 0.335) = 4.7

Outside of High School Tennis Seasons (8 months/year)

Net New Daily Trip Generation = Trips – Existing Trips
= (54.5 daily trips per court x 8 courts) – (0 trips per athlete) = 436

Net New PM Peak Hour Trip Generation
= (6.75 PM Peak hour trips per court x 8 courts) – (0 trips per athlete) = 54

Average Net New Trips is calculated as the average of the 4-month tennis season and 8 month out-of-season values over 12 months:

Average Net New Daily Trip Generation
= [(417x4 months) + (436x8 months)] / 12 months = ***430 average net new Daily trips***

Average Net New PM Peak Hour Trip Generation
= [(4.7x4 months) + (54x8 months)] / 12 months = ***38 average net new PM Peak Hour trips***

Exhibit 38 CUP24-1001

Conclusion

The proposed conditional use as an indoor tennis center will change the use for a portion of the high school from ITE land use code 525 “High School” to land use code 491 “Racket/Tennis Club.” By the methods provided above, we conclude that the proposed tennis center will generate an average of **430 net new Daily trips, along with an average of 38 net new PM Peak Hour trips**. This is above the City of Camas threshold of 200 net new Daily trips that requires a TIA/TIS to be prepared.

Signed,

Caryn Vitek

Clark and Caryn Vitek, Owners
Evergreen Tennis, LLC
5225 NW 38th Ave

Attachments
A: ITE Land Use Codes Table excerpt, 11th edition
B: Camas Weather Table

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ATTACHMENT A : ITE EXISTING AND PROPOSED LAND USE CODES

ITE Trip Generation Manual, 11th Edition
PM Peak Hour Net New Trips by ITE Land Use Category

	Land Use Category - ITE 11th Edition	ITE Land Use Code	ITE Average PM Peak Hour Trip Rate[1]	Unit	Pass-By Trip Reduction Factor[3]	Net New Trip Rate	Trip Length Adjustment Factor	Net New Trips
Saturday, Peak Hour of Generator	Automobile Racetrack[2]	453	0.28	Attendees	1.00	0.28	1.00	0.28
	Dog Racetrack[2]	454	0.15	Attendees	1.00	0.15	1.00	0.15
	Professional Baseball Stadium[2]	462	0.15	Attendees	1.00	0.15	1.00	0.15
	Ice Skating Rink	465	1.33	1,000 sf GFA	1.00	1.33	1.00	1.33
PM Peak Hour of Generator Only	Snow Ski Area	466	33.77	Lifts	1.00	33.77	1.00	33.77
PM Peak Hour of Generator Only	Bingo Hall[2]	470	0.48	Seats	1.00	0.48	1.00	0.48
	Casino	473	22.61	1,000 sf GFA	1.00	22.61	1.00	22.61
	Amusement Park[2]	480	0.50	Employee	1.00	0.50	1.00	0.50
	Water Slide Park[2]	482	0.28	Parking Spaces	1.00	0.28	1.00	0.28
	Soccer Complex	488	16.43	Fields	1.00	16.43	1.00	16.43
	Tennis Courts[2]	490	4.21	Court	1.00	4.21	1.00	4.21
PROPOSED USE	Racket/Tennis Club[2]	491	3.82	Court	1.00	3.82	1.00	3.82
	Health/Fitness Club	492	3.45	1,000 sf GFA	1.00	3.45	1.00	3.45
	Athletic Club	493	6.29	1,000 sf GFA	1.00	6.29	1.00	6.29
	Recreational Community Center	495	2.50	1,000 sf GFA	1.00	2.50	1.00	2.50
	INSTITUTIONAL & MEDICAL							
	Military Base	501	0.39	Employees	1.00	0.39	1.00	0.39
	Elementary School	520	0.16	Student	1.00	0.16	1.00	0.16
	Middle School/Junior High School	522	0.15	Student	1.00	0.15	1.00	0.15
EXISTING USE	High School	525	0.14	Student	1.00	0.14	1.00	0.14
Weekday	School District Office	528	2.04	1,000 sf GFA	1.00	2.04	1.00	2.04
	Private School (K-8)	530	0.26	Student	1.00	0.26	1.00	0.26
	Private School (K-12)	532	0.17	Student	1.00	0.17	1.00	0.17
	Private High School	534	0.19	Student	1.00	0.19	1.00	0.19
	Charter Elementary School	536	0.16	Student	1.00	0.16	1.00	0.16
PM Peak Hour of Generator Only	Charter School (K-12)	538	0.73	Student	1.00	0.73	1.00	0.73
	Junior/Community College	540	0.11	Student	1.00	0.11	1.00	0.11
	University/College	550	0.15	Student	1.00	0.15	1.00	0.15
	Church	560	0.49	1,000 sf GFA	1.00	0.49	1.00	0.49
Fri, PM Peak Hour	Synagogue[2]	561	2.92	1,000 sf GFA	1.00	2.92	1.00	2.92
Fri, PM Peak Hour	Mosque[2]	562	4.22	1,000 sf GFA	1.00	4.22	1.00	4.22
	Day Care Center	565	11.12	1,000 sf GFA	0.56	6.23	1.00	6.23
	Cemetery	566	0.46	Acres	1.00	0.46	1.00	0.46
	Adult Detention Facility[2]	571	0.48	1,000 sf GFA	1.00	0.48	1.00	0.48
	Fire and Rescue Station	575	0.48	1,000 sf GFA	1.00	0.48	1.00	0.48
	Museum[2]	580	0.18	1,000 sf GFA	1.00	0.18	1.00	0.18
	Library	590	8.16	1,000 sf GFA	1.00	8.16	1.00	8.16
	Hospital	610	0.86	1,000 sf GFA	1.00	0.86	1.00	0.86
	Nursing Home	620	0.59	1,000 sf GFA	1.00	0.59	1.00	0.59
	Clinic	630	3.69	1,000 sf GFA	1.00	3.69	1.00	3.69
	Vet Clinic	640	3.53	1,000 sf GFA	1.00	3.53	1.00	3.53
	Free Standing Emergency Room	650	1.52	1,000 sf GFA	1.00	1.52	1.00	1.52

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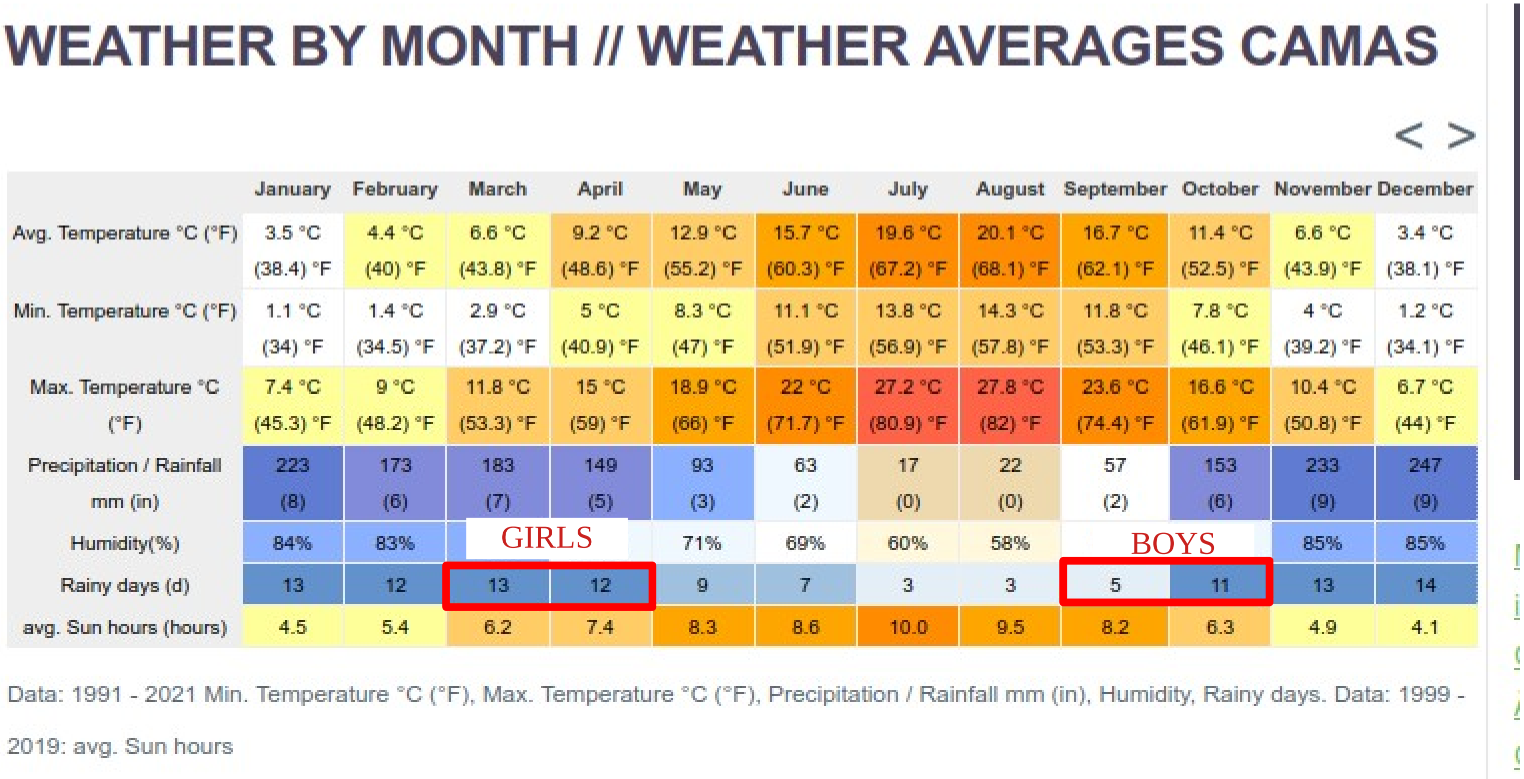
ATTACHMENT B : CAMAS WEATHER DATA

20 year averages

(source: https://en.climate-data.org)



WEATHER BY MONTH // WEATHER AVERAGES CAMAS

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	3.5 °C (38.4) °F	4.4 °C (40) °F	6.6 °C (43.8) °F	9.2 °C (48.6) °F	12.9 °C (55.2) °F	15.7 °C (60.3) °F	19.6 °C (67.2) °F	20.1 °C (68.1) °F	16.7 °C (62.1) °F	11.4 °C (52.5) °F	6.6 °C (43.9) °F	3.4 °C (38.1) °F
Min. Temperature °C (°F)	1.1 °C (34) °F	1.4 °C (34.5) °F	2.9 °C (37.2) °F	5 °C (40.9) °F	8.3 °C (47) °F	11.1 °C (51.9) °F	13.8 °C (56.9) °F	14.3 °C (57.8) °F	11.8 °C (53.3) °F	7.8 °C (46.1) °F	4 °C (39.2) °F	1.2 °C (34.1) °F
Max. Temperature °C (°F)	7.4 °C (45.3) °F	9 °C (48.2) °F	11.8 °C (53.3) °F	15 °C (59) °F	18.9 °C (66) °F	22 °C (71.7) °F	27.2 °C (80.9) °F	27.8 °C (82) °F	23.6 °C (74.4) °F	16.6 °C (61.9) °F	10.4 °C (50.8) °F	6.7 °C (44) °F
Precipitation / Rainfall mm (in)	223 (8)	173 (6)	183 (7)	149 (5)	93 (3)	63 (2)	17 (0)	22 (0)	57 (2)	153 (6)	233 (9)	247 (9)
Humidity(%)	84%	83%	GIRLS		71%	69%	60%	58%	BOYS		85%	85%
Rainy days (d)	13	12	13	12	9	7	3	3	5	11	13	14
avg. Sun hours (hours)	4.5	5.4	6.2	7.4	8.3	8.6	10.0	9.5	8.2	6.3	4.9	4.1

Data: 1991 - 2021 Min. Temperature °C (°F), Max. Temperature °C (°F), Precipitation / Rainfall mm (in), Humidity, Rainy days. Data: 1999 - 2019: avg. Sun hours

Carey Certo

From:	Hailey Kerker <haileykerker@icloud.com>
Sent:	Thursday, March 27, 2025 2:41 PM
To:	Community Development Email
Subject:	Indoor Tennis Center

To Whom It May Concern,

My name is Hailey Kerker, and I am a senior at Camas High School. As a dedicated member of the girls' tennis team and a lifelong player, I have personally experienced the challenges that come with playing tennis in the Pacific Northwest. I strongly believe that constructing an indoor tennis facility at Camas High School would not only benefit our school's tennis teams but also serve as a valuable resource for the entire community.

One of the biggest challenges our team faces is the unpredictable and often rainy weather, which frequently forces us to cancel practices and reschedule matches. Losing weeks of play due to rain disrupts our season, making it difficult for players to develop their skills and compete at their best. Additionally, constant rescheduling creates academic conflicts, as student-athletes must juggle makeup matches with schoolwork and other commitments. An indoor facility would provide a reliable space for training and competition, ensuring that players can continue to develop without interruption.

Beyond the school's tennis teams, this facility would offer significant benefits to the broader Camas community. Tennis is a lifelong sport that promotes physical activity, mental well-being, and social engagement. However, access to indoor courts in our area is extremely limited, making it difficult for players of all ages and skill levels to practice year-round. As someone who is always searching for court time during the rainy season—essentially the majority of the year—I know firsthand how frustrating it can be to find a place to play. This facility would provide much-needed court availability, allowing community members to stay active and engaged in the sport regardless of the weather.

Investing in an indoor tennis center at Camas High School would have long-term positive impacts, not only for student-athletes but for families, recreational players, and the entire community. It would promote a healthier, more connected Camas by offering opportunities for exercise, competition, and social interaction throughout the year.

I urge you to consider the lasting benefits this project would bring to our school and community. Thank you for your time and consideration.

Sincerely,
Hailey Kerker

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Carey Certo

From: Schneider, Lisa M. <Lisa.Schneider@camas.wednet.edu>
Sent: Thursday, March 27, 2025 3:26 PM
To: Community Development Email
Subject: Tennis Bubble at Camas High School

Dear City of Camas,

The fact that this tennis bubble is becoming an issue for a specific business tells me that the students themselves are not the focus, and they should be. This bubble will change the direction of tennis at Camas High School both during PE classes and the dedicated boys' and girls' tennis teams. Spring is brutal for outdoor sports and the consistent canceling and rescheduling would come to a stop. This would automatically add to more physical play, better competition and productive practices that will not lean on whether it is raining or not. From a coaching perspective I cannot imagine having so many practices and matches moved or cancelled as it would interrupt the growth of each individual tennis player.

This non-profit entity is going to encourage more youth to participate in sports, increase graduation rates indirectly and impact our community in such a positive way. I see no reason why this bubble should not be built. Nothing says Camas cares like listening to students and their familes.

LISA SCHNEIDER
LEARNING CENTER
GIRLS BASKETBALL COACH
CONCESSIONS MANAGER
360-833-5750 Ext:77484

Carey Certo

From: Cindy Chia <cchia22@gmail.com>
Sent: Friday, March 28, 2025 8:23 AM
To: Community Development Email
Subject: modification to the tennis court and bubble tent

Hi

My son is current student at CHS and play bennis with the tennis team since 9th gade. I feel this change to the courts will be a huge improvement to the current courts that is greatly needed. The addition of the dome will allow the students to play under our long rain season. when not used by the students, these courts will allow the community to have a place to play both pickleball and tennis.

I hope this project can be approved.

Thanks
Cindy Chia

Carey Certo

From:	Greg Dresher <gregdresher@gmail.com>
Sent:	Friday, March 28, 2025 10:24 AM
To:	Community Development Email
Subject:	Supporting our Camas High Tennis Players

Hello and thank you for your time,

Our Girls and Boys Tennis Teams need the bubble. We've already had 5 matches rescheduled and with the bubble, those would not happen. We have a record 110 girls playing tennis and had another record 83 boys play tennis in the Fall. With this much interest and involvement, we need your support of covering our 8 courts.

Our kids deserve this.

Thank you all, in advance, for your support with this.

Sincerely,
A father of a tennis and soccer team player, Greg Dresher

Carey Certo

From: Wendy Citron Kerker <wcitron@gmail.com>
Sent: Friday, March 28, 2025 10:34 AM
To: Community Development Email
Subject: CHS Tennis Bubble

Hello,

As parents of two avid tennis players since elementary school, we are reaching out to implore you to move forward with the covered tennis bubble at Camas High School.

Being a high-level competitive tennis player in the Pacific Northwest is incredibly challenging due to the weather and indoor courts are critical. In the greater Camas/Vancouver area we are sorely lacking enough courts to meet the needs.

One of my daughters is going on to play D1 tennis at the University of Utah and it is critical that she gets enough time on the ball. We are often scrambling to find court space to enable her to play. The current indoor facilities available are great, but simply are not sufficient.

This problem becomes even worse during high school tennis when being at the whims of nature causes constant rescheduling, and greater impact to academics than is needed. Often the result is many canceled matches--shortening the season and the learning for the high school teams.

Tennis is a terrific sport for teens to develop all sorts of physical and mental strengths. Yes, it teaches simple things like great eye hand coordination, but more importantly, it teaches real time problem-solving and strategy. In addition, the high school team's foster community and connection for kids who might not otherwise play a sport. These are all life skills that can critically enrich the lives of our students.

Thank you for considering this input. We greatly hope you will move forward with the project to cover the courts at Camas High School with a bubble.

Thank you
Wendy Citron and Alan Kerker

Carey Certo

From: Mika Leigh <mikaleigh@aol.com>
Sent: Friday, March 28, 2025 10:36 AM
To: Community Development Email
Subject: Tennis court bubble at CHS

Hello,

I'm writing in support of the proposed CHS tennis court bubble project.

Both of my teen boys play tennis on the CHS team, and enjoy playing with their friends year-round. A covered court would make this a lot easier to plan for, with fewer rain-outs that require rescheduling of matches/play time.

It would be a great resource for the school athletes, and the community.

Thank you for your consideration,

Mika Yoshida & Family
305 NW 12th Ave.
Camas, WA 98607

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Carey Certo

From: Edward Gill <egill1969@gmail.com>
Sent: Friday, March 28, 2025 10:42 AM
To: Community Development Email
Subject: CHS Tennis courts - voicing concerns

I am writing to voice my concerns to a private entity taking over management of our CHS tennis courts. I am a parent of a student athlete but consider this to be out of bounds for a public high school to have a private member-based facility on its taxpayer funded property.

However I do support a cover over the courts, but this should be paid for by the school, athletic boosters or fundraisers for the tennis team. The courts should remain free and open to all, regardless of income. Changing to a private enterprise will add cost barriers and restrict opportunities to play for everyone in the community.

Let's leverage the other clubs already in the Clark County to allow for practices and matches during rainy season, rather than this long term private contract. I am sure local clubs will support CHS and that arrangements can be made (as is done with the swimming team).

Thanks,
Ed Gill

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Carey Certo

From: Monz Hahn <monzhahn@gmail.com>
Sent: Friday, March 28, 2025 10:52 AM
To: Community Development Email
Subject: Covering Camas high school tennis courts

Hello,

I am a Camas resident and have 2 children in the Camas school district. My family plays tennis as well as pickleball. My kids mostly play at Vancouver tennis center(covered) as well as sometimes at Evergreen tennis(covered). It would be great if there was a public available option that is covered for rainy days.

Please strongly consider leveling and covering the high school tennis courts. Not only would this help the high school tennis teams, but the greater Camas community as well. There is a complete lack of useable courts on rainy days unless you are able to pay a private enterprise a fee.

Additionally, there is strong demand for tennis among the youth here as well as success in the High School program. Money alotted for this improvement would not go to waste.

Thank you for your consideration,
Monz Hahn

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Carey Certo

From: Viktor Aseyev <aseyevvs@gmail.com>
Sent: Friday, March 28, 2025 10:59 AM
To: Community Development Email
Subject: Camas High School Tennis Courts

I am a Camas resident, residing in Prune Hill. I'm Sending this email to emphasize my support for covering the High School Tennis courts. All 3 of my kids play tennis (two oldest in high school and 1 in middle school). The community lacks covered tennis courts and with the growing interest in the sport this opportunity would help kids of all ages stay active even in the cold wet months of the year.

My daughter who plays for the Camas HS team has had multiple games and practices rescheduled because of the weather. Had the court been covered this would not have happened.

Thank you for your support.

Sent from my iPhone

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Carey Certo

From: Kim Howland <howlandk@mac.com>
Sent: Friday, March 28, 2025 11:19 AM
To: Community Development Email
Subject: Tennis courts at CHS

Hi,

Please go ahead with plan to cover the courts at CHS. This is greatly needed for our students.

Thank you,
Kim

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Carey Certo

From: Shae Noble <shae@shae.info>
Sent: Friday, March 28, 2025 11:24 AM
To: Community Development Email
Subject: Bubble for Tennis

Hi there,

As a parent of a tennis player I want to encourage the city to consider a bubble for our Camas high tennis courts so that we don't need to cancel meets.

Thanks,
Shae Noble

Camas High School Tennis Courts (CUP24-1001)

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(CUP24-1001)
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