

# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

**PROJECT DESCRIPTION**  
 SITE DEVELOPMENT IMPROVEMENTS, INCLUDING CLEARING, GRADING, RETAINING WALLS, PARKING LOT, STORM DRAINAGE, SANITARY SEWER MAIN, WATER MAIN FOR 238 UNIT MULTI-FAMILY DEVELOPMENT.

**SITE ADDRESS:** 202 27TH AVE SE  
**PARCEL NUMBER:** 041903-0-006

**ZONING:** RM-CORE

**ENGINEER/SURVEYOR:**  
 AZURE GREEN CONSULTANTS  
 409 EAST PIONEER  
 PUYALLUP, WA 98372  
 PHONE: 253.770.3144

**OWNER:**  
 BRADLEY HEIGHTS SS, LLC  
 614 BOYLSTON AVE E  
 SEATTLE, WA 98102

**APPLICANT:**  
 Timberlane Partners  
 Contact: Jordan Mellergaard  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.899.0326  
 jordan@timberlanepartners.com

**DATUM:** NAVD88

**BENCHMARK:**  
 WSDOT BM 27512-17  
 MON ID 244  
 PUBLISHED ELEVATION 409.95' NAVD88

**TOPOGRAPHIC INFORMATION:**  
 FRONTAGE TOPOGRAPHICAL DATA IS PER PER FIELD SURVEY PERFORMED BY AZURE GREEN CONSULTANTS IN MARCH 2022.  
 ONSITE TOPOGRAPHICAL DATA IS PER 2010 LIDAR AS OBTAINED BY PIERCE COUNTY.

**100-YEAR FLOOD:**  
 THE SITE DOES NOT CONTAIN A 100-YEAR FLOODPLAIN.

**EROSION & SEDIMENT INSPECTION:**  
 PRIOR TO STARTING SITE WORK, REQUEST AN INSPECTION FOR EROSION AND SEDIMENT. INSPECTION CODE THROUGH THE PERMIT PORTAL OR BY CONTACTING THE INSPECTOR DIRECTLY.

**BROKEN CURB, GUTTER, OR SIDEWALK:**  
 ANY PUBLIC CURB, GUTTER, OR SIDEWALK BROKEN NOW OR DURING THE COURSE OF CONSTRUCTION SHALL BE REMOVED AND REPLACED PER CITY STANDARDS.

**GENERAL NOTES**

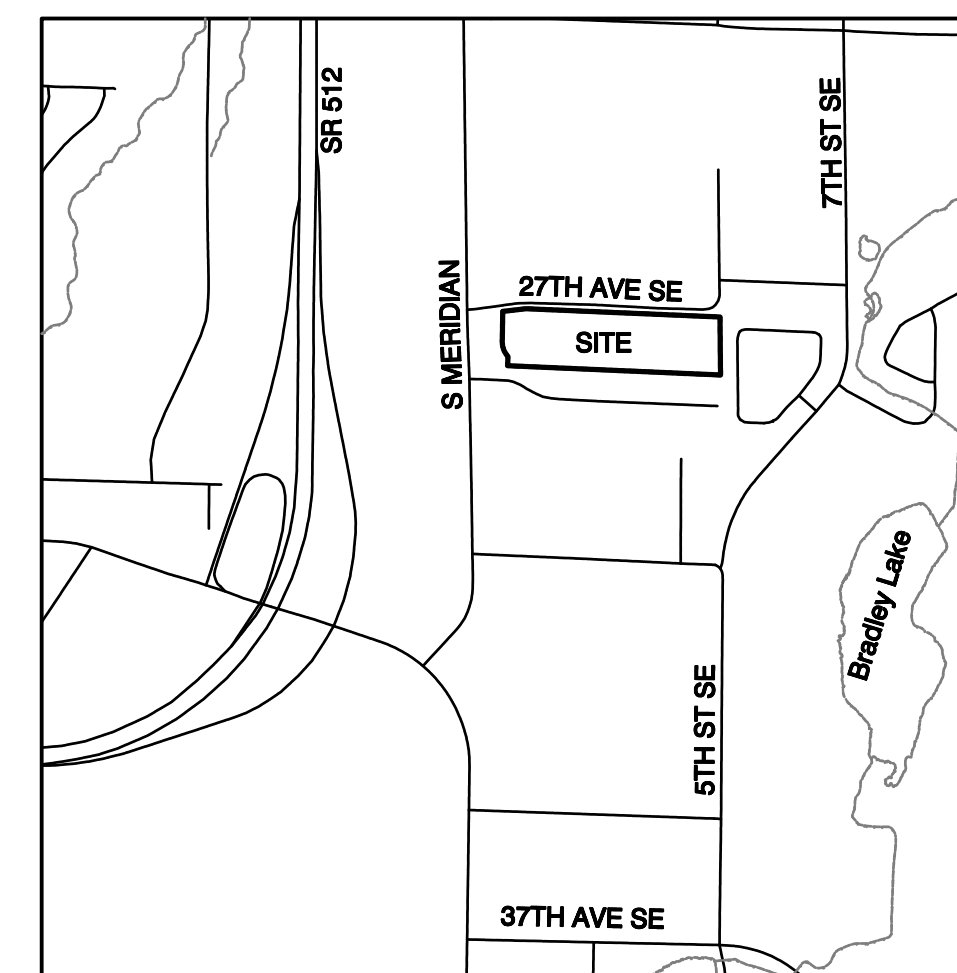
- All work in City right-of-way requires a permit from the City of Puyallup. Prior to any work commencing, the general contractor shall arrange for a preconstruction meeting at the Development Services Center to be attended by all contractors that will perform work shown on the approved engineering plans, representatives from all applicable utility companies, the project owner and appropriate city staff. Contact Engineering Services at (253-841-5568) to schedule the meeting. The contractor is responsible to have their own set of approved plans at the meeting.
- After completion of all items shown on these plans and before acceptance of the project the contractor shall obtain a "punch list" prepared by the City's inspector detailing remaining items of work to be completed. All items of work shown on these plans shall be completed to the satisfaction of the City prior to acceptance of the water system and provision of sanitary sewer service.
- All materials and workmanship shall conform to the Standard Specifications for Road, Bridge, and Municipal Construction (hereinafter referred to as the "Standard Specifications"), Washington State Department of Transportation and American Public Works Association, Washington State Chapter, latest edition, unless superseded or amended by the City of Puyallup City Standards for Public Works Engineering and Construction (hereinafter referred to as the "City Standards").
- A copy of these approved plans and applicable city developer specifications and details shall be on site during construction.
- Any revisions made to these plans must be reviewed and approved by the developer's engineer and the City prior to any implementation in the field. The City shall not be responsible for any errors and/or omissions on these plans.
- The contractor shall have all utilities verified on the ground prior to any construction. Call (811) at least two working days in advance. The owner and his/her engineer shall be contacted immediately if a conflict exists.
- Any structure and/or obstruction that requires removal or relocation relating to this project shall be done so at the developer's expense.
- Locations of existing utilities are approximate. It shall be the contractor's responsibility to determine the true elevations and locations of hidden utilities. All visible items shall be the engineer's responsibility.
- The contractor shall install, replace, or relocate all signs, as shown on the plans or as affected by construction, per City Standards.
- Power, street light, cable, and telephone lines shall be in a trench located within a 10-foot utility easement adjacent to public right-of-way. Right-of-way crossings shall have a minimum horizontal separation from other utilities (sewer, water, and storm) of 5 feet.
- All construction surveying for extensions of public facilities shall be done under the direction of a Washington State licensed land surveyor or a Washington State licensed professional civil engineer.
- During construction, all public streets adjacent to this project shall be kept clean of all material deposits resulting from on-site construction, and existing structures shall be protected as directed by the City.
- Certified record drawings are required prior to project acceptance.
- A NPDES Stormwater General Permit may be required by the Department of Ecology for this project. For information contact the Department of Ecology, Southwest Region Office at (360)407-6300.
- Any disturbance or damage to Critical Areas and associated buffers, or significant trees designated for preservation and protection shall be mitigated in accordance with a Mitigation Plan reviewed and approved by the City's Planning Division. Preparation and implementation of the Mitigation Plan shall be at the developer's expense.

**SURVEY MONUMENTS**

Contractor is responsible for protecting all survey monuments within the area of work. If it is necessary to disturb a survey monument, a permit must be requested in advance from the Department of Natural Resources. The developer must pay the cost of repairing or replacing the survey monument and is responsible for all contractors working for them. Reference WAC 332-120.

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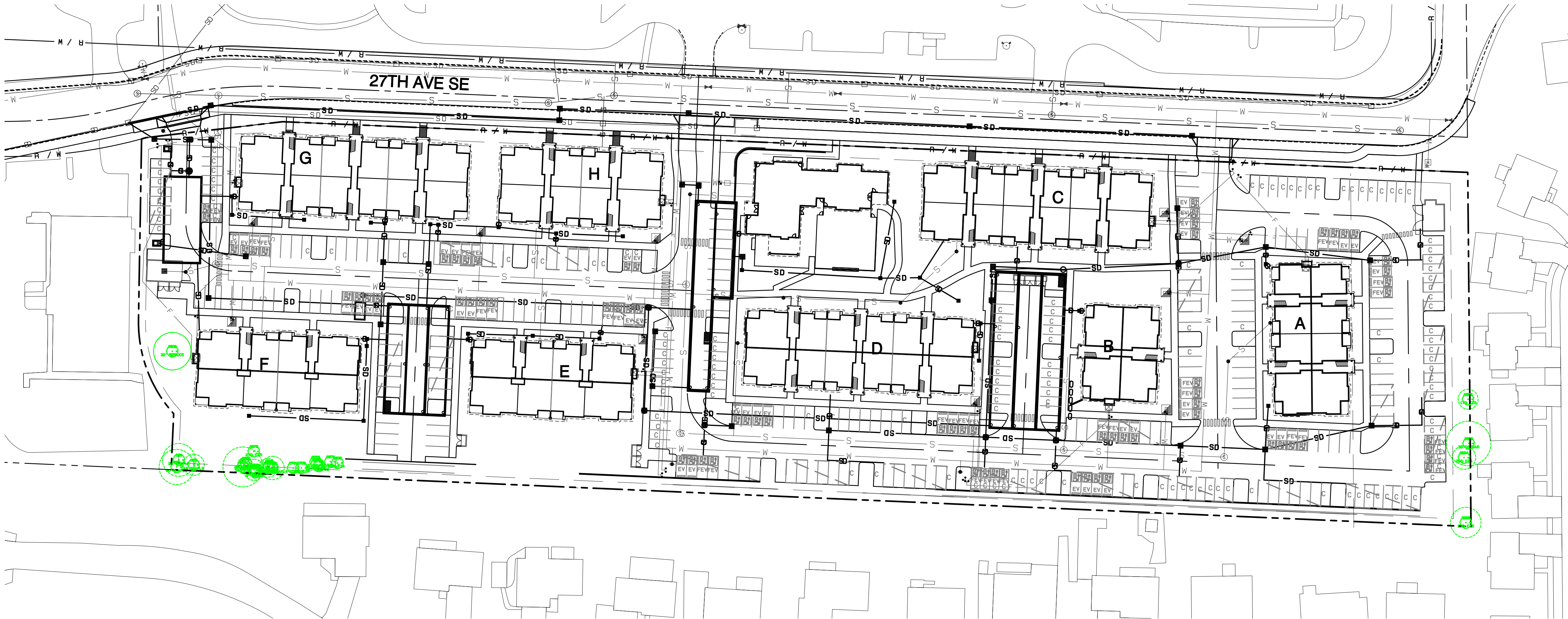
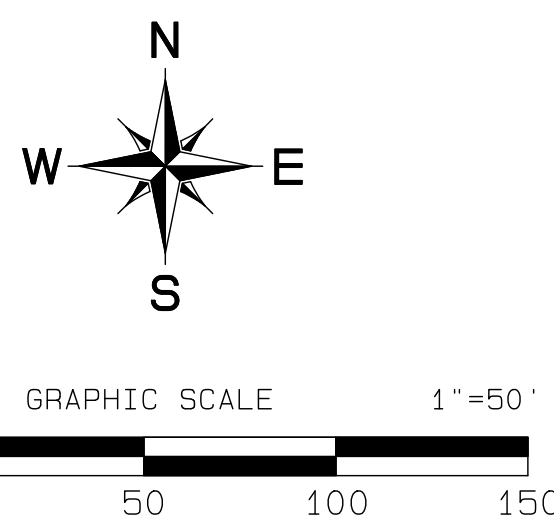


**VICINITY MAP**  
 SCALE: 1"=1000'

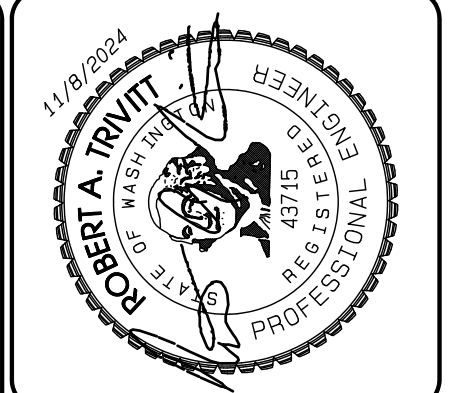
**LEGEND**

- |             |                                |     |                              |
|-------------|--------------------------------|-----|------------------------------|
| --- 350 --- | EX. CONTOUR                    | ⊙   | EX. HYDRANT                  |
| --- 350 --- | DESIGN CONTOUR                 | ⊙   | EX. STORM MANHOLE            |
| ---         | LEGAL ROAD CENTERLINE          | +   | WATER VALVE                  |
| ---         | RIGHT-OF-WAY LINE              | --- | EX. POWER LINE               |
| ---         | EX. PLAIN EDGE OF ASPHALT      | --- | EX. COMM. LINE               |
| ---         | PROPOSED PLAIN EDGE OF ASPHALT | +   | PROPOSED FIRE HYDRANT OR FDC |
| ---         | EX. DITCH                      | +   | WATER METER                  |
| ---         | PROJECT BOUNDARY               | +   | BACKFLOW PREVENTER           |
| ---         | LOT LINE                       | +   | AIR/VAC ASSEMBLY             |
| ---         | EX. CATCH BASIN                | +   | PIV                          |
| ---         | EX. STORM                      | +   | NEW ASPHALT PAVING           |
| ---         | PROPOSED CB-TYPE 1             | +   | NEW CONCRETE                 |
| ---         | PROPOSED CB-TYPE 2             | +   |                              |
| ---         | PROPOSED STORM                 | +   |                              |
| ---         | WATER MAIN                     | +   |                              |
| ---         | SANITARY SEWER                 | +   |                              |
| ---         | SANITARY SEWER MANHOLE         | +   |                              |
| ---         | STANDARD MONUMENT              | +   |                              |
| ---         | POWER POLE                     | +   |                              |

CALL BEFORE YOU DIG  
 IT IS THE LAW  
**811**



APPROVED  
 BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
**NOTE:**  
 THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.  
 THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.  
 FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.



REVISION	DATE
1	11/29/24
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JOB NO. 2327  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Trivitt  
 APPROVED BY: Rob Trivitt

**AZURE GREEN CONSULTANTS**  
 feasibility • planning • engineering • surveying  
 409 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144, fax: 253.770.3142

**Cover Sheet**  
 Bradley Heights  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.899.0326  
 Fax jordan@timberlanepartners.com

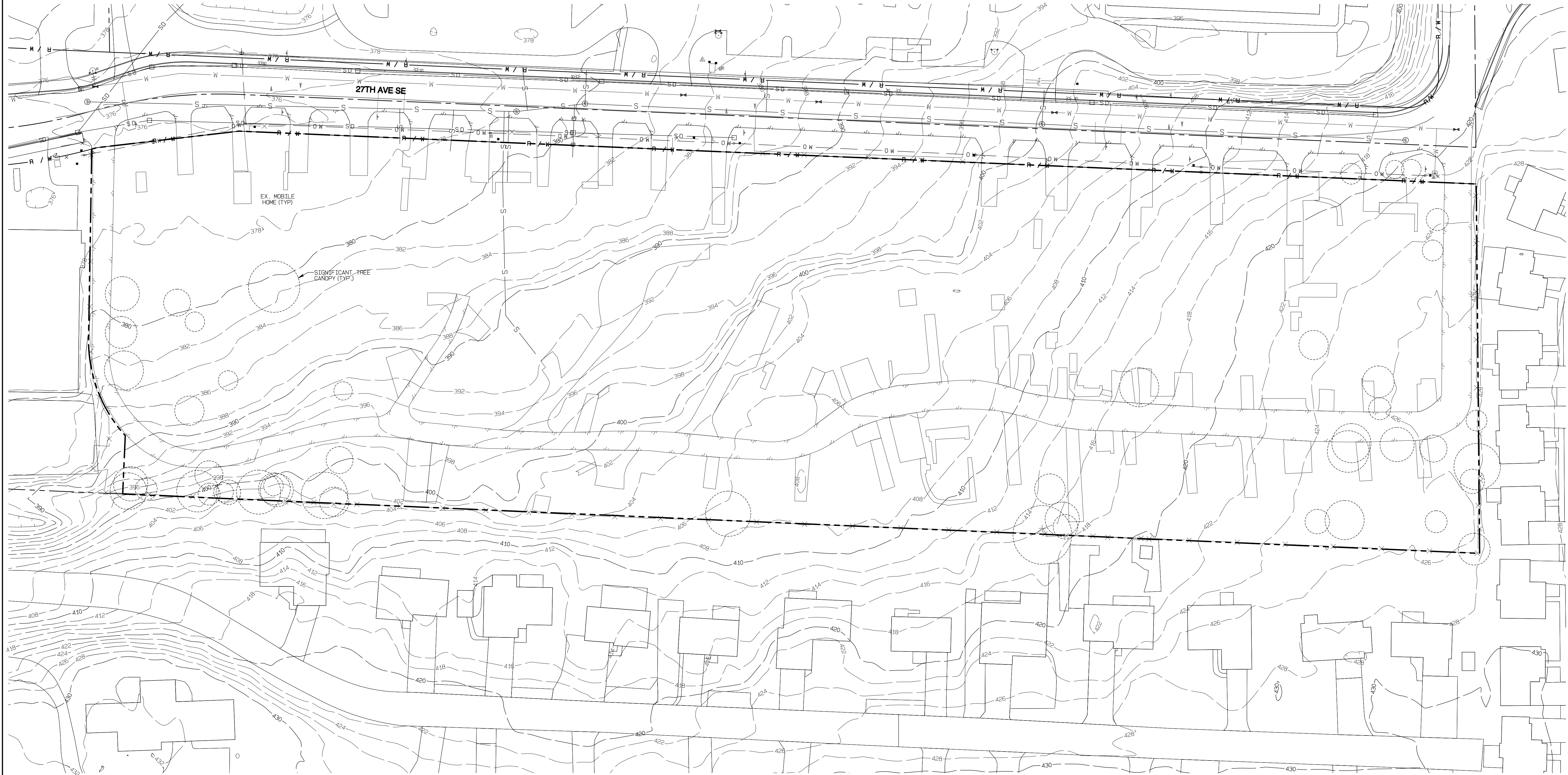
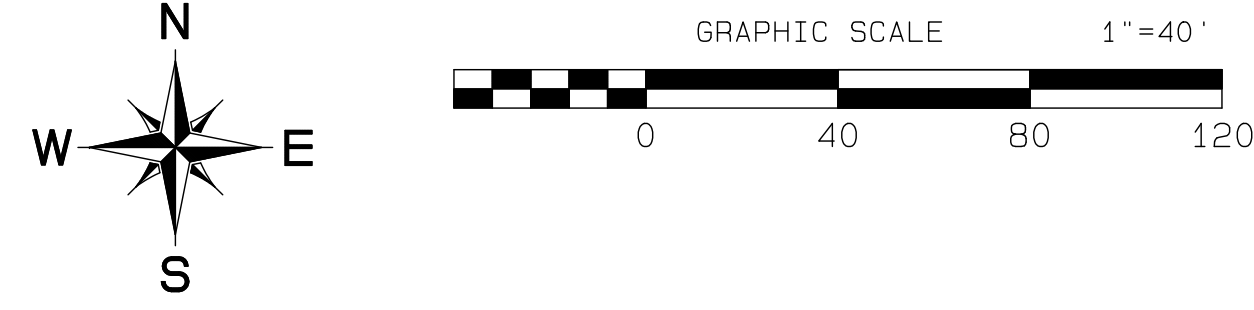
**DRAWING**  
**G-1**  
 SHEET 1  
 OF 47

Project Desc: Bradley Heights; Date: C:\Users\3227 - Bradley Heights\Time\Bradley Heights 2024-1108 ENG.dwg; Plot Date/Time: 11/29/2024 3:26:49PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



**DEMO KEY NOTES**

① OUT AND CAP EX. SS SERVICE AT MAIN  
 NOTE: 5 LOCATIONS IDENTIFIED ON PLANS  
 CITY DATA INDICATES THERE ARE 2 ADDITIONAL SERVICES  
 CONTRACTOR SHALL OBTAIN A CCTV INSPECTION REPORT  
 TO VERIFY NUMBER AND LOCATIONS OF SERVICES.

APPROVED

BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

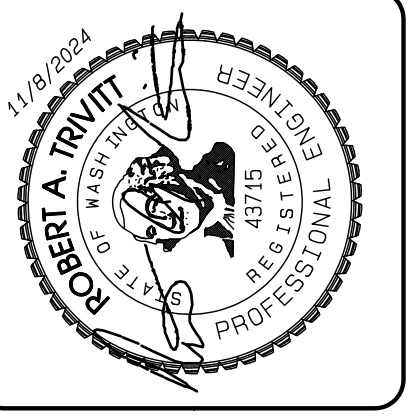
DATE: \_\_\_\_\_

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REVISION	DATE
1	11/02/24
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1 Revised per City review and Robt. A. Trivitt.

JOB NO. 3327  
 DATE: May 14, 2024  
 DESIGNED BY: Rob. Trivitt  
 DRAWN BY: Rob. Trivitt  
 CHECKED BY: Paul Green  
 APPROVED BY: Paul Green

feasibility • planning • engineering • surveying

419 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144 fax: 253.770.3142

**Existing Conditions**

**Bradley Heights**

Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.886.0326  
 Fax jordan@timberlanepartners.com

DRAWING

## G-2

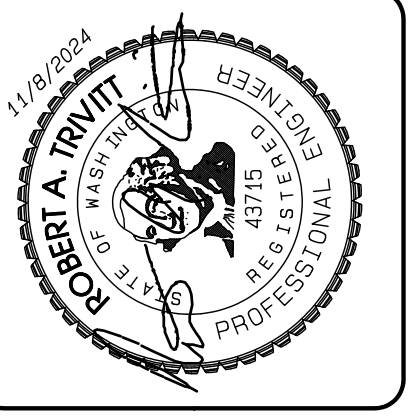
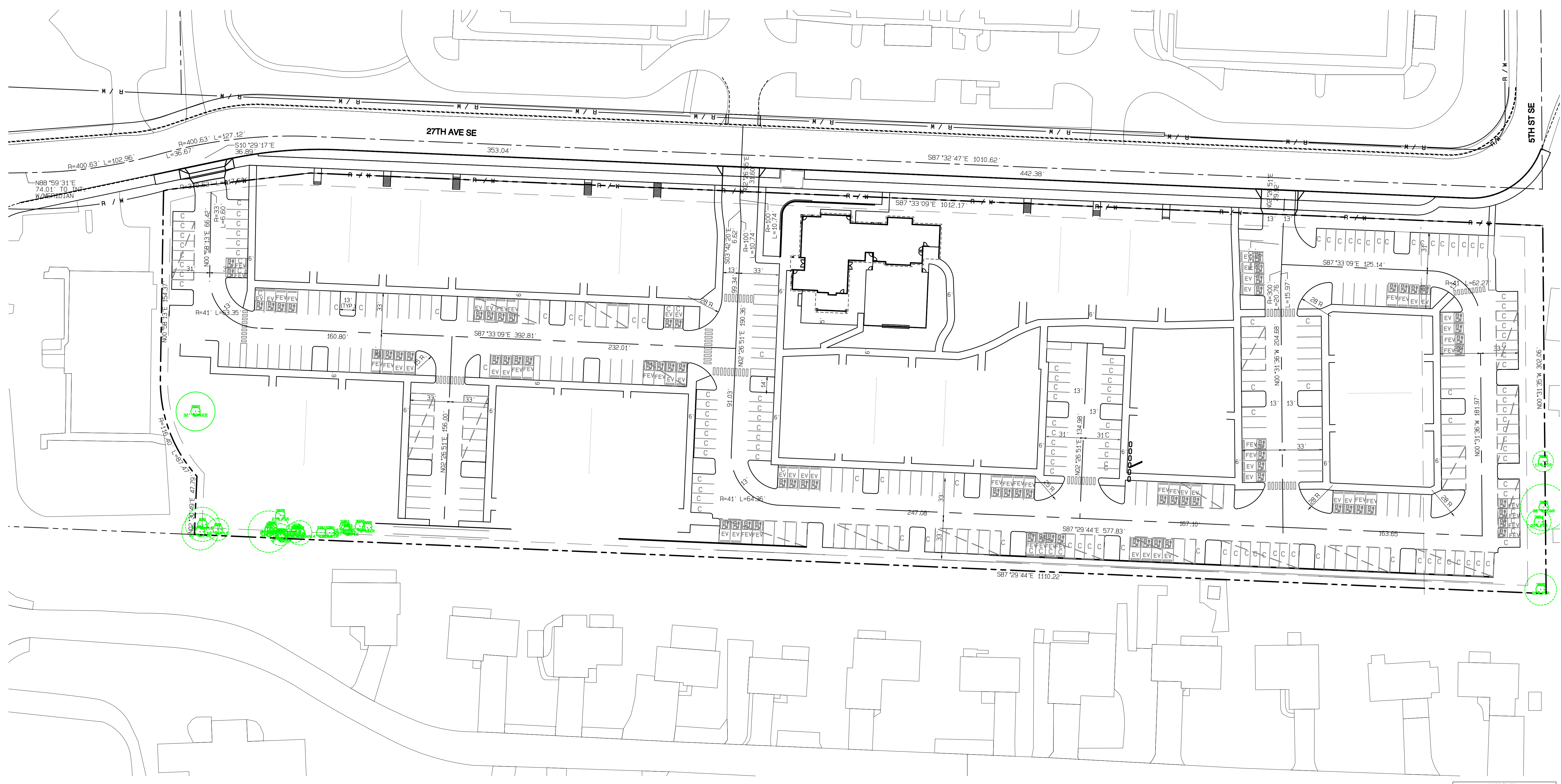
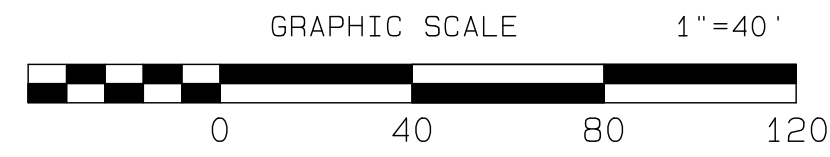
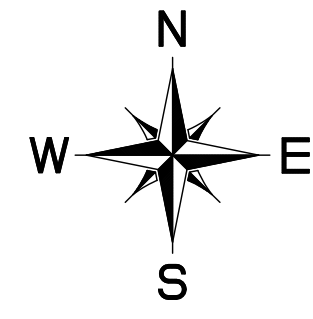
SHEET 2  
 OF 47

Project Desc.: Bradley Heights; Path: C:\Users\3327 - Bradley Heights\Timberlane\Bradley Heights 2024-1108 ENG.dwg PLOT DATE/TIME: 11/02/2024 3:27:46PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



REVISION	DATE	DESCRIPTION
1	11/02/24	Revised per City review and Mail A adjustment.
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JOB NO. 3227  
 DATE: May 14, 2024  
 DESIGNED BY: RND, TRIVITT  
 DRAWN BY: RND, TRIVITT  
 CHECKED BY: RND, TRIVITT  
 APPROVED BY: RND, TRIVITT

  
**AZURE GREEN**  
 CONSULTANTS  
 \*feasibility \*planning \*engineering \*surveying  
 409 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144 fax: 253.770.3142

APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.

FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

**Horizontal Control**  
 Bradley Heights  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.896.0326  
 Fax jordan@timberlanepartners.com

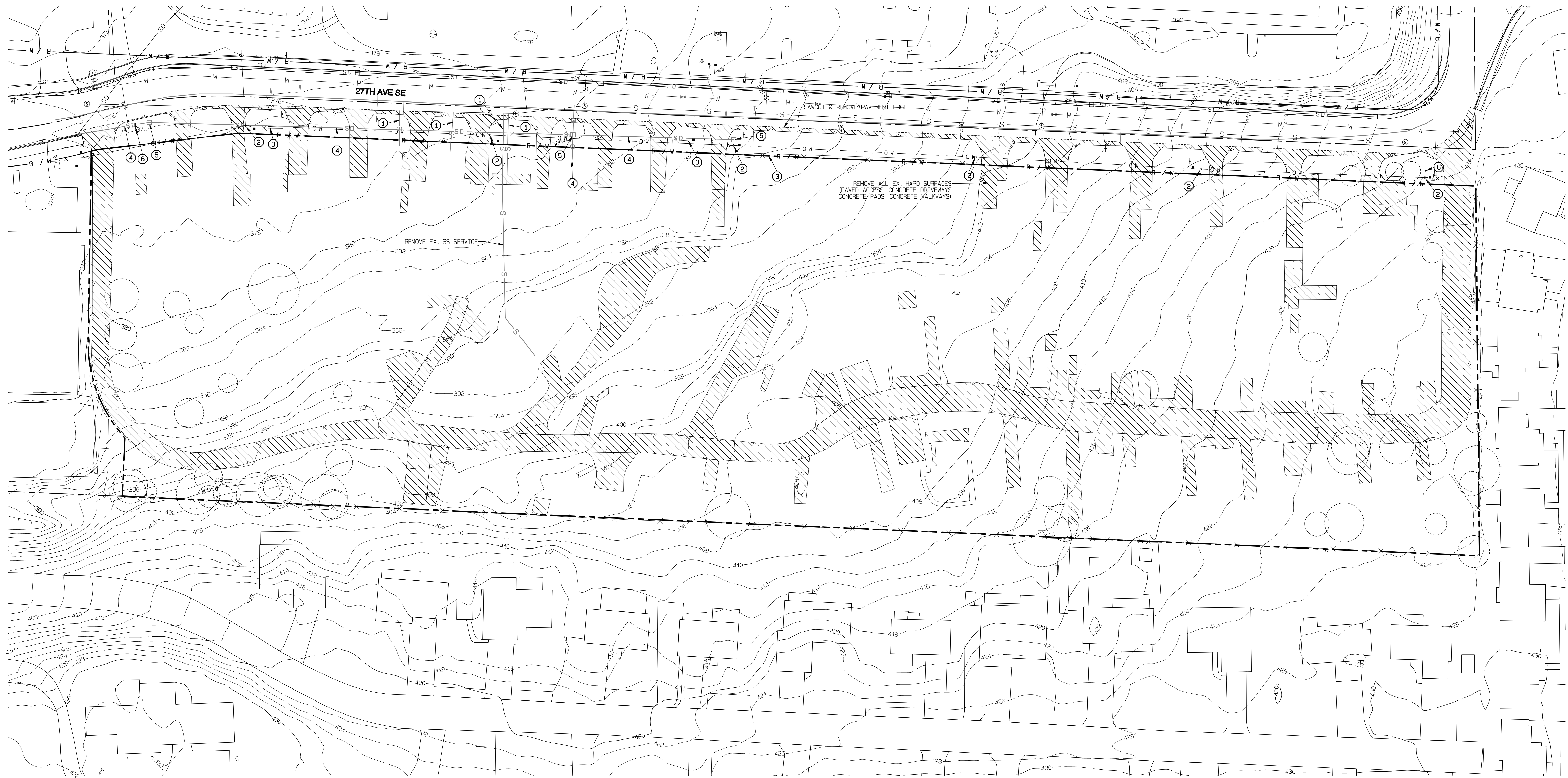
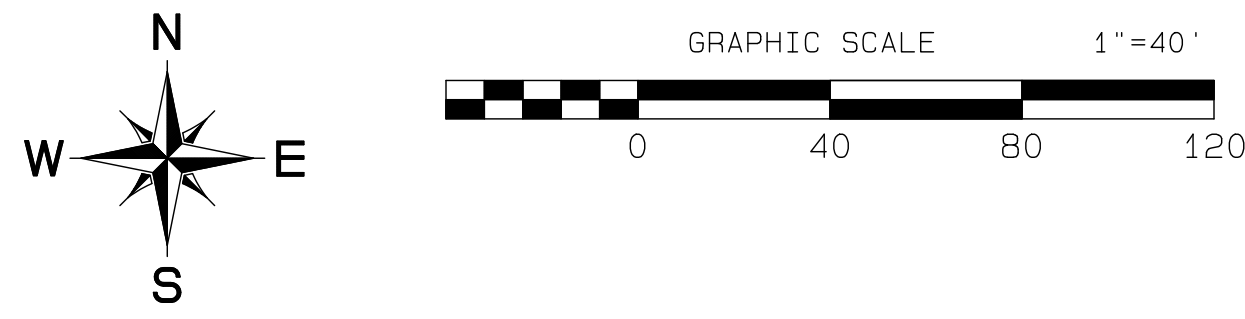
**DRAWING**  
**G-3**  
 SHEET 3  
 OF 47

Project Desc.: Bradley Heights  
 Path: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024 - 1108 ENG.dwg  
 Plot Date/Time: 11/02/2024 2:28:27PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



**DEMO KEY NOTES**

- ① CUT AND CAP EX. SS SERVICE AT MAIN  
5 LOCATIONS IDENTIFIED ON PLANS  
PER CITY DATA THERE ARE TWO ADDITIONAL SERVICES  
CONTRACTOR TO PROVIDE CCTV INSPECTION  
FOR VERIFICATION OF NUMBER AND LOCATION OF SERVICES.
- ② REMOVE POWER POLE  
COORDINATE WITH UTILITY COMPANIES
- ③ REMOVE EX. FENCE
- ④ REMOVE EX. STORM PIPE
- ⑤ REMOVE EX. CATCH BASIN
- ⑥ RELOCATE EX. SIGN TO CLEAR NEW SIDEWALK

REMOVE ALL EX. HARD SURFACES  
(PAVED ACCESS, CONCRETE DRIVEWAYS,  
CONCRETE PADS, CONCRETE WALKWAYS)

REMOVE EX. SS SERVICE

APPROVED

BY: \_\_\_\_\_  
CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

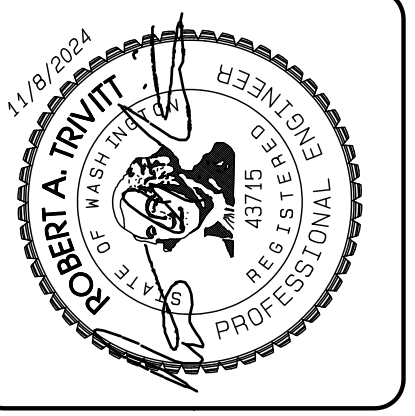
**NOTE:**

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DAYS FROM APPROVAL DATE.

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FIELD CONDITIONS MAY DICTATE  
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DETERMINED BY THE ENGINEERING  
SERVICES MANAGER.

Project Desc.: Bradley Heights Date: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024\_1108 ENG.dwg PLOT DATE/TIME: 11/02/2024 2:28:19PM



REVISION	DATE
1 Revised per City review and Mail A adjustment.	11/02/24

JOB NO. 3227  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Green  
APPROVED BY: Rob Green

**AZURE GREEN**  
CONSULTANTS

feasibility • planning • engineering • surveying

419 East Pioneer, Suite A - Puyallup, WA 98372  
phone: 253.770.3144 fax: 253.770.3142

**Demolition Plan**

**Bradley Heights**

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Seattle, WA 98122  
Phone 509.886.0326  
Fax jordan@timberlanepartners.com

**DRAWING**

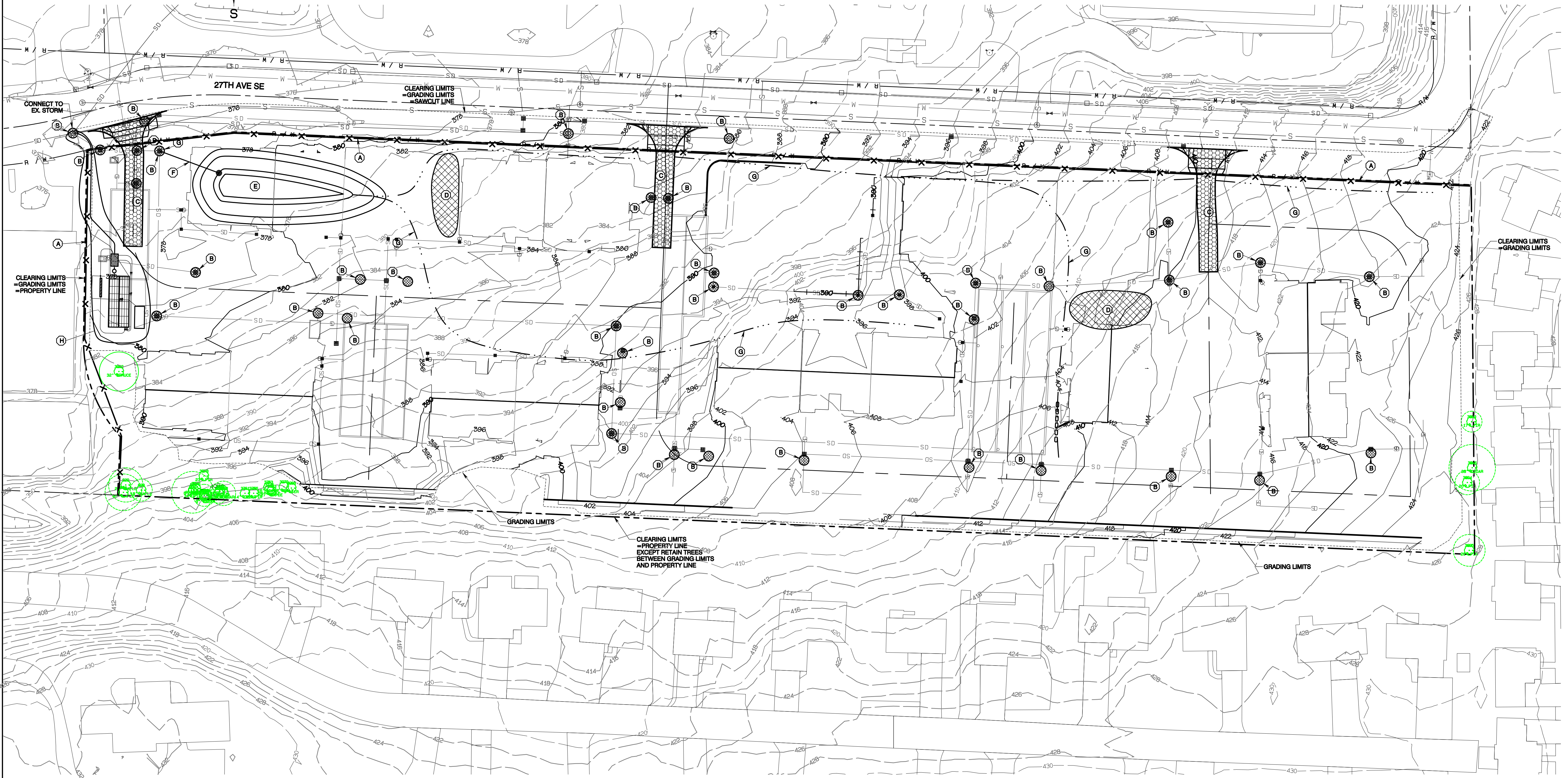
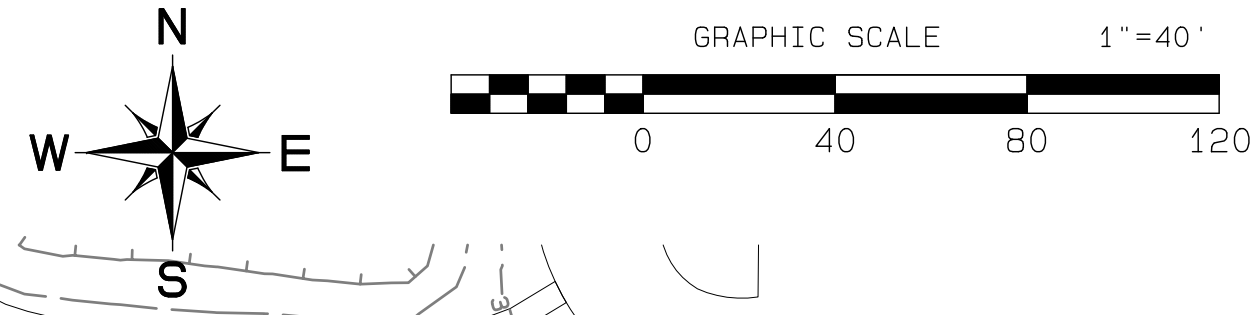
**G-4**

SHEET 4  
OF 47



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



**ESC KEY NOTES**

- (A) INSTALL SILT FENCE PER STD 02.03.02, SHEET G-7
- (B) INSTALL BAG FILTER, SEE DETAIL SHEET G-7
- (C) INSTALL CONSTRUCTION ENTRANCE, SEE STD 05.01.01, SHEET G-7
- (D) STOCKPILE AREA
- (E) SEDIMENT POND  
SEE DETAILS SHEET G-7  
ORIFICE:  
I.E.=372.86  
DIA.=3"  
RISER  
TOP=376.36  
DIA.=18"  
AREA @ TOP OF RISER=5,117 SF MIN.
- (F) 52LF 12" DIP @ 0.5% MIN.  
TEMP CONNECTION TO NEW CB1-3
- (G) TEMPORARY INTERCEPTOR SWALES  
TO COLLECT AND CONVEY CONSTRUCTION  
RUNOFF TO SEDIMENT POND  
EXACT LOCATIONS WILL VARY THROUGHOUT  
CONSTRUCTION. INSTALL 12" CULVERT AS  
NEEDED AT ACCESS CROSSINGS
- (H) CONCEPTUAL BAKER TANK SYSTEM WITH  
SAND FILTER AND RECIRC. TO BE INSTALLED  
IF IT IS DETERMINED THAT OTHER BMPs  
ARE NOT ADEQUATE

APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

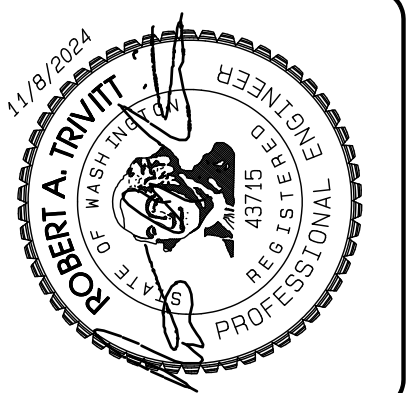
**NOTE:**

THIS APPROVAL IS VOID AFTER 90  
DAYS FROM APPROVAL DATE.

THE CITY WILL NOT BE RESPONSIBLE  
FOR ERRORS AND/OR OMISSIONS  
ON THESE PLANS.

FIELD CONDITIONS MAY DICTATE  
CHANGES TO THESE PLANS AS  
DETERMINED BY THE ENGINEERING  
SERVICES MANAGER.

Project Desc.: Bradley Heights; Date: C:\Users\3227 - Bradley Heights\Time\Bradley Heights 2024-11-08 ENG.dwg PLOT Date/Time: 11/08/2024 3:30:11PM



REVISION	DATE
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JOB NO. 3227  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Paul Green  
APPROVED BY: Paul Green

**AZURE GREEN**  
CONSULTANTS

feasibility • planning • engineering • surveying

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Phone: 253.770.3144, Fax: 253.770.3142

**TESC Plan**

Bradley Heights

Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
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Fax: jordan@timberlanepartners.com

DRAWING

## G-5

SHEET 5  
OF 47



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

## GRADING, EROSION & SEDIMENTATION CONTROL NOTES:

- All work in City right-of-way requires a permit from the City of Puyallup. Prior to any work commencing, the general contractor shall arrange for a preconstruction meeting at the Development Services Center to be attended by all contractors that will perform work shown on the engineering plans, representatives from all applicable Utility Companies, the project owner and appropriate City staff. Contact Engineering Services to schedule the meeting (253) 841-5568. The contractor is responsible to have their own approved set of plans at the meeting.
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- A copy of these approved plans and applicable city developer specifications and details shall be on site during construction.
- Any revisions made to these plans must be reviewed and approved by the developer's engineer and the city engineer prior to any implementation in the field. The City shall not be responsible for any errors and/or omissions on these plans.
- The contractor shall have all utilities verified on the ground prior to any construction. Call (811) at least two working days hours in advance. The owner and his/her engineer shall be contacted immediately if a conflict exists.
- All limits of clearing and areas of vegetation preservation as prescribed on the plans shall be clearly flagged in the field and observed during construction.
- All required sedimentation and erosion control facilities must be constructed and in operation prior to any land clearing and/or other construction to ensure that sediment laden water does not enter the natural drainage system. The contractor shall schedule an inspection of the erosion control facilities PRIOR to any land clearing and/or other construction. All erosion and sediment facilities shall be maintained in a satisfactory condition as determined by the City, until such time that clearing and/or construction is completed and the potential for on-site erosion has passed. The implementation, maintenance, replacement, and additions to the erosion and sedimentation systems shall be the responsibility of the permittee.
- The erosion and sedimentation control system facilities depicted on these plans are intended to be minimum requirements to meet anticipated site conditions. As construction progresses and unexpected or seasonal conditions dictate, facilities will be necessary to ensure complete siltation control on the site. During the course of construction, it shall be the obligation and responsibility of the permittee to address any new conditions that may be created by his activities and to provide additional facilities, over and above the minimum requirements, as may be needed to protect adjacent properties, sensitive areas, natural water courses, and/or storm drainage systems.
- Approval of these plans is for grading, temporary drainage, erosion and sedimentation control only. It does not constitute an approval of permanent storm drainage design, size or location of pipes, restrictors, channels, or retention facilities.
- Any disturbed area which has been stripped of vegetation and where no further work is anticipated for a period of 90 days or more, must be immediately stabilized with mulching, grass planting or other approved erosion control treatment applicable to the time of year in question. Grass seeding alone will be acceptable only during the months of April through September inclusive. Seeding may proceed outside the specified time period whenever it is in the interest of the permittee but must be augmented with mulching, netting, or other treatment approved by the City.
- In case erosion or sedimentation occurs to adjacent properties, all construction work within the development that will further aggravate the situation must cease, and the owner/contractor will immediately commence restoration methods. Restoration activity will continue until such time as the affected property owner is satisfied.
- No temporary or permanent stockpiling of materials or equipment shall occur within critical areas or associated buffers, or the critical root zone for vegetation proposed for retention.

## PLASTIC COVERING NOTES:

- Plastic sheeting shall have a minimum thickness of 6 mils and shall meet the requirements of the STATE STANDARD SPECIFICATIONS Section 9-14.5.
- Covering shall be installed and maintained tightly in place by using sandbags or tires on ropes with a maximum 10-foot grid spacing in all directions. All seams shall be taped or weighted down full length and there shall be a least a 12 inch overlap of all seams.
- Clear plastic covering shall be installed immediately on areas seeded between November 1 and March 31 and remain until vegetation is firmly established.
- When the covering is used on un-seeded slopes, it shall be kept in place until the next seeding period.
- Plastic covering sheets shall be buried two feet at the top of slopes in order to prevent surface water flow beneath sheets.
- Proper maintenance includes regular checks for rips and dislodged ends.

## CONSTRUCTION SEQUENCE

- OBTAIN REQUIRED PERMITS AND HOLD A PRECONSTRUCTION MEETING WITH THE CITY.
- ESTABLISH CLEARING AND GRADING LIMITS.
- INSTALL SILT FENCE IF REQUIRED.
- INSTALL CB INLET PROTECTION.
- INSTALL CONSTRUCTION ENTRANCE.
- SCHEDULE AN EROSION CONTROL INSPECTION WITH THE CITY.
- IDENTIFY EROSION CONTROL MEASURES WHICH REQUIRE REGULAR MAINTENANCE. ENSURE EROSION CONTROL MEASURES IN PLACE ARE ADEQUATE. INSTALL ADDITIONAL MEASURES IF NECESSARY TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING SITE.
- CLEAR AND REMOVE ORGANIC MATERIAL, PREP SUBGRADE FOR FOUNDATION AND PARKING LOT CONSTRUCTION.
- MASS GRADE SITE AND CONSTRUCT RETAINING WALLS.
- INSTALL SANITARY SEWER LINE.
- INSTALL DETENTION WALLS.
- INSTALL STORM LINES.
- INSTALL WATER MAIN.
- INSTALL OTHER UTILITIES.
- INSTALL GASE.
- CONSTRUCT SIDEWALKS.
- INSTALL TOP COURSE.
- CONSTRUCT BUILDINGS.
- PAVE PARKING LOT.
- BRING UTILITIES TO FINAL GRADE.
- VEGETATE EXPOSED AREAS AND STABILIZE STOCKPILES AS SOON AS PRACTICAL AND AS NEEDED TO PREVENT EROSION.
- HYDROSEED AND/OR INSTALL PERMANENT LANDSCAPING TO PROVIDE PERMANENT EROSION CONTROL.
- REMOVE TEMPORARY EROSION CONTROL MEASURES WHEN SITE IS STABLE.

## TEMPORARY ESC MEASURES REQUIRED

- Temporary Siltation Fencing.
- Vegetation and Stabilization of exposed surfaces
- Catch Basin Inlet Protection
- Additional measures may be required, see note 9 of Grading, Erosion & Sedimentation Control notes and Stormwater Pollution Prevention Plan (SWPPP) prepared for this project.

## PERMANENT ESC MEASURES REQUIRED

- Seeding and/or Landscaping of non-impervious surfaces

## SPECIAL NOTES:

- Contractor shall designate an erosion and sediment control leadperson, and shall comply with the stormwater pollution prevention plan prepared for the project.
- Sediment-laden runoff shall not be allowed to discharge beyond the construction limits.
- Exposed areas and soil stockpiles must be stabilized according to the following schedule:
  - From April 1 to October 31 all disturbed areas at final grade and all exposed areas that are scheduled to remain unworked for more than 30 days shall be stabilized within 10 days.
  - From November 1 to March 31 all exposed soils at final grade shall be stabilized immediately using permanent or temporary measures. Exposed soils with an area greater than 5,000 square feet that are scheduled to remain unworked for more than 24 hours and exposed areas of less than 5,000 square feet that will remain unworked for more than seven (7) days shall be stabilized immediately.
- All disturbed areas which are not planned to be constructed on within 90 days from time of clearing and grading shall be revegetated with the native vegetation.
- No clearing, filling, grading or other alteration occurs within any critical areas or associated buffer unless specifically authorized pursuant to Chapter 21.06 Environmentally Critical Areas Management of the Puyallup Municipal Code.
- If dewatering of excavations is required, dewatering must conform to the requirements of Section 504 of Puyallup City Standards.

## MULCHING NOTES

- Mulch materials used shall be hay or straw and shall be applied at a rate of 75-100 pounds per 1000 square feet, or 90-120 bales per acre to a min. depth of 2 inches.
- Mulches shall be applied in all areas with exposed slopes greater than 2:1.
- Mulching shall be used immediately after seeding or in areas which cannot be seeded because of the season.
- All areas needed mulch shall be covered by November 1.

## SEEDING NOTES (Erosion control seeding):

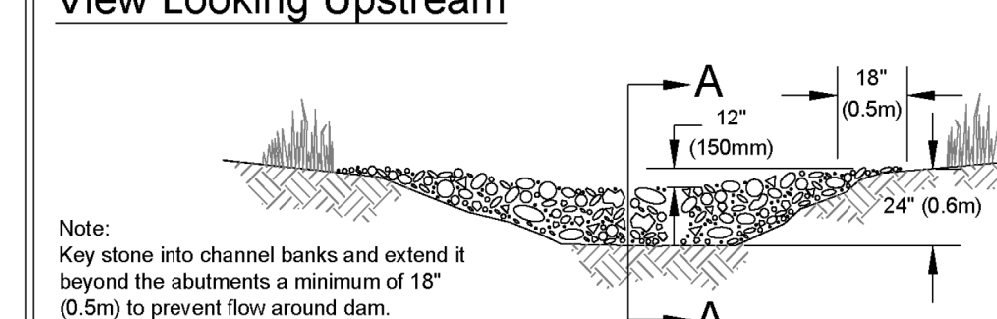
- Seed mixture shall be 10% Redtop (92% purity, 90% germination); 40% Annual Rye (98% purity, 90% germination); 40% Chewy Fescue (87% purity, 90% germination); and 10% White dutch clover (95% purity, 90% germination) and shall be applied at the rate of 120 pounds per acre.
- Seed beds planted between May 1 and October 31 will require irrigation and other maintenance as necessary to foster and protect the root structure.
- For seed beds planted between October 31 and April 30, amending of the seed bed will be necessary. (e.g., geotextiles, jute mat, clear plastic covering).
- Before seeding, install needed surface runoff control measures such as gradient terraces, interceptor dikes, swales, level spreaders and sediment basins.
- The seedbed shall be firm with a fairly fine surface, following surface roughening. Perform all operation across or at right angles to the slope.
- Fertilizers are to be used according to suppliers recommendations. Amounts used should be minimized, especially adjacent to water bodies and wetlands.
- Erosion control seeding shall not be used in areas subject to wear by construction traffic.
- Erosion control seeding may be used in all areas of 5% or less slope. In areas between 5 and 10% slope, erosion control seeding may be used for a maximum horizontal distance of 100 feet. Use mulch or netting or other treatments for steeper and longer slopes.

## SOIL STOCKPILE NOTES:

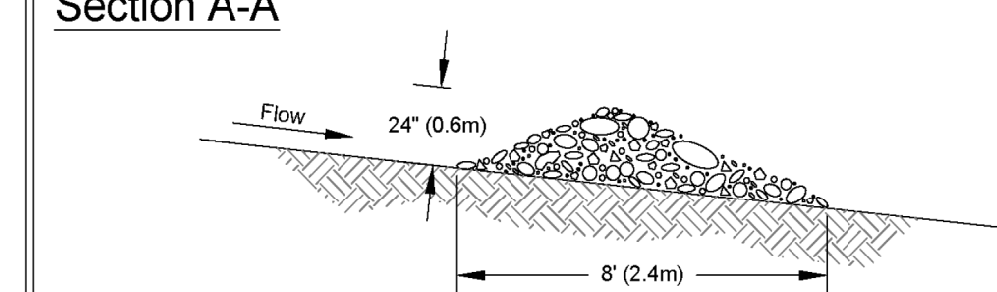
- Stockpiles shall be stabilized (with plastic covering or other approved device) daily between November 1 and March 31.
- In any season, sediment leaching from stock piles must be prevented.
- Topsoil shall not be placed while in a frozen or muddy condition, when the subgrade is excessively wet, or when conditions exist that may otherwise be detrimental to proper grading or proposed sodding or seeding.
- Previously established grades on the areas to be topsoiled shall be maintained according to the approved plan.
- Stockpiles must be located more than 50 feet from all drainage features.

Figure II-3.16: Rock Check Dam

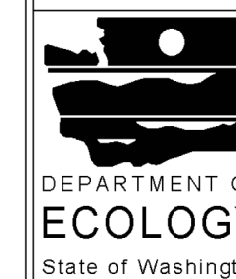
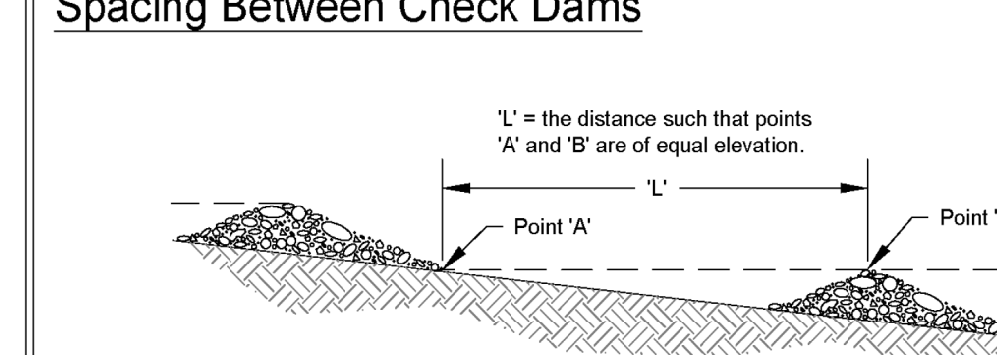
View Looking Upstream



Section A-A



Spacing Between Check Dams



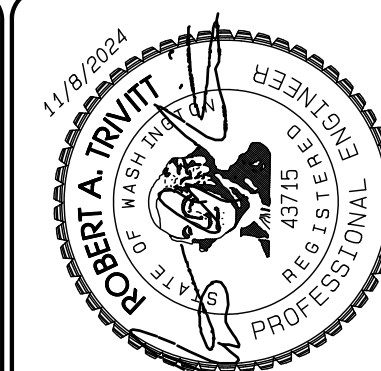
Rock Check Dam

Revised June 2016

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2019 Stormwater Management Manual for Western Washington

Volume II - Chapter 3 - Page 353



REVISION	DATE
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DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Green  
APPROVED BY: Rob Green

JOB NO: 2327  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Green  
APPROVED BY: Rob Green

**AZURE GREEN CONSULTANTS**

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**Bradley Heights**

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Fax jordan@timberlanepartners.com

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**G-6**

SHEET 6 OF 47

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BY: \_\_\_\_\_  
CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

NOTE:

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THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.

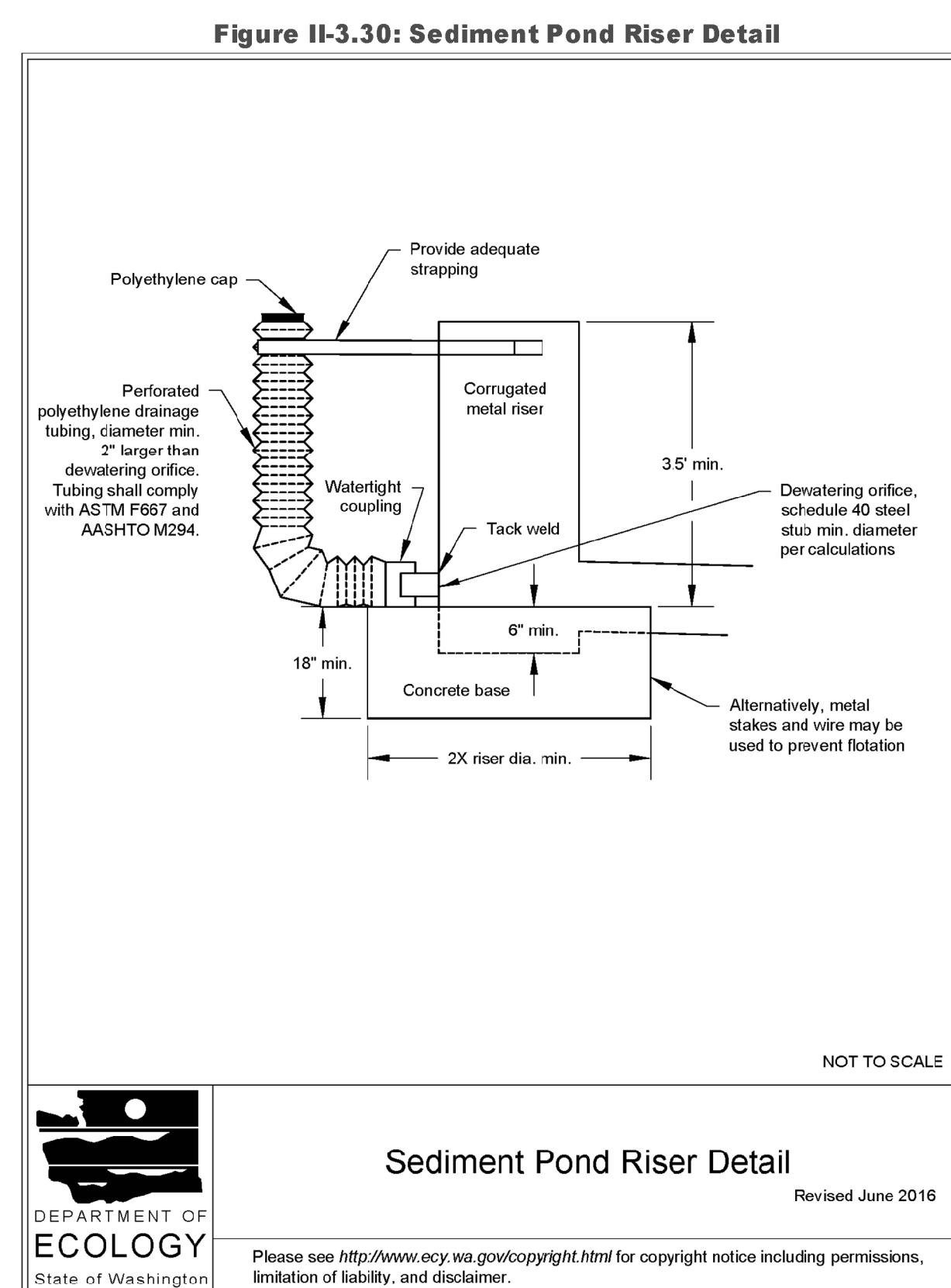
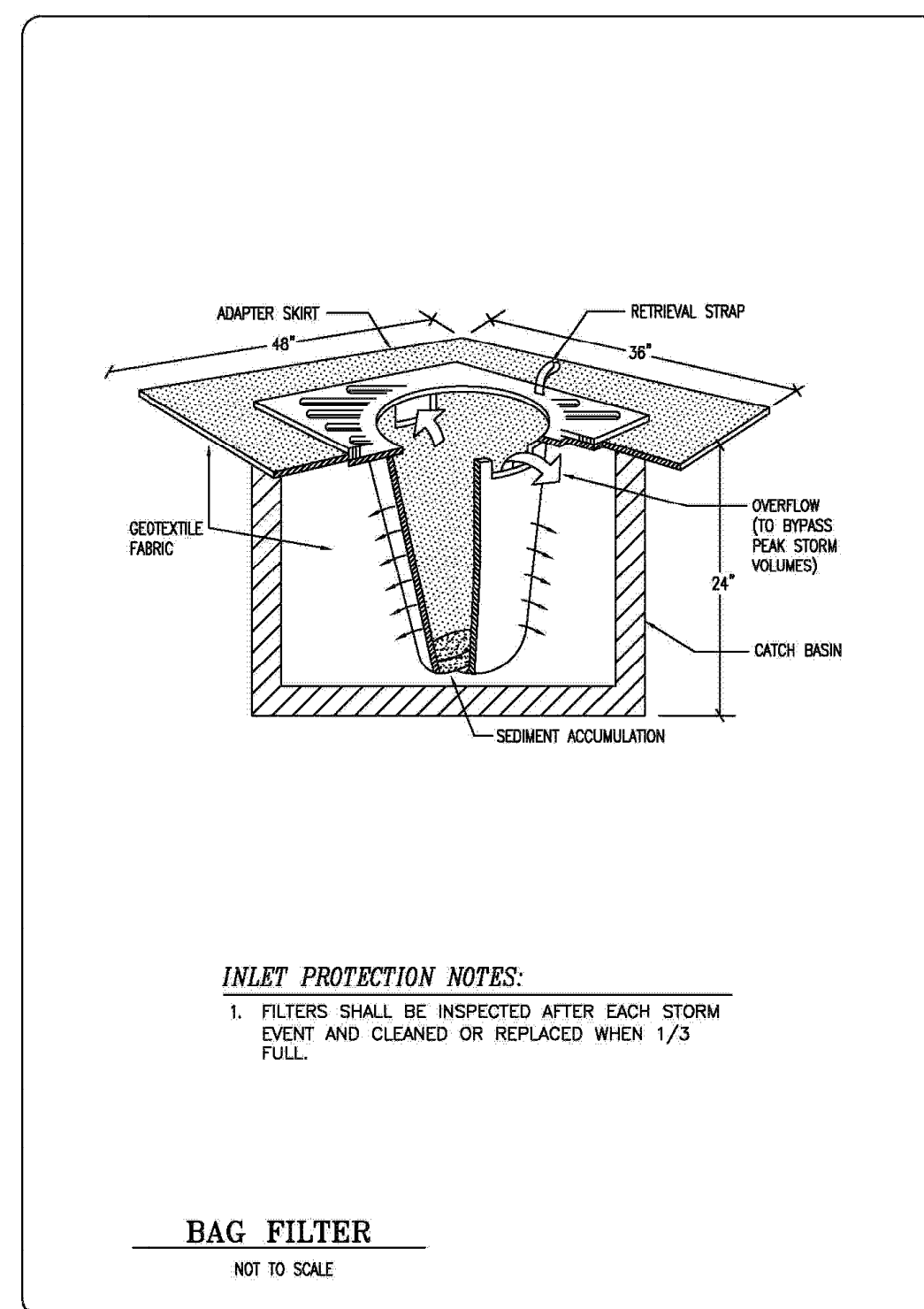
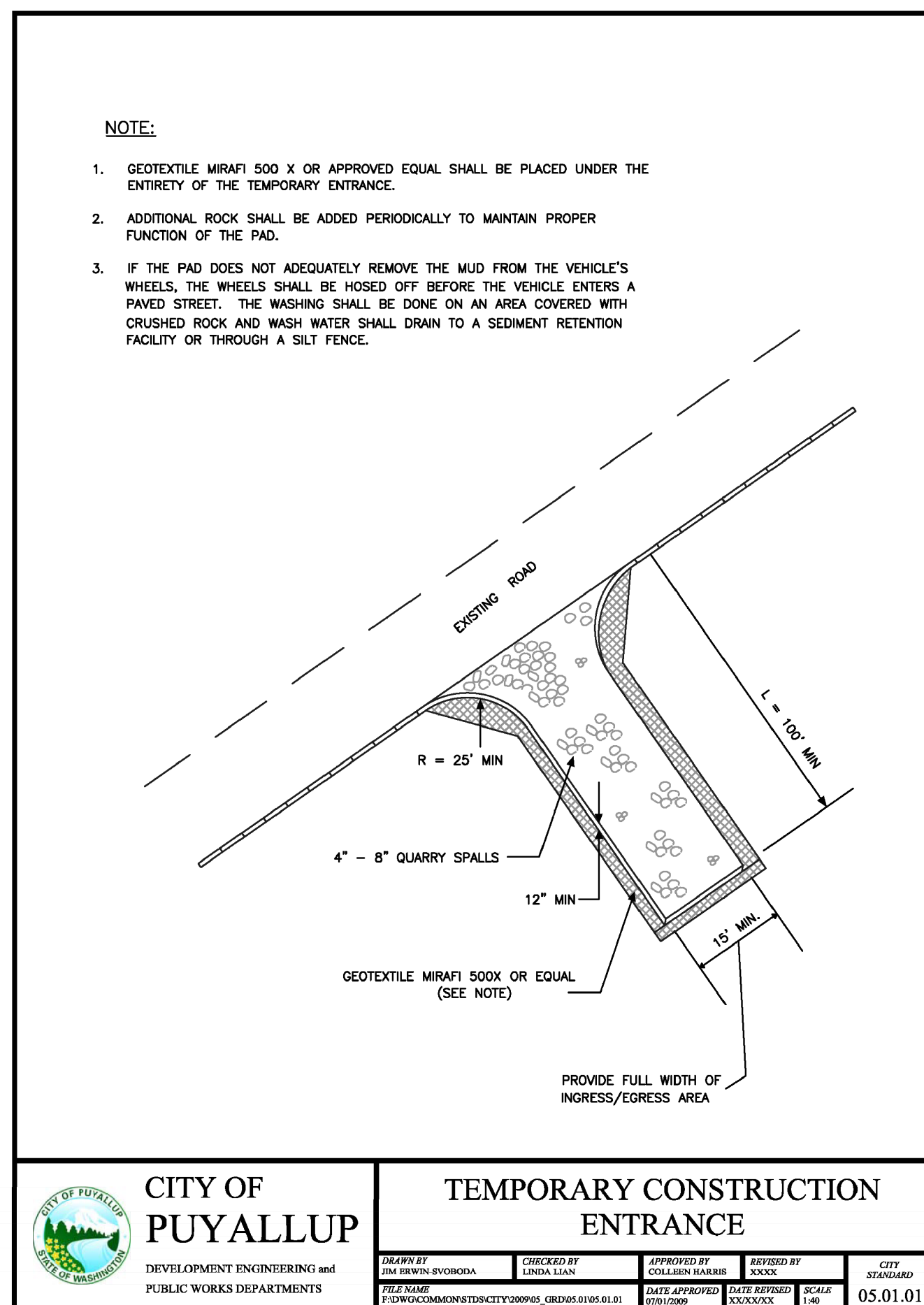
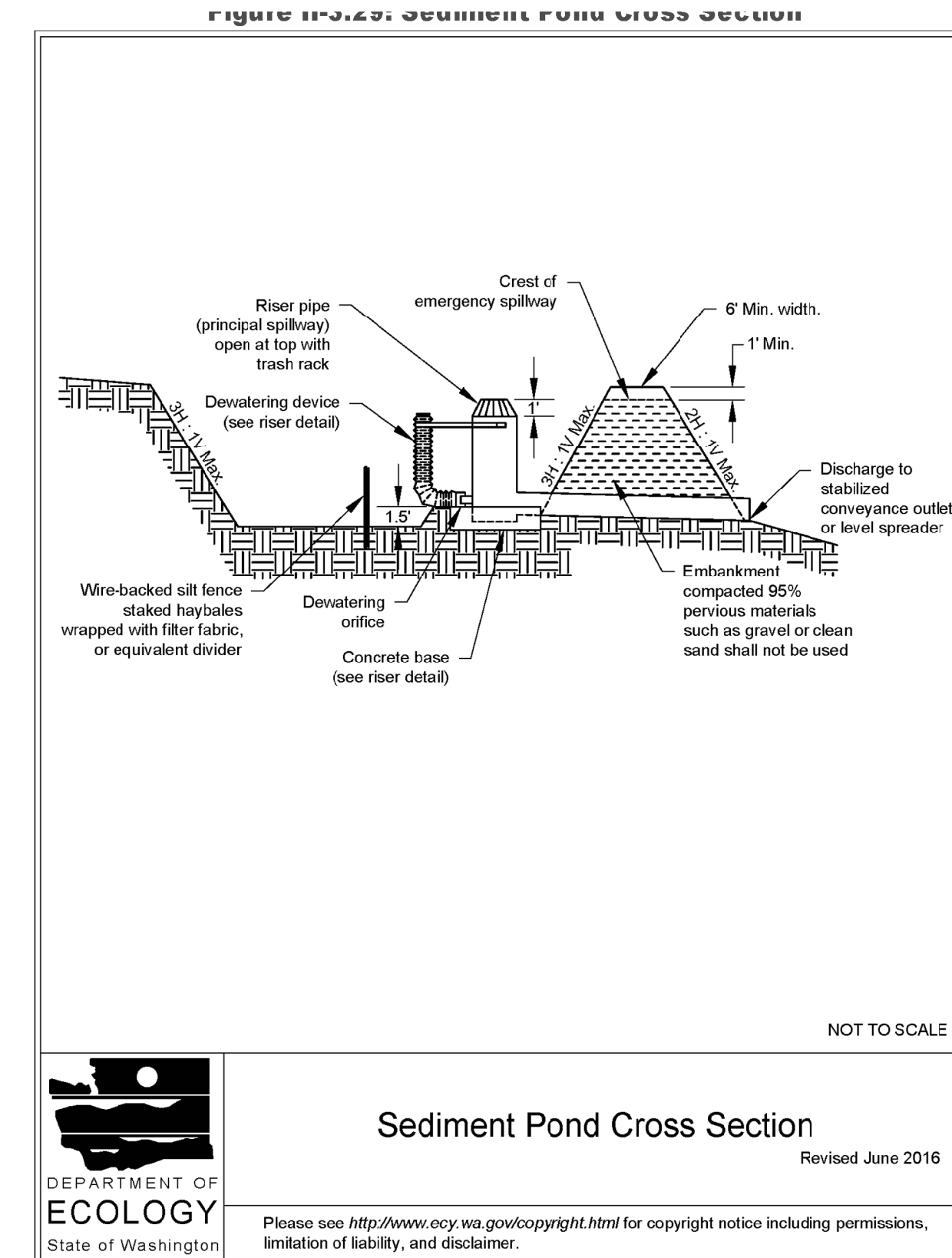
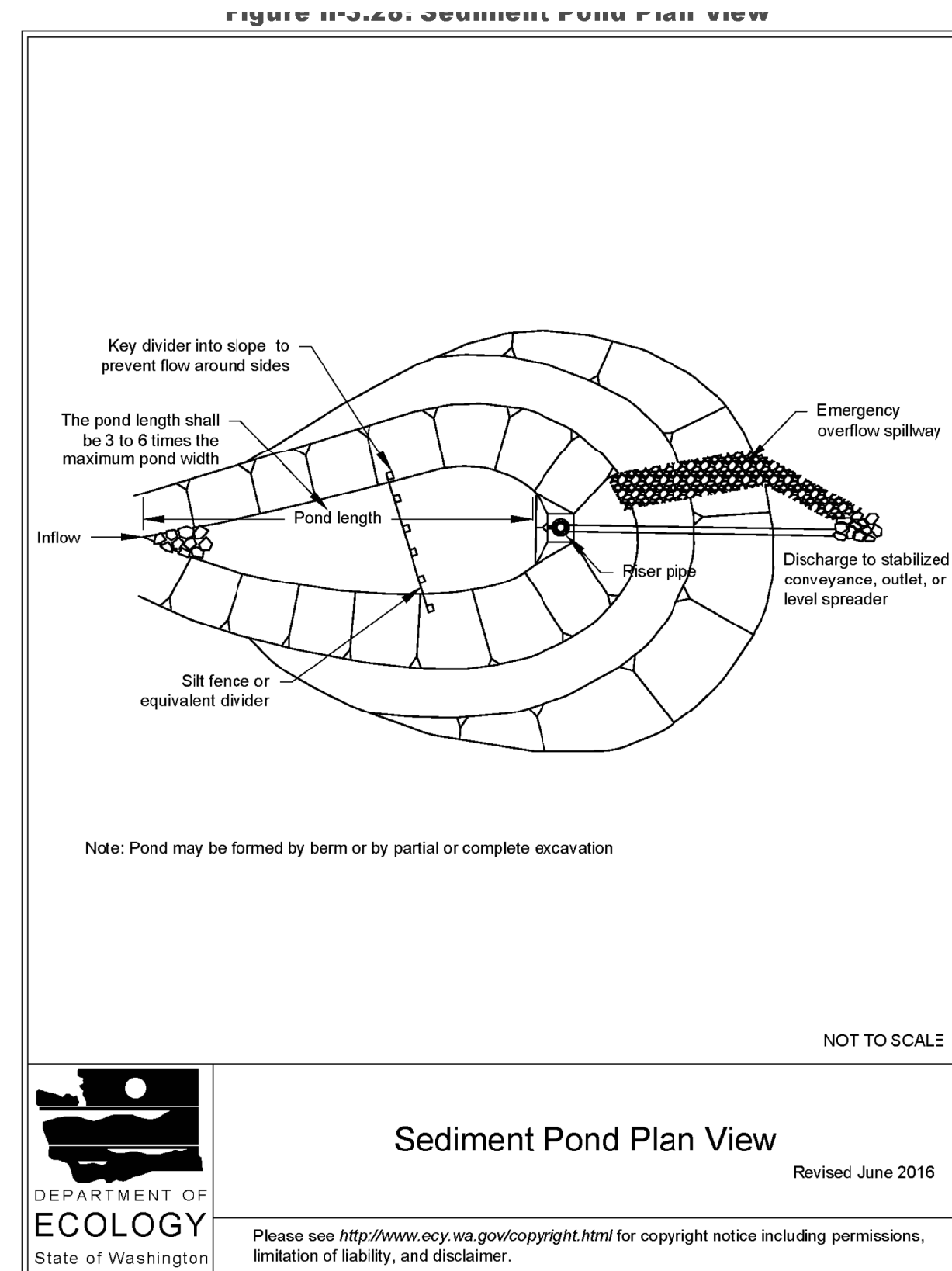
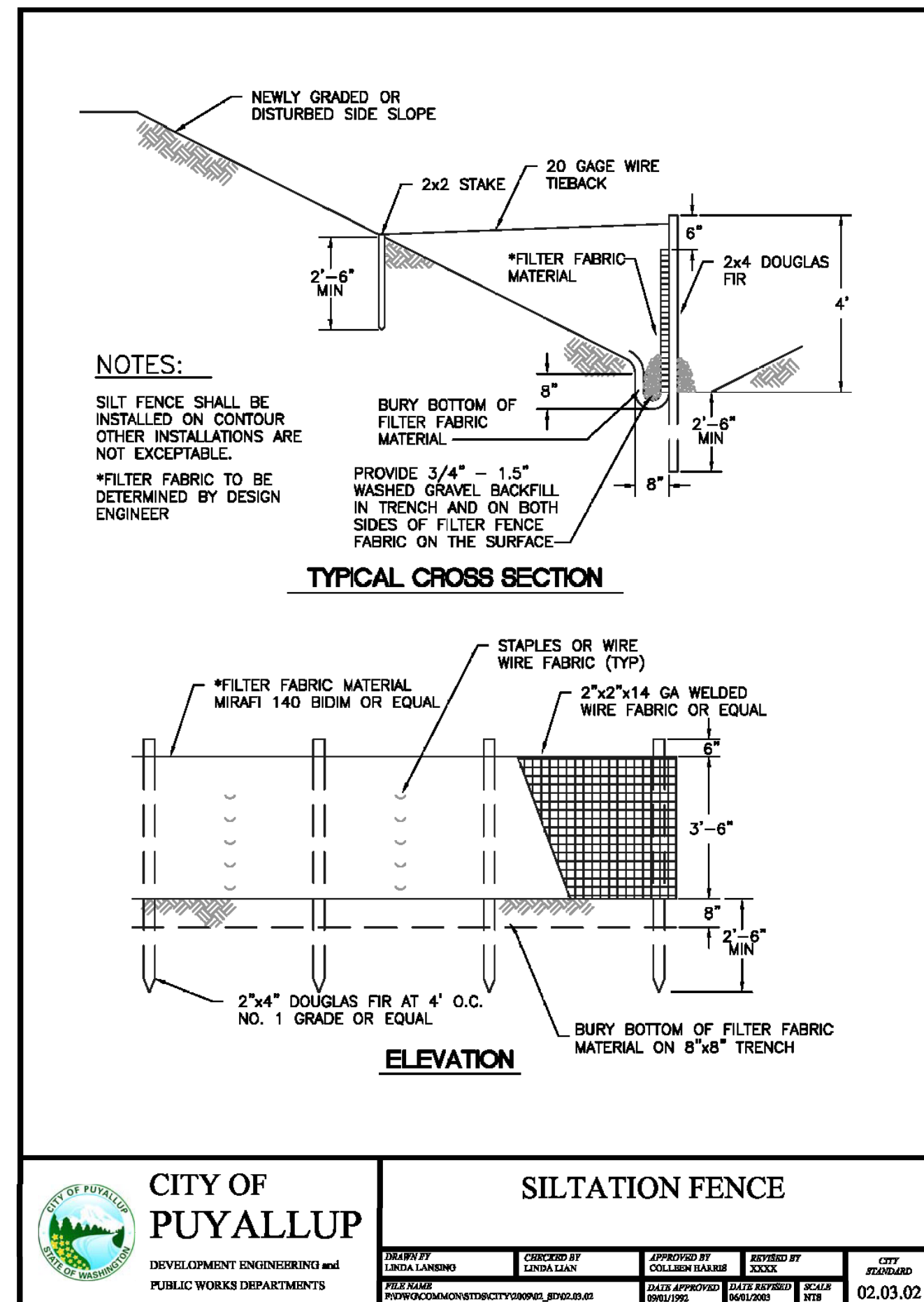
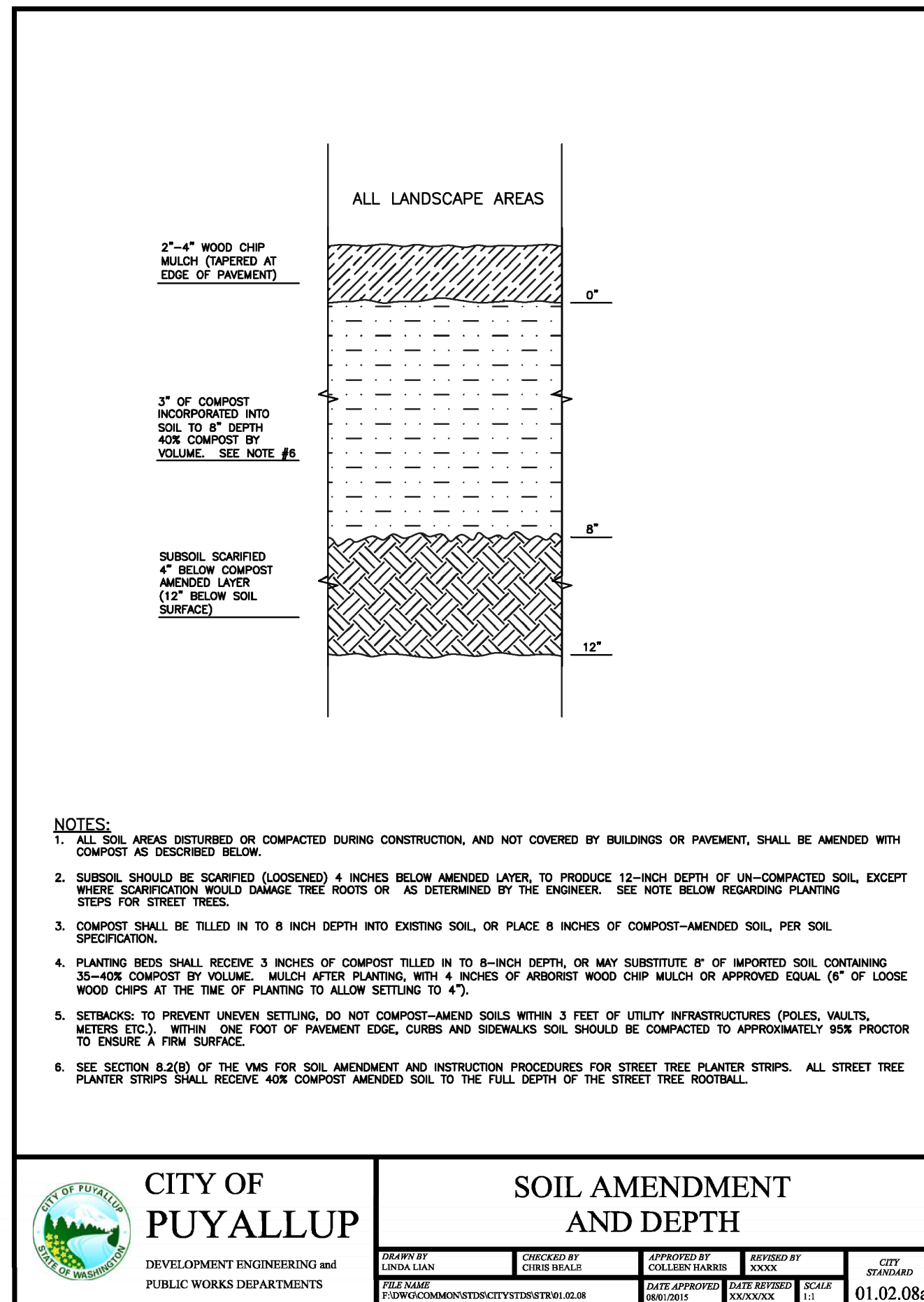
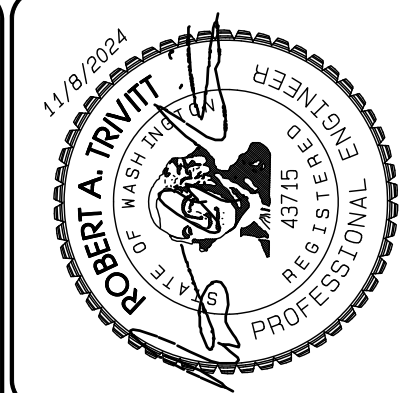
FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

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# Bradley Heights

## Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



REVISION 1. Revised per City review and Matt A. adjustment.	DATE 11/09/24
JOB NO. 23027	DATE May 14, 2024
DESIGNED BY: Rob Trivitt DRAWN BY: Rob Trivitt CHECKED BY: Rob Trivitt APPROVED BY: Rob Trivitt	CITY STANDARD 01.02.08a

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**Bradley Heights**

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SHEET 7 OF 47

APPROVED

BY: \_\_\_\_\_  
 CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**

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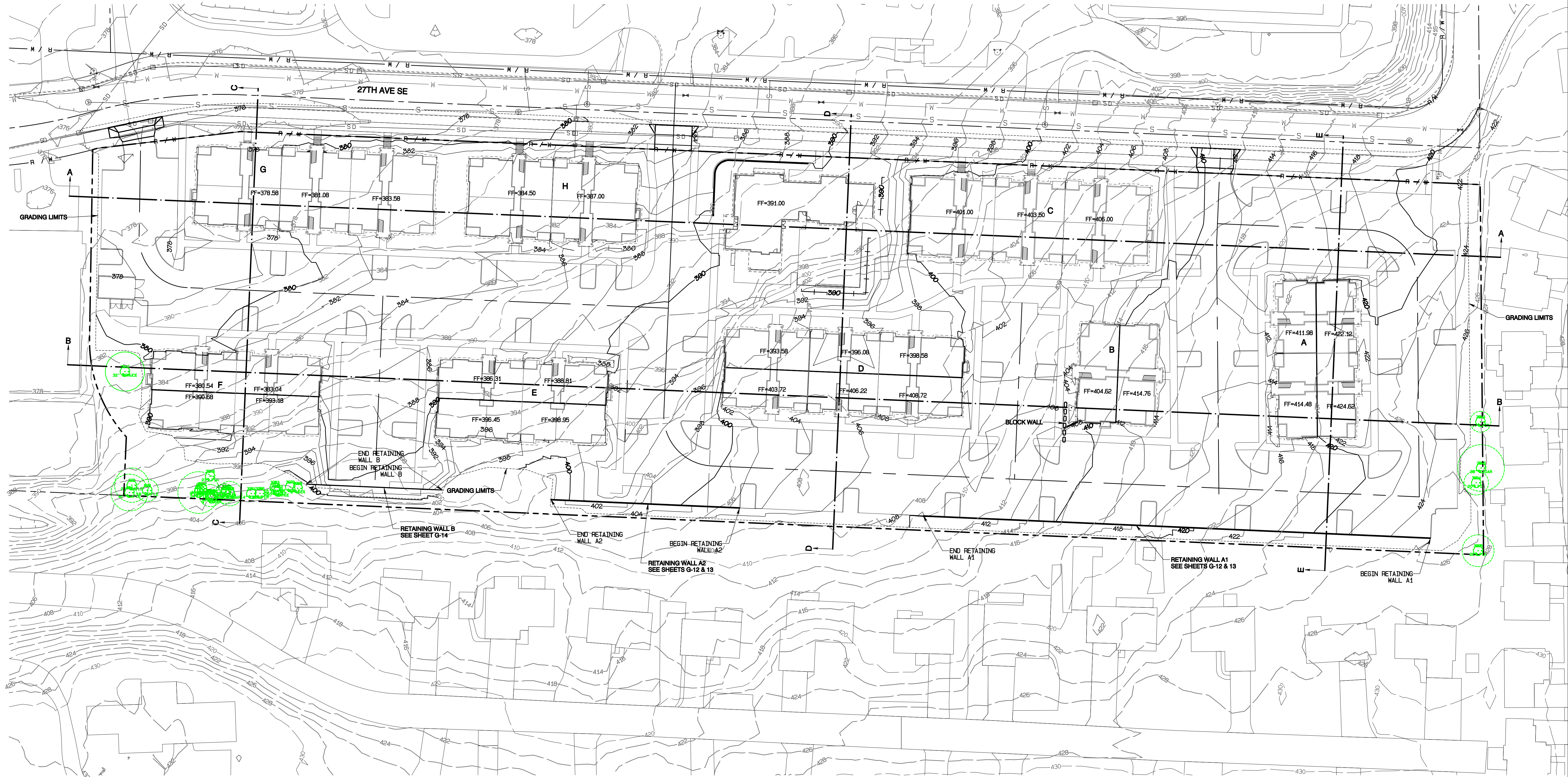
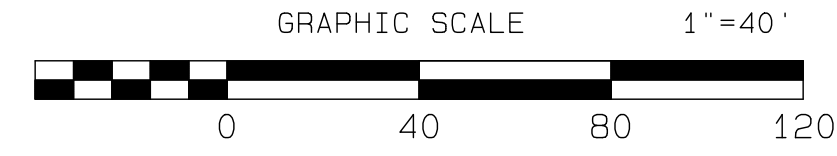
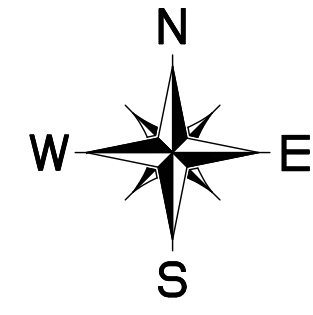
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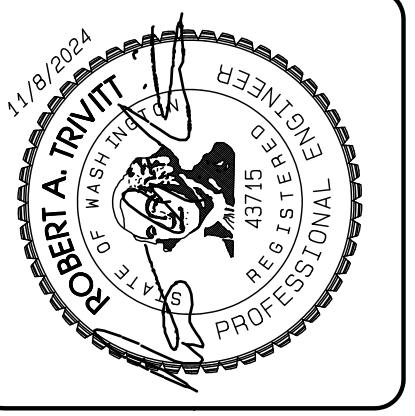


# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



Project Desc.: Bradley Heights; Plan#: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024-1108 ENG.dwg; PLOT DATE/TIME: 11/02/2024 15:45:49PM



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DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Trivitt  
 APPROVED BY: Rob Trivitt

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APPROVED  
 BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
**NOTE:**  
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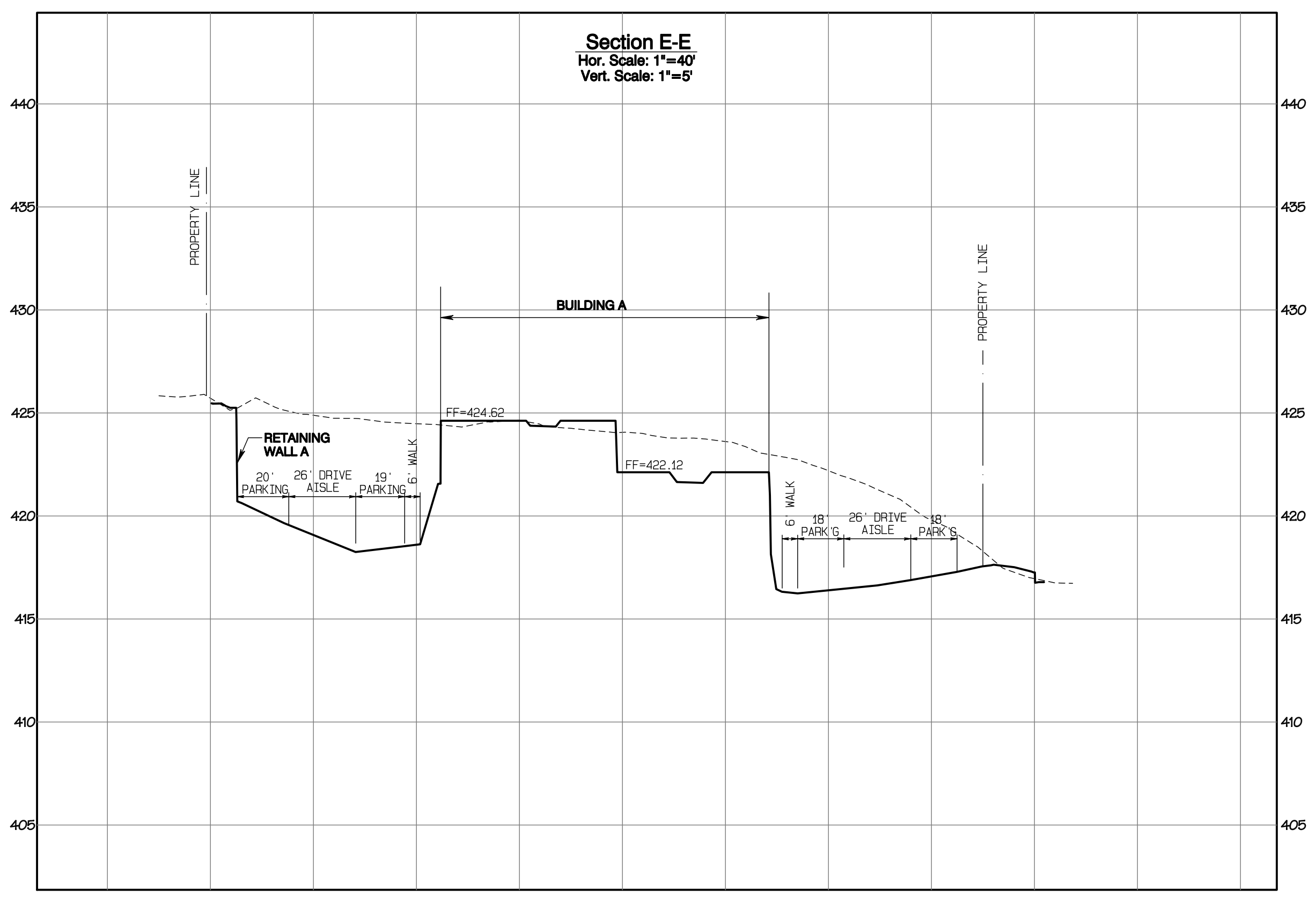
**Grading Plan**  
 Bradley Heights  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 206.896.0326  
 Fax jordan@timberlanepartners.com

**DRAWING**  
**G-8**  
 SHEET 8  
 OF 47

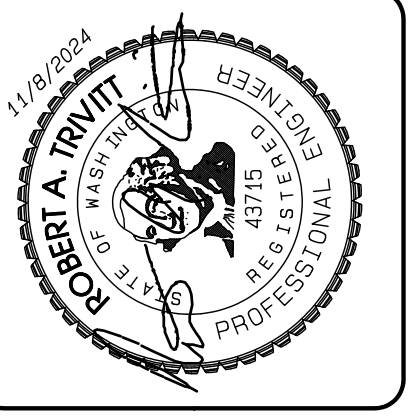


# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



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1 Revised per City review and Mail A adjustment.	11/09/24
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JOB NO: 3227  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Paul Green  
APPROVED BY: Paul Green

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**Grading Cross-Sections**

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Seattle, WA 98122  
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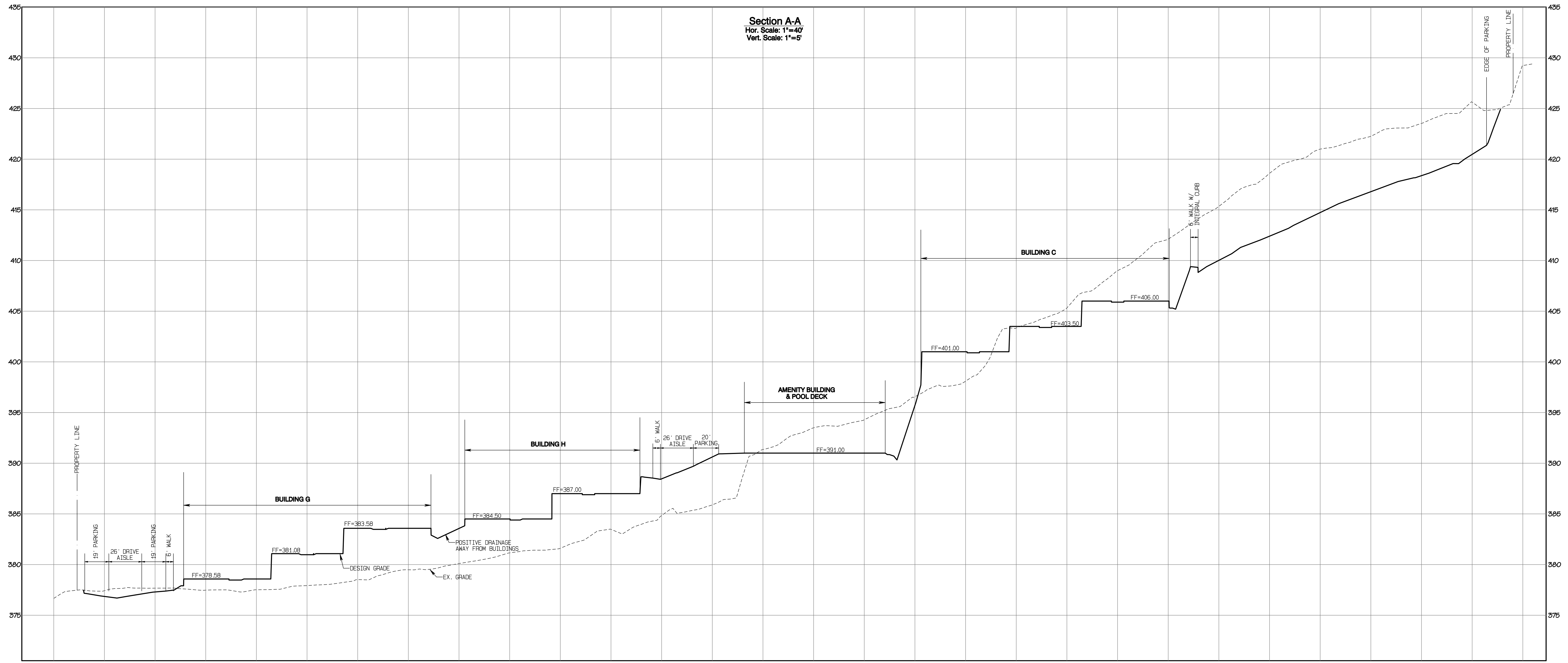
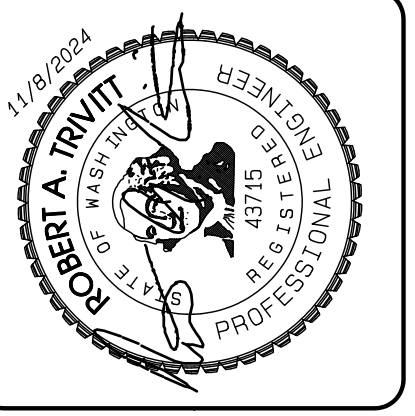






# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



**Section A-A**  
Hor. Scale: 1"=40'  
Vert. Scale: 1"=5'

REVISION	DATE
1 Revised per City review and Mail A adjustment.	11/29/24
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JOB NO. 2327  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Green  
APPROVED BY: Rob Green

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APPROVED

BY: \_\_\_\_\_ CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**  
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**Grading Cross-Sections**

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**G-11**  
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OF 47

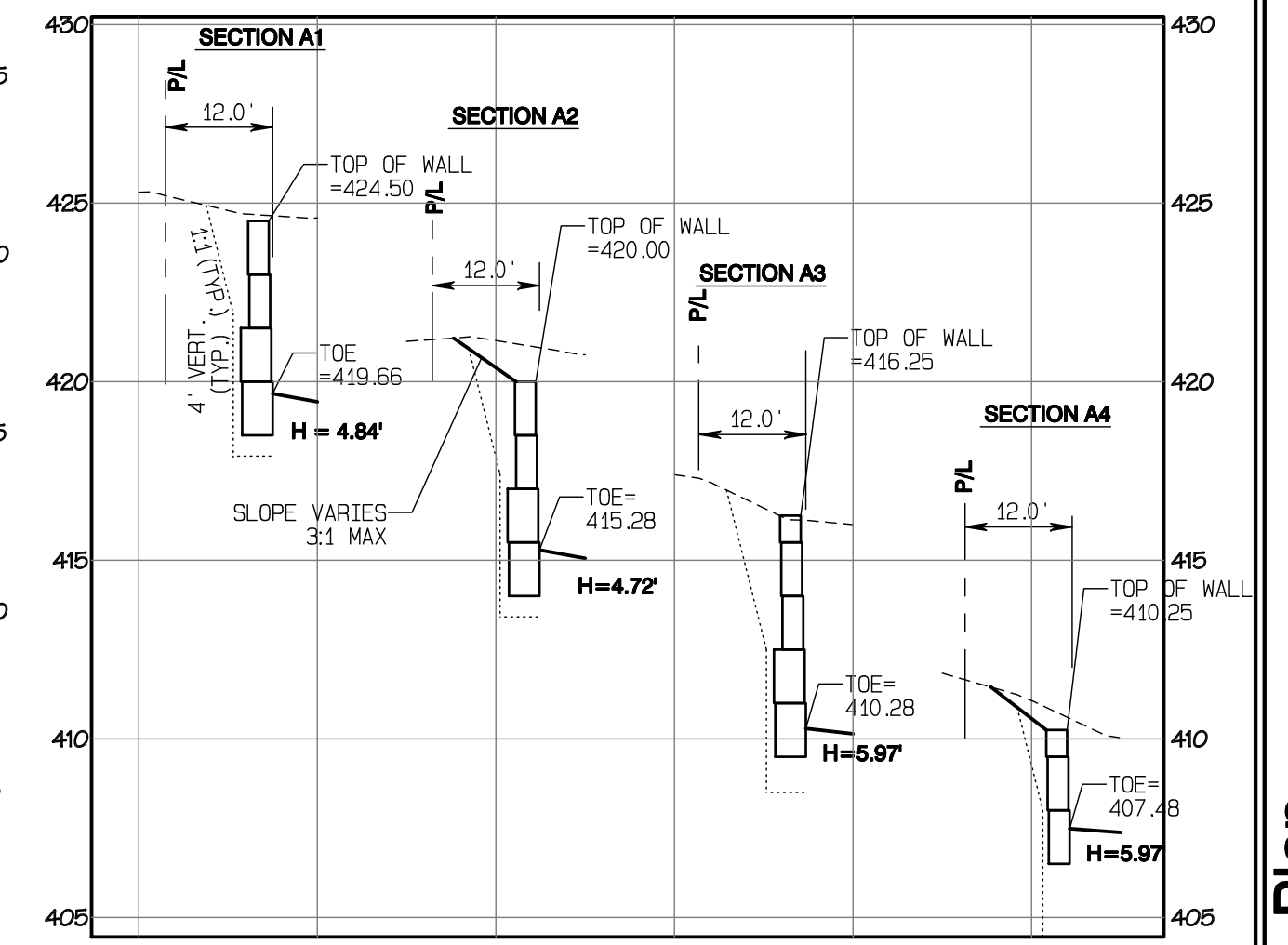
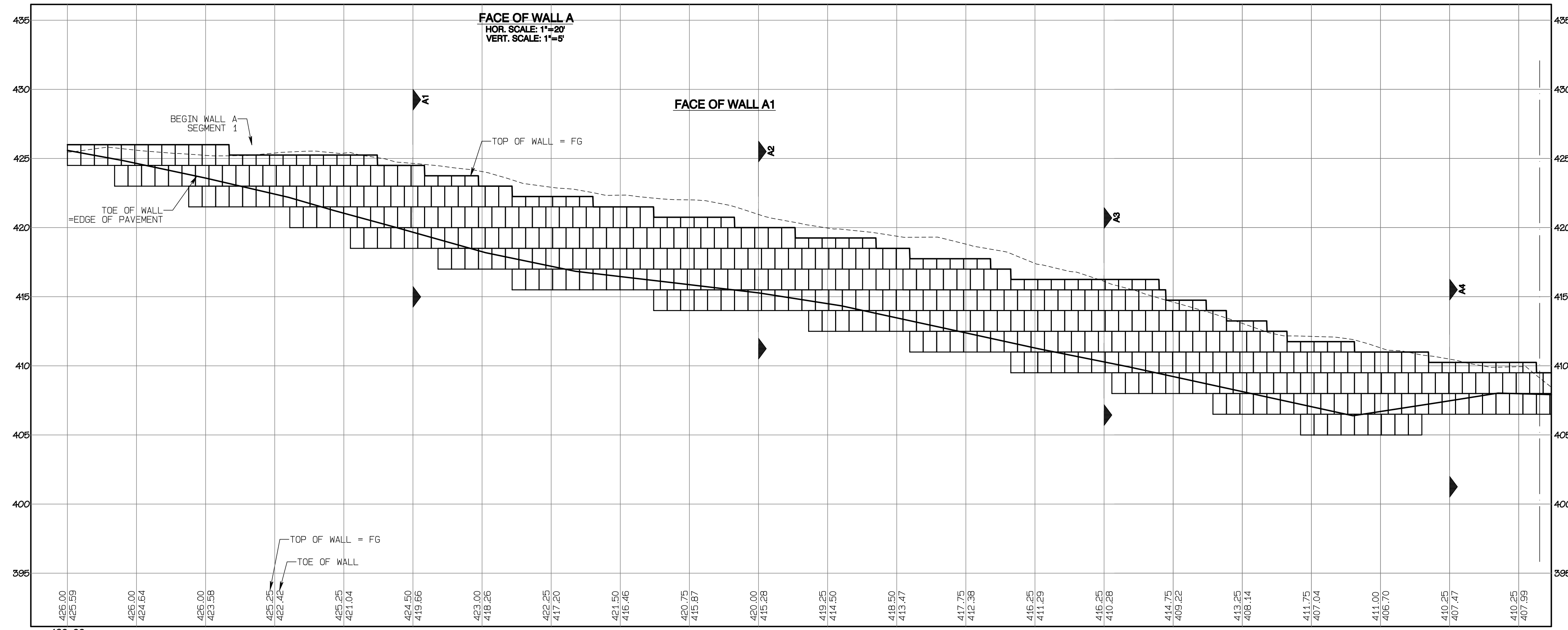
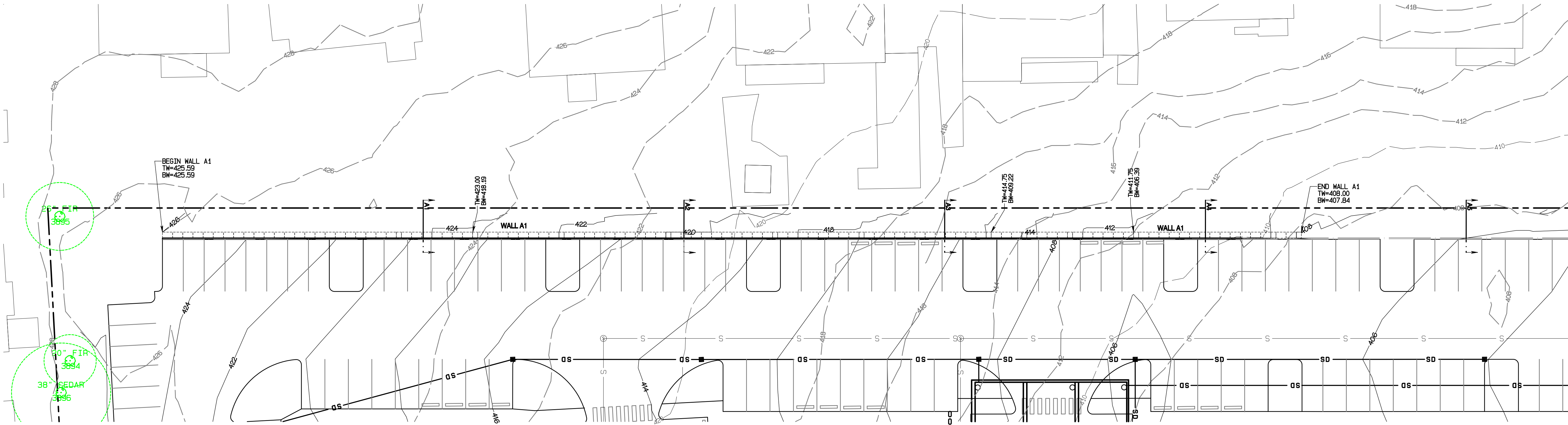
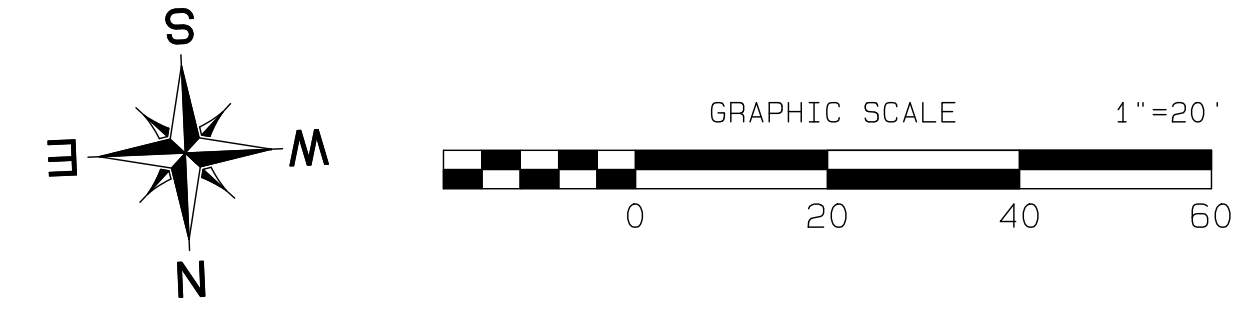
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# Bradley Heights

## Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

**RETAINING WALL NOTE:**  
 RETAINING WALL IS DESIGNED AS A REDIROCK GRAVITY WALL. THIS PLAN IS FOR LAYOUT AND GRADING PLAN PURPOSES. A SEPARATE BUILDING PERMIT WITH ENGINEERED DESIGN WILL BE REQUIRED.



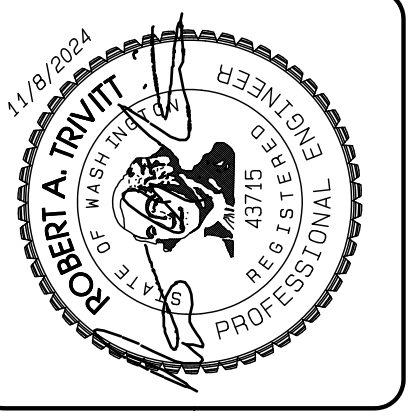
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BY: \_\_\_\_\_  
 CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

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Project Desc.: Bradley Heights; Plan#: C:\users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024 1108 ENG.dwg P104 Date/Time: 11/09/2024/4:19:54PM



REVISION	DATE
1 Revised per City review and Wall A adjustment.	11/09/24

JOB NO: 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Trivitt  
 APPROVED BY: Rob Trivitt

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 Phone: 253.770.3144 Fax: 253.770.3142

**Retaining Wall A Plan**

Bradley Heights

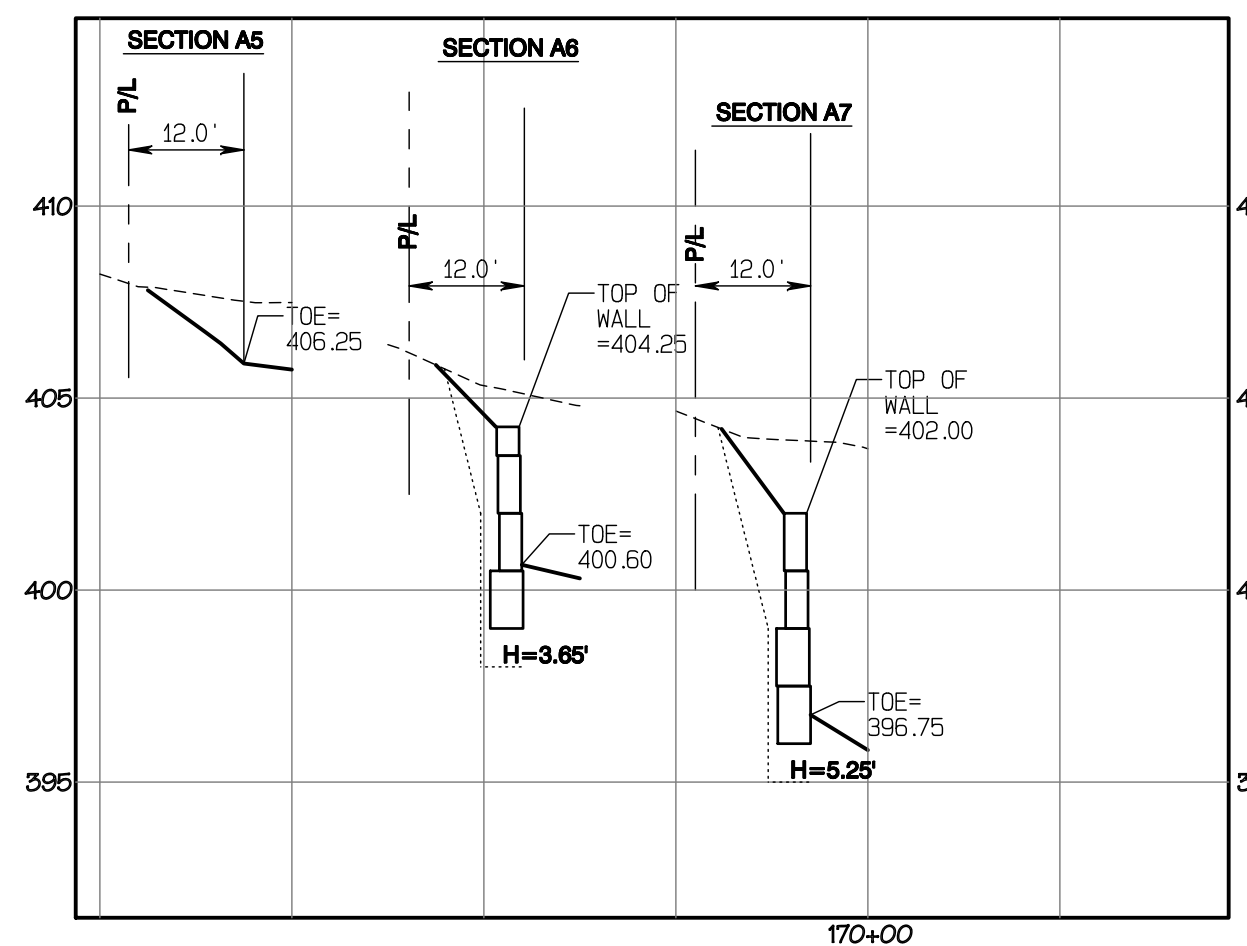
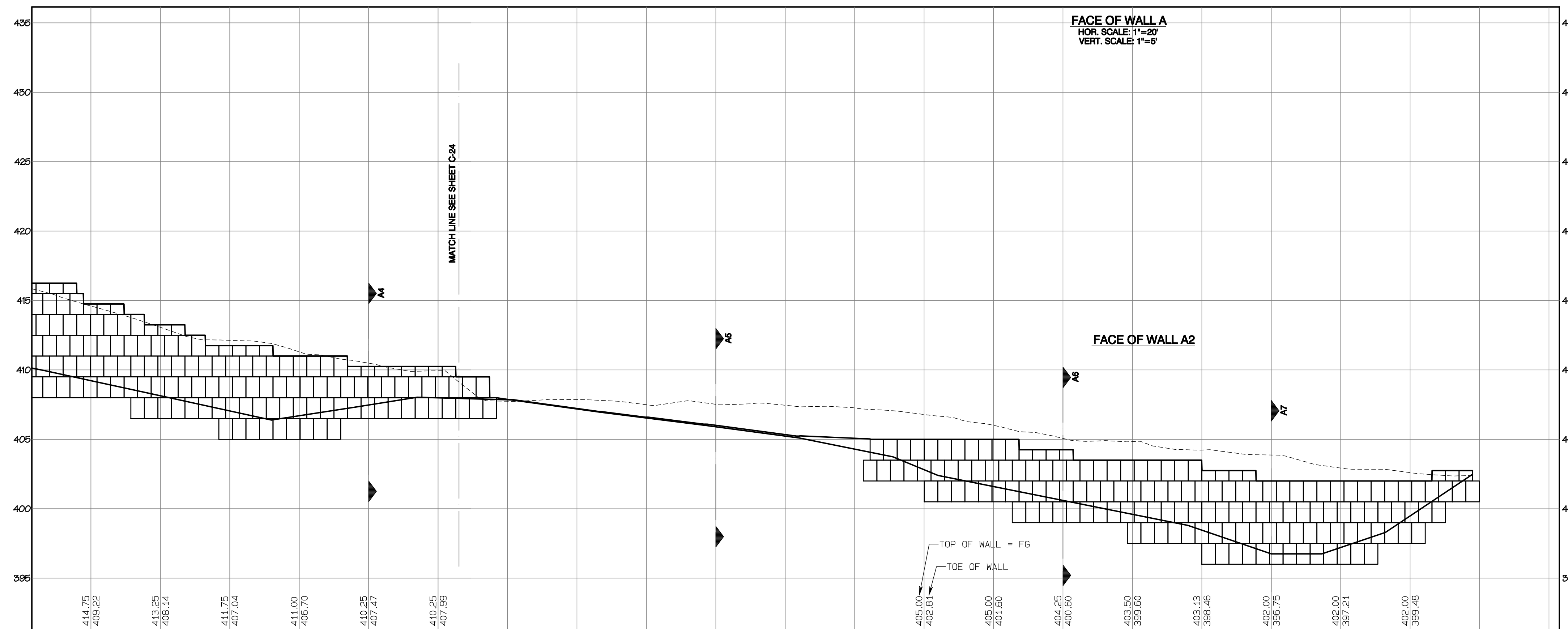
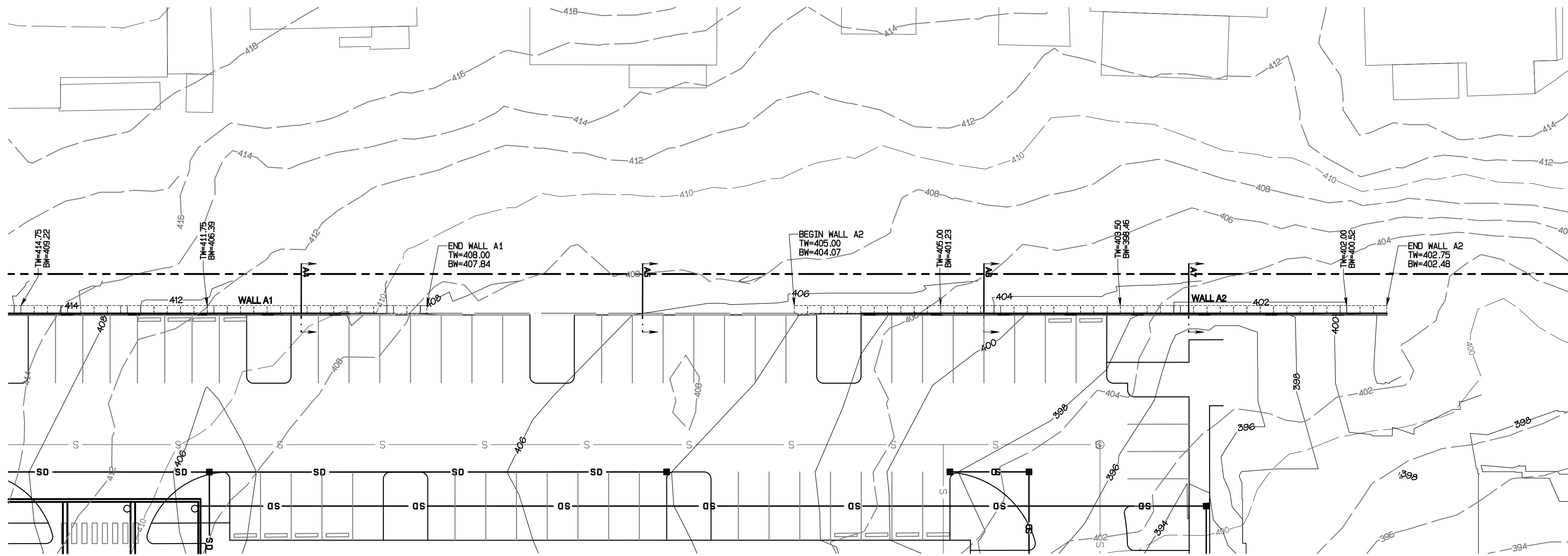
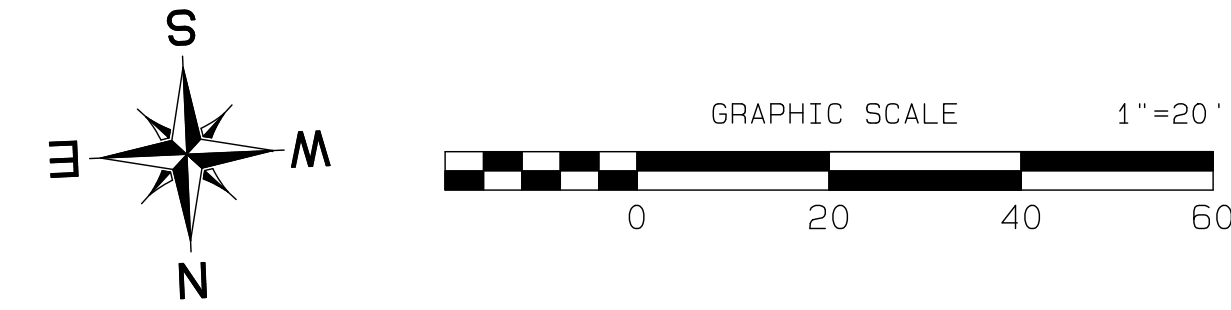
Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.886.0326  
 Fax Jordan@timberlanepartners.com



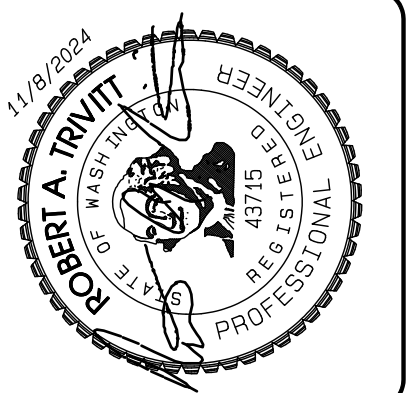
# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

**RETAINING WALL NOTE:**  
RETAINING WALL IS DESIGNED AS A REDIROCK GRAVITY WALL. THIS PLAN IS FOR LAYOUT AND GRADING PLAN PURPOSES. A SEPARATE BUILDING PERMIT WITH ENGINEERED DESIGN WILL BE REQUIRED.



APPROVED  
BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES  
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REVISION	DATE
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**Retaining Wall A Plan**  
Bradley Heights  
Timberlane Partners  
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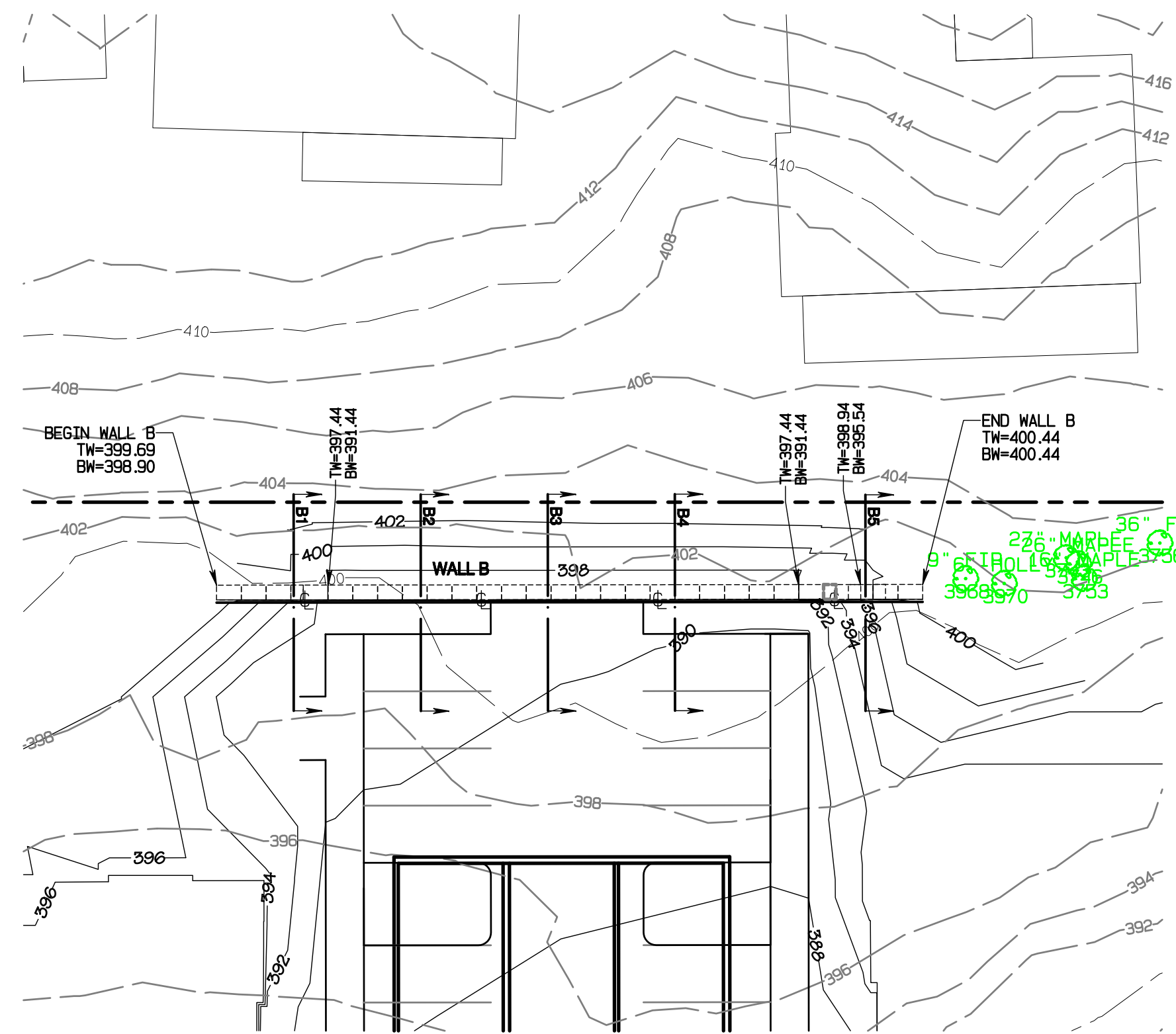
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SHEET 13  
OF 47

Project Desc.: Bradley Heights  
Plan: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024 1108 ENG.dwg  
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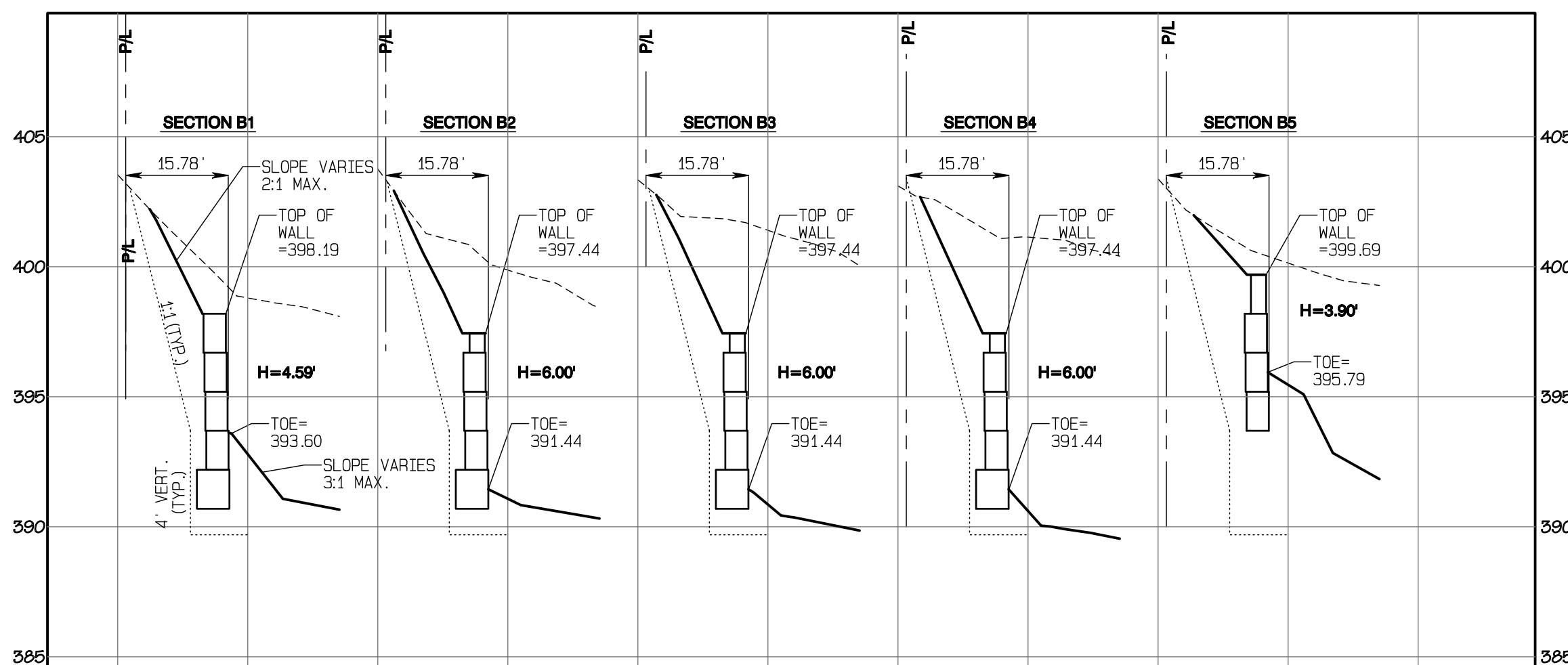
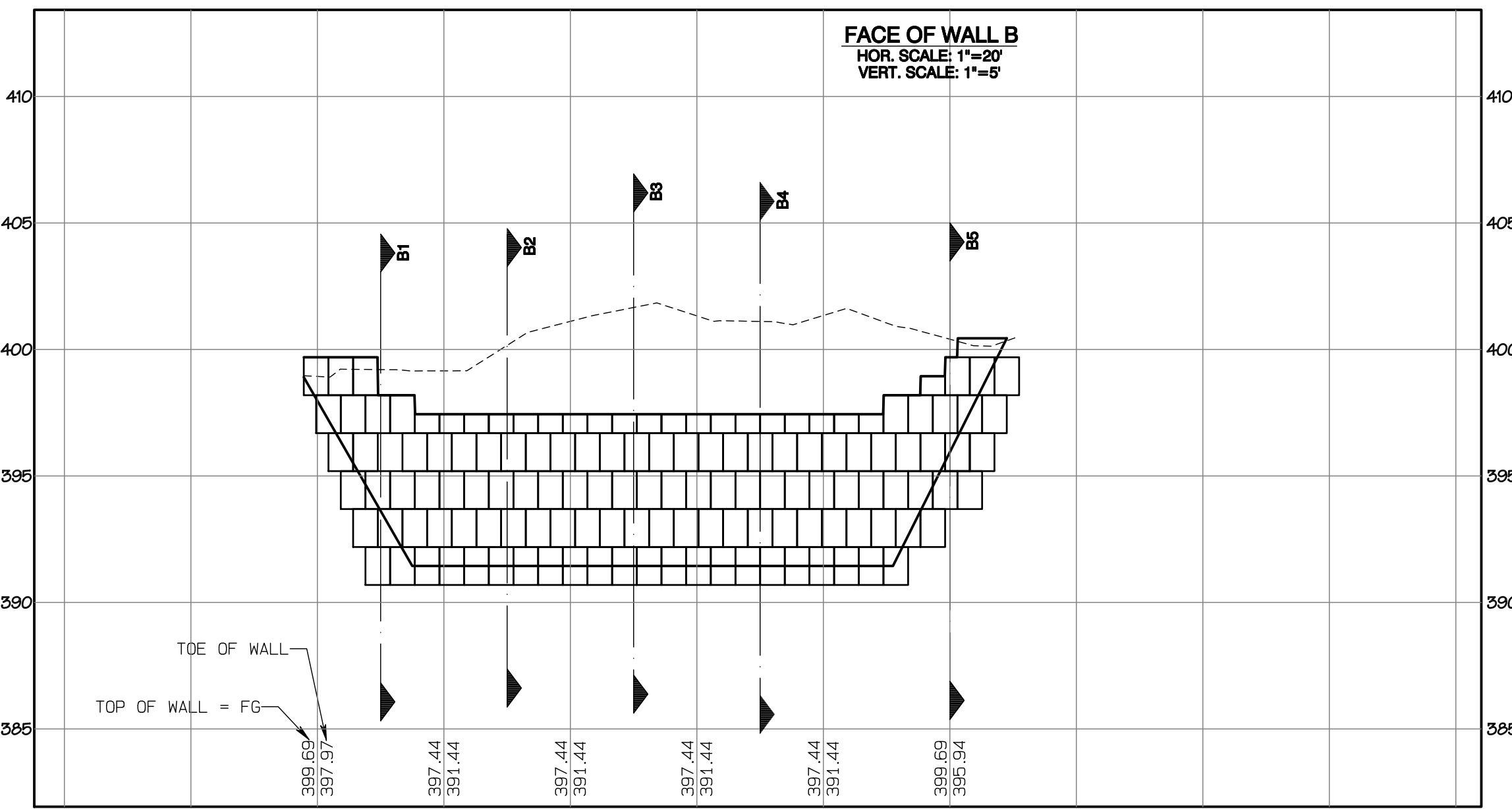


# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



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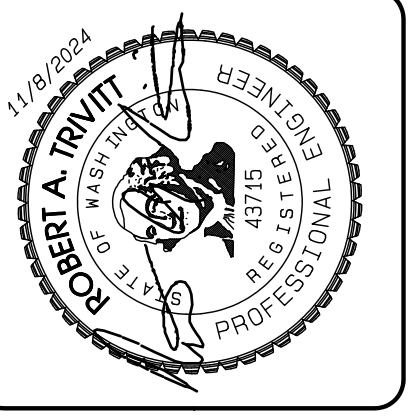


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DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Green  
APPROVED BY: Rob Green

**AZURE GREEN CONSULTANTS**  
+ feasibility + planning + engineering + surveying

409 East Pioneer, Suite A - Puyallup, WA 98372  
phone: 253.770.3144 fax: 253.770.3142

**Retaining Wall B Plan**  
Bradley Heights

Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.896.0326  
Fax jordan@timberlanepartners.com

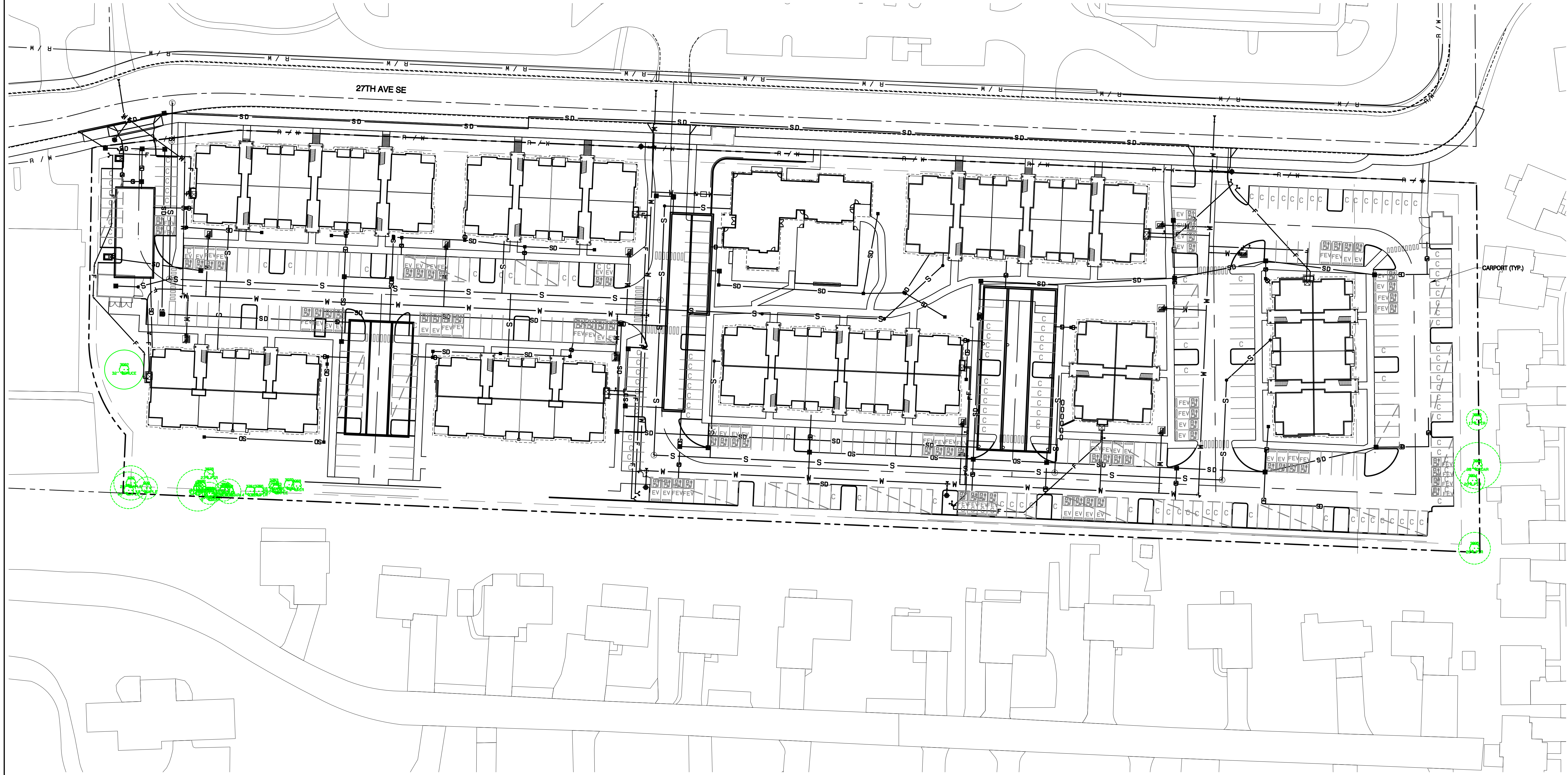
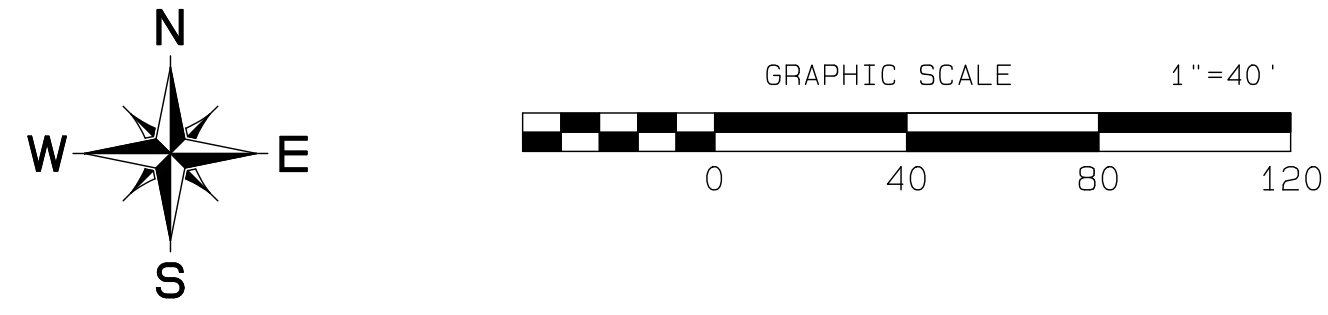
DRAWING  
**G-14**  
SHEET 14  
OF 47

Project Desc.: Bradley Heights - Bradley Heights\Timberlane\Bradley Heights 2024-1108 ENG.dwg PLOT Date/Time: 11/02/2024 10:13PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



Project Desc.: Bradley Heights Plan: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024-1108.dwg Plot Date/Time: 11/09/2024 12:28:38M



REVISION	DATE
1. Revised per City review and Mail A adjustment.	11/09/24

JOB NO.	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
3227	May 14, 2024	Rob. Trivitt	Rob. Trivitt	Rob. Trivitt	Rob. Trivitt

**APPROVED**

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.

FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

**AZURE GREEN**  
CONSULTANTS

\*feasibility \*planning \*engineering \*surveying

419 East Pioneer, Suite A - Puyallup, WA 98372  
Phone: 253.770.3144 Fax: 253.770.3142

**Civil Composite**

**Bradley Heights**

Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.889.0326  
Fax jordan@timberlanepartners.com

**DRAWING**

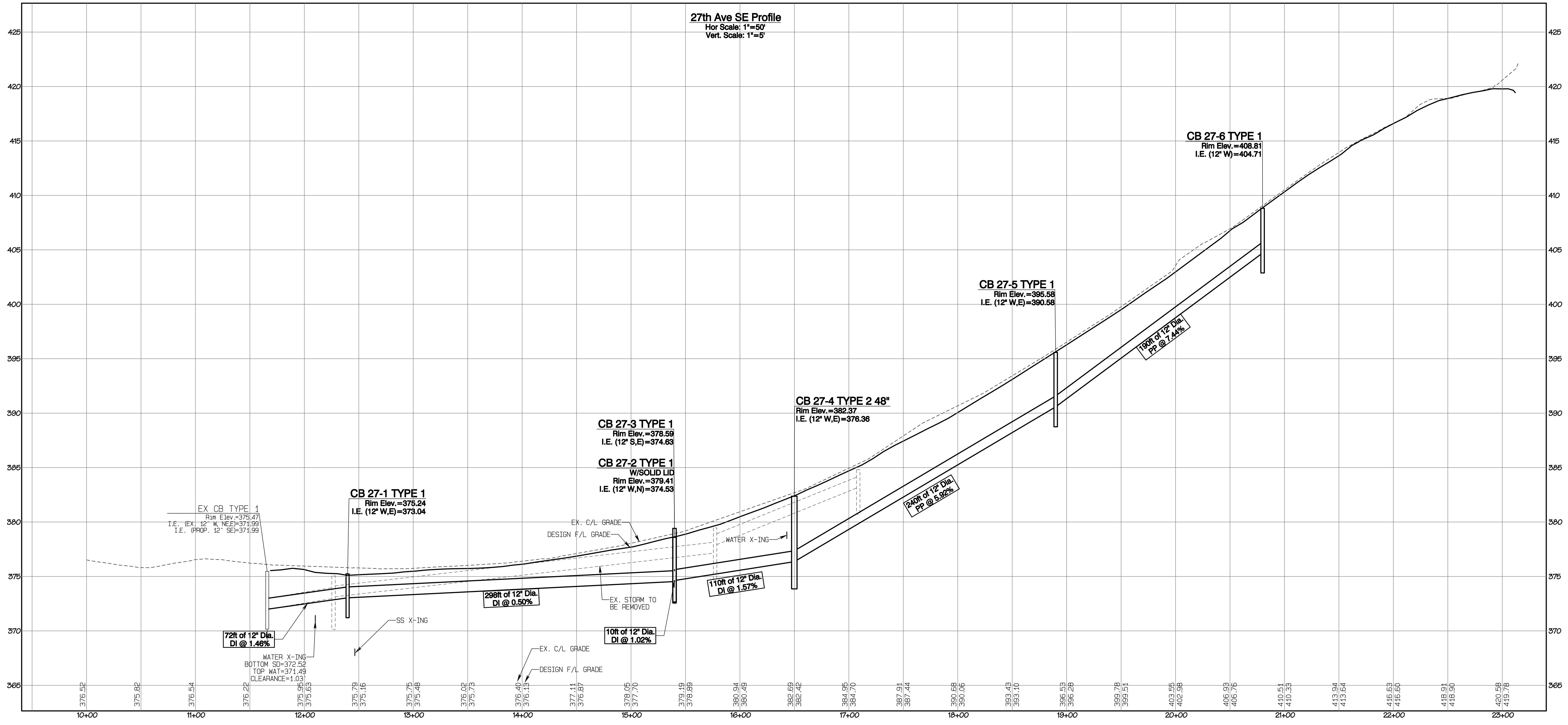
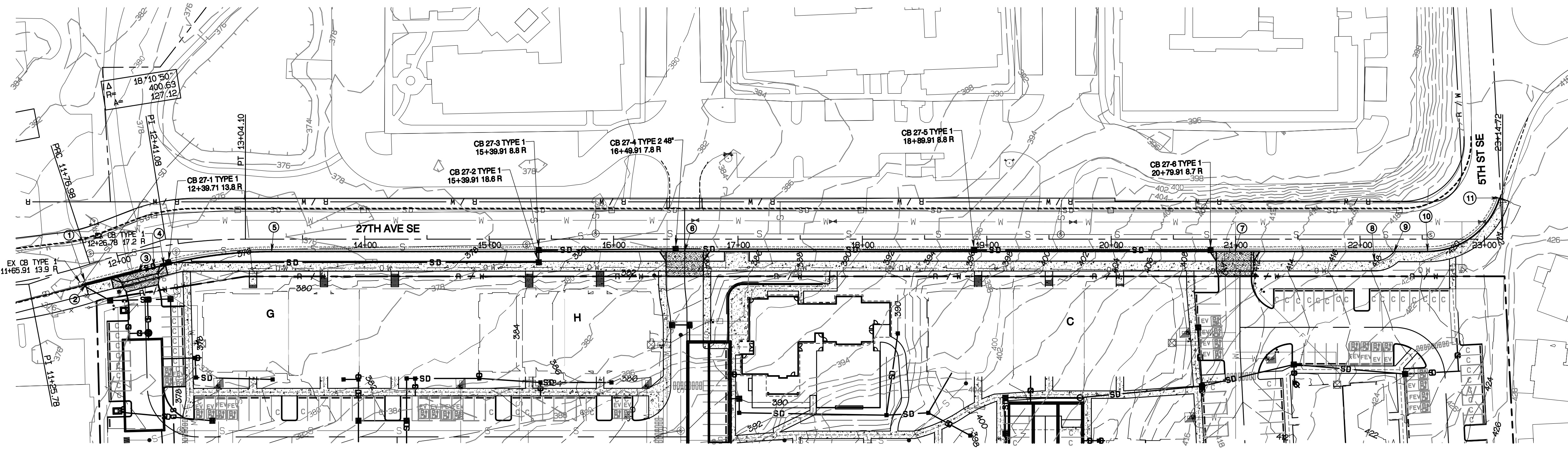
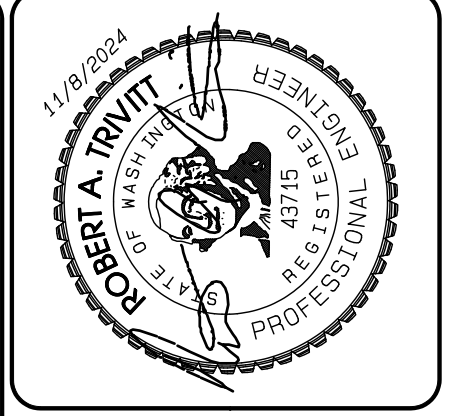
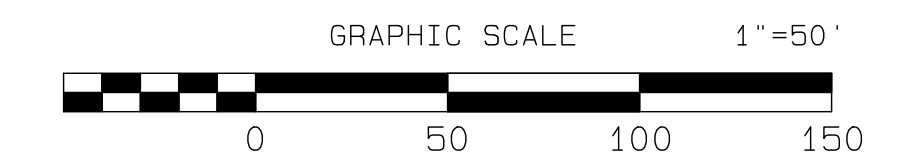
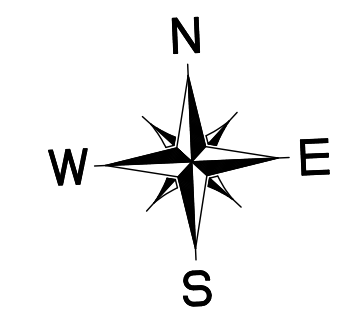
**SD-1**

SHEET 15  
OF 47



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



**CONSTRUCTION KEY NOTES**

- ① 11+89.04 11.4 R  
BEGIN SAWCUT, REMOVE EDGE OF PAVING  
BEGIN PAVING
- ② 11+88.88 14.9 R  
FLOWLINE, BEGIN CURB & GUTTER  
BEGIN 8' SIDEWALK
- ③ 12+13.66 16.1 R  
CENTER 30' WIDE APPROACH  
STD 01.02.17
- ④ 12+35.73 15.0 R  
FLOWLINE, PC 350' RAD.
- ⑤ 13+25.13 9.7 R  
FLOWLINE, PT 350' RAD.  
BEGIN 7.5' BUFFER
- ⑥ 16+57.15 9.7 R  
CENTER 30' WIDE APPROACH  
STD 01.02.17
- ⑦ 20+99.53 9.7 R  
CENTER 30' WIDE APPROACH  
STD 01.02.17
- ⑧ 22+11.64 17.7 R  
BEGIN BUFFER TRANSITION
- ⑨ 22+27.36 10.2 R  
END BUFFER TRANSITION
- ⑩ 22+54.45 9.8 R  
FLOWLINE, PC 60' RAD.
- ⑪ 23+11.97 33.1 L  
FLOWLINE, PT 60' RAD.  
END CURB & GUTTER/SIDEWALK  
MATCH EXISTING

REVISION	DATE	DESCRIPTION
1	11/26/24	1 Revised per City review and Mail A adjustment.
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JOB NO.	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
3227	May 14, 2024	Rob Trivitt	Rob Trivitt	Rob Trivitt	Rob Trivitt

**AZURE GREEN**  
CONSULTANTS

+ feasibility + planning + engineering + surveying

409 East Pioneer, Suite A - Puyallup, WA 98372  
Phone: 253.770.3144 Fax: 253.770.3142

**27th Ave SE Plan & Profile**

**Bradley Heights**

Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.886.0326  
Fax jordan@timberlanepartners.com

APPROVED

BY: \_\_\_\_\_ CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.

FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

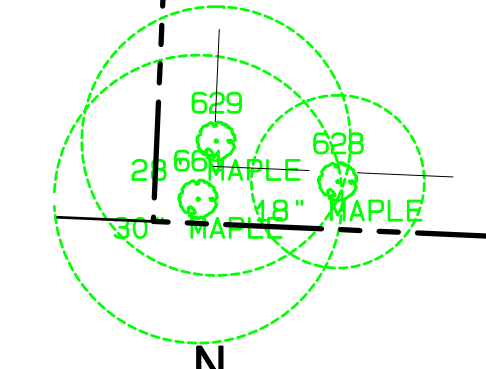
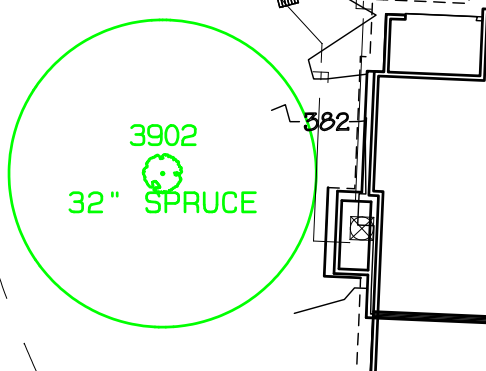
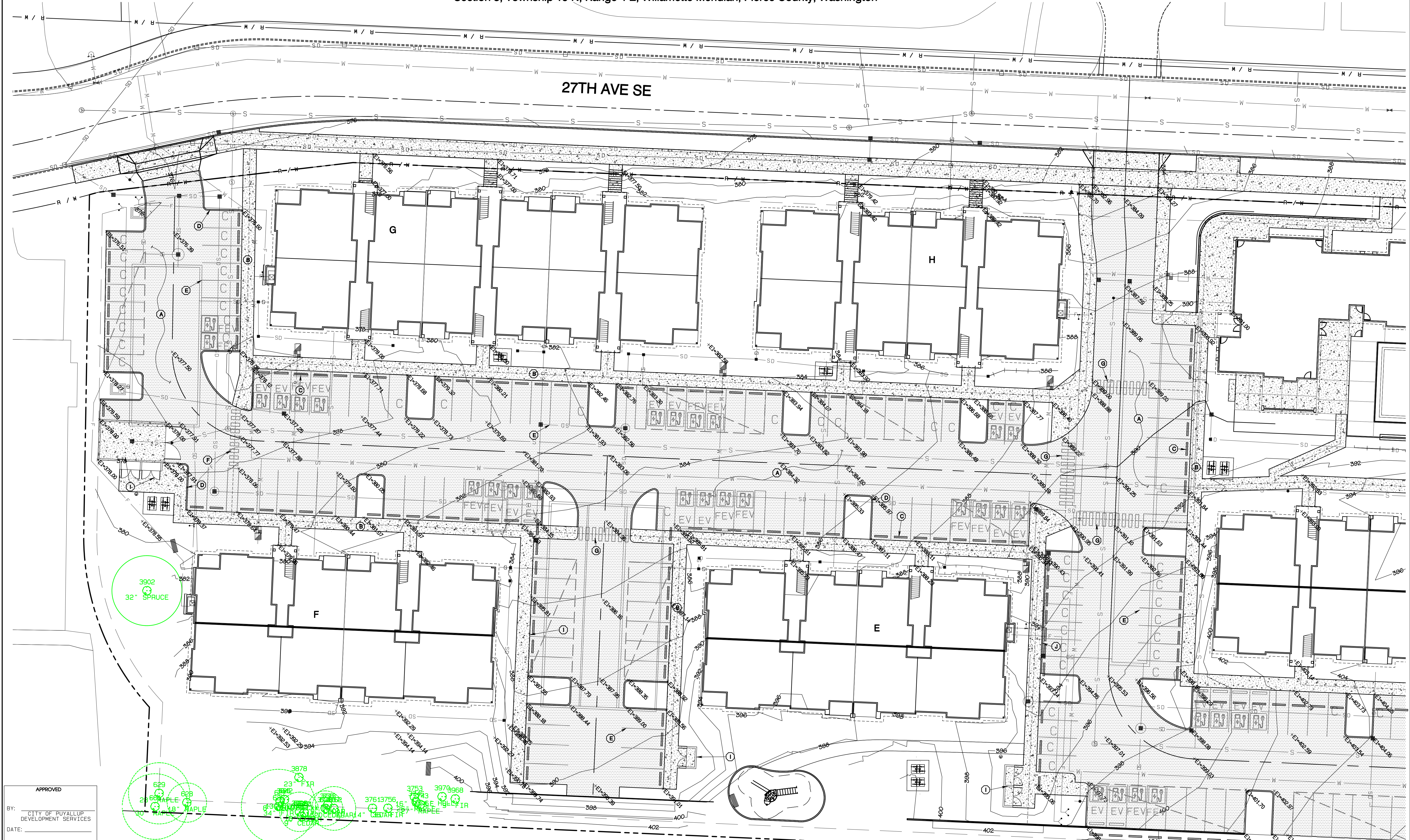
Project Date: Bradley Heights - Bradley Heights Timeline/History - 2024 - 1108 ENG.dwg Plot Date/Time: 11/26/2024 4:27:33PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

27TH AVE SE



APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE:

**NOTE:**  
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THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.  
FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

- KEY NOTES**
- (A) ASPHALT PAVING - SEE SECTION SHEET SD-17
  - (B) CONCRETE SIDEWALK - SEE SECTION SHEET SD-17
  - (C) WHEEL STOP - SEE DETAIL SHEET SD-17
  - (D) 6" EXTRUDED CURB, SEE DETAIL SHEET SD-17
  - (E) 4" WHITE PARKING STRIPE
  - (F) 4" WIDE CROSS-WALK MARKINGS
  - (G) 6" WIDE CROSSWALK MARKINGS
  - (H) 4" WHITE STRIPES, 45° 2" O.C.
  - (I) SIDEWALK W/INTEGRAL CURB, SEE DETAIL SHEET SD-17
  - (J) CEMENT CONCRETE TRAFFIC CURB, SEE DETAIL SHEET SD-17



REVISION	DATE	DESCRIPTION
1	11/29/24	Revised per City review and No. 1 A adjustment.
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JOB NO. 2327  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Trivitt  
APPROVED BY: Rob Trivitt

**AZURE GREEN**  
CONSULTANTS

\*feasibility \*planning \*engineering \*surveying

419 East Pioneer, Suite A - Puyallup, WA 98372  
Phone: 253.770.3144, Fax: 253.770.3142

**Paving Plan**

**Bradley Heights**

Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.896.0326  
Fax jordan@timberlanepartners.com

DRAWING

**SD-3**

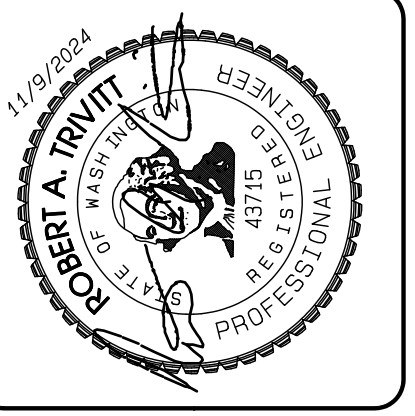
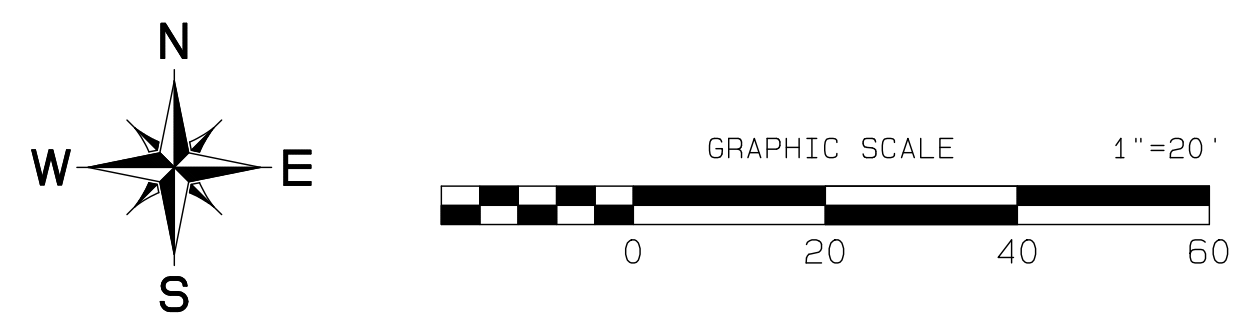
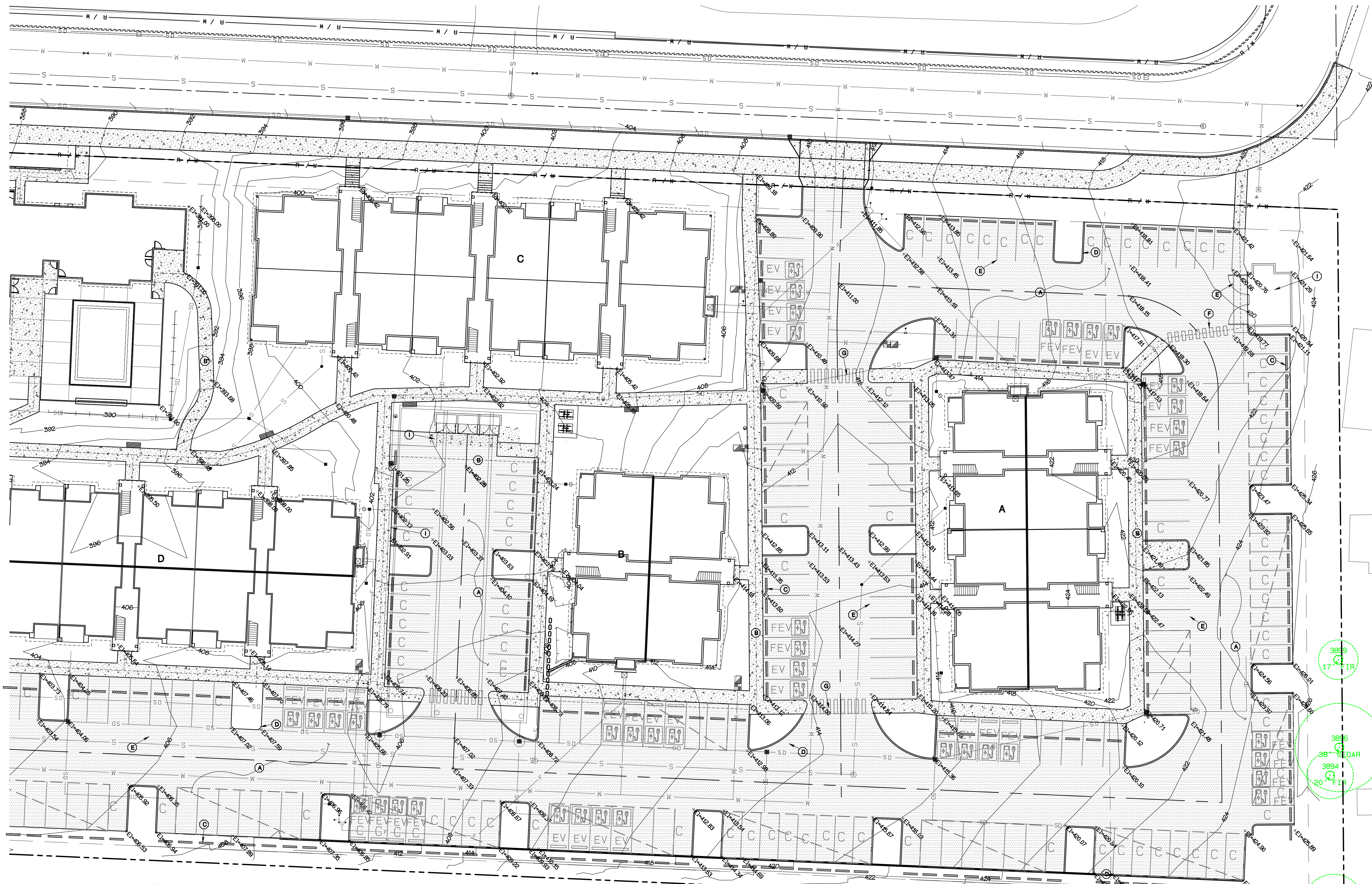
SHEET 17  
OF 47

Project Date: 11/29/24; Drawn By: Rob Trivitt; Checked By: Rob Trivitt; Approved By: Rob Trivitt; Date: 11/29/24; Scale: 1"=20'; Title: Paving Plan; Job No: 2327; City: Puyallup; State: WA; License: 4315; Engineer: Robert A. Trivitt



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



REVISION	DATE
1	11/29/24
2	Revised per City review and No. 11 A adjustment.
3	
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JOB NO. 2327  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Green  
 APPROVED BY: Rob Green

**AZURE GREEN**  
 CONSULTANTS

\*feasibility \*planning \*engineering \*surveying

419 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144, fax: 253.770.3142

**Bradley Heights**

Paving Plan

Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.886.0326  
 Fax jordan@timberlanepartners.com

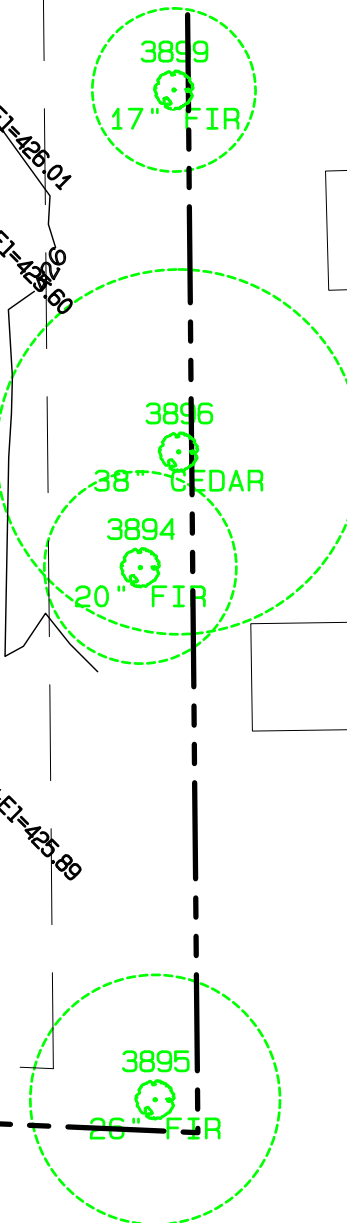
DRAWING  
**SD-4**  
 SHEET 18  
 OF 47

APPROVED

BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**  
 THIS APPROVAL IS VOID AFTER 180  
 DAYS FROM APPROVAL DATE.  
 THE CITY WILL NOT BE RESPONSIBLE  
 FOR ERRORS AND/OR OMISSIONS  
 ON THESE PLANS.  
 FIELD CONDITIONS MAY DICTATE  
 CHANGES TO THESE PLANS AS  
 DETERMINED BY THE ENGINEERING  
 SERVICES MANAGER.



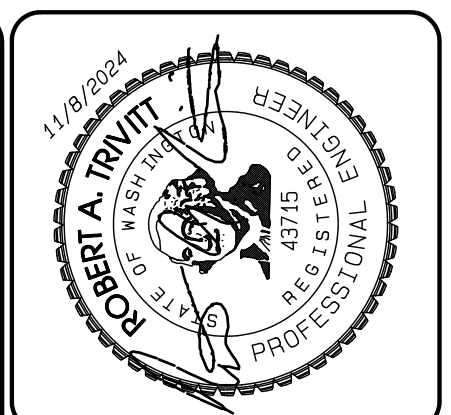
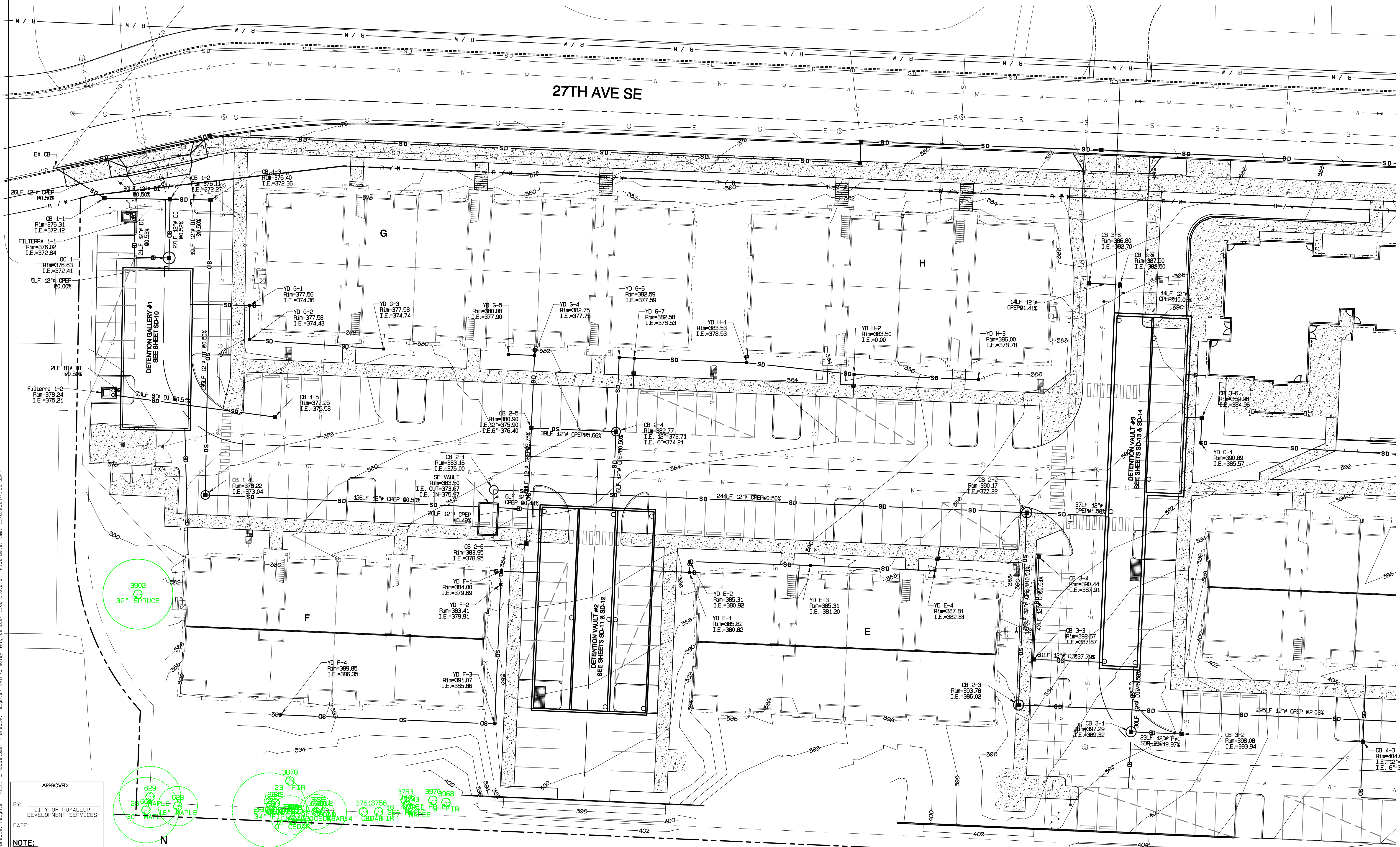
Project Desc: Bradley Heights Date: C:\Users\3227 - Bradley Heights\Time\Bradley Heights 2024 1108 ENG.dwg PLOT Date/Time: 11/29/2024 9:25:52AM



# Bradley Heights

## Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

27TH AVE SE



REVISION	DATE	DESCRIPTION
1	11/02/24	Revised per City review and Mail A adjustment.
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JOB NO. 3327  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Trivitt  
 APPROVED BY: Rob Trivitt

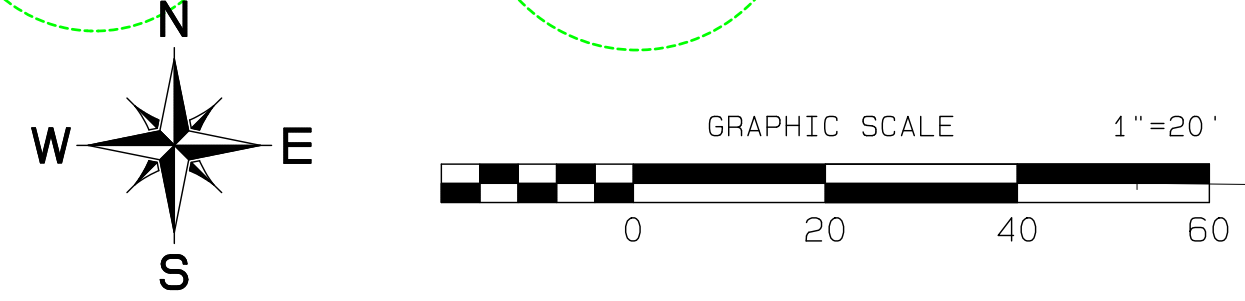
**AZURE GREEN**  
CONSULTANTS

feasibility • planning • engineering • surveying  
 419 East Pioneer, Suite A • Puyallup, WA 98372 • phone: 253.770.3144 • fax: 253.770.3142

**Storm Plan**

**Bradley Heights**  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.896.0326  
 Fax jordan@timberlanepartners.com

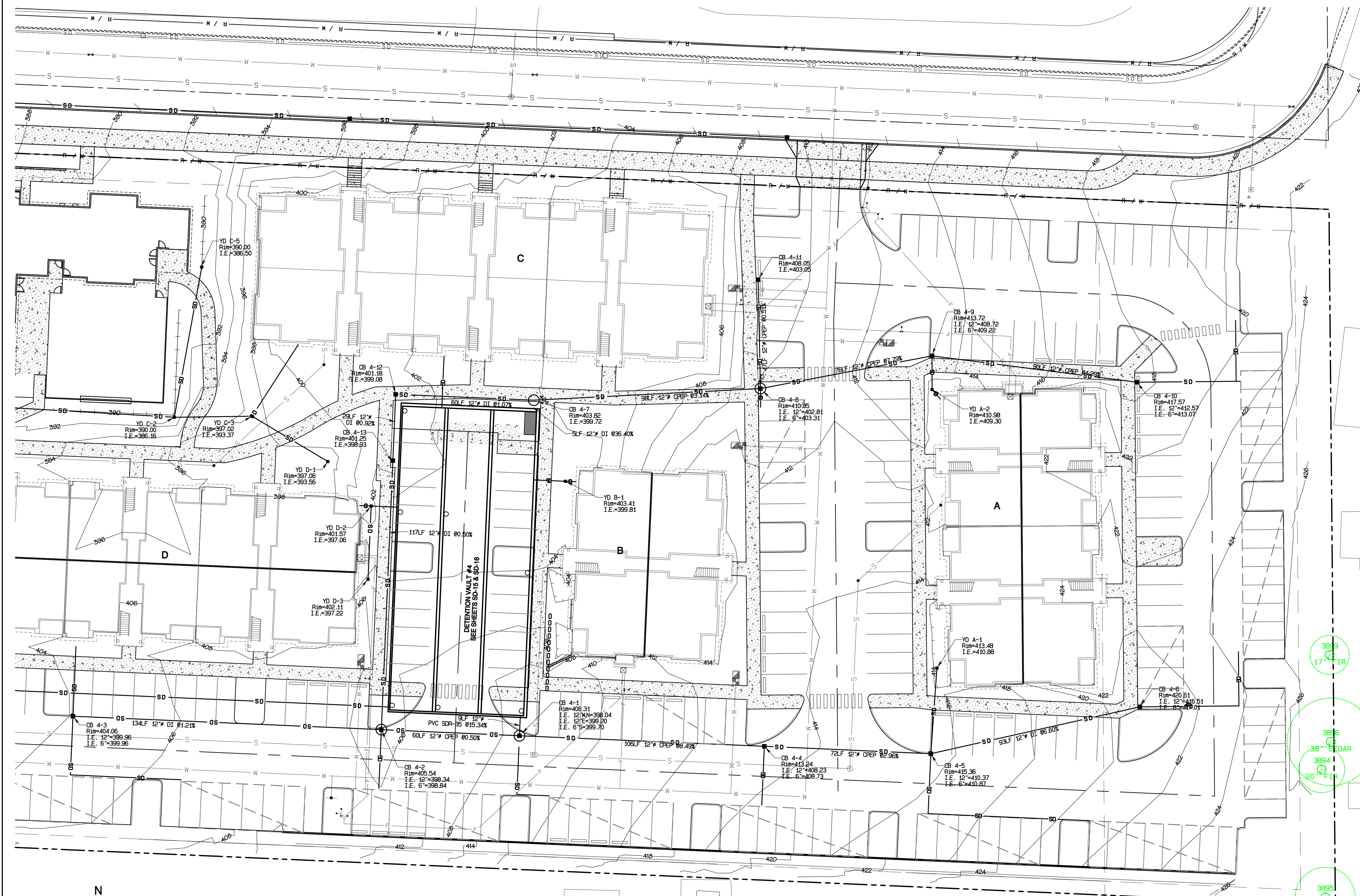
**APPROVED**  
 BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
**NOTE:**  
 THIS APPROVAL IS VOID AFTER 180  
 DAYS FROM APPROVAL DATE.  
 THE CITY WILL NOT BE RESPONSIBLE  
 FOR ERRORS AND/OR OMISSIONS  
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 SERVICES MANAGER.





# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



Project Desc: Bradley Heights; Date: C:\Users\3227 - Bradley Heights\Time\Bradley Heights 2024-1108 ENG.dwg; Plot Date/Time: 11/02/2024/4:31:57PM

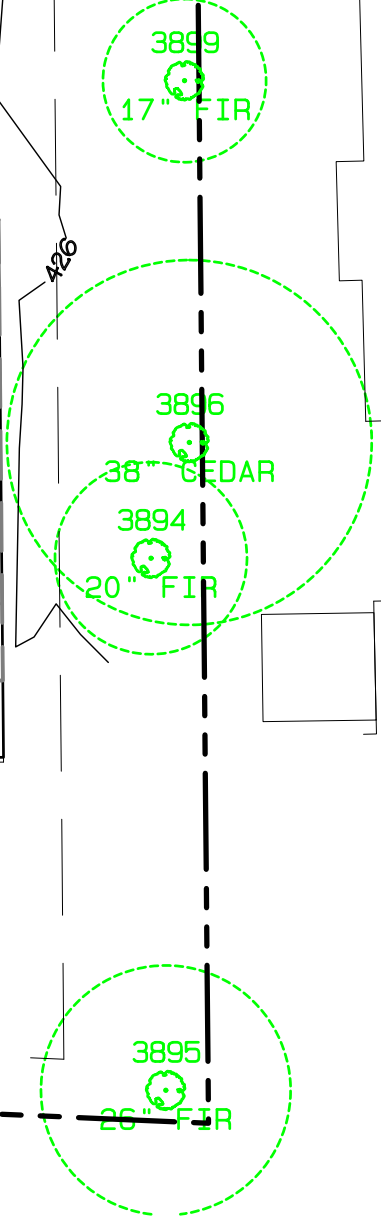


REVISION	DATE
1	11/02/24
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1 Revised per City review and Mail A adjustment.

JOB NO: 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Paul Green  
 APPROVED BY: Paul Green

**AZURE GREEN**  
 CONSULTANTS  
 \*feasibility \*planning \*engineering \*surveying  
 409 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144, fax: 253.770.3142



APPROVED  
 BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
 NOTE:  
 THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.  
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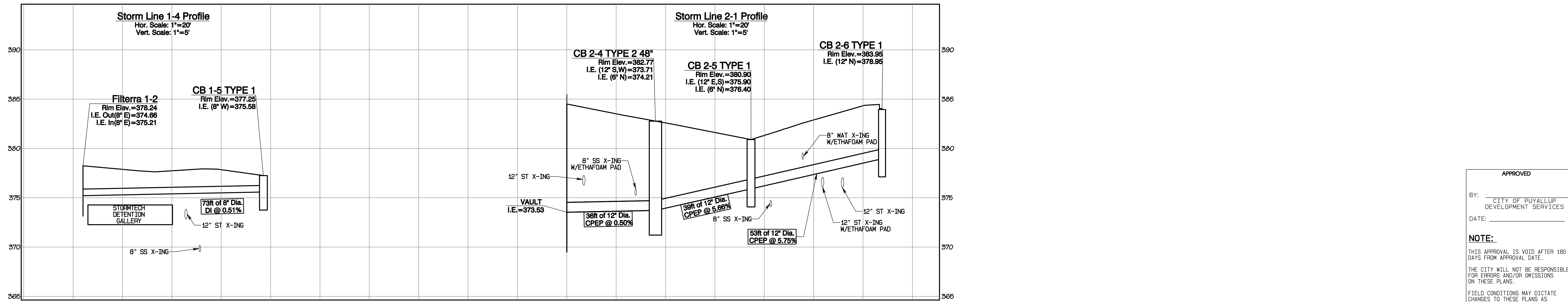
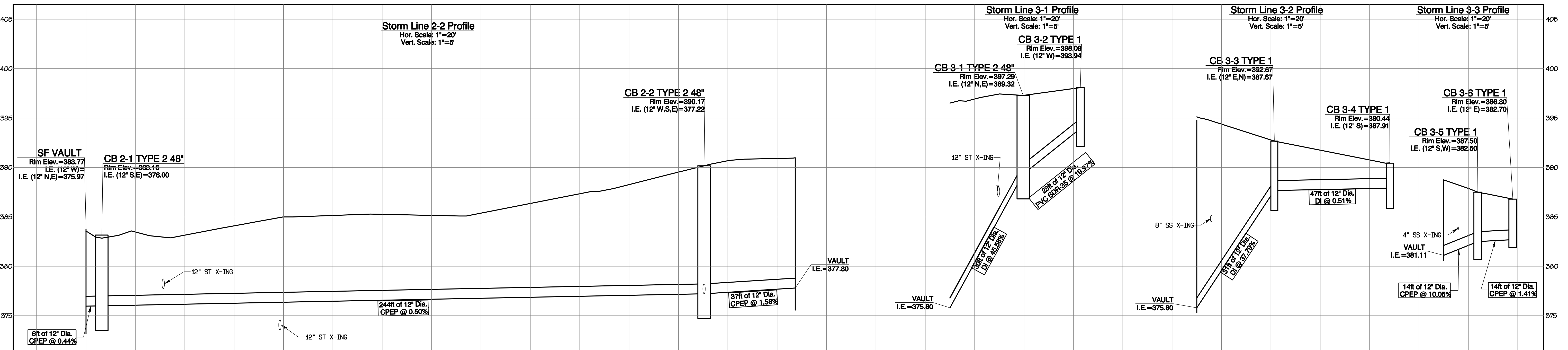
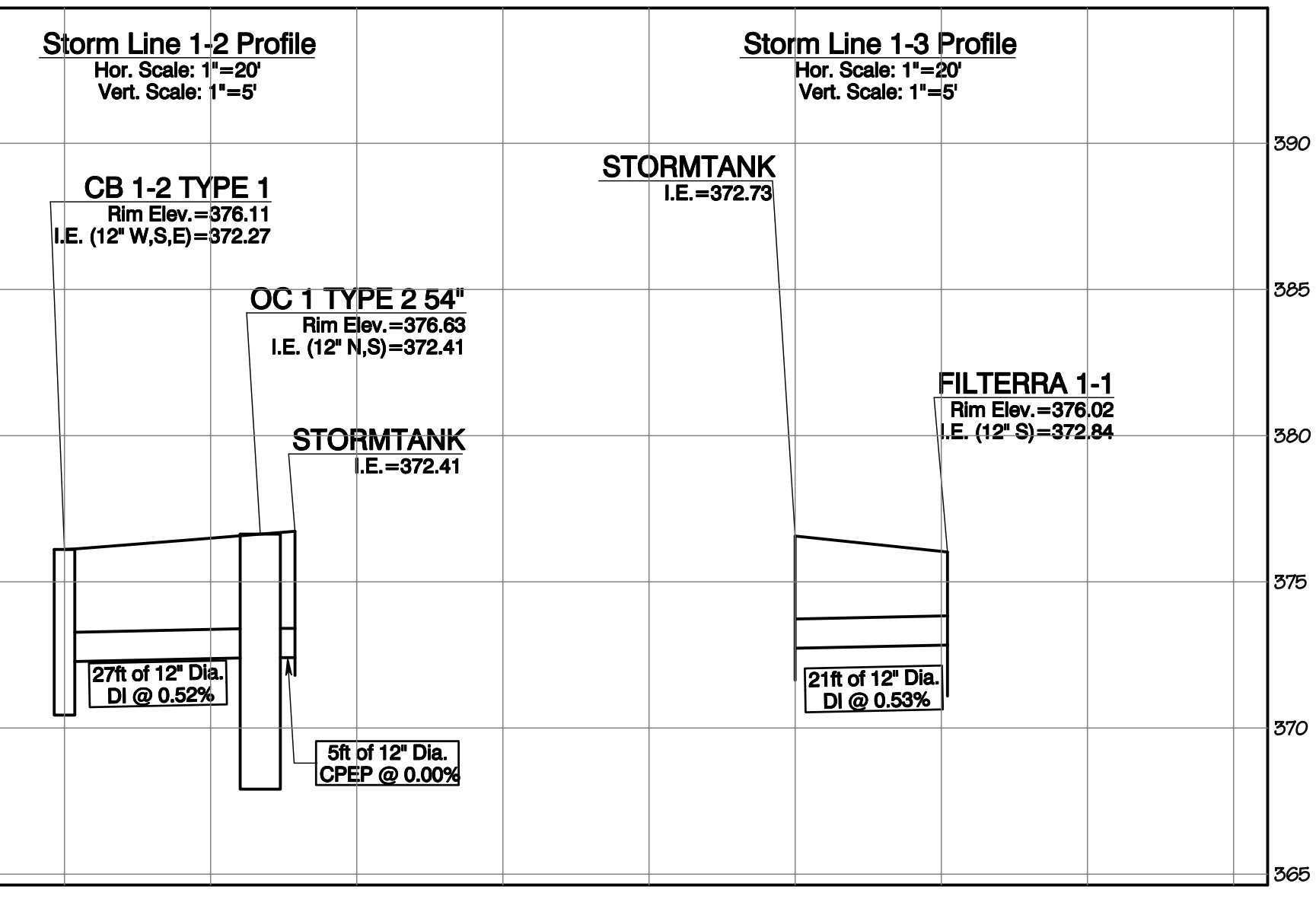
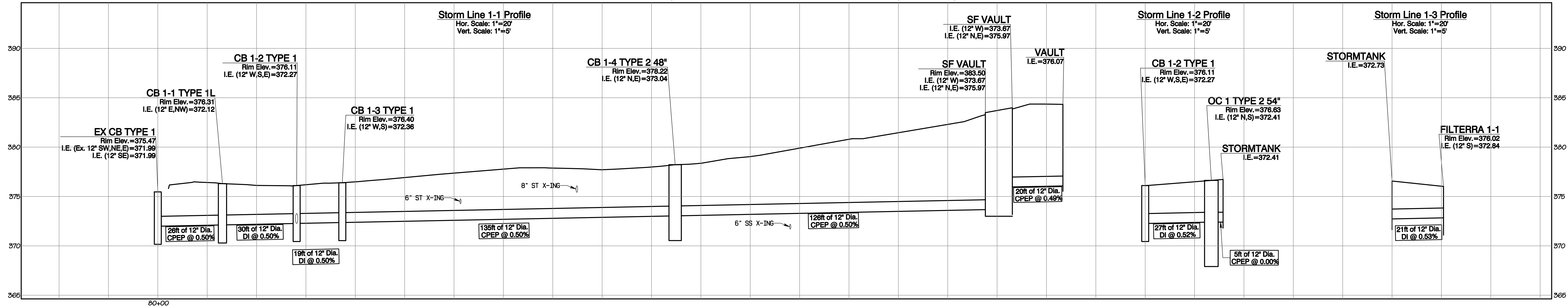
**Storm Plan**  
 Bradley Heights  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 206.886.0326  
 Fax jordan@timberlanepartners.com

**DRAWING**  
**SD-6**  
 SHEET 20  
 OF 47



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



REVISION	DATE	DESCRIPTION
1	11/15/24	Revised per City review and M&J A adjustment.
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JOB NO. 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Trivitt  
 APPROVED BY: Rob Trivitt

**AZURE GREEN CONSULTANTS**  
 \*feasibility \*planning \*engineering \*surveying  
 409 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144 fax: 253.770.3142

**Storm Profiles**  
 Bradley Heights  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.886.0326  
 Fax jordan@timberlanepartners.com

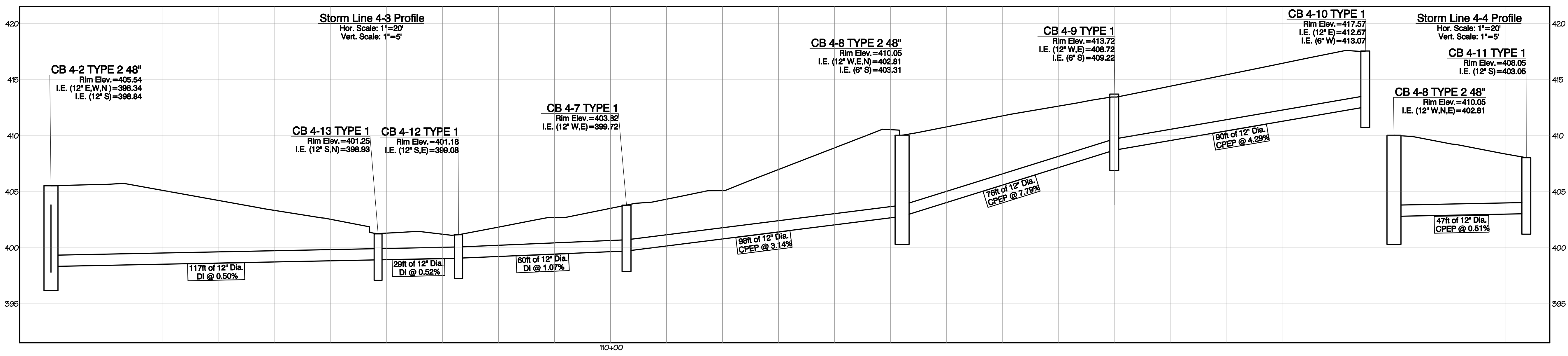
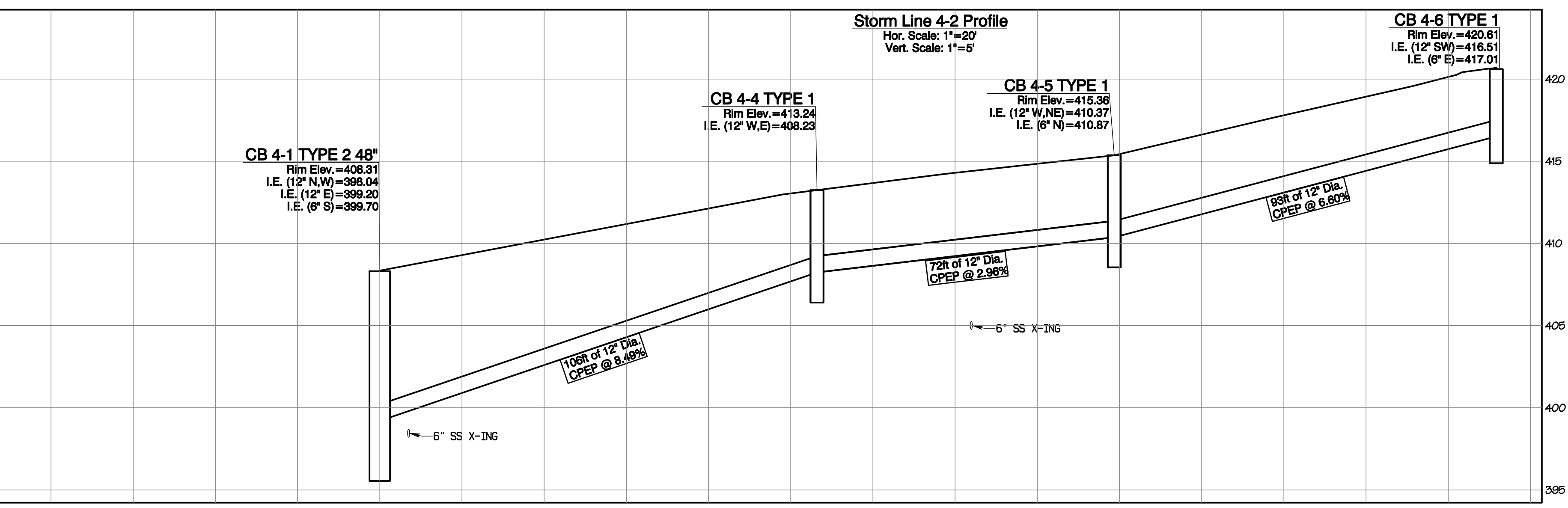
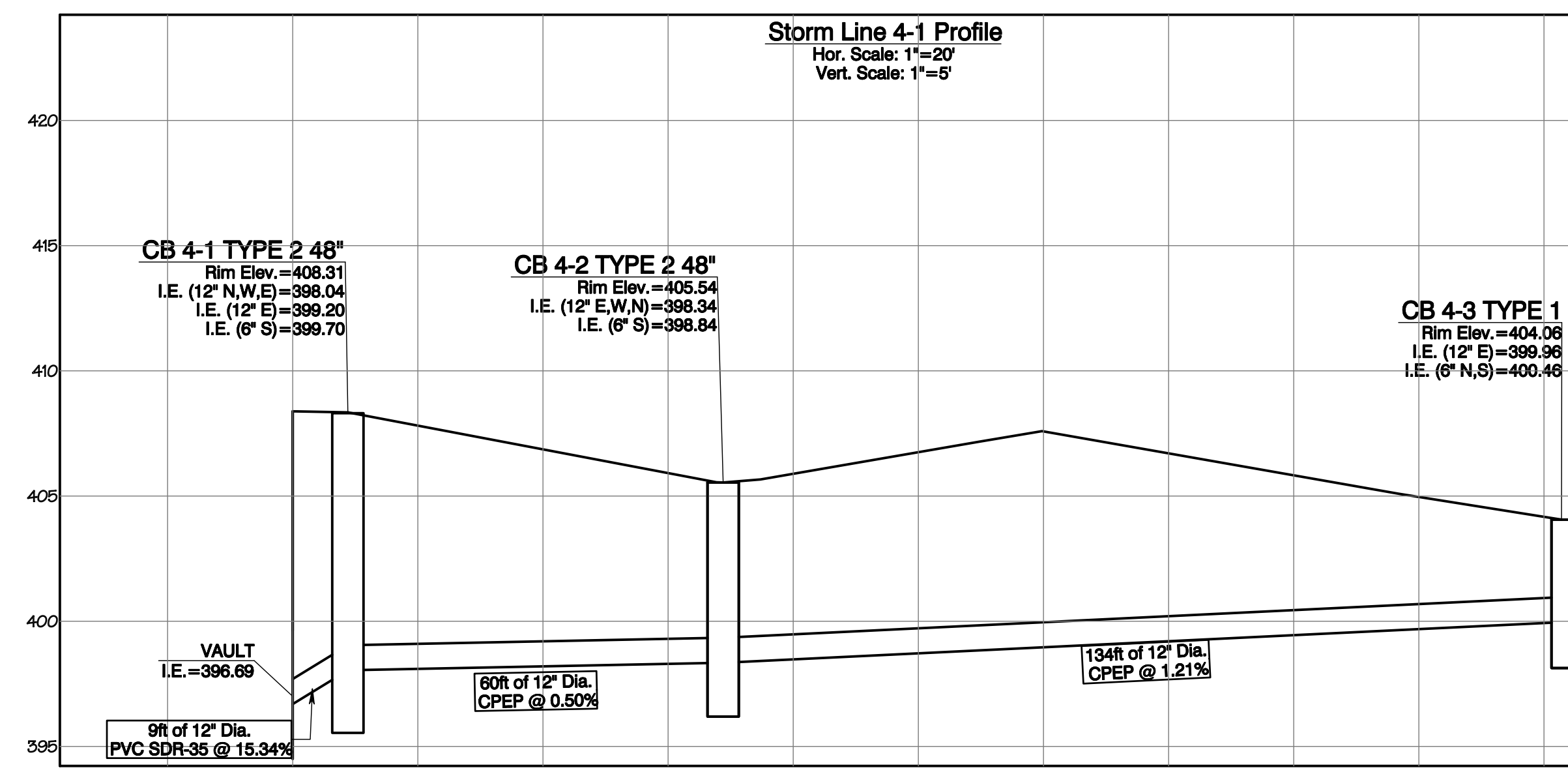
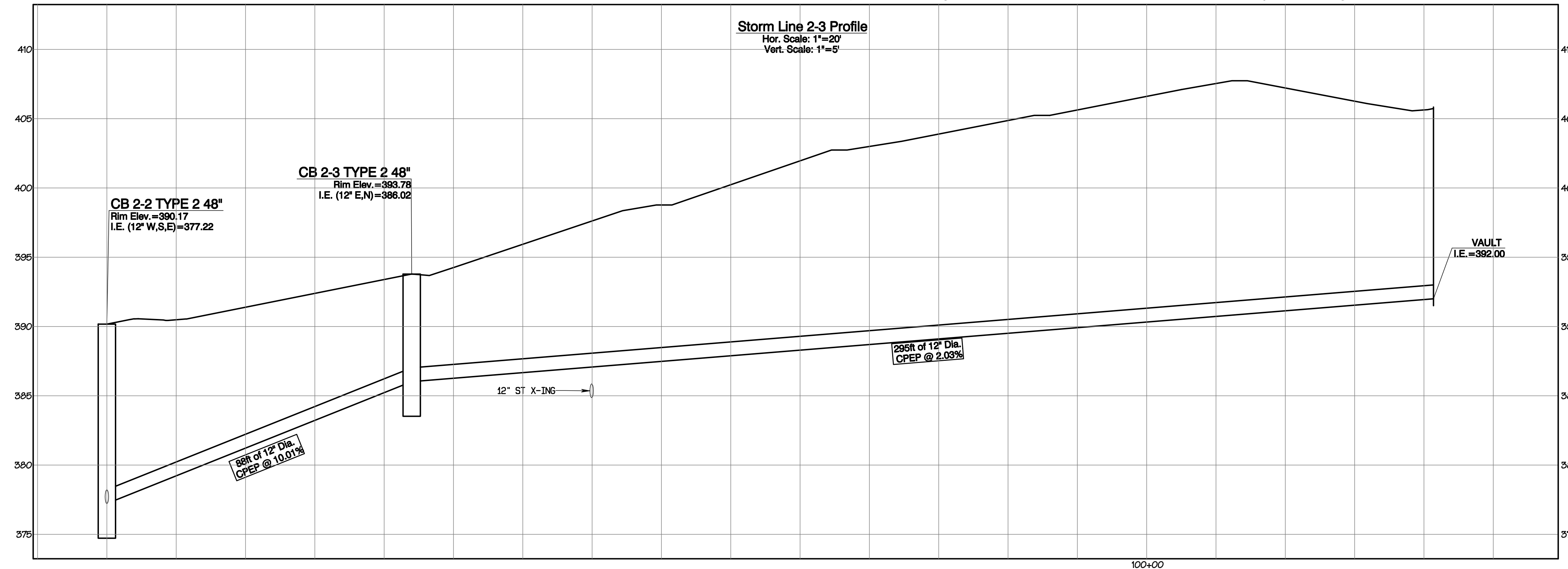
APPROVED  
 BY: CITY OF PUYALLUP DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
 NOTE:  
 THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.  
 THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.  
 FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

Project Date: Bradley Heights Date: C:\Users\3227 - Bradley Heights\Time\Bradley Heights 2024 1108 ENG.dwg Plot Date/Time: 11/15/2024 4:37:49PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

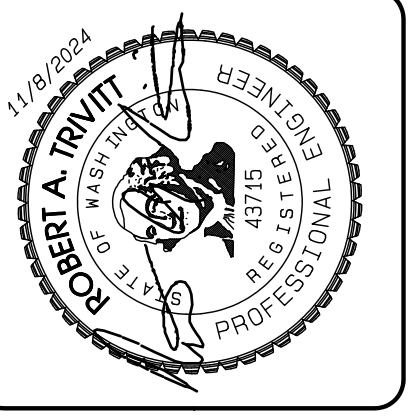


APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

NOTE:  
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FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.



REVISION	DATE
1 Revised per City review and Mail A adjustment.	11/29/24
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JOB NO. 3327  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Paul Green  
APPROVED BY: Paul Green

**AZURE GREEN CONSULTANTS**  
+feasibility +planning +engineering +surveying  
409 East Pioneer, Suite A - Puyallup, WA 98372  
Phone: 253.770.3144, Fax: 253.770.3142

**Storm Profiles**  
Bradley Heights  
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 206.896.0326  
Fax jordan@timberlanepartners.com

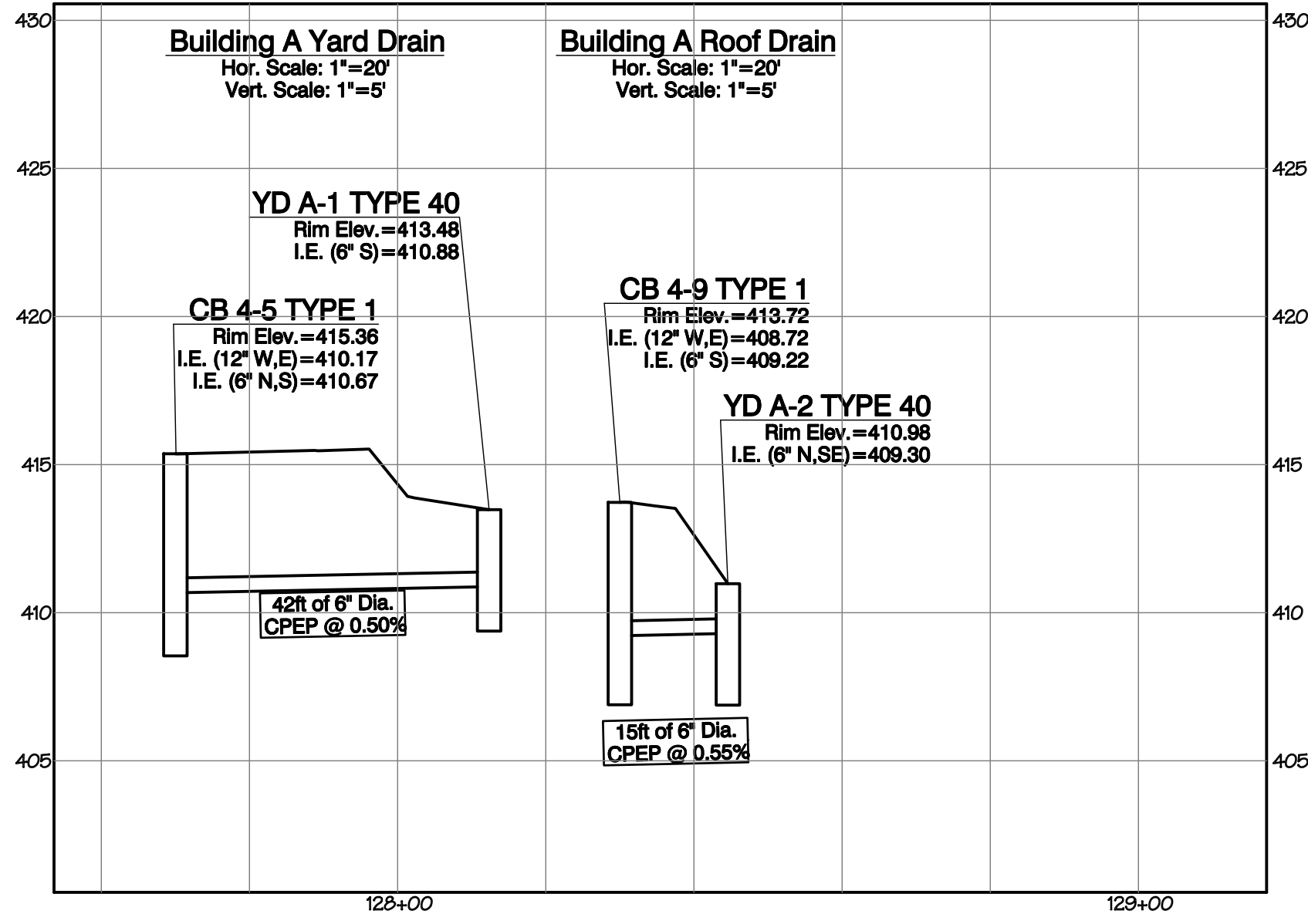
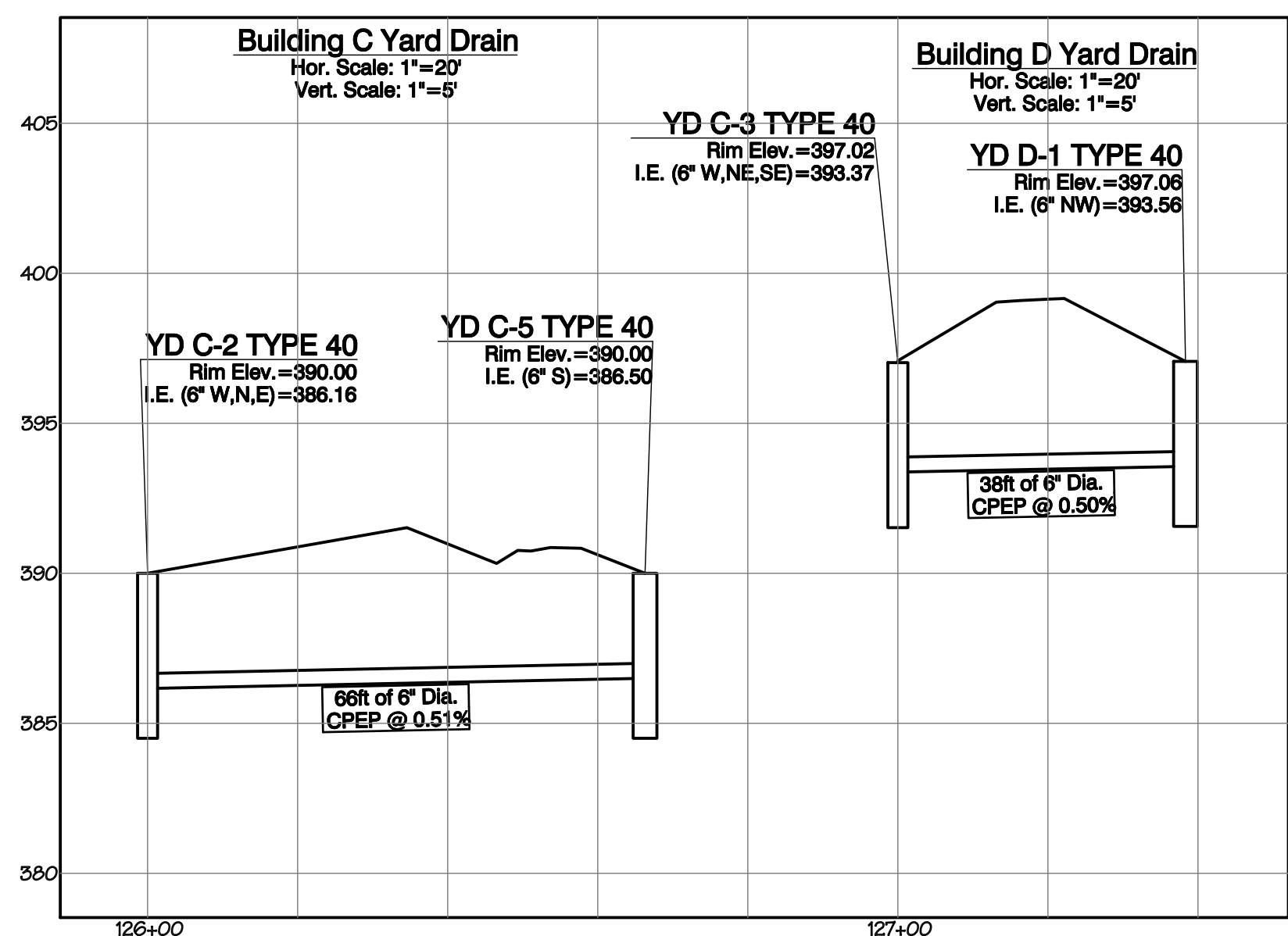
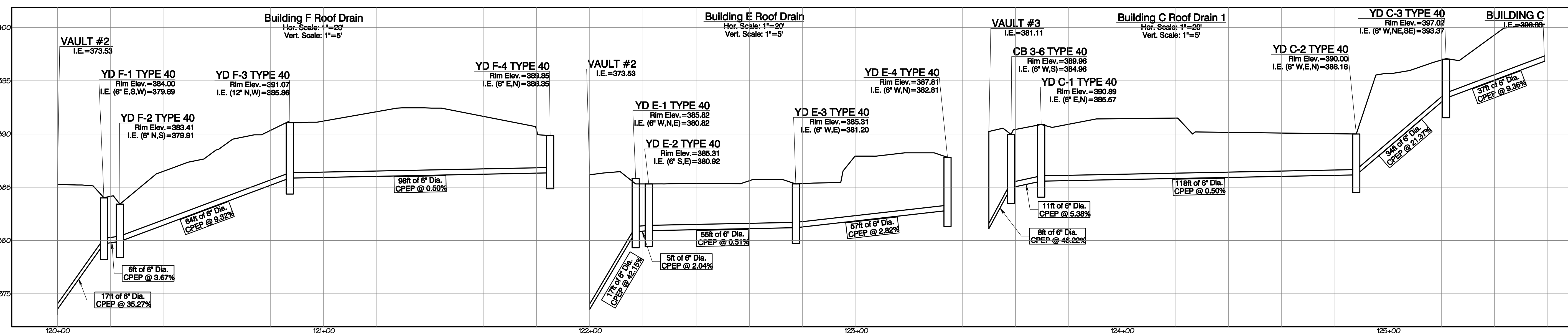
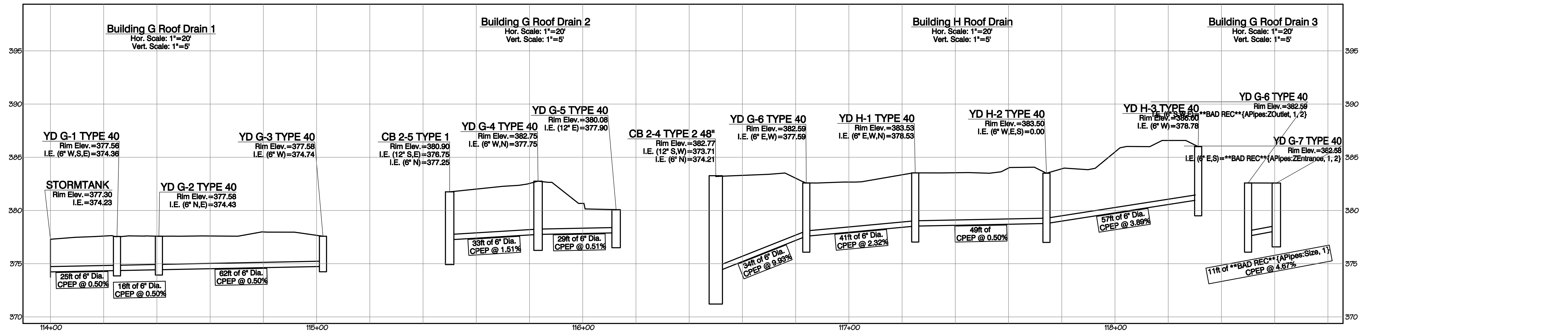
**DRAWING**  
**SD-8**  
SHEET 22  
OF 47

Project Date: Bradley Heights - Bradley Heights Timeline/Drawings - 11/29/2024 10:08 AM P:\108 ENG\108 - Bradley Heights Timeline/Drawings - 11/29/2024 10:08 AM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



REVISION	DATE	DESCRIPTION
1	11/09/24	Revised per City review and M&J A adjustment.
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JOB NO. 3327  
DATE: May 14, 2024  
DESIGNED BY: RJD, TRV  
DRAWN BY: RJD, TRV  
CHECKED BY: RJD, TRV  
APPROVED BY: RJD, TRV

**AZURE GREEN CONSULTANTS**  
+ feasibility + planning + engineering + surveying  
409 East Pioneer, Suite A - Puyallup, WA 98372  
phone: 253.770.3144 fax: 253.770.3142

**Roof/Yard Drain Profiles**  
Bradley Heights  
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.896.0326  
Fax jordan@timberlanepartners.com

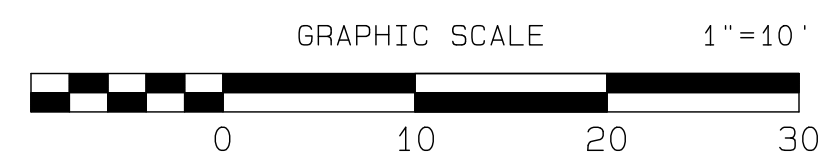
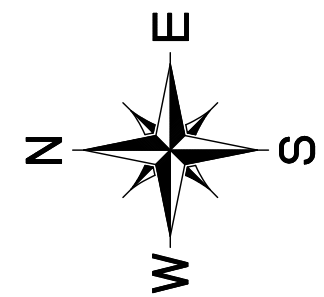
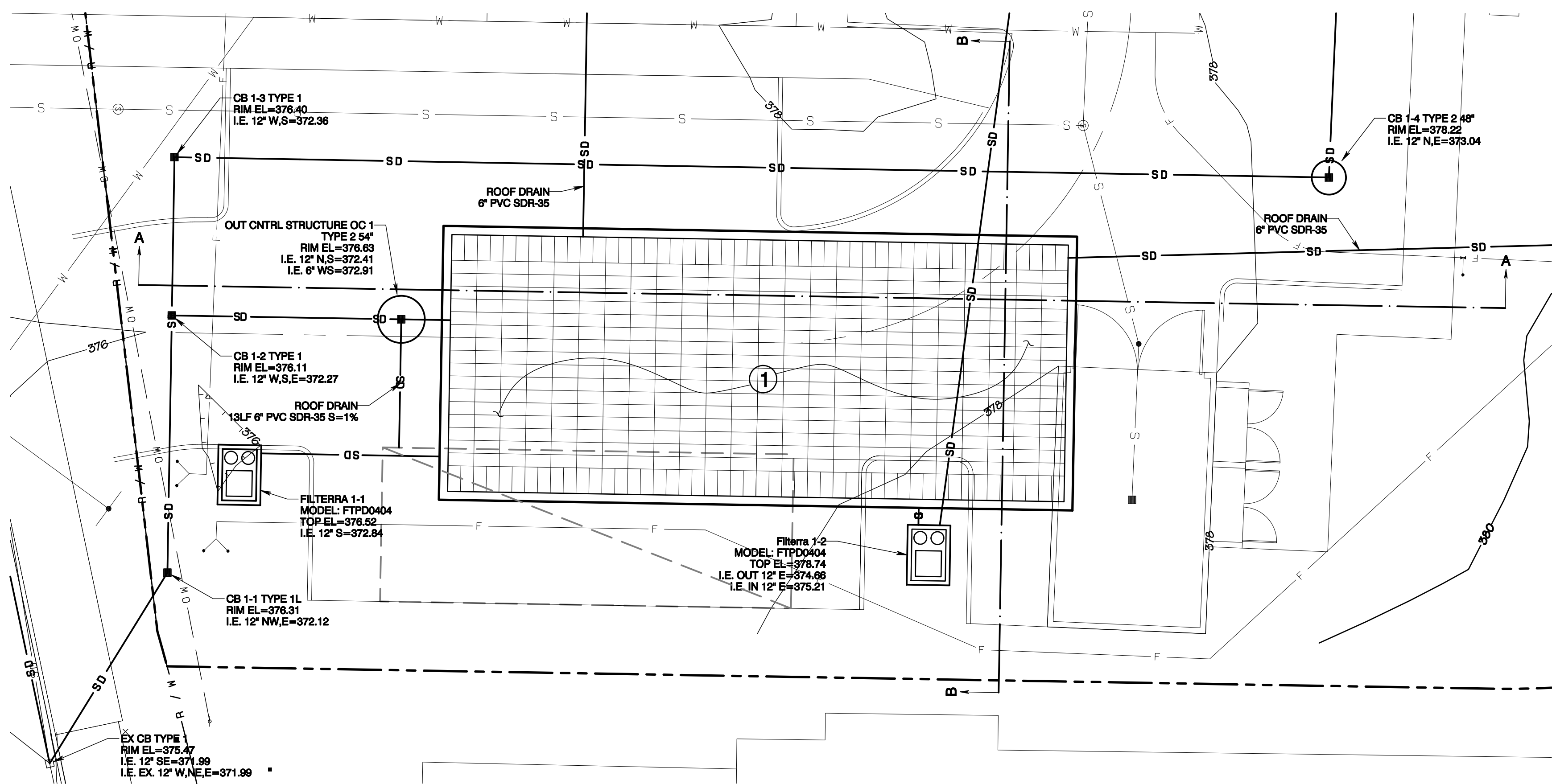
APPROVED  
BY: CITY OF PUYALLUP DEVELOPMENT SERVICES  
DATE: \_\_\_\_\_  
NOTE:  
THIS APPROVAL IS VOID AFTER 90 DAYS FROM APPROVAL DATE.  
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.  
FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

Project Desc: Bradley Heights Date: C:\users\3227 - Bradley Heights\Drawings\Bradley Heights 2024 1108 ENG.dwg Plot Date/Time: 11/09/2024 14:40:47PM



# Bradley Heights

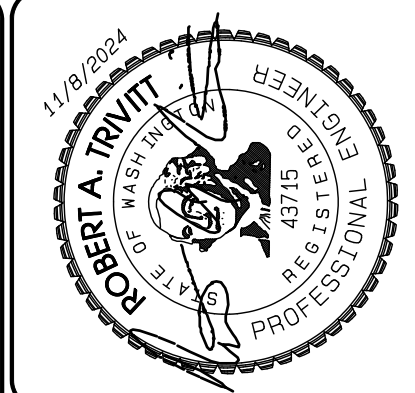
## Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



### CONSTRUCTION KEY NOTES

- ① STORMTANK UNDERGROUND GALLERY  
TOTAL BED=32' W X 74' L  
SEE DETAILS SHEETS SD-20 - SD-22

Project Desc.: Bradley Heights; Plan#: C:\Users\3227 - Bradley Heights\Projects\Bradley Heights 2024 - 1108 ENG.dwg; PLOT Date/Time: 11/09/2024 4:43:44PM



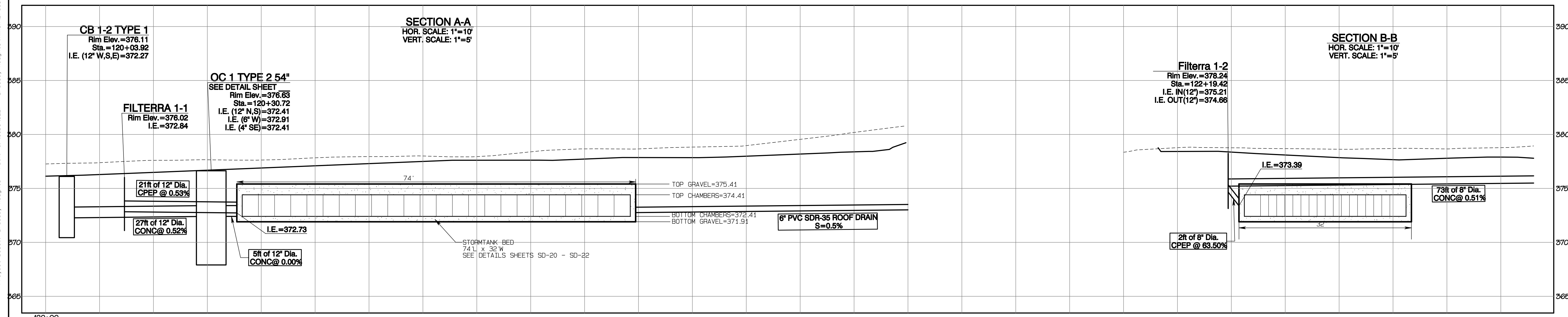
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JOB NO. 3227  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Paul Green  
APPROVED BY: Paul Green

**AZURE GREEN**  
CONSULTANTS

\*feasibility \*planning \*engineering \*surveying

409 East Pioneer, Suite A - Puyallup, WA 98372  
phone: 253.770.3144 fax: 253.770.3142



APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

NOTE:  
THIS APPROVAL IS VOID AFTER 90 DAYS FROM APPROVAL DATE.  
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.  
FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

**Detention Gallery #1 Plan**

**Bradley Heights**

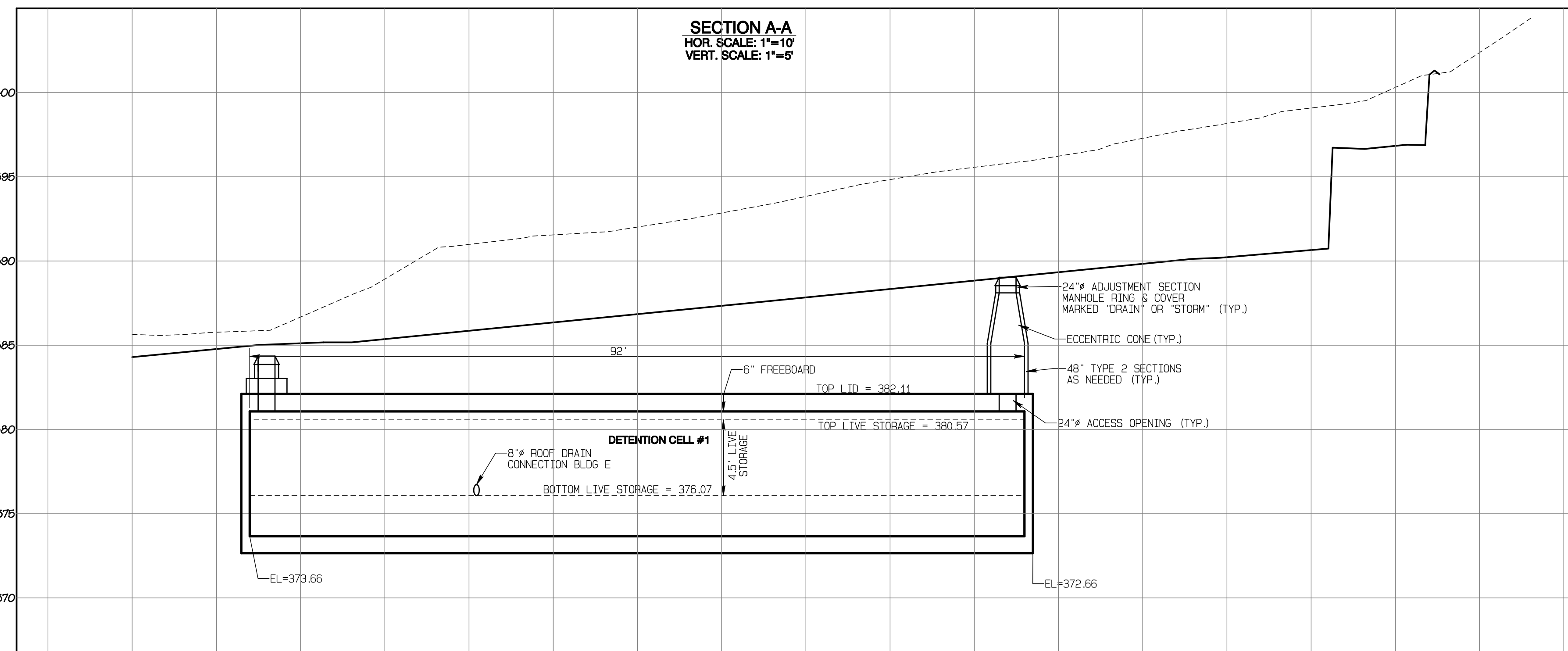
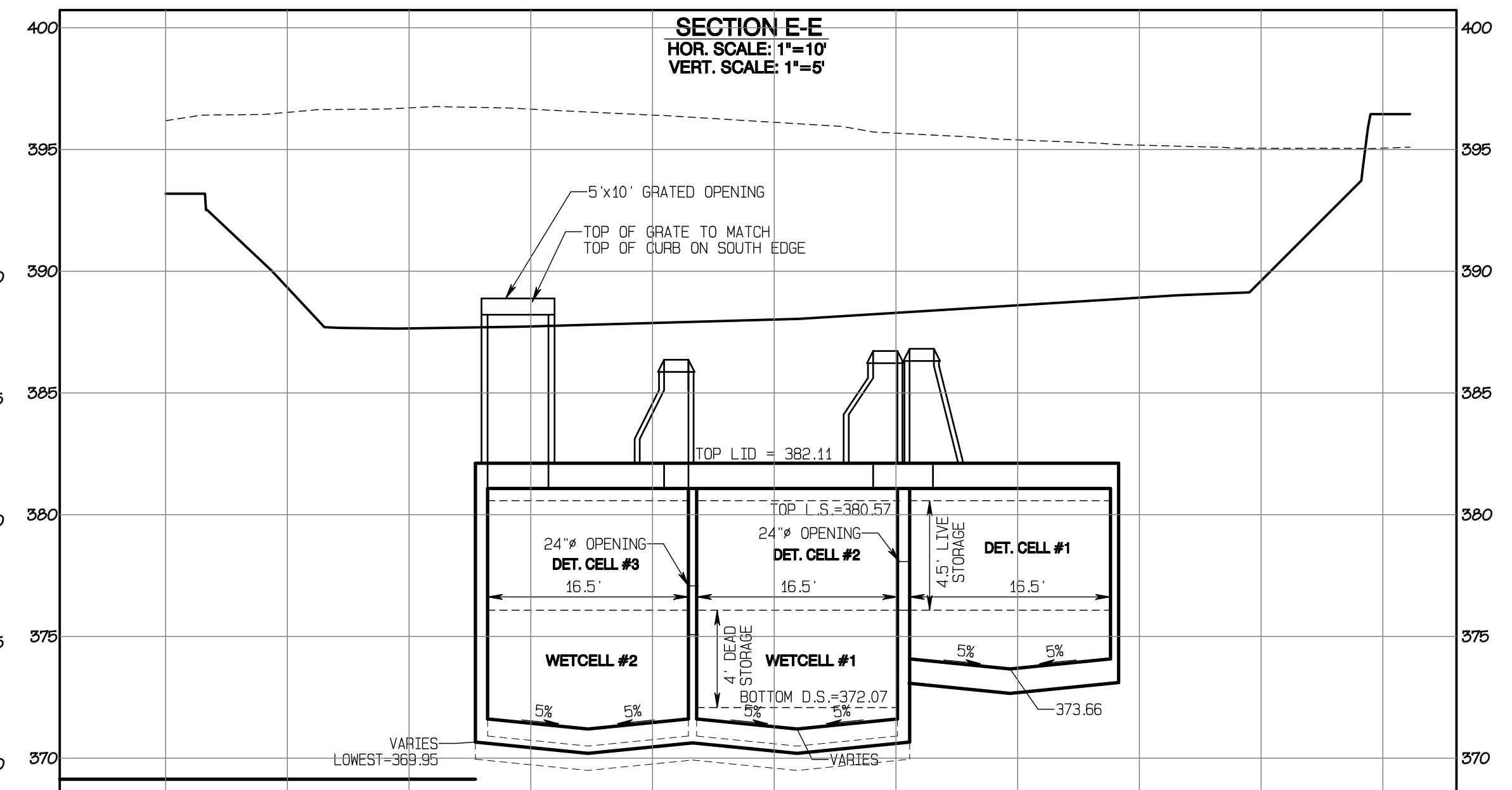
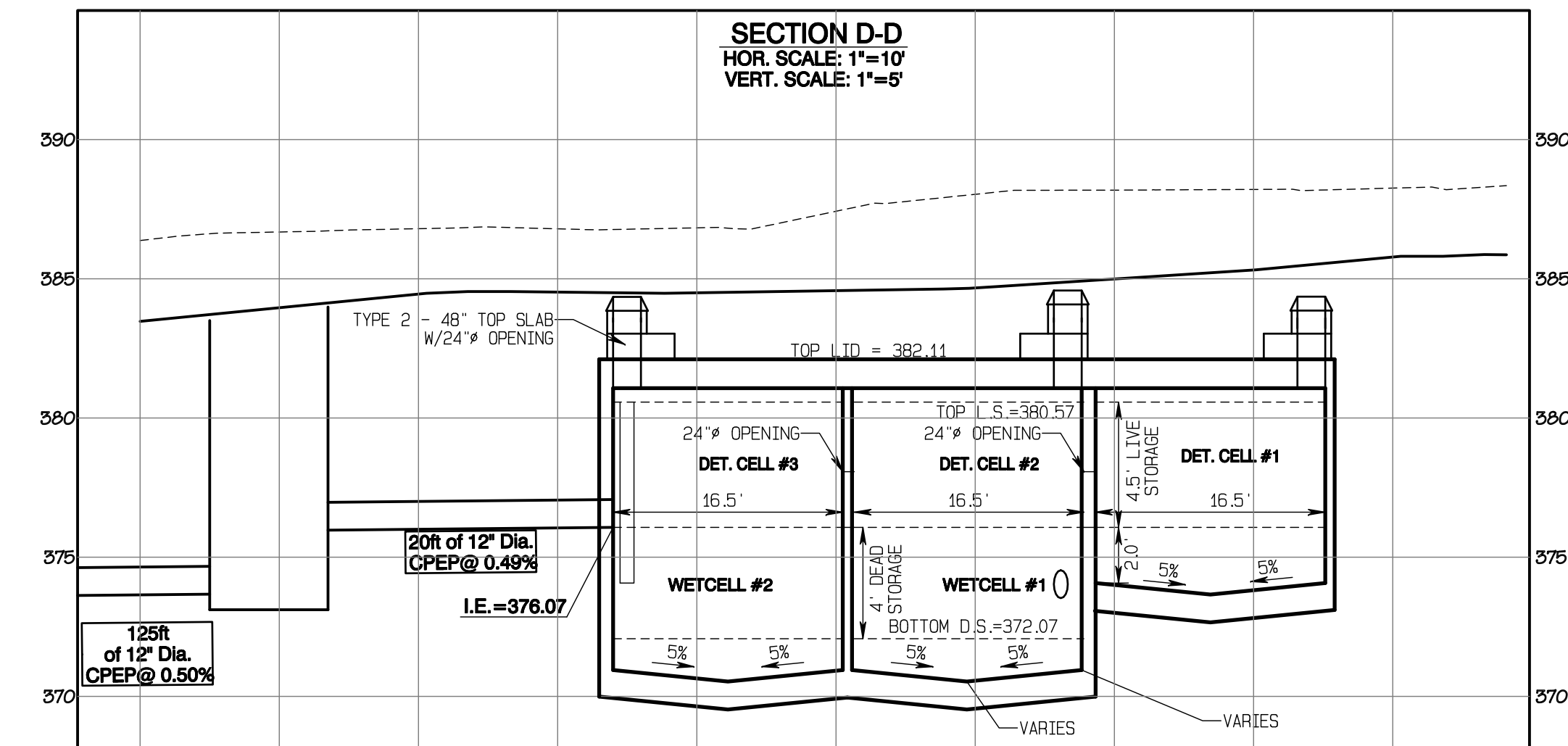
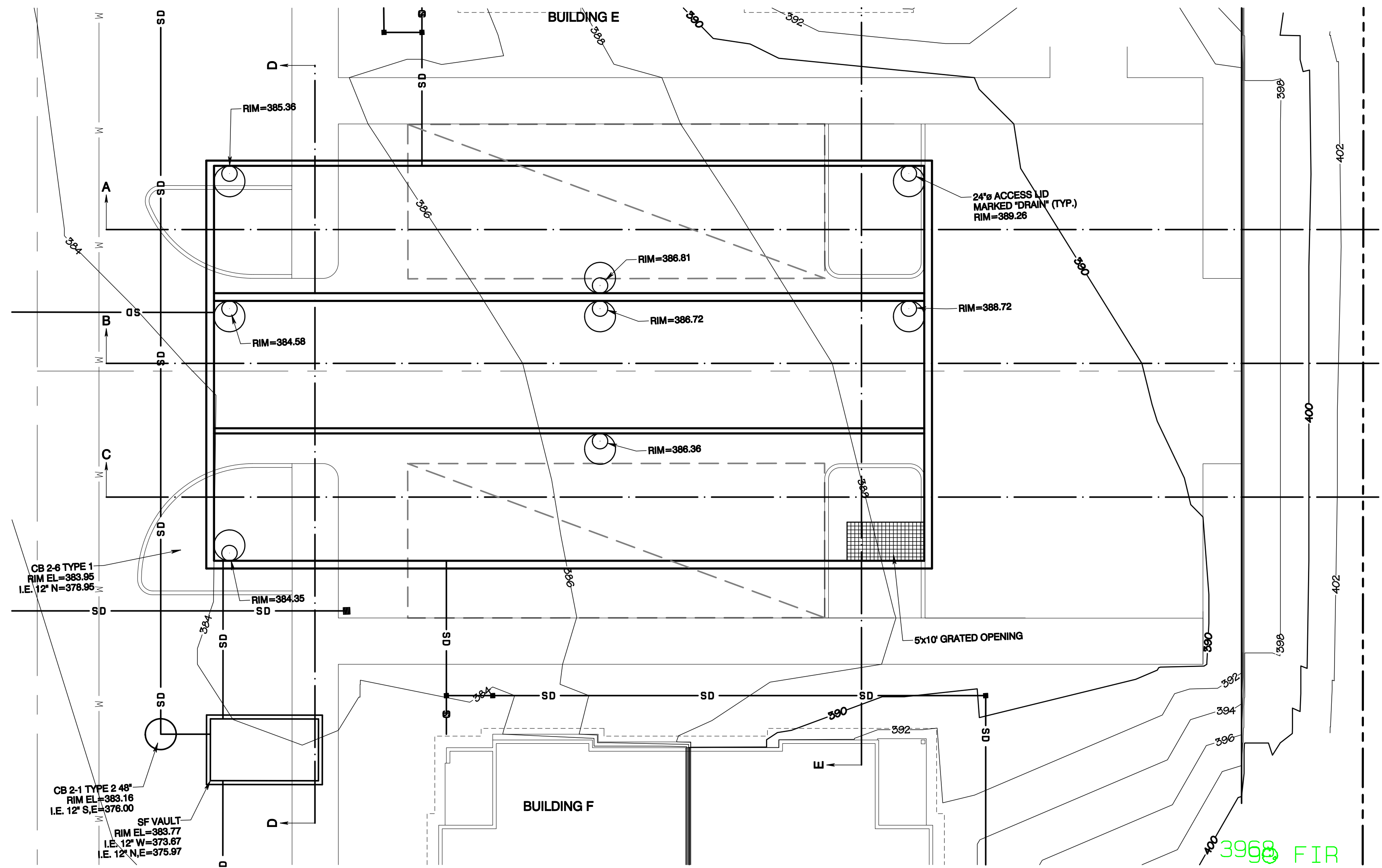
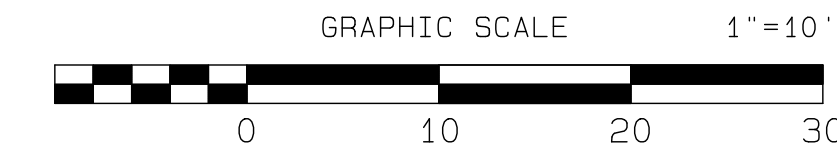
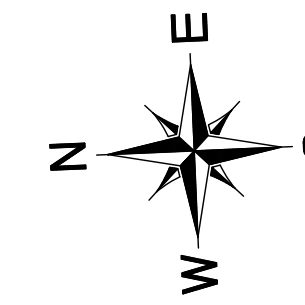
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.886.0326  
Fax jordan@timberlanepartners.com

DRAWING  
**SD-10**  
SHEET 24  
OF 47

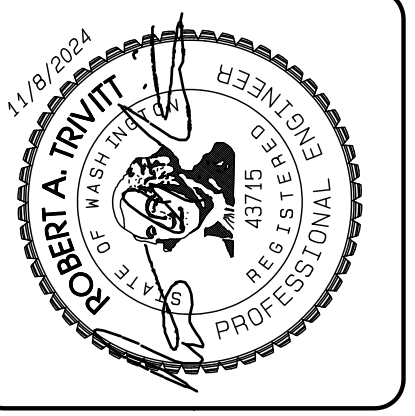


# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



APPROVED  
 BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
 NOTE:  
 THIS APPROVAL IS VOID AFTER 180  
 DAYS FROM APPROVAL DATE.  
 THE CITY WILL NOT BE RESPONSIBLE  
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 ON THESE PLANS.  
 FIELD CONDITIONS MAY DICTATE  
 CHANGES TO THESE PLANS AS  
 DETERMINED BY THE ENGINEERING  
 SERVICES MANAGER.



REVISION	DATE
1 Revised per City review and M&J A adjustment.	11/02/24
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JOB NO. 2327  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Paul Green  
 APPROVED BY: Paul Green

**AZURE GREEN**  
 CONSULTANTS  
 + feasibility + planning + engineering + surveying  
 409 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144 fax: 253.770.3142

**Vault #2 Plan**  
 Bradley Heights  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.886.0326  
 Fax jordan@timberlanepartners.com

Project Desc.: Bradley Heights; Path: C:\Users\3227 - Bradley Heights\Time\Bradley Heights 2024-1108 ENG.dwg; Plot Date/Time: 11/02/2024 4:44:20PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



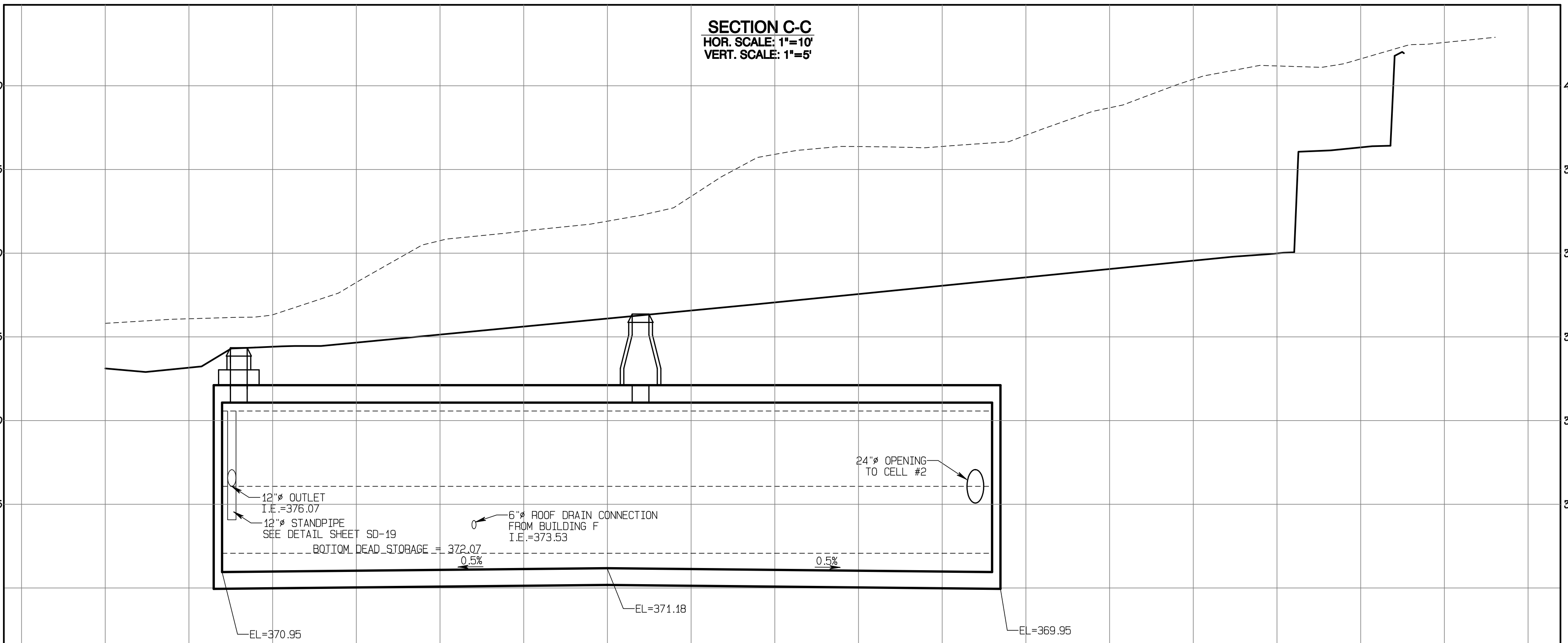
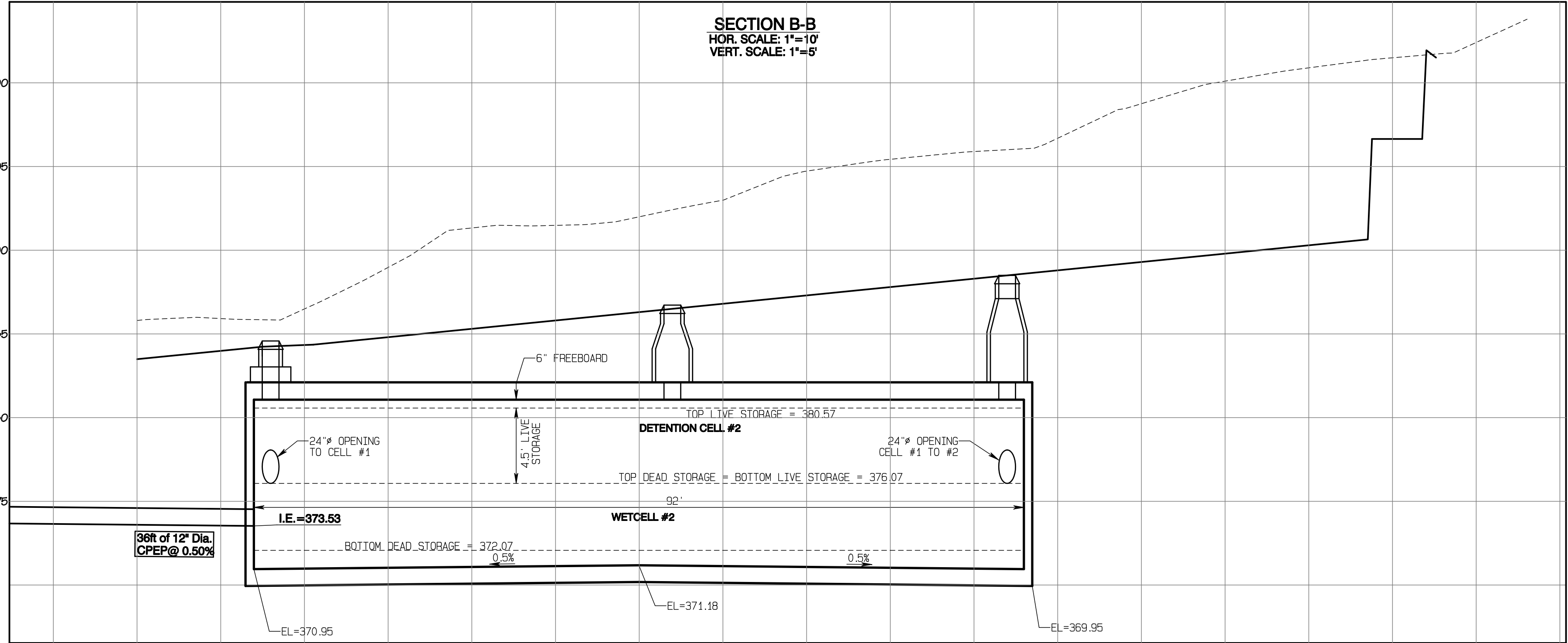
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1 Revised per City review and Matt A adjustment.	11/09/24
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JOB NO. 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Paul Green  
 APPROVED BY: Paul Green

**AZURE GREEN**  
 CONSULTANTS

\*feasibility \*planning \*engineering \*surveying

409 East Pioneer, Suite A - Puyallup, WA 98372 Phone: 253.770.3144 Fax: 253.770.3142



**APPROVED**

BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**  
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 FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

**Vault #2 Cross-Sections**

**Bradley Heights**

Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.899.0326  
 Fax jordan@timberlanepartners.com

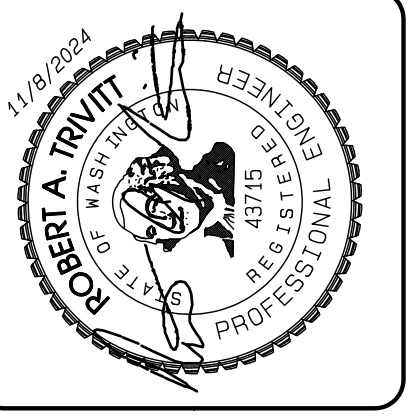
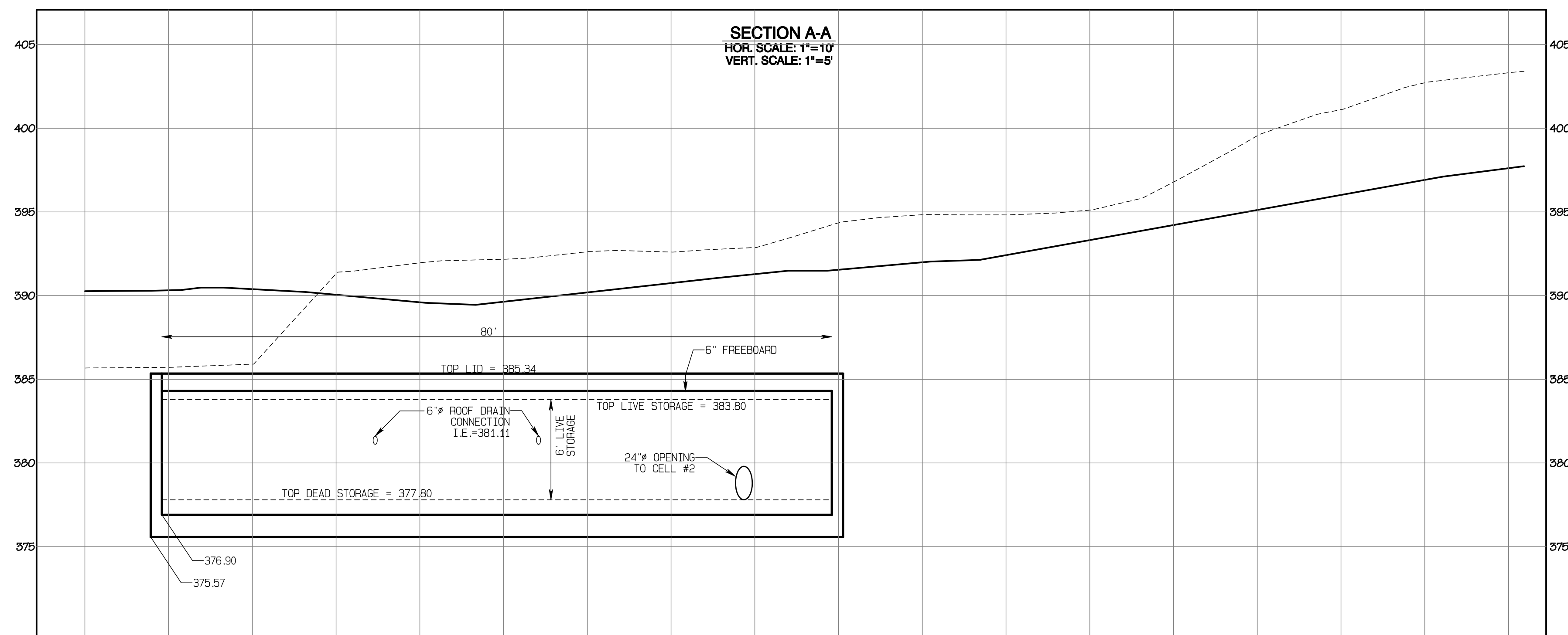
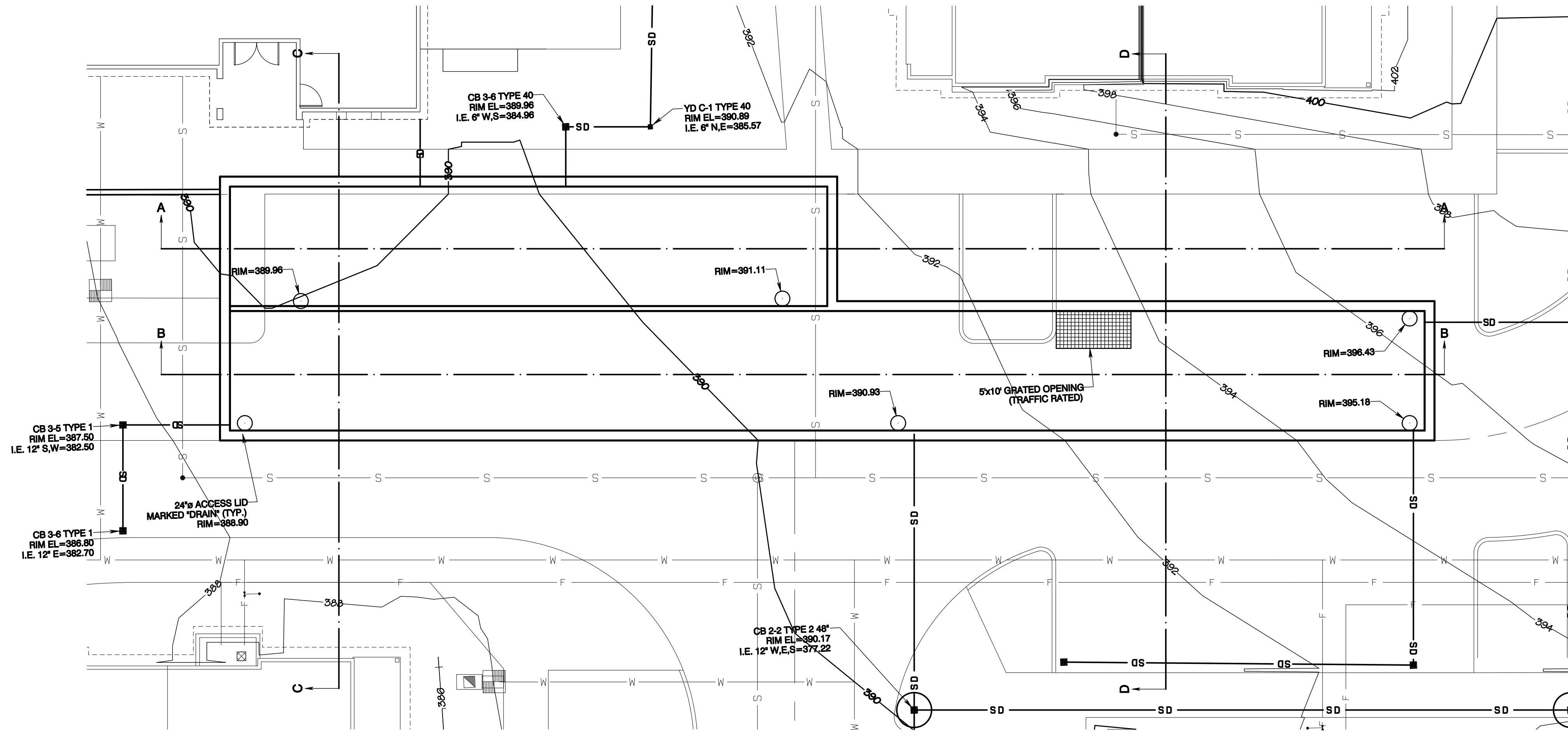
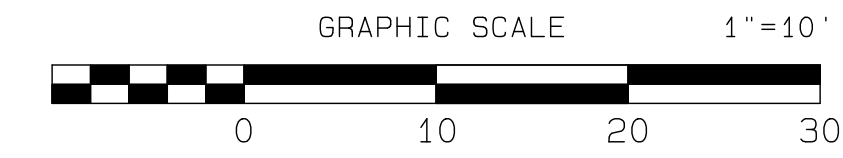
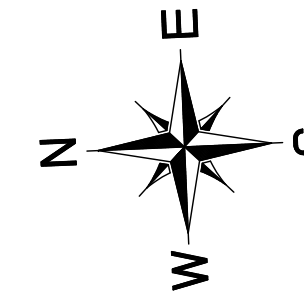
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**SD-12**  
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 OF 47

Project Desc.: Bradley Heights  
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# Bradley Heights

## Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



REVISION	DATE
1	11/09/24
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JOB NO. 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Trivitt  
 APPROVED BY: Rob Trivitt

**AZURE GREEN**  
 CONSULTANTS

+ feasibility + planning + engineering + surveying

409 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144 fax: 253.770.3142

**Vault #3 Plan**

**Bradley Heights**

Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.889.0326  
 Fax jordan@timberlanepartners.com

APPROVED

BY: \_\_\_\_\_ CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

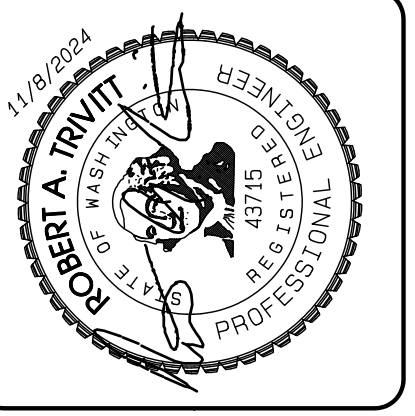
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 OF 47

Project Desc.: Bradley Heights; Path: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024 - 1108 ENG.dwg PLOT Date/Time: 11/09/2024 4:47:02PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



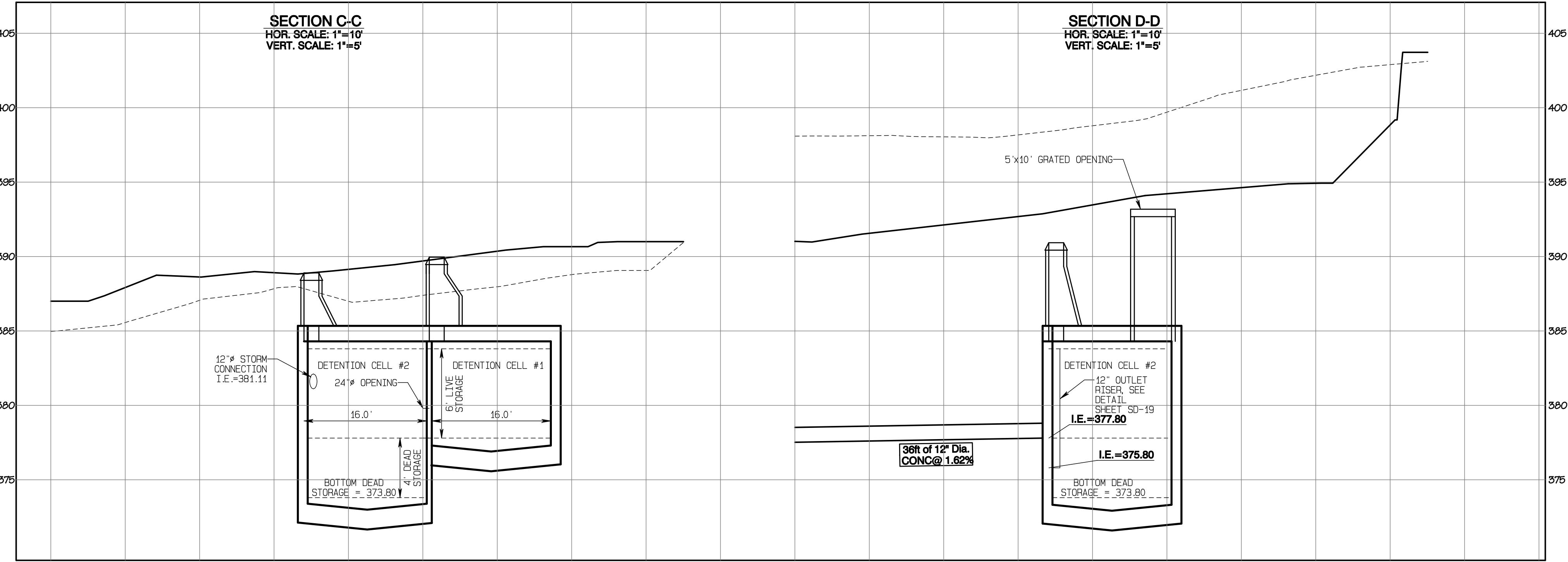
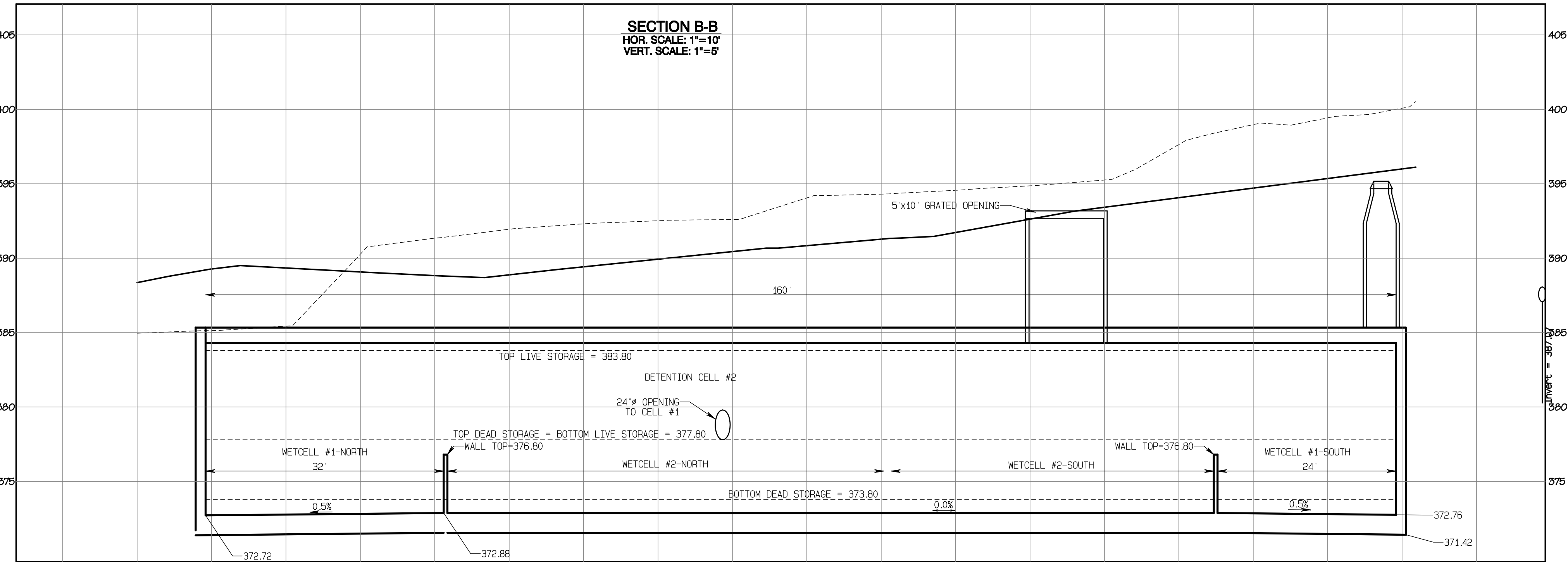
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JOB NO. 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Paul Green  
 APPROVED BY: Paul Green

**AZURE GREEN**  
 CONSULTANTS

\*feasibility \*planning \*engineering \*surveying

409 East Pioneer, Suite A - Puyallup, WA 98372 Phone: 253.770.3144 Fax: 253.770.3142



APPROVED

BY: \_\_\_\_\_ CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**

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**Vault #3 Cross-Sections**

**Bradley Heights**

Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.889.0326  
 Fax jordan@timberlanepartners.com

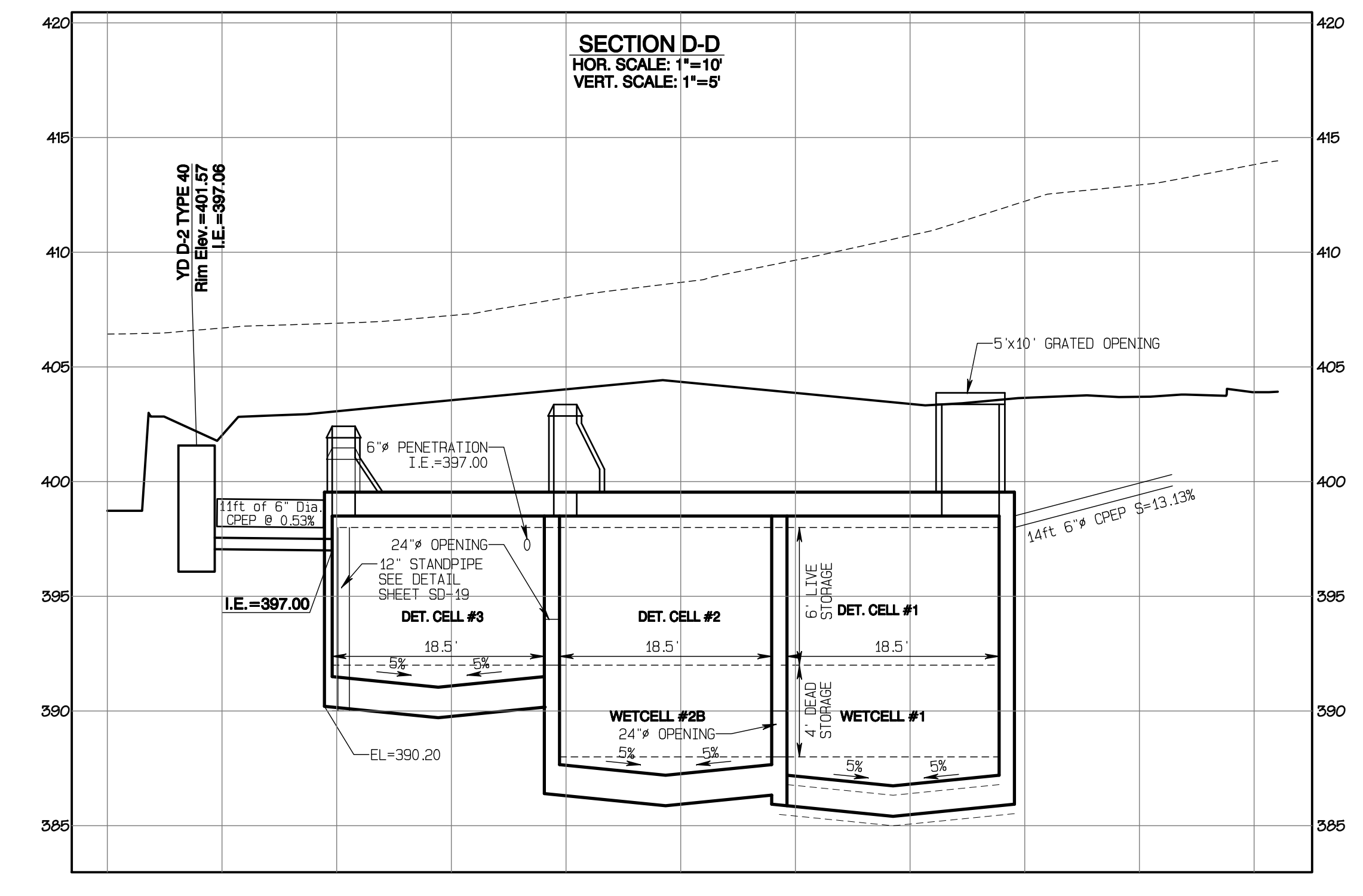
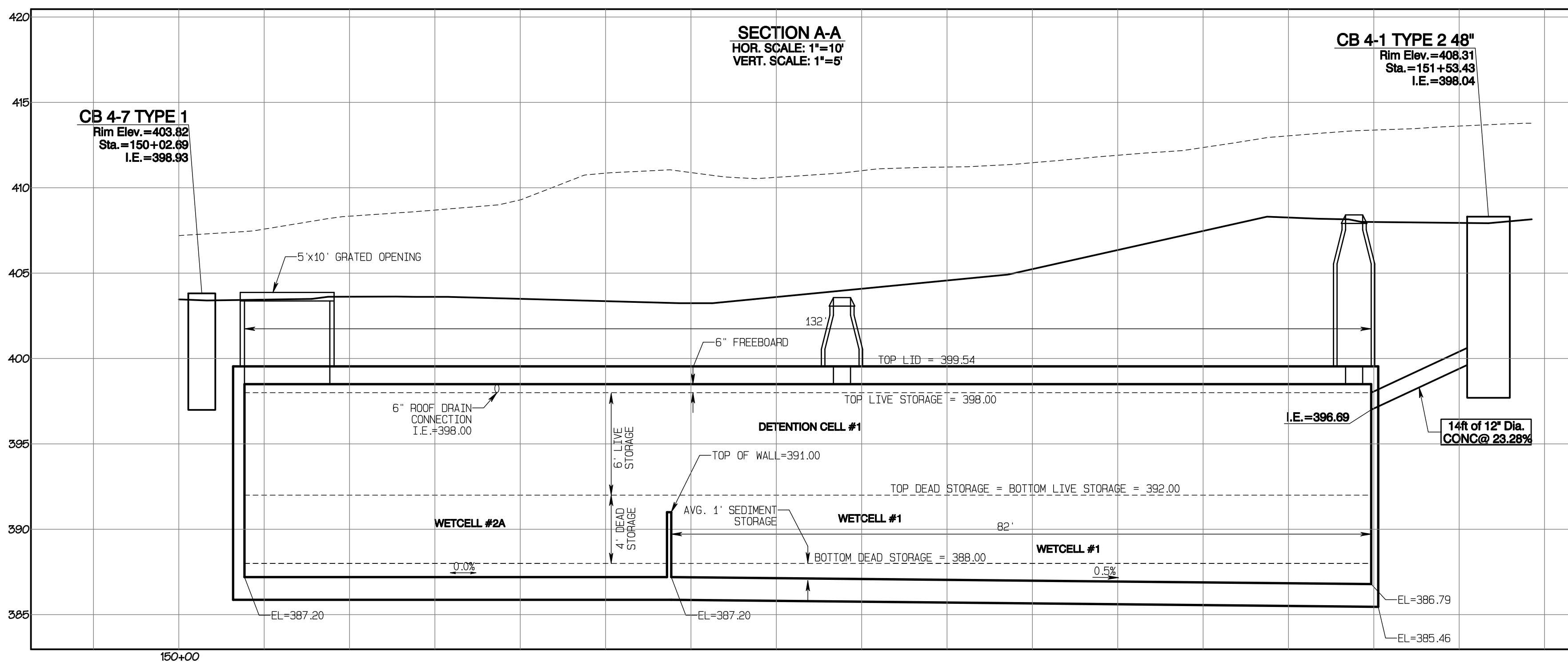
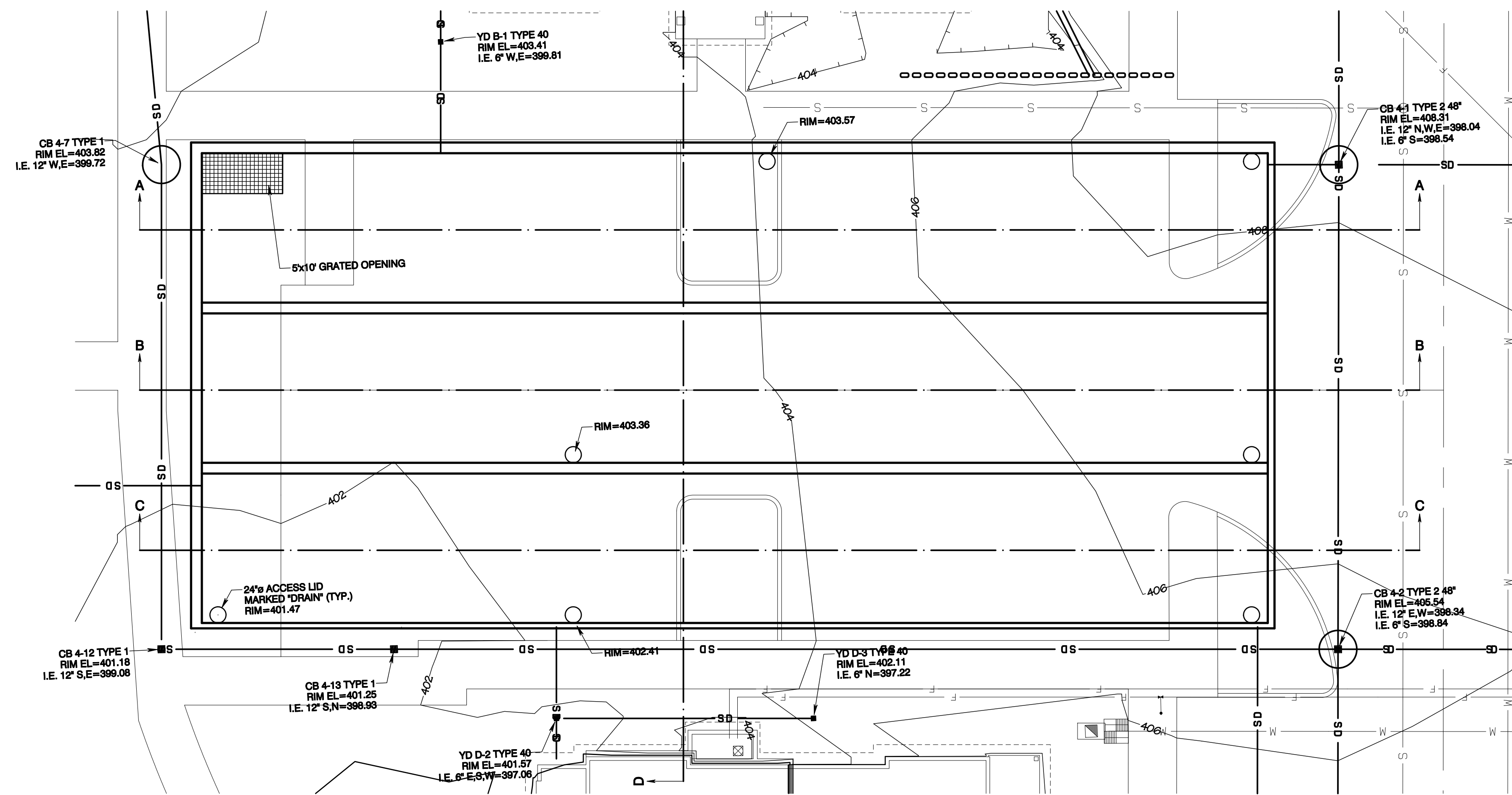
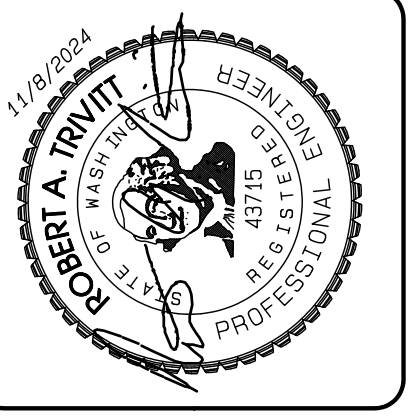
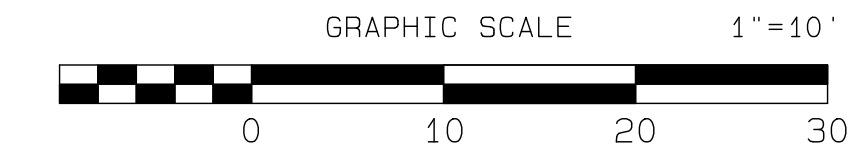
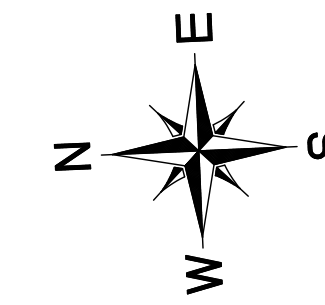
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**SD-14**  
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 OF 47

Project Desc.: Bradley Heights; Path: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024-1108 ENG.dwg; Plot Date/Time: 11/09/2024 4:47:25PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



APPROVED  
 BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
 NOTE:  
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Vault #4 Plan

**Bradley Heights**  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 206.886.0326  
 Fax jordan@timberlanepartners.com

**AZURE GREEN CONSULTANTS**  
 \*feasibility \*planning \*engineering \*surveying  
 409 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144 fax: 253.770.3142

REVISION	DATE
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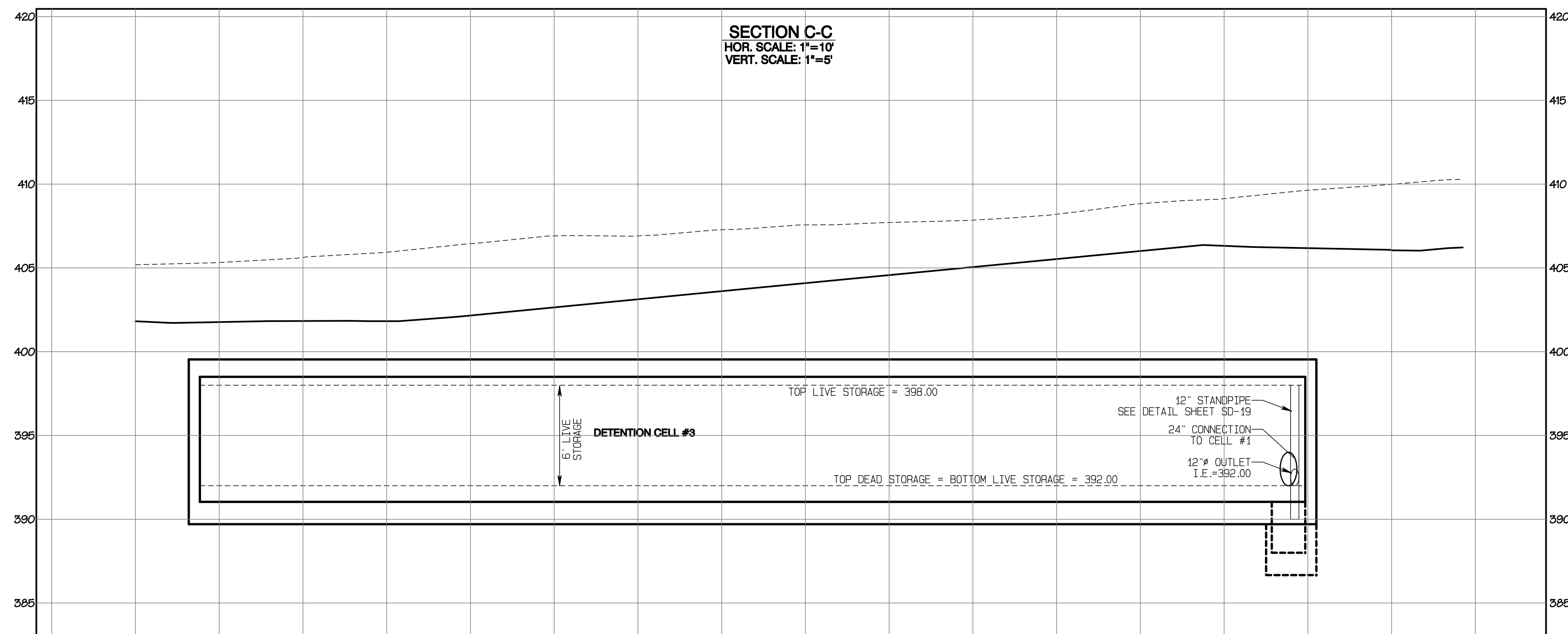
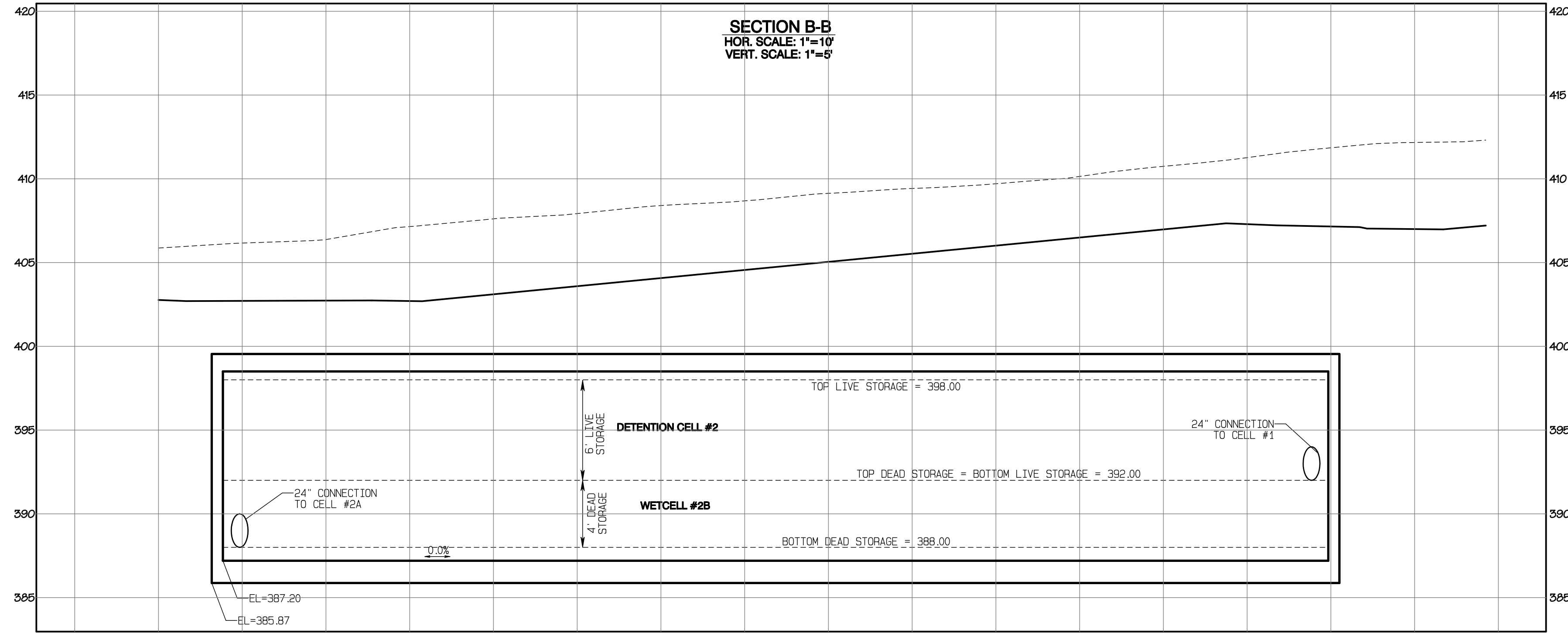
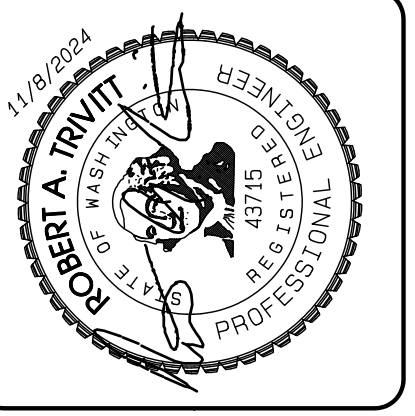
DESIGNED BY: RBT, TRV  
 DRAWN BY: RBT, TRV  
 CHECKED BY: RBT, TRV  
 APPROVED BY: RBT, TRV

Project Desc.: Bradley Heights; Path: C:\Users\3227 - Bradley Heights\Time\Bradley Heights 2024-1108 ENG.prd Plot Date/Time: 11/29/2024 4:47:52PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



**APPROVED**

BY: \_\_\_\_\_ CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**  
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REVISION	DATE
1 Revised per City review and Rob A adjustment.	11/05/24
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JOB NO. 3327  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Paul Green  
APPROVED BY: Paul Green

**AZURE GREEN**  
CONSULTANTS

\*feasibility \*planning \*engineering \*surveying

409 East Pioneer, Suite A - Puyallup, WA 98372  
phone: 253.770.3144 fax: 253.770.3142

**Vault #4 Cross-Sections**

**Bradley Heights**

Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.886.0326  
Fax jordan@timberlanepartners.com

DRAWING

## SD-16

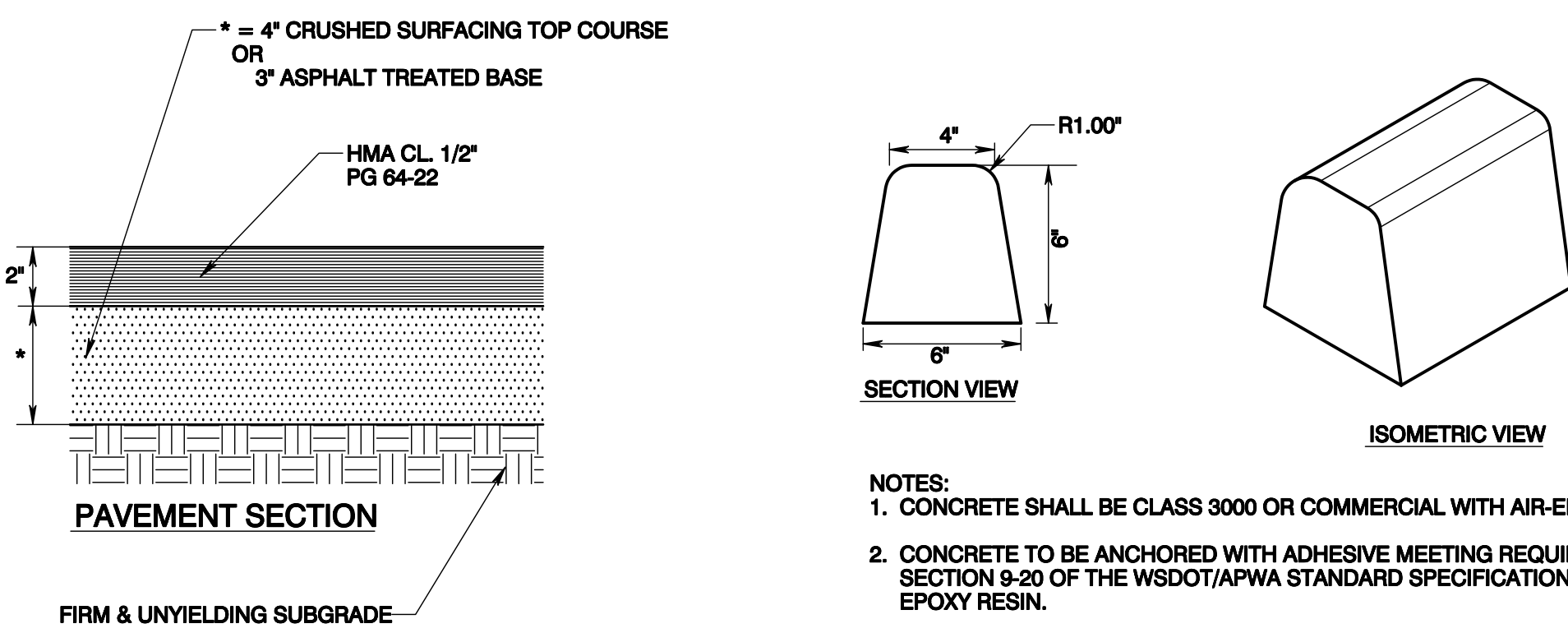
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Project Desc.: Bradley Heights Plan: C:\users\3327 - Bradley Heights\Timberlane\Bradley Heights 2024-1108 ENG.dwg PLOT Date/Time: 11/05/2024 4:48:29PM

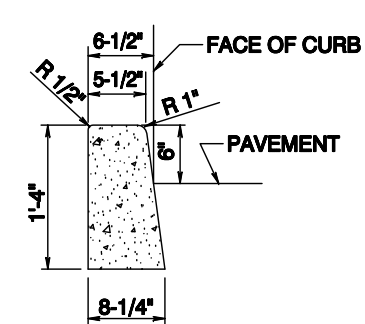
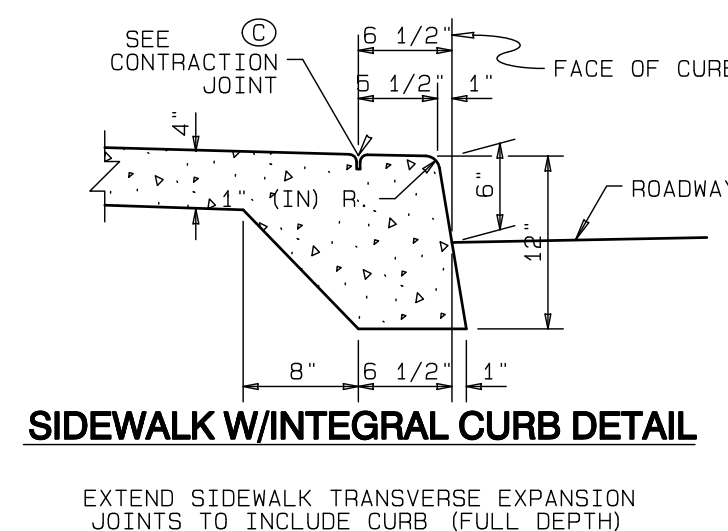
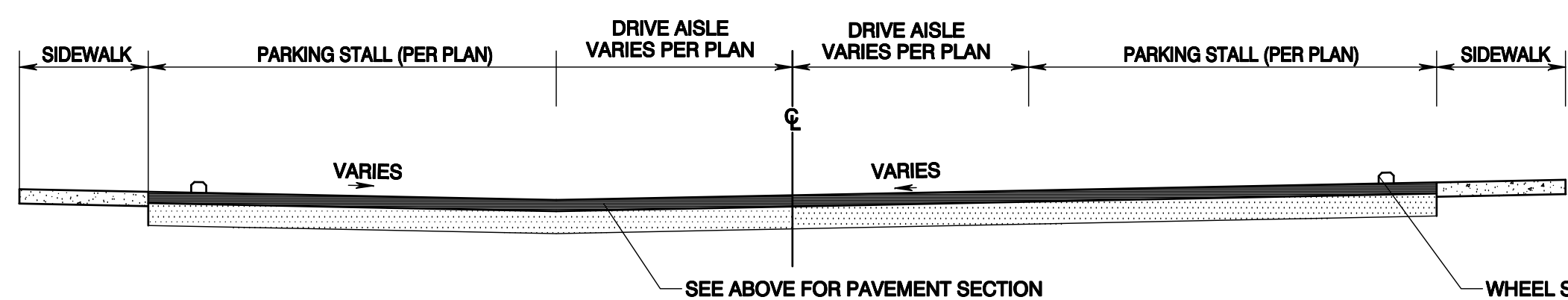


# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



- NOTES:**
1. CONCRETE SHALL BE CLASS 3000 OR COMMERCIAL WITH AIR-ENTRAIMENT.
  2. CONCRETE TO BE ANCHORED WITH ADHESIVE MEETING REQUIREMENTS OF SECTION 9-20 OF THE WSDOT/APWA STANDARD SPECIFICATIONS FOR TYPE II EPOXY RESIN.
  3. CONTROL JOINTS SHALL BE PLACED NOT TO EXCEED 10' CLS.



**ROADWAY WIDENING**

SAW CUT EXISTING PAVEMENT AND REMOVE BROKEN OR CRACKED ASPHALT TO MAKE A NEAT CLEAN LINE TO MATCH TO.

NEW ASPHALT 3" MIN. SEE NOTE 5  
 SEAL JOINT WITH AR4000  
 EXISTING ASPHALT  
 10" SUBBASE MATERIAL  
 2" CRUSHED SURFACING BASE MATERIAL

2% SLOPE  
 SIDEWALK  
 PLANTING STRIP  
 GUTTER EDGE TO BE TACK SEALED WITH AR4000  
 SUITABLE NATIVE SOILS SUBGRADE

**NOTES:**

1. THE 36" MINIMUM PAVEMENT PATCH SHALL BE INCREASED IN WIDTH IF THE RESULTING MEET LINE WOULD LIE WITHIN A LANE WHEEL PATH.
2. THE ASPHALT SURFACE WITHIN THE NEW SECTION MUST HAVE A CONSTANT CROSS SLOPE FROM CURB TO CENTERLINE WITHIN THE RANGE OF 2.0 TO 5.0%. IF CROSS SLOPE CANNOT BE ACHIEVED WITHIN THIS RANGE, CONTRACTOR SHALL OVERLAY OR REBUILD FROM CENTERLINE TO NEW GUTTER.
3. NEW ASPHALT DEPTH SHALL MATCH EXISTING CONDITION OR DEPTH SPECIFIED IN APPROPRIATE CITY CROSS SECTION DETAIL, WHICHEVER IS GREATER.
4. IF THE BASE IS INADEQUATE OR THE PAVEMENT CONDITION IS SUBSTANDARD, THEN THE ROAD SECTION MUST BE REBUILT TO CENTERLINE.
5. ASPHALT SHALL BE HMA CL 1/2", PG64-22

**CITY OF PUYALLUP**  
 DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

**ROADWAY WIDENING**

DESIGNED BY: JIM PERIN, EYONDA  
 CHECKED BY: LINDA LEAN  
 APPROVED BY: COLLEEN KASBUS  
 DATE APPROVED: 01/01/20

**STREET PATCH**

60' RIGHT OF WAY  
 FULL LANE WIDTH OR HALF STREET WIDTH 2" GRIND/OVERLAY (SEE NOTE 6, OPTION B)  
 CUT BACK  
 FULL DEPTH ASPHALT REPLACEMENT (SEE NOTE 6, OPTION B)  
 POT HOLE - OPTION A 10" CORE DRILL (SEE NOTE 6)  
 POT HOLE - OPTION B SIMCUT & TRENCH WINDOW (SEE NOTE 6)  
 2" GRIND/OVERLAY (SEE NOTE 6, OPTION B)  
 EXISTING ASPHALT  
 EXISTING CURB & GUTTER  
 EXISTING ROAD CENTERLINE OR CROWN OF EXISTING ROADWAY  
 NEW SEWER MAIN  
 STORM MAIN  
 2" GRIND/OVERLAY (SEE NOTE 6, OPTION B)  
 FULL LANE OR HALF STREET WIDTH 2" GRIND/OVERLAY  
 4" (MINIMUM) HMA CL 1/2" PG 64-22 (OR MATCH EXISTING THICKNESS, WHICHEVER IS GREATER)  
 REQUIRED TRENCH (WIDTH VARIES)  
 24" MIN. CUT BACK (TYP.) FULL DEPTH ASPHALT REPLACEMENT  
 2" GRIND/OVERLAY  
 EXISTING CURB & GUTTER  
 UNDISTURBED BASE AREA  
 UTILITY TRENCH BACKFILL (SEE NOTE 3)  
 2" MIN. CRUSHED SURFACING TOP COURSE (CSTC)  
 10" MIN. CRUSHED SURFACING BASE COURSE (CSBC)

**NOTES:**

1. BASE AND SUBBASE MATERIAL SHALL BE COMPACTED TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.
2. ALL DEPTHS INDICATED ARE A MINIMUM COMPACTED DEPTH.
3. INITIAL BACKFILLING SHALL BE PERFORMED ONLY AFTER INSPECTION AND APPROVAL OF THE INSTALLED PIPE OR STRUCTURE. THE TRENCH BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH CITY STANDARD DETAIL NO. 06.01.01.
4. ALL BACKFILL FOR PIPE TRENCHES SHALL BE MECHANICALLY COMPACTED BY A POWER-OPERATED MECHANICAL TAMPER(S) AS SPECIFIED IN WSDOT STANDARD SPEC. 2-03.3 (14), COMPACTING EARTH EMBANKMENTS, METHOD C OF THE WSDOT STANDARD SPECIFICATIONS.
5. IF PAVING SURFACES ADJACENT TO THE TRENCH OPENING MAY BE DAMAGED WHERE TRENCHES ARE MADE PARALLEL TO THE STREET, OR WHERE A NUMBER OF CROSS TRENCHES ARE LAID IN CLOSE PROXIMITY TO ONE ANOTHER OR WHERE THE EQUIPMENT USED MAY CAUSE SUCH DAMAGE, THE CITY ENGINEER MAY REQUIRE A REDUCED CONTRIBUTION FROM THE PERMITTEE FOR RESURFACING IN LIEU OF PATCHING.
6. FINISHING FOR UTILITIES:  
 OPTION A - UP TO A 10" DIAMETER CORE DRILL IS ALLOWED. CORE HOLES MADE DURING UTILITY POTHOLES SHALL BE BACKFILLED WITH COP TO WITHIN 4" OF FINISHED GRADE. 4" OF HMA SHALL THEN BE PLACED AND COMPACTED, FLUSH WITH EXISTING GRADE.  
 OPTION B - FOR POT HOLE WINDOWS LARGER THAN 10" IN DIAMETER OR TRENCHING COMPLETED IN EXISTING ROADWAY, THE CONTRACTOR SHALL MEET CITY STANDARD 06.01.01 FOR PIPE BEDDING AND BACKFILL REQUIREMENTS. PAVEMENT RESTORATION SHALL BE ACCOMPLISHED BY INSTALLING THE TRENCH PATCH, AS SHOWN HEREIN, AND THEN GRINDING/OVERLAYING TO A MINIMUM DEPTH OF 2" THE LIMITS OF THE REQUIRED GRIND/OVERLAY SHALL BE TO THE NEAREST LANE LINE, OR HALF STREET, AND SHALL BE A MINIMUM OF 18 FEET LONG (LONGITUDINALLY ALONG ROADWAY) CENTERED AT LOCATION OF PATCH. NOTES IF EXISTING ASPHALT THICKNESS IS LESS THAN 3", FULL DEPTH PAVEMENT REPLACEMENT, IN LIEU OF GRIND/OVERLAY, TO MEET A MINIMUM ASPHALT THICKNESS OF 4" WILL BE REQUIRED.  
 WHERE LOCATION OF TRENCH OR POT HOLE WINDOW INTERSECTS ROAD CENTERLINE, A MINIMUM GRIND AND OVERLAY OF ONE FULL LANE WIDTH (12') IS REQUIRED CENTERED ON ROADWAY. NO LONGITUDINAL JOINTS WILL BE ALLOWED IN THE WHEEL PATH.
7. ALL MANHOLE FRAMES, VALVE FRAMES AND MONUMENT COVERS SHALL BE INSTALLED AFTER PLACEMENT OF ASPHALT. IF MORE THAN ONE LIFT IS NECESSARY, FRAMES AND LIDS WILL BE ADJUSTED TO FINISH GRADE AT FIRST LIFT AS DIRECTED BY THE CITY.

**CITY OF PUYALLUP**  
 OFFICE OF THE CITY ENGINEER

**STREET PATCH**

DESIGNED BY: JIM PERIN, EYONDA  
 CHECKED BY: LINDA LEAN  
 APPROVED BY: COLLEEN KASBUS  
 DATE APPROVED: 01/01/20

**SIDEWALK WITH PLANTING STRIP**

4" MAXIMUM (TYP.)  
 SEE NOTE 1  
 SEE NOTE 3  
 SEE NOTE 2  
 CONTRACTION JOINTS AT 15' O.C.  
 PLANTING STRIP  
 BACK OF CURB

**NOTES:**

1. CONTRACTION JOINTS SHALL BE 3/8" x 1/2" ASPHALT SATURATED FELT PLACED AT 15' O.C.
2. THRU JOINTS SHALL BE 3/8" x 4" ASPHALT SATURATED FELT PLACED AT DRIVEWAYS, ALLEY RETURNS AND WHEELCHAIR RAMPS AND RAMP.
3. V-GROOVEMARKS SHALL BE 1/8" DEEP AND 1/4" WIDE PLACED AT 5' O.C. FOR 5' SIDEWALKS AND 7.5' O.C. FOR 8' SIDEWALKS.
4. ALL JOINTS SHALL BE CLEAN AND EGED TO A 1/4" RADIUS. JOINTS SHALL BE FLUSH WITH THE FINISHED SURFACE.
5. ALL UTILITY POLES AND STREET SIGN POSTS IN SIDEWALK AREA NOT REQUIRED TO BE RELOCATED SHALL HAVE A SQUARE SECTION OF CONCRETE SURROUNDED BY 3/8" EXPANSION JOINT MATERIAL AROUND THE POLE. THE JOINT SHALL BE NO CLOSER THAN 6" TO ANY SIDE OF THE POLE SIDE OF THE POLE.
6. FORMS SHALL BE EITHER WOOD OR STEEL AND SHALL MEET ALL REQUIREMENTS OF THESE SPECIFICATIONS.
7. CONCRETE SHALL BE CLASS 3000 COMMERCIAL CONCRETE, 5.5 SACK MINIMUM, AASHTO GRADING 467 COARSE AGGREGATE, NO FLY ASH.
8. SIDEWALK MINIMUM UNOBSTRUCTED CLEAR WIDTH SHALL BE 4', EXCLUSIVE OF THE WIDTH OF THE CURB.
9. GRATINGS, ACCESS COVERS, JUNCTION BOXES, CABLE VAULTS, PULL BOXES AND OTHER APPURTENANCES WITHIN THE SIDEWALK (RIGHT OF WAY) MUST HAVE SLIP RESISTANT SURFACES AND MATCH THE GRADE OF THE SIDEWALK.
10. CURB RAMPS SHALL BE CONSTRUCTED AT INTERSECTIONS USING A DESIGN PREPARED BY A LICENSED PROFESSIONAL ENGINEER. WHEN A RAMP DESIGN FAILS TO MEET ALL APPLICABLE DESIGN STANDARDS, THE ENGINEER SHALL DOCUMENT WHY THE PROPOSED RAMP ACHIEVES DESIGN STANDARDS TO THE MAXIMUM EXTENT FEASIBLE.

**CITY OF PUYALLUP**  
 DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

**SIDEWALK WITH PLANTING STRIP**

DESIGNED BY: JIM PERIN, EYONDA  
 CHECKED BY: LINDA LEAN  
 APPROVED BY: COLLEEN KASBUS  
 DATE APPROVED: 01/01/20

**CURB AND GUTTER**

1/2" R  
 5 1/2"  
 17 1/2"  
 1/2" R  
 3/4"  
 7"  
 4" CSBC OR GRAVEL BASE COMPACTED AT 95%  
 SUITABLE NATIVE SOIL COMPACTED AT 95%

**NOTES:**

1. CONTRACTION JOINTS SHALL BE 3/8" x 1/2" ASPHALT SATURATED FELT PLACED IN ALL EXPOSED SURFACES OF CURB AND GUTTER AND SPACED AT 15' MAX. 10' MIN. O.C.
2. THRU JOINTS SHALL BE 3/8" ASPHALT SATURATED FELT PLACED AT POINTS OF TRANSITION ON CURVES, AT CATCH BASINS, AND AT EDGES OF ALLEY AND DRIVEWAYS. THE MAXIMUM DISTANCE BETWEEN THRU JOINTS SHALL BE 100'.
3. CONCRETE SHALL BE CLASS 3000 COMMERCIAL CONCRETE, 5.5 SACK MINIMUM, AASHTO GRADING 467 COARSE AGGREGATE, NO FLY ASH.
4. FORMS SHALL BE SET TRUE TO LINE AND GRADE AND SECURELY STAKED PRIOR TO CONCRETE PLACEMENT. FULL DEPTH DIVISION PLATES ARE ONLY TO BE USED WHERE THRU JOINTS ARE TO BE PLACED.
5. THE 1" RADIUS ON THE UPPER FACE OF THE CURB MAY BE FORMED BY AN EDGER TOOL OR BUILT INTO THE FACE FORM. THE 1" RADIUS AT THE BOTTOM FACE OF THE CURB SHALL BE FORMED BY THE FACE FORM.

**CITY OF PUYALLUP**  
 DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

**CURB AND GUTTER**

DESIGNED BY: JIM PERIN, EYONDA  
 CHECKED BY: LINDA LEAN  
 APPROVED BY: COLLEEN KASBUS  
 DATE APPROVED: 01/01/20

**URBAN COMMERCIAL APPROACH ALTERNATE 1**

7'-6"  
 15' MIN.  
 7'-6"  
 3/8" EXPANSION JOINT  
 4" MIN.  
 5"  
 2'-6"  
 DRIVEWAY ENTRANCE SIDEWALK  
 DRIVEWAY ENTRANCE SIDEWALK  
 DRIVEWAY TAPER  
 DRIVEWAY ENTRANCE SIDE SLOPE  
 CEMENT CONCRETE CURB & GUTTER  
 CEMENT CONCRETE SIDEWALK

**NOTES:**

1. THIS COMMERCIAL APPROACH TO BE USED WHEN SPEED LIMIT IS LESS THAN 30 MPH. APPROACH SPACING AS SPECIFIED ON CITY STANDARD DETAIL NO. 01.02.16.
2. JOINTS IN PAVING SLAB SHALL NOT EXTEND INTO DRIVEWAY. ALL JOINTS SHALL BE CLEAN AND EGED.
3. CONCRETE SHALL BE COMMERCIAL CONCRETE, 5.5 SACK MINIMUM, AASHTO GRADING 467 COARSE AGGREGATE, NO FLY ASH.
4. 30 FEET MINIMUM WIDTH FOR TWO WAY TRAFFIC. MAXIMUM WIDTH DEPENDENT ON VEHICLE VOLUME THRU DRIVE AND DESIGN VEHICLE.

**CITY OF PUYALLUP**  
 DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

**URBAN COMMERCIAL APPROACH ALTERNATE 1**

DESIGNED BY: JIM PERIN, EYONDA  
 CHECKED BY: LINDA LEAN  
 APPROVED BY: COLLEEN KASBUS  
 DATE APPROVED: 01/01/20

**PARKING LOT WHEEL STOPS**

shope  
 concrete products

65.5"  
 13.5"  
 18.5"  
 8"  
 6"  
 13.5"  
 18.5"  
 4"  
 1.25"  
 4"  
 3"  
 6.25"  
 2#4 REINFORCING BAR  
 1" TAPERED HOLE  
 8.5"  
 6'-0"

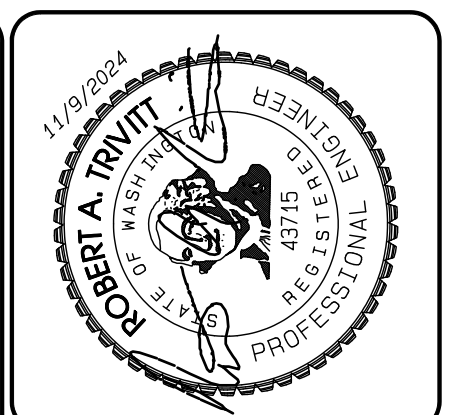
**NOTES:**

1. THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.
2. THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.
3. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

**CITY OF PUYALLUP**  
 DEVELOPMENT SERVICES

**PARKING LOT WHEEL STOPS**

DESIGNED BY: JIM PERIN, EYONDA  
 CHECKED BY: LINDA LEAN  
 APPROVED BY: COLLEEN KASBUS  
 DATE APPROVED: 01/01/20



NO.	REVISION	DATE
1	Revised per City review and Mail A adjustment.	11/29/24
2		
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JOB NO. 23027  
 DATE: May 14, 2024  
 DESIGNED BY: JIM PERIN, EYONDA  
 DRAWN BY: JIM PERIN, EYONDA  
 CHECKED BY: LINDA LEAN, EYONDA  
 APPROVED BY: COLLEEN KASBUS, EYONDA

**AZURE GREEN CONSULTANTS**  
 +feasibility +planning +engineering +surveying  
 409 East Pioneer Suite A - Puyallup, WA 98372  
 phone: 253.770.3144 fax: 253.770.3142

**Bradley Heights**  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone: 509.898.0326  
 Fax: jordan@timberlanepartners.com

**DRAWING**  
**SD-17**  
 SHEET 31 OF 47

Project Date: 11/29/2024; 11:08 AM; File: C:\Users\jperin\OneDrive\Documents\Bradley Heights\2024\_1108\ENG\1108-ENG.dwg; Plot Date: 11/29/2024; 9:30:53 AM

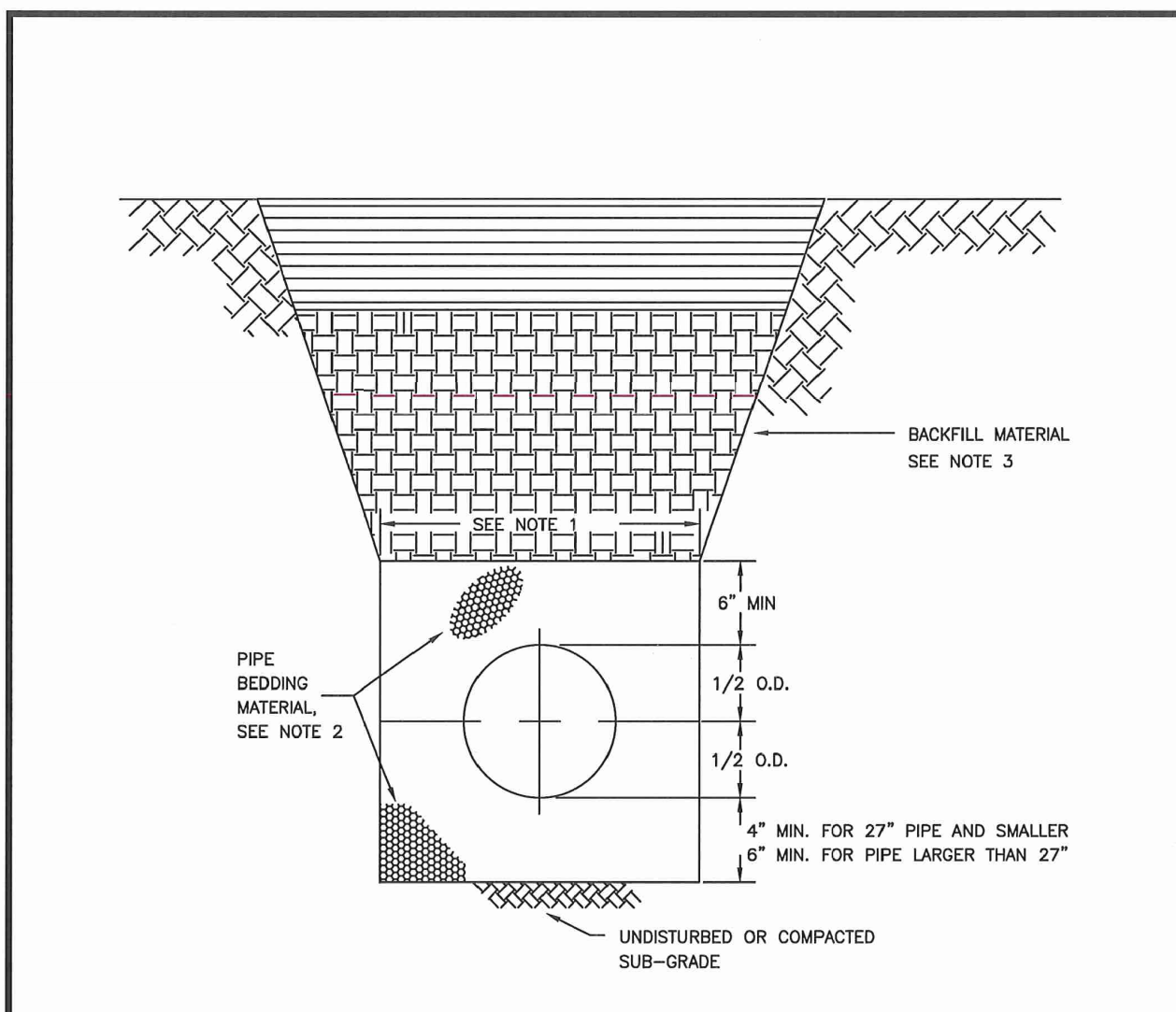
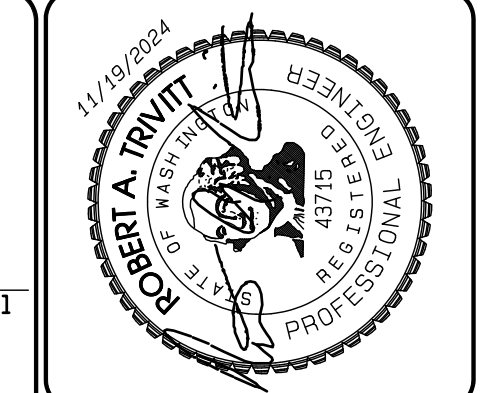






# Bradley Heights

## Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

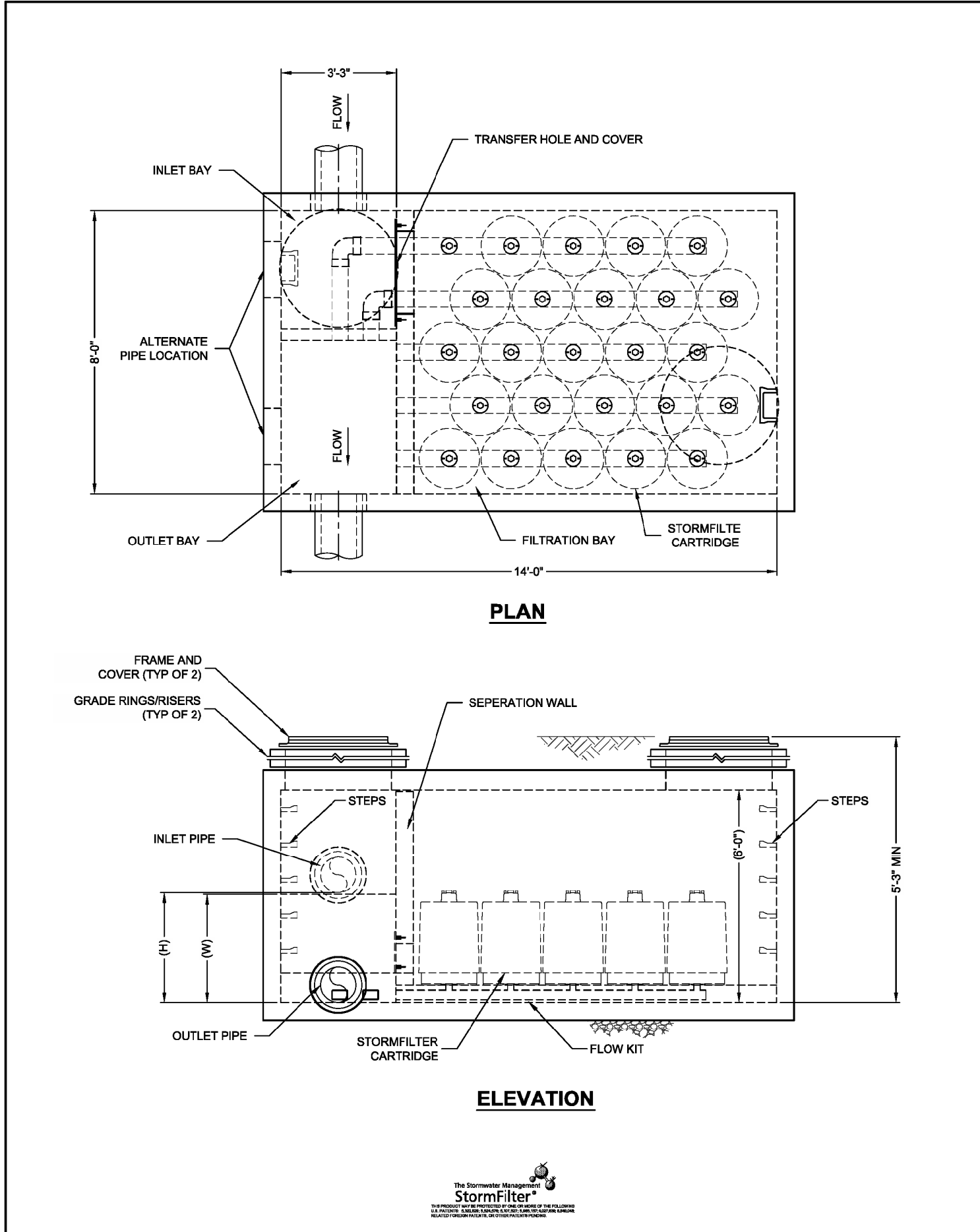


- TRENCHING SHALL MEET THE REQUIREMENTS OF SECTION 7-08.3(1) AND 2-06.3(1) OF THE WSDOT SPECIFICATIONS.
- BEDDING MATERIAL SHALL CONFORM TO 9-03.12(3) GRAVEL BACKFILL FOR PIPE ZONE BEDDING.
- GRAVEL BACKFILL SHALL CONFORM TO 9-03.12(1) GRAVEL BACKFILL FOR FOUNDATIONS, CLASS A.

**CITY OF PUYALLUP**  
OFFICE OF THE CITY ENGINEER

**PIPE TRENCHING BEDDING AND BACKFILL**

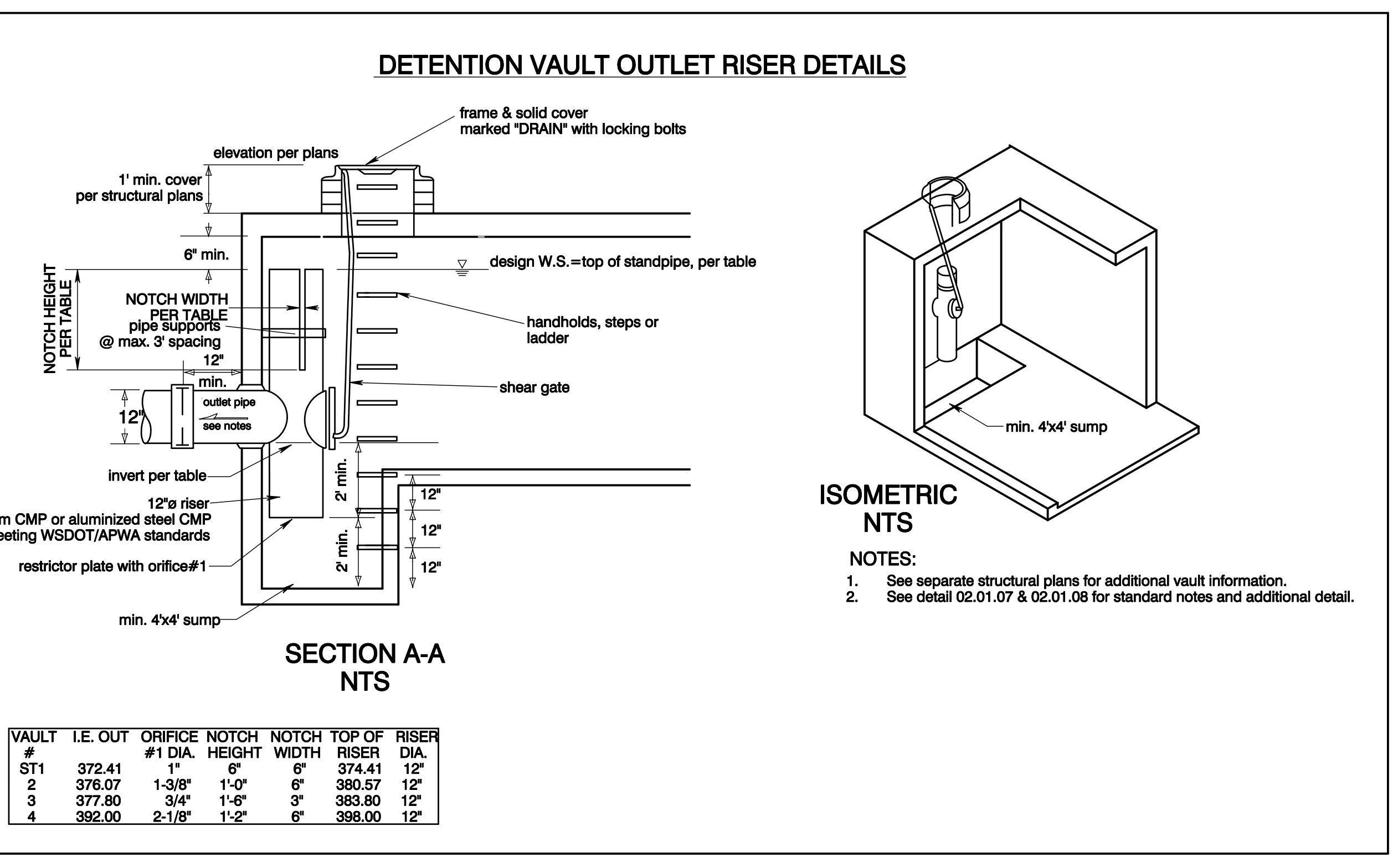
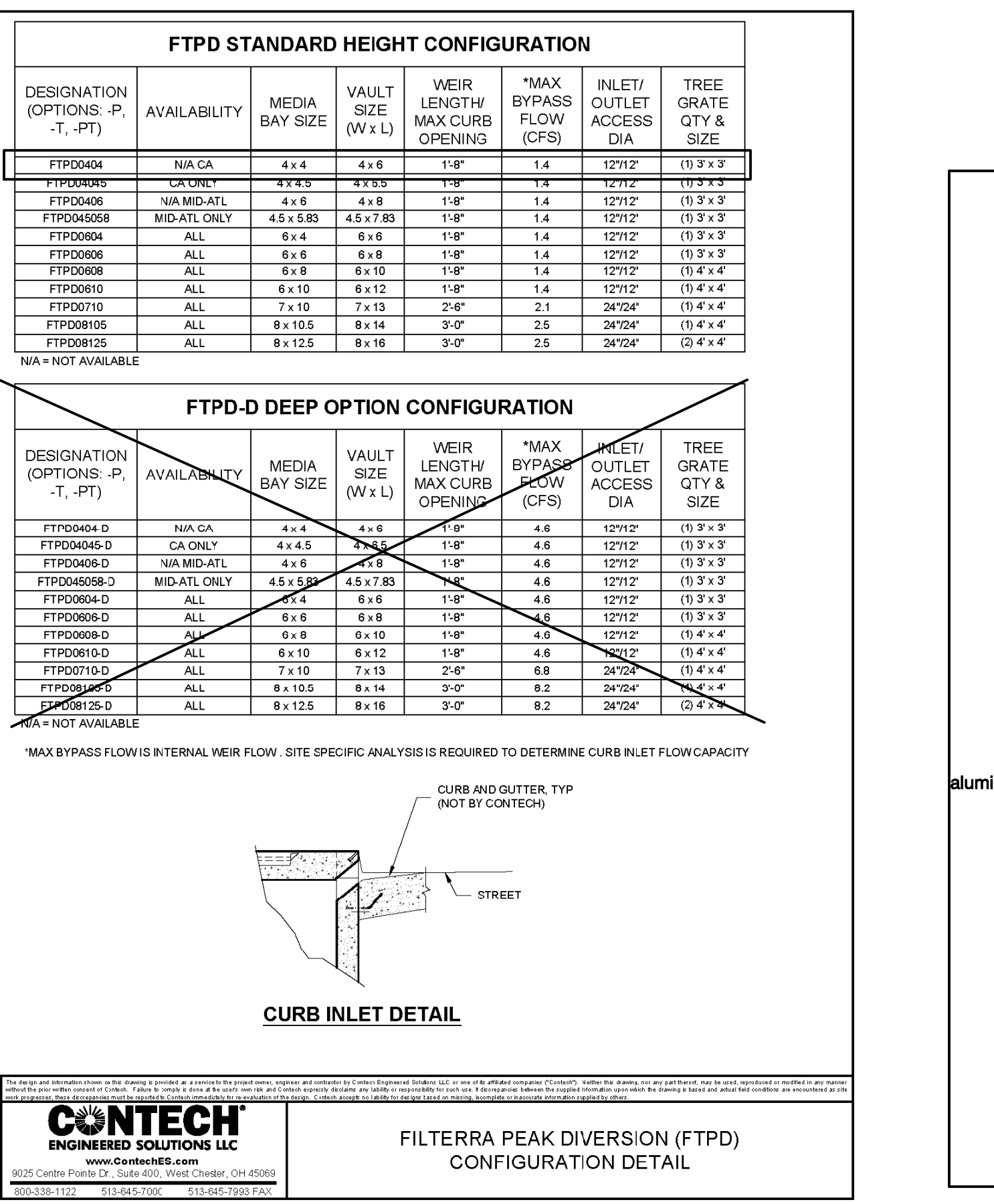
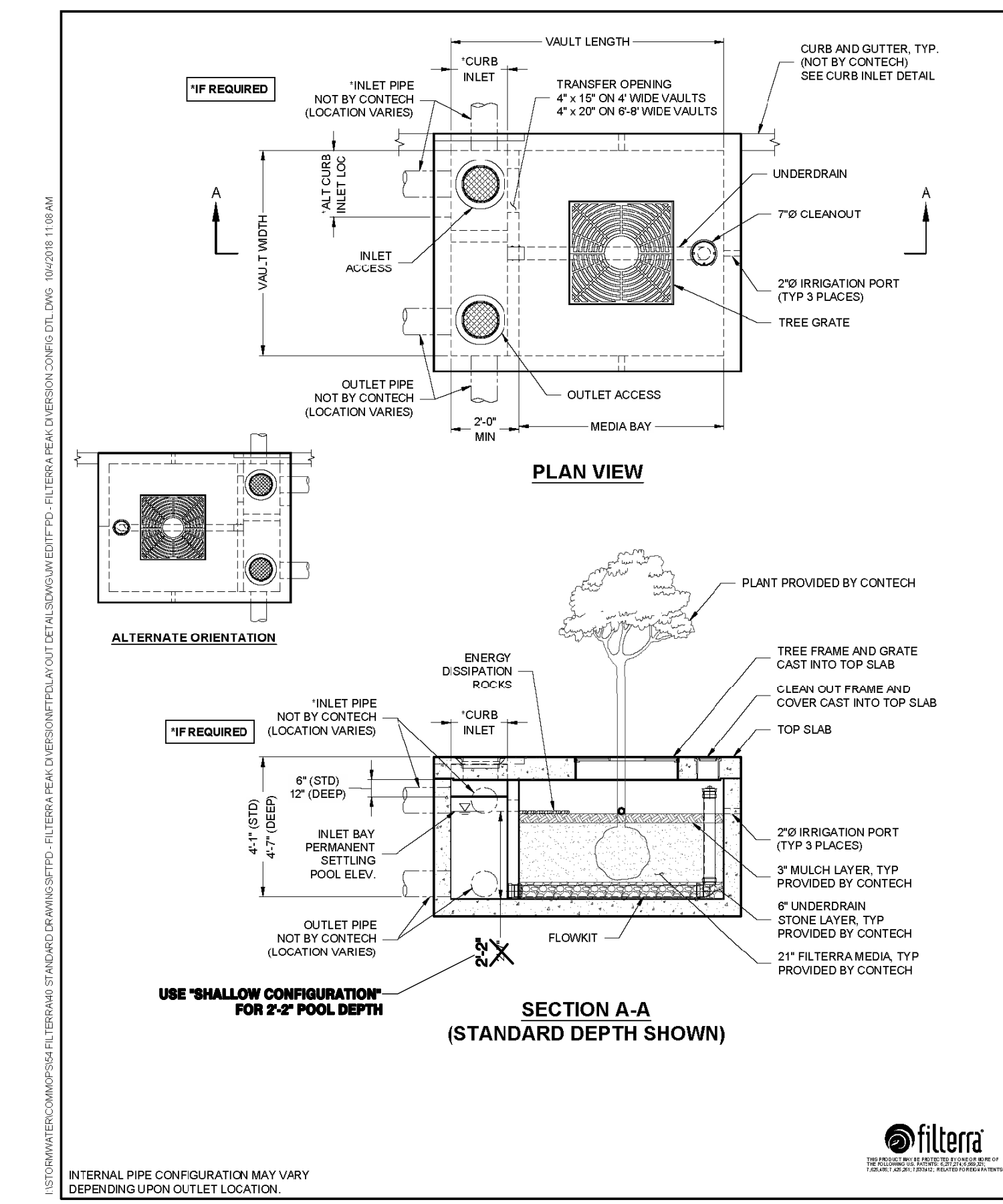
DATE: 06.01.01



**CONTECH ENGINEERED SOLUTIONS LLC**

THE STORMWATER MANAGEMENT STORMFILTER  
8' x 14' PEAK DIVERSION STORMFILTER  
STANDARD DETAIL

9025 Centre Pointe Dr., Suite 400, West Chester, OH 45389  
800-338-1122 513-645-7000 513-645-7993 FAX



APPROVED

BY: CITY OF PUYALLUP DEVELOPMENT SERVICES

DATE:

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.

FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

NO.	REVISION	DATE	BY	CHKD.
1	REVISED PER CITY REVIEW AND MAIL A. ADJUSTMENT.	11/19/24		
2				
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5				
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JOB NO. 2307  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Trivitt  
APPROVED BY: Rob Trivitt

**AZURE GREEN CONSULTANTS**

feasibility • planning • engineering • surveying

409 East Pioneer, Suite A • Puyallup, WA 98372  
phone: 253.770.3144 fax: 253.770.3142

**Storm Details**

Bradley Heights

Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.896.0326  
Fax jordan@timberlanepartners.com

**DRAWING**

**SD-19**

SHEET 33  
OF 47

Project Date: Bradley Heights - Bradley Heights, Timeline/History, 2024 - 11/19/2024/4: 13:05PM



# Bradley Heights

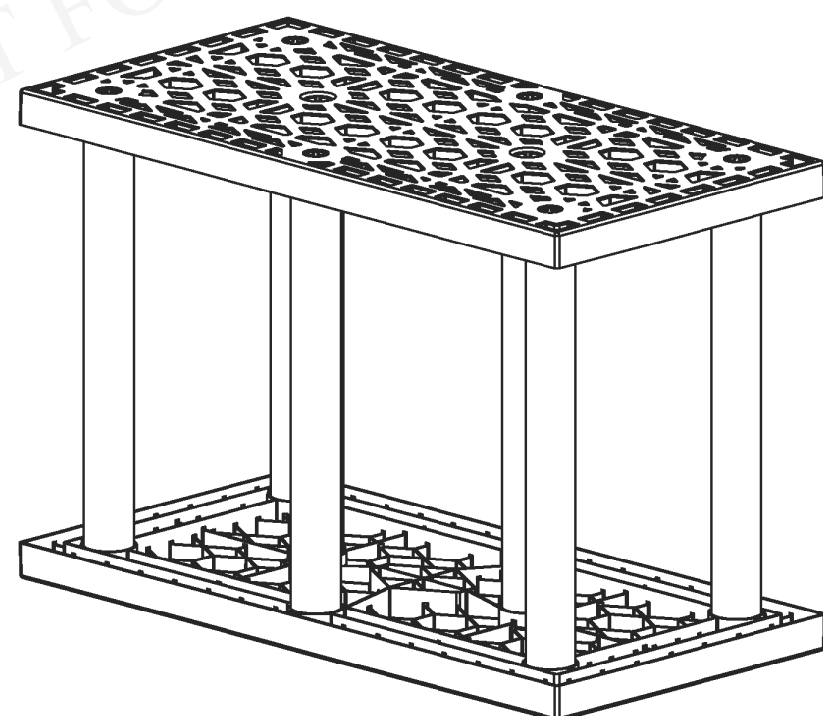
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



## BRENTWOOD STORMTANK MODULE LAYOUT DRAWINGS

### BRADLEY HEIGHTS APARTMENTS

Puyallup, WA



**Pages:**

Cover Page	01 OF 07
Module Layout	02 OF 07
TYP. Construction Details	03 OF 07
TYP. Pipe Penetration Details	04 OF 07
TYP. Debris Row Details	05 OF 07
Supplementary Notes	06 OF 07
Supplementary Notes	07 OF 07

THIS DRAWING AND THE INFORMATION CONTAINED HEREIN ARE CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE COPIED NOR USED IN ANY MANNER WITHOUT WRITTEN AUTHORIZATION FROM LAYFIELD.

REFER TO STORMTANK  
INSTALLATION INSTRUCTIONS



**LAYFIELD**  
1901 Raymond Ave. S.W., Suite B  
Renton, WA 98057  
Ph: (425) 254-1075  
seattle@layfieldgroup.com

#### SINGLE STACK MODULE SYSTEM

Total Storage Volume	4,154.88 ft <sup>3</sup>
Module Storage Volume	4,154.88 ft <sup>3</sup>
Stone Storage Volume	--- ft <sup>3</sup>
System Footprint	2,368 ft <sup>2</sup>
Estimated Geotextile Fabric	NuBarrier 677 yd <sup>2</sup> LPS 1,168 yd <sup>2</sup>
Estimated Liner	5,254 ft <sup>2</sup>
Estimated Stone Volume	146.96 yd <sup>3</sup>
Minimum Excavation Required	394.67 yd <sup>3</sup>
Minimum Excavation Depth	4.50 ft
Stone Type	3/4" Clear Stone
Stone Void Space	40%
Model Type	25 Series ST-24

Bradley Heights Apartments  
Puyallup, WA

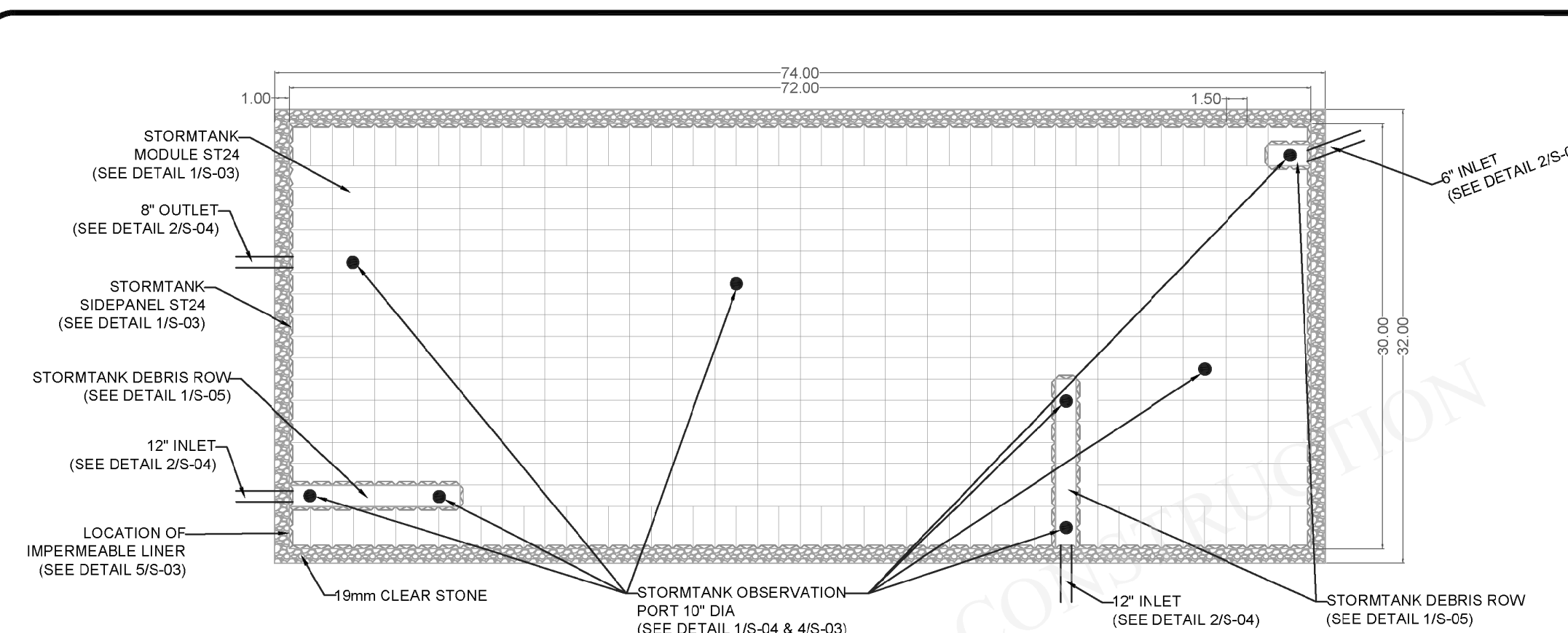
REV	Record of Changes	Date	By
△	Preliminary Drawing	15SEP2023	AK
△	Task Re-Design	08NOV2024	GM

Project Number	OP2023-7367		
Page Name	Cover Page		
Drawn by	AK	Checked by	JF
Scale	NTS	Date	19SEP2023

THIS LAYOUT DRAWING WAS PREPARED TO SUPPORT THE ENGINEER OF RECORD FOR THE PROPOSED SYSTEM. IT IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD TO REVIEW THE INFORMATION AND ENSURE THAT THE LAYOUT AND DESIGN IS IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS AND THAT THE STORMTANK SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH BRENTWOOD'S REQUIREMENTS. LAYFIELD DOES NOT REVIEW OR APPROVE PLANS, SIZING OR DESIGNS.

01 OF 07

ANSI B Size Page (Horizontal)



#### NOTES

- All dimensions are measured in feet unless noted otherwise.
- Reference Brentwood Industries standard drawings and notes for detailed information.
- Reference current Brentwood Module installation instructions for proper installation practices.
- Engineer of record to confirm conformance to manufacturer's allowable proximity to other structures and slopes.
- All inlet and pipe locations and designs by others.
- The sub-grade and side backfill needs to be compacted to 95%, unless noted otherwise.
- During and after installation, the Brentwood Module area should be clearly marked and roped off to prevent unauthorized construction and equipment trafficking over the modules.
- Top of Ground water is to be maintained 610 mm (2 ft) below the module to prevent buoyancy, unless otherwise noted by engineer.
- The quantities related to stone and geosynthetics are estimated values as the roll size, overlaps, waste, ect. may vary.
- Materials must be stored in a manner to prevent prolonged exposure to UV light.
- Materials shall not be handled in temperatures lower than 4.4 °C to prevent damage.
- Tank System is not considered complete until completely backfilled, including top backfill, to finished grade. Installer must ensure the project site remains dry until top backfill is complete to avoid damage due to buoyancy.

#### Material Quantity (ST-24)

ST-24	480
Platens	960
24" Columns	3840
24" Side Panels	175
10" Observation Port	8
6" Saddle Port (By Others)	0

#### Elevations

Leveling Stone Bottom	371.91
Module Bottom	372.41
Module Invert	372.56
Top of Module	374.41
Top of Stone Backfill	375.41
Minimum Finished Grade	376.41
Maximum Finished Grade	383.41

Contractor to confirm that quantities shipped to site match those listed above. Please report any discrepancy or damage to Layfield immediately.

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**LAYFIELD**  
1901 Raymond Ave. S.W., Suite B  
Renton, WA 98057  
Ph: (425) 254-1075  
seattle@layfieldgroup.com

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Bradley Heights Apartments  
Puyallup, WA

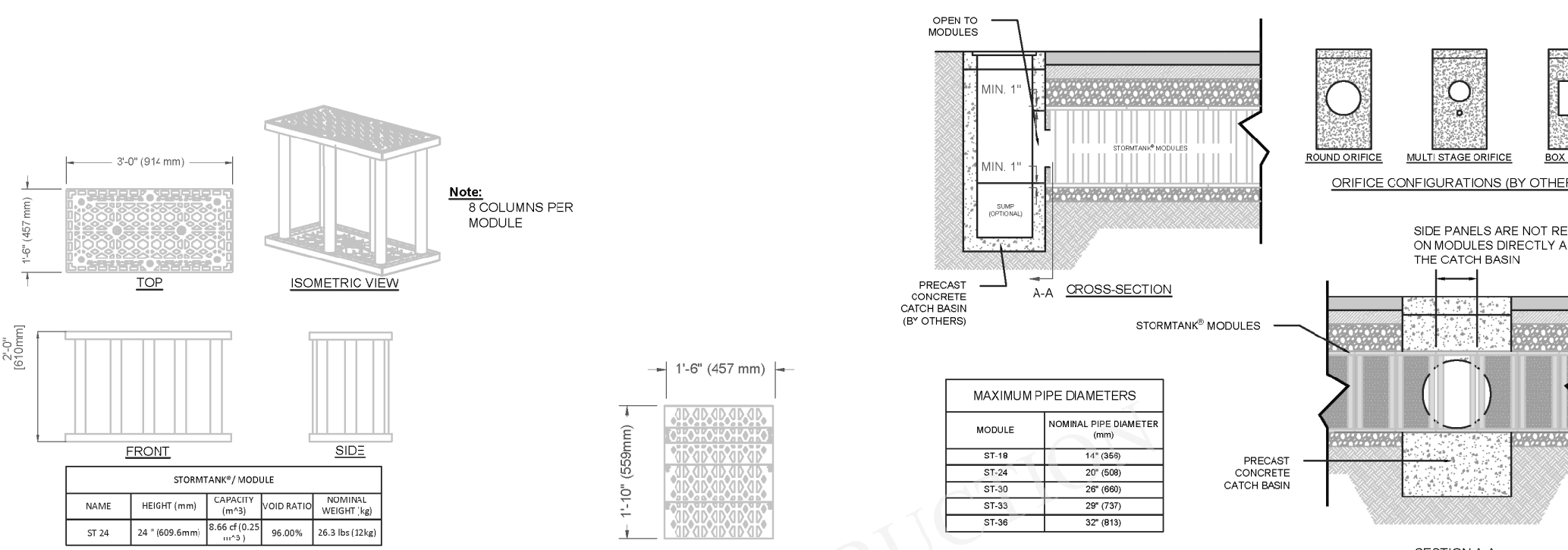
REV	Record of Changes	Date	By
△	Preliminary Drawing	15SEP2023	AK
△	Task Re-Design	08NOV2024	GM

Project Number	OP2023-7367		
Page Name	Module Layout		
Drawn by	AK	Checked by	JF
Scale	NTS	Date	19SEP2023

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02 OF 07

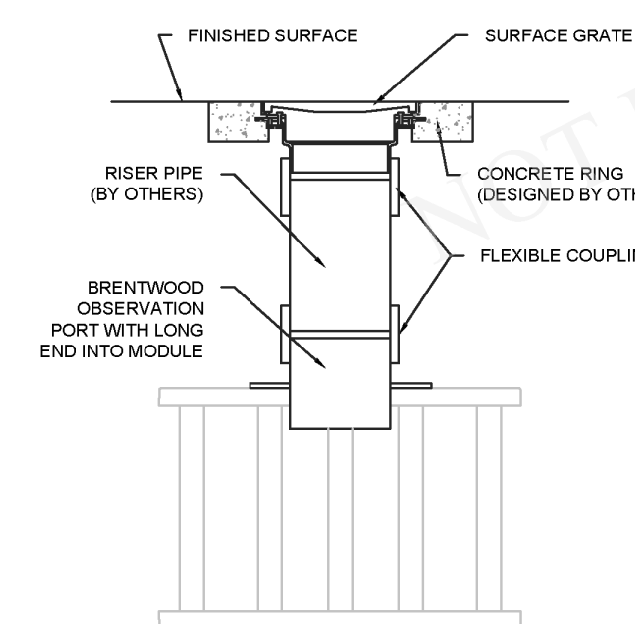
ANSI B Size Page (Horizontal)



1 S-03 24" (610 mm) MODULE DETAIL

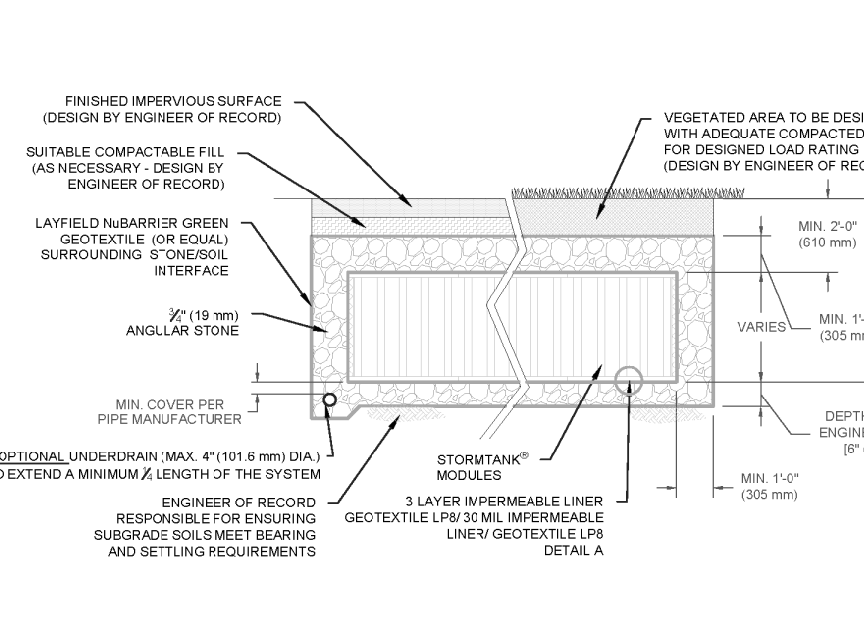
2 S-03 24" (610 mm) SIDE PANEL DETAIL

3 S-03 TYP. CATCH BASIN ABUTMENT DETAIL (IF APPLICABLE)



4 S-03 SINGLE STACK OBSERVATION PORT DETAIL

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5 S-03 TYPICAL SINGLE STACKED SYSTEM BASIC CROSS-SECTION

**LAYFIELD**  
1901 Raymond Ave. S.W., Suite B  
Renton, WA 98057  
Ph: (425) 254-1075  
seattle@layfieldgroup.com

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Model Type	25 Series ST-24

Bradley Heights Apartments  
Puyallup, WA

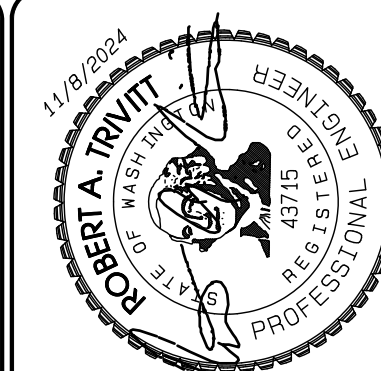
REV	Record of Changes	Date	By
△	Preliminary Drawing	15SEP2023	AK
△	Task Re-Design	08NOV2024	GM

Project Number	OP2023-7367		
Page Name	TYP. Construction Details		
Drawn by	AK	Checked by	JF
Scale	NTS	Date	19SEP2023

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03 OF 07

ANSI B Size Page (Horizontal)



DATE	REVISION
11/09/24	1 Revised per City review and M&J A. adjustment.
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JOB NO.	3327
DATE:	May 14, 2024
DESIGNED BY:	Rob Trivitt
DRAWN BY:	Rob Trivitt
CHECKED BY:	Rob Trivitt
APPROVED BY:	Rob Trivitt

**AZURE GREEN CONSULTANTS**  
+ feasibility + planning + engineering + surveying  
409 East Pioneer, Suite A - Puyallup, WA 98372  
phone: 253.770.3144, fax: 253.770.3142

**StormTank Details**  
Bradley Heights  
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.896.0326  
Fax jordan@timberlanepartners.com

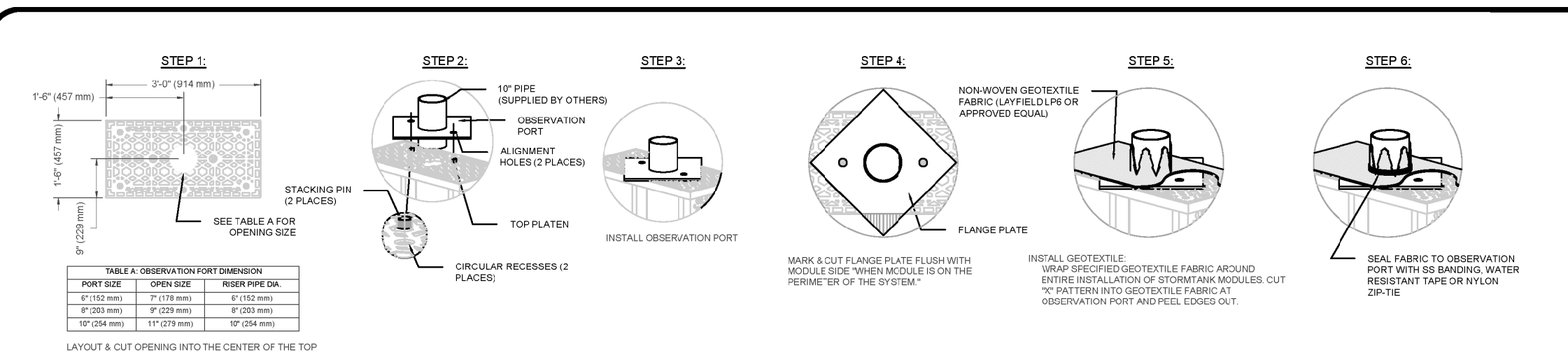
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**SD-20**  
SHEET 34  
OF 47

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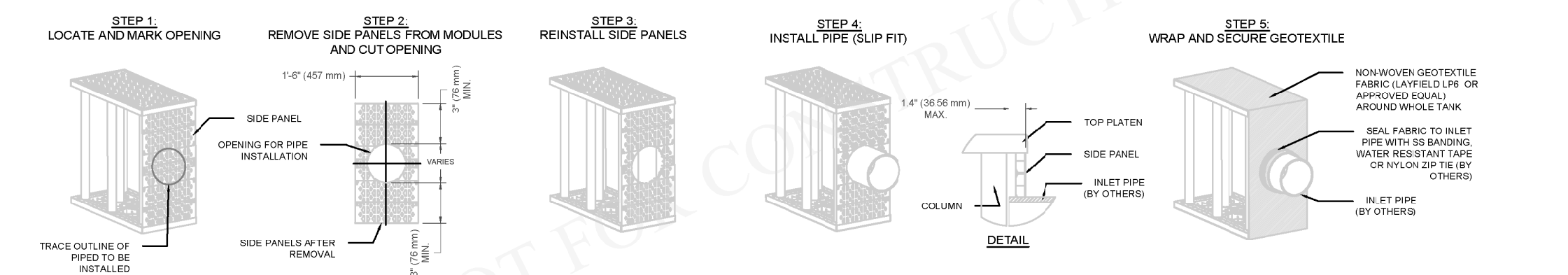


# Bradley Heights

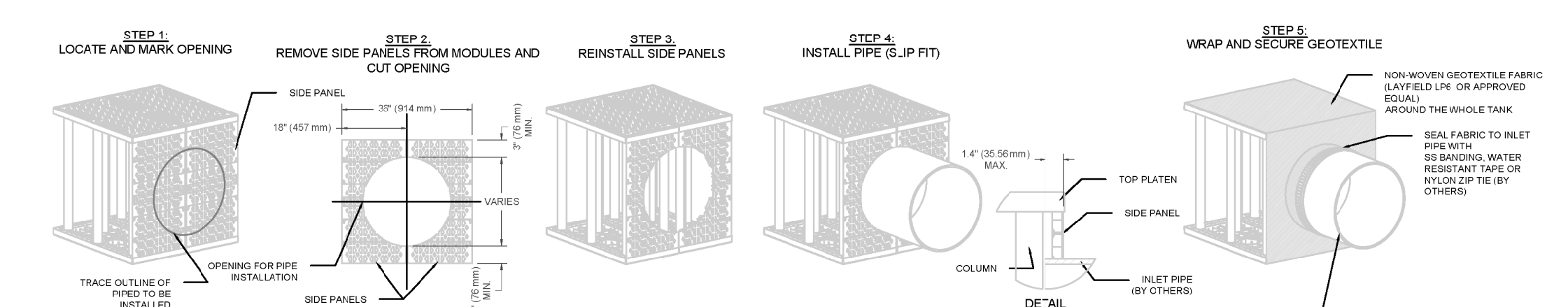
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



1 TYP. OBSERVATION PORT INSTALLATION DETAIL



2 SMALL DIAMETER (14\"/>



3 LARGE DIAMETER (15\"/>

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**LAYFIELD**  
1901 Raymond Ave. S.W., Suite B  
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Ph: (425)-254-1075  
seattle@layfieldgroup.com

## SINGLE STACK MODULE SYSTEM

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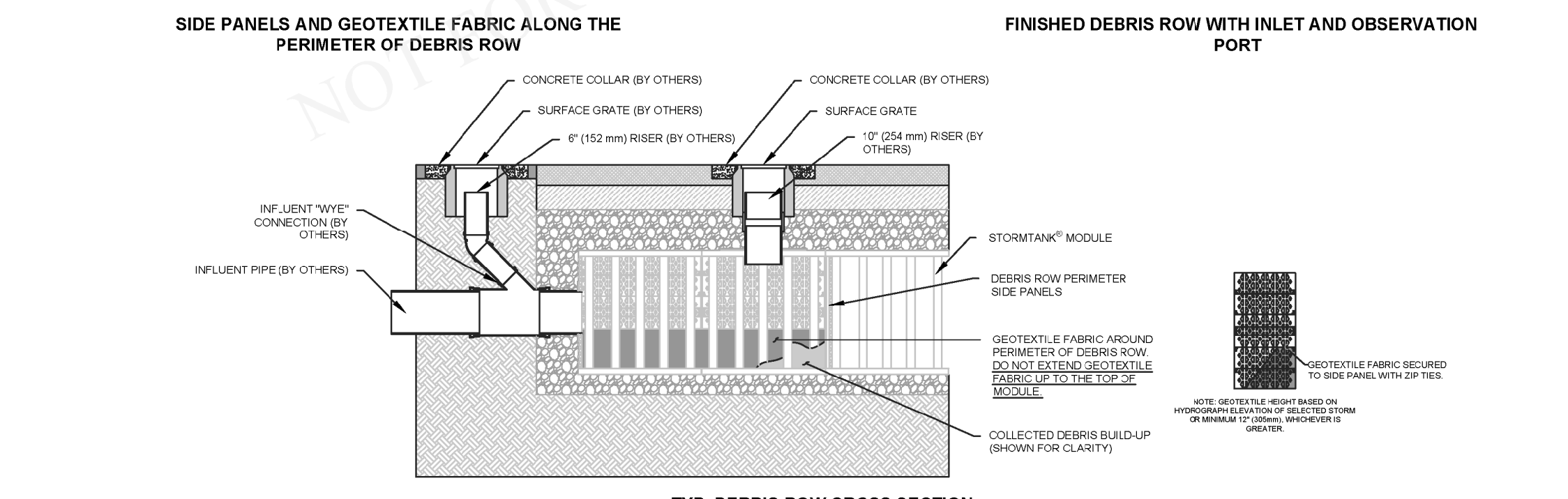
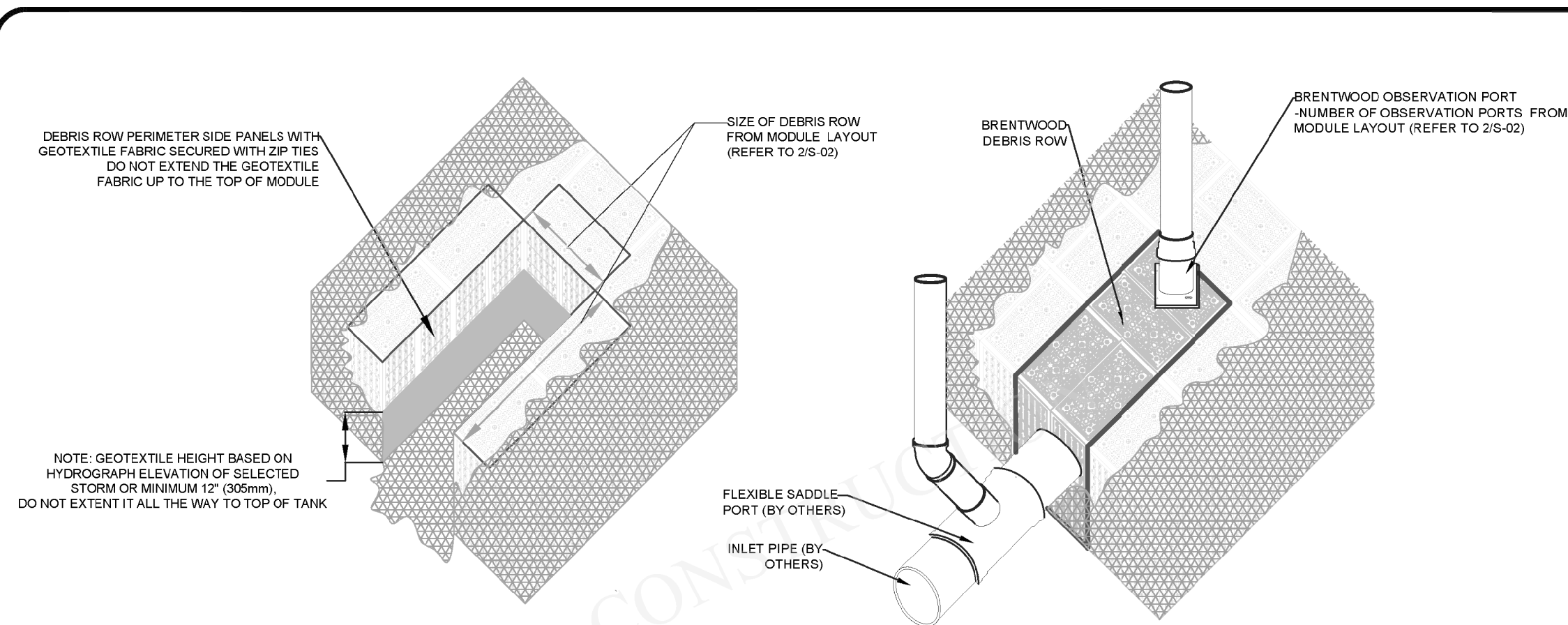
Bradley Heights Apartments  
Puyallup, WA

REV	Record of Changes	Date	By
Δ	Preliminary Drawing	19SEPT2023	AK
Δ	Task Re-Design	08NOV2024	GM

Project Number: OP2023-7367  
Page Name: TYP. Pipe Penetration Details  
Drawn by: AK Checked by: JF  
Scale: NTS Date: 19SEPT2023

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ANSI B Size Page (Horizontal)



1 TYP. DEBRIS ROW DETAIL SINGLE STACK SYSTEM

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Renton, WA 98057  
Ph: (425)-254-1075  
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Bradley Heights Apartments  
Puyallup, WA

REV	Record of Changes	Date	By
Δ	Preliminary Drawing	19SEPT2023	AK
Δ	Task Re-Design	08NOV2024	GM

Project Number: OP2023-7367  
Page Name: TYP. Debris Row Details  
Drawn by: AK Checked by: JF  
Scale: NTS Date: 19SEPT2023

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**General Conditions**

- Review installation procedures and coordinate the installation with other construction activities, such as grading, excavation, utilities, construction access, erosion control, etc.
- Engineered Contract Drawings supersede all provided documentation, as the information furnished in this document is based on a typical installation.
- Coordinate the installation with manufacturer's representative/distributor to be on-site to review start up procedures and installation instructions.
- Components shall be unloaded, handled and stored in an area protected from traffic and in a manner to prevent damage.
- Assembled modules may be walked on, but vehicular traffic is prohibited until backfilled per Manufacturer's requirements. Protect the installation against damage with highly visible construction tape, fencing, or other means until construction is complete.

Ensure all construction occurs in accordance with Federal, Provincial and Local Laws, Ordinances, Regulations and Safety Requirements

- Extra care and caution should be taken when temperatures are at or below 40° F (4.4° C).

**NOT FOR CONSTRUCTION**

These drawings shall not be used for construction until they have been reviewed for all design aspects (structural, geotechnical, stormwater) and approved by the Engineer of Record for the Project.

It is the Buyer's responsibility to ensure that the design into which the Product will be used has been approved by the Engineer of Record (not Layfield) with a review that may include, but not be limited to, inlet and outlet configurations including inverts and pipe connections, storage volume, system footprint, Stormtank elevations including cover soil requirements, and proximity to structures and slopes.

Site design / engineering elements may include but not be limited to the following:

- Review elevations and if necessary adjust grading to ensure the chamber cover requirements are met.
- Evaluating site-specific information on soil conditions and/or bearing capacity.
- Assessing the bearing resistance (allowable bearing capacity) of the sub-grade soils and the depth of foundation stone with consideration for the range of expected soil moisture conditions

**1.0 StormTank® Assembly**

StormTank® Modules:

StormTank® modules are delivered to the site as palletized components requiring simple assembly. No special equipment, tools or bonding agents are required, only a rubber mallet. A single worker can typically assemble a module in two minutes.

**ASSEMBLY INSTRUCTIONS:**

- Place a platen on a firm level surface and insert the eight (8) columns into the platen receiver cups. Firmly tap each column with a rubber mallet to ensure the column is seated.
- Place a second platen on a firm level surface. Flip the previously assembled components upside down onto the second platen, aligning the columns into the platen receiver cups.
- Once aligned, seat the top assembly by alternating taps, with a rubber mallet at each structural column until all columns are firmly seated.

**2.0 Basin Excavation**

- Stake out and excavate to elevations per approved plans/Excavation Requirements:
  - Sub-grade excavation must be a minimum of 6" (152 mm) below designed StormTank® Module invert.
  - The excavation should extend a minimum of 12" (305 mm) beyond the StormTank® dimensions in each length and width (an additional 24" [610 mm] in total length and total width) to allow for adequate placement of side backfill material.
- Remove objectionable material encountered within the excavation, including protruding material from the walls.
- Furnish, install, monitor and maintain excavation support (e.g., shoring, bracing, trench boxes, etc.) as required by Federal, Provincial and Local Laws, Ordinances, Regulations and Safety Requirements.

**3.0 Sub-Grade Requirements**

- Sub-grade shall be unfrozen, level (plus or minus 1%), and free of lumps or debris with no standing water, mud or muck. Do not use materials nor mix with materials that are frozen and/or coated with ice or frost.
- Unstable, unsuitable and/or compromised areas should be brought to the Engineer's attention and mitigating efforts determined prior to compacting the sub-grade.
- Sub-grade must be compacted to 95% Standard Proctor Density or as approved by the Engineer of Record. If code requirements restrict subgrade compaction, it is the requirement of the geotechnical Engineer to verify that the bearing capacity and settlement criteria for support of the system are met.

**4.0 Leveling Bed Installation**

- Install geotextile fabric and/or liner material, as specified.
  - Geotextile fabric shall be placed per manufacturer's recommendations.

**5.0 StormTank® Module Placement**

1. Install geotextile fabric and/or liner material, as specified.
  - Geotextile fabric shall be placed per manufacturer's recommendations.
  - Additional material to be utilized for wrapping above the system must be protected from damage until use.
2. After the geotextile is secured, place a minimum 6" (152 mm) Leveling Bed.
  - Material should be a 3/4" (19 mm) angular stone meeting Appendix B - Acceptable Fill Material.
  - Material should be raked free of voids, lumps, debris, sharp objects and plate vibrated to a level with a maximum 1% slope.
3. Correct any unsatisfactory conditions.

**6.0 StormTank® Installation**

1. Install the individual modules by hand, as detailed below.
  - The modules should be installed as shown in the StormTank® submittal drawings with the short side of perimeter modules facing outward, except as otherwise required.
  - Make sure the top/bottom platens are in alignment in all directions to within a maximum 1/4" (6.4 mm).
  - For double stack configurations:
    - Install the bottom module first. **DO NOT INTERMIX VARIOUS MODULE HEIGHTS ACROSS LAYERS.** Backfilling prior to proceeding to second layer is optional.
    - Insert stacking pins (2 per module) into the top platen of the bottom module.
    - Place the upper module directly on top of the bottom module in the same direction, making sure to engage the pins.
2. Install the modules to completion, taking care to avoid damage to the geotextile and/or liner material.
3. Locate any ports or other penetration of the StormTank®.
  - Install ports/penetrations in accordance with the approved submittals, contract documents and manufacturer's recommendations.
  - Upon completion of module installation, wrap the modules in geotextile fabric and/or liner.
    - Geotextile fabric shall be wrapped and secured per manufacturer's recommendations.
    - Seal any ports/penetrations per Manufacturer's requirements.

**Notes:**

- If damage occurs to the geotextile fabric or impermeable liner, repair the material in accordance with the geotextile/liner Manufacturer's recommendations.

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## SINGLE STACK MODULE SYSTEM

Total Storage Volume	4,154.88 ft <sup>3</sup>
Module Storage Volume	4,154.88 ft <sup>3</sup>
Stone Storage Volume	--- ft <sup>3</sup>
System Footprint	2,368 ft <sup>2</sup>
Estimated Geotextile Fabric	NuBarrier 677 yd <sup>2</sup> LPS 1,168 yd <sup>2</sup>
Estimated Liner	5,254 ft <sup>2</sup>
Estimated Stone Volume	146.96 yd <sup>3</sup>
Minimum Excavation Required	394.67 yd <sup>3</sup>
Minimum Excavation Depth	4.50 ft
Stone Type	3/4" Clear Stone
Stone Void Space	40%
Model Type	25 Series ST-24

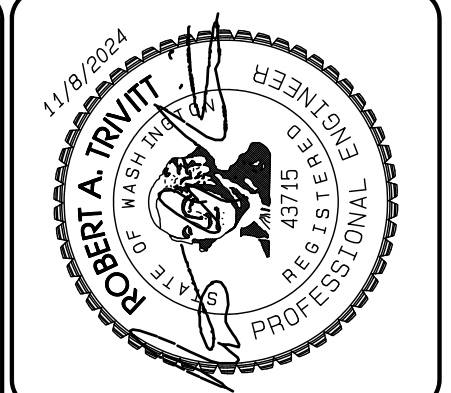
Bradley Heights Apartments  
Puyallup, WA

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Δ	Preliminary Drawing	19SEPT2023	AK
Δ	Task Re-Design	08NOV2024	GM

Project Number: OP2023-7367  
Page Name: Supplementary Notes  
Drawn by: AK Checked by: JF  
Scale: NTS Date: 19SEPT2023

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1. Revised per City review and Mail A adjustment.

JOB NO: 2307  
DATE: May 14, 2024  
DESIGNED BY: JPD, TRV  
DRAWN BY: JPD, TRV  
CHECKED BY: JPD, TRV  
APPROVED BY: JPD, TRV

**AZURE GREEN CONSULTANTS**  
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**StormTank Details**  
Bradley Heights  
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA, 98122  
Phone 509.896.0326  
Fax jordan@timberlanepartners.com

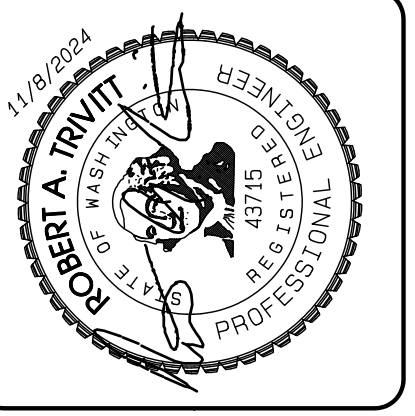
**DRAWING**  
**SD-21**  
SHEET 35 OF 47

Project Date: C:\Users\32277 - Bradley Heights\Time\Bradley Heights 2024\_1108 ENG.dwg Plot Date: 11/05/2024 09:27:46 AM



# Bradley Heights

## Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



- 6.0 Side Backfill**
- Inspect all geotextile, ensuring that no voids or damage exists, which will allow sediment into the StormTank® system.
  - Adjust the stone/soil interface geotextile along the side of the native soil to ensure the geotextile is taught to the native soil.
  - Once the geotextile is secured, begin to place the Side Backfill.
    - Material should be a 3/4" (19 mm) angular stone meeting Appendix B – Acceptable Fill Material.
    - Backfill sides "evenly" around the perimeter without exceeding single 12" (305 mm) lifts.
    - Place material utilizing an excavator, dozer or conveyor boom.
    - Utilize a plate vibrator to settle the stone and provide a uniform distribution.

- Notes:**
- Do not apply vehicular load to the modules during placement of side backfill. All material placement should occur with equipment located on the native soil surrounding the system.
  - If damage occurs to the geotextile fabric or impermeable liner, repair the material in accordance with the geotextile/liner Manufacturer's recommendations.

- 7.0 Top Backfill (Stone)**
- Begin to place the Top Backfill.
    - Material should be a 3/4" (19 mm) angular stone meeting Appendix B – Acceptable Fill Material.
    - Place material utilizing an excavator, dozer or conveyor boom (Tech Bulletin Stormtank Module 25 Series Construction Equipment) and use a walk-behind plate vibrator to settle the stone and provide an even distribution.
- DO NOT DRIVE ON THE MODULES WITHOUT A MINIMUM 12" (305 mm) COVER.**
- Upon completion of Top Backfilling, wrap the system in geotextile fabric and/or liner per manufacturer's recommendations.
  - Install metallic tape around the perimeter of the system to mark the area for future utility detection.

- Notes:**
- If damage occurs to the geotextile fabric or impermeable liner, repair the material in accordance with the geotextile/liner Manufacturer's recommendations.

- 8.0 Suitable Compactable Fill**
- Following Top Backfill placement and geotextile fabric wrapping, complete the installation as noted below.
- Vegetated Area**
- Place fill onto the geotextile.

- Maximum 12" (305 mm) lifts, compacted with a vibratory plate or walk behind roller to a minimum of 90% Standard Proctor Density.
- The minimum top cover/backfill to finished grade must not be less than that shown on Detail 5 Typical System Cross Section, and the maximum depth from final grade to the bottom of the lowest module should not exceed that shown on Detail 5.

- Impervious Area**
- Place fill onto the geotextile.
    - Maximum 12" (305 mm) lifts, compacted with a vibratory plate or walk behind roller to a minimum of 90% Standard Proctor Density.
    - The minimum top cover/backfill to finished grade must not be less than that shown on Detail 5 Typical System Cross Section, and the maximum depth from final grade to the bottom of the lowest module should not exceed that shown on Detail 5.
  - Finish to the surface and complete with asphalt, concrete, etc.

- Notes:**
- A vibratory roller may only be utilized after a minimum 24" (610 mm) of compacted material has been installed or for the installation of the asphalt wearing course.
  - If damage occurs to the geotextile fabric, repair the material in accordance with the geotextile Manufacturer's recommendations.
  - For most recent installation guidelines visit: <http://www.brentwoodindustries.com/resources/>

**9.0 Inspection and Maintenance**

If the following inspections and maintenance procedures are not followed as specified below then the end-user is responsible for the performance of the modules. These Maintenance procedures must be performed after a heavy rainfall, flooding or any incident that will vary the flow of water drastically.

- Inspection**
- Inspect all observation ports, inflow and outflow connection and the discharge area
  - Identify and log any sediment and debris accumulation, system backup, or discharge rate changes.
  - If there is a sufficient need for a cleanout, contact a local cleaning company for assistance.

- Cleaning:**
- If a pretreatment device is installed, follow manufacturer recommendations.
  - Using vacuum pump truck, evacuate debris from the inflow and outflow ports.
  - Flush the system with clean water, forcing debris from the system.
  - Repeat steps 2 and 3 until no debris is evident

Cover Depth		Wheel Load (Vehicle and Equipment)		Maximum Tracked Equipment		Roller Loads	
Module	Depth	Maximum (Vehicle)	Maximum (Equipment)	Track Width	Maximum Weight (Including material)	Maximum Drum Weight	Maximum Drum Weight
6 in.	Not Permitted	Not Permitted	N/A	N/A	LGP Equipment (≤ 50 psi) Only	Not Permitted	Not Permitted
12 in.	6,500 lbs.	8,000 lbs.	N/A	24 in.	30,000 lbs.	< 10 psi	< 10 psi
18 in.	11,000 lbs.	14,500 lbs.	22 in.	38 in.	30,000 lbs.	30,000 lbs.	30,000 lbs.
			24 in.	40,000 lbs.	40,000 lbs.	(Static Only)	
			36 in.	60,000 lbs.	60,000 lbs.		
24 in.	15,000 lbs.	20,000 lbs.	22 in.	40,000 lbs.	40,000 lbs.	40,000 lbs.	40,000 lbs.
			24 in.	50,000 lbs.	60,000 lbs.	(Including Dynamic)	
			24 in.	60,000 lbs.	60,000 lbs.		

- Vehicle has a tire contact area of 32"x10"
- Equipment has a tire contact area of 30"x20" (excludes tracked trucks like dump trucks)
- Cover depths based on angular material, utilization of other materials impacts load rating
- Downing directly over the system is prohibited, including asphalt into a power unit
- Consideration must be given for rutting into cover material when utilizing table
- Excavation equipment cannot operate (excavate) from over the system
- Material is prohibited from being stockpiled over a system
- For specialty equipment (overall handles, cranes, units with outriggers, etc.) contact a StormTank Rep. before utilization over the system

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Estimated Liner	5,254 ft <sup>2</sup>
Estimated Stone Volume	146.96 yd <sup>3</sup>
Minimum Excavation Required	394.67 yd <sup>3</sup>
Minimum Excavation Depth	4.50 ft
Stone Type	2 <sup>nd</sup> Clear Stone
Stone Void Space	40%
Model Type	25 Series ST-24

**Bradley Heights Apartments**  
Puyallup, WA

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1	Preliminary Drawing	15SEPT2023	AK
2	Task Re-Design	08NOV2024	GM

Project Number: OP2023-7367

Page Name: Supplementary Notes

Drawn by: AK	Checked By: JF
Scale: NTS	Date: 19SEPT2023

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**07 OF 07**

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Project Desc.: Bradley Heights - Path: C:\Users\3227 - Bradley Heights\Timeline\Bradley Heights 2024 - 1108 ENG.prd Plot Date/Time: 11/09/2024/9:29:05PM

APPROVED

BY: \_\_\_\_\_ CITY OF PUYALLUP DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**

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FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

**StormTank Details**

**Bradley Heights**

Timberlane Partners  
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Seattle, WA 98122  
Phone 509.889.0326  
Fax jordan@timberlanepartners.com

**DRAWING**  
**SD-22**  
SHEET 36  
OF 47

409 East Pioneer, Suite A - Puyallup, WA 98372  
phone: 253.770.3144 fax: 253.770.3142

JOB NO: 3227  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Green  
APPROVED BY: Rob Green

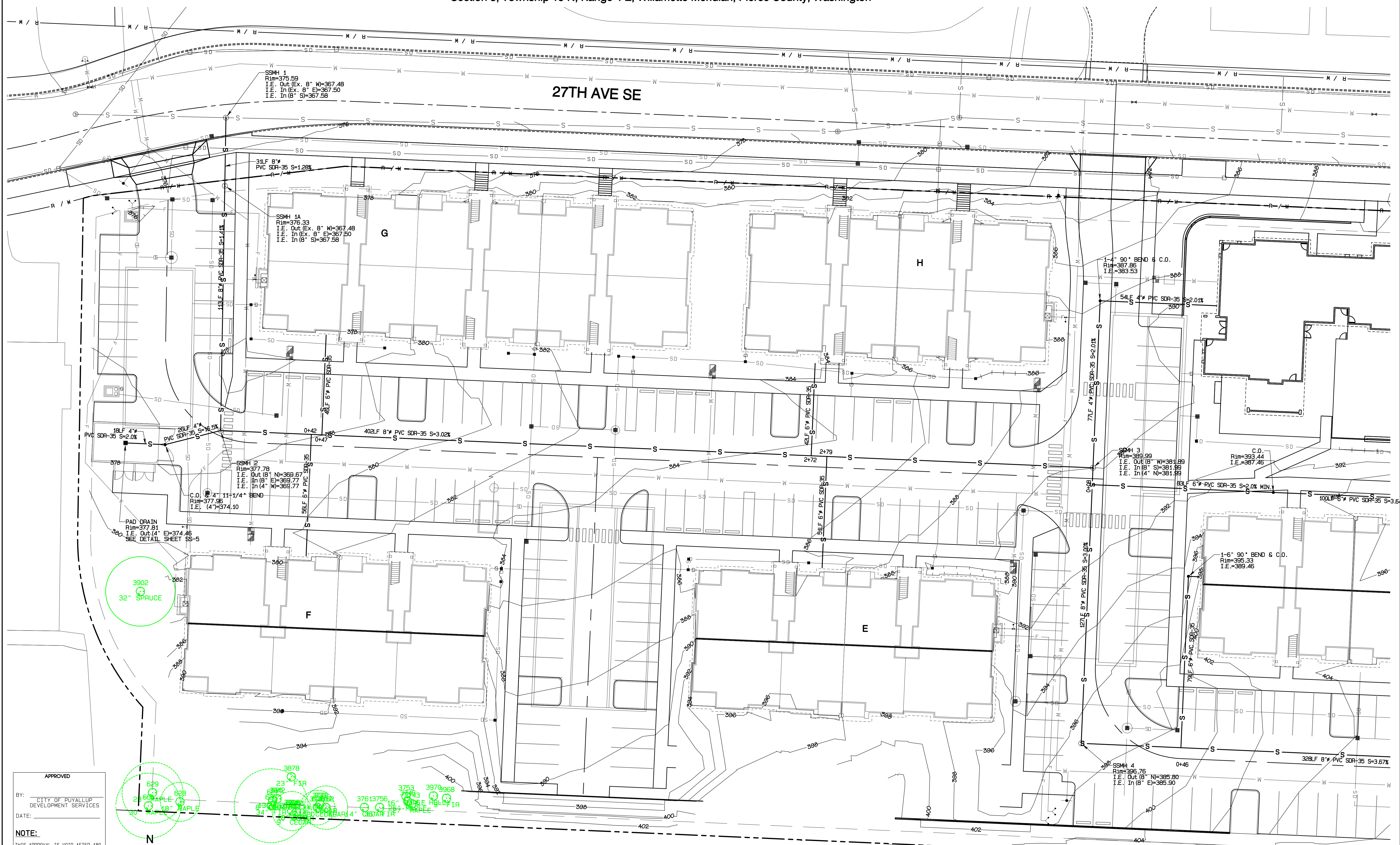
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1 Revised per City review and Matt A. adjustment.



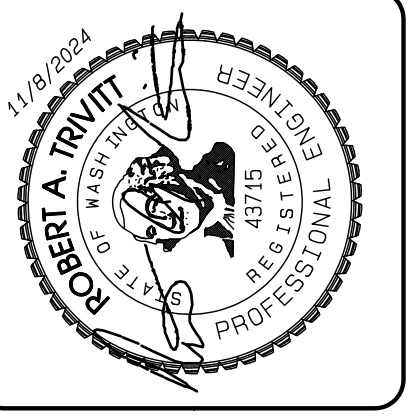
# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



Project Date: 11/18/2024; Drawn By: R. J. Trivitt; Checked By: R. J. Trivitt; Approved By: R. J. Trivitt; Date: 11/18/24

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JOB NO: 2327  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Trivitt  
 APPROVED BY: Rob Trivitt

**AZURE GREEN CONSULTANTS**  
 feasibility • planning • engineering • surveying  
 409 East Pioneer, Suite A - Puyallup, WA 98372  
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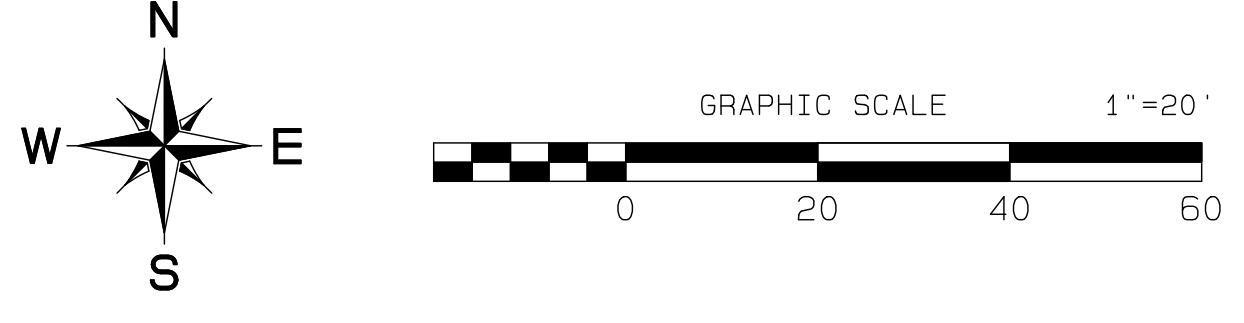
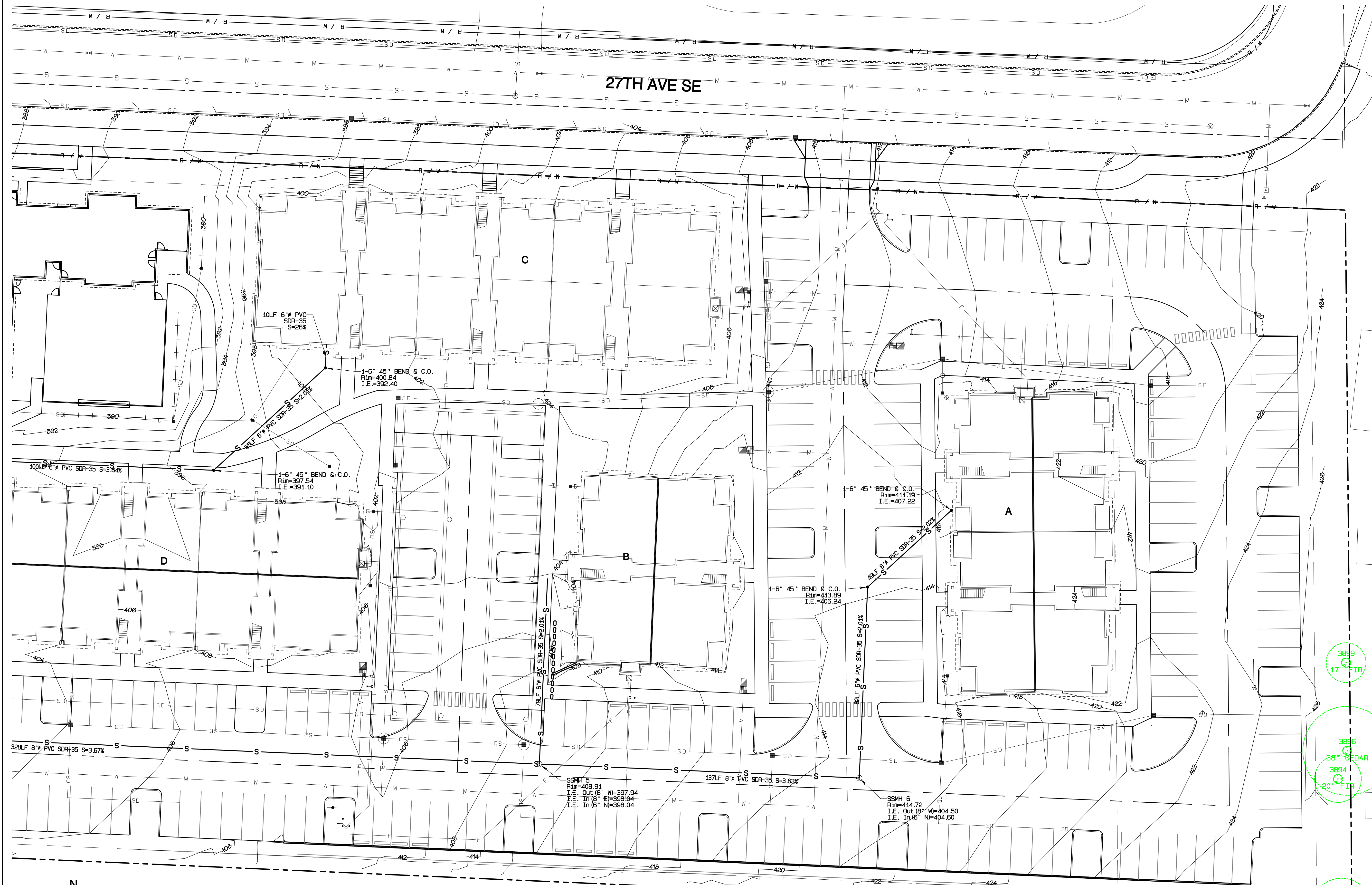
**SS Plan**  
 Bradley Heights  
 Timberlane Partners  
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 Seattle, WA 98122  
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**DRAWING**  
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 SHEET 37  
 OF 47



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

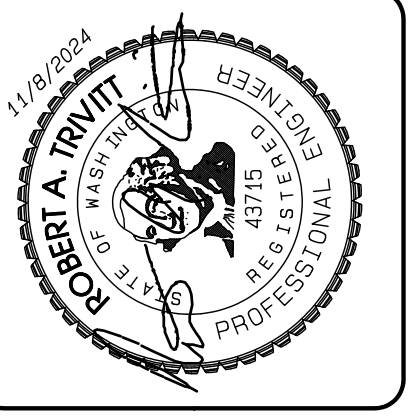


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JOB NO. 2327  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Green  
APPROVED BY: Rob Green

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CONSULTANTS

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**SS Plan**

**Bradley Heights**

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DRAWING

## SS-2

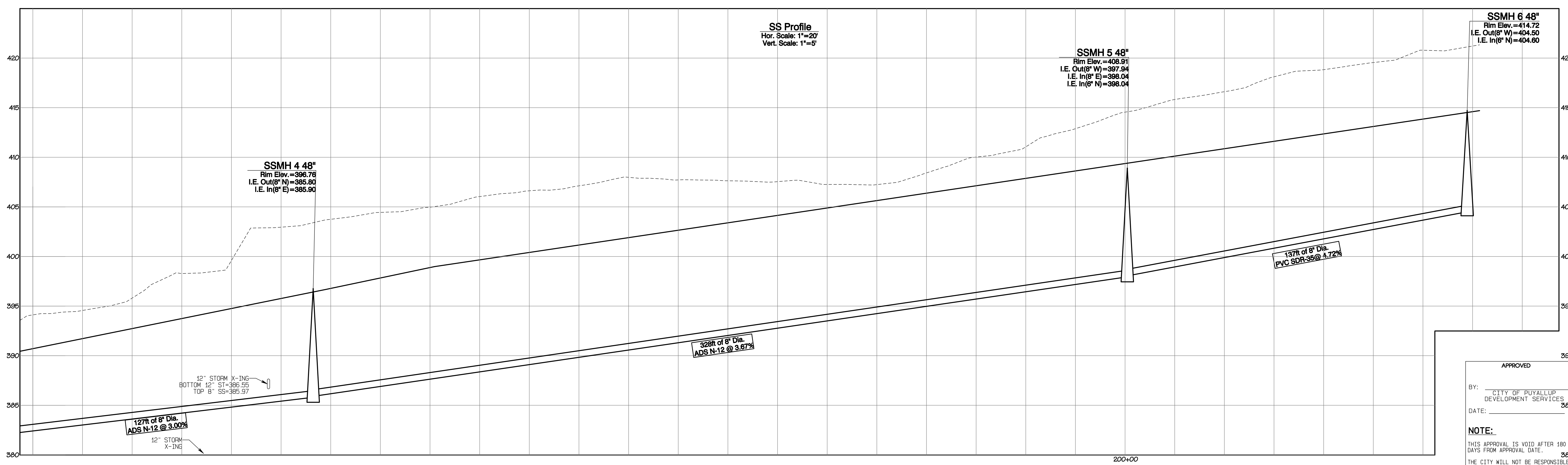
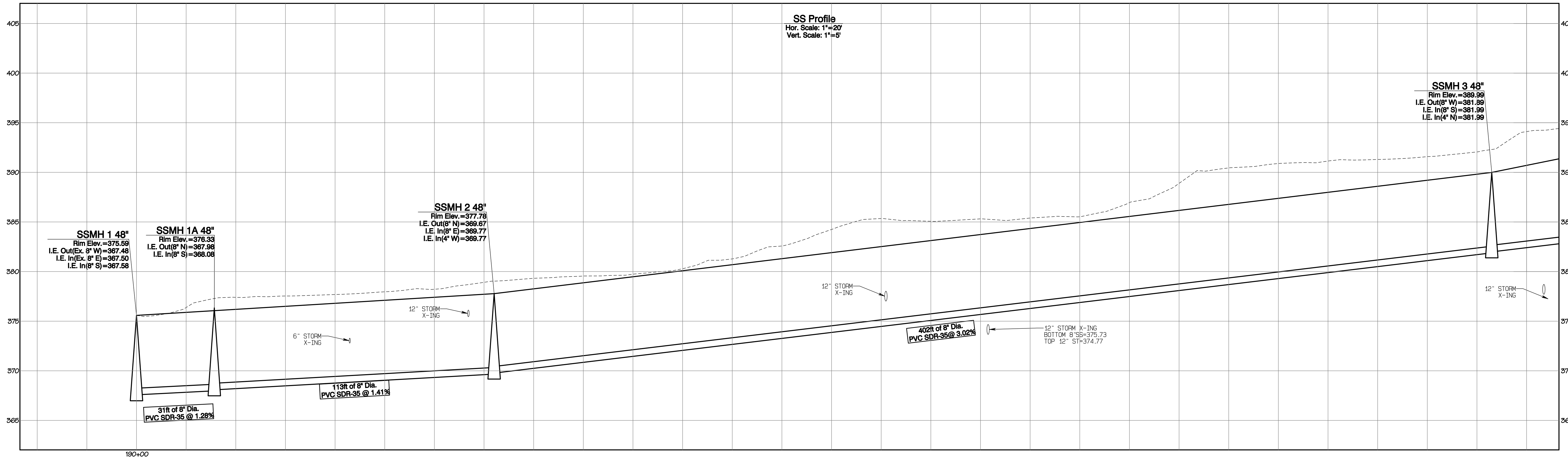
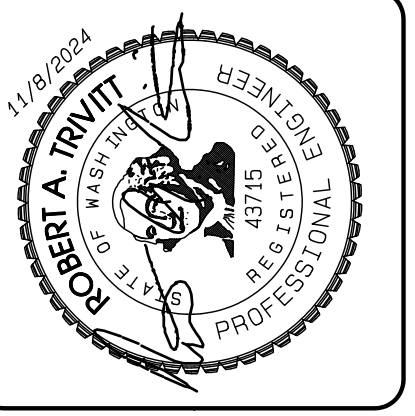
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Project Desc: Bradley Heights; Date: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024-1108 ENG.dwg Plot Date/Time: 11/29/2024 9:32:47PM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



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JOB NO. 2327  
DATE: May 14, 2024  
DESIGNED BY: RDT, TRIVITT  
DRAWN BY: RDT, TRIVITT  
CHECKED BY: RDT, TRIVITT  
APPROVED BY: RDT, TRIVITT

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**SS Profiles**

**Bradley Heights**

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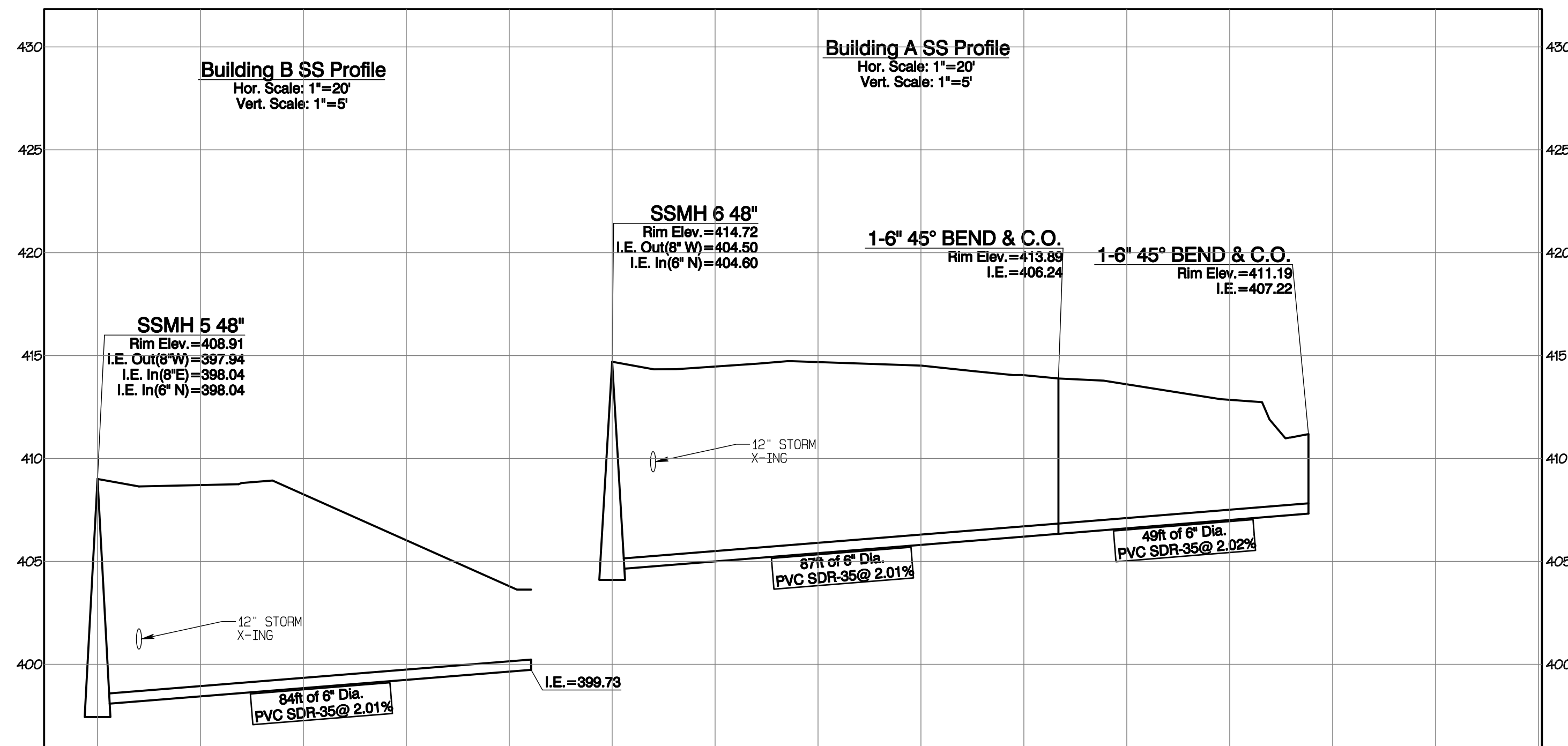
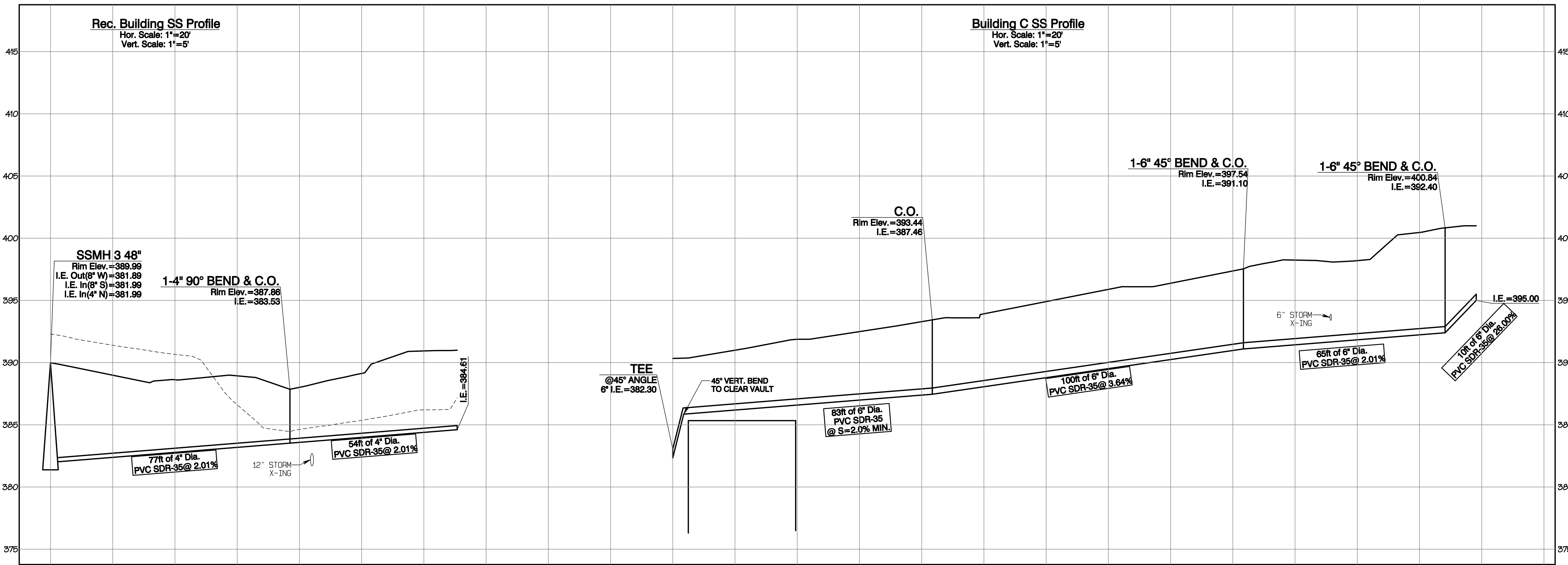
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OF 47

Project Desc.: Bradley Heights; Path: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024 1108 ENG.dwg Plot Date/Time: 11/02/2024 9:33:24AM



# Bradley Heights

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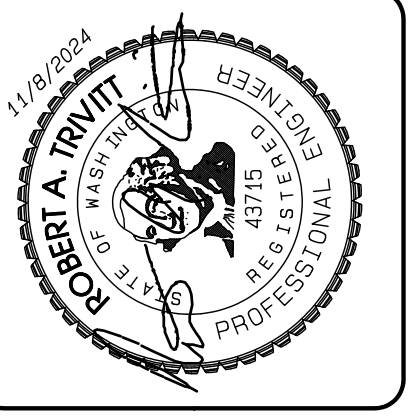


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APPROVED BY: Rob. Green

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DRAWING

**SS-4**

SHEET 40  
OF 47

Project Desc.: Bradley Heights Plan: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights 2024 - 1108 ENG.dwg Plot Date/Time: 11/02/2024 9:34:28AM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

**NOTES:**

- NEAT LINE CUTS SHALL BE SEALED AT TOP WITH A HOT PAVING GRADE AND FACE OF CUT TACKED.
- TOP OF SHELF, SLOPE 1/2" PER FOOT, CONSTRUCT IN FIELD CHANNEL AND SHELF TO THE CROWN OF PIPE.

MANHOLE COVER SHALL BE MARKED WITH "SEWER" IN 2" RAISED LETTERS, SEE CITY STANDARD DETAILS NO. 06.01.02 & 06.01.03 FOR ADDITIONAL INFORMATION.

CONSTRUCT IN FIELD CHANNEL & SHELF TO THE CROWN OF THE PIPE

MANHOLE COVER SHALL BE MARKED WITH "SEWER" IN 2" RAISED LETTERS, SEE CITY STANDARD DETAILS NO. 06.01.02 & 06.01.03 FOR ADDITIONAL INFORMATION.

MIN. HEIGHT 4" - MAX. HEIGHT 20"

ADJUSTING RINGS 4" MIN. TO 16" MAX.

CEMENT MORTAR JOINTS

PRECAST ECCENTRIC COUPLER

JOINTS SHALL BE RUBBER GASKETED, PER ASTM C 443

PRECAST RISER SECTION

MANHOLE RUNGS, SEE NOTE

RUBBER GASKET (SAND COLLAR) KOR N SEAL BY REQUEST.

MANHOLE COUPLING WITH RUBBER GASKET (SAND COLLAR) KOR N SEAL BY REQUEST.

18" MAX.

24"

SEE NOTE 1

EXISTING ROADWAY

9" CONCRETE COLLAR

NON-SHRINK GROUT, TYPICAL

12" TYP.

16" MAX.

SEE NOTE 2

PRECAST BASE WITH INTEGRAL RISER

NON-SHRINK GROUT, TYPICAL

PVC PIPE

12" TYP.

4" MIN. TO INVERT (L.C.) ELEVATION

6" MIN.

12" MIN. GRAVEL BEDDING

UNDISTURBED OR COMPACTED SUB-GRADE

**CITY OF PUYALLUP**  
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

**SANITARY SEWER MANHOLE**

APPROVED FOR PUBLICATION  
CITY STANDARD  
04.01.01

100' MAX. SPACING BETWEEN CLEANOUTS

4" MAX. SPACING

FINISHED GRADE

ATTACH CLEANOUT FITTINGS TO EXISTING SIDE SEWER STUB

CLEANOUTS SHALL BE INSTALLED AT TIME OF SEWER CONNECTION OR WHEN MODIFICATIONS ARE MADE TO AN EXISTING SEWER SYSTEM

CLEAN OUT COVER (TYP., SEE NOTE 3)

6" MIN. COMMERCIAL 6" 1% MIN. SLOPE

PVC (GLUED ON) CLEAN OUT ADAPTOR WITH MALE THREADED PLUG (TYP.)

SAMPLING CONNECTION

FROM BUILDING FIXTURES

**NOTES:**

- SAMPLING CONNECTION SHALL BE INSTALLED OUTSIDE WITH UNOBSTRUCTED ACCESS AT ALL TIMES.
- SAMPLING CONNECTION SHALL BE INSTALLED FOR EACH COMMERCIAL / RETAIL UNIT OR SPACE.
- CLEAN OUT AND SAMPLING CONNECTION COVERS:
  - A) FOR NON-VEHICULAR TRAFFIC INSTALLATIONS USE "CARSON" MODEL 910 GREEN YARD BOX WITH BOLT DOWN LID MARKED SEWER OR APPROVED EQUAL.
  - B) FOR ASPHALT, GRVEL, OR TRAFFIC INSTALLATIONS, SEE CITY STANDARD DETAIL NO. 04.03.05 FOR FRAME AND COVER SECTION.
- EACH CLEANOUT ASSEMBLY SHALL CONSIST OF: ONE CLEANOUT ADAPTOR, HUB x FEMALE, PIPF, PVC SI AND ONE CLEANOUT PLUG, MOFFT WITH RAISED NUT, PVC SDR35.

**CITY OF PUYALLUP**  
PUBLIC WORKS AND DEVELOPMENT ENGINEERING

**COMMERCIAL SIDE SEWER CONNECTION WITH SAMPLING CONNECTION**

APPROVED FOR PUBLICATION  
CITY STANDARD  
04.03.04

7/8" HOLE

9"

8"

6"

10.75"

1'-3"

2.25"

**FRAME AND COVER SECTION**

SCALE 1:1

1 1/2" ASPHALT CLASS B, SEE NOTE 2

10.5"

4 1/2" CEMENT CONCRETE

DRIVEWAY

**NOTES:**

- NEAT LINE CUT SHALL BE SEALED AT THE TOP WITH A HOT PAVING GRADE ASPHALT AND FACE OF CUT TACKED.
- ALL MATERIAL SHALL CONFORM TO THE 1991 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION PREPARED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND AMERICAN PUBLIC WORKS ASSOCIATION, WASHINGTON STATE CHAPTER.
- MACHINE BEARING FACES OF FRAME AND COVER TO INSURE POSITIVE FIT.
- EACH CLEAN OUT ASSEMBLY SHALL CONSIST OF: ONE CLEAN OUT ADAPTOR (HUB X FEMALE INSIDE PIPE THREAD, P.V.C. SLP IN), AND ONE CLEAN OUT PLUG (MALE OUTSIDE PIPE THREAD WITH RAISED NUT, P.V.C. SDR35).

SCALE 1:2

**CITY OF PUYALLUP**  
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

**SIDE SEWER CLEAN OUT WHEN PLACED IN DRIVEWAY**

APPROVED FOR PUBLICATION  
CITY STANDARD  
04.03.05

EAST JORDAN IRON WORKS 24" "ERGO" FRAME & COVER (PRE-APPROVED PRODUCT)

1" FLAT FACE COUPLER

26 1/2"

24"

34"

SECTION A-A

TOP OF FRAME SHALL BE ADJUSTED EVEN WITH ROADWAY SURFACE

MPHCH MULTI-TOOL PICKBAR

FRAME AND COVER PLAN VIEW

COVER

GASKET

FRAME AND COVER OPENING

SAFETY LOCK AT 90°

FULLY OPENED AT 120°

OLYMPIC FOUNDRY MH41 RING & HINGE PUYALLUP COVER (PRE-APPROVED PRODUCT)

26"

24"

34"

SECTION A-A

TOP OF FRAME SHALL BE ADJUSTED EVEN WITH ROADWAY SURFACE

1" O-RING GASKET

1" LETTERING HAND PICKER (1/2" x 4")

PICK HOLE (1/2" x 4")

FRAME AND COVER PLAN VIEW

FRAME AND COVER OPENING

**NOTES:**

- EAST JORDAN IRON WORKS 24" "ERGO" AND OLYMPIC FOUNDRY MH41 RING & HINGE PUYALLUP COVER ARE PRE-APPROVED PRODUCTS AND SHALL BE USED FOR PUBLICLY-OWNED INFRASTRUCTURE. ALL OTHERS REQUIRE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO INSTALLATION. PROPOSED CONDITIONS REQUIRE A MANHOLE FRAME AND COVER TO BE INSTALLED WITHIN A PEDESTRIAN PATHWAY, THE MANHOLE FRAME AND COVER SHALL BE ADA COMPLIANT.
- MANHOLE FRAME AND COVER SHOULD NOT BE LOCATED IN PEDESTRIAN PATHWAYS (E.G. SIDEWALKS, CROSSWALKS, ETC.), WHERE EXISTING OR PROPOSED CONDITIONS REQUIRE A MANHOLE FRAME AND COVER TO BE INSTALLED WITHIN A PEDESTRIAN PATHWAY, THE MANHOLE FRAME AND COVER SHALL BE ADA COMPLIANT.
- NON-ROCKING FIT FOR MANHOLE COVERS.
- CASTING TO BE SHOT BLASTED AND FREE FROM SURFACE SAND AND SCALE.
- CASTING TO BE SMOOTH, TRUE TO PATTERN, FREE FROM BLOWHOLES, POROSITY HARD SPOTS, SHRINK HOLES, WARP, OR ANY OTHER DEFECTS WHICH WOULD IMPAIR SERVICEABILITY.
- CASTINGS SHALL BE UNCOATED.
- FOR STORM APPLICATIONS CAST LETTERS SHALL READ "STORM".
- INSTALL FRAME AND COVER IN ROADWAY WITH HINGED SIDE OF ASSEMBLY POINTED TOWARD ONCOMING TRAFFIC.
- THE CITY SHALL HAVE THE RIGHT TO REQUIRE INSPECTION AND APPROVAL OF ALL CASTINGS PRIOR TO PAINTING.
- REPAIR OR DEFECTS BY WELDING, OR BY THE USE OF "SMOOTH-ON" OR SIMILAR MATERIAL WILL NOT BE PERMITTED.
- MANHOLE RING AND COVER SHALL BE FREE OF POROSITY, SHRINK CAVITIES, COLD SHUTS OR CRACKS OR ANY SURFACE DEFECTS WHICH WOULD IMPAIR SERVICEABILITY.
- FRAME HEIGHT MAY BE 4" FOR OVERLAYS AND PAVEMENT REHABILITATION PROJECTS, WITH WRITTEN APPROVAL BY THE CITY ENGINEER.

**CITY OF PUYALLUP**  
OFFICE OF THE CITY ENGINEER

**MANHOLE FRAME AND COVER**

APPROVED FOR PUBLICATION  
CITY STANDARD  
06.01.02

CONCRETE PAD

RAIN SHELTER ROOF TO EXTEND MIN. 12" BEYOND CONCRETE PAD ALL SIDES

3"

1% MIN.

CLEANOUT PER STD 04.03.05

**PLAN VIEW**

FRAME AND HERRINGBONE GRATE PER STD 02.01.05

1% MIN. 1% MIN.

CLEANOUT PER STD 04.03.05

4" 90° BEND

6" MIN.

4" TEE

TYPE 1 CB PER STD 02.01.02

**SECTION VIEW**

**TRASH ENCLOSURE PAD DRAIN DETAIL**

## SANITARY SEWER NOTES:

- All work in City right-of-way requires a permit from the City of Puyallup. Prior to any work commencing, the general contractor shall arrange for a preconstruction meeting at the Development Services Center to be attended by all contractors that will perform work shown on the engineering plans, representatives from all applicable Utility Companies, the project owner and appropriate City staff. Contact Engineering Services to schedule the meeting (253) 841-5568. The contractor is responsible to have their own approved set of plans at the meeting.
- After completion of all items shown on these plans and before acceptance of the project, the contractor shall obtain a "punch list" prepared by the City's inspector detailing remaining items of work to be completed. All items of work shown on these plans shall be completed to the satisfaction of the City prior to acceptance of the sewer system and provision of sanitary sewer service.
- All materials and workmanship shall conform to the Standard Specifications for Road, Bridge, and Municipal Construction (hereinafter referred to as the "Standard Specifications"), Washington State Department of Transportation and American Public Works Association, Washington State Chapter, latest edition, unless superseded or amended by the City of Puyallup City Standards for Public Works Engineering and Construction (hereinafter referred to as the "City Standards").
- A copy of these approved plans and applicable city developer specifications and details shall be on site during construction.
- Any revisions made to these plans must be reviewed and approved by the developer's engineer and the Engineering Services Staff prior to any implementation in the field. The City shall not be responsible for any errors and/or omissions on these plans.
- The contractor shall have all utilities verified on the ground prior to any construction. Call (814) at least two working days in advance. The owner and his/her engineer shall be contacted immediately if a conflict exists.
- Any structure and/or obstruction which require removal or relocation relating to this project shall be done so at the developer's expense.
- Minimum grade on all 4 inch residential side sewers shall be 2 percent and 6 inch commercial side sewers shall be 1 percent; maximum shall be 8 percent. All side sewers shall be 6 inches within City right-of-way.
- Side sewers shall be installed in accordance with City Standard Nos. 04.03.01, 04.03.02, 04.03.03 and 04.03.04. Side sewer installation work shall be done in accordance with the Washington Industrial Safety and Health Act (WISHA).
- All sewer pipe shall be PVC Polypropylene or Ductile Iron. PVC sewer pipe shall conform to ASTM D-3034, SDR35 or pipe sizes 16-inch and smaller and ASTM F679 for pipe sizes 18- to 27-inch ductile iron pipe shall be class 51 or greater, lined with Protecto 401TM epoxy lining or equivalent, unless otherwise noted. 12-inch through 30-inch Polypropylene Pipe (PP) shall be dual walled, have a smooth interior and exterior corrugations and meet WSDOT 9-05.24(2). It shall meet or exceed ASTM F2764. 36-inch through 60-inch PP pipe shall be triple walled and meet WSDOT 9-05.24(2). It shall meet or exceed ASTM F2764. PP shall have a minimum pipe stiffness of 46 pii when tested in accordance with ASTM D2412. Testing shall be per ASTM F1417. Trenching, bedding, and backfill shall be in accordance with City Standard No. 06.01.01. Minimum cover on PVC and PP pipe shall be 3.0 feet. Minimum cover on ductile iron pipe shall be 4.0 feet.
- Sanitary sewer manhole frames and covers shall conform to City Standard No. 06.01.02.
- Sanitary sewer manholes shall conform to City Standard Nos. 04.01.01, 04.01.02, 04.01.03 and 04.01.04. All manholes shall be channeled for future lines as specified on these plans. Manhole steps and ladder shall conform to Standard No. 06.01.03.
- Sanitary sewer pipe and side sewers shall be 10 feet away from building foundations and/or roof lines with the exception of side sewers that provide service to a single-family residence. At the discretion of the review engineer, a Licensed Professional Engineer will be required to stamp the design to account for depth or proximity to foundation, steep slopes, or other factors.
- No side sewers shall be connected to any house or building until all manholes are adjusted to the finished grade of the completed asphalt roadway and the asphalt patch and seal around the ring are accepted.
- For commercial developments in which sources of grease and/or oils may be introduced to the City sanitary sewer system, a City approved grease interceptor shall be installed downstream from the source.
- Once sewer and all other utility construction is completed, all sanitary sewer mains and side sewers shall be tested per Section 406 of the City Standards.

APPROVED

BY: CITY OF PUYALLUP DEVELOPMENT SERVICES

DATE: \_\_\_\_\_

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.

FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.



REVISION	DATE	DESCRIPTION
1	11/09/24	Revised per City review and Mail A adjustment.
2		
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JOB NO. 23027  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Trivitt  
APPROVED BY: Rob Trivitt

**AZURE GREEN CONSULTANTS**  
+ feasibility + planning + engineering + surveying

409 East Pioneer, Suite A - Puyallup, WA 98372  
phone: 253.770.3144 fax: 253.770.3142

**SS Details**

Bradley Heights

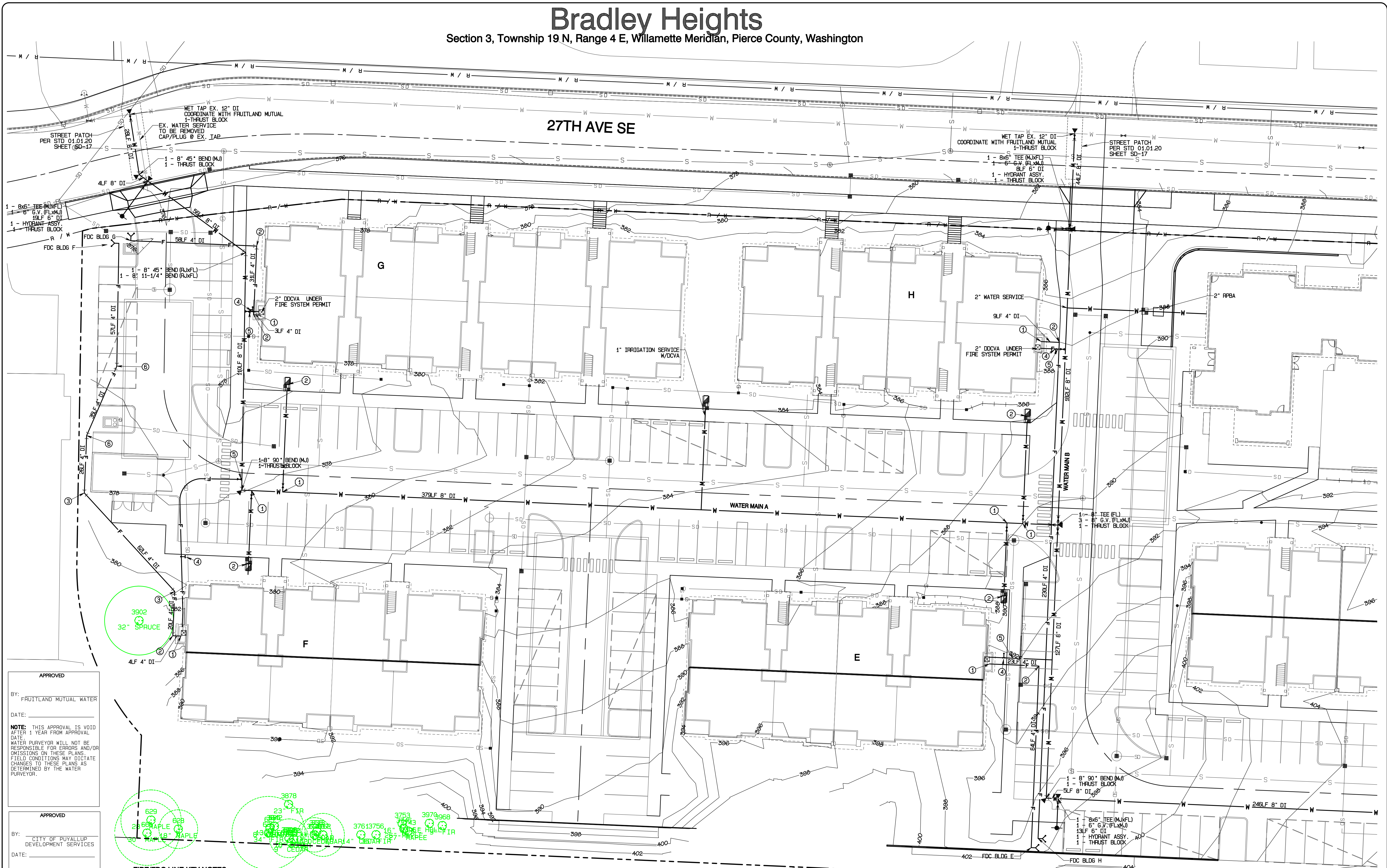
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.898.0326  
Fax jordan@timberlanepartners.com

**DRAWING**  
**SS-5**  
SHEET 41  
OF 47



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



REVISION	DATE	DESCRIPTION
1	11/29/24	Revised per City review and M&J A adjustment.
2		
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JOB NO. 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Trivitt  
 APPROVED BY: Rob Trivitt

**AZURE GREEN CONSULTANTS**  
 \*feasibility \*planning \*engineering \*surveying  
 419 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144 fax: 253.770.3142

**Bradley Heights**  
 Water Plan  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.899.0326  
 Fax jordan@timberlanepartners.com

Project Date: 11/29/24; Drawn By: Rob Trivitt; Checked By: Rob Trivitt; Approved By: Rob Trivitt; Date: 11/29/24; Job No: 3227; Title: Bradley Heights - Bradley Heights Water Main and FDC Plans; Scale: 1"=20'; PLOT DATE: 11/29/24; 8:42:49AM

**APPROVED**  
 BY: FRUITLAND MUTUAL WATER  
 DATE: \_\_\_\_\_  
**NOTE:** THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.  
 WATER PURVEYOR WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.  
 FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE WATER PURVEYOR.

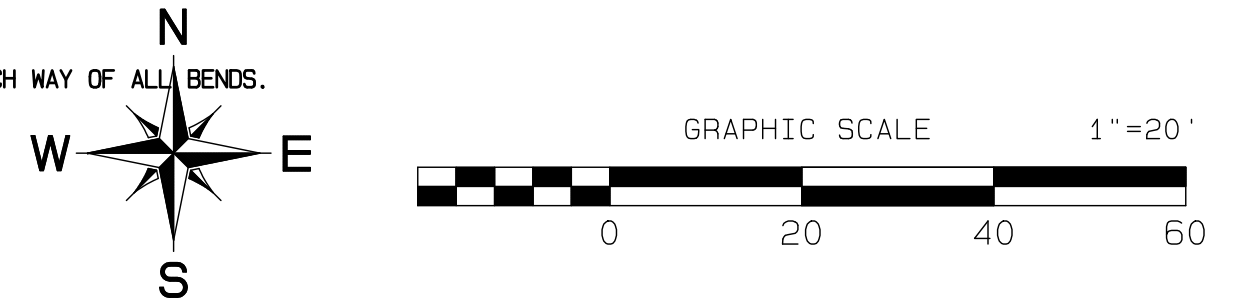
**APPROVED**  
 BY: CITY OF PUYALLUP DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
**NOTE:** THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.  
 THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.  
 FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

- FIRE/FDC LINE KEY NOTES**
- 1 ENTRY TO BUILDING, COORDINATE WITH SPRINKLER SYSTEM DESIGN DDCVA INSIDE BUILDING
  - 2 1-4" 90° BEND (RJ)
  - 3 1-4" 45° BEND (RJ)
  - 4 PIV
  - 5 2" FIRE SERVICE CONNECTION
  - 6 1-4" 22-1/2° BEND (RJ)

- WATER SERVICE KEY NOTES**
- 1 1-1/2" DOMESTIC SERVICE PER STD 03.03.02
  - 2 1-1/2" METER & DDCVA PER STD 03.03.02 & 03.04.01

- GENERAL NOTES:**
1. DOMESTIC & IRRIGATION SERVICES: FRUITLAND WATER WILL SET A METER SETTLER WITH BOX AND A TAIL PIECE TO WHICH CONNECT.
  2. FIRE LINES: FRUITLAND WATER WILL SET THE VALVE ON THE MAIN BUT OWNER'S CONTRACTOR WILL CONSTRUCT FROM THAT POINT ON.
  3. FRUITLAND WATER WILL CONSTRUCT OR HIRE THE PROJECT OUT. IF HIRED OUT, FRUITLAND WATER WILL PURCHASE PIPE AND FITTINGS.

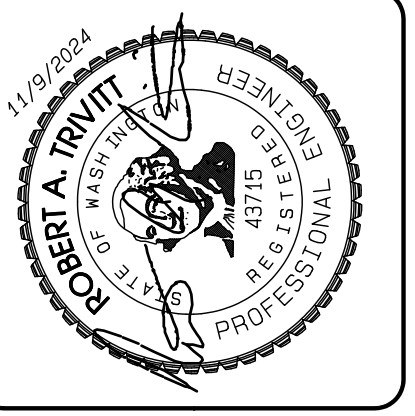
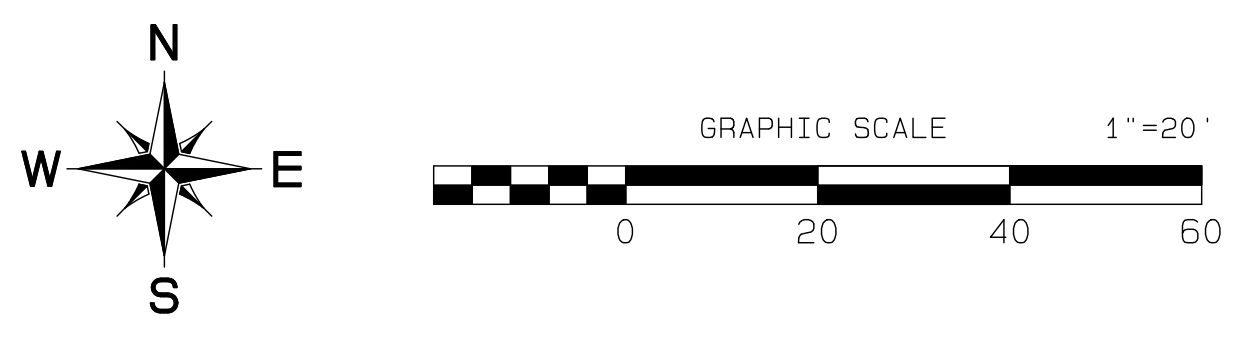
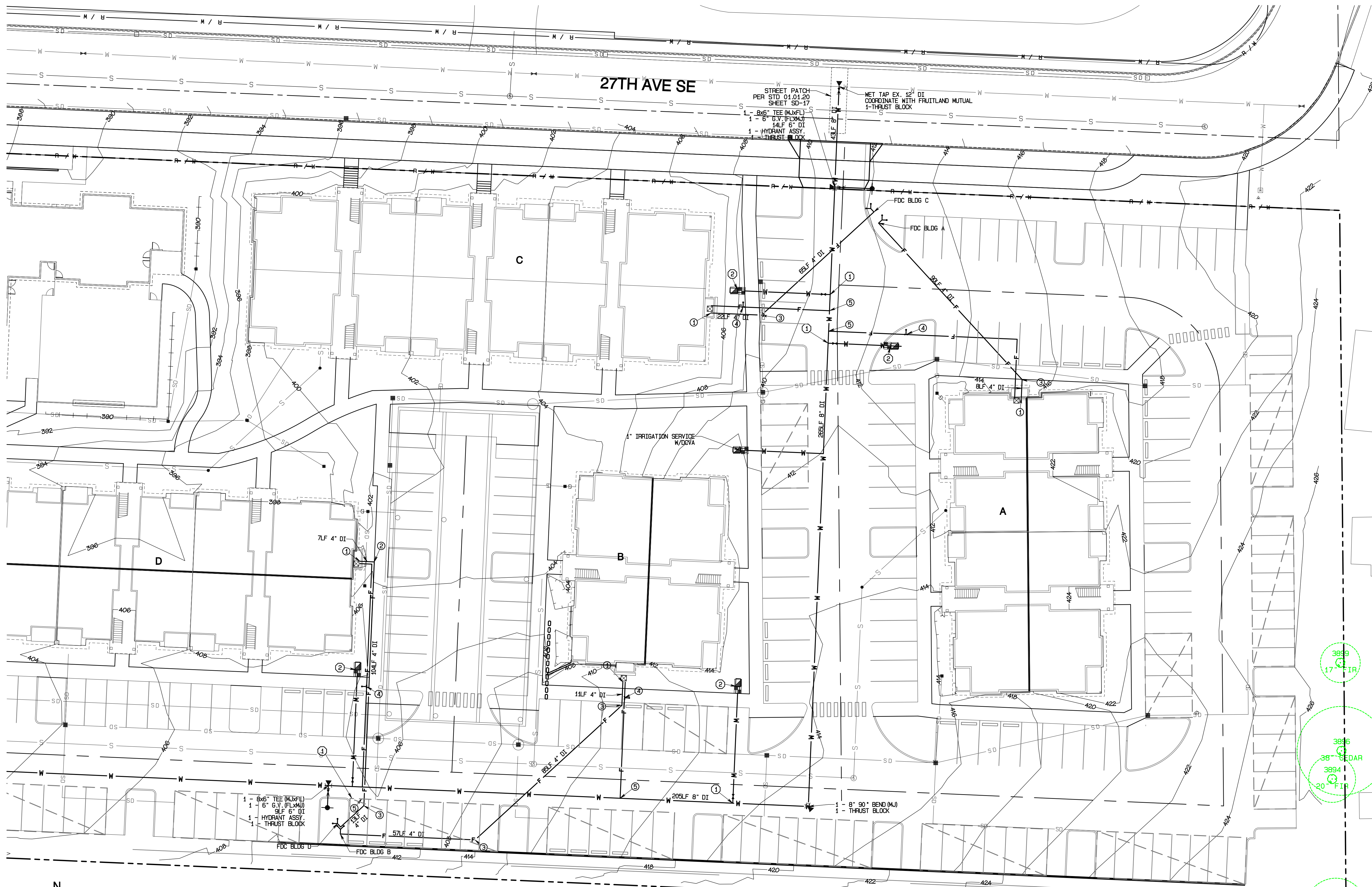
- WATER NOTES:**
1. USE MEGALUGS ON ALL MJ FITTINGS.
  2. FIELD LOCK GASKETS REQUIRED TWO JOINTS EACH WAY OF ALL BENDS.
  3. DDCVA REQUIRED ON ALL DOMESTIC LINES.
  4. STANDARD REQUIRED COVER IS 3.5'.





# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



REVISION	DATE
1	11/29/24
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JOB NO. 3827  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Paul Green  
 APPROVED BY: Paul Green

**AZURE GREEN**  
 CONSULTANTS

\* feasibility \* planning \* engineering \* surveying

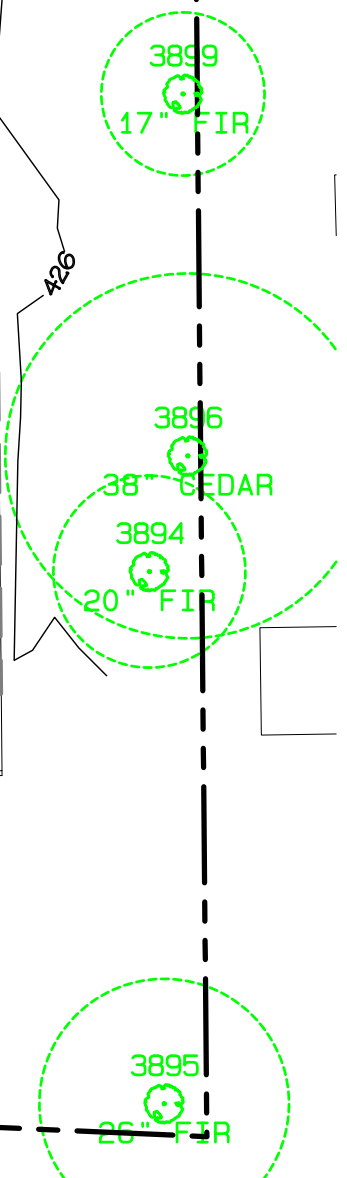
419 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144 fax: 253.770.3142

APPROVED  
 BY: FRUITLAND MUTUAL WATER  
 DATE: \_\_\_\_\_

**NOTE:** THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE. WATER PURVEYOR WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE WATER PURVEYOR.

APPROVED  
 BY: CITY OF PUYALLUP DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_

**NOTE:** THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE. THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.



**Water Plan**

**Bradley Heights**

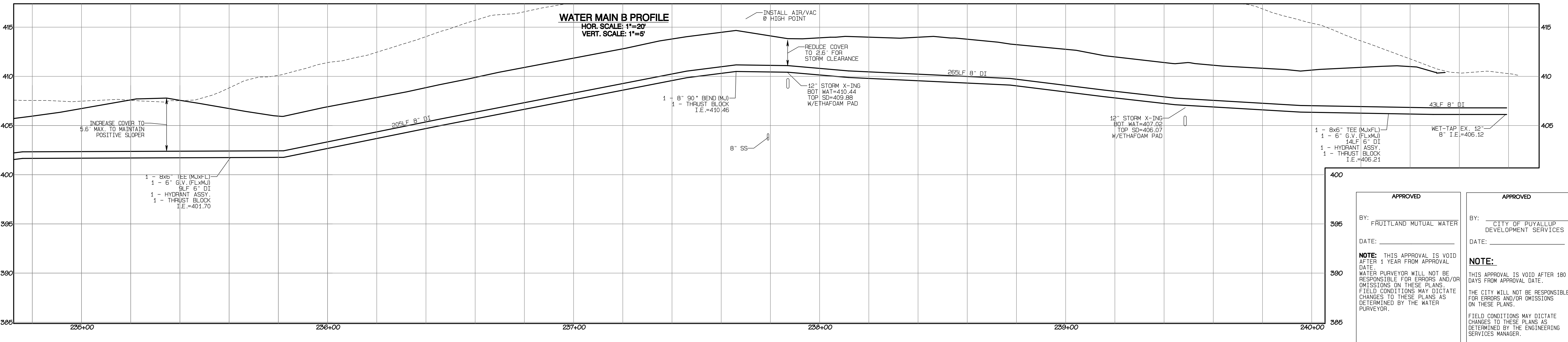
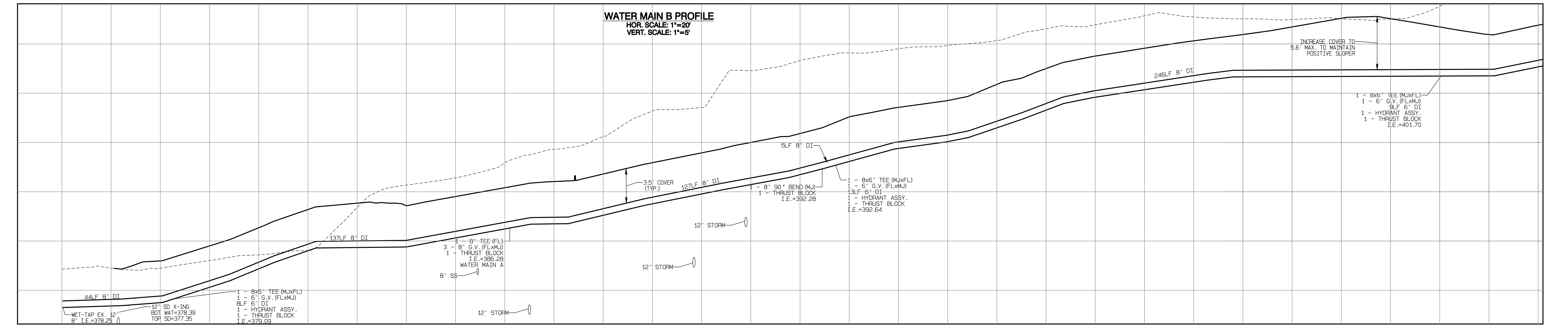
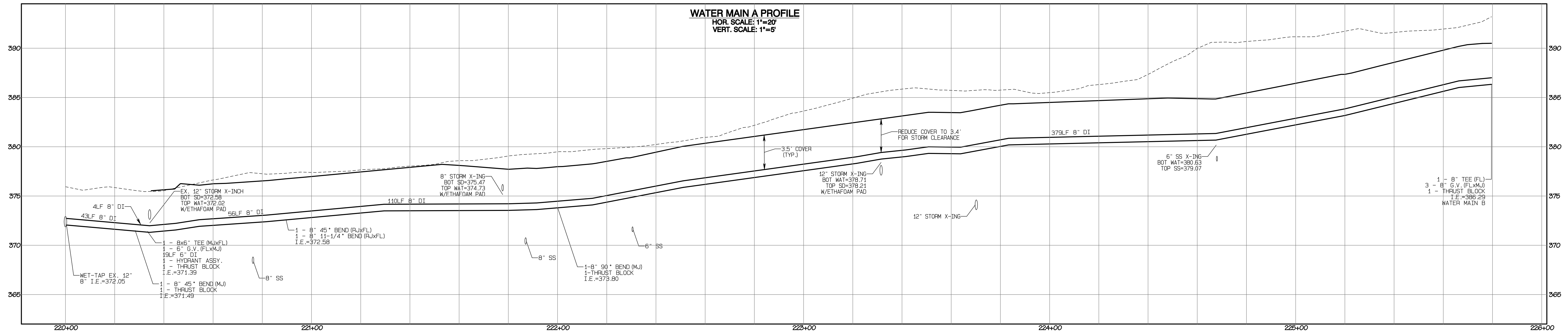
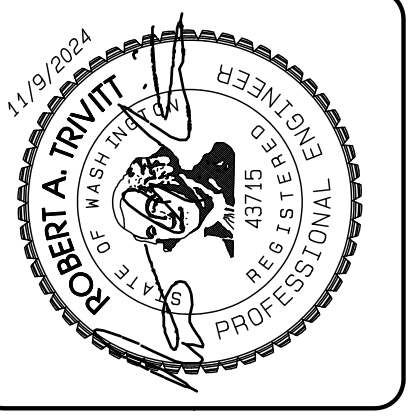
Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.889.0326  
 Fax jordan@timberlanepartners.com

Project Desc.: Bradley Heights; Path: C:\Users\3827 - Bradley Heights\Timberlane\Bradley Heights 2024 1109 ENG.dwg PLOT Date/Time: 11/29/2024 8:43:19AM



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



REVISION	DATE
1	11/09/2024
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JOB NO. 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Trivitt  
 APPROVED BY: Rob Trivitt

**AZURE GREEN CONSULTANTS**  
 feasibility • planning • engineering • surveying  
 409 East Pioneer, Suite A - Puyallup, WA 98372  
 phone: 253.770.3144 fax: 253.770.3142

**Water Main Profiles**  
 Bradley Heights  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone: 509.896.0326  
 Fax: jordan@timberlanepartners.com

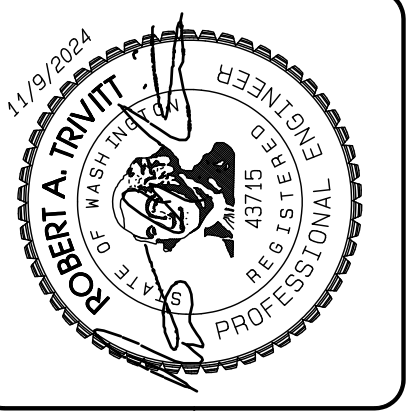
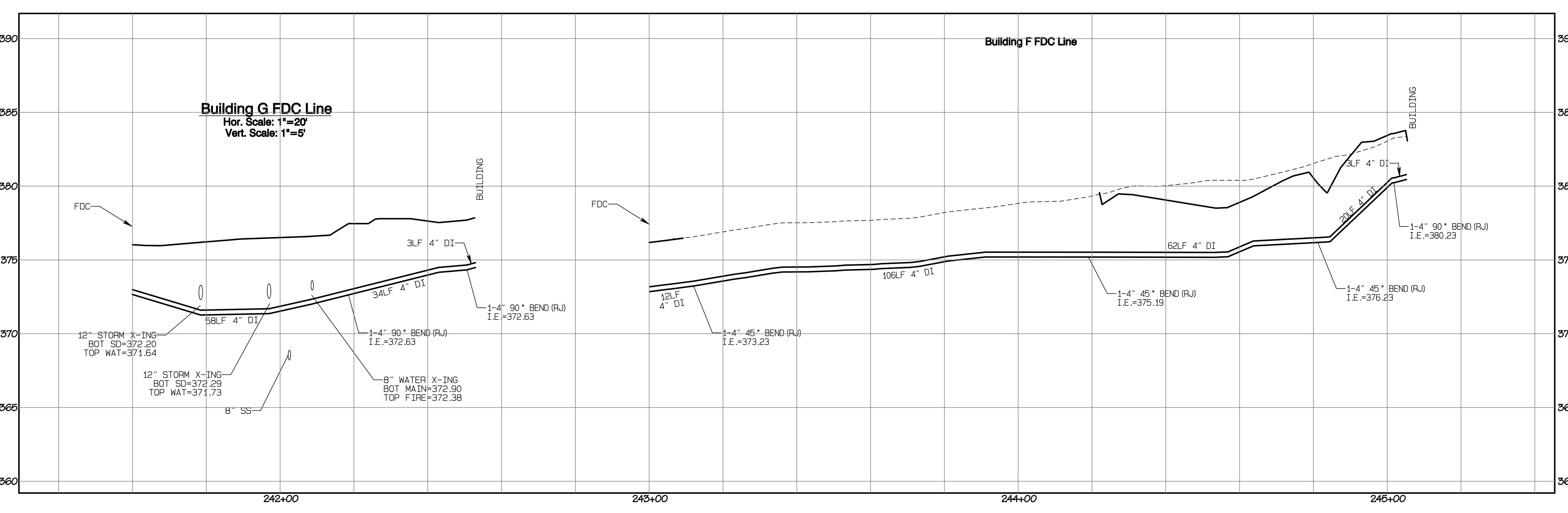
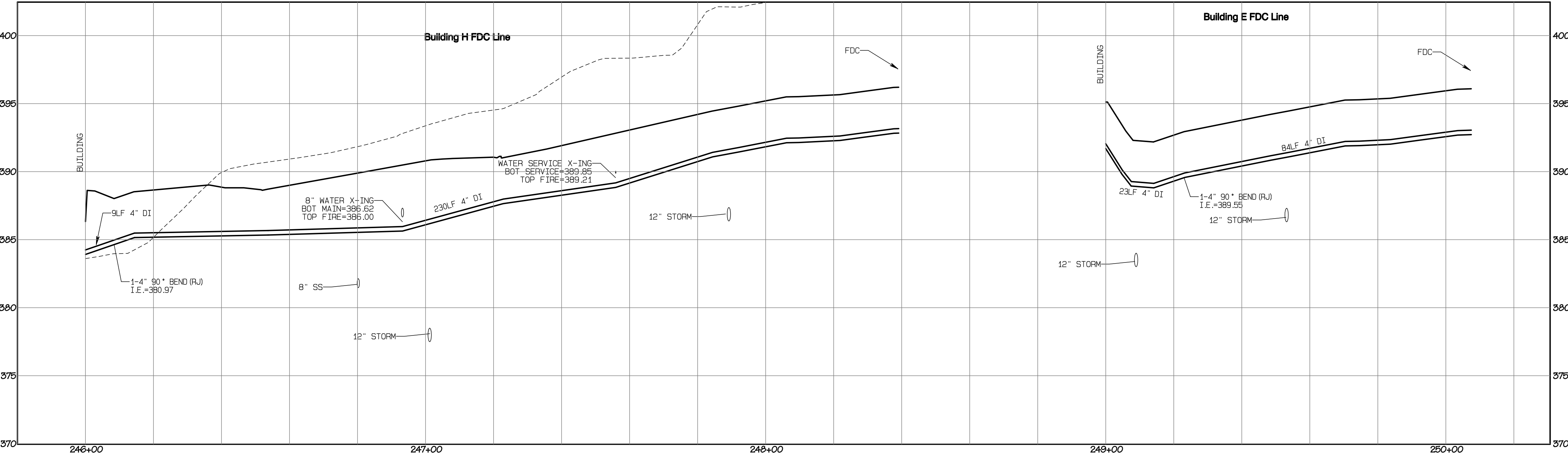
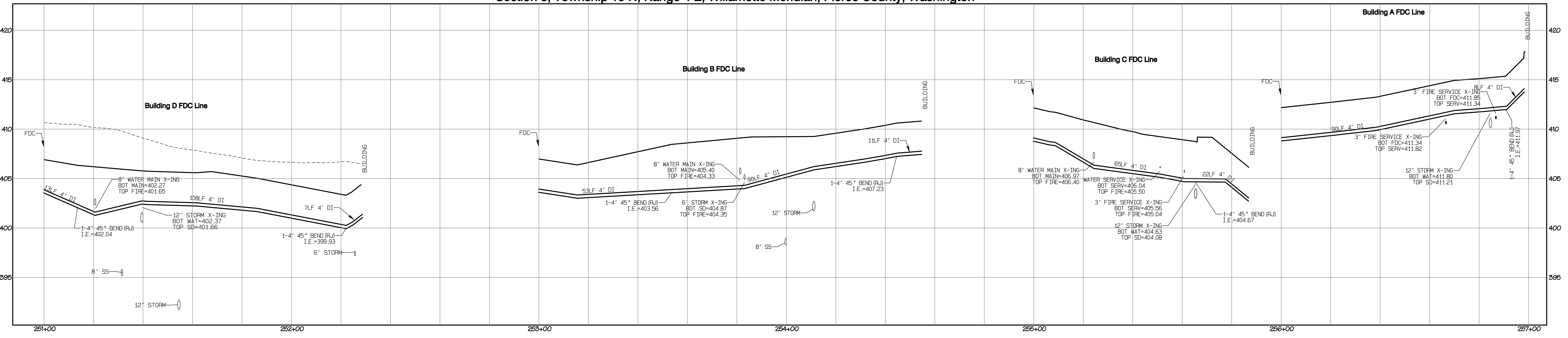
<p><b>APPROVED</b></p> <p>BY: FRUITLAND MUTUAL WATER</p> <p>DATE: _____</p> <p><b>NOTE:</b> THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE. WATER PURVEYOR WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE WATER PURVEYOR.</p>	<p><b>APPROVED</b></p> <p>BY: CITY OF PUYALLUP DEVELOPMENT SERVICES</p> <p>DATE: _____</p> <p><b>NOTE:</b> THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE. THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.</p>
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# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



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JOB NO. 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Paul Green  
 APPROVED BY: Paul Green

**AZURE GREEN**  
 CONSULTANTS  
 feasibility • planning • engineering • surveying

409 East Pioneer, Suite A • Puyallup, WA 98372  
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**FDC Profiles**  
 Bradley Heights  
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 Phone 509.886.0326  
 Fax jordan@timberlanepartners.com

**APPROVED**  
 BY: FRUITLAND MUTUAL WATER  
 DATE: \_\_\_\_\_

**APPROVED**  
 BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_

**NOTE:** THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE. WATER PURVEYOR WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE WATER PURVEYOR.

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Project Desc: Bradley Heights; Path: C:\Users\3227 - Bradley Heights\Timberlane\Bradley Heights - 1109 ENG.dwg; Plot Date/Time: 11/09/2024 08:44:22AM



# Bradley Heights

## Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

**WATER VALVES AND MAINS**

CITY OF PUYALLUP OFFICE OF THE CITY ENGINEER

APPROVED FOR PUBLICATION: 4/5/2018

CITY STANDARD: 03.01.01

**HORIZONTAL THRUST BLOCKING**

CITY OF PUYALLUP OFFICE OF THE CITY ENGINEER

APPROVED FOR PUBLICATION: 1/5/17

CITY STANDARD: 03.02.01-1

**VERTICAL THRUST BLOCKING**

CITY OF PUYALLUP OFFICE OF THE CITY ENGINEER

APPROVED FOR PUBLICATION: 4/5/2018

CITY STANDARD: 03.02.01-2

**THRUST BLOCKING TABLE**

CITY OF PUYALLUP OFFICE OF THE CITY ENGINEER

APPROVED FOR PUBLICATION: 4/5/2018

CITY STANDARD: 03.02.01-3

**1" WATER SERVICE CONNECTION**

CITY OF PUYALLUP PUBLIC WORKS AND DEVELOPMENT ENGINEERING

APPROVED FOR PUBLICATION: 4/12/13

CITY STANDARD: 03.03.01-2

**1-1/2" AND 2" WATER SERVICE CONNECTION**

CITY OF PUYALLUP PUBLIC WORKS AND DEVELOPMENT ENGINEERING

APPROVED FOR PUBLICATION: 4/12/13

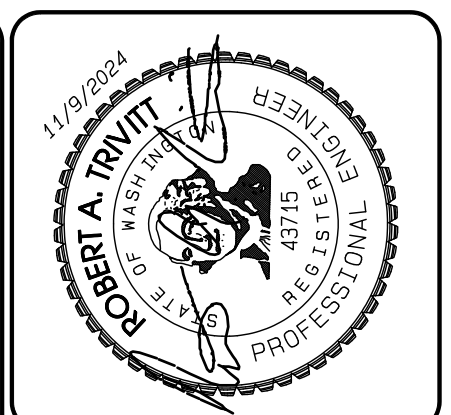
CITY STANDARD: 03.03.02

**PRIVATE WATER SERVICE LINES**

CITY OF PUYALLUP PUBLIC WORKS AND DEVELOPMENT ENGINEERING

APPROVED FOR PUBLICATION: 4/12/13

CITY STANDARD: 03.03.04



REVISION: 11/09/24

DATE: 11/09/24

1. Revised per City review and Matt A. adjustment.

2. Revised per City review and Matt A. adjustment.

**DATE:** May 14, 2024

**DESIGNED BY:** Rob Trivitt

**DRAWN BY:** Rob Trivitt

**CHECKED BY:** Rob Trivitt

**APPROVED BY:** Rob Trivitt

**Water Details**

**Bradley Heights**

**Azure Green Consultants**

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**DRAWING**

**W-5**

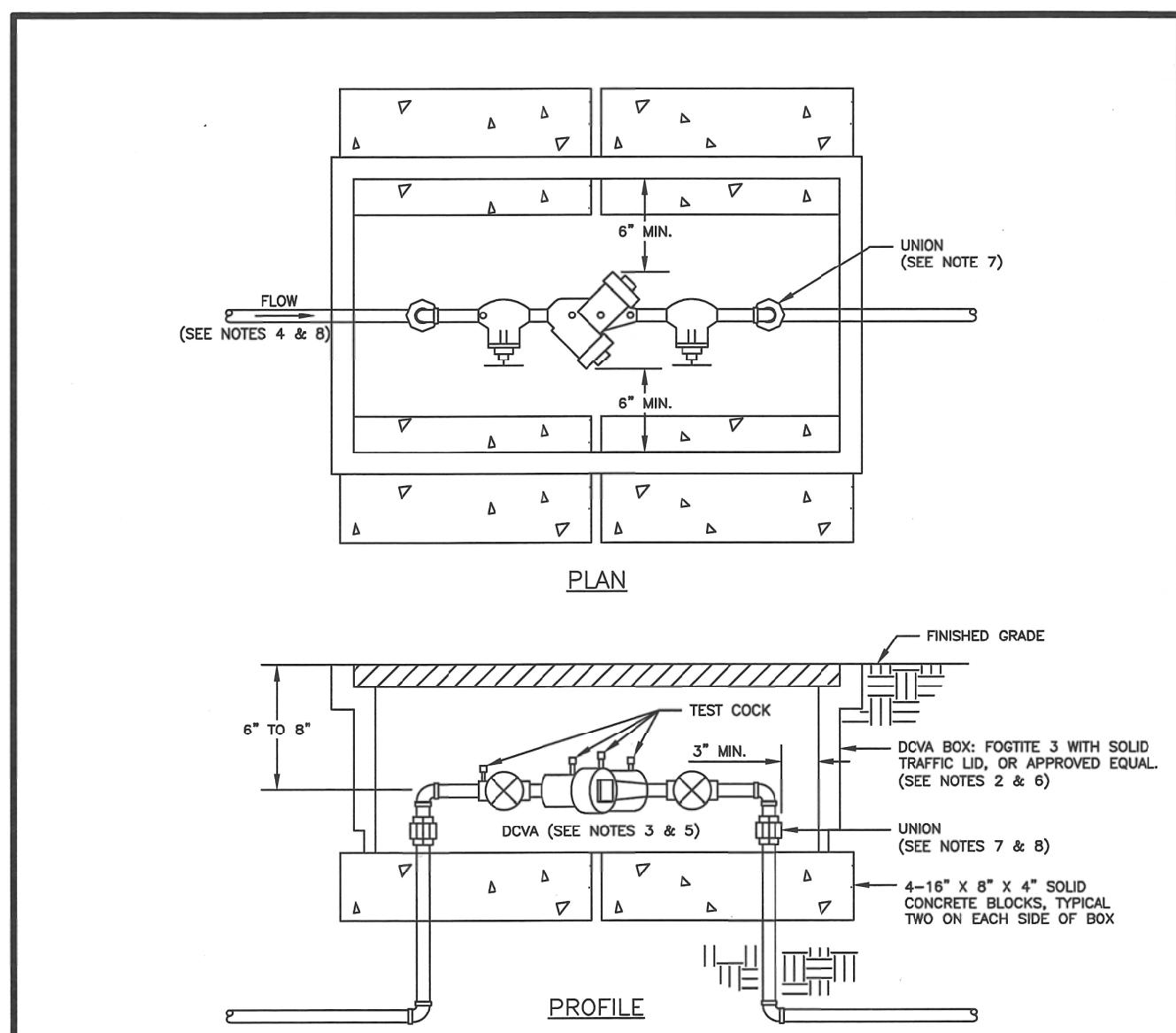
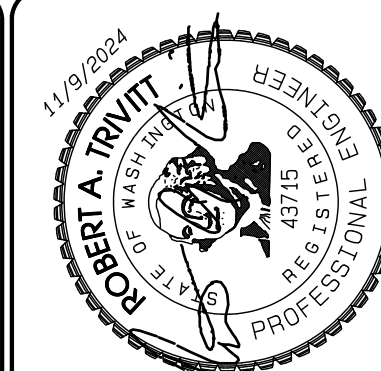
**SHEET** 46

**OF** 47



# Bradley Heights

Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

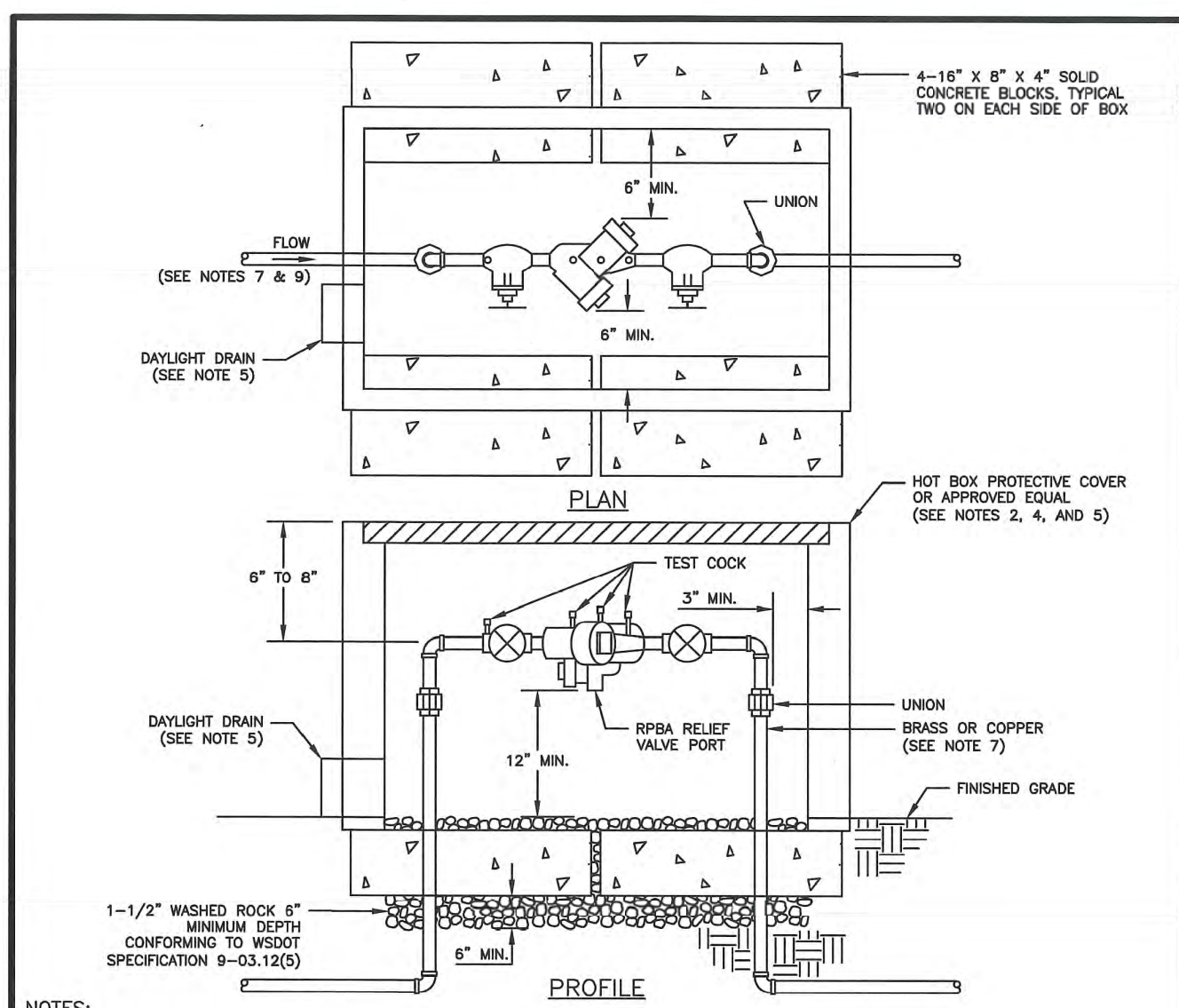


- NOTES:**
- BACKFLOW ASSEMBLY MUST BE SELECTED FROM WASHINGTON STATE DEPARTMENT OF HEALTH'S LIST OF BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE, LATEST EDITION.
  - THE DOWA SHALL BE INSTALLED WITH ADEQUATE SPACE TO FACILITATE MAINTENANCE AND TESTING. IT SHALL BE TESTED AFTER INSTALLATION, BY A WASHINGTON STATE CERTIFIED BACK-FLOW ASSEMBLY TESTER, TO INSURE ITS SATISFACTORY OPERATION BEFORE OCCUPANCY, AND ANNUALLY THEREAFTER. SEND TEST RESULTS TO: CITY OF PUYALLUP, WATER QUALITY OPERATIONS, 1100 39TH AVE SE, PUYALLUP, WA 98374.
  - DOWA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO THE ASSEMBLY ARE ALLOWED.
  - DOWA SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF WATER METER. WHEN IRRIGATION SYSTEM IS CONNECTED OFF DOMESTIC WATER LINE, IRRIGATION DOWA SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF THE BRANCH CONNECTION.
  - DOWA SHALL BE SIZED EQUAL TO COMPARABLE TO METER SIZE.
  - METER BOX SHALL BE LARGE ENOUGH TO ALLOW THE MINIMUM SETBACKS ILLUSTRATED ABOVE. METER BOX LID SHALL BE A TRAFFIC LID WITH A H-20 LOADING.
  - ELECTRIC UNIONS MUST BE USED TO SEPARATE DISSIMILAR MATERIALS.
  - USE ONLY BRASS OR COPPER BETWEEN THE METER AND THE UNION ON THE CUSTOMER'S SIDE OF THE DOWA.

**CITY OF PUYALLUP**  
OFFICE OF THE CITY ENGINEER

**2" AND SMALLER DOUBLE CHECK VALVE ASSEMBLY INSTALLATION**

APPROVED FOR PUBLICATION: [Signature] 2/5/2019 (NOT TO SCALE) CITY STANDARD 03.04.01

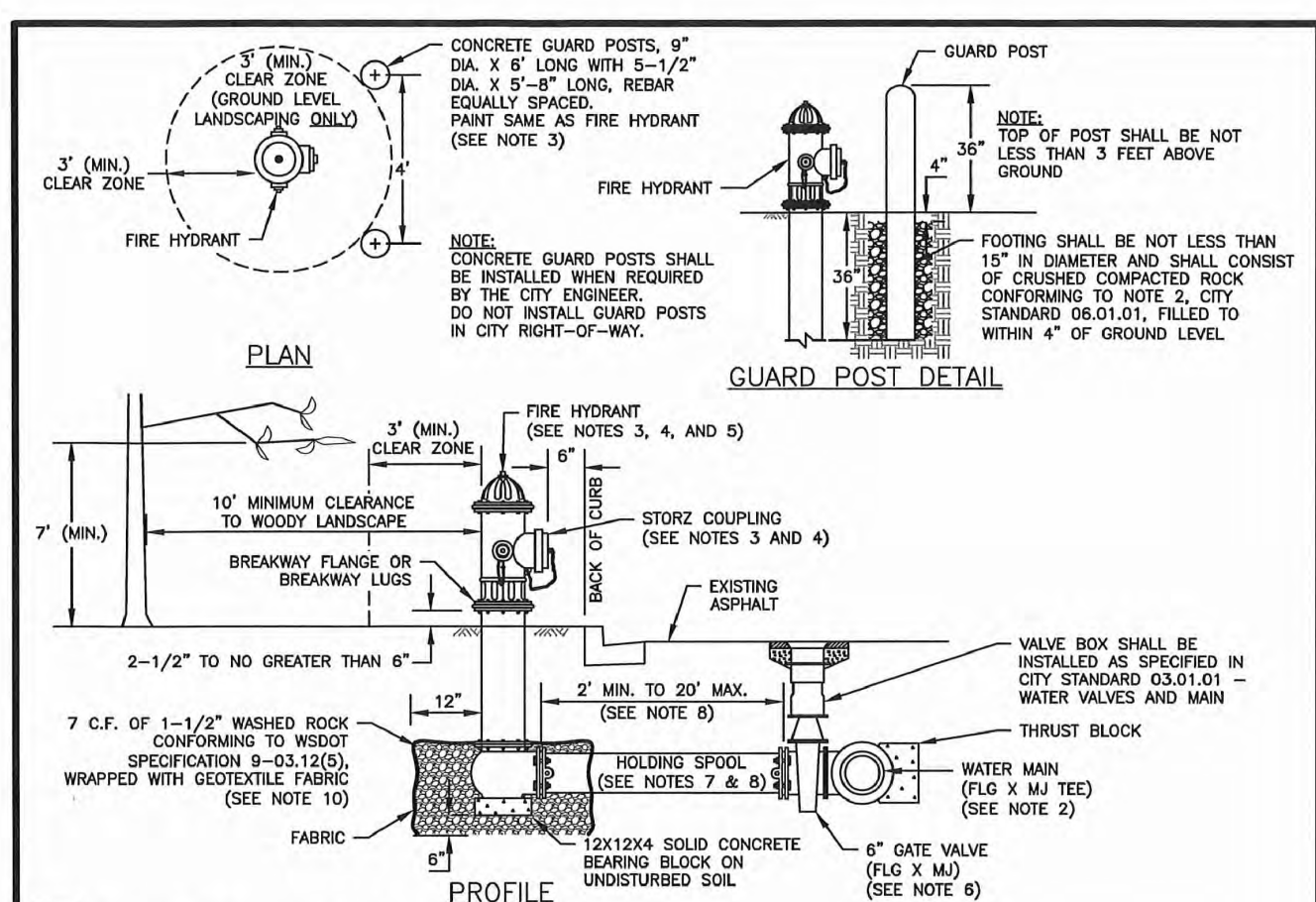


- NOTES:**
- BACKFLOW ASSEMBLY MUST BE SELECTED FROM WASHINGTON STATE DEPARTMENT OF HEALTH'S LIST OF BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE, LATEST EDITION.
  - THE RPBA SHALL BE INSTALLED WITH ADEQUATE SPACE TO FACILITATE MAINTENANCE AND TESTING. IT SHALL BE TESTED AFTER INSTALLATION, BY A WASHINGTON STATE CERTIFIED BACK-FLOW ASSEMBLY TESTER, TO INSURE ITS SATISFACTORY OPERATION BEFORE OCCUPANCY, AND ANNUALLY THEREAFTER. SEND TEST RESULTS TO: CITY OF PUYALLUP, WATER QUALITY OPERATIONS, 1100 39TH AVE SE, PUYALLUP, WA 98374.
  - THE RPBA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO THE ASSEMBLY ARE ALLOWED.
  - THE RPBA SHALL NOT BE INSTALLED IN A PIT BELOW GROUND LEVEL.
  - THE PROTECTIVE COVERING FOR THE RPBA, WHICH PROTECTS THE ASSEMBLY FROM FREEZING, MUST INCLUDE A DAYLIGHT DRAIN. THE DRAIN MUST BE INSTALLED ABOVE GROUND OR ABOVE THE MAXIMUM FLOOD LEVEL, WHICHEVER IS HIGHER. THE DRAIN MUST BE A MINIMUM OF TWICE THE SIZE OF THE RPBA, TO BE ABLE TO HANDLE THE VOLUME OF WATER THAT POTENTIALLY COULD BE DISCHARGED FROM THE RELIEF VALVE PORT.
  - THE RPBA SHALL BE SIZED EQUAL TO COMPARABLE TO METER SIZE.
  - USE ONLY BRASS OR COPPER BETWEEN THE METER AND THE BOTTOM VERTICAL, 90 DEGREE BEND ON THE CUSTOMER'S SIDE OF THE RPBA. ELECTRIC UNIONS MUST BE USED TO SEPARATE DISSIMILAR MATERIALS.
  - THE RPBA SHOULD BE LOCATED IMMEDIATELY DOWN STREAM OF THE METER, AND SHOULD NOT BE INSTALLED INSIDE A BUILDING.
  - AN RPBA INSTALLED MORE THAN FIVE (5) FEET ABOVE FLOOR LEVEL MUST HAVE A PLATFORM UNDER IT FOR THE TESTER OR MAINTENANCE PERSON TO STAND ON. THE PLATFORM MUST BE OSHA APPROVED AND MEET ALL APPLICABLE SAFETY STANDARDS AND CODES.

**CITY OF PUYALLUP**  
OFFICE OF THE CITY ENGINEER

**2" AND SMALLER REDUCED PRESSURE BACKFLOW ASSEMBLY INSTALLATION**

APPROVED FOR PUBLICATION: [Signature] 2/5/2019 (NOT TO SCALE) CITY STANDARD 03.04.02

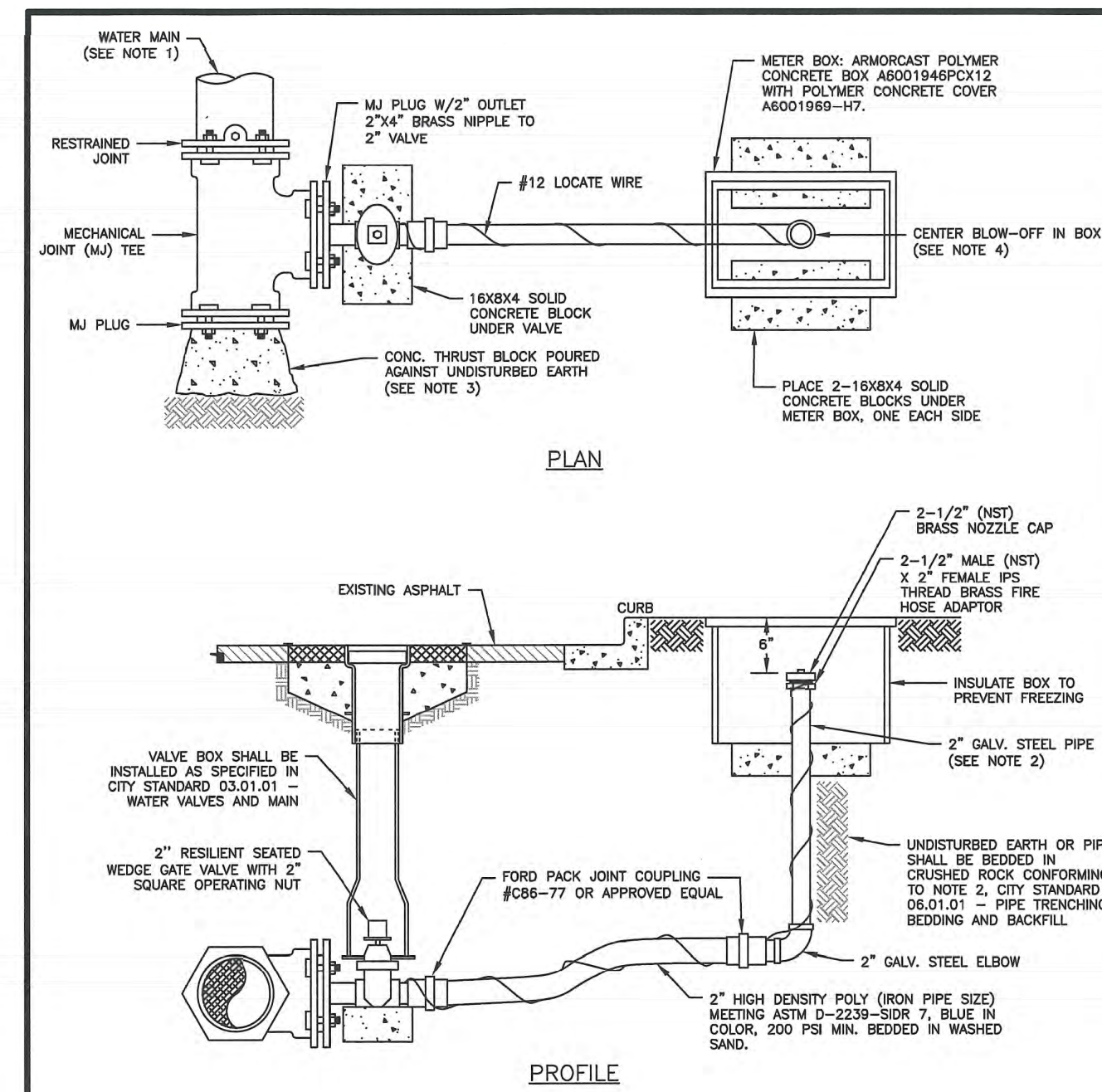


- NOTES:**
- ALL MATERIALS AND FITTINGS SHALL BE AS SPECIFIED OR APPROVED EQUAL.
  - WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" IN IMPROVED RIGHT-OF-WAY AND IMPROVED EASEMENTS, AND A MINIMUM 48" IN UNIMPROVED RIGHT-OF-WAY AND UNIMPROVED EASEMENTS.
  - THE FIRE HYDRANT AND CONCRETE GUARD POSTS SHALL BE PAINTED, RUST-OLEUM SAFETY YELLOW #7543 (TWO COATS) OR AN APPROVED EQUAL. THE STAKE FITTING SHALL NOT BE PAINTED.
  - FIRE HYDRANTS SHALL HAVE TWO 2-1/2" HOSE PORTS (NATIONAL STANDARD THREAD) WITH CAPS AND CHANGS AND ONE 4" PUMPER PORT (8B TACOMA STEAMER PORT THREAD) WITH A 5" STORZ COUPLING AND BLEND CAP INSTALLED ON THE STEAMER PORT. (STEAMER PORT SHALL FACE THE STREET). 1-1/4" PYROCLONIC OPERATING NUT (COUNTER-CLOCKWISE OPENING), G-RING TYPE STUFFING BOX, AUTOMATIC BARREL DRAIN AND 2-1/4" MAIN VALVE OPENING. HYDRANTS SHALL BE DESIGNED IN A MANNER THAT WILL PREVENT BARREL BREAKAGE WHEN STRUCK BY A VEHICLE. HYDRANTS SHALL CONFORM TO THE LATEST REVISION OF ANSA SPECIFICATIONS NO. C-503-73 FOR FIRE HYDRANTS FOR ORDINARY WATER SERVICE. FIRE HYDRANTS SHALL INCLUDE THE ENTIRE ASSEMBLY COMPLETE, INCLUDING HYDRANT, GATE VALVE AND BOX, CONNECTING PIPING, FITTINGS AND ACCESSORIES.
  - FIRE HYDRANTS SHALL BE AWC, FLOW MEDALLION, M & H 1200, MUELLER CENTURION, OR WATERLOO.
  - GATE VALVES SHALL CONFORM TO THE LATEST ANSA SPECIFICATIONS FOR COLD WATER, RESILIENT SEATED WEDGE GATE VALVES, 200 PSI WORKING PRESSURE. THEY SHALL BE IRON-BODIED BRONZE-MOUNTED, NON-REISING STEEL, COUNTER-CLOCKWISE OPENING, MECHANICAL JOINT BY FLANGED. VALVE STEMS SHALL BE PROVIDED WITH O-RING SEALS AND SHALL BE AS MANUFACTURED BY THE MUELLER COMPANY OR APPROVED EQUAL.
  - THE HOLDING SPOOL SHALL BE A MECHANICAL-JOINT (M.J.) HOLDING SPOOL, WITH THE USE OF MEGA-LUG CONNECTORS OR APPROVED EQUAL WITH CLASS 52 DUCTILE IRON PIPE.
  - GATE VALVES BETWEEN WATER MAIN AND FIRE HYDRANT IS GREATER THAN 17 FEET, RESTRAINED JOINTS ARE REQUIRED ON ANY ADDITIONAL JOINTS. THE MAXIMUM 6-INCH HYDRANT RUN ALLOWED IS 20 FEET. ANY PROPOSED HYDRANT RUN EXCEEDING 20' IN LENGTH SHALL BE SIZED USING AN ENGINEERED HYDRANT FIRE FLOW MODEL. ANY HYDRANT RUN EXCEEDING 50 FEET IN LENGTH SHALL BE NO LESS THAN 6-INCHES IN DIAMETER.
  - FIRE HYDRANTS SHALL BE LOCATED A MINIMUM OF 50 FEET FROM A BUILDING OR STRUCTURE.
  - THE CONTRACTOR SHALL PLACE A 6 OZ. GEOTEXTILE FABRIC AROUND THE WASHED ROCK AREA, ENDS TO OVERLAP.
  - A FLUORESCENT ORANGE BND MUST BE ADDED AND BE SECURED TO THE FIRE HYDRANT UNTIL APPROVED FOR USE BY CITY ENGINEER.
  - A MINIMUM THREE FOOT (3') RADIUS UNRESTRICTED CLEAR ZONE (WORK AREA) SHALL BE PROVIDED AROUND ALL FIRE HYDRANTS. ADDITIONALLY, NO WOODY LANDSCAPE SHALL BE PLANTED WITHIN TEN FEET (10') OF ANY FIRE HYDRANT. OVERHANGING BRANCHES OF TREES ADJACENT TO HYDRANTS SHALL HAVE A MAINTAINED VERTICAL CLEARANCE OF SEVEN (7) FEET ABOVE FINISHED GRADE OF THE FIRE HYDRANT.

**CITY OF PUYALLUP**  
OFFICE OF THE CITY ENGINEER

**FIRE HYDRANT ASSEMBLY**

APPROVED FOR PUBLICATION: [Signature] 1/11/2020 (NOT TO SCALE) CITY STANDARD 03.05.01

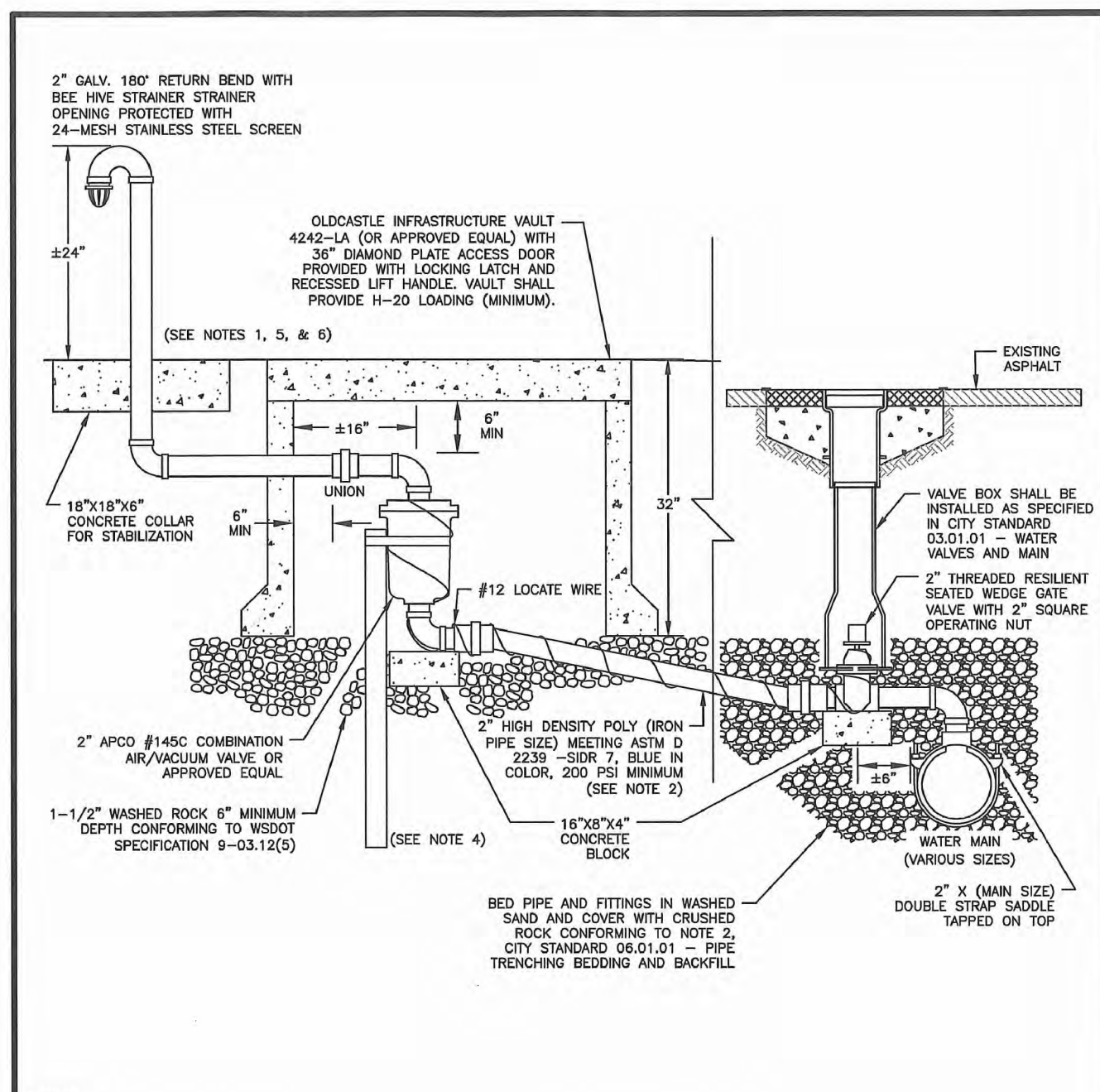


- NOTES:**
- WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" IN IMPROVED RIGHT-OF-WAY AND IMPROVED EASEMENTS, AND A MINIMUM OF 48" IN UNIMPROVED RIGHT-OF-WAY AND UNIMPROVED EASEMENTS.
  - OVERALL LENGTH OF RISER IS 6" SHORTER THAN NORMAL DEPTH OF BURIAL.
  - THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE. WRAP IN PLASTIC BEFORE POURING CONCRETE BLOCKING.
  - PLACE BLOW-OFF ASSEMBLY IN CENTER OF UTILITY STRIP. IF NO UTILITY STRIP, PLACE BLOW-OFF ASSEMBLY 2' OFF EDGE OF ROAD. THE BLOW-OFF BOX SHALL NOT BE LOCATED IN WALK SURFACES.

**CITY OF PUYALLUP**  
OFFICE OF THE CITY ENGINEER

**2" BLOW-OFF ASSEMBLY**

APPROVED FOR PUBLICATION: [Signature] 2/5/2019 (NOT TO SCALE) CITY STANDARD 03.06.01

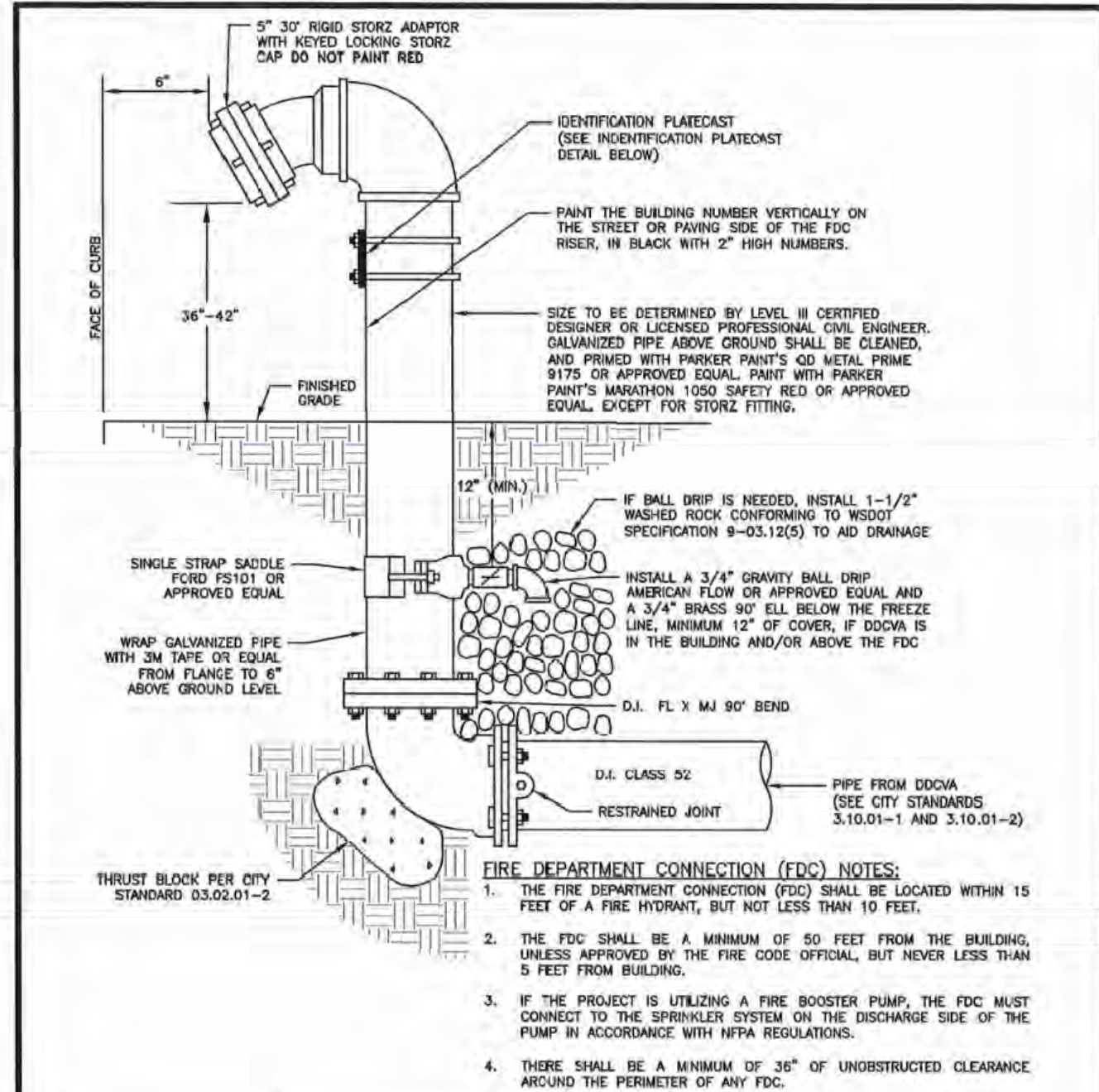


- NOTES:**
- ALL FITTINGS FROM THE WATER MAIN TO THE BOTTOM OF THE AIR/VACUUM VALVE SHALL BE BRASS. ALL FITTINGS ABOVE THE AIR/VACUUM VALVE SHALL BE GALVANIZED STEEL. WRAP GALVANIZED PIPE BELOW GROUND WITH 3M TAP OR EQUAL TO 1" ABOVE GROUND LEVEL.
  - 2" HIGH DENSITY POLY PIPE SHALL MAINTAIN A MINIMUM ONE-DEGREE RISE FROM THE WATER MAIN TO THE AIR/VACUUM VALVE.
  - AIR/VACUUM VALVE VAULT AND VENT RISER TO BE INSTALLED OUT OF THE STREET. EXACT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.
  - TO STABILIZE AIR/VACUUM VALVE, BURY A 4 FOOT LONG 2" GALVANIZED PIPE ALONG SIDE VALVE. SECURE WITH STAINLESS STEEL STRAP. SET TOP OF GALVANIZED PIPE 2" BELOW AIR/VACUUM FLANGE.
  - VENT RISER AND RETURN BEND SHALL BE PAINTED, RUST-OLEUM SAFETY YELLOW #7543 OR APPROVED EQUAL.
  - IF NEW PLAT, INCLUDE EASEMENT BEHIND SIDEWALK FOR VENT RISER. VENT RISER SHALL BE NO MORE THAN 2 FOOT BEHIND SIDEWALK.

**CITY OF PUYALLUP**  
OFFICE OF THE CITY ENGINEER

**AIR/VACUUM VALVE**

APPROVED FOR PUBLICATION: [Signature] 12/15/2014 (NOT TO SCALE) CITY STANDARD 03.07.01

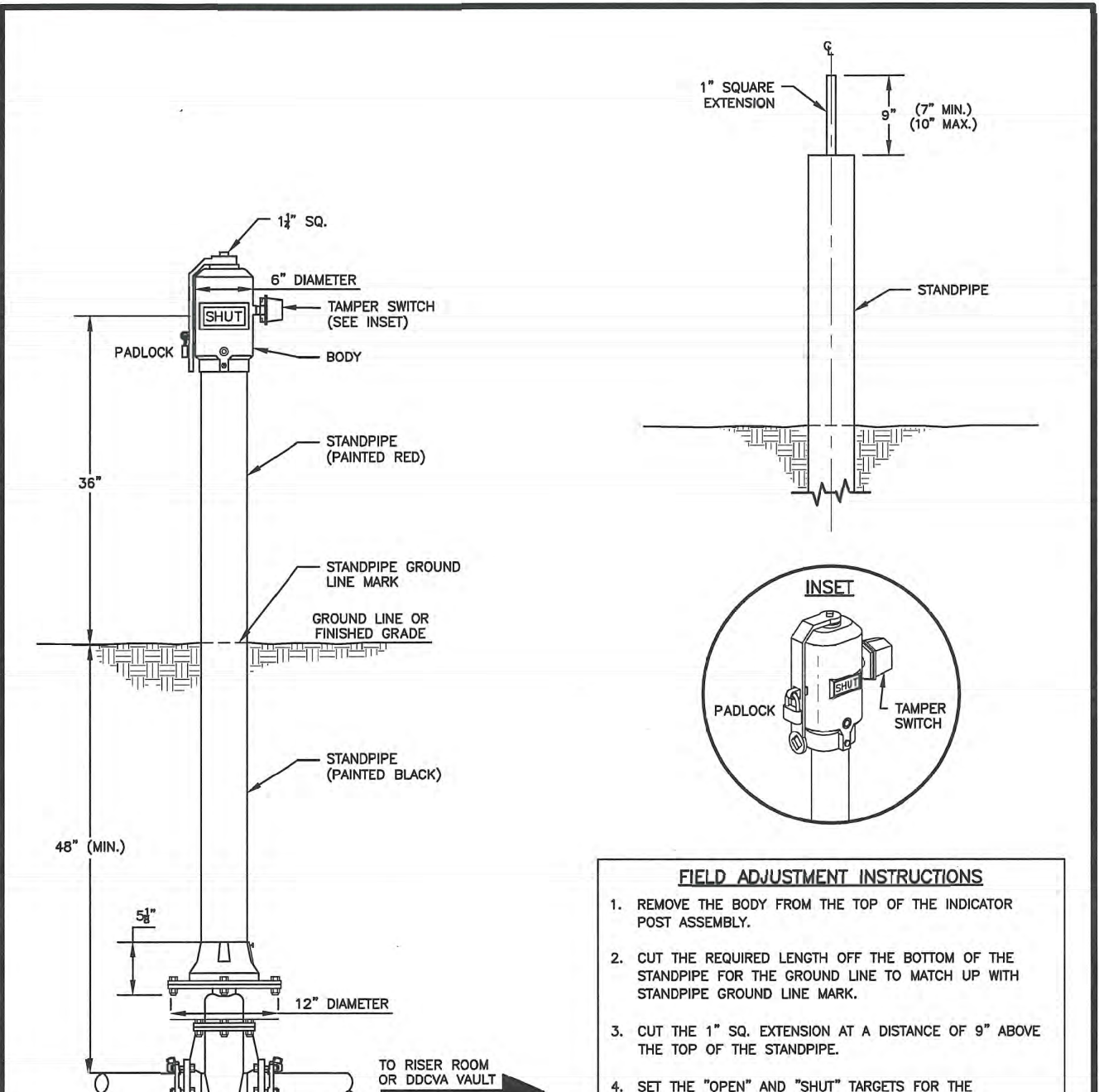


- FIRE DEPARTMENT CONNECTION (FDC) NOTES:**
- THE FIRE DEPARTMENT CONNECTION (FDC) SHALL BE LOCATED WITHIN 15 FEET OF A FIRE HYDRANT, BUT NOT LESS THAN 10 FEET.
  - THE FDC SHALL BE A MINIMUM OF 50 FEET FROM THE BUILDING, UNLESS APPROVED BY THE FIRE CODE OFFICIAL, BUT NEVER LESS THAN 5 FEET FROM BUILDING.
  - IF THE PROJECT IS UTILIZING A FIRE BOOSTER PUMP, THE FDC MUST CONNECT TO THE SPRINKLER SYSTEM ON THE DISCHARGE SIDE OF THE PUMP IN ACCORDANCE WITH NFPA REGULATIONS.
  - THERE SHALL BE A MINIMUM OF 36" OF UNRESTRICTED CLEARANCE AROUND THE PERIMETER OF ANY FDC.
  - SEE STANDARD DETAIL 03.05.01 FOR GUARD POST DETAIL AND SPACING.
- IDENTIFICATION PLATECAST DETAIL NOTES:**
- IDENTIFICATION PLATECAST WILL BE BRASS.
  - IDENTIFICATION PLATECAST WILL BE 1/4" THICK.
  - LETTERS WILL BE ONE INCH HIGH AND RAISED.
  - USE TWO (2) STAINLESS STEEL U-BOLTS TO AFFIX TO PIPE.

**CITY OF PUYALLUP**  
OFFICE OF THE CITY ENGINEER

**FIRE DEPARTMENT CONNECTION (FDC)**

APPROVED FOR PUBLICATION: [Signature] 12/15/2014 (NOT TO SCALE) CITY STANDARD 03.10.02



- FIELD ADJUSTMENT INSTRUCTIONS**
- REMOVE THE BODY FROM THE TOP OF THE INDICATOR POST ASSEMBLY.
  - CUT THE REQUIRED LENGTH OFF THE BOTTOM OF THE STANDPIPE FOR THE GROUND LINE TO MATCH UP WITH STANDPIPE GROUND LINE MARK.
  - CUT THE 1" SQ. EXTENSION AT A DISTANCE OF 8" ABOVE THE TOP OF THE STANDPIPE.
  - SET THE "OPEN" AND "SHUT" TARGETS FOR THE APPROPRIATE VALVE SIZE.
  - RE-ATTACH THE BODY TO THE TOP OF THE INDICATOR POST ASSEMBLY.
  - ALL POST INDICATOR VALVES SHALL BE INSTALLED WITH AN ELECTRONIC UL LISTED TAMPER SWITCH.
  - THERE SHALL BE 36" OF UNRESTRICTED CLEARANCE AROUND THE PERIMETER OF ALL POST INDICATOR VALVES.
  - POST INDICATOR VALVE SHALL BE LOCATED AT A MINIMUM 5'-0" FROM BUILDING.

**CITY OF PUYALLUP**  
OFFICE OF THE CITY ENGINEER

**POST INDICATOR VALVE**

APPROVED FOR PUBLICATION: [Signature] 2/5/2019 (NOT TO SCALE) CITY STANDARD 03.10.03

- WATER NOTES CONTINUED FROM SHEET S-5
- Connections to existing water mains typically shall be wet taps through a tapping tee and tapping valve and shall be made by a city approved contractor. The tapping sleeve shall be Romac SST all stainless steel tapping sleeve on ductile iron tapping sleeve may be used on ductile iron pipe, when the tap is smaller than the water main size i.e. 6 inch tap on 8 inch pipe. The City (or FMWC, VW or TCW when served by that purveyor) shall approve the time and location for these connections.
  - All water mains and appurtenances shall be hydrostatically tested at 200 psi in accordance with Standard Specification 7-09.3(23). Pressure testing shall not be performed until satisfactory purity samples have been received, except when new water mains are installed independently from the water system piping.
  - Fire hydrants shall be installed in accordance with City Standard Detail 03.05.01 and as directed by the City of Puyallup Fire Code Official.
  - Valve marker posts shall be installed where valve boxes are hidden from view or in unpaved areas. The installation shall be in accordance with City Standard Detail 03.01.02.
  - Resilient seated wedge gate valves shall be used for 10-inch mains and smaller. Butterfly valves shall be used for mains greater than 10 inches.
  - Pipe fitting for water mains shall be ductile iron and shall be mechanical joint conforming to AWWA Specification C111-72.
  - Water main pipe and service connections shall be a minimum of 10 feet away from building foundations and/or roof lines.
  - Where a water main crosses the Northwest Gas pipeline, the water line shall be cased with PVC pipe a minimum of 10 feet beyond each side of the gas line easement. Contact Williams Northwest Pipeline before the crossing is made.
  - Trenching, bedding, and backfill for water mains shall be installed in accordance with City Standard Detail 06.01.01.
  - All commercial and industrial developments, irrigation systems, and multi-family water service connections shall be protected by a reduced pressure backflow prevention assembly as directed by the City (or FMWC, VW or TCW when served by that purveyor) conforming to City Standard Details 03.04.01, 03.04.02, and 03.04.03.
  - Any lead joint fitting disturbed during construction shall be replaced with a mechanical joint fitting at the contractor's expense.
  - When hydraulic fire flow modeling is required for a project, the City will issue a permit. The hydraulic modeling criteria is based on the projected 2030 water demand, while maintaining a minimum system pressure of 20 pounds per square inch and a maximum velocity of 10 feet per second.
  - When filling a new water main for purity with highly concentrated chlorine water, that super chlorinated water cannot sit inside the new water main for greater than 5 days.
  - When using a fire hydrant for non-firefighting purposes, a city hydrant meter must be used. Coordinate the acquisition of the hydrant meter with the City's Utility Billing Division at Puyallup City Hall. A city approved backflow protection assembly shall be installed by the person requesting use of a fire hydrant. The assembly shall be accompanied by a current backflow assembly test report. The test report shall be available at the site for the duration of the hydrant use.

**REVISION**

NO.	DATE	DESCRIPTION
1	11/9/24	Revised per City review and Mail A adjustment.
2		
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4		
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**JOB NO. 2527**  
DATE: May 14, 2024  
DESIGNED BY: [Signature]  
DRAWN BY: [Signature]  
CHECKED BY: [Signature]  
APPROVED BY: [Signature]

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feasibility • planning • engineering • surveying

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**Water Details**

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**DRAWING**  
**W-6**  
SHEET 47 OF 47