

# 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 Møllergaard  
 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**

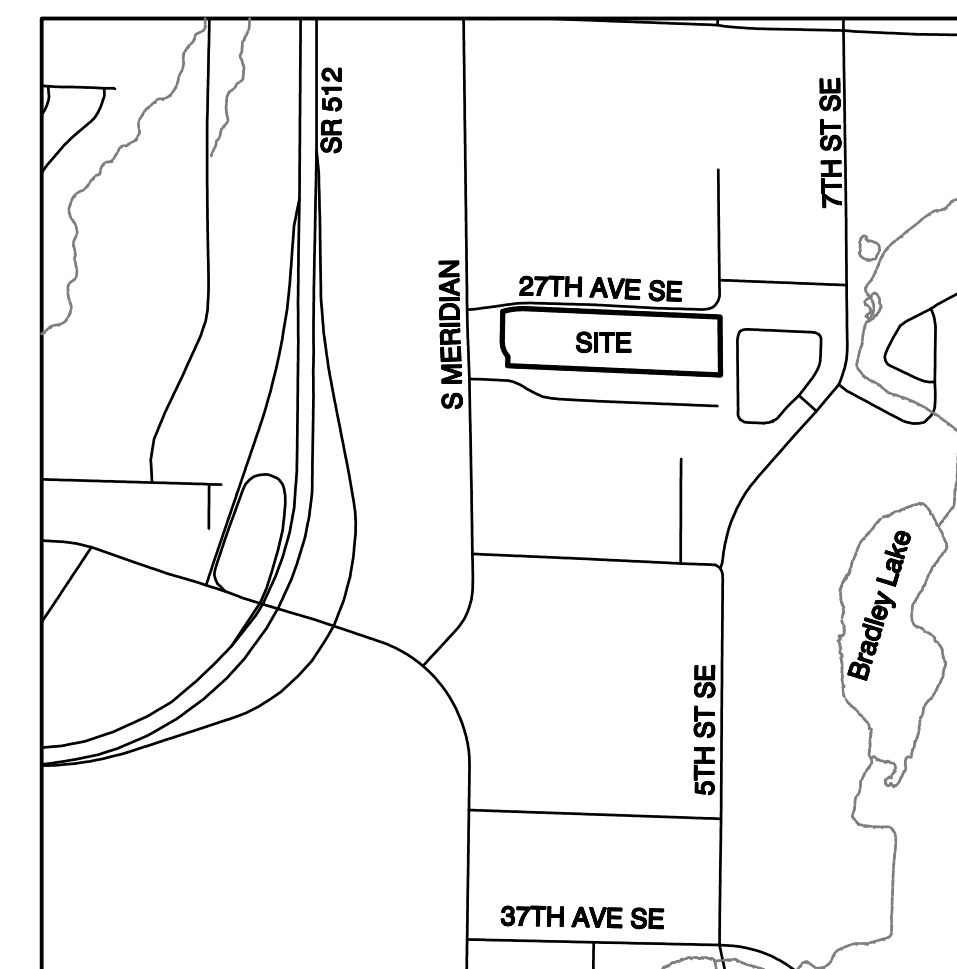
- All work in City right-of-way requires a permit from the City of Puyallup. Prior to any work commencing, the general contractor shall arrange for a preconstruction meeting at the Development Services Center to be attended by all contractors that will perform work shown on the approved engineering plans, 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.
- An 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.

**SHEET INDEX**

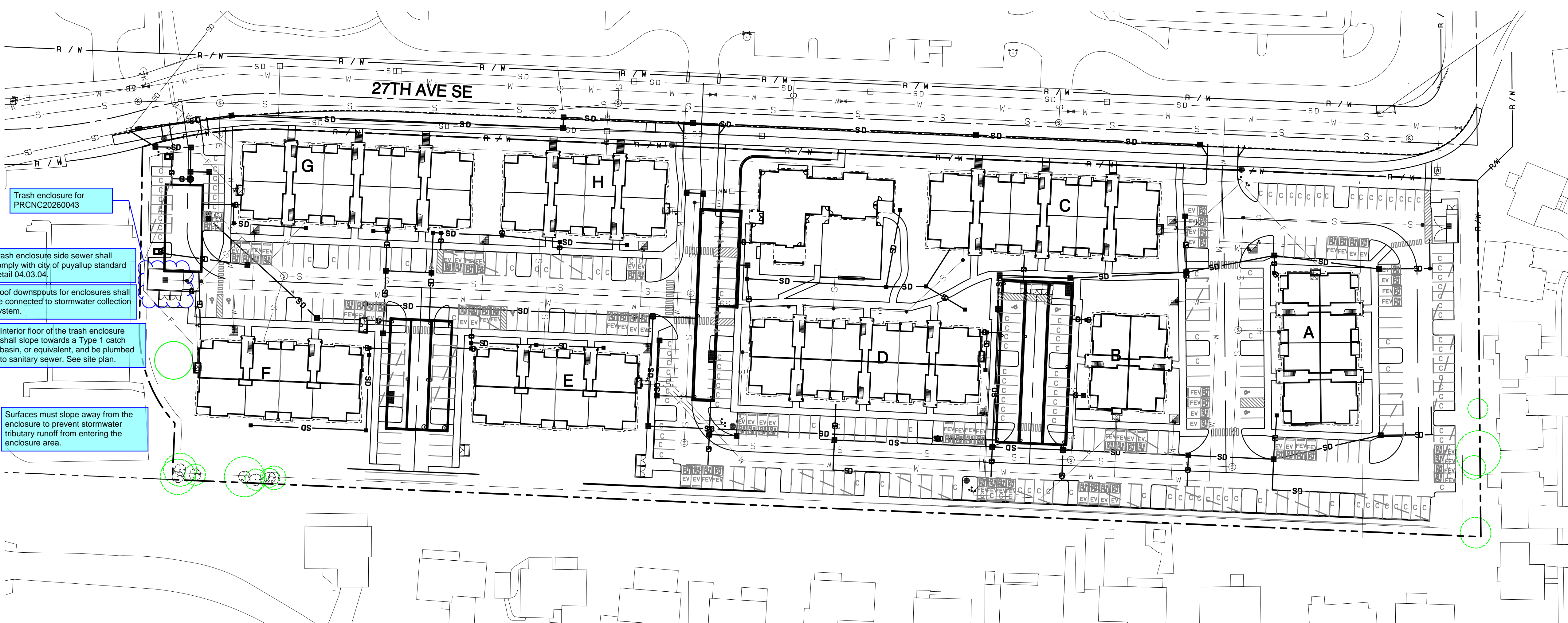
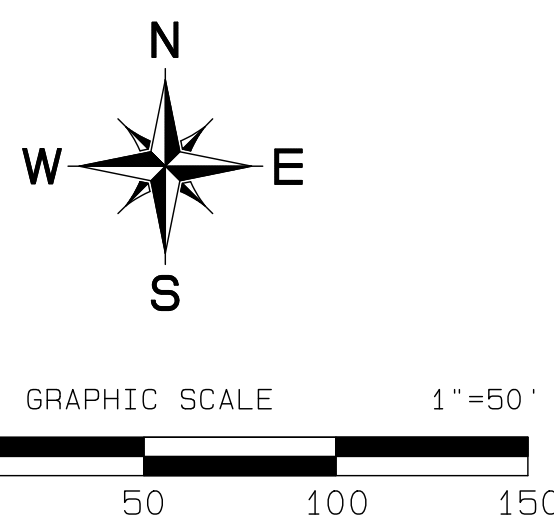
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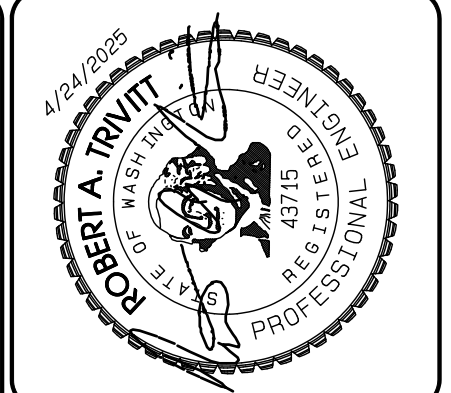
**VICINITY MAP**  
 SCALE: 1"=1000'

**LEGEND**

350	EX. CONTOUR	EX. HYDRANT
350	DESIGN CONTOUR	EX. STORM MANHOLE
R/W	LEGAL ROAD CENTERLINE	WATER VALVE
R/W	RIGHT-OF-WAY LINE	EX. POWER LINE
E/P	EX. PLAIN EDGE OF ASPHALT	EX. COMM. LINE
E/P	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
SD	EX. STORM	NEW ASPHALT PAVING
SD	PROPOSED CB-TYPE 1	NEW CONCRETE
SD	PROPOSED CB-TYPE 2	
SD	PROPOSED STORM	
W	WATER MAIN	
S	SANITARY SEWER	
⊙	SANITARY SEWER MANHOLE	
⊙	STANDARD MONUMENT	
+	POWER POLE	



Project Date: 01/23/2024; Project Name: Bradley Heights; PLOT DATE: 01/23/2024; PLOT TIME: 11:00AM



REVISION	DATE	DESCRIPTION
1	11/26/24	1. Revised per City review and Mail A adjustment.
2	4/7/25	2. Revised per City review.
3	4/21/25	3. Revised per City & Ashi review.
4		4. Revised per City & Ashi review.
5		5. Revised per City & Ashi review.
6		6. Revised per City & Ashi review.
7		7. Revised per City & Ashi review.
8		8. Revised per City & Ashi review.
9		9. Revised per City & Ashi review.
10		10. Revised per City & Ashi review.

JOB NO: 2027  
 DATE: May 14, 2024  
 DESIGNED BY: JRM, TTT  
 DRAWN BY: JRM, TTT  
 CHECKED BY: JRM, TTT  
 APPROVED BY: JRM, TTT

PRCNC20260043

City of Puyallup  
 Planning Division  
**APPROVED**

See permit conditions.  
 JHulseLew  
 02/17/2026  
 9:10:56 AM



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

**Cover Sheet**

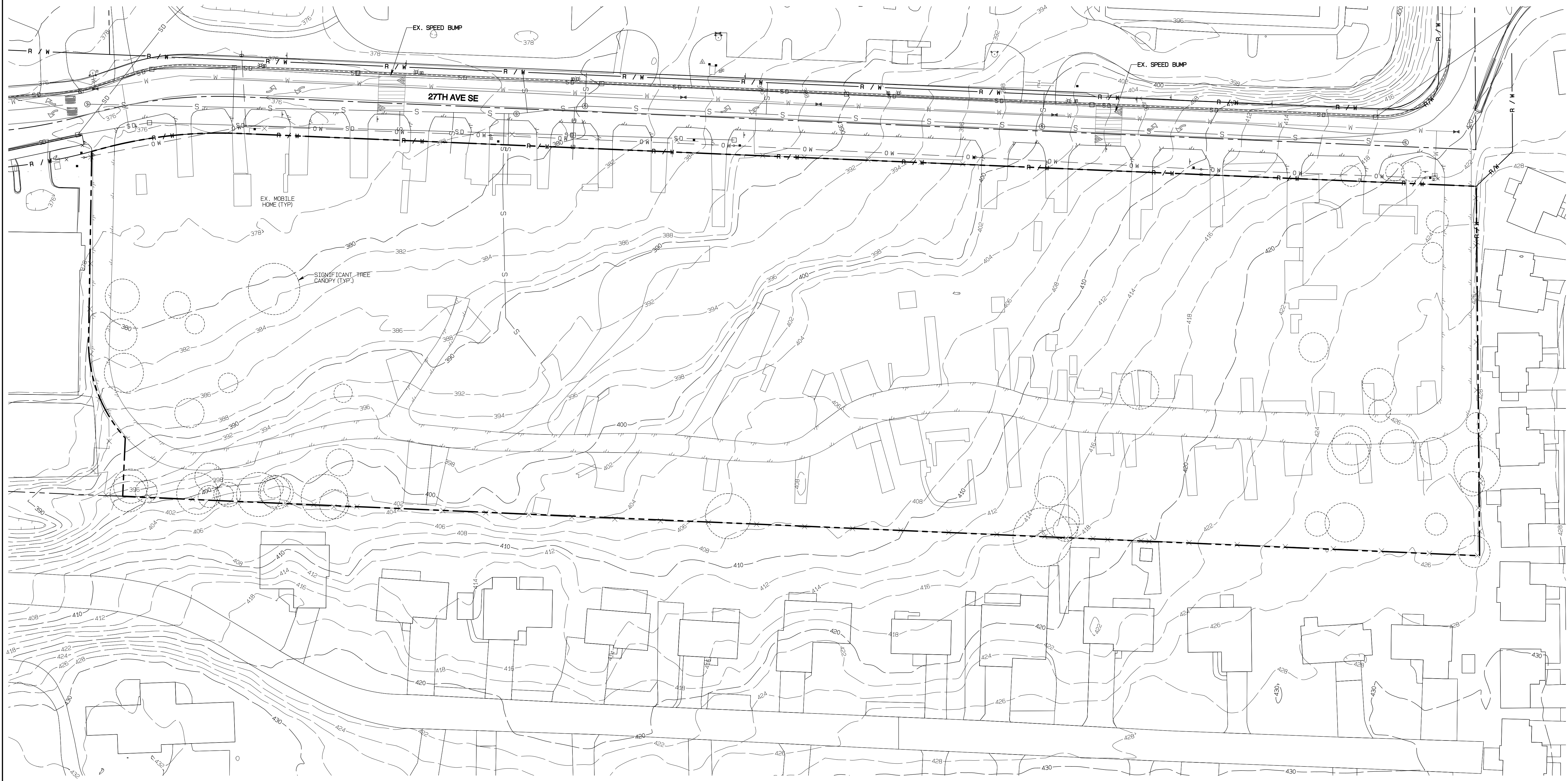
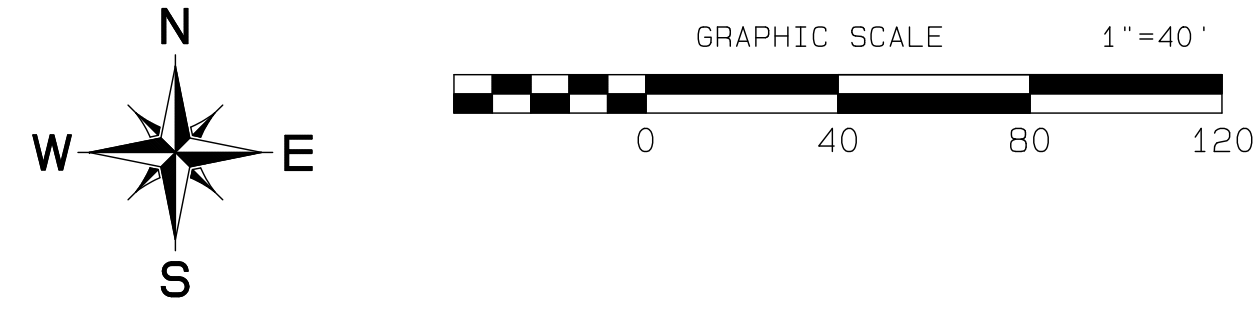
Bradley Heights

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

**DRAWING**  
**G-1**  
 SHEET 1  
 OF 60

# 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  
 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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Project Desc.: Bradley Heights; Plan#: E:\urban\3227 - Bradley Heights\Timberlane\Bradley Heights 20250424 EMB.dwg; P01: Data\Firm: 4/24/2025 7:12:40PM



REVISION	DATE
1 Revised per City review and M&J A adjustment.	11/29/24
2 Revised per City review.	4/7/25
3 Revised per City & P&S review.	4/27/25
4 Revised per City & P&S review.	
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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

**Existing Conditions**

**Bradley Heights**

Timberlane Partners  
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 Seattle, WA 98122  
 Phone 509.899.0326  
 Fax jordan@timberlanepartners.com

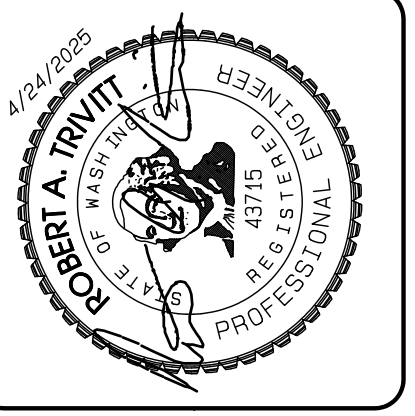
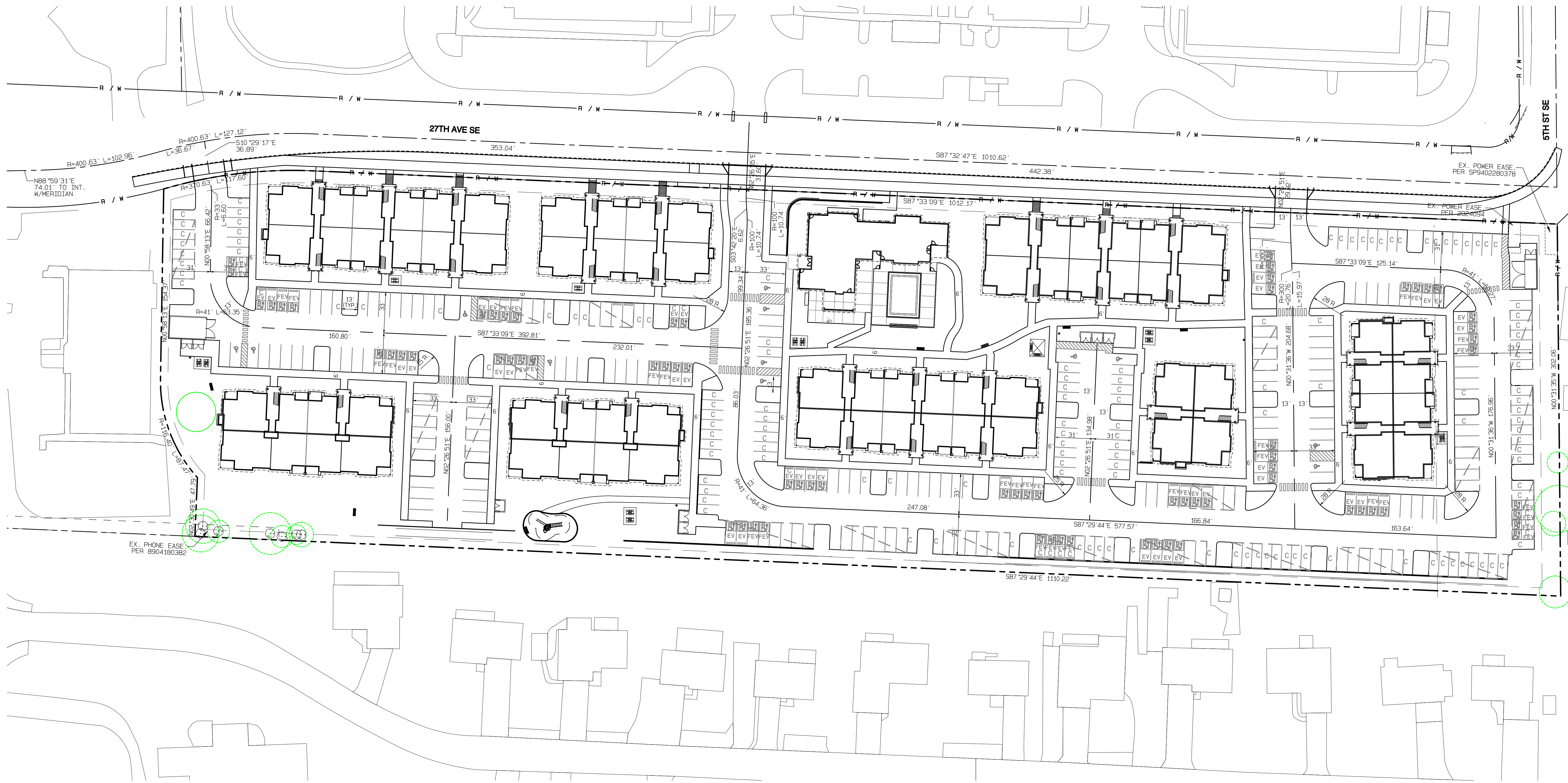
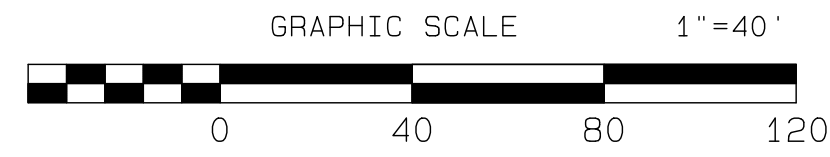
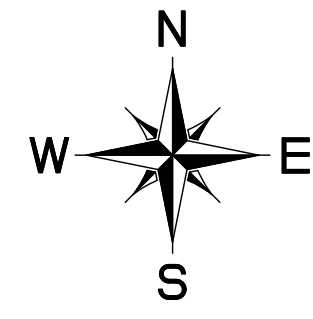
**DRAWING**

**G-2**

SHEET OF 2 60

# Bradley Heights

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



REVISION	DATE
1	11/29/24
2	4/7/25
3	4/27/25
4	
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JOB NO. 3327  
 DATE: May 14, 2024  
 DESIGNED BY: Rnd. Trivitt  
 DRAWN BY: Rnd. Trivitt  
 CHECKED BY: Rnd. Green  
 APPROVED BY: Rnd. Green

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

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

APPROVED

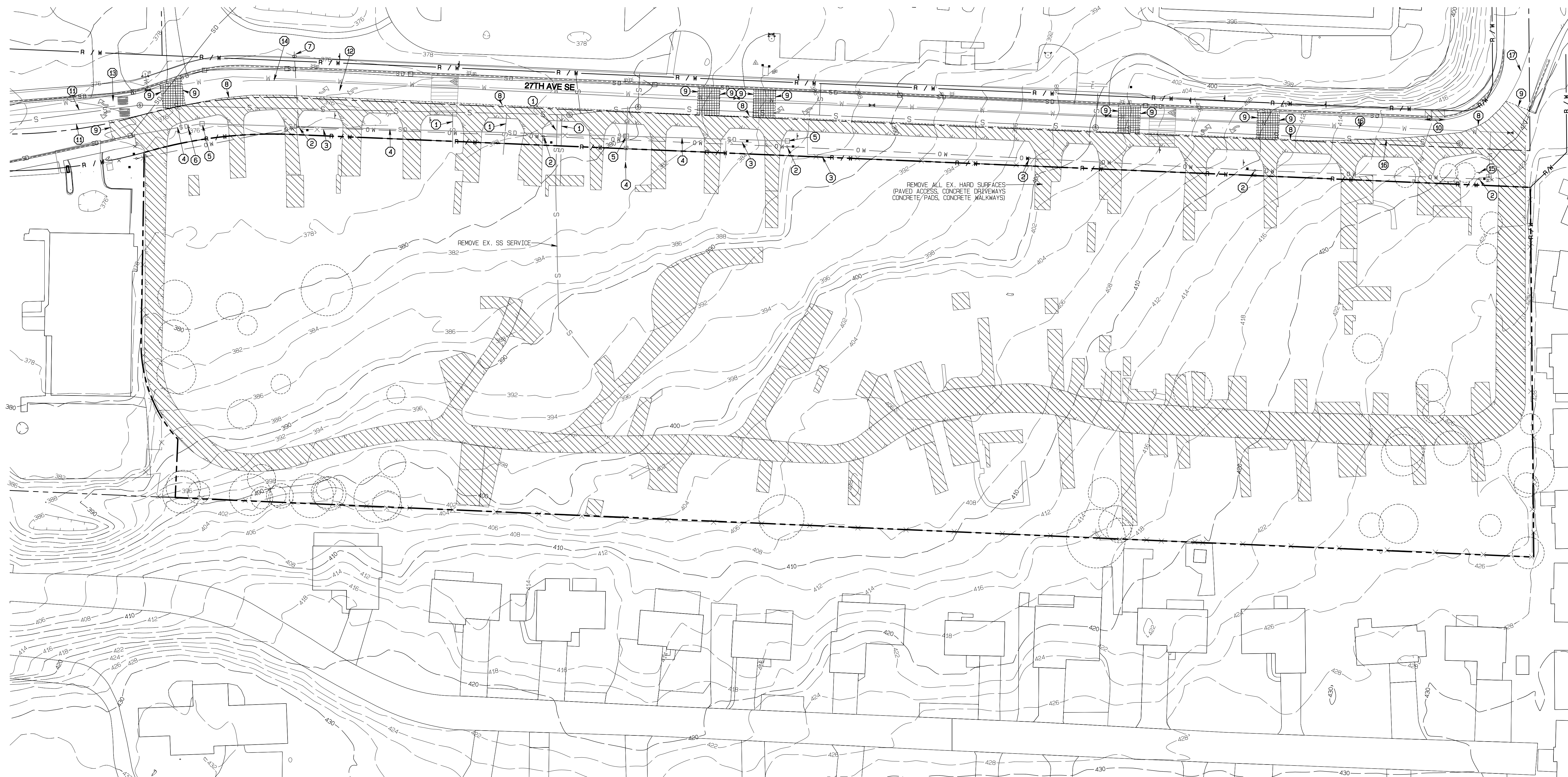
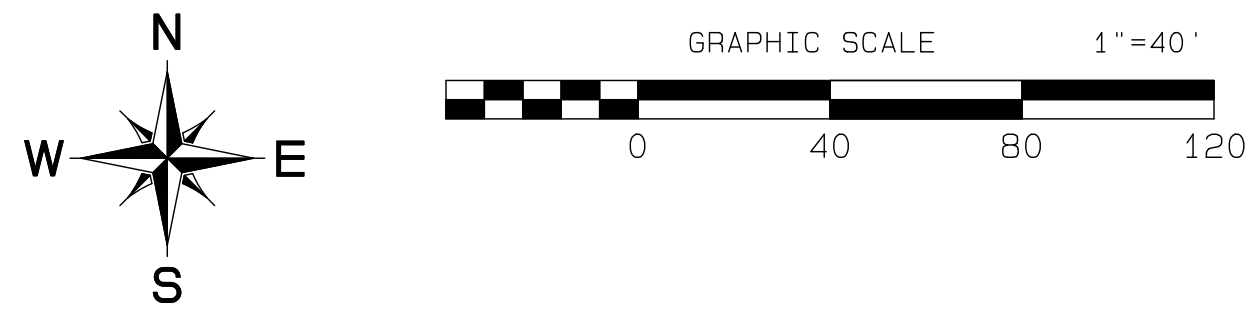
BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
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**DRAWING**  
**G-3**  
 SHEET OF 3 60

Project Desc.: Bradley Heights; Plan#: E:\urban\3327 - Bradley Heights\Timberlane\Bradley Heights 20250424 EHG.dwg; PLOT DATE/TIME: 4/24/2025 7:13:00PM

# Bradley Heights

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



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

REMOVE EX. SS SERVICE

### DEMO KEY NOTES

- 1 CUT AND CAP EX. SS SERVICE AT MAIN  
4 LOCATIONS IDENTIFIED ON PLANS  
PER CITY DATA THERE ARE THREE 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
- 7 REMOVE ANCHOR POLE AND GUY ANCHOR  
COORDINATE WITH UTILITY COMPANIES

- 8 SAWCUT ALONG EXISTING STRIPE  
OBLITERATE ANY REMAINING STRIPE
- 9 TRANSVERSE SAWCUT
- 10 REMOVE CURB RAMP, CURB & GUTTER
- 11 OBLITERATE TURN POCKET STRIPE BACK TO STOP BAR  
USE HYDRO-BLASTING FOR STRIPING REMOVAL
- 12 OBLITERATE TURN ARROWS  
USE HYDRO-BLASTING FOR STRIPING REMOVAL
- 13 EX. ARROWS & "ONLY" TO REMAIN
- 14 OBLITERATE TWLT STRIPE TO MATCH  
POINT PER CHANNELIZATION PLAN  
USE HYDRO-BLASTING FOR STRIPING REMOVAL
- 15 REMOVE EXISTING MOBILE HOME PARK SIGN

- 16 OBLITERATE TURN POCKET TAPER STRIPE  
USE HYDRO-BLASTING FOR STRIPING REMOVAL
- 17 OBLITERATE DOUBLE YELLOW CENTER STRIPE  
USE HYDRO-BLASTING FOR STRIPING REMOVAL

### DEMO LEGEND

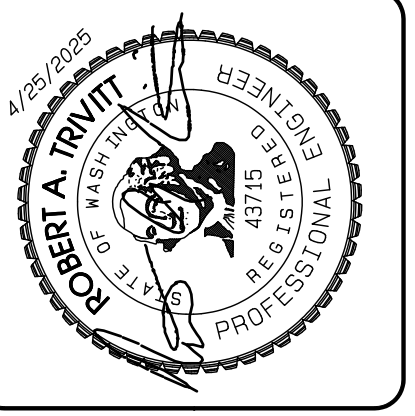
- REMOVE PAVING/CONCRETE
- 2" PAVEMENT GRIND

APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

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

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1 Revised per City review and Mail A adjustment.	11/29/24
2 Revised per City review.	4/7/25
3 Revised per City & Ashi review.	4/27/25
4 Revised per City & Ashi review.	
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JOB NO. 3327  
DATE: May 14, 2024  
DESIGNED BY: Rob Trivitt  
DRAWN BY: Rob Trivitt  
CHECKED BY: Rob Green  
APPROVED BY: Rob Green

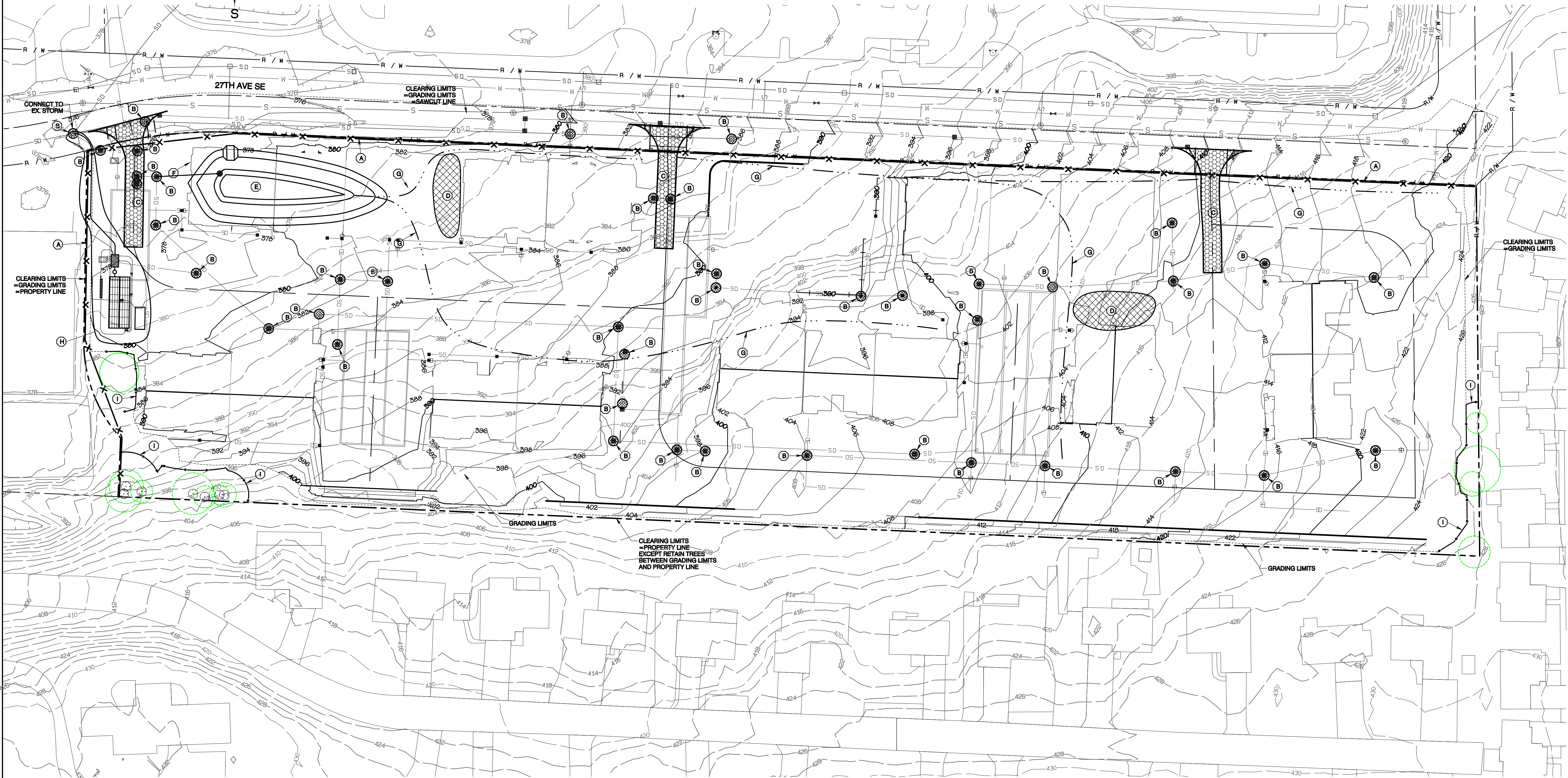
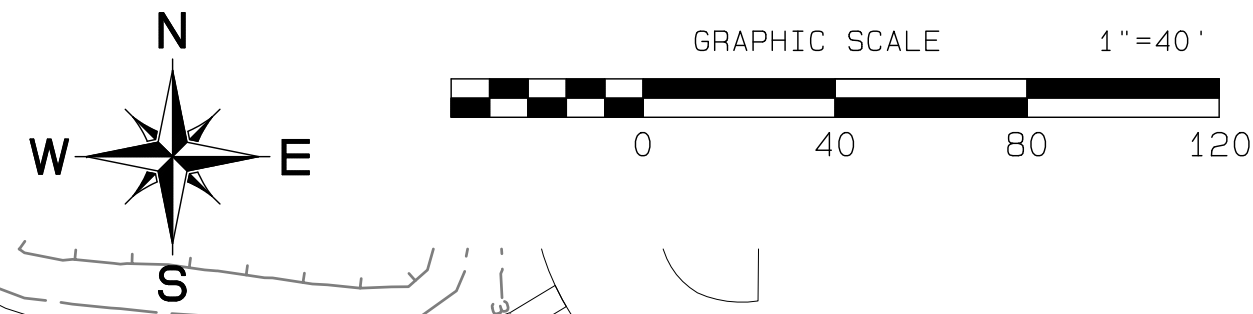
**AZURE GREEN**  
CONSULTANTS  
+ feasibility + planning + engineering + surveying  
419 East Pioneer, Suite A - Puyallup, WA 98372  
Phone: 253.770.3144, Fax: 253.770.3142

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

Project Desc.: Bradley Heights; Date: E:\work\3327 - Bradley Heights\Timberlane\Bradley Heights 20250425 E16.dwg; PLOT Date/Time: 4/25/2025 7:52:03AM

# 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 NOTES TO RIGHT  
SEE DETAILS SHEET G-7  
ORIFICE:  
I.E. = 372.86  
RISER = 3"  
DIA. = 3"  
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
- (I) TREE PROTECTION FENCING  
SEE DETAIL SHEET G-7

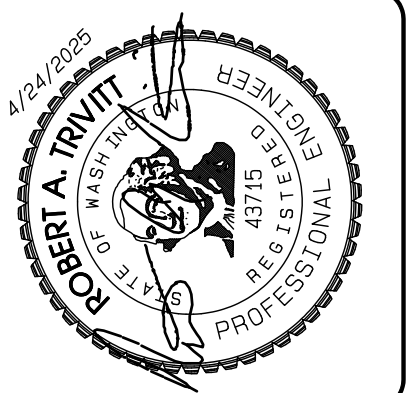
**SEDIMENT POND NOTES**  
SEDIMENT POND SHALL BE FUNCTIONAL BEFORE ANY  
GROUND DISTURBING ACTIVITY TAKES PLACE.  
INCLUDE RISER STICK IN POND WITH CLEAR MARKING  
AT 1 FOOT ABOVE POND BOTTOM.  
SEDIMENT TO BE REMOVED WHENEVER DEPTH REACHES  
1 FOOT.  
OVERFLOW SPILLWAY TO HAVE A BOTTOM LENGTH OF 6 FEET.  
VAULT #2 MAY BE USED AS TEMPORARY SEDIMENT POND AND  
IF THIS IS DONE, SURFACE POND MAY BE REMOVED.

APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

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

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REVISION	DATE
1	11/26/24
2	4/7/25
3	4/21/25
4	4/21/25
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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: 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

**TESC Plan**

**Bradley Heights**

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

DRAWING

**G-5**

SHEET 5  
OF 60

Project: Bradley Heights - Bradley Heights, Pierce County, Washington, 20240424, E106, p.06, P01, Date: 7/1/24, 4:10 PM

# Bradley Heights

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

## TEMPORARY ESC MEASURES REQUIRED

1. Temporary Siltation Fencing.
2. Vegetation and Stabilization of exposed surfaces
3. Catch Basin Inlet Protection
4. 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

1. Seeding and/or Landscaping of non-impervious surfaces

## SPECIAL NOTES:

1. Contractor shall designate an erosion and sediment control leadperson, and shall comply with the stormwater pollution prevention plan prepared for the project.
2. Sediment-laden runoff shall not be allowed to discharge beyond the construction limits.
3. Exposed areas and soil stockpiles must be stabilized according to the following schedule:
  1. 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.
  2. 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.
4. 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.
5. If dewatering of excavations is required, dewatering must conform to the requirements of Section 504 of Puyallup City Standards.

## MULCHING NOTES

1. 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.
2. Mulches shall be applied in all areas with exposed slopes greater than 2:1.
3. Mulching shall be used immediately after seeding or in areas which cannot be seeded because of the season.
4. All areas needed mulch shall be covered by November 1.

## SEEDING NOTES (Erosion control seeding):

1. Seed mixture shall be 10% Redtop (92% purity, 90% germination); 40% Annual Ryegrass (98% purity, 90% germination); 40% Chewing Fescue (97% purity, 80% germination); and 10% White Dutch Clover (92% purity, 90% germination) and shall be applied at the rate of 120 pounds per acre.
2. Seed beds planted between May 1 and October 31 will require irrigation and other maintenance as necessary to foster and protect the root structure.
3. 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).
4. Before seeding, install needed surface runoff control measures such as gradient terraces, interceptor dikes, swales, level spreaders and sediment basins.
5. The seedbed shall be firm with a fairly fine surface, following surface roughening. Perform all operation across or at right angles to the slope.
6. Fertilizers are to be used according to suppliers recommendations. Amounts used should be minimized, especially adjacent to water bodies and wetlands.
7. Erosion control seeding shall not be used in areas subject to wear by construction traffic.
8. 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:

1. Stockpiles shall be stabilized (with plastic covering or other approved device) daily between November 1 and March 31.
2. In any season, sediment leaching from stock piles must be prevented.
3. 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.
4. Previously established grades on the areas to be topsoiled shall be maintained according to the approved plan.
5. Stockpiles must be located more than 50 feet from all drainage features.

1. 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.

2. 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 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 CONTROL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE PERMITEE.

3. 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 DICATE, 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 PERMITEE 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.

4. 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.

5. ANY DISTURBED AREA WHICH HAS BEEN STRIPPED OF VEGETATION AND WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 30 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 PERMITEE BUT MUST BE AUGMENTED WITH MULCHING, NETTING, OR OTHER TREATMENT APPROVED BY THE CITY.

6. 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.

7. 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.

<p><b>CITY OF PUYALLUP</b> DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS</p>	<p><b>GRADING, EROSION, AND SEDIMENTATION CONTROL NOTES</b></p>	
	<p>DESIGNED BY: R. J. HARRIS DRAWN BY: R. J. HARRIS DATE: 05.02.01</p>	<p>APPROVED BY: R. J. HARRIS DATE: 05.02.01</p>

## PLASTIC COVERING NOTES:

1. Plastic sheeting shall have a minimum thickness of 6 mils and shall meet the requirements of the STATE STANDARD SPECIFICATIONS Section 9-14.5.
2. Covering shall be installed and maintained tightly in place by using stakes 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.
3. Clear plastic covering shall be installed immediately on areas seeded between November 1 and March 31 and remain until vegetation is firmly established.
4. When the covering is used on un-seeded slopes, it shall be kept in place until the next seeding period.
5. Plastic covering sheets shall be buried two feet at the top of slopes in order to prevent surface water flow beneath sheets.
6. Proper maintenance includes regular checks for rips and dislodged ends.

## CONSTRUCTION SEQUENCE

1. OBTAIN REQUIRED PERMITS AND HOLD A PRECONSTRUCTION MEETING WITH THE CITY.
2. ESTABLISH CLEARING AND GRADING LIMITS.
3. INSTALL SILT FENCE IF REQUIRED.
4. INSTALL CB INLET PROTECTION.
5. INSTALL CONSTRUCTION ENTRANCE.
6. SCHEDULE AN EROSION CONTROL INSPECTION WITH THE CITY.
7. 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.
8. CLEAR AND REMOVE ORGANIC MATERIAL, PREP SUBGRADE FOR FOUNDATION AND PARKING LOT CONSTRUCTION.
9. MASS GRADE SITE AND CONSTRUCT RETAINING WALLS.
10. INSTALL SANITARY SEWER LINE.
11. INSTALL DETENTION VAULTS.
12. INSTALL STORM LINES.
13. INSTALL WATER MAIN.
14. INSTALL OTHER UTILITIES.
15. INSTALL GASE.
16. CONSTRUCT SIDEWALKS.
17. INSTALL TOP COURSE.
18. CONSTRUCT BUILDINGS.
19. PAVE PARKING LOT.
20. BRING UTILITIES TO FINAL GRADE.
21. VEGETATE EXPOSED AREAS AND STABILIZE STOCKPILES AS SOON AS PRACTICAL AND AS NEEDED TO PREVENT EROSION.
22. HYDROSEED AND/OR INSTALL PERMANENT LANDSCAPING TO PROVIDE PERMANENT EROSION CONTROL.
23. REMOVE TEMPORARY EROSION CONTROL MEASURES WHEN SITE IS STABLE.

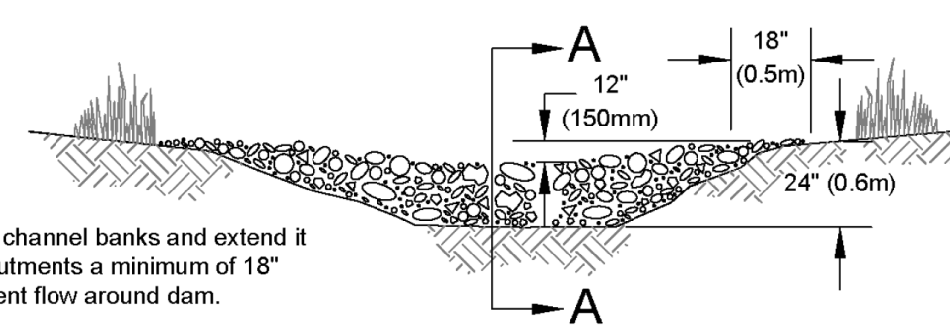
**TREE PROTECTION FENCING DETAIL**  
(for public and private trees)

NO ENTRY. NO GRADE CHANGES, STORAGE/STOCKPILING OF MATERIALS OR EQUIPMENT, PLACEMENT OF FILL OR TOP SOIL, TRENCHING OR VEHICULAR/FOOT TRAFFIC PERMITTED WITHIN THE TPZ. THIS TREE BARRIER SHALL NOT BE REMOVED WITHOUT AUTHORIZATION FROM PUYALLUP PLANNING DEPARTMENT—SUBJECT TO FINES AND ENFORCEMENT ACTION BY THE CITY—TO REPORT VIOLATIONS OR FOR MORE INFORMATION—CALL (253) 864-4165

- MINIMUM SIX (6) FEET HIGH TEMPORARY HIGH VISIBILITY ORANGE CONSTRUCTION FENCING SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF SUBTERRANEAN OR APPROVED FINAL LANDSCAPE PLAN. FENCING SHALL BE INSTALLED USING PROTS DRIVEN INTO GROUND—PROT BLOCKS SHALL NOT BE USED. AVOID PROTS DRIVEN INTO ROOT LARGER THAN 1" DIAMETER. FENCING SHALL BE INSTALLED PRIOR TO WORK COMMENCING ON SITE AND REMAIN IN PLACE THROUGHOUT ALL PHASES OF CONSTRUCTION—CALL THE CITY'S PLANNING DIVISION WITH REQUESTS TO MODIFY THE LOCATION OF THE TREE PROTECTION FENCING—(253) 864-4165
- TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER ONE (1) INCH DIAMETER DAMAGED DURING CONSTRUCTION MAKE A CLEAN STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH BAMP BURLAP TO PREVENT DRYING AND COVERED WITH SOIL AS SOON AS POSSIBLE. OTHER PRE-TREATMENT MEASURES MAY BE REQUIRED TO PROTECT ROOT SYSTEM—SEE APPROVED TREE PROTECTION OR FINAL LANDSCAPE PLAN FOR FURTHER DETAILS.
- NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, PLACEMENT OF TOP SOIL OR FILL MATERIAL, STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMITS OF THE ESTABLISHED FENCING. FENCING SHALL NOT BE MOVED OR REMOVED UNLESS APPROVED BY THE CITY PLANNING DIVISION. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY UNDER THE SUPERVISION OF THE ON-SITE SUPERVISOR WITH PRIOR WRITTEN APPROVAL BY THE CITY PLANNING DIVISION.
- THE ABOVE REFERENCED TPZ SIGNS SHALL BE PLACED EVERY 6 FEET ALONG THE FENCING AND SHALL REMAIN IN PLACE THROUGHOUT ALL PHASES OF CONSTRUCTION.

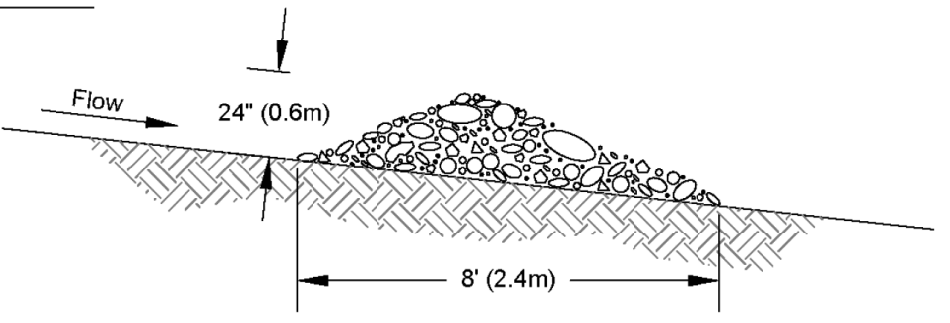
Figure II-3.16: Rock Check Dam

## View Looking Upstream

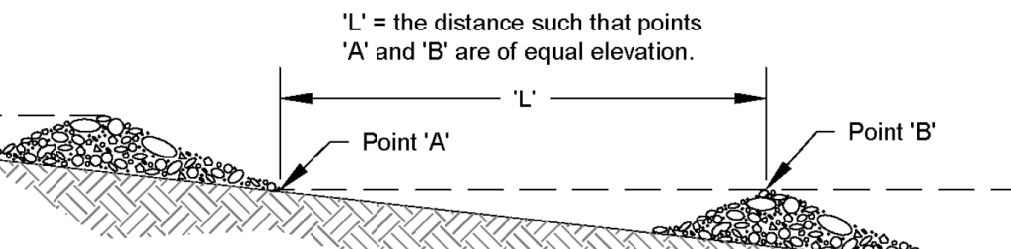


Note:  
Key stone into channel banks and extend it beyond the abutments a minimum of 18" (0.5m) to prevent flow around dam.

## Section A-A



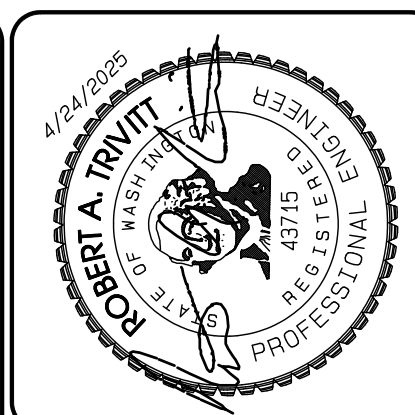
## Spacing Between Check Dams



## Rock Check Dam

Revised June 2016

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REVISION	DATE
1. Revised per City review and M&J A. adjustment.	11/26/24
2. Revised per City review.	4/7/25
3. Revised per City & Bush review.	4/21/25
4. Revised per City & Bush review.	
5. Revised per City & Bush review.	
6. Revised per City & Bush review.	
7. Revised per City & Bush review.	
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16. Revised per City & Bush review.	
17. Revised per City & Bush review.	
18. Revised per City & Bush review.	
19. Revised per City & Bush review.	
20. Revised per City & Bush review.	

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**TESC Notes**  
 Bradley Heights  
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 Fax jordan@timberlanepartners.com

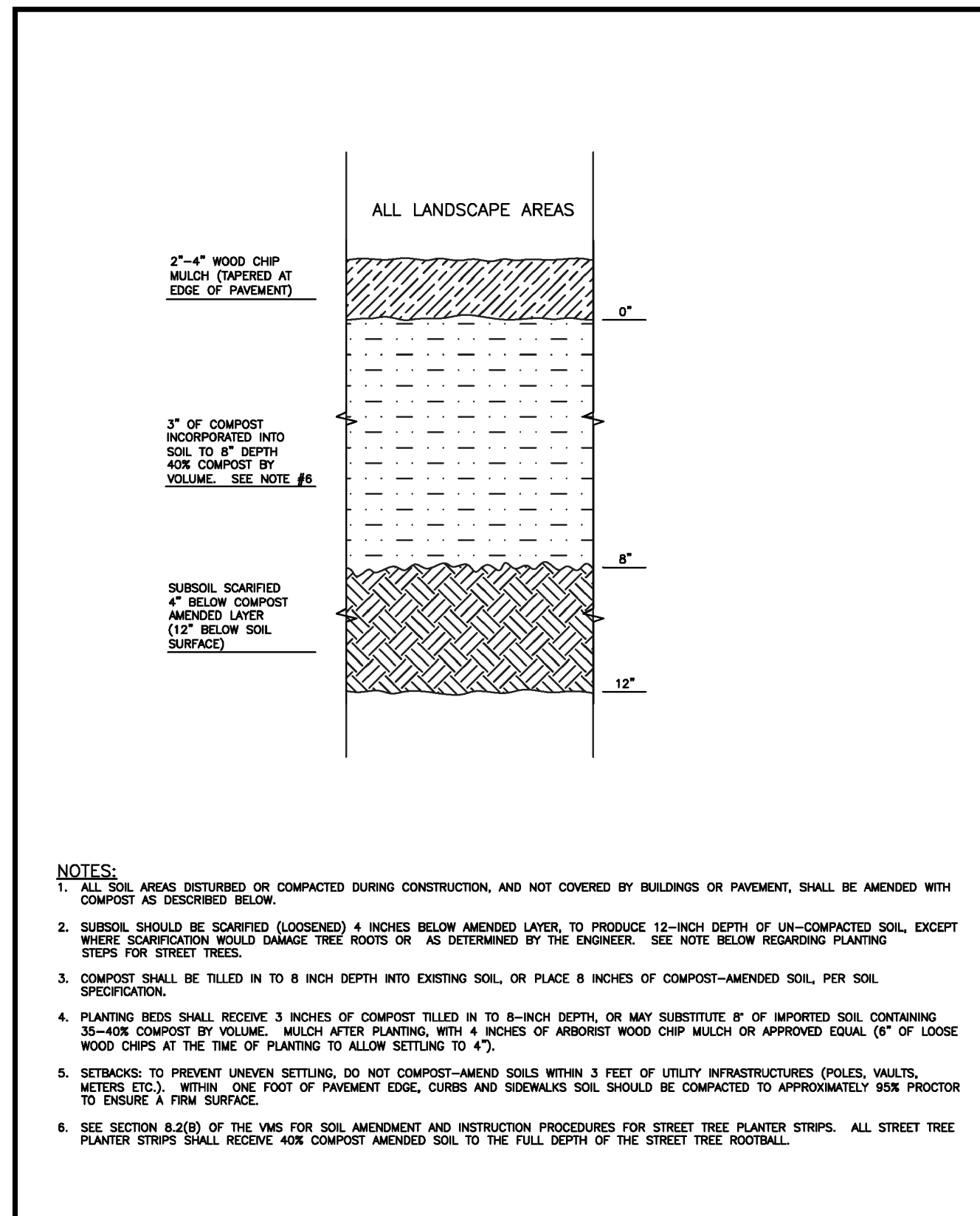
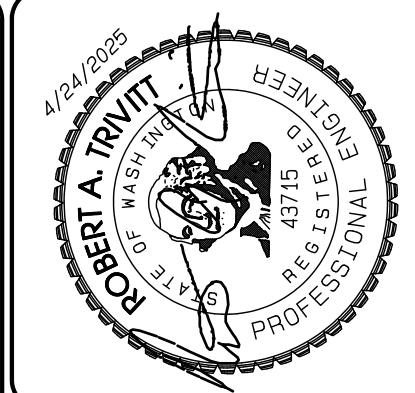
APPROVED  
 BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
 NOTE:  
 THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.  
 THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.  
 FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE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

**DRAWING**  
**G-6**  
 SHEET 6  
 OF 60

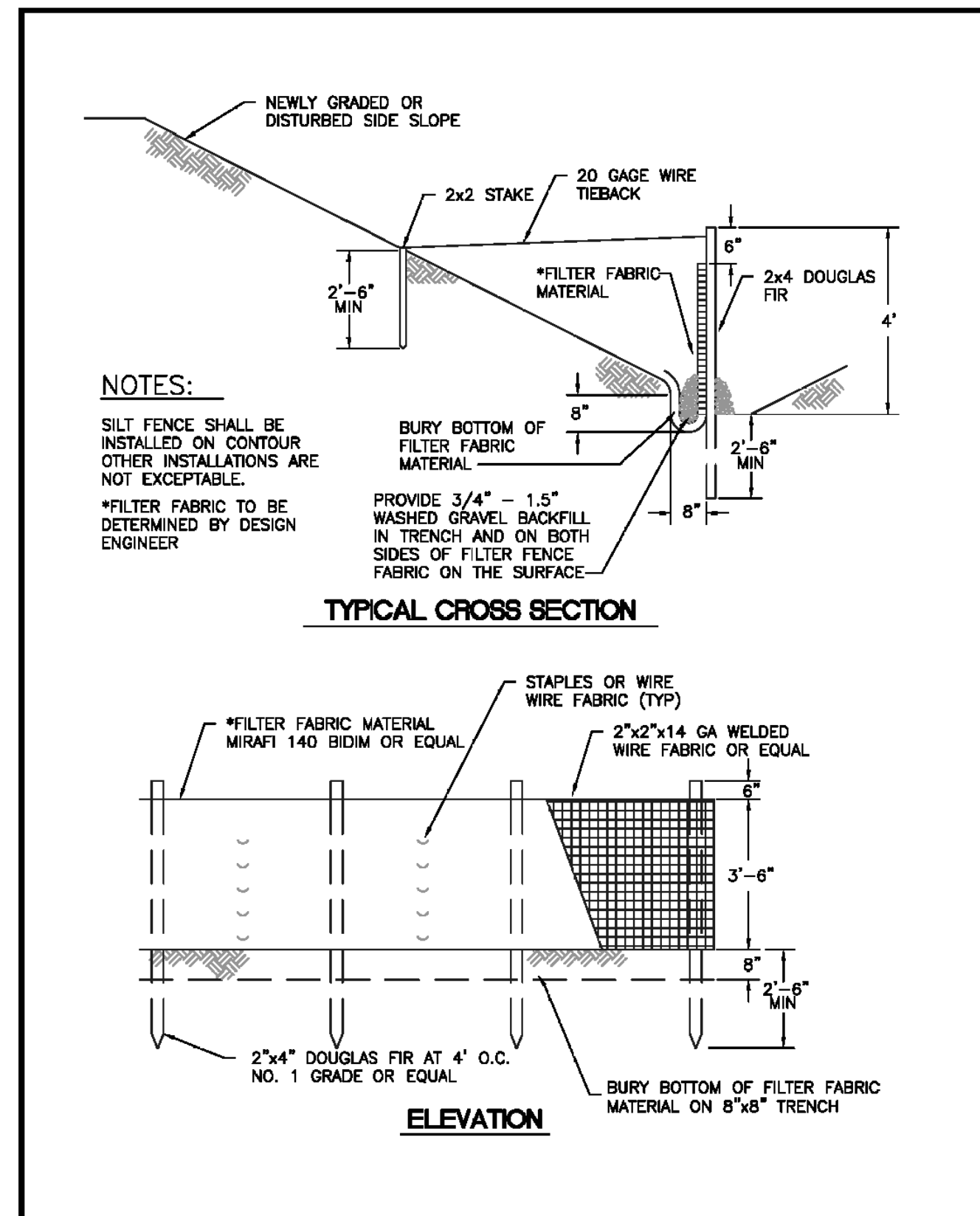
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# Bradley Heights

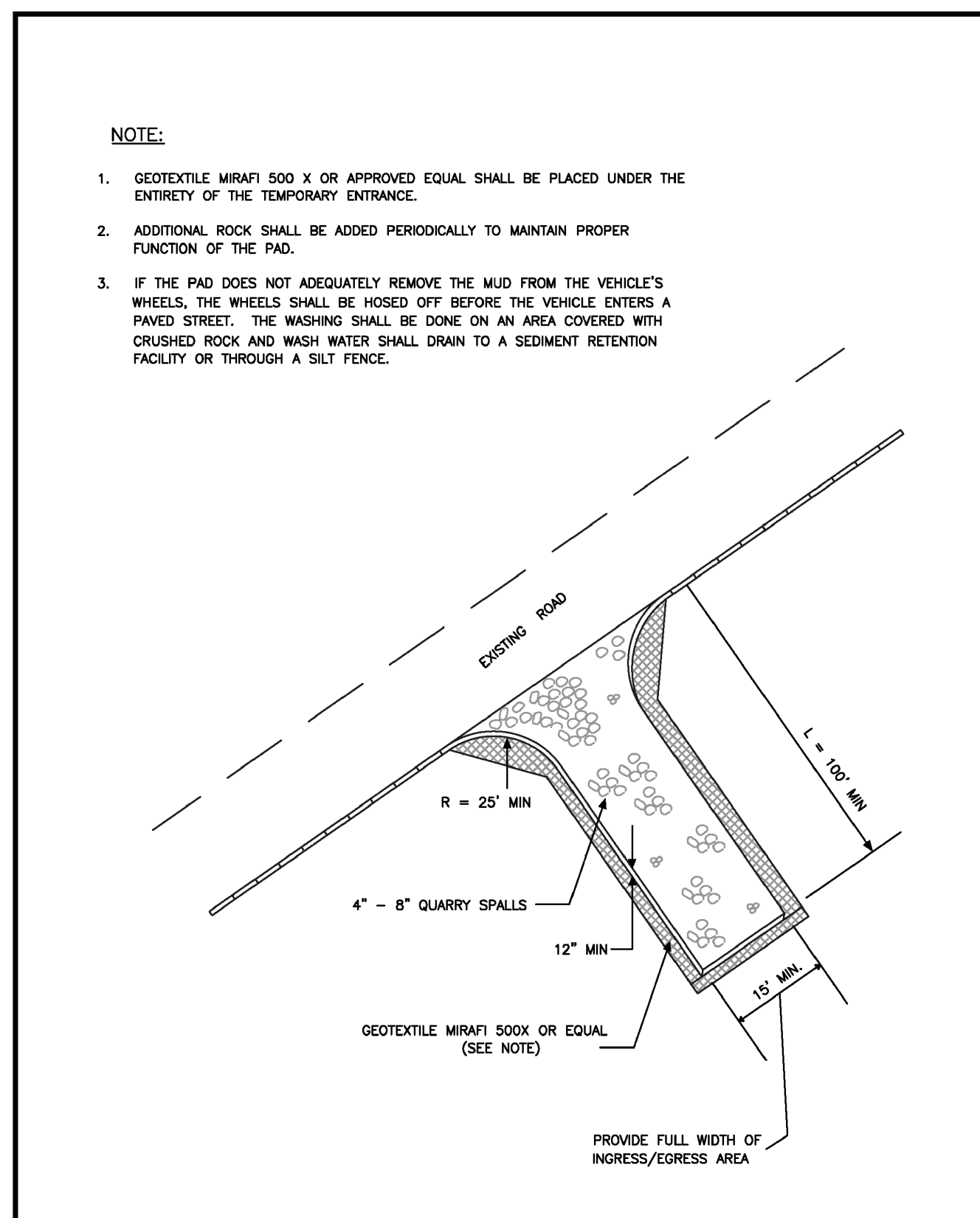
## Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



<b>CITY OF PUYALLUP</b> DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS	<b>SOIL AMENDMENT AND DEPTH</b>	
	DESIGNED BY: LINDA LEAN CHECKED BY: LINDA LEAN DATE APPROVED: 01/02/08	APPROVED BY: COLLEEN HARRIS DATE APPROVED: 01/02/08 SCALE: 1" = 12"



<b>CITY OF PUYALLUP</b> DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS	<b>SILTATION FENCE</b>	
	DESIGNED BY: LINDA LEAN CHECKED BY: LINDA LEAN DATE APPROVED: 01/02/08	APPROVED BY: COLLEEN HARRIS DATE APPROVED: 01/02/08 SCALE: 1" = 12"



<b>CITY OF PUYALLUP</b> DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS	<b>TEMPORARY CONSTRUCTION ENTRANCE</b>	
	DESIGNED BY: TIM HERRIN CHECKED BY: LINDA LEAN DATE APPROVED: 05/01/01	APPROVED BY: COLLEEN HARRIS DATE APPROVED: 05/01/01 SCALE: 1" = 12"

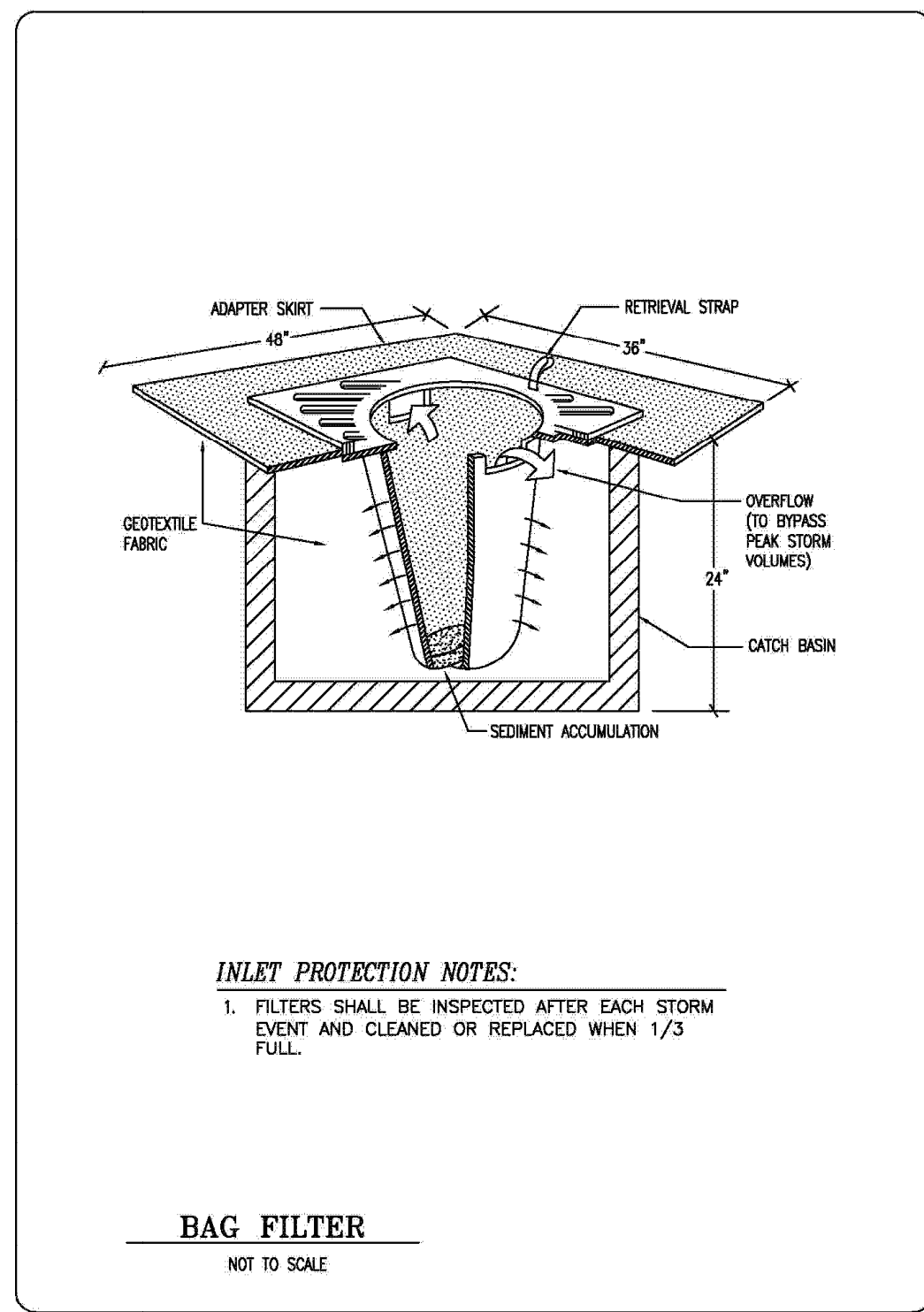
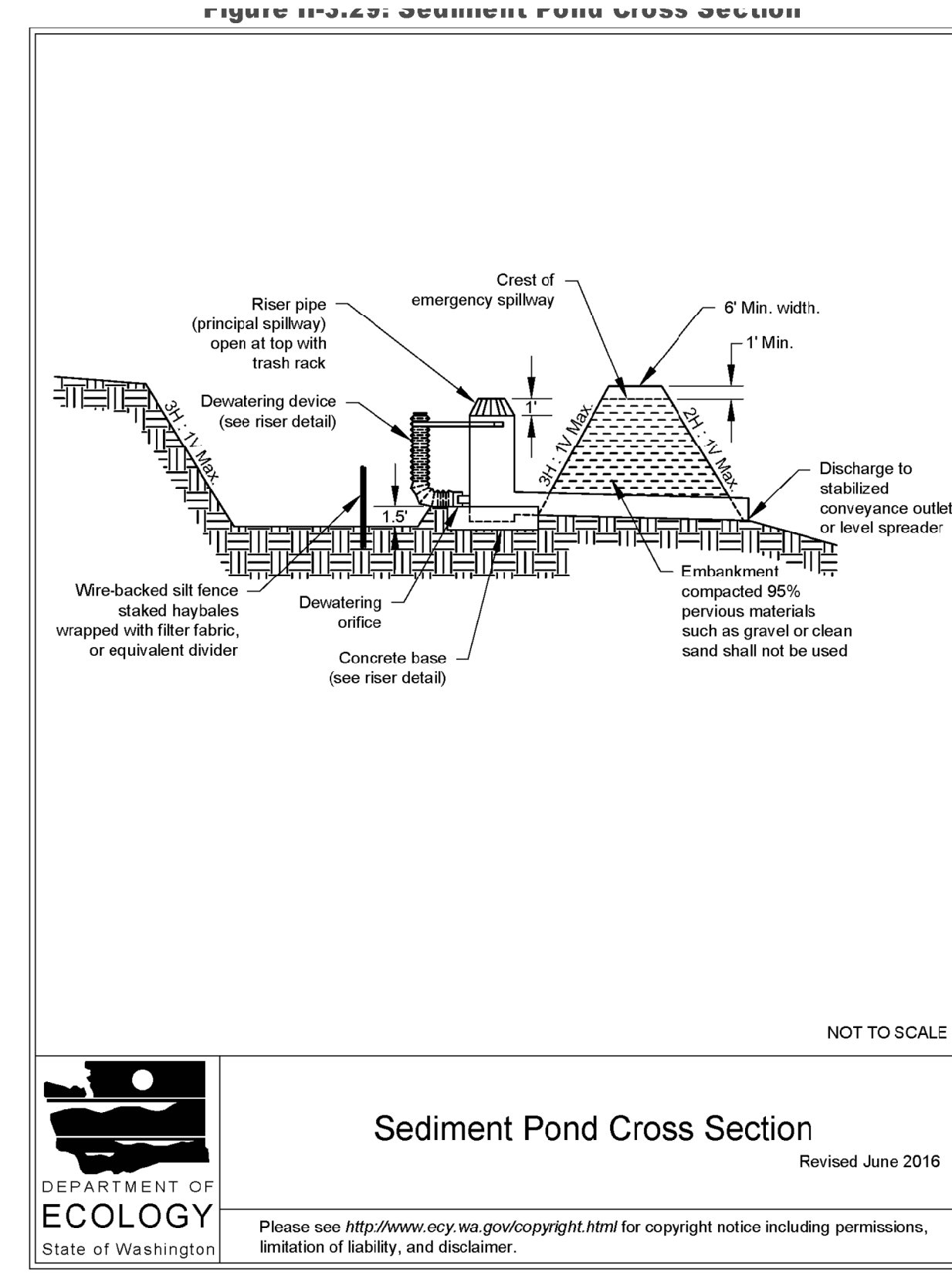
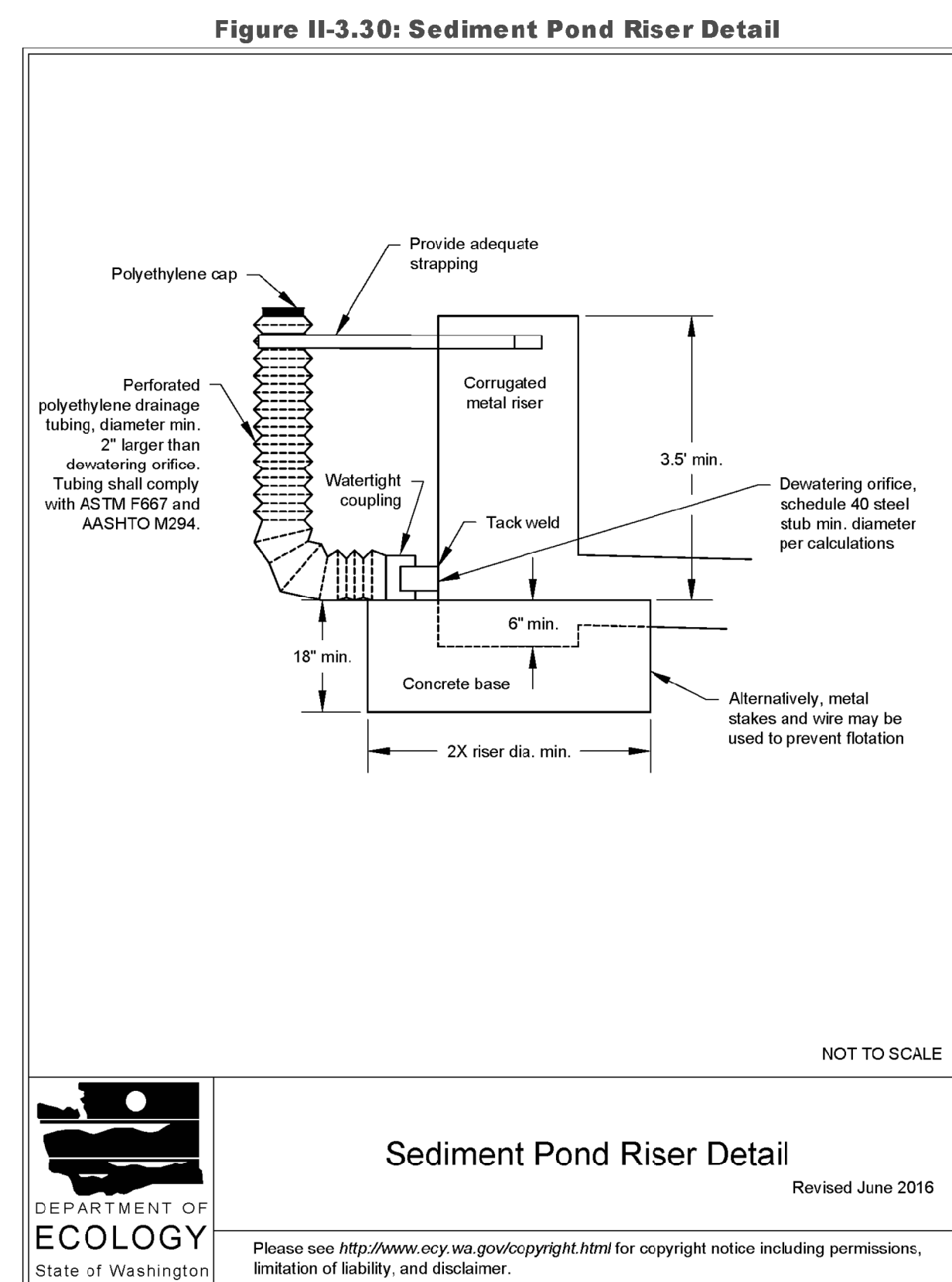
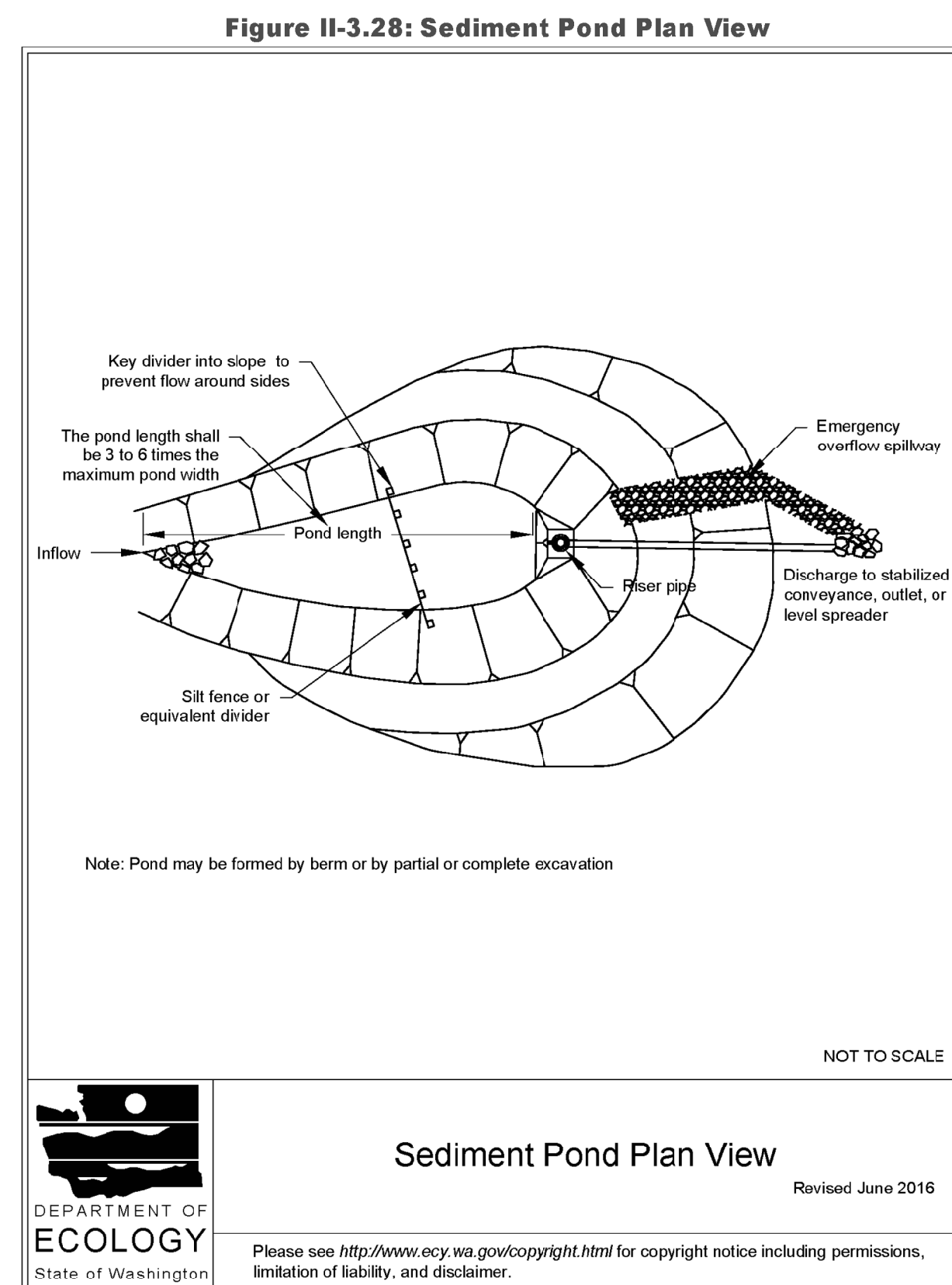


Figure 2 - 20. Catchbasin Filter



REVISION	DATE
1. Revised per City review and Mail A adjustment.	11/26/24
2. Revised per City review.	4/7/25
3. Revised per City & RUSH review.	4/21/25
4. Revised per City & RUSH review.	4/21/25
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JOB NO.	23027
DATE	May 14, 2024
DESIGNED BY	Rob Trivitt
DRAWN BY	Rob Trivitt
CHECKED BY	Colleen Harris
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

**TESC Details**

**Bradley Heights**

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

**DRAWING**  
**G-7**  
SHEET 7 OF 60

APPROVED

BY: CITY OF PUYALLUP DEVELOPMENT SERVICES

DATE:

**NOTE:**

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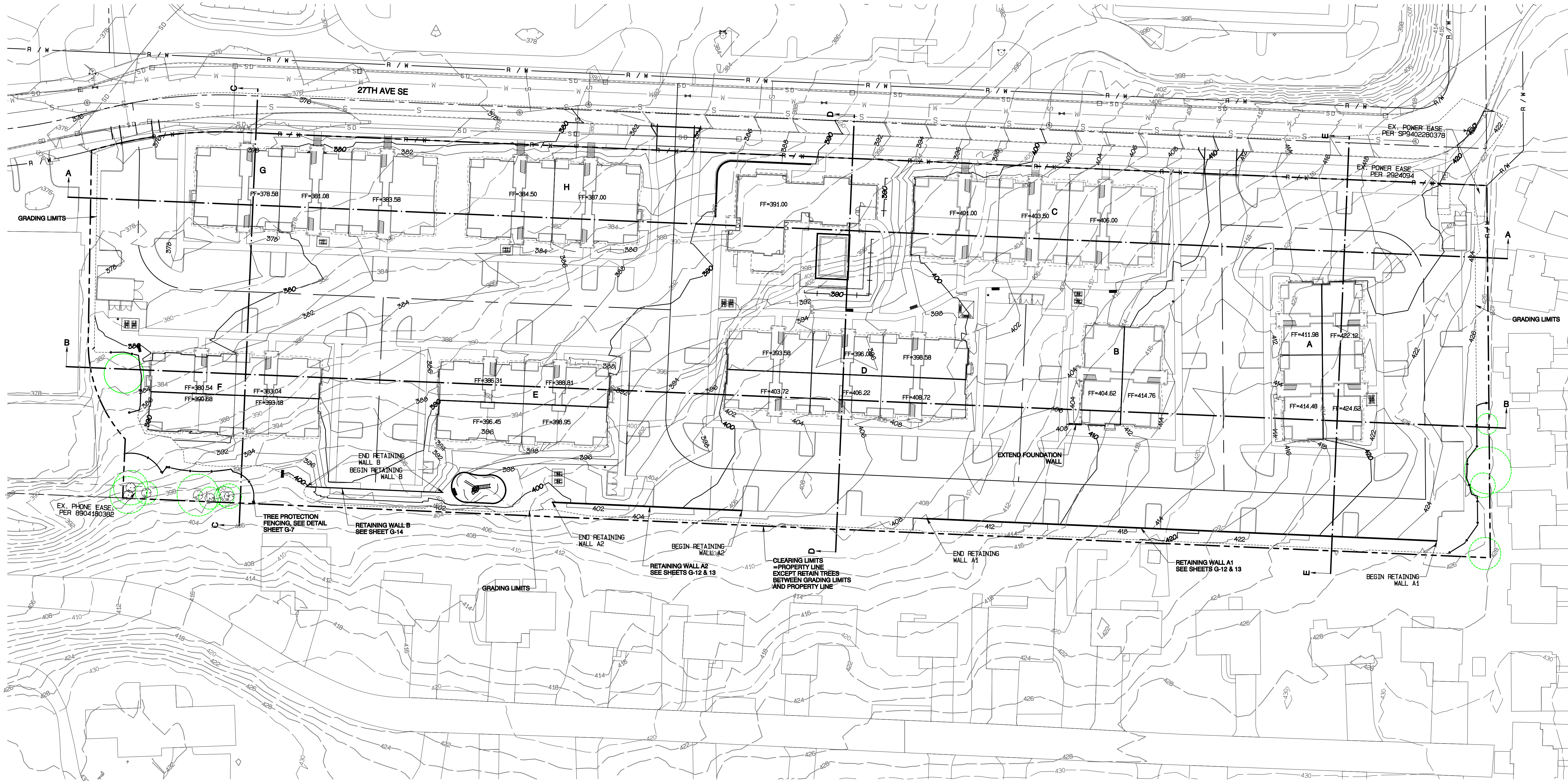
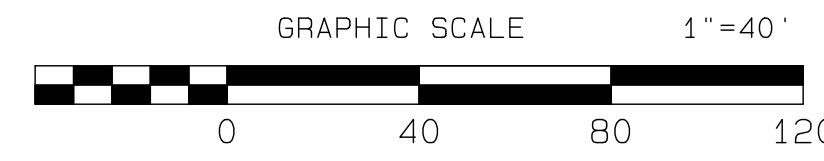
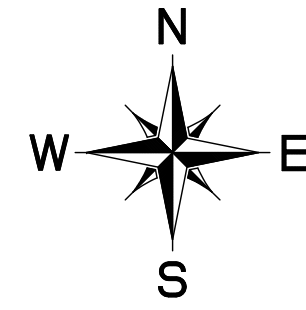
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.

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

Project Desc: Bradley Heights Date: E:\urban\3227 - Bradley Heights\Timeline\Bradley Heights\20250424\_E10.dwg PLOT DATE: 7/15/2024 4:24:20 PM

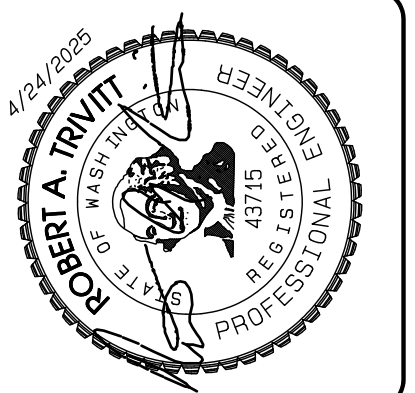
# Bradley Heights

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



RETAINING WALLS A1, A2 AND B TO BE CONSTRUCTED UNDER PERMITS PRMWF20240214, PRMWF20240216, AND PRMWF20240217, RESPECTIVELY. ALL ACCESS AND WORK FOR THE CONSTRUCTION OF THE PROPOSED WALLS SHALL BE CONDUCTED ON TAX PARCEL 0419036006 AND THAT THE CITY OF PUYALLUP DOES NOT AUTHORIZE ACCESS TO OR WORK ON ANY NEIGHBORING PROPERTIES UNDER THIS CIVIL PERMIT NOR THE ABOVE LISTED BUILDING PERMITS.

APPROVED  
 BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
 NOTE:  
 THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.  
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REVISION	DATE
1	11/29/24
2	4/7/25
3	4/21/25
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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

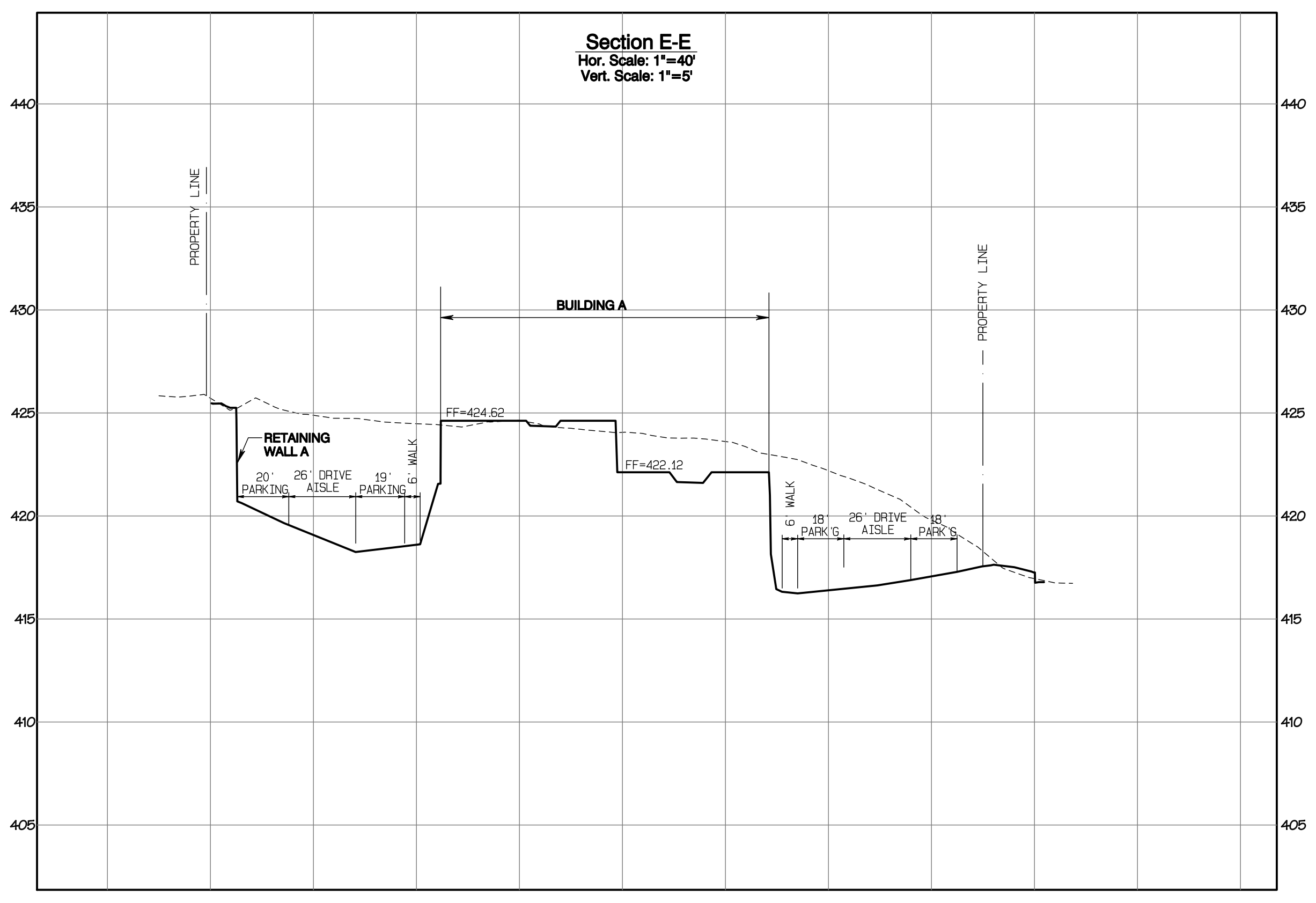
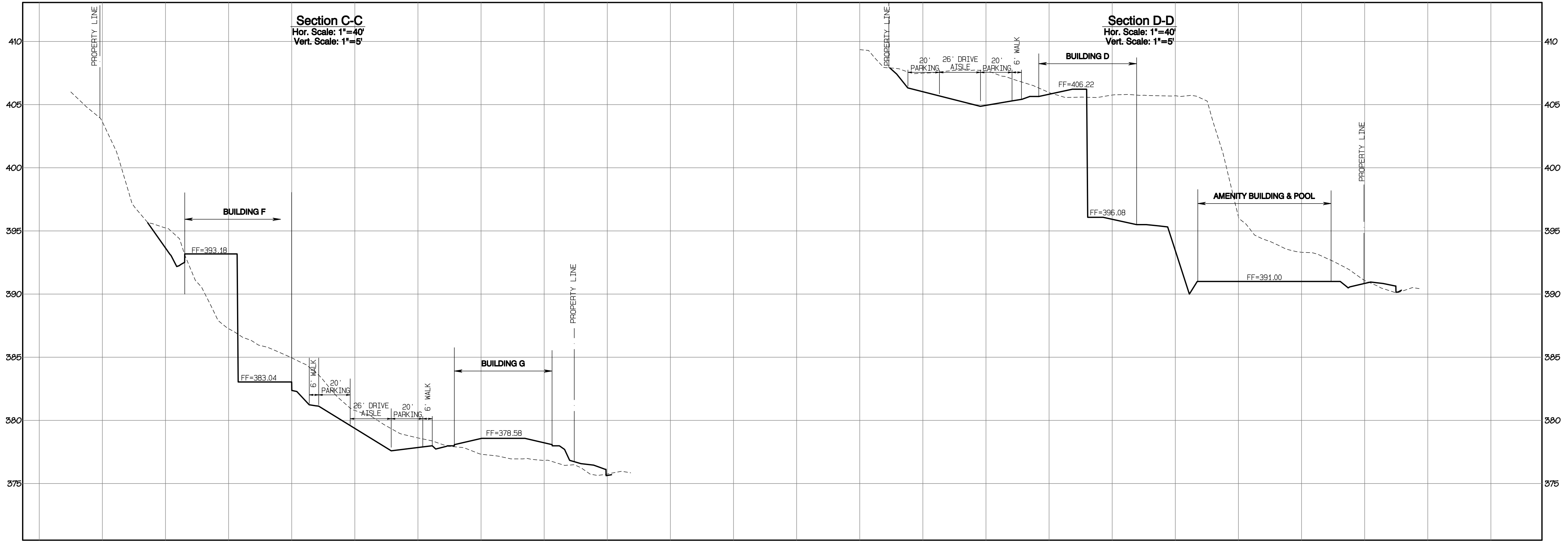
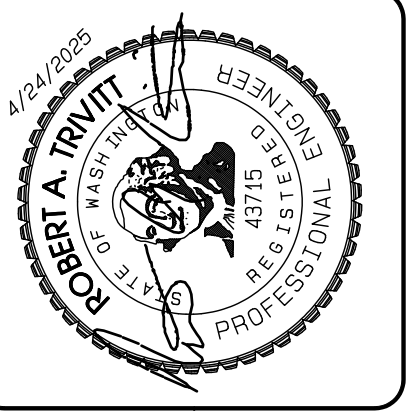
**Grading Plan**  
 Bradley Heights  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 206.886.0326  
 Fax jordan@timberlanepartners.com

**DRAWING**  
**G-8**  
 SHEET 8  
 OF 60

Project Desc.: Bradley Heights Date: E:\sub\3327 - Bradley Heights\Timberlane\Bradley Heights 20250424 E10.dwg P1.dwg Date/Time: 4/24/2025 7:17:51 PM

# Bradley Heights

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



Project Desc.: Bradley Heights; Plan#: F:\sub\3327 - Bradley Heights\Timberlane\Bradley Heights 20250424 E10.dwg; PLOT Date/Time: 4/24/2025 7:18:18PM

REVISION	DATE
1 Revised per City review and Mail A adjustment.	11/26/24
2 Revised per City review.	4/7/25
3 Revised per City & P&S review.	4/27/25
4 Revised per City & P&S review.	
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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

**Grading Cross-Sections**

**Bradley Heights**

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

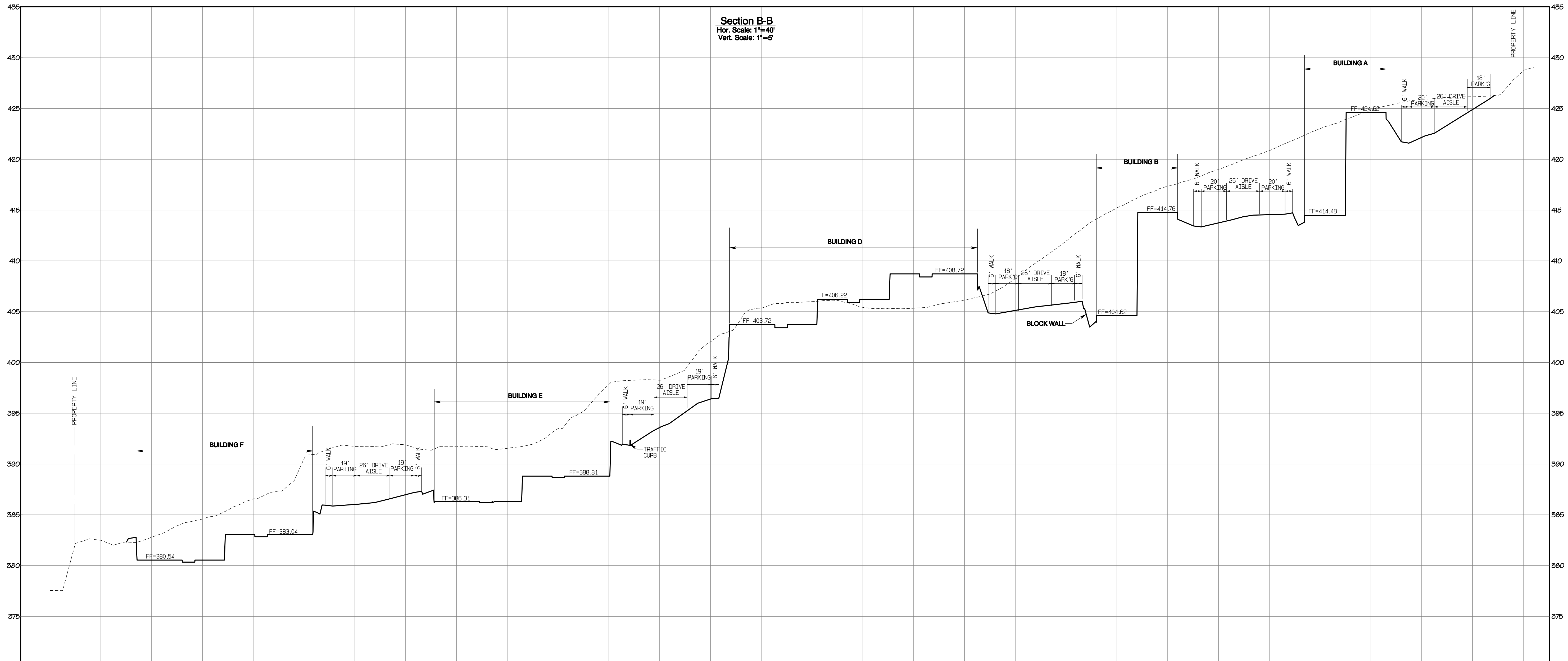
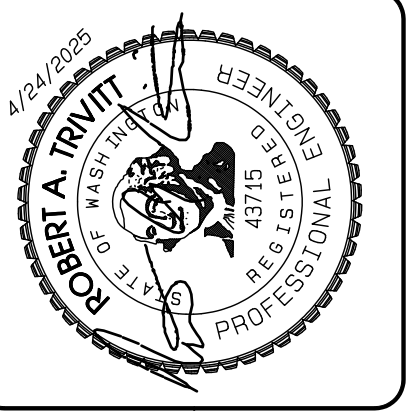
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**G-9**

SHEET 9  
OF 60

# Bradley Heights

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



REVISION	DATE
1 Revised per City review and Mail A adjustment.	11/29/24
2 Revised per City review.	4/7/25
3 Revised per City review.	4/21/25
4 Revised per City & PDR review.	4/21/25
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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

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APPROVED

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

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

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

**Bradley Heights**

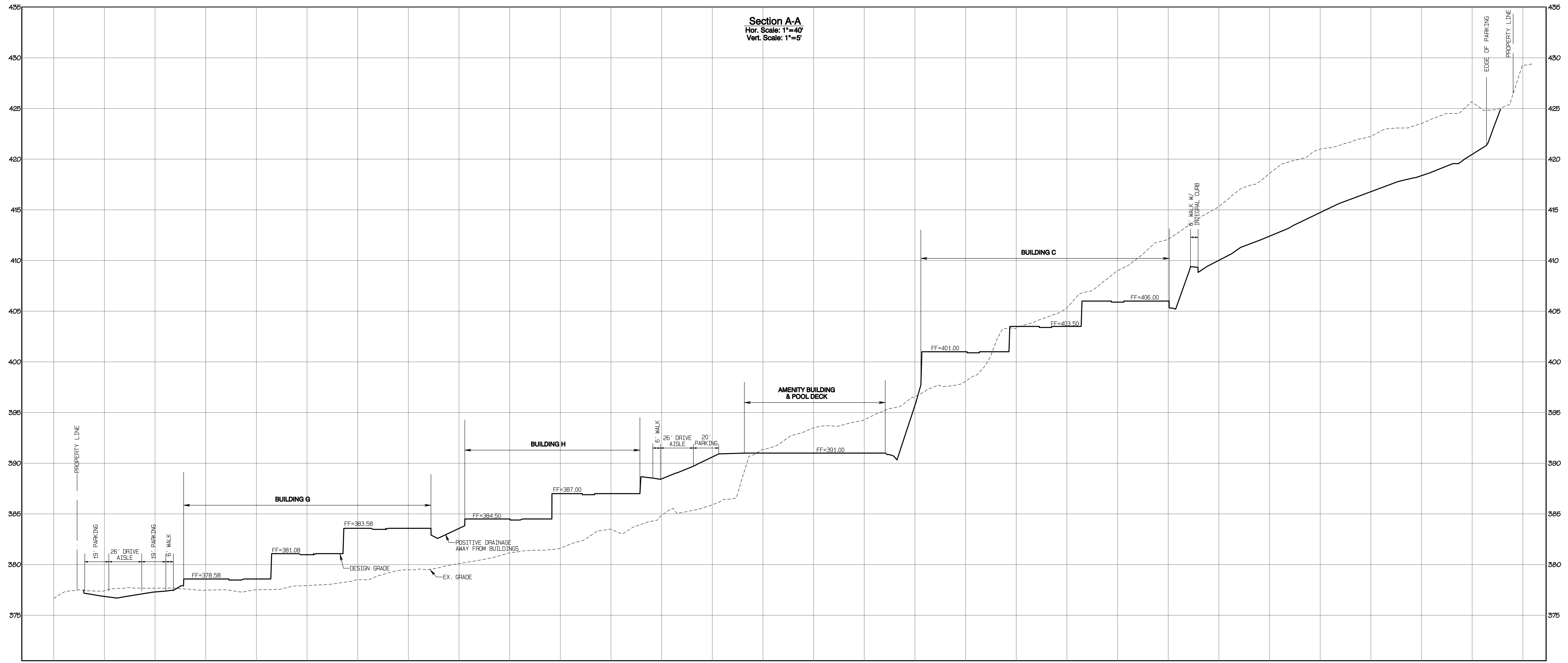
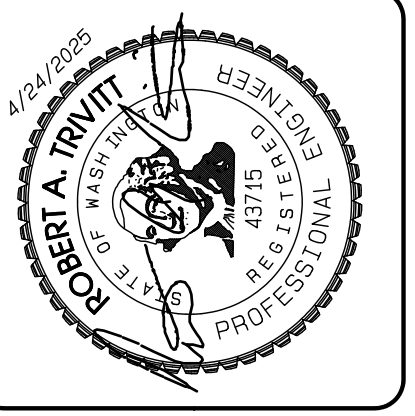
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DRAWING  
**G-10**  
 SHEET 10  
 OF 60

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Timberlane\K14\ Heights 20250424\_E10.dwg P1.dwg Date/Time: 4/24/2025 7:18:58PM

# 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
2 Revised per City review.	4/7/25
3 Revised per City & PDR review.	4/27/25
4 Revised per City & PDR review.	
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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

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.

**Grading Cross-Sections**

**Bradley Heights**

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

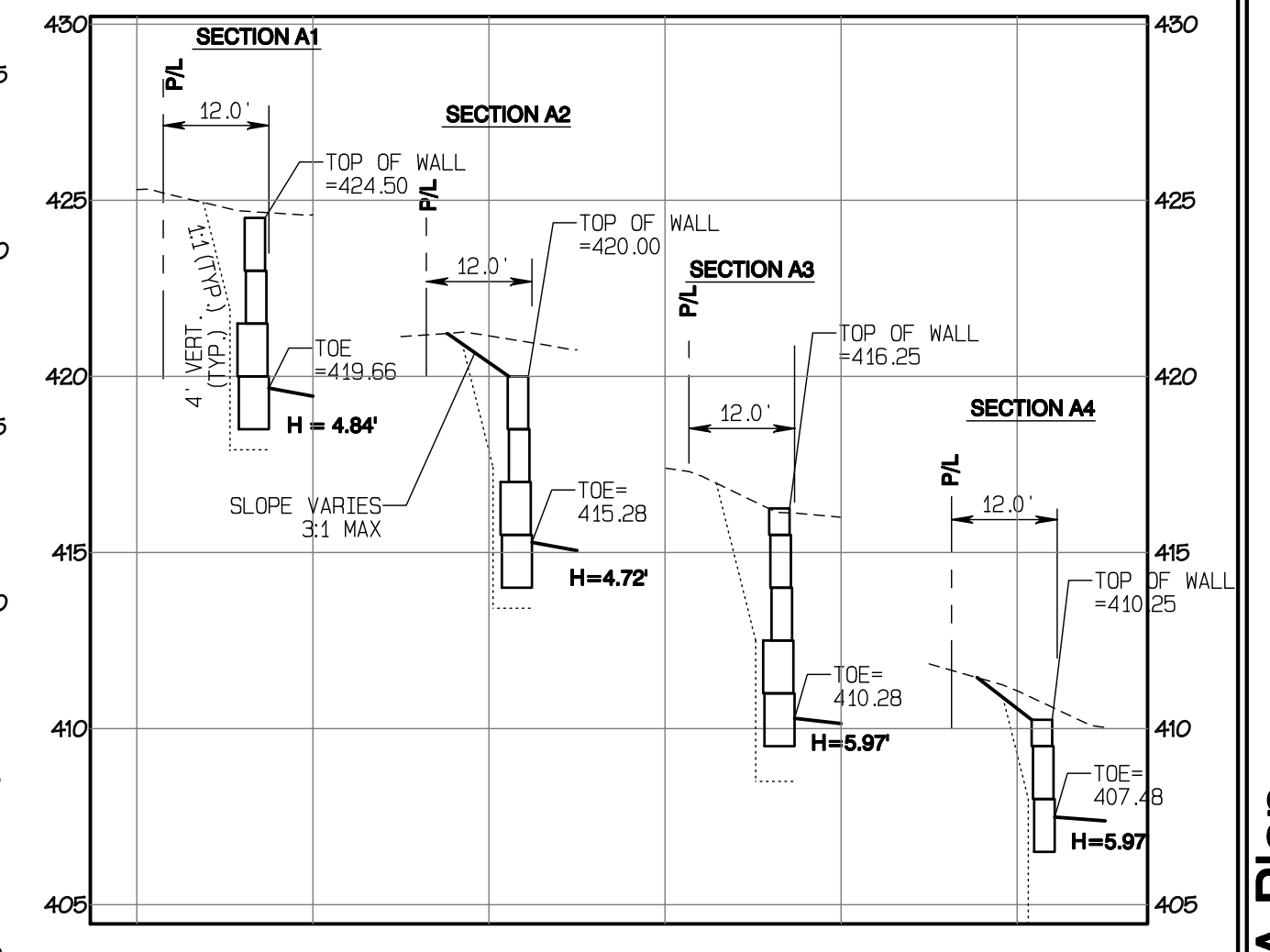
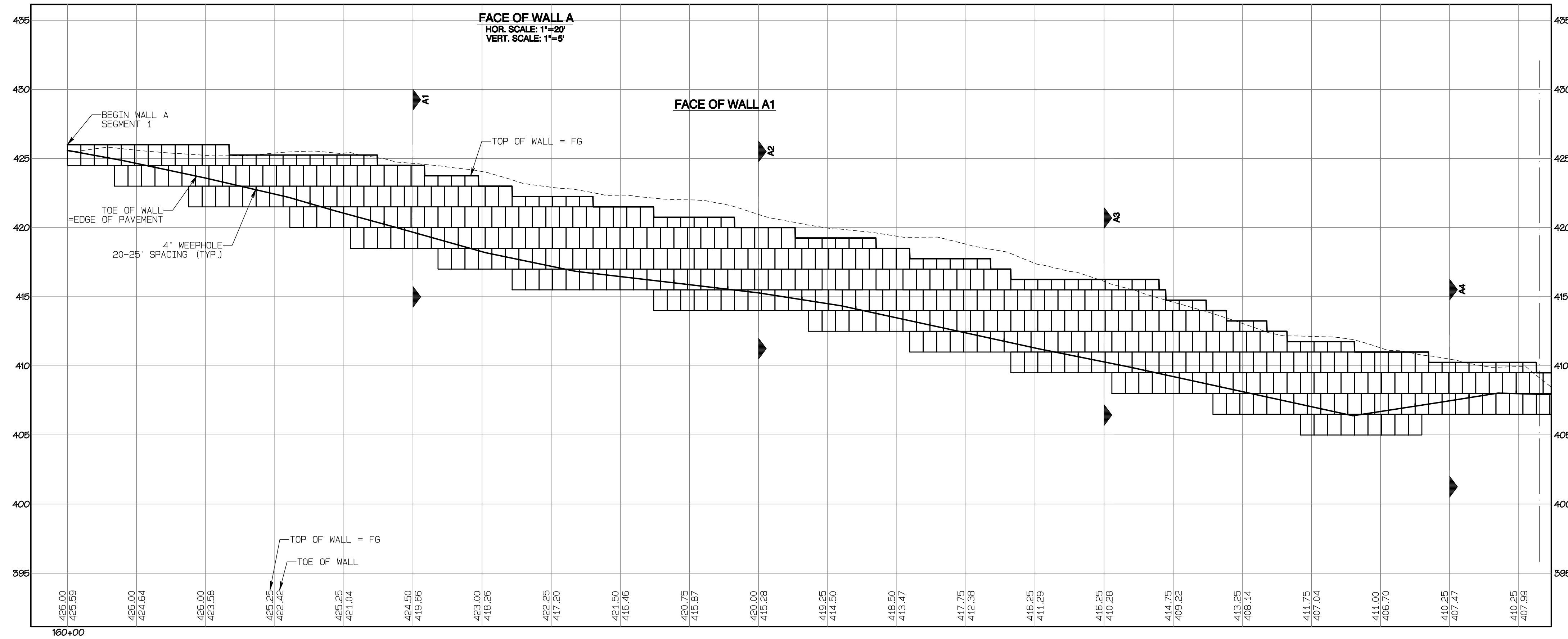
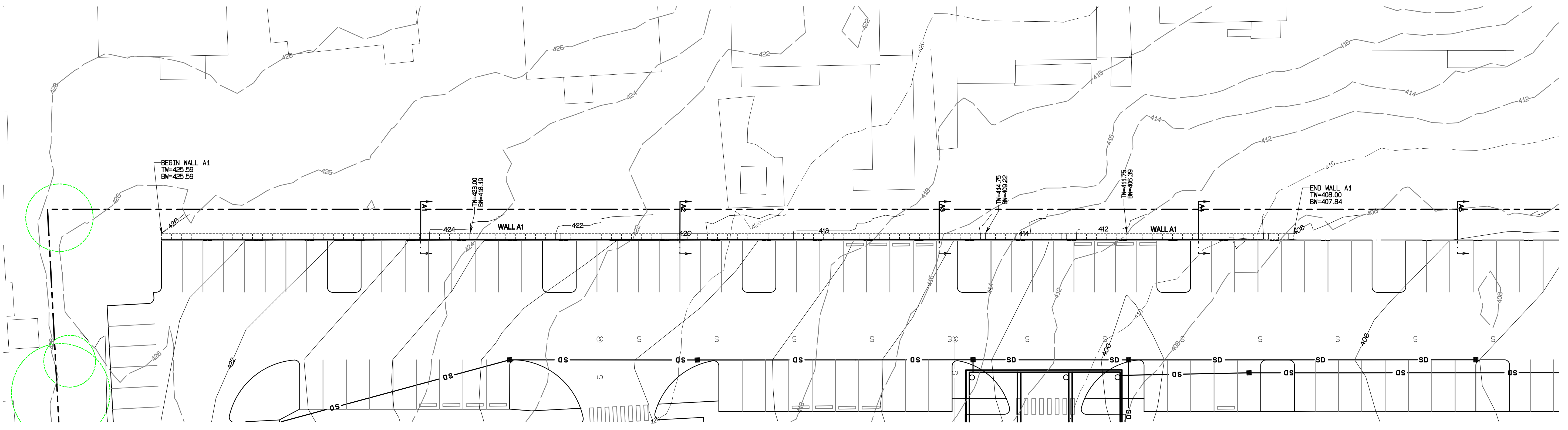
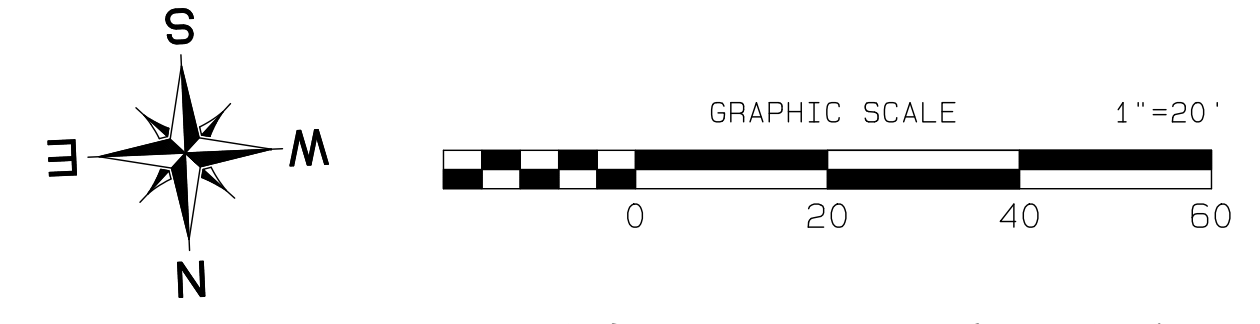
DRAWING  
**G-11**  
SHEET 11  
OF 60

Project Desc.: Bradley Heights    Path: F:\sub3\3227 - Bradley Heights\Timberlane\Bradley Heights 20250424 EMB.dwg    Plot Date/Time: 4/24/2025 7:19:18PM

# 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.

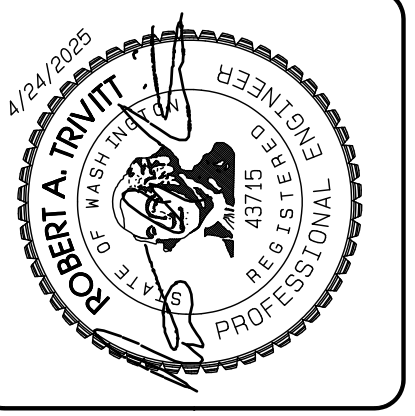


**APPROVED**

BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

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

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3 Revised per City review.	4/27/25
4 Revised per City & Pugh review.	
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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: 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

**Retaining Wall A Plan**

**Bradley Heights**

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

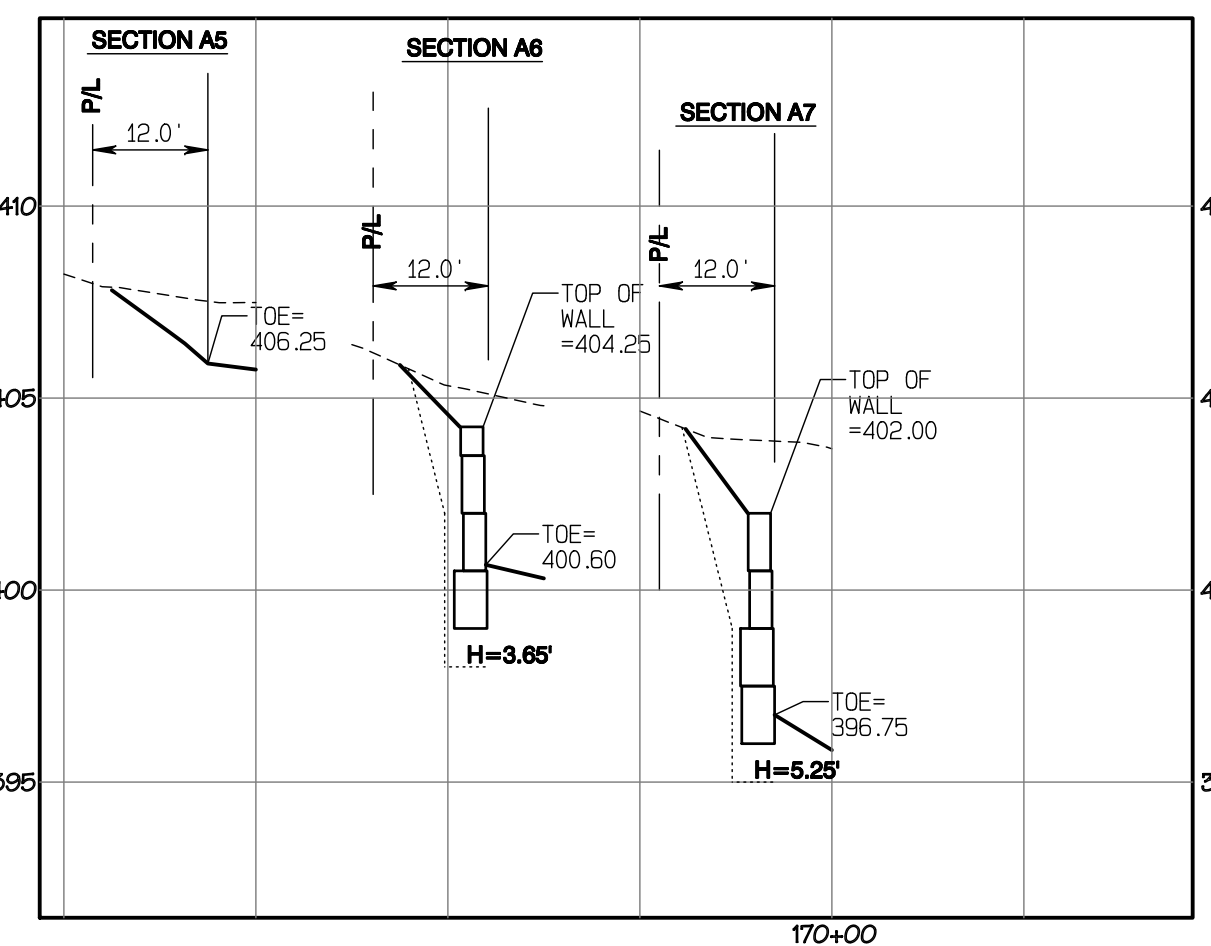
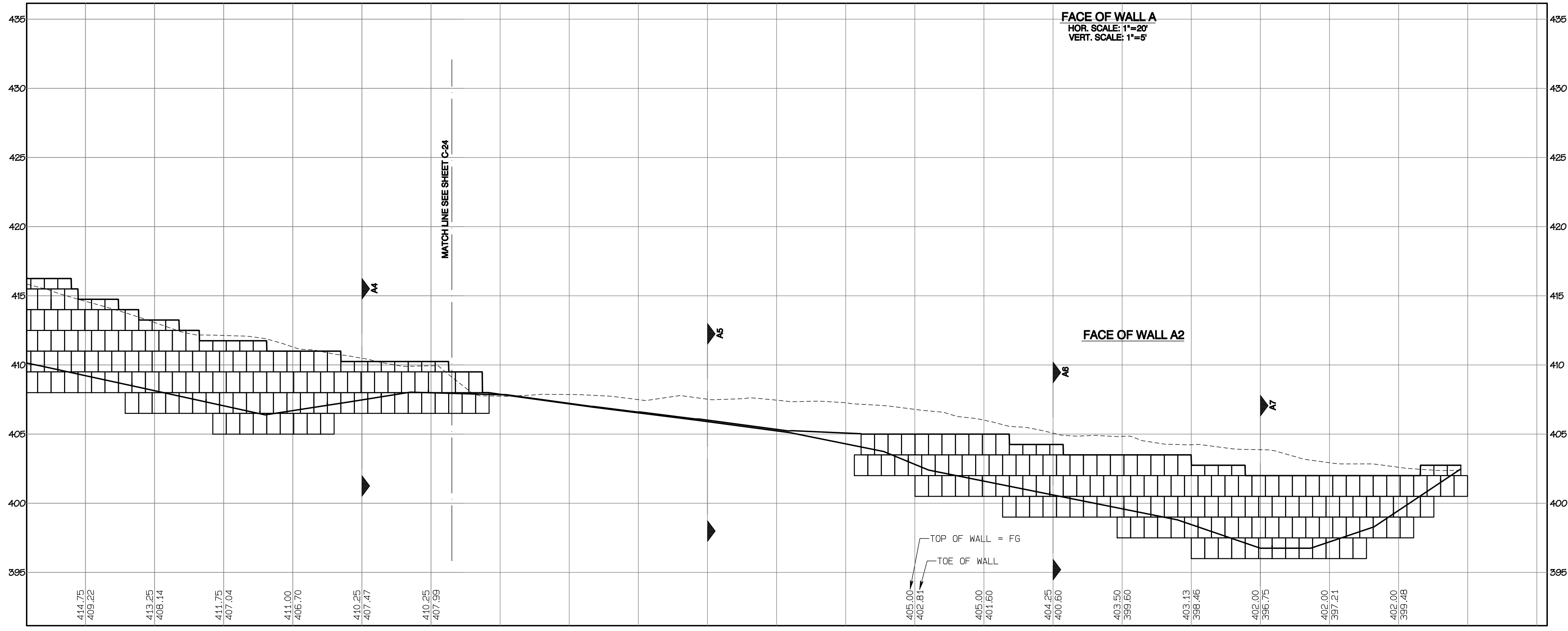
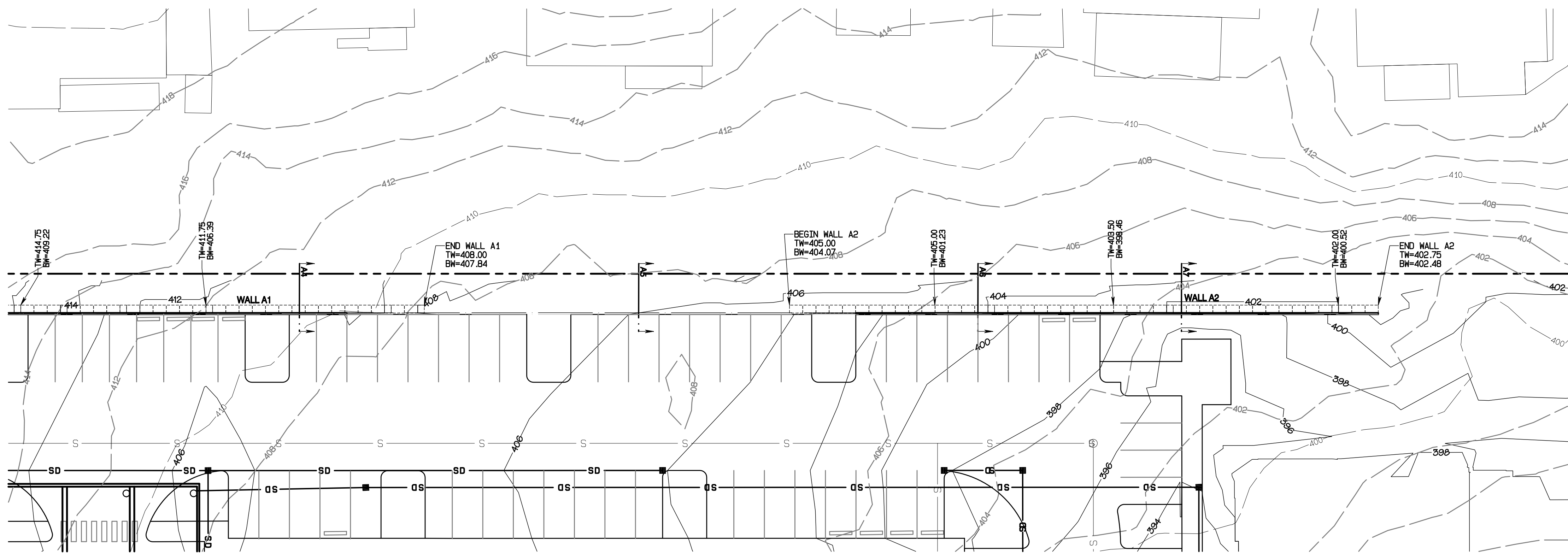
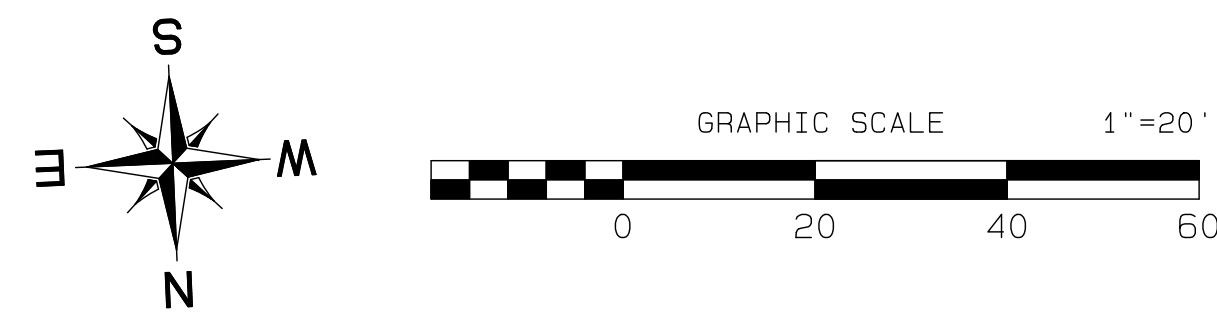
**DRAWING**  
**G-12**  
 SHEET 12  
 OF 60

Project Desc.: Bradley Heights Date: E:\sub\3327 - Bradley Heights\Timberlane\Drawings\20250424\_EWG.dwg Plot Date/Time: 4/24/2025 7:31:41PM

# Bradley Heights

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

**RETAINING WALL NOTE:**  
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**APPROVED**

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

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

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**Retaining Wall A Plan**

**Bradley Heights**

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

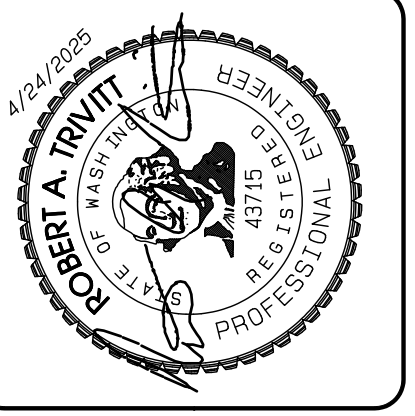
**DRAWING**  
**G-13**  
 SHEET 13  
 OF 60

**AZURE GREEN CONSULTANTS**

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

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

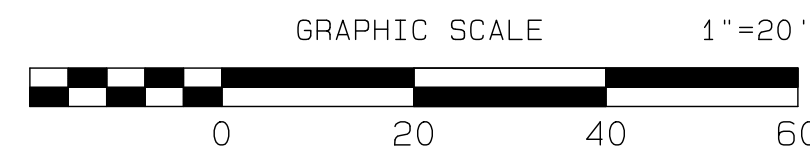
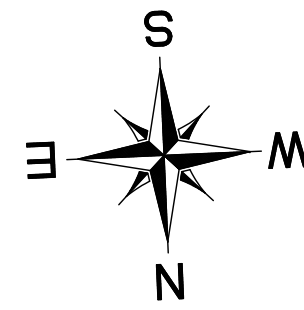
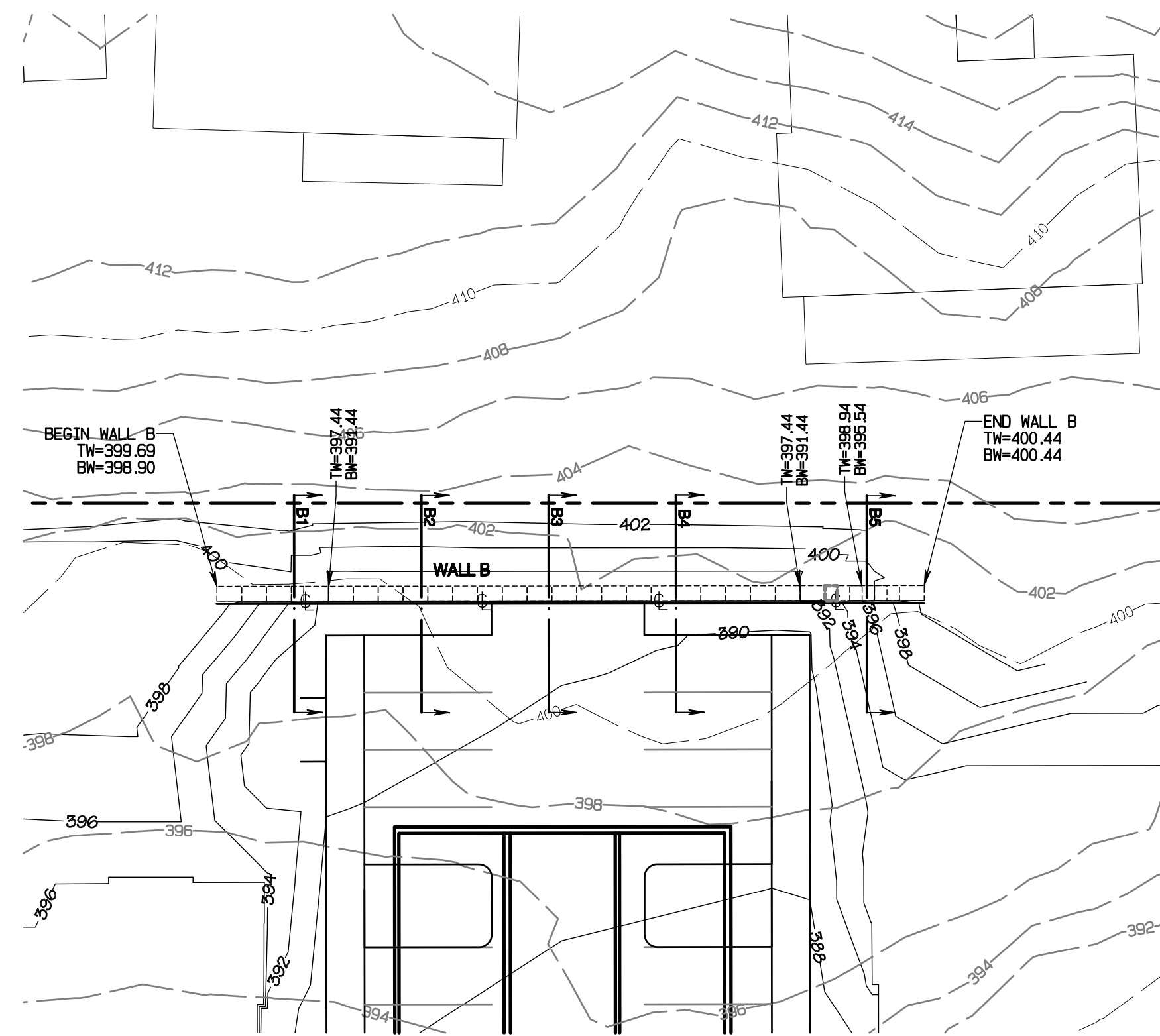
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4 Revised per City & Paul review.	
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Project Desc.: Bradley Heights  
 Path: F:\urban\3327 - Bradley Heights\Timberlane\Bradley Heights 20250424 EMB.pwg  
 P:\1 Data\Firm - 4/24/2025/7.31.02PW

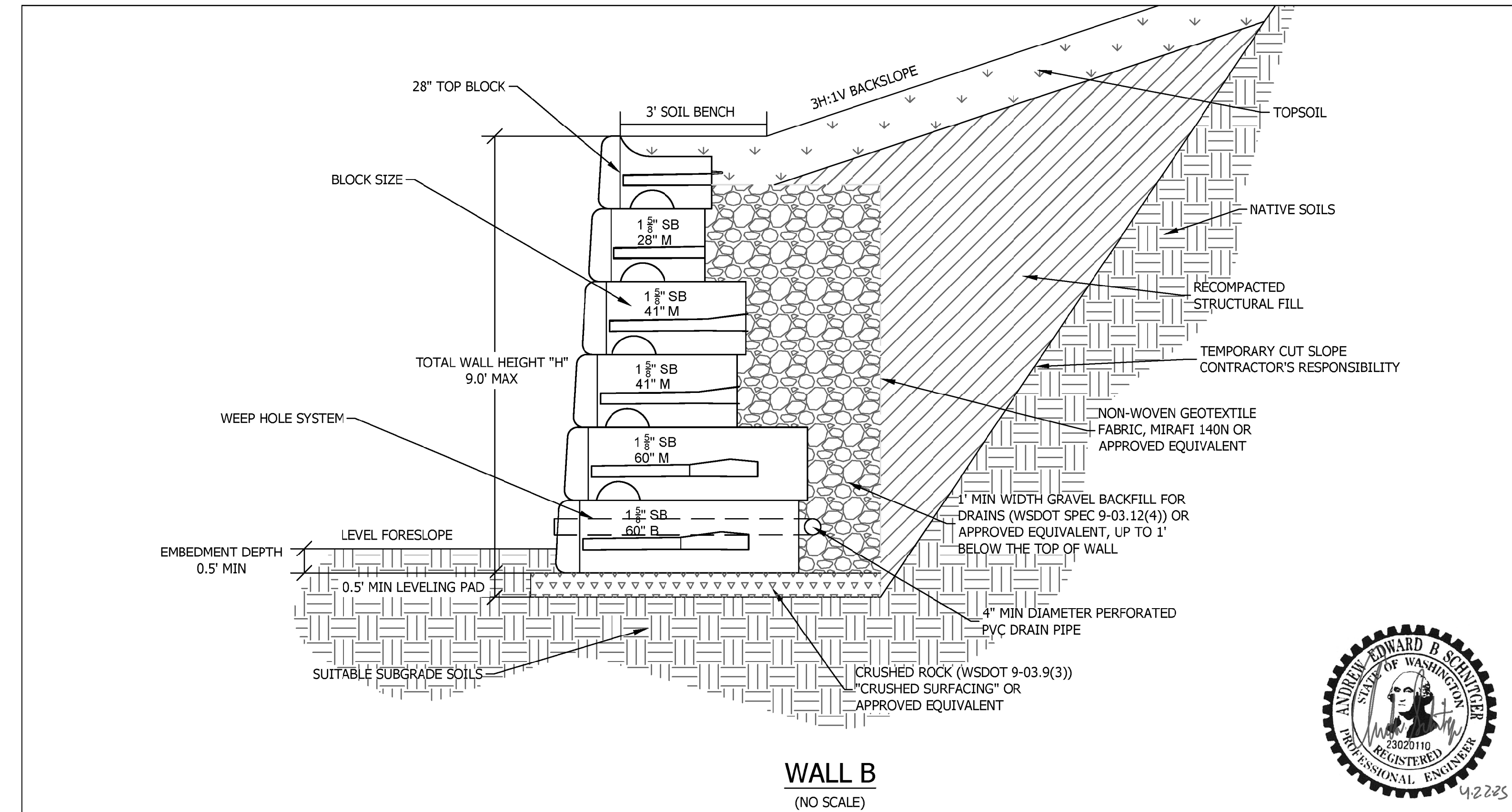
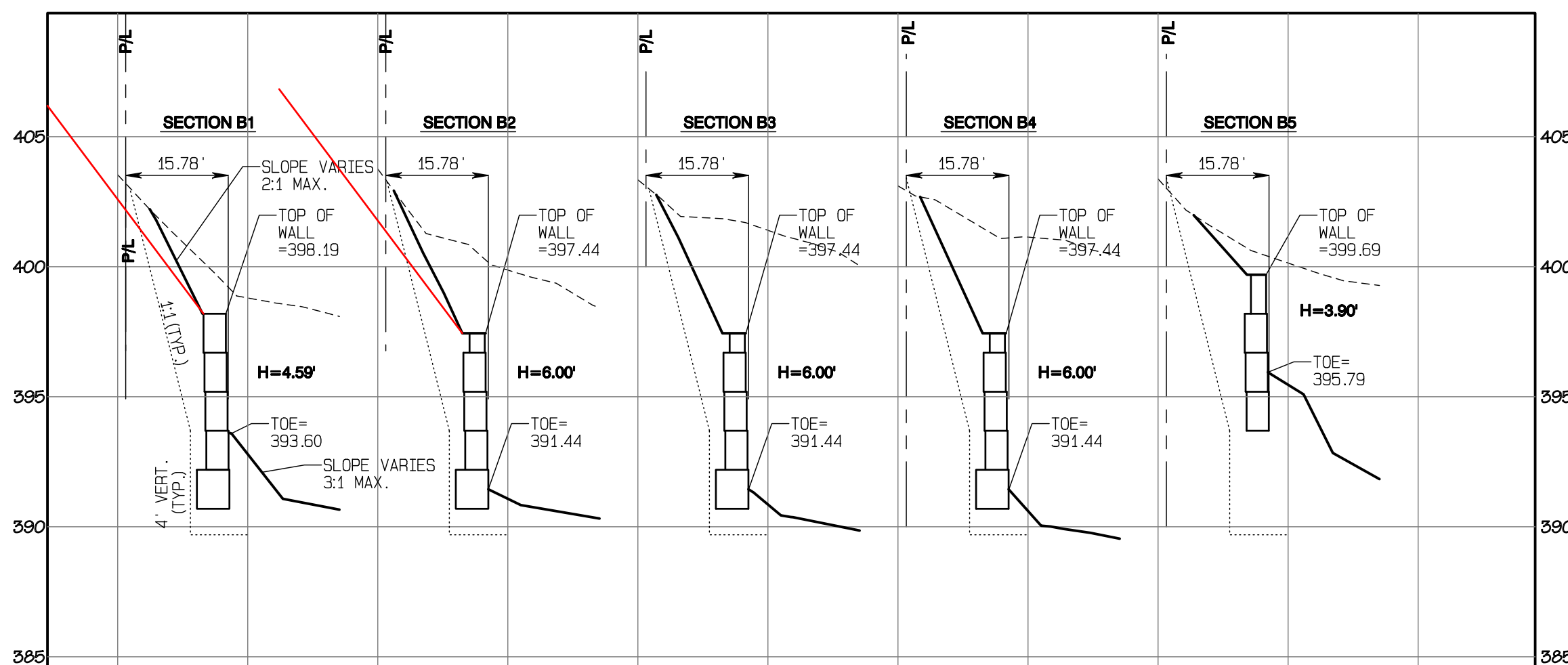
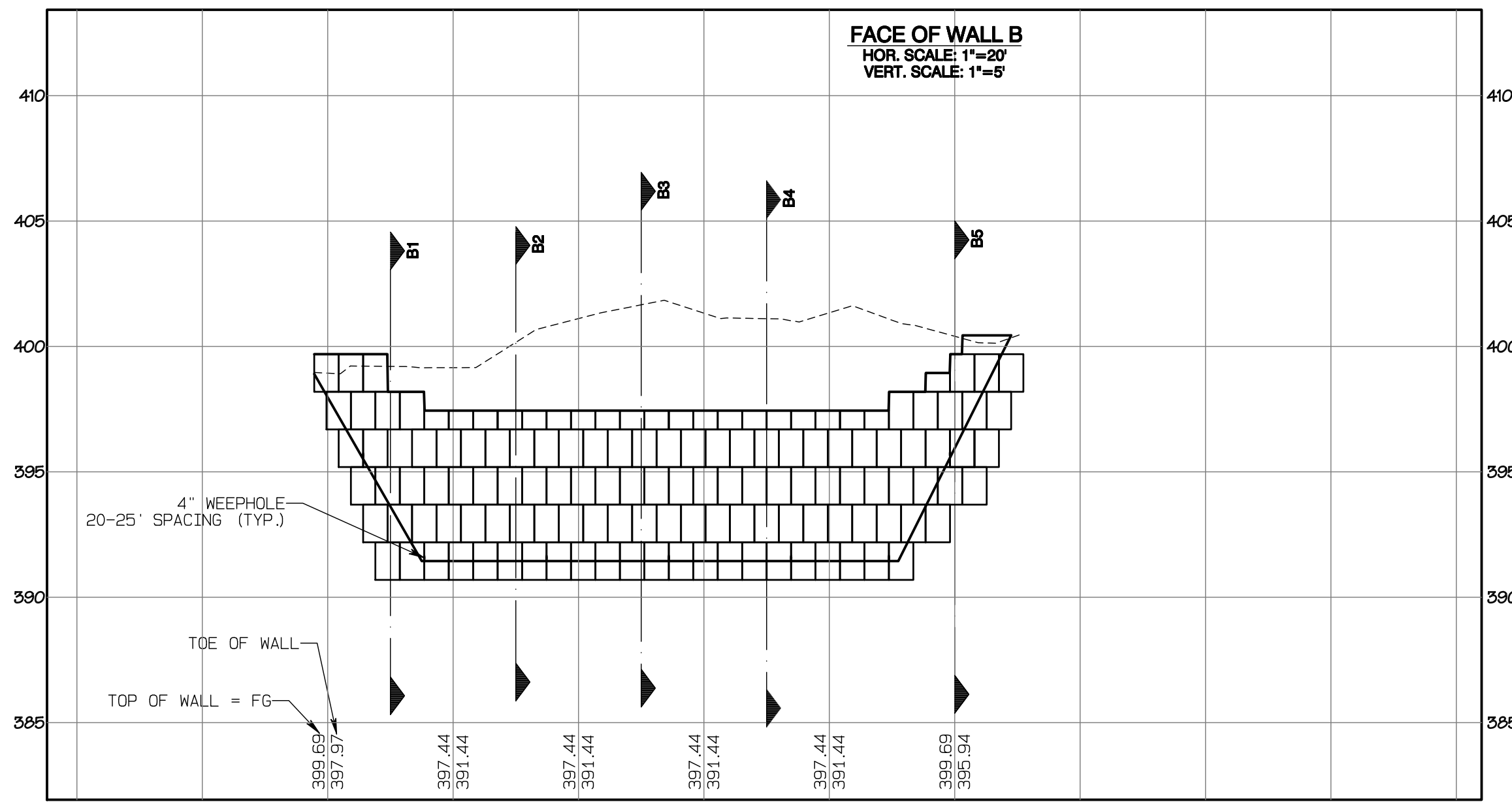
# Bradley Heights

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



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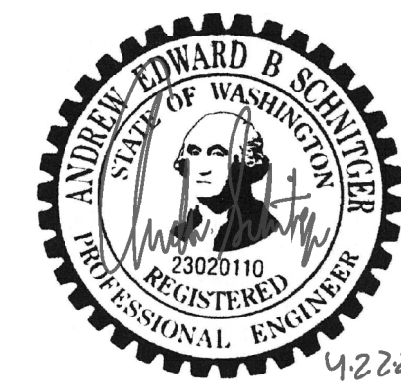
**CROSS-SECTION IS SPECIFICALLY FOR WALL A1 AND IS FOR REFERENCE SEE RETAINING WALL DESIGN UNDER:**  
WALL A1: PRRWF20250214  
WALL A2: PRRWF20250218  
WALL B: PRRWF20250217



- Notes**
- SEE RETAINING WALL DESIGN LETTER FOR FURTHER DETAILS
  - WALLS SHOULD BE CONSTRUCTED IN ACCORDANCE WITH MANUFACTURER'S AND GEORESOURCES' RECOMMENDATION



**Wall B Typical Detail**  
Proposed Redi-Rock Walls  
Bradley Heights  
202 - 27th Avenue East  
Puyallup, Washington  
PN: 0419036006



APPROVED

BY: CITY OF PUYALLUP DEVELOPMENT SERVICES

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

**NOTE:**

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

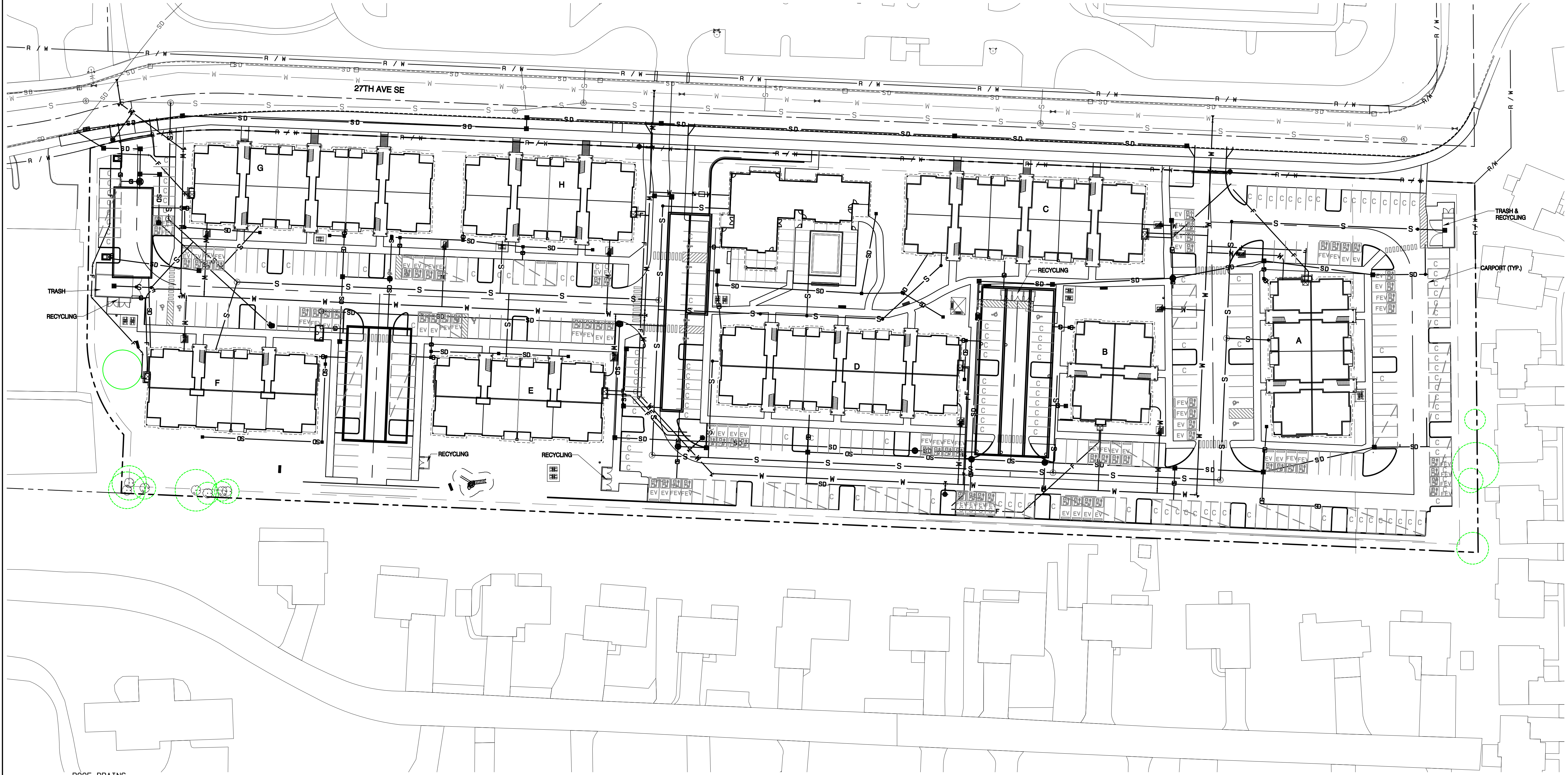
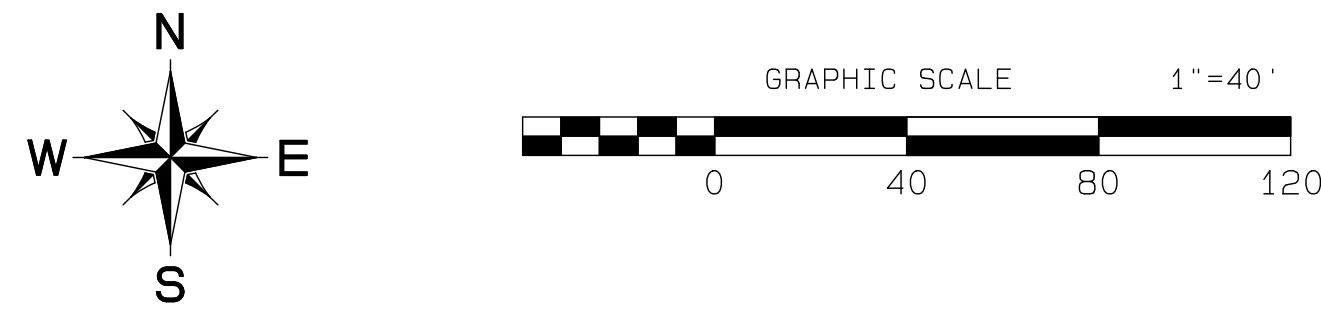
**AZURE GREEN CONSULTANTS**  
+ feasibility + planning + engineering + surveying  
409 East Pioneer, Suite A - Puyallup, WA 98372 phone: 253.770.3144 fax: 253.770.3142

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

Project Desc.: Bradley Heights Date: F:\sub3\3327 - Bradley Heights\Timberlane\Bradley Heights 20250424 E16.dwg P1.dwg Date/Time: 4/24/2025 7:31:23PM

# Bradley Heights

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



**ROOF DRAINS**  
 ALL BUILDINGS WILL HAVE PERIMETER ROOF DRAINS CONNECTED TO DOWNSPOUTS ROUTED TO THE ROOF DRAIN LEADERS SHOWN ON THIS PLAN. PERIMETER ROOF DRAINS SHALL BE MINIMUM 4" PVC SDR-35 WITH MIN. SLOPE OF 0.5% FOR UP TO TWO DOWNSPOUTS ON A SINGLE RUN. ONCE MORE THAN TWO DOWNSPOUTS ARE CONNECTED TO A RUN, DRAINS SHALL BE PER TABLE BELOW, UNLESS OTHERWISE DIRECTED/DESIGNED BY MEP.

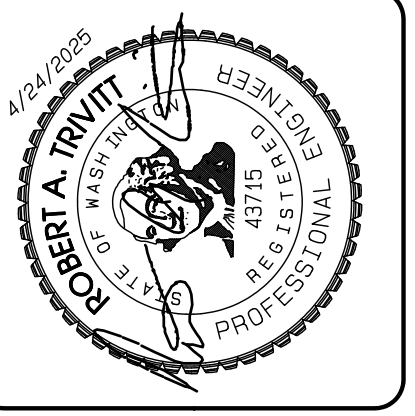
BUILDING REC.	MIN. SLOPE	MIN. MATERIAL
A	0.5%	PVC SDR-35
B	0.5%	PVC SDR-35
C	1.0%	PVC SDR-35
D	0.5%	PVC SDR-35
E	0.5%	PVC SDR-35
F	0.5%	PVC SDR-35
G	0.5%	PVC SDR-35
H	0.5%	PVC SDR-35
I	0.5%	PVC SDR-35
CARPORY	4	DI IN DRIVING AREAS ELSE, PVC SDR-35

APPROVED

BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

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

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2 Revised per City review.	3/4/25
3 Revised per City & RSDH review.	4/27/25
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JOB NO. 2327  
 DATE: May 14, 2024  
 DESIGNED BY: RSD Trivitt  
 DRAWN BY: RSD Trivitt  
 CHECKED BY: RSD Trivitt  
 APPROVED BY: RSD Trivitt

**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

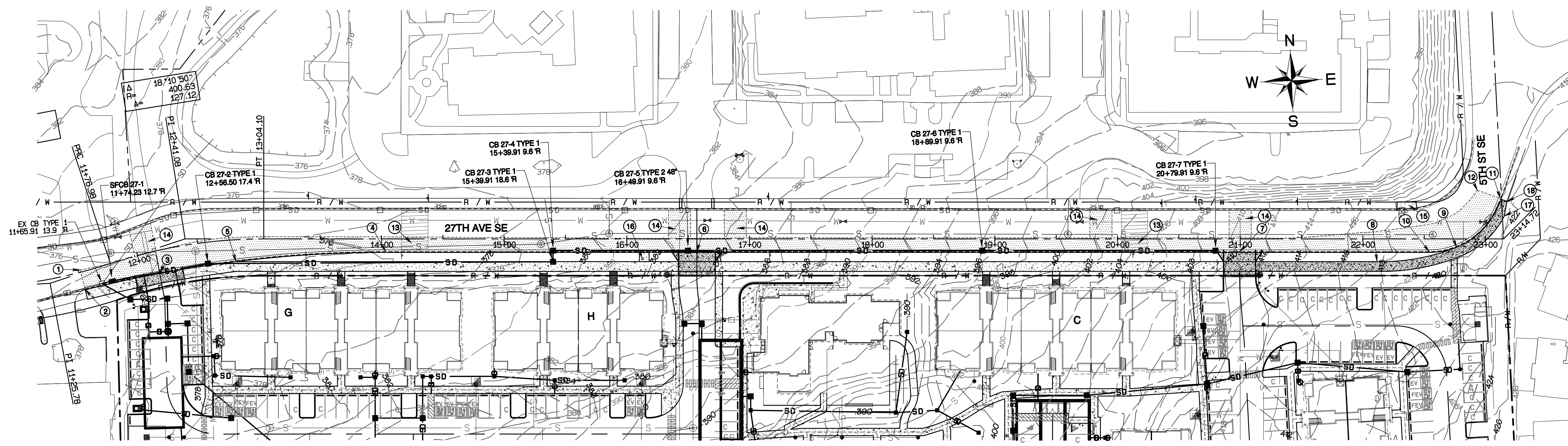
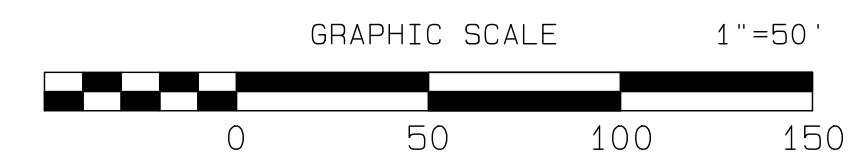
Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.899.0326  
 Fax jordan@timberlanepartners.com

DRAWING  
**SD-1**  
 SHEET 15  
 OF 60

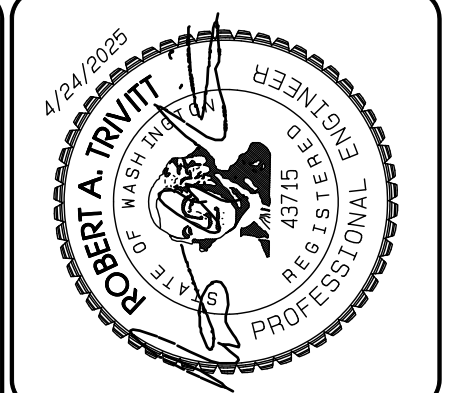
Project Desc.: Bradley Heights Date: E:\sub\3227 - Bradley Heights\Timberlane\KAW\20250424\_EWG.dwg PLOT Date: 5/14/2024 7:35:01PM

# Bradley Heights

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



- ### CONSTRUCTION KEY NOTES
- ① 11+51.70 1.8 L  
BEGIN HALF STREET IMPROVEMENT
  - ② PC 11+51.69 14.3 R 1000' RAD.  
FLOWLINE, BEGIN CURB & GUTTER  
& 8' SIDEWALK, MATCH EXISTING
  - ③ 12+14.47 18.2 R  
CENTER 30' WIDE APPROACH  
STD 01.02.18
  - ④ 14+03.60 10.5 R  
FLOWLINE, PT 1000' RAD.
  - ⑤ 12+80.31 17.8 R  
BEGIN BUFFER TRANSITION
  - ⑥ 16+57.15 10.5 R  
CENTER 30' WIDE APPROACH  
STD 01.02.18
  - ⑦ 20+99.53 10.5 R  
CENTER 30' WIDE APPROACH  
STD 01.02.18, TAPER TO 26'  
BEHIND SIDEWALK
  - ⑧ 22+15.85 18.5 R  
BEGIN BUFFER TRANSITION
  - ⑨ 22+76.38 6.8 R  
END BUFFER TRANSITION
  - ⑩ 22+54.15 10.5 R  
FLOWLINE, PC 60' RAD.
  - ⑪ 23+11.97 33.1 L  
FLOWLINE, PT 60' RAD.  
END CURB & GUTTER/SIDEWALK  
MATCH EXISTING
  - ⑫ 22+93.34 39.0 L  
END HALF-STREET IMPROVEMENT
  - ⑬ RESTORE SPEED TABLE PER  
01.03.16, SHEET SD-24
  - ⑭ 18' WIDE 2" GRIND & OVERLAY  
PER 01.01.20 NOTE 8 OPTION B, SHEET SD-17
  - ⑮ INSTALL 16.5L OF SIDEWALK, CURB, & GUTTER  
PER 01.02.01 & 01.02.09
  - ⑯ SCHOOL BUS WAITING AREA: ADDITIONAL CONCRETE WALK  
7.5' x 8' BETWEEN MAIN WALK AND CURB, 3.5' x 16' BEHIND MAIN WALK
  - ⑰ 23+15.34 18.7 L  
BEGIN SIDEWALK TAPER
  - ⑱ 23+17.44 30.5 L  
END SIDEWALK, MATCH EXISTING



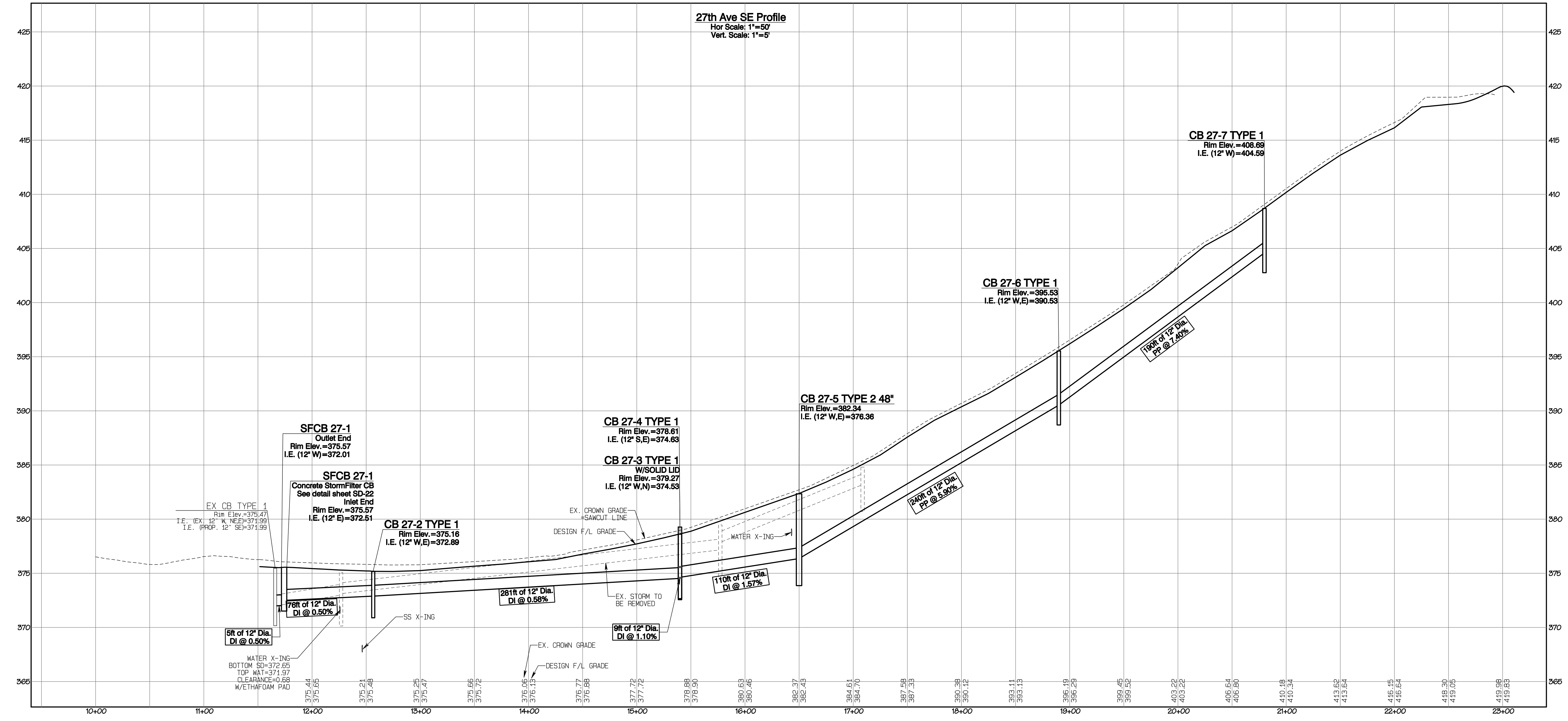
REVISION	DATE
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JOB NO.	DATE	DESIGNED BY	DRAWN BY	APPROVED BY
3227	May 14, 2024	Rob Trivitt	Rob Trivitt	Rob Trivitt

**AZURE GREEN**  
CONSULTANTS

+feasibility +planning +engineering +surveying

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



APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

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

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### 27th Ave SE Plan & Profile

**Bradley Heights**

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

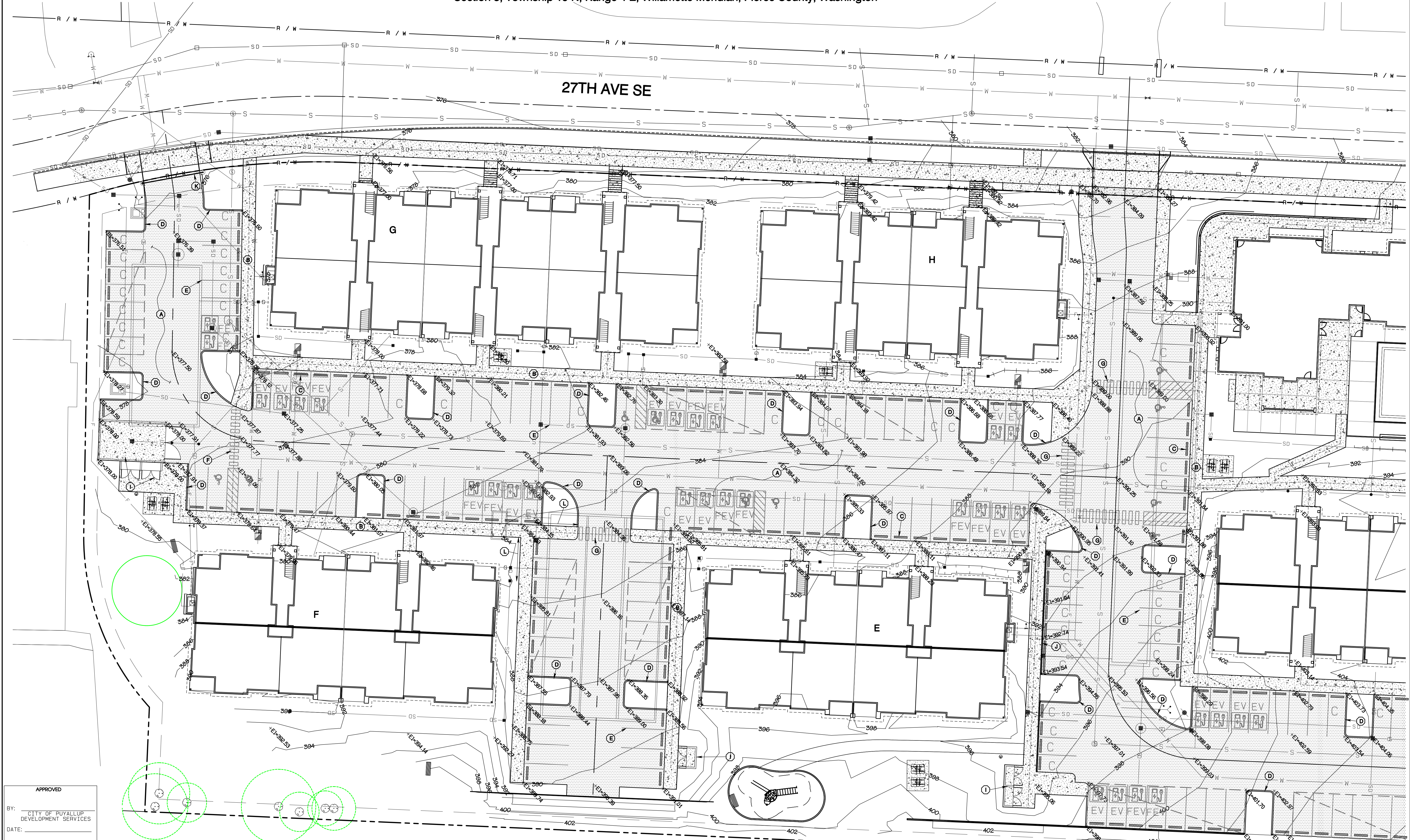
**DRAWING**  
**SD-2**  
SHEET 16  
OF 60

Project Desc.: Bradley Heights; Path: F:\urban\3227 - Bradley Heights\Timberlane\Drawings\20250424\_E16.dwg; PLOT Date: 4/24/2025 7:36:00am

# Bradley Heights

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

27TH AVE SE



APPROVED

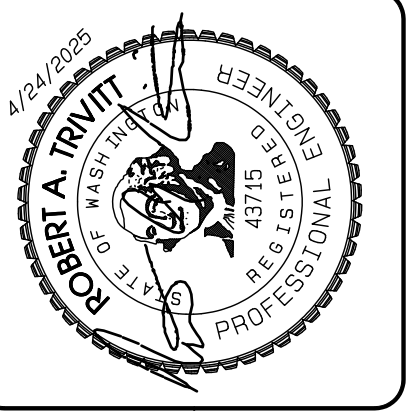
BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE:

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**KEY NOTES**

- |   |                                   |  |
|---|-----------------------------------|--|
| (A) ASPHALT PAVING - SEE SECTION SHEET SD-17    | (E) 4" WHITE PARKING STRIPE       | (I) CONCRETE PAD, 4" THICK, MIN.   |
| (B) CONCRETE SIDEWALK - SEE SECTION SHEET SD-17 | (F) 4" WIDE CROSS-WALK MARKINGS   | (J) CEMENT CONCRETE TRAFFIC CURB, SEE DETAIL SHEET SD-17   |
| (C) WHEEL STOP - SEE DETAIL SHEET SD-17         | (G) 6" WIDE CROSSWALK MARKINGS    | (K) STEEL TUBE GATE, SEE DETAIL SHEET SD-17  |
| (D) 6" EXTRUDED CURB, SEE DETAIL SHEET SD-17    | (H) 4" WHITE STRIPES, 45° 2" O.C. | (L) SIDEWALK W/INTEGRAL CURB, SEE DETAIL SHEET SD-17<br>SEE SHEETS AD-1 THROUGH AD-8 FOR DETAILED GRADING/REVEAL |



REVISION	DATE
1	11/20/24
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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: 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

**Paving Plan**

**Bradley Heights**

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

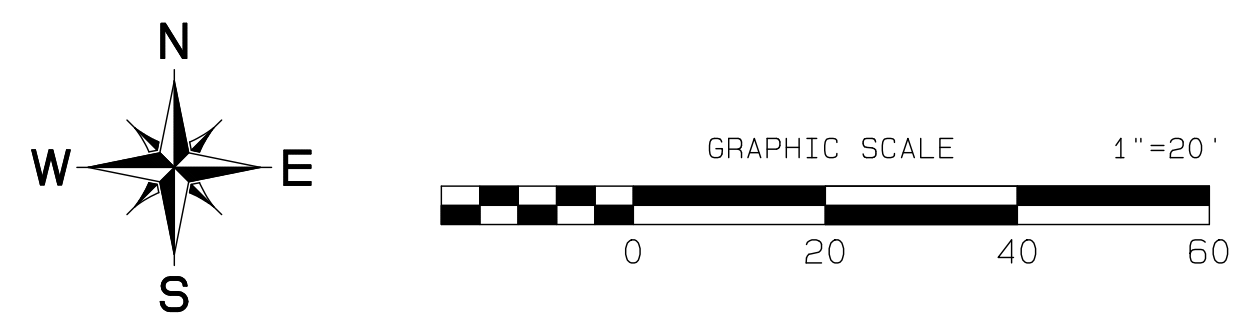
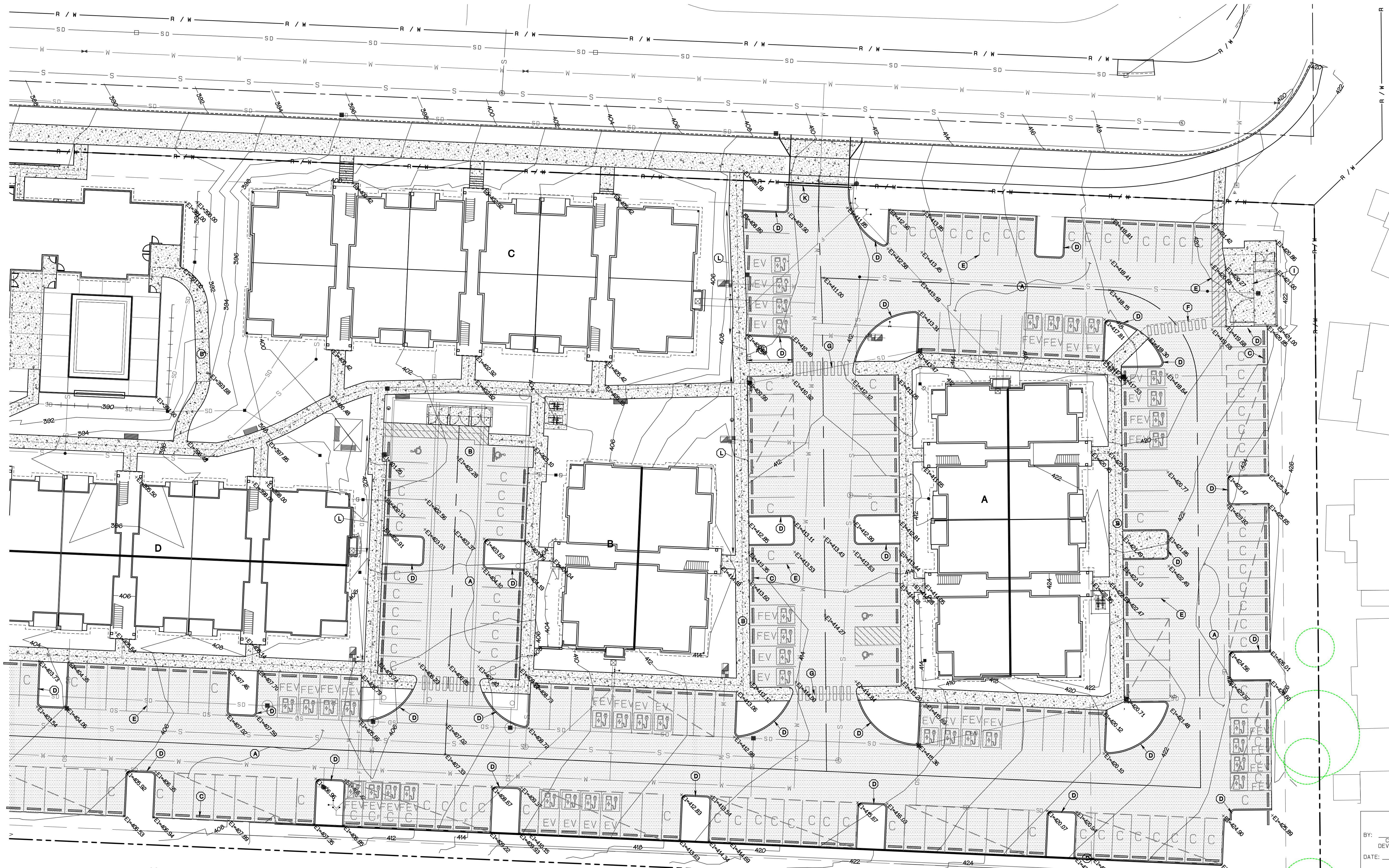
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**SD-3**

SHEET 17  
OF 60

# Bradley Heights

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

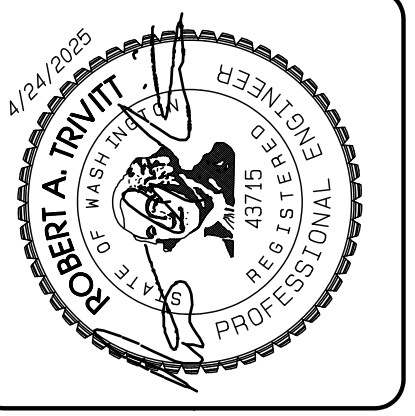


APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

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

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CHECKED BY: Rob Trivitt  
APPROVED BY: Rob Trivitt

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Phone: 253.770.3144, Fax: 253.770.3142  
+feasibility +planning +engineering +surveying

**Paving Plan**

**Bradley Heights**

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

**DRAWING**

**SD-4**

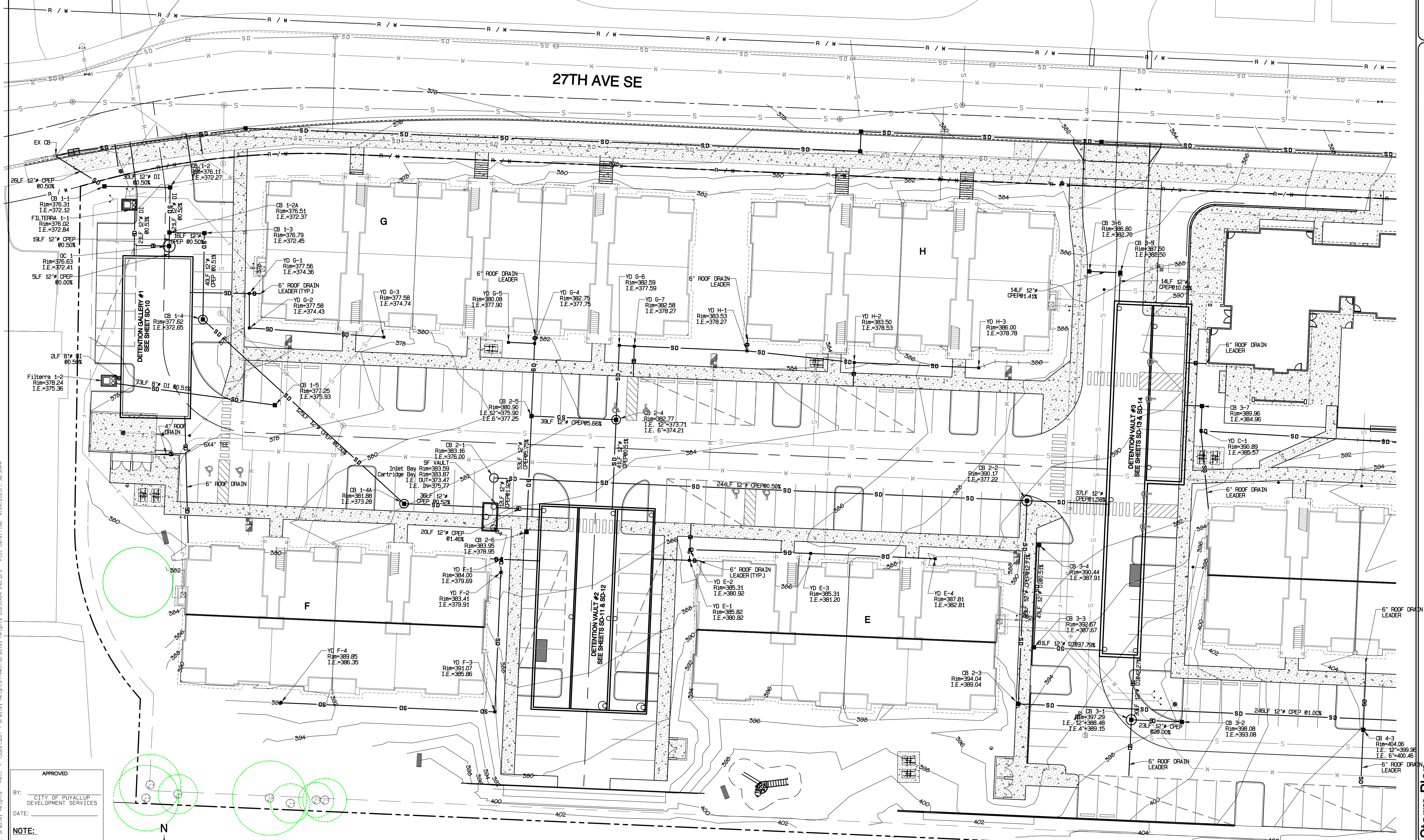
SHEET 18  
OF 60

Project Desc: Bradley Heights Date: E:\Jobs\3227 - Bradley Heights\Timberlane\Drawings\190415\_20250424\_E106.dwg P101 Data/Title: 4/24/2025/7:53:00PM

# Bradley Heights

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

27TH AVE SE

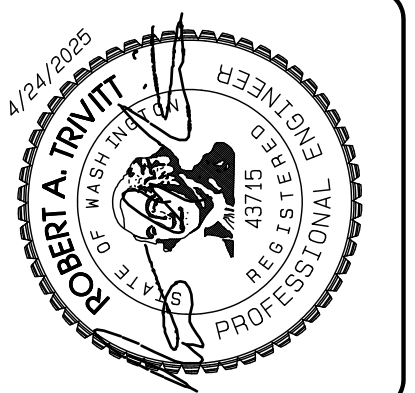
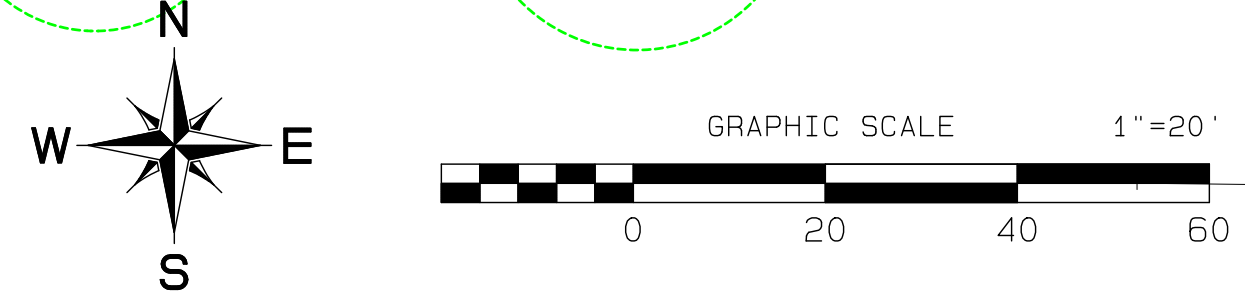


**APPROVED**

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

DATE:

**NOTE:**  
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.



REVISION	DATE	DESCRIPTION
1	11/26/24	1. Revised per City review and Mail A adjustment.
2	3/4/25	2. Revised per City review.
3	4/21/25	3. Revised per City review.
4		4. Revised per City & P&S review.
5		5. Revised per City review.
6		6. Revised per City review.
7		7. Revised per City review.
8		8. Revised per City review.
9		9. Revised per City review.
10		10. Revised per City review.

**AZURE GREEN CONSULTANTS**

feasibility • planning • engineering • surveying

409 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

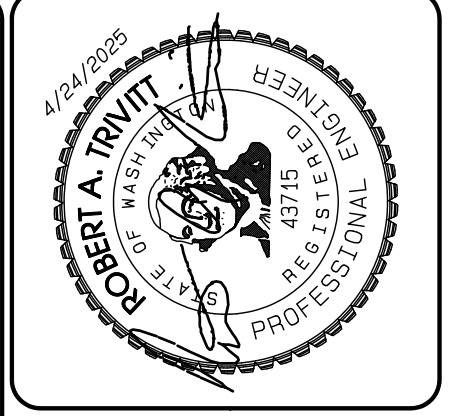
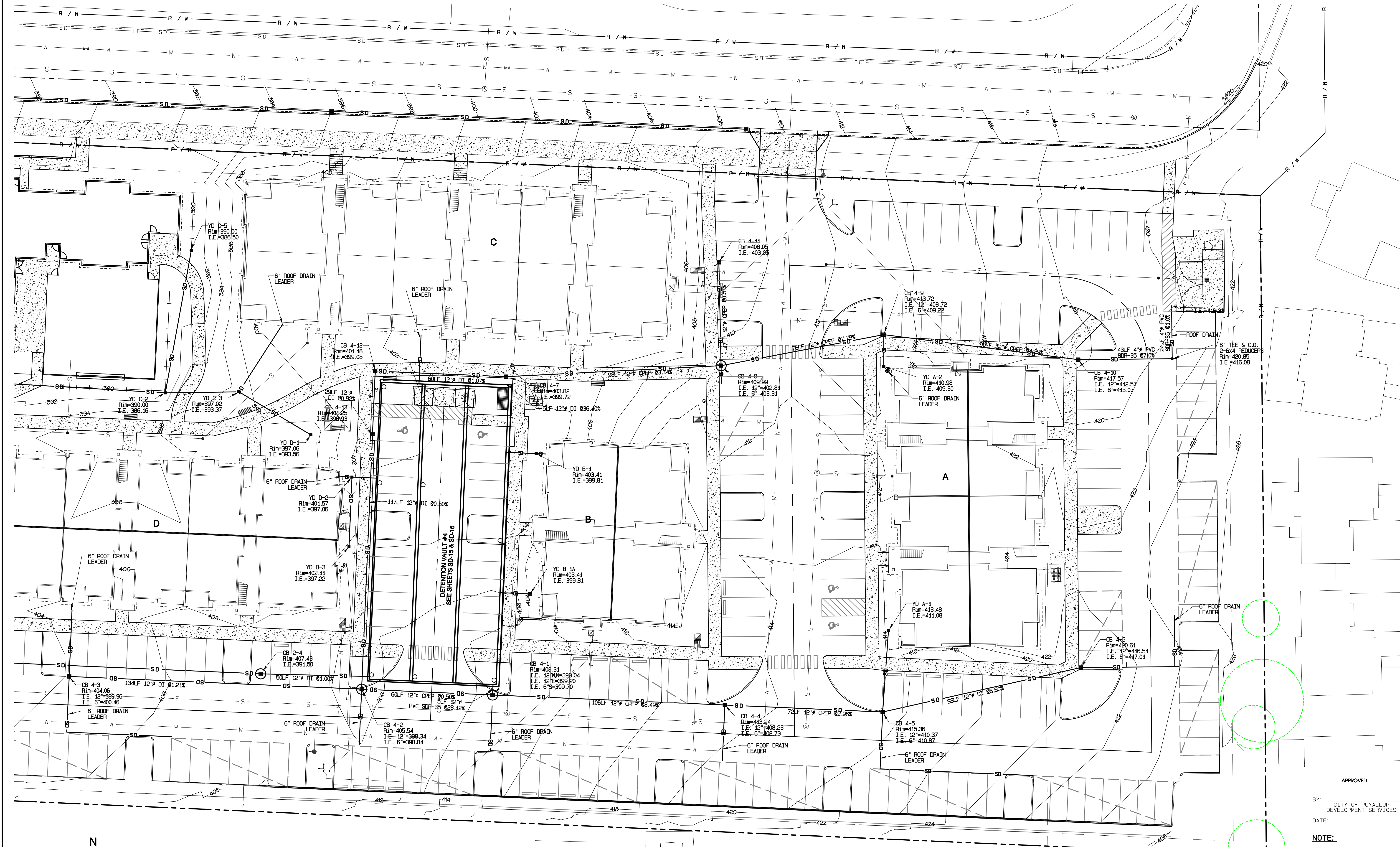
**DRAWING**

**SD-5**

SHEET 19 OF 60

# Bradley Heights

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



REVISION	DATE
1. Revised per City review and Mail A adjustment.	11/29/24
2. Revised per City review.	3/4/25
3. Revised per City & P&S review.	4/27/25
4. Revised per City & P&S review.	
5. Revised per City & P&S review.	
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7. Revised per City & P&S review.	
8. Revised per City & P&S review.	
9. Revised per City & P&S review.	
10. Revised per City & P&S review.	

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

APPROVED

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

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

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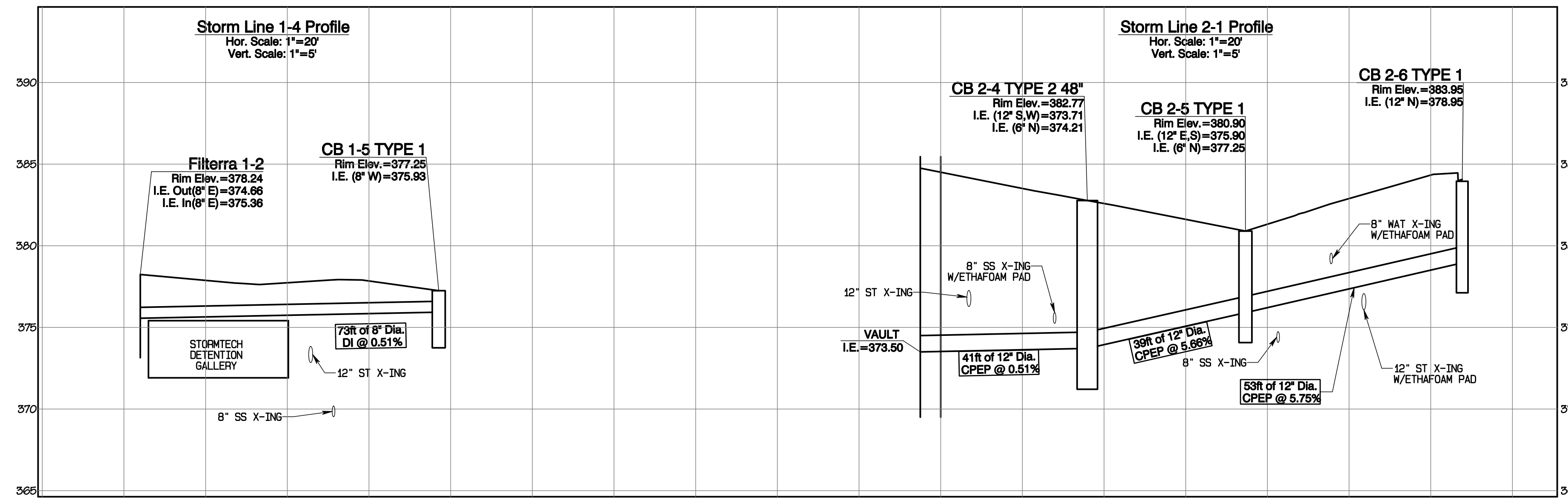
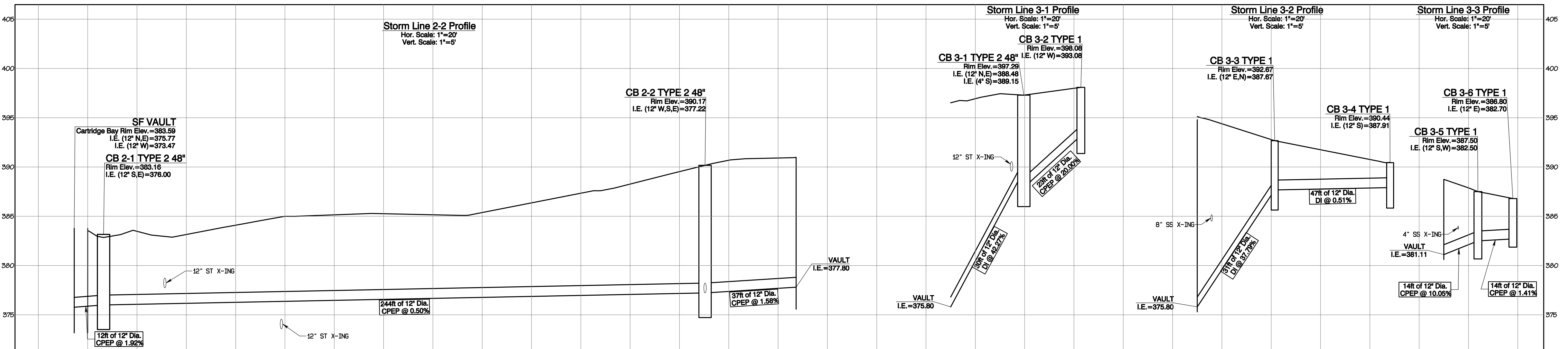
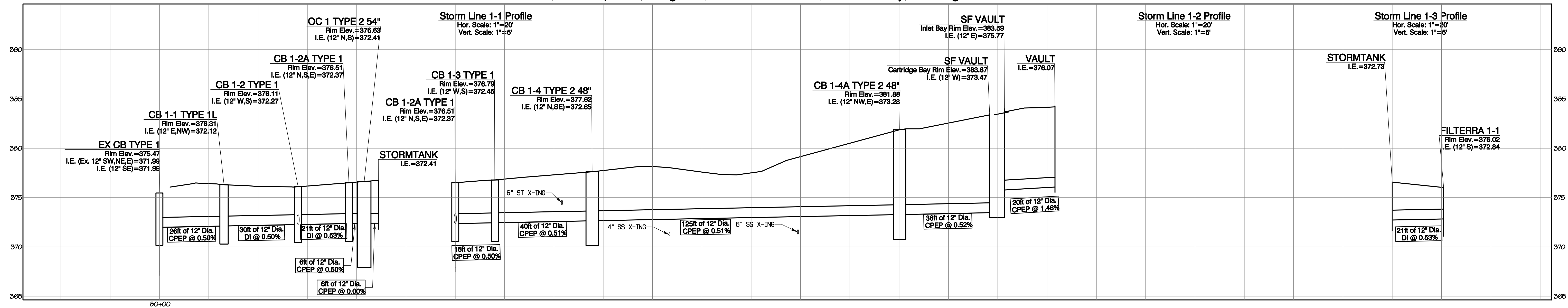
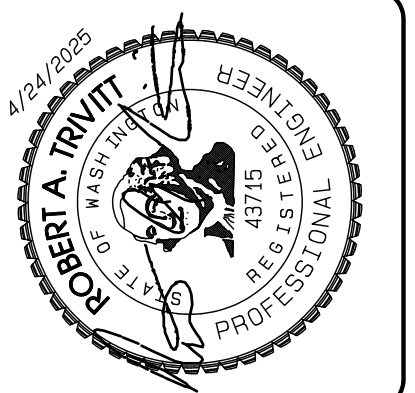
**Storm Plan**  
 Bradley Heights  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.899.0326  
 Fax jordan@timberlanepartners.com

**DRAWING**  
**SD-6**  
 SHEET 20  
 OF 60

Project Desc: Bradley Heights  
 Date: E:\Jobs\3327 - Bradley Heights\Timberlane\Drawings\20250424\_EWG.dwg  
 Plot Date/Time: 4/24/2025 7:38:02PM

# Bradley Heights

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



REVISION	DATE
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2	3/4/25
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DESIGNED BY: R.D. TRIVITT  
DRAWN BY: R.D. TRIVITT  
CHECKED BY: R.D. TRIVITT  
APPROVED BY: R.D. TRIVITT

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

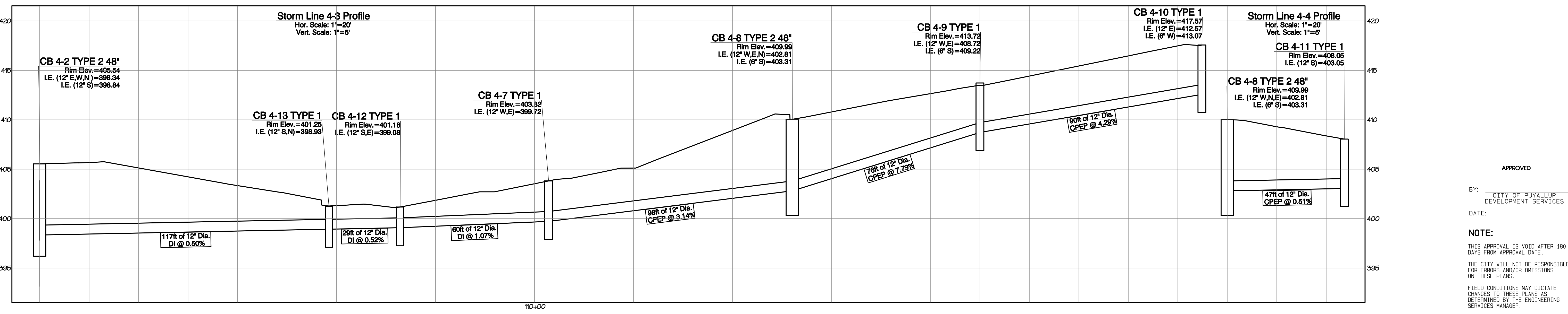
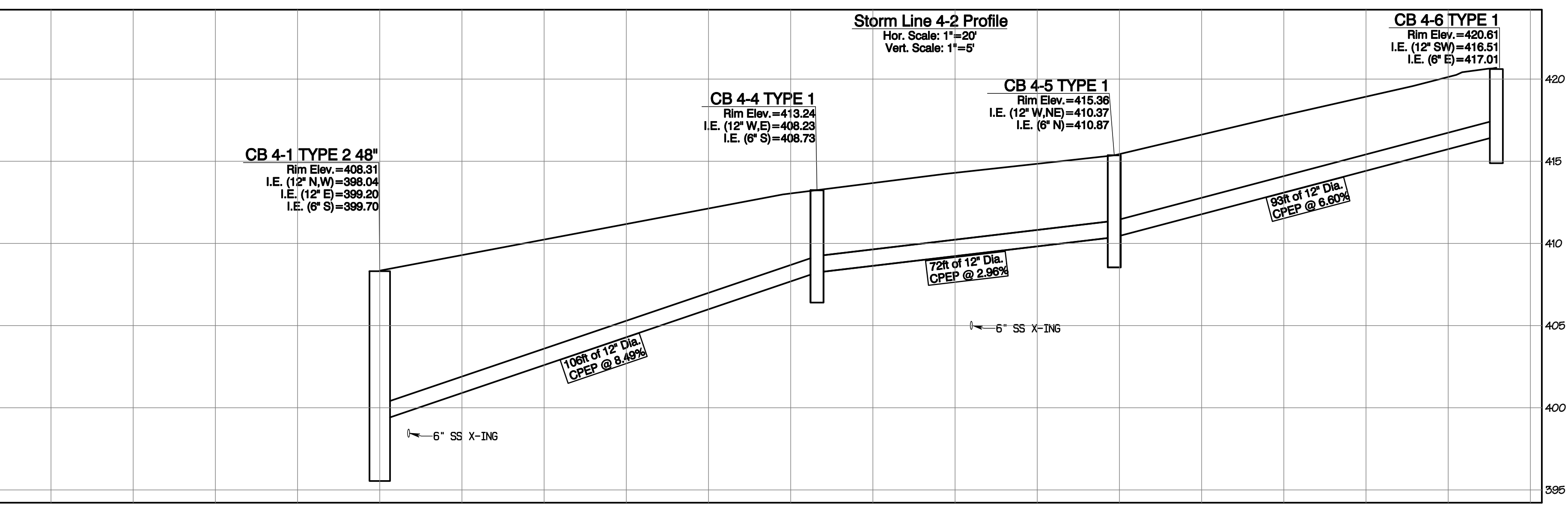
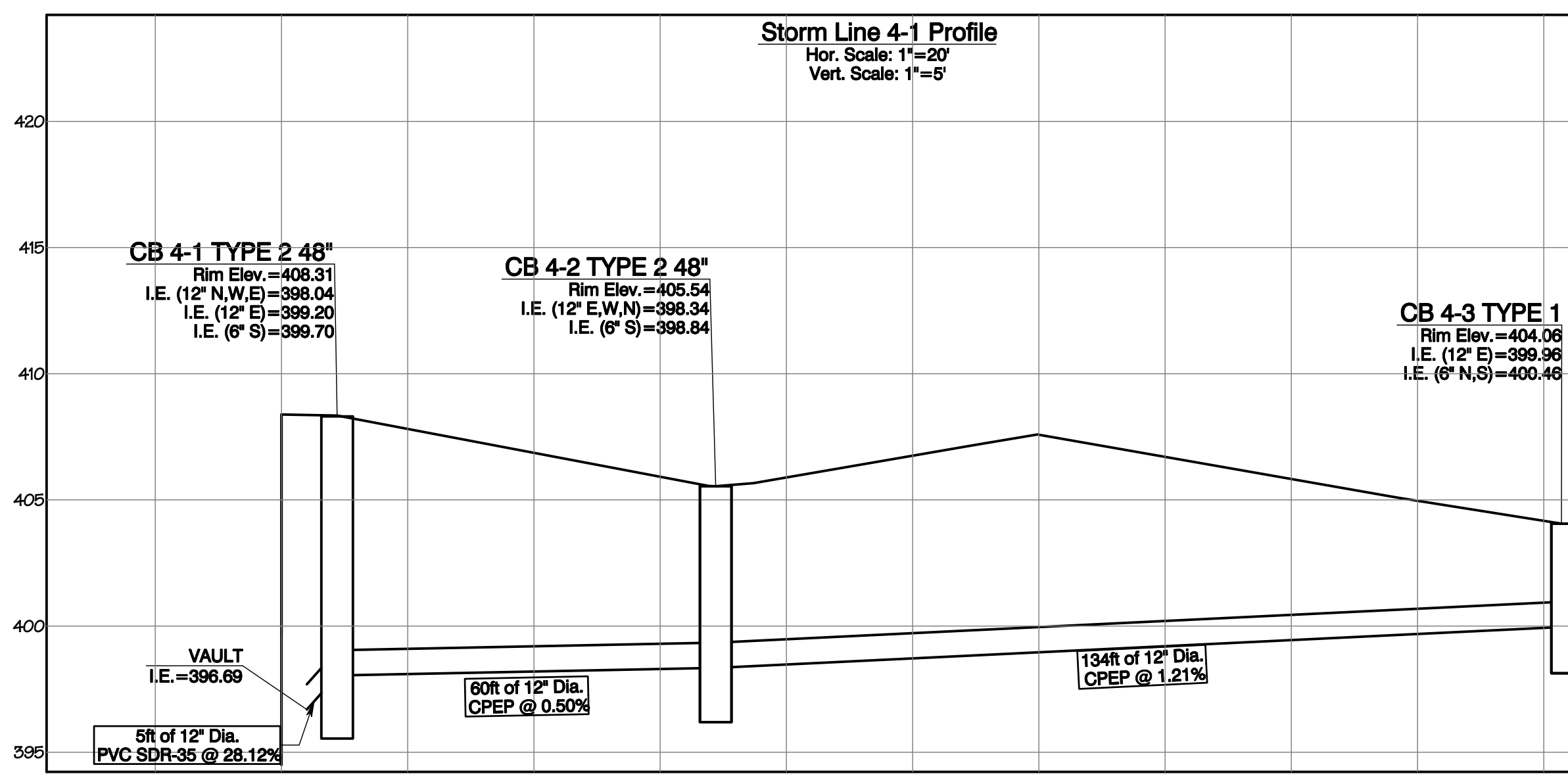
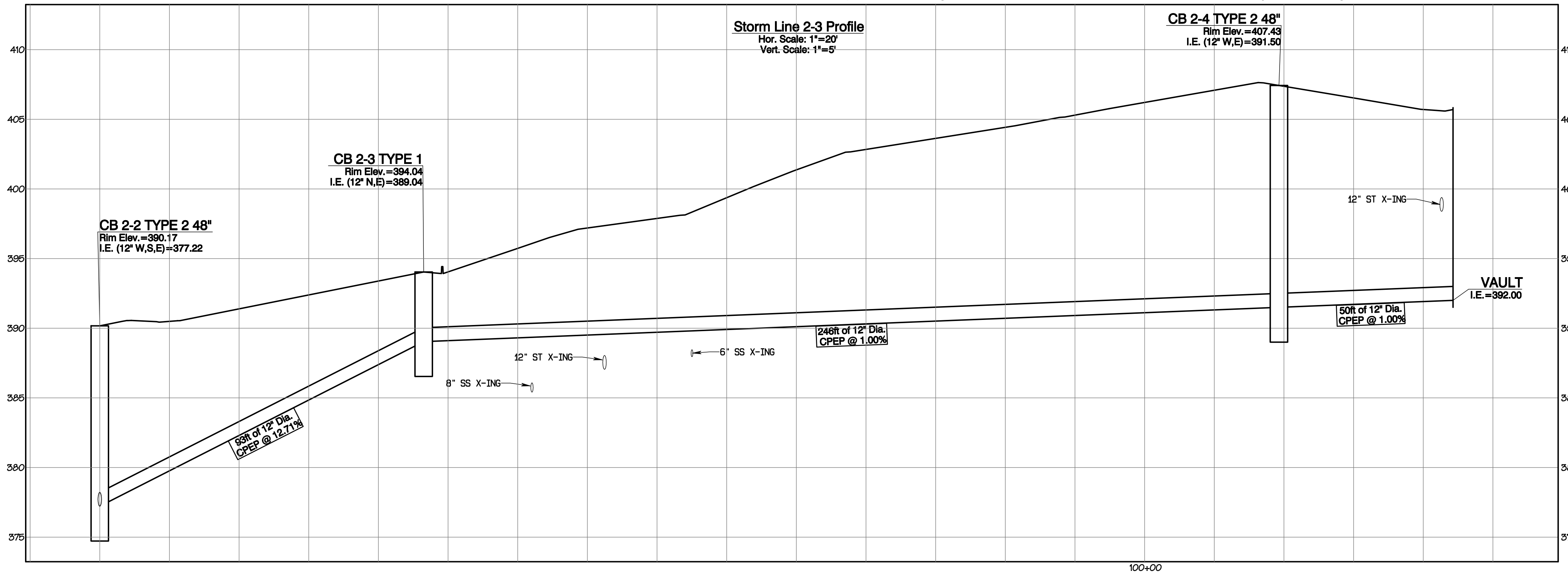
**Storm Profiles**  
Bradley Heights  
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone: 509.896.0326  
Fax: jordan@timberlanepartners.com

APPROVED  
BY: CITY OF PUYALLUP DEVELOPMENT SERVICES  
DATE: \_\_\_\_\_  
NOTE:  
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Project Date: Bradley Heights Date: E:\sub\3227 - Bradley Heights\Time\Drawings\20250424\_Eng.dwg P:\Data\Files\4/24/2025/7\_41.dgn

# Bradley Heights

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

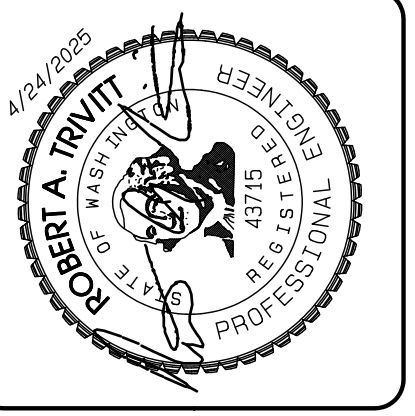


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BY: CITY OF PUYALLUP DEVELOPMENT SERVICES

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3 Revised per City & Road review.	4/21/25
4 Revised per City & Road review.	
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JOB NO.	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
3327	May 14, 2024	Rob Trivitt	Rob Trivitt	Rob Trivitt	Rob Trivitt

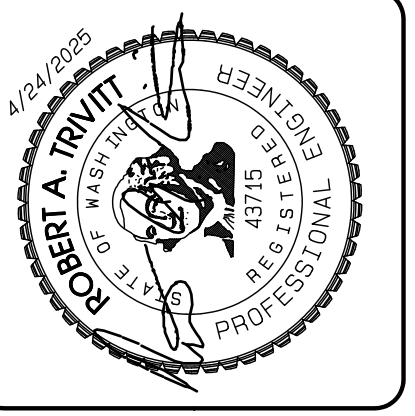
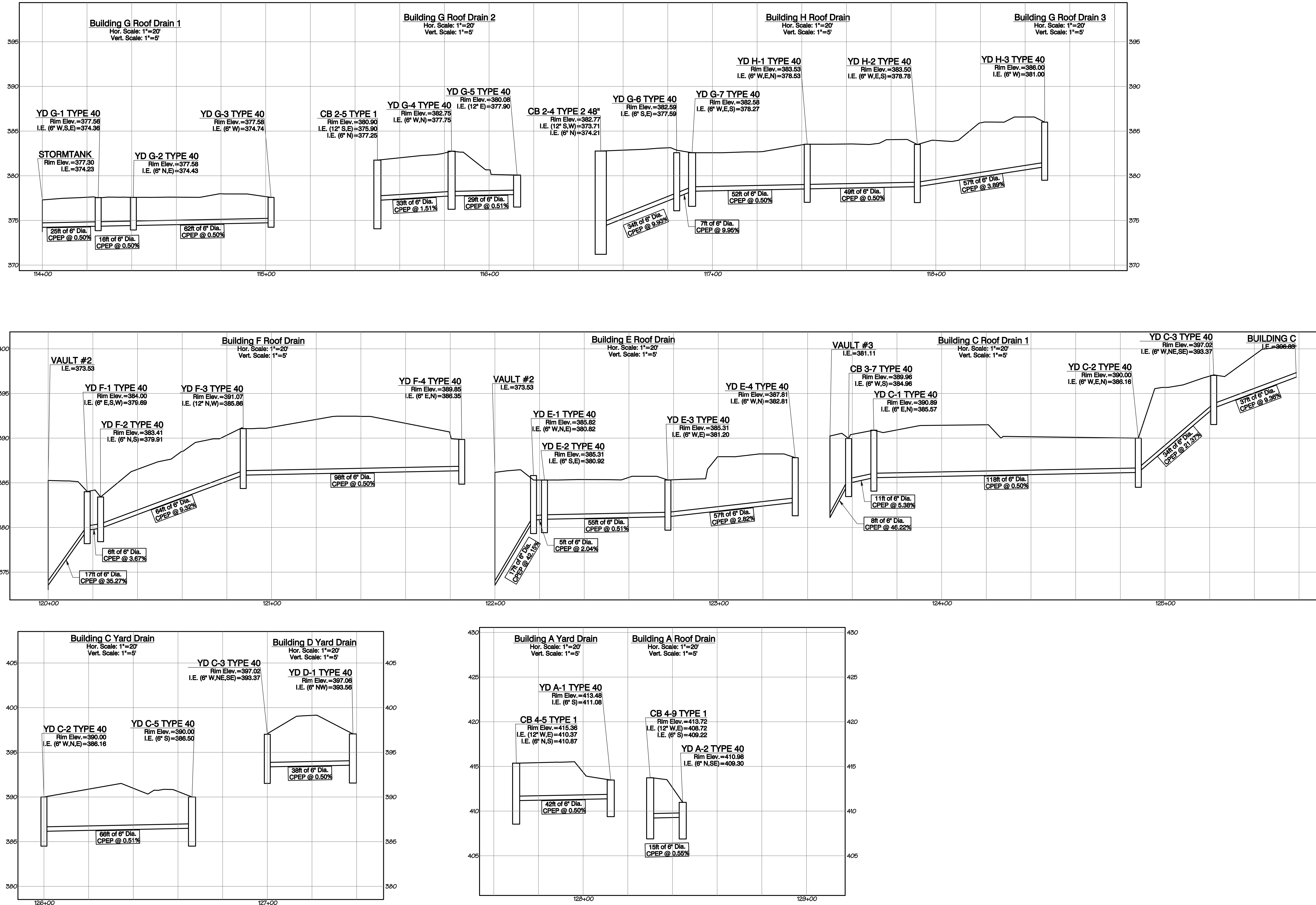
**AZURE GREEN CONSULTANTS**  
+feasibility +planning +engineering +surveying  
409 East Pioneer, Suite A - Puyallup, WA 98372  
Phone: 253.770.3144, Fax: 253.770.3142

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

Project Date: 11/29/24; Job No: 3327; Title: Storm Profiles; Scale: 1"=20'; Date: 11/29/24; Designer: Robert A. Trivitt; Checker: Robert A. Trivitt; Approver: Robert A. Trivitt; City: Puyallup, WA; State: WA; License: 43154

# Bradley Heights

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



REVISION	DATE
1	11/20/24
2	3/4/25
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JOB NO.	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
2327	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

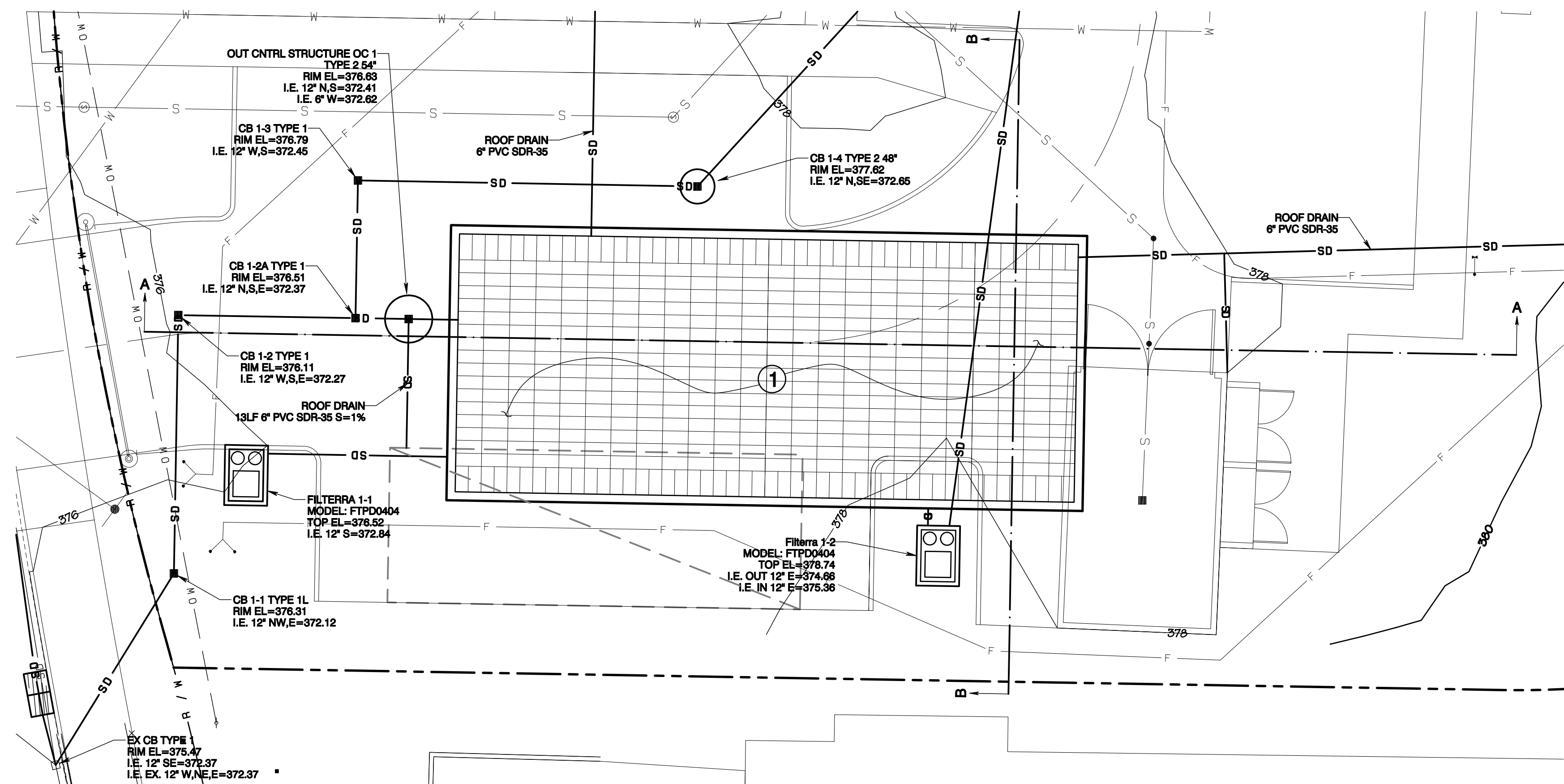
**Roof/Yard Drain Profiles**  
**Bradley Heights**  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.886.0326  
 Fax jordan@timberlanepartners.com

APPROVED  
 BY: CITY OF PUYALLUP DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_  
 NOTE:  
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Project Desc.: Bradley Heights Date: F:\sub3\3227 - Bradley Heights\Timberlane\Drawings\20250424\_E106.dwg Plot Date/FTime: 4/24/2025 7:50:38PM

# Bradley Heights

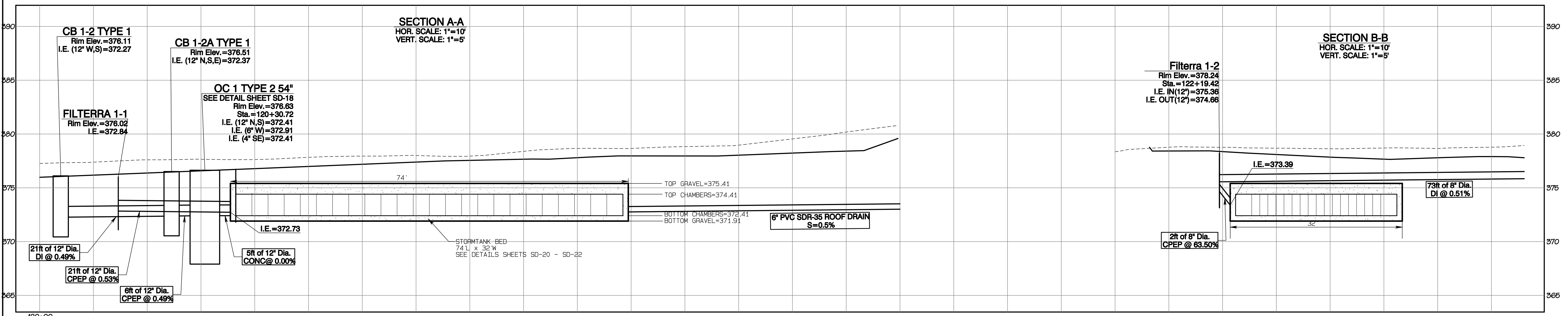
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



### CONSTRUCTION KEY NOTES

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

Project Date: Bradley Heights - Bradley Heights, Washington, Pierce County, WA 98512 - 4/24/2024 11:56:21 AM - P:\11\_Data\Files - 4/24/2024\11:56:21 AM

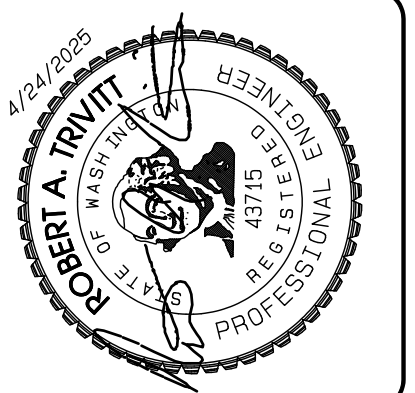


APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

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

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

**Detention Gallery #1 Plan**

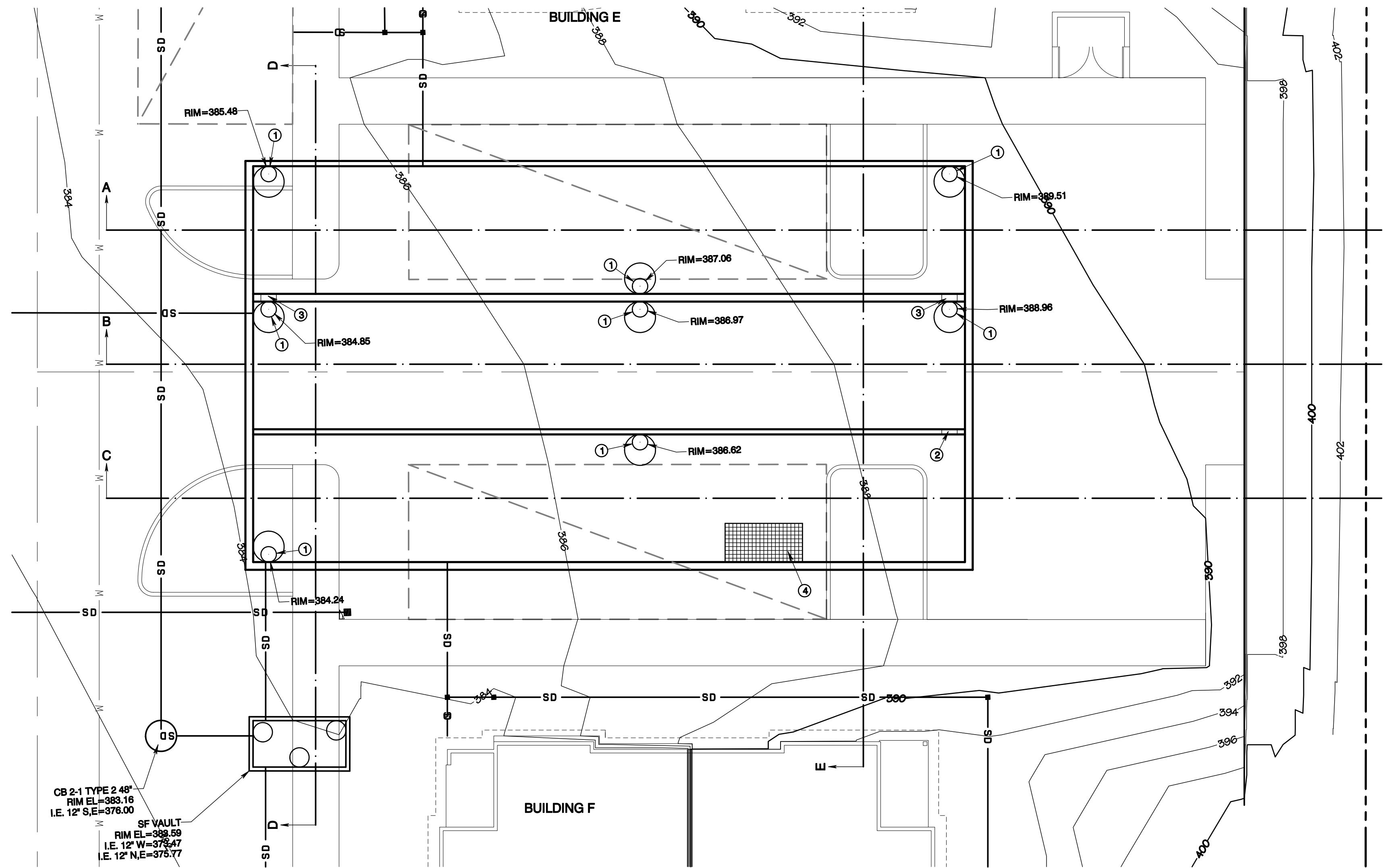
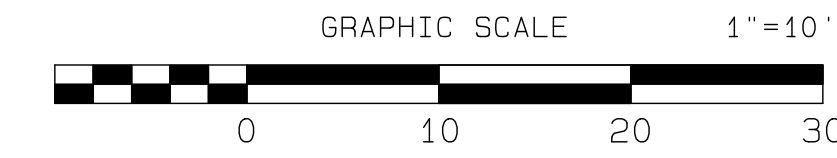
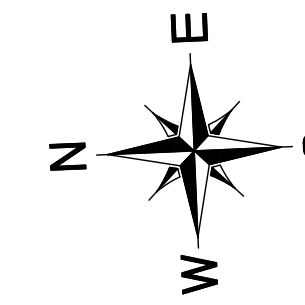
**Bradley Heights**

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

DRAWING  
**SD-10**  
SHEET 24  
OF 60

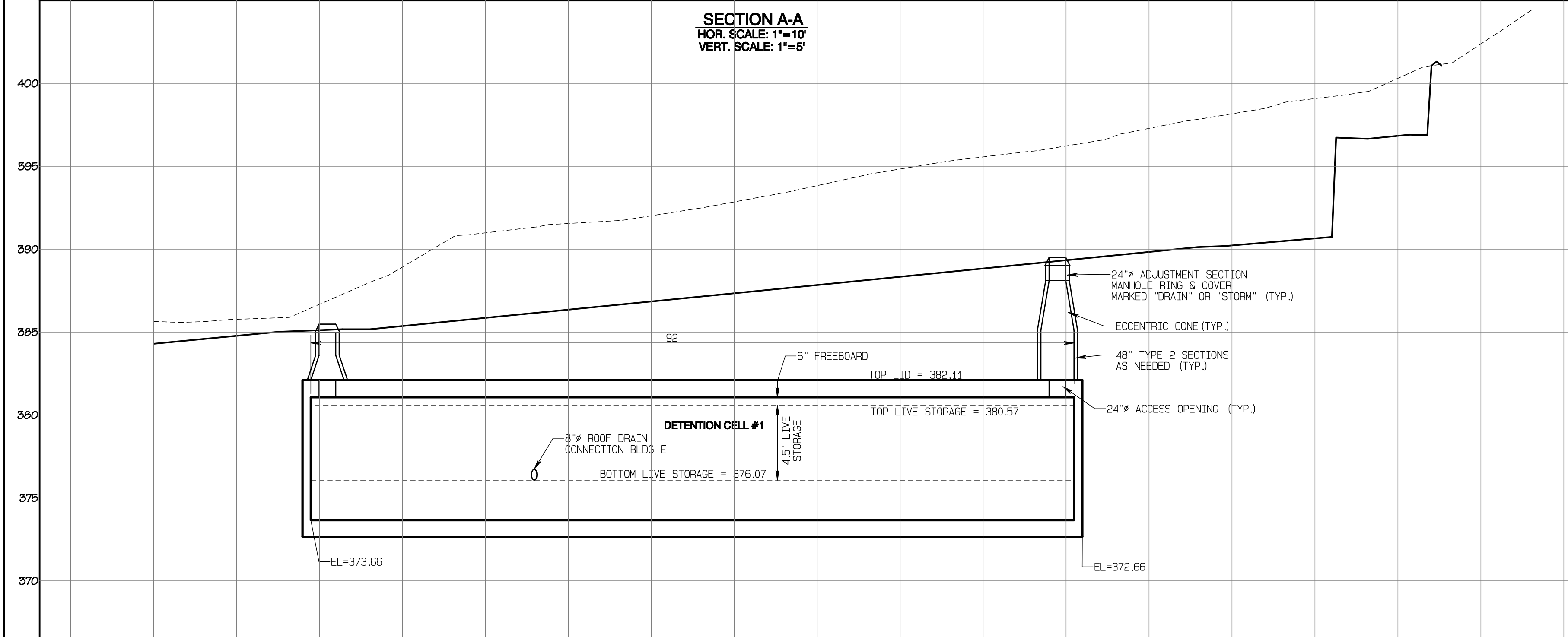
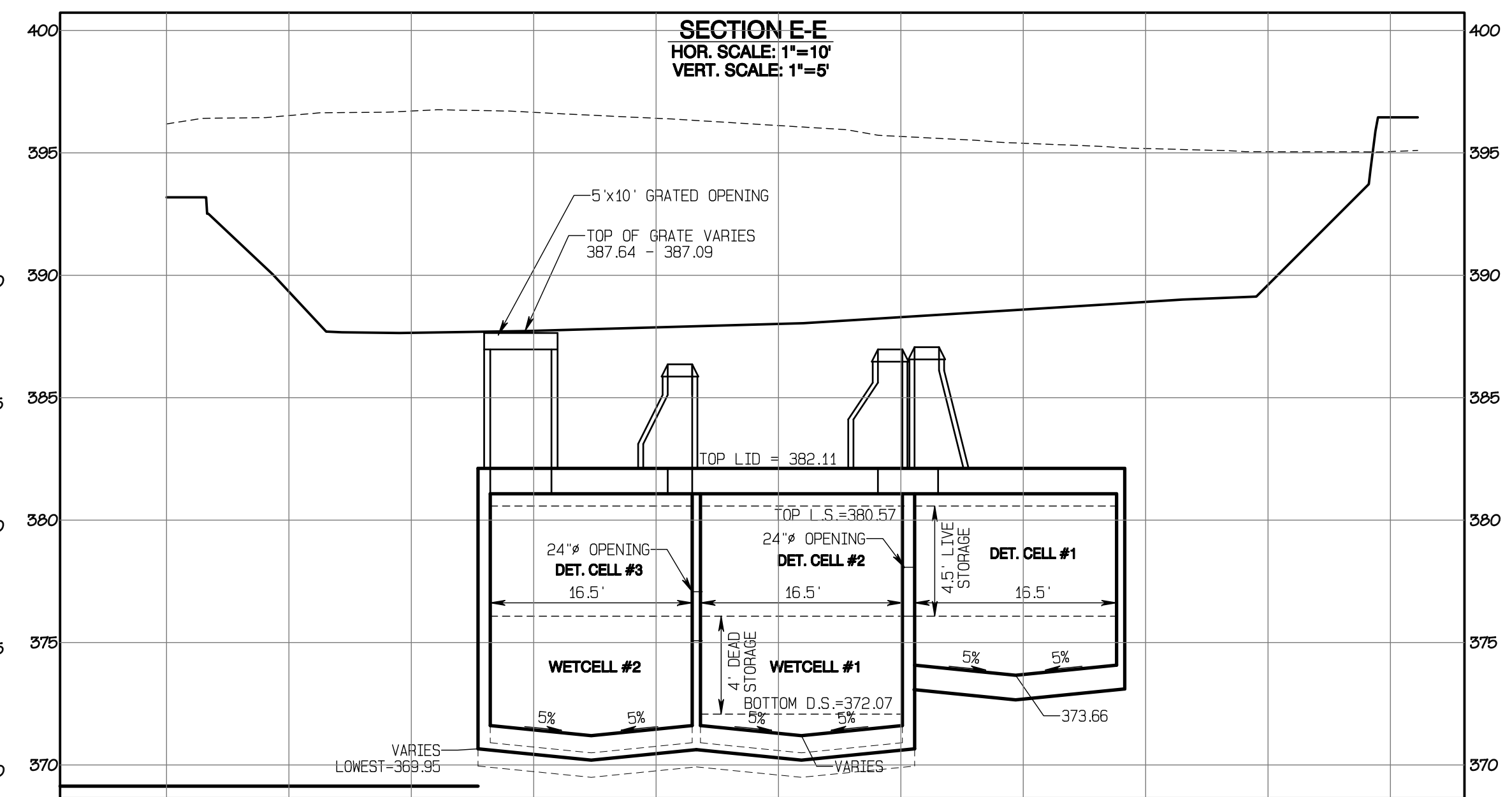
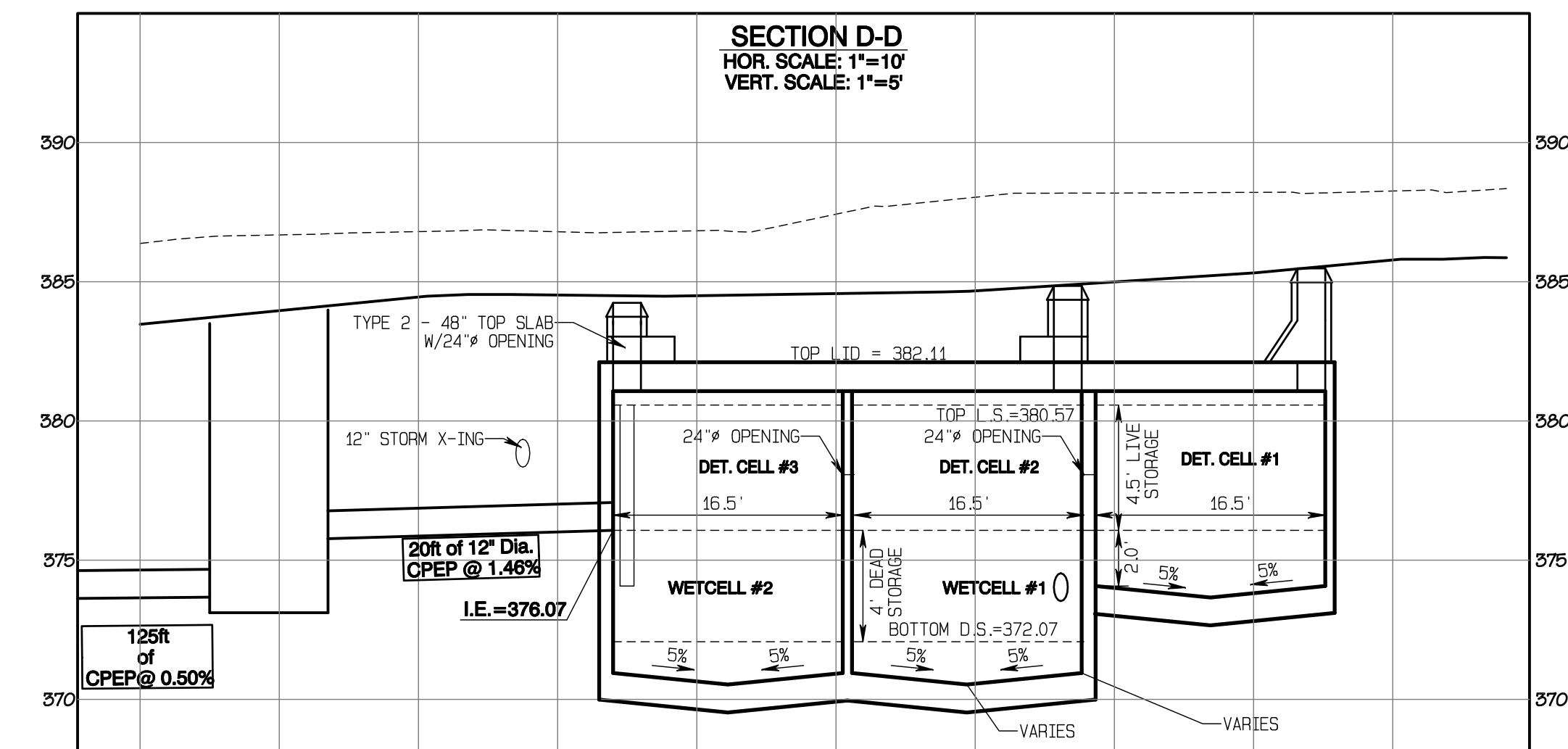
# Bradley Heights

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



### CONSTRUCTION KEY NOTES

- ① 24" ACCESS LID MARKED "DRAIN" (TYP.) W/LADDER PER STD 05.01.04, SHEET SD-22 & W/OSHA CONFINED ENTRY WARNING SIGN
- ② 24" CONNECTION BETWEEN CELLS I.E. = 375.57
- ③ 24" CONNECTION BETWEEN CELLS I.E. = 376.07
- ④ 5'x10' GRATED OPENING, TRAFFIC RATED W/LADDER PER STD 05.01.04, SHEET SD-22 & W/ BILCO LADDER-UP & W/OSHA CONFINED ENTRY WARNING SIGN



APPROVED

BY: CITY OF PUYALLUP DEVELOPMENT SERVICES

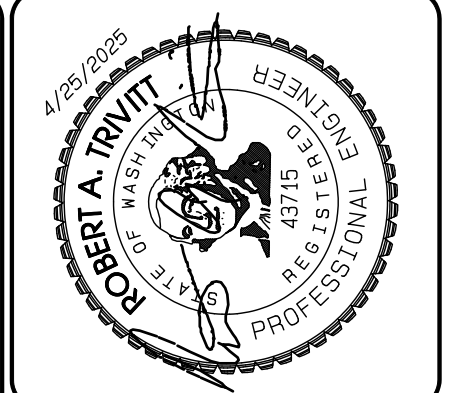
DATE: \_\_\_\_\_

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JOB NO. 3327  
 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

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

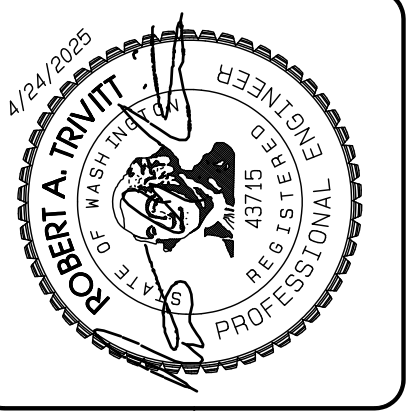
**DRAWING SD-11**

SHEET 25 OF 60

Project Desc.: Bradley Heights Part: E:\urban\3327 - Bradley Heights\Timberlane\Bradley Heights 20250425 E10.dwg PLOT Date: 5/14/2024 4:25:20 PM User: JTB

# Bradley Heights

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



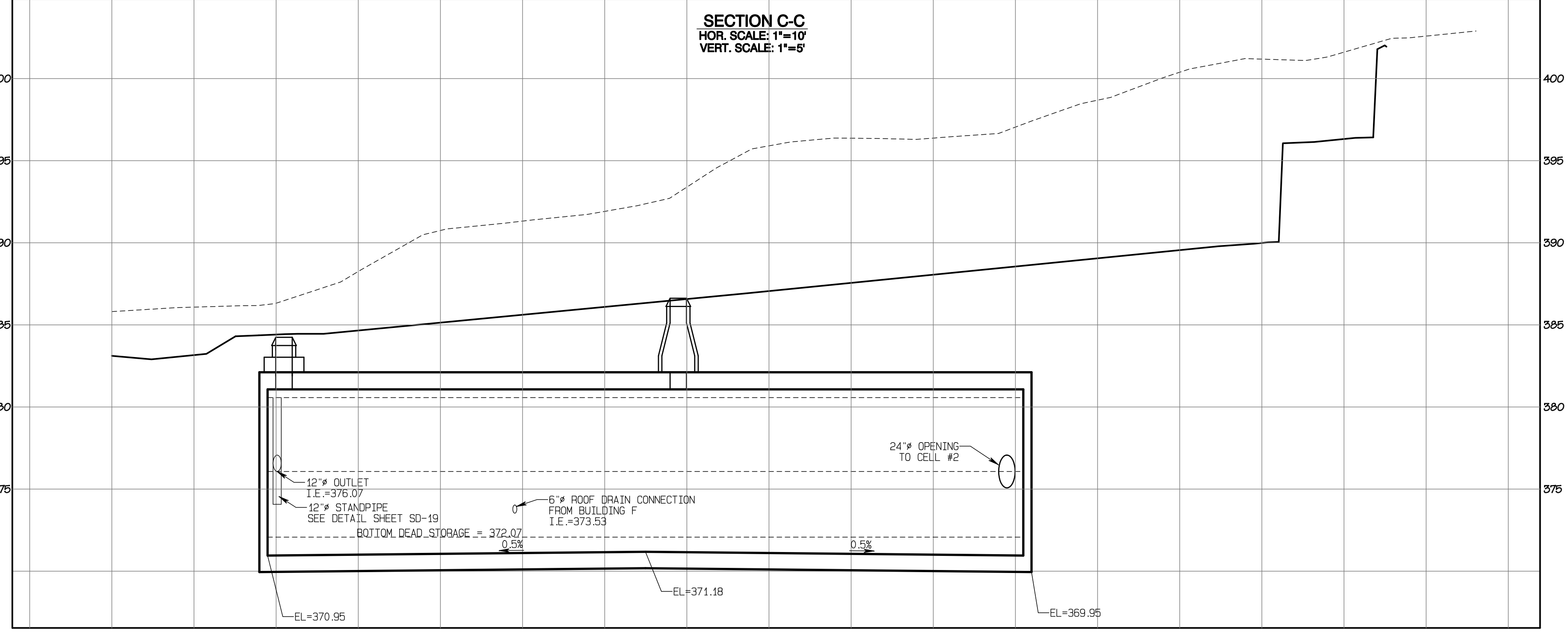
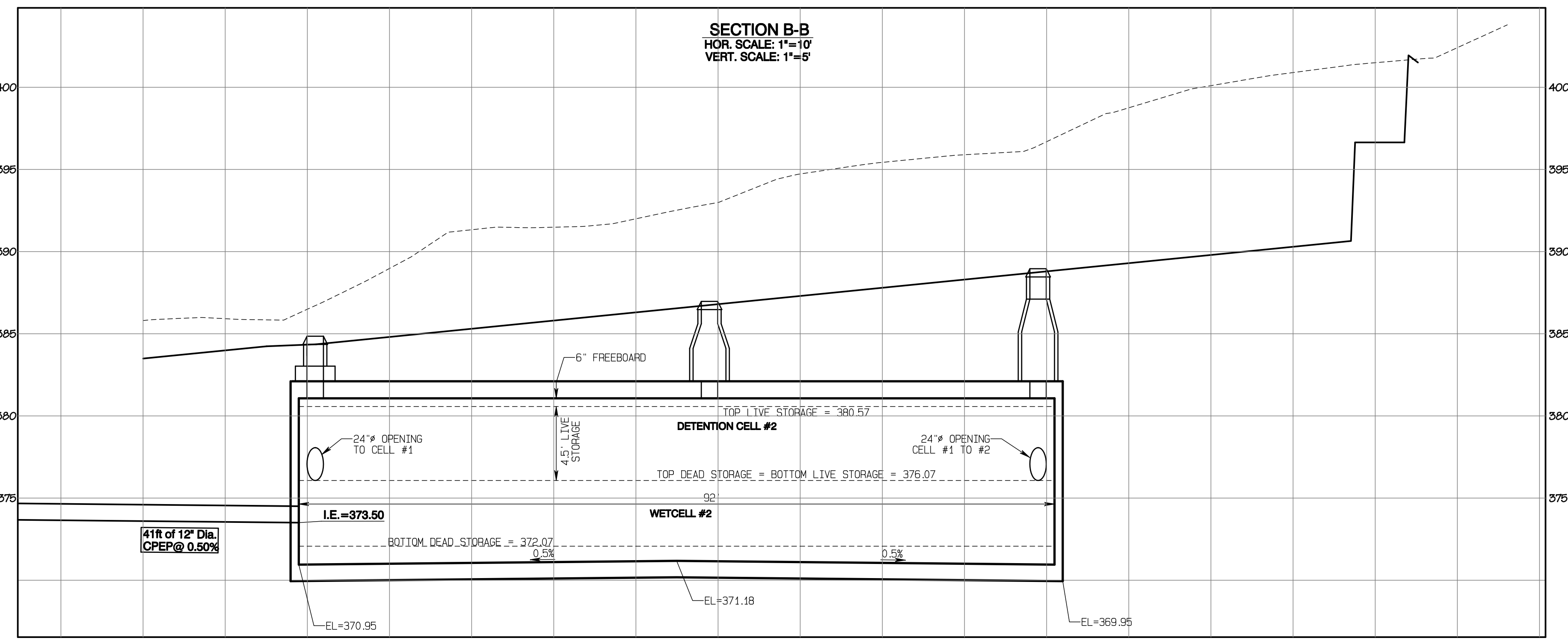
REVISION	DATE
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JOB NO. 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Paul Green  
 APPROVED BY: Paul Green

**AZURE GREEN**  
 CONSULTANTS

+ feasibility + planning + engineering + surveying

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



**APPROVED**

BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

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

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**Vault #2 Cross-Sections**

**Bradley Heights**

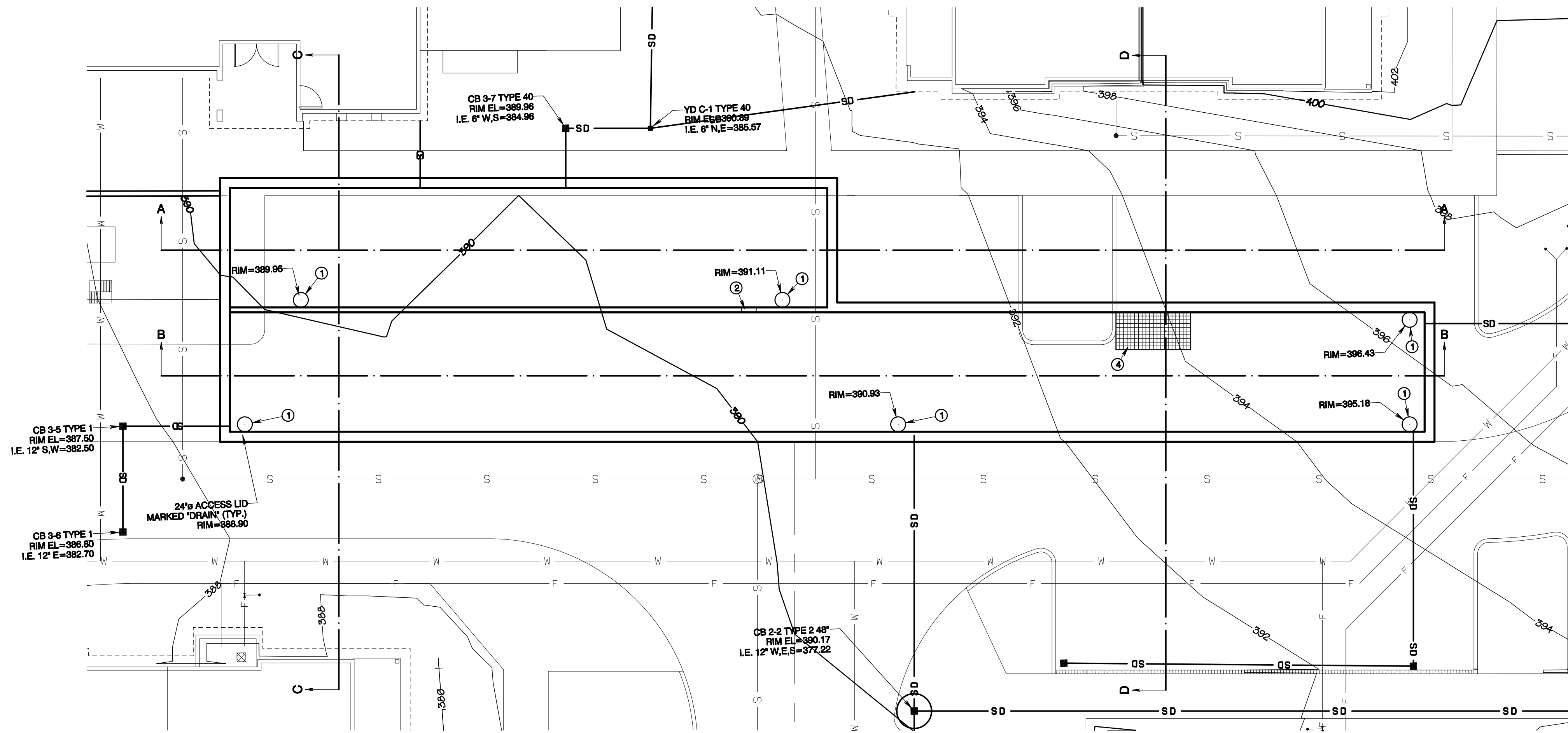
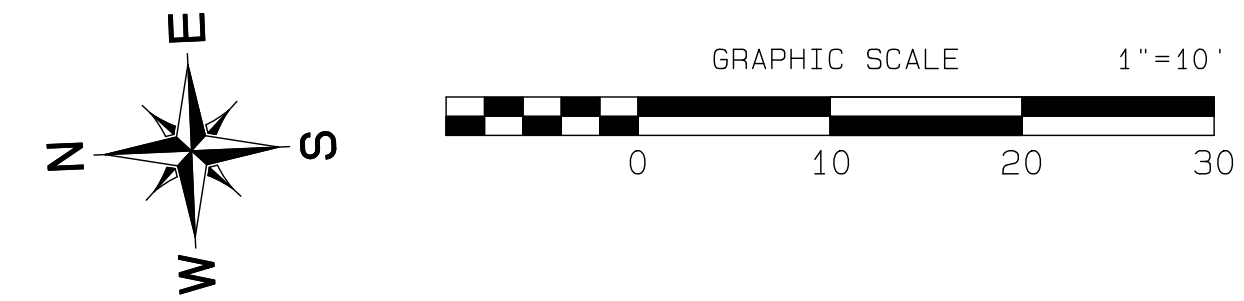
Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.886.0326  
 Fax jordan@timberlanepartners.com

**DRAWING**  
**SD-12**  
 SHEET 26  
 OF 60

Project Desc.: Bradley Heights Part: E:\urban\3227 - Bradley Heights\Timberlane\Drawings\20250424 EMB.dwg PLOT Date: 5/14/24 4:24:23 PM 7:56:21 PM

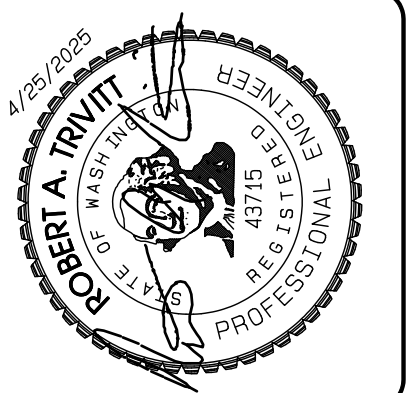
# Bradley Heights

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



### CONSTRUCTION KEY NOTES

- ① 24" ACCESS LID MARKED "DRAIN" (TYP.) W/LADDER PER STD. 06.01.04, SHEET SD-22 & W/OSHA CONFINED ENTRY WARNING SIGN
- ② 24" CONNECTION BETWEEN CELLS I.E. = 377.80
- ③ 5'x10' GRATED OPENING, TRAFFIC RATED W/LADDER PER STD. 06.01.04, SHEET SD-22 & W/ BILCO LADDER-UP & W/OSHA CONFINED ENTRY WARNING SIGN



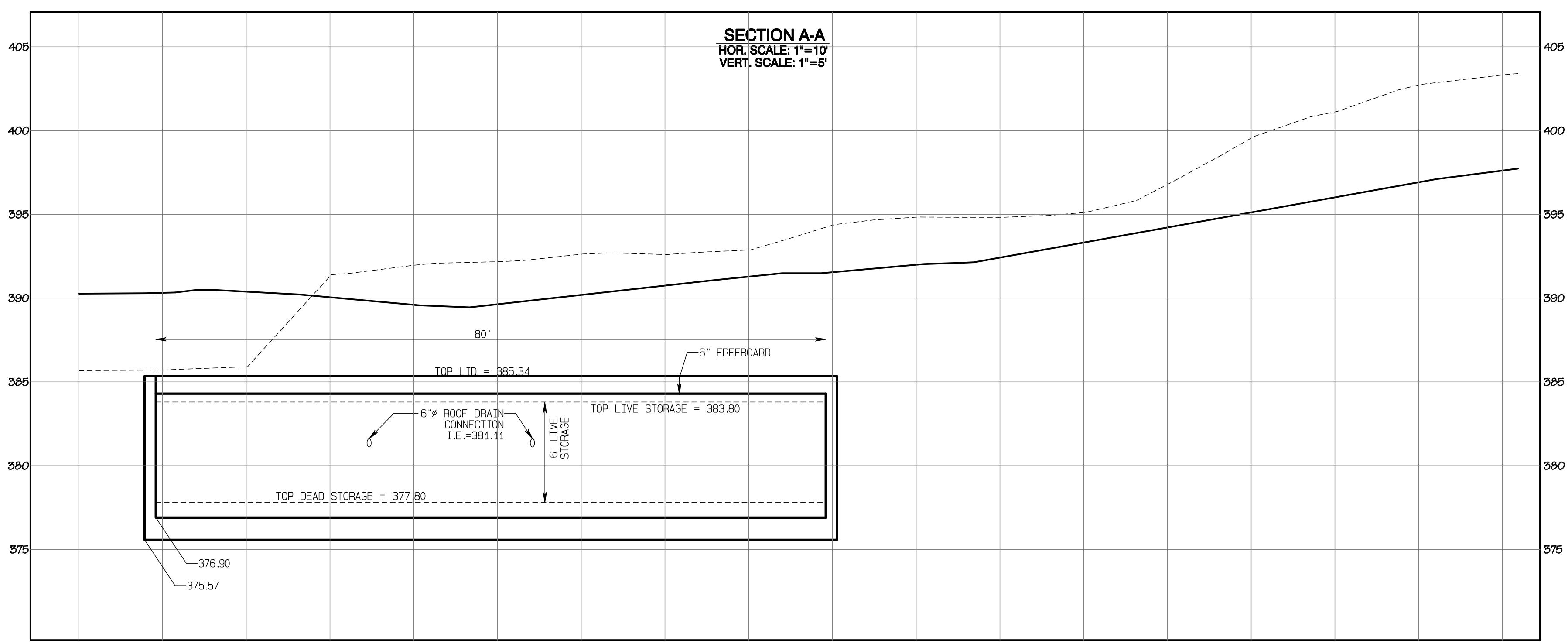
REVISION	DATE
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JOB NO. 3327	DATE: May 14, 2024
DESIGNED BY: Rob Trivitt	DRAWN BY: Rob Trivitt
CHECKED BY: Rob Green	APPROVED BY: Rob Green

**AZURE GREEN**  
CONSULTANTS

+ feasibility + planning + engineering + surveying

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



APPROVED

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

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

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**Vault #3 Plan**

**Bradley Heights**

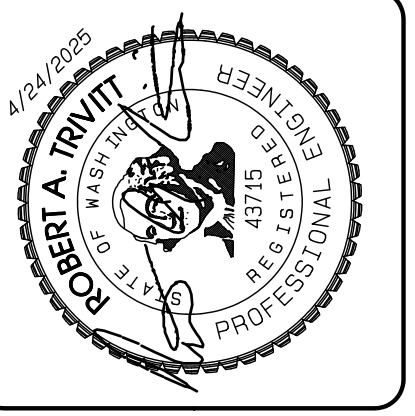
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.889.0326  
Fax jordan@timberlanepartners.com

**DRAWING**  
**SD-13**  
SHEET 27  
OF 60

Project Desc.: Bradley Heights; Part#: F:\urban\3327 - Bradley Heights\Town\Bradley Heights 20250425 E10.dwg; PLOT Date/Time: 4/25/2025 7:38:33AM

# Bradley Heights

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



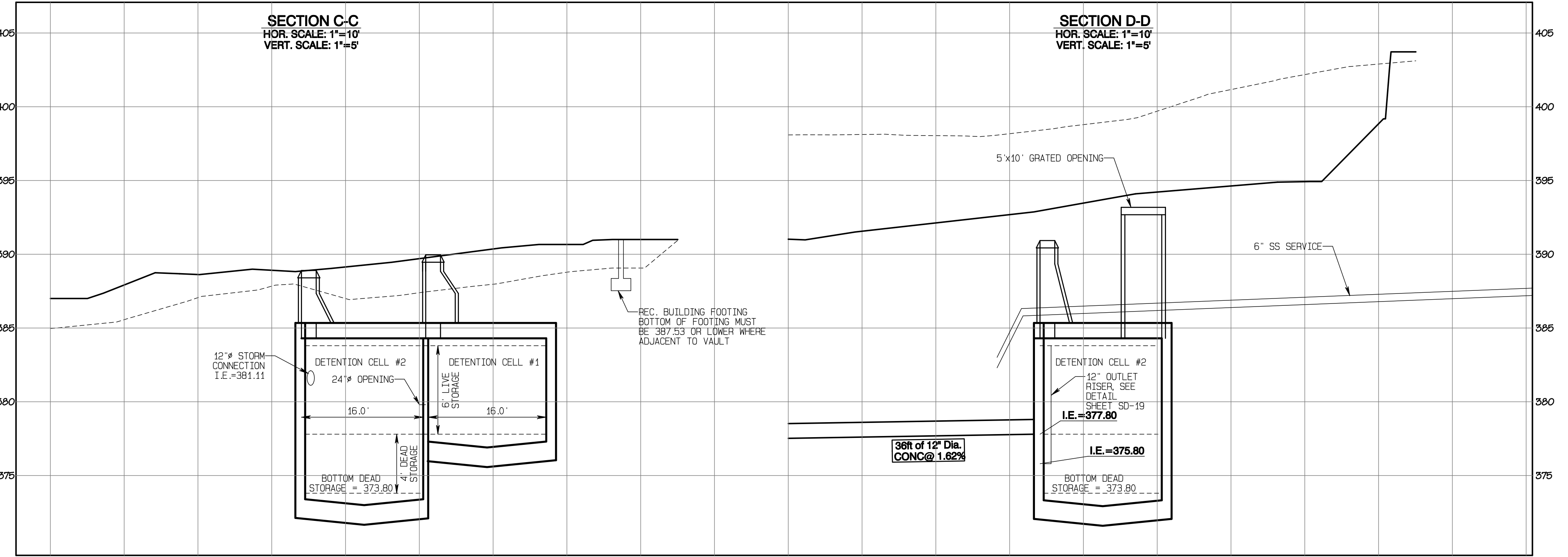
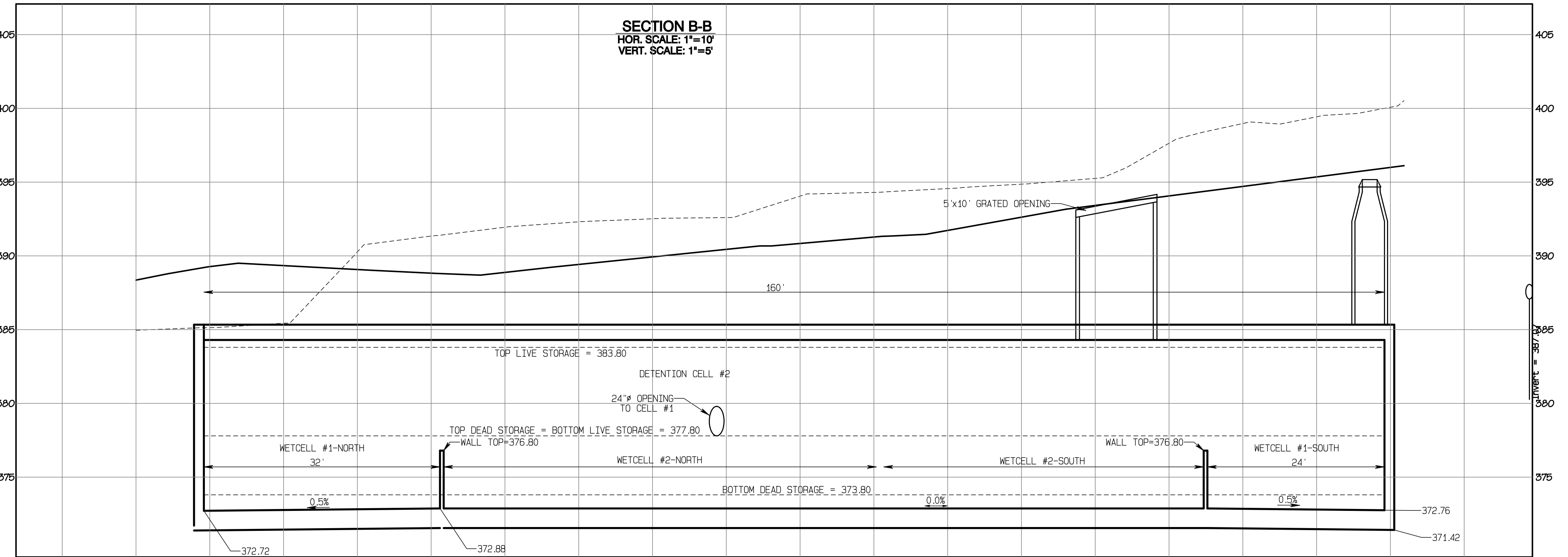
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JOB NO. 3227  
 DATE: May 14, 2024  
 DESIGNED BY: Rob Trivitt  
 DRAWN BY: Rob Trivitt  
 CHECKED BY: Rob Green  
 APPROVED BY: Rob Green

**AZURE GREEN**  
 CONSULTANTS

+ feasibility + planning + engineering + surveying

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



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.

**Vault #3 Cross-Sections**

**Bradley Heights**

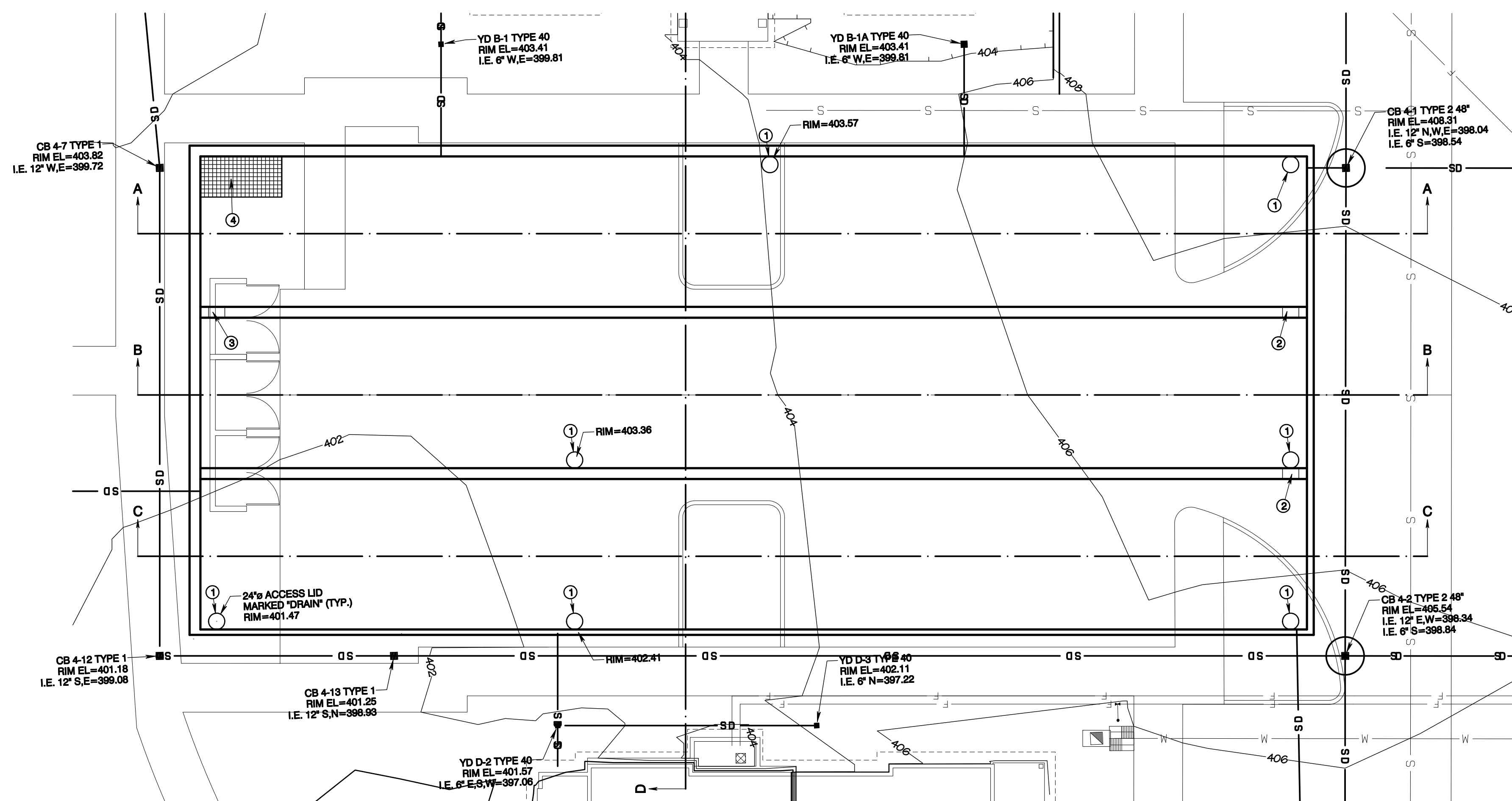
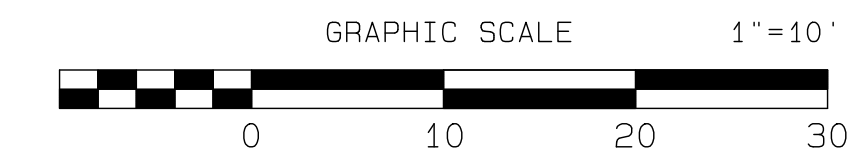
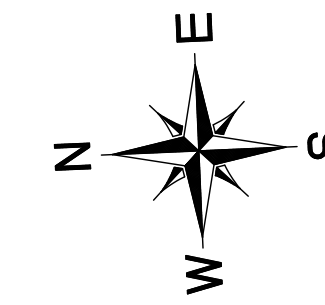
Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.889.0326  
 Fax jordan@timberlanepartners.com

DRAWING  
**SD-14**  
 SHEET 28  
 OF 60

Project Desc.: Bradley Heights Part: E:\urban\3227 - Bradley Heights\Timberlane\190415\_Highway\_20250424\_EHG.dwg PLOT Date: 5/14/24 File: 4/24/2025/02.dwg

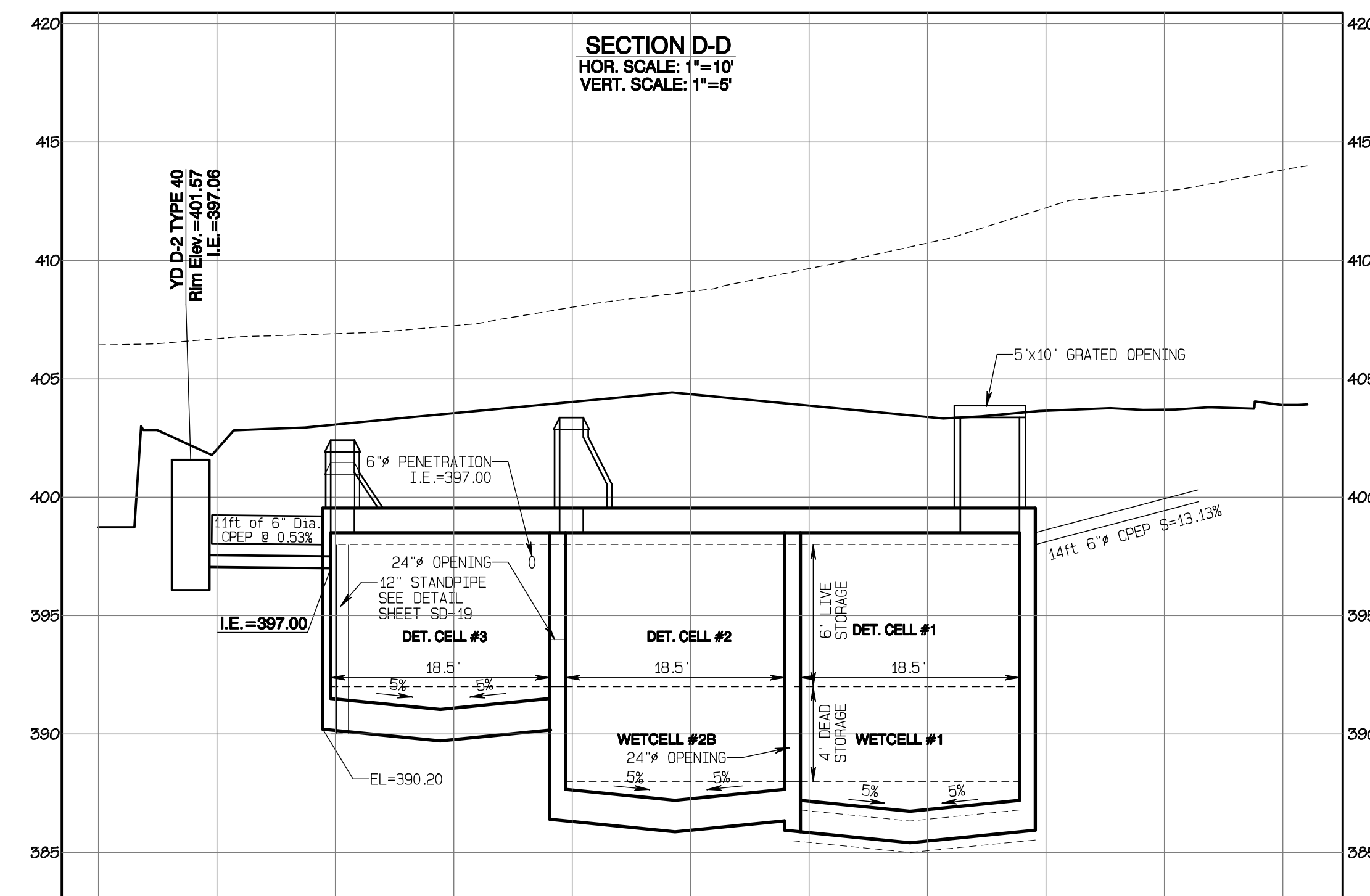
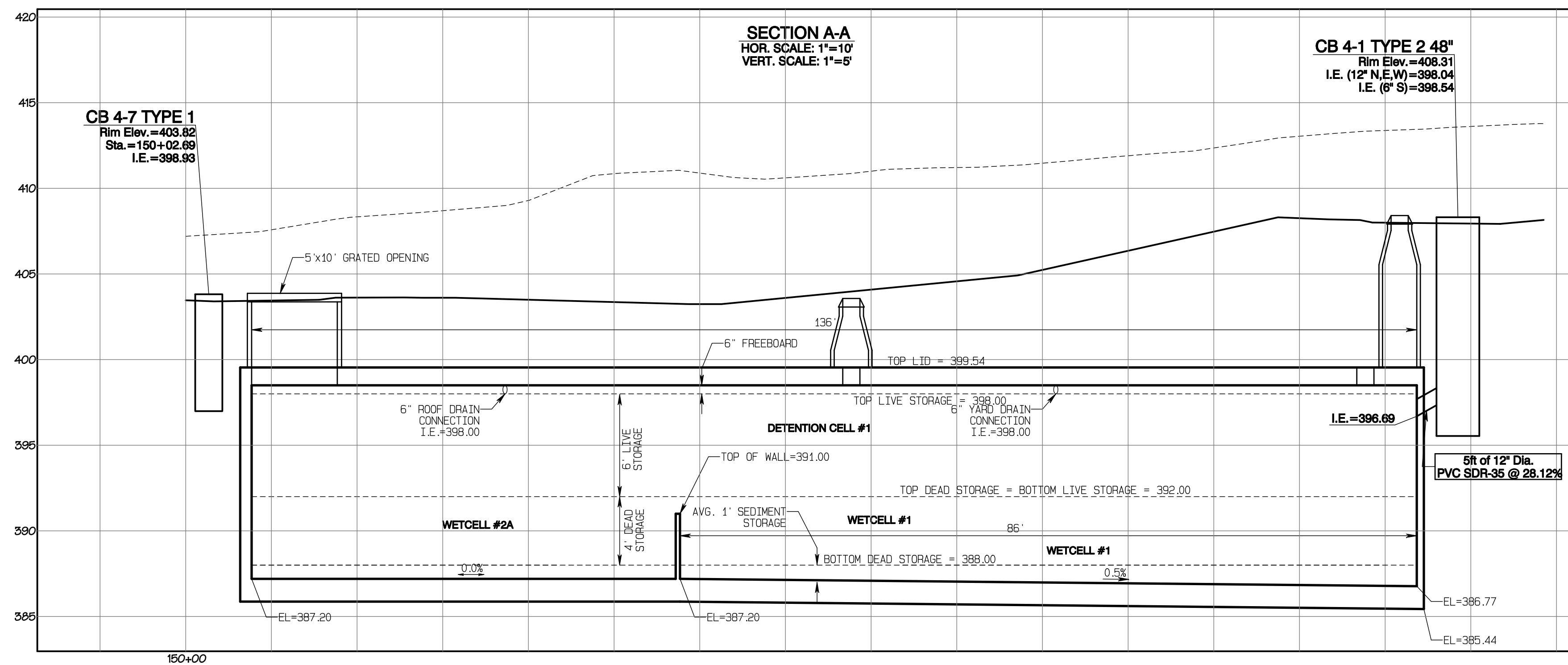
# Bradley Heights

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



### CONSTRUCTION KEY NOTES

- ① 24" ACCESS LID MARKED "DRAIN" (TYP.) W/LADDER PER STD 06.01.04, SHEET SD-22 & W/OSHA CONFINED ENTRY WARNING SIGN
- ② 24" CONNECTION BETWEEN CELLS I.E. = 392.00
- ③ 24" CONNECTION BETWEEN CELLS I.E. = 388.00
- ④ 5'x10' GRATED OPENING W/LADDER PER STD 06.01.04, SHEET SD-22 & W/OSHA CONFINED ENTRY WARNING SIGN



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

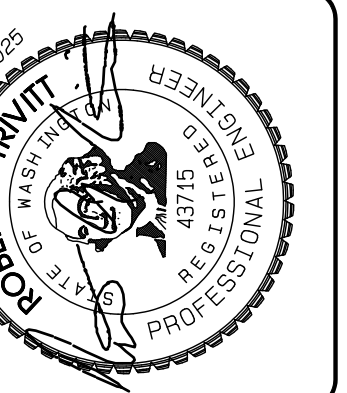
**Bradley Heights**  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.886.0326  
 Fax jordan@timberlanepartners.com

DRAWING  
**SD-15**  
 SHEET 29  
 OF 60

**AZURE GREEN CONSULTANTS**  
 \*feasibility \*planning \*engineering \*surveying  
 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	Rod Trivitt
DRAWN BY	Rod Trivitt
CHECKED BY	Rod Trivitt
APPROVED BY	Rod Trivitt

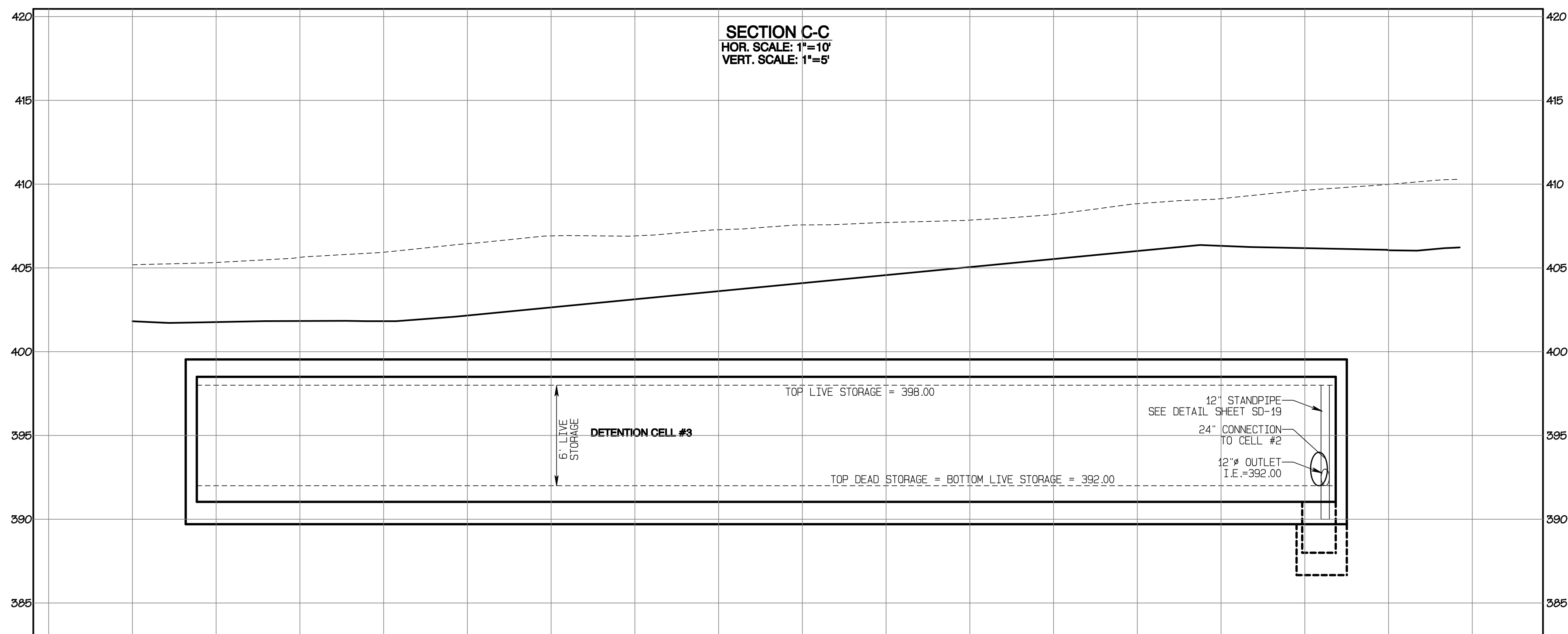
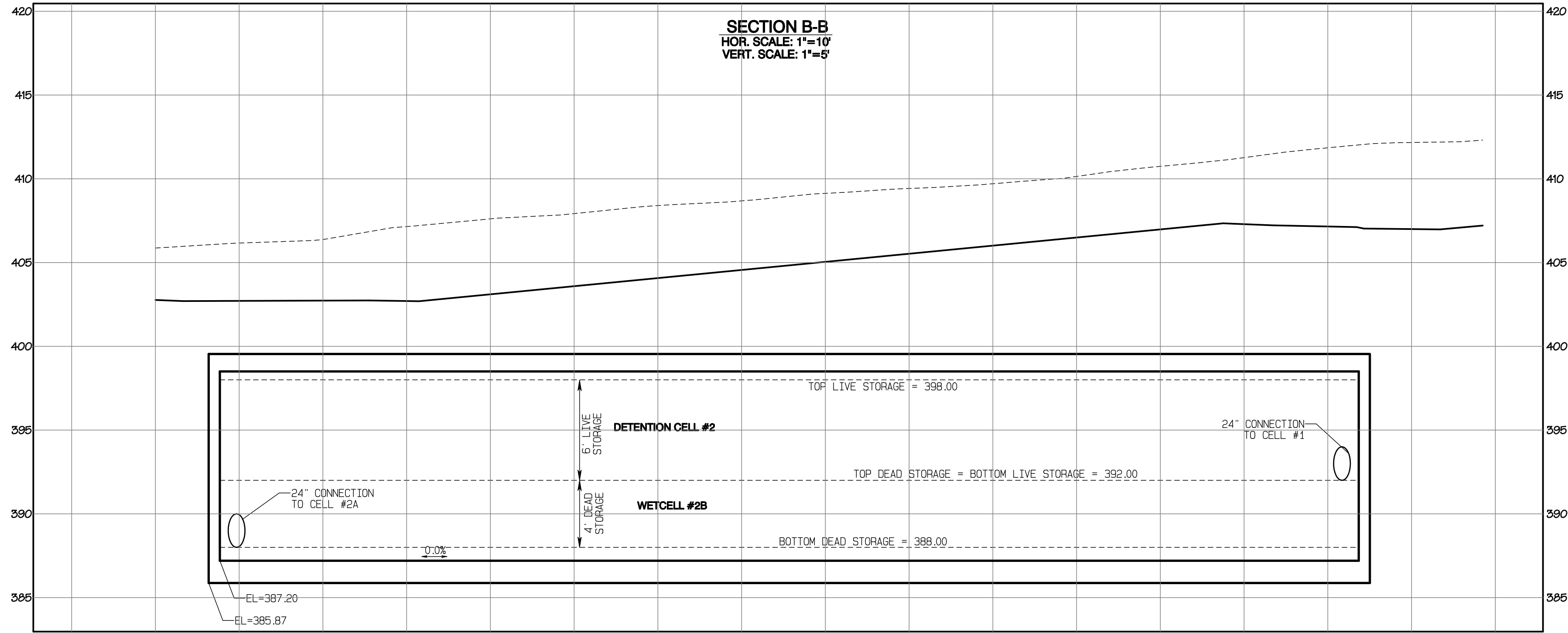
REVISION	DATE
1 Revised per City review and Mail A adjustment.	11/29/24
2 Revised per City review.	3/4/25
3 Revised per City & Rod review.	4/21/25
4 Revised per City & Rod review.	
5	
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Project Desc.: Bradley Heights Date: E:\sub\3227 - Bradley Heights\Timeline\Bradley Heights 20250425 EWB.dwg PLOT DATE/TIME: 4/25/2025 7:38:27AM

# Bradley Heights

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

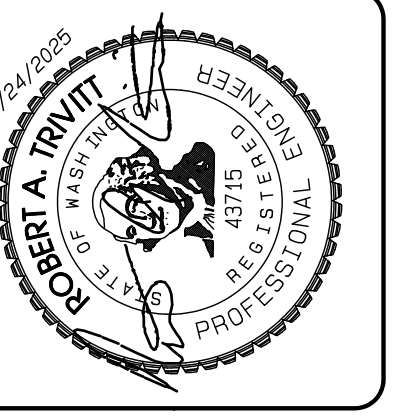


**APPROVED**

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

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

**NOTE:**  
THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.  
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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
2 Revised per City review.	3/4/25
3 Revised per City & Pugh review.	4/27/25
4	
5	
6	
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8	
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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**

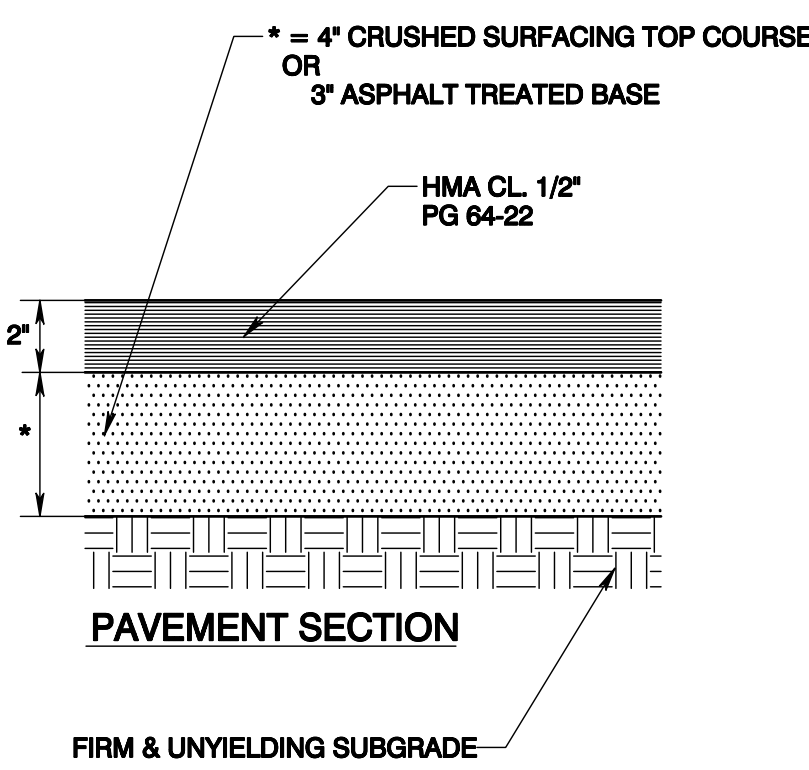
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.886.0326  
Fax jordan@timberlanepartners.com

DRAWING  
**SD-16**  
SHEET 30  
OF 60

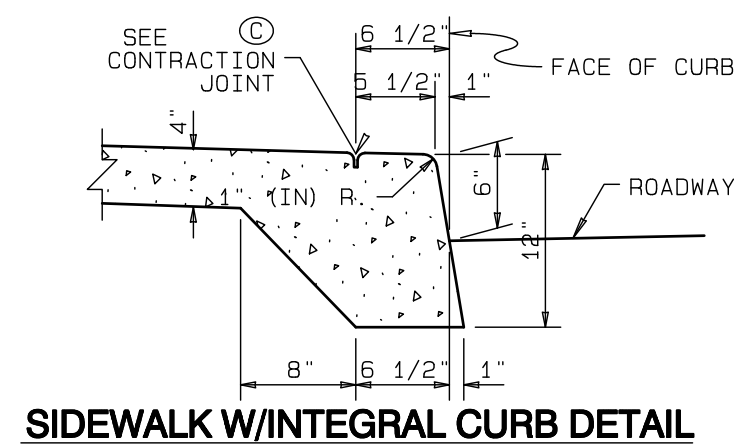
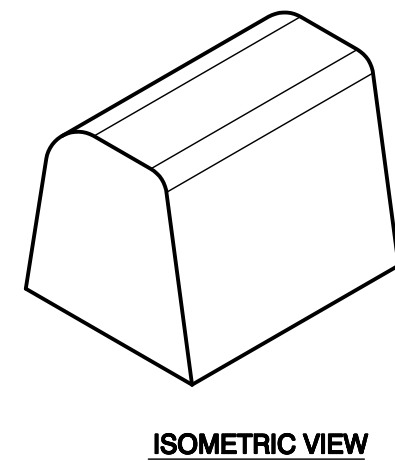
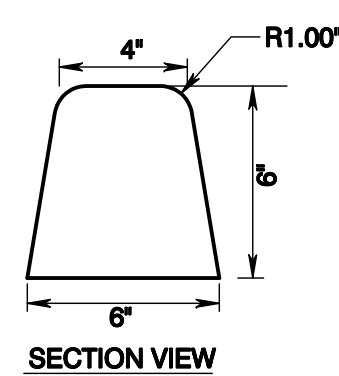
Project Desc.: Bradley Heights Path: F:\sub3327 - Bradley Heights\Timberlane\Drawings\20250524\_EHG.dwg PLOT Date: 5/14/24 File: 4/24/2025/8\_04.dwg

# Bradley Heights

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

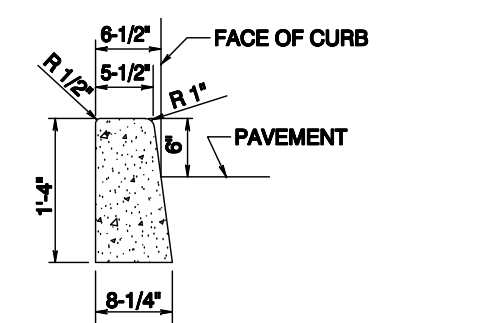


- NOTES:**
1. CONCRETE SHALL BE CLASS 3000 OR COMMERCIAL WITH AIR-ENTRAINMENT.
  2. CONCRETE TO BE ANCHORED WITH ADHESIVE MEETING REQUIREMENTS OF SECTION 9-20 OF THE WSDOT/APWA STANDARD SPECIFICATIONS FOR TYPE II EPOXY RESIN.
  3. CONTROL JOINTS SHALL BE PLACED NOT TO EXCEED 10' CLS.

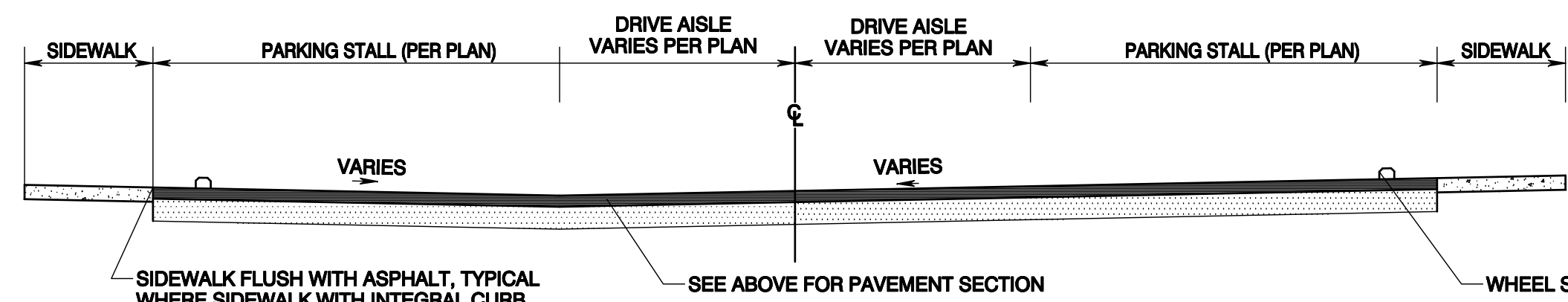


**SIDEWALK W/INTEGRAL CURB DETAIL**

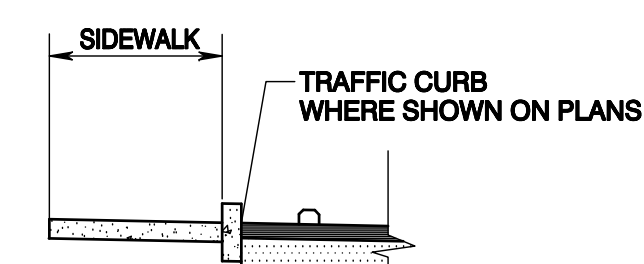
EXTEND SIDEWALK TRANSVERSE EXPANSION JOINTS TO INCLUDE CURB (FULL DEPTH)



**EXTRUDED CURB DETAIL**

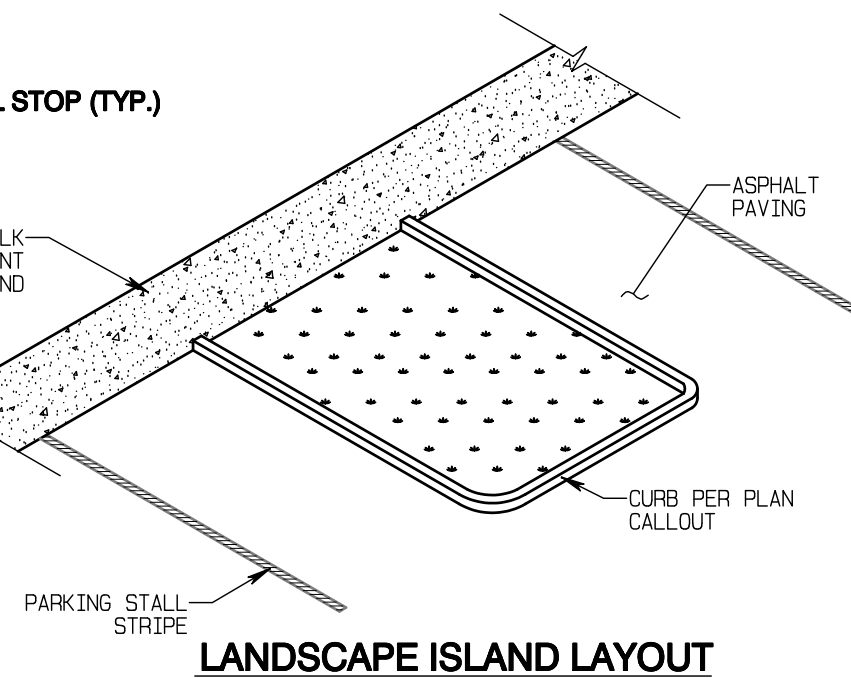


**PAVING CROSS-SECTION (NOT TO SCALE)**

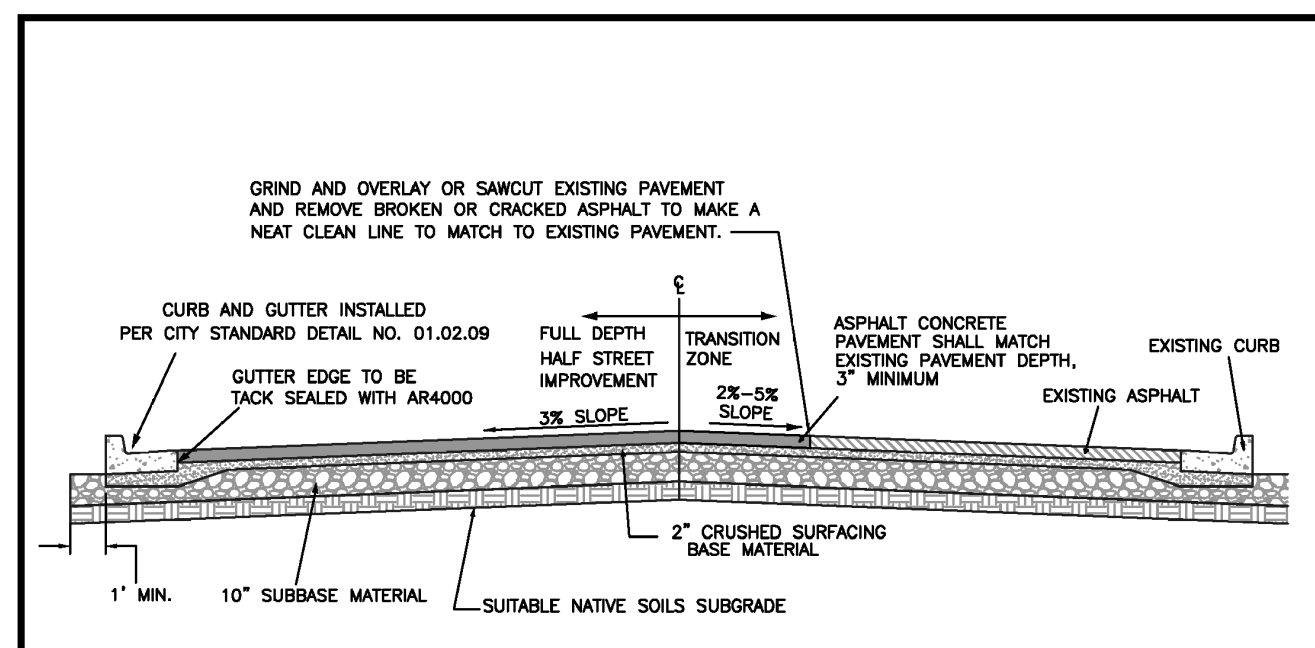


**LAYOUT W/TRAFFIC CURB**

**CEMENT CONCRETE TRAFFIC CURB DETAIL**

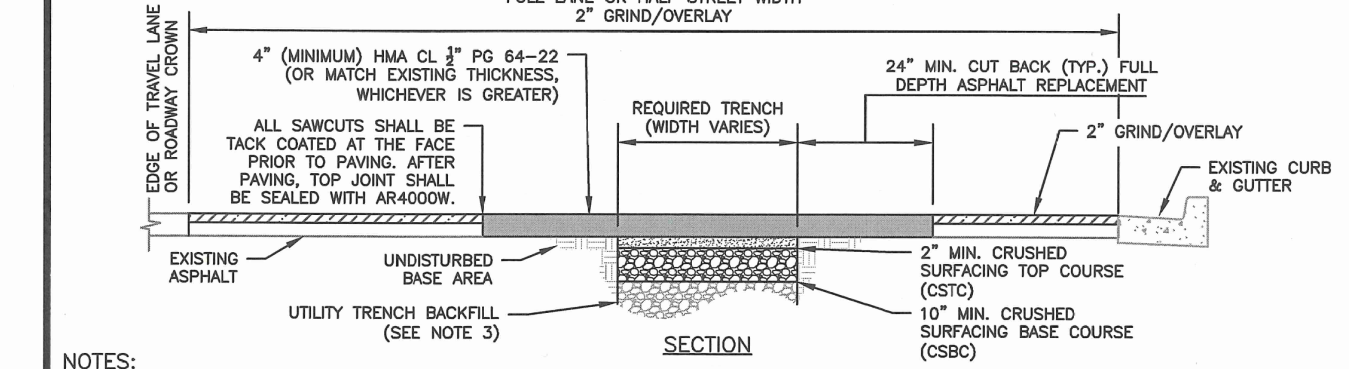
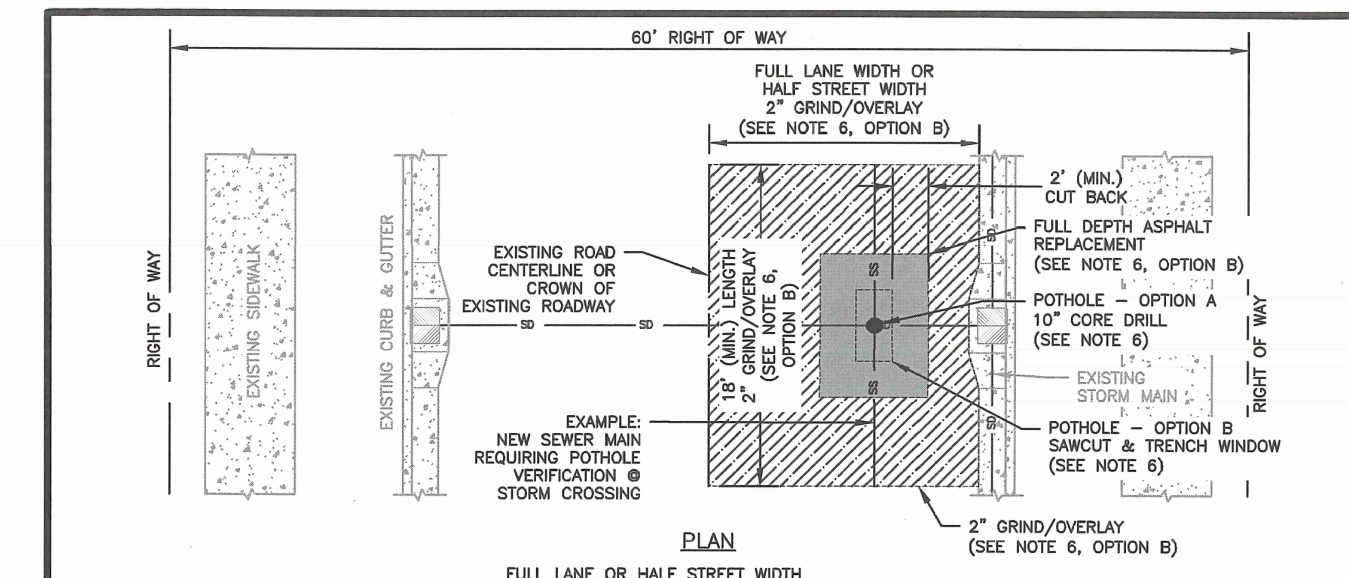


**LANDSCAPE ISLAND LAYOUT**



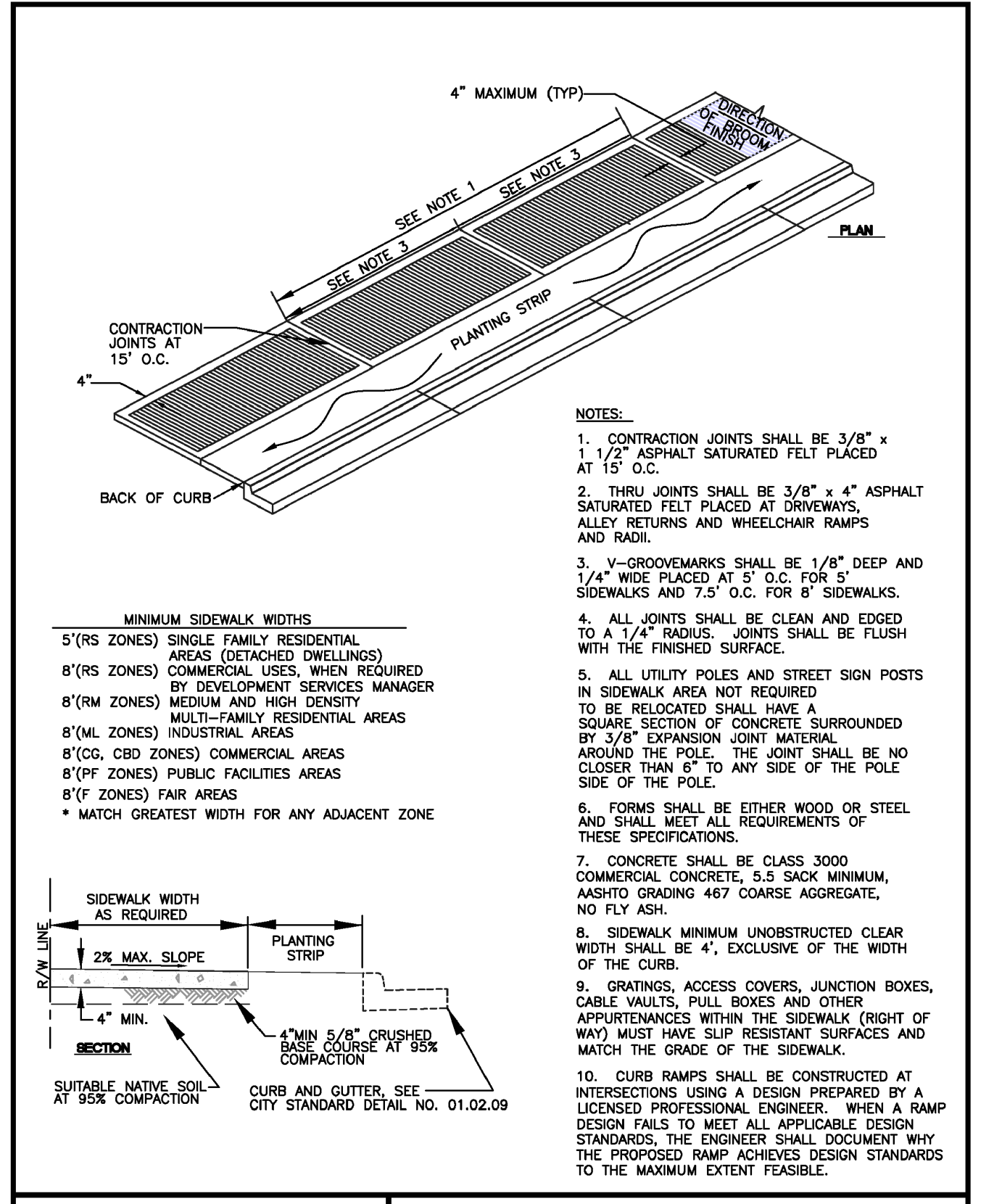
- NOTES:**
1. ALL DEPTHS ARE MINIMUM COMPACTED DEPTHS.
  2. SUBGRADE PREPARATION SHALL MEET THE REQUIREMENTS OF WSDOT STANDARD SPEC. 2-06.3(1). IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MEET THE COMPACTION REQUIREMENTS AND CONTROL ALL WORK. THE CITY OF PUYALLUP RESERVES THE RIGHT TO REQUIRE TESTS AT THE CONTRACTOR'S EXPENSE.
  3. SUBBASE MATERIAL SHALL BE GRAVEL BORROW MEETING THE REQUIREMENTS OF WSDOT STANDARD SPEC. 9-03.14(1) OR CRUSHED BALLAST MEETING THE REQUIREMENTS OF WSDOT STANDARD SPEC. 9-03.9(1). CRUSHED SURFACING SHALL MEET THE GRADATION REQUIREMENTS OF WSDOT STANDARD SPEC. 9-03.9(3). THE SUBBASE AND BASE MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT STANDARD SPEC. 4-04.
  4. SOIL STABILIZATION FABRIC MAY BE REQUIRED BY THE DEVELOPMENT REVIEW ENGINEER TO BE INSTALLED PRIOR TO THE INSTALLATION OF THE BASE MATERIAL. WHEN REQUIRED, THE CONTRACTOR SHALL PLACE A GEOTEXTILE FABRIC OVER THE PREPARED SUBGRADE WITH A TWO FOOT MINIMUM OVERLAP. THE FABRIC SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
  5. ASPHALT CONCRETE PAVEMENT SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT STANDARD SPEC 5-04. DESIGN ENGINEER SHALL SUBMIT A STATE APPROVED HMA MIX FOR APPROVAL.
  6. TEMPERATURE SHALL NOT EXCEED 325°F AT DISCHARGE OF THE PLANT NOR BE LESS THAN 185°F LEAVING THE SPREADER BOX.
  7. THE MAXIMUM COMPACTED THICKNESS OF ANY SINGLE LIFT SHALL MEET WSDOT STANDARD SPEC. 5-04.3(9) TO A MINIMUM AVERAGE COMPACTED DRY DENSITY OF 91 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY WSDOT TEST METHOD SPECIFIED IN STANDARD SPEC. 5-04.3(10)B. PERIODIC COMPLIANCE TESTS SHALL BE MADE BY A CERTIFIED TESTING AGENCY AT THE EXPENSE OF THE CONTRACTOR.
  8. THE FACE OF THE GUTTER LIP AND EDGES OF EXISTING ASPHALT MEET LINES SHALL BE TACK COATED PRIOR TO PAVEMENT PLACEMENT. WHEN SUCCESSIVE LIFTS OF ASPHALT ARE REQUIRED, A TACK COAT SHALL BE DISTRIBUTED UNIFORMLY OVER THE PREVIOUS LIFT AT A RATE OF 0.06-0.08 GALLONS PER SQUARE YARD AT A TEMPERATURE OF 100°F AND SHALL BE ALLOWED TO SET TO A TACKY STATE PRIOR TO THE PLACEMENT OF THE NEXT LIFT.
  9. ALL MEET LINES BETWEEN LIFTS OF ASPHALT SHALL BE UNIFORM AND VERTICAL. THE MEET LINES SHALL BE CLEANED AND TACK COATED.
  10. ANY CHANGES TO THE STANDARD PAVEMENT SECTION SHALL REQUIRE APPROVAL BY THE DEVELOPMENT REVIEW ENGINEER. A STRUCTURAL PAVEMENT CROSS SECTION DESIGN WITH CALCULATIONS SHALL BE REQUIRED.
  11. 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.
  12. ASPHALT SHALL BE HMA CL 1/2" PG 64-22

<b>CITY OF PUYALLUP</b> DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS		<b>HALF STREET IMPROVEMENT</b>	
DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20



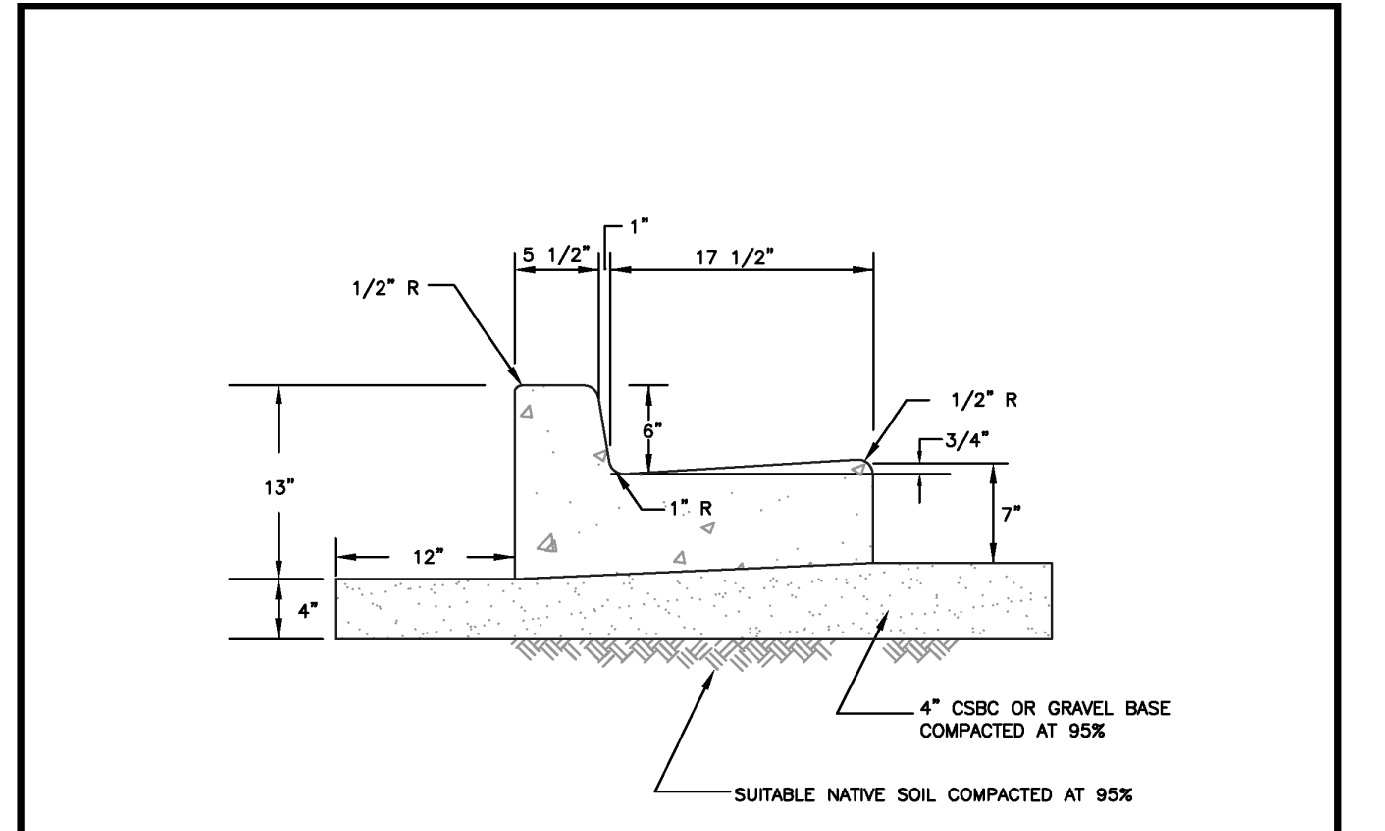
- NOTES:**
1. BASE AND SUBBASE MATERIAL SHALL BE COMPACTED TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.
  2. ALL DEPTHS INDICATED ARE A MINIMUM COMPACTED DEPTH.
  3. INITIAL BACKFILLING SHALL BE PERFORMED ONLY AFTER INSPECTION AND APPROVAL OF THE INSTALLED PIPE OR STRUCTURE. THE TRENCH BACKFILL 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), INCLUDING 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 PATCHES 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 TRENCHES 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 FULL DEPTH (LONGITUDINALLY ALONG ROADWAY) CENTERED AT LOCATION OF PATCH. NOTE: 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.
  7. 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.
  8. 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.

<b>CITY OF PUYALLUP</b> OFFICE OF THE CITY ENGINEER		<b>STREET PATCH</b>	
DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20



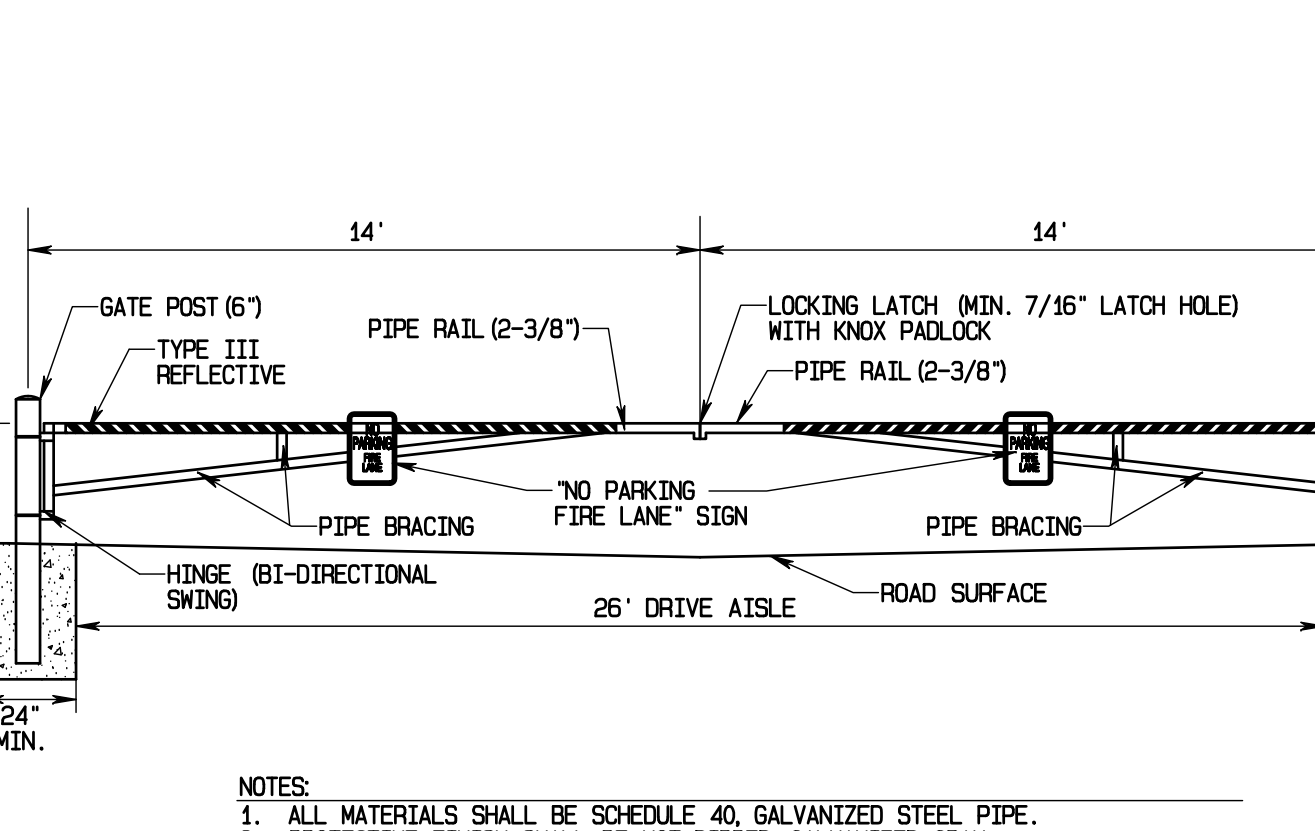
- NOTES:**
1. CONTRACTION JOINTS SHALL BE 3/8" x 1/2" ASPHALT SATURATED FELT PLACED AT 15' O.C.
  2. THRU JOINTS SHALL BE 3/8" x 4" ASPHALT SATURATED FELT PLACED AT DRIVEWAYS, ALLEY RETURNS AND WHEELCHAIR RAMPS AND RAMP.
  3. V-GROOVEMARKS SHALL BE 1/8" DEEP AND 1/4" WIDE PLACED AT 5' O.C. FOR 5' SIDEWALKS 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 SURROUNDING 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. GRADINGS, 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.

<b>CITY OF PUYALLUP</b> DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS		<b>SIDEWALK WITH PLANTING STRIP</b>	
DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20



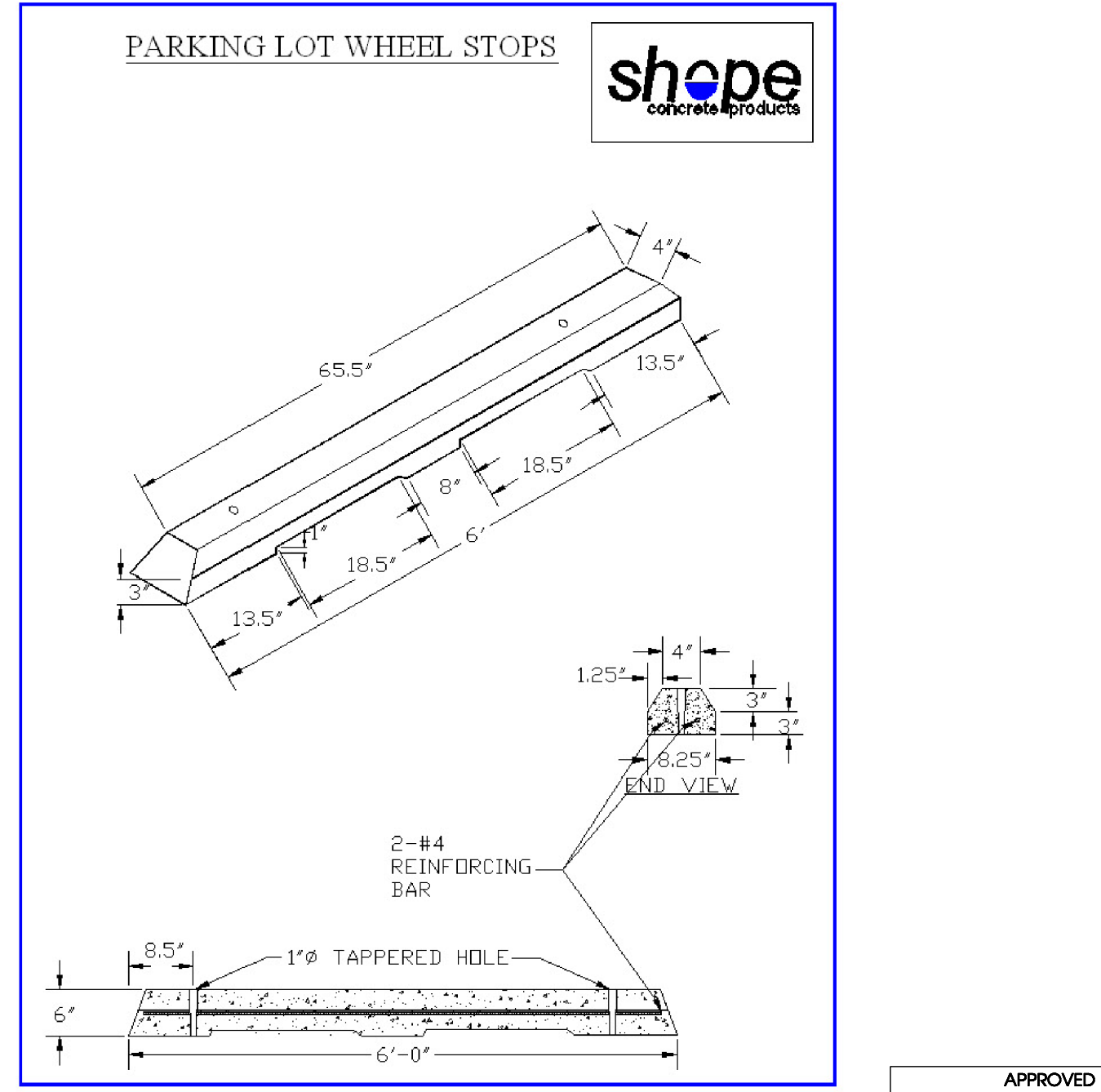
- NOTES:**
1. CONTRACTION JOINTS SHALL BE 3/8" x 1/2" ASPHALT SATURATED FELT PLACED IN ALL EXPOSED SURFACES OF CURB AND GUTTER AND SPACED AT 15' MAX. 10' MIN. O.C.
  2. THRU JOINTS SHALL BE 3/8" ASPHALT SATURATED FELT PLACED AT POINTS OF TRANSITION ON CURVES, AT CATCH BASINS, AND AT EDGES OF ALLEY AND 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 STEEL UNLESS PRIOR APPROVAL IS GIVEN BY THE CITY ENGINEER. 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.

<b>CITY OF PUYALLUP</b> DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS		<b>CURB AND GUTTER</b>	
DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20



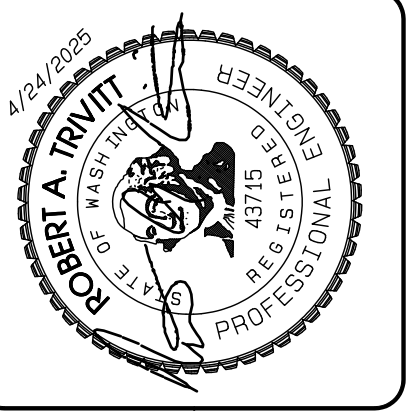
- NOTES:**
1. ALL MATERIALS SHALL BE SCHEDULE 40, GALVANIZED STEEL PIPE.
  2. PROTECTIVE FINISH SHALL BE HOT-DIPPED, GALVANIZED GRAY.
  3. CONTRACTOR TO INSTALL NO PARKING, FIRE LANE SIGN ON EACH SIDE OF GATE.
  4. CONTRACTOR TO INSTALL TYPE III REFLECTIVE STRIPING ON BOTH SIDES OF GATE. STRIPING SHALL BE ALTERNATING RED/WHITE STRIPES, 6" WIDE, AD 45° ANGLE.
  5. CONCRETE SHALL BE 3000 PSI.
  6. COORDINATE INSTALLATION OF KNOX PADLOCK WITH FIRE.

<b>CITY OF PUYALLUP</b> DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS		<b>GATE DETAIL</b> NOT TO SCALE	
DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20	DESIGNED BY: JIM BROWN, EYONDA CHECKED BY: LINDA LIAN APPROVED BY: COLLIER HARRIS DATE APPROVED: 01/01/20



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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.

<b>CITY OF PUYALLUP</b> DEVELOPMENT SERVICES		<b>APPROVED</b>	
BY: _____ DATE: _____	BY: _____ DATE: _____	BY: _____ DATE: _____	BY: _____ DATE: _____



REVISION	DATE
1. Revised per City review and Mail A adjustment.	11/26/24
2. Revised per City review.	3/4/25
3. Revised per City & Ashi review.	4/27/25
4.	
5.	
6.	
7.	
8.	
9.	
10.	

JOB NO. 2327 DATE: May 14, 2024 DESIGNED BY: JIM BROWN, EYONDA DRAWN BY: JIM BROWN, EYONDA APPROVED BY: COLLIER HARRIS	CITY STANDARD 01.01.20
--	---------------------------

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

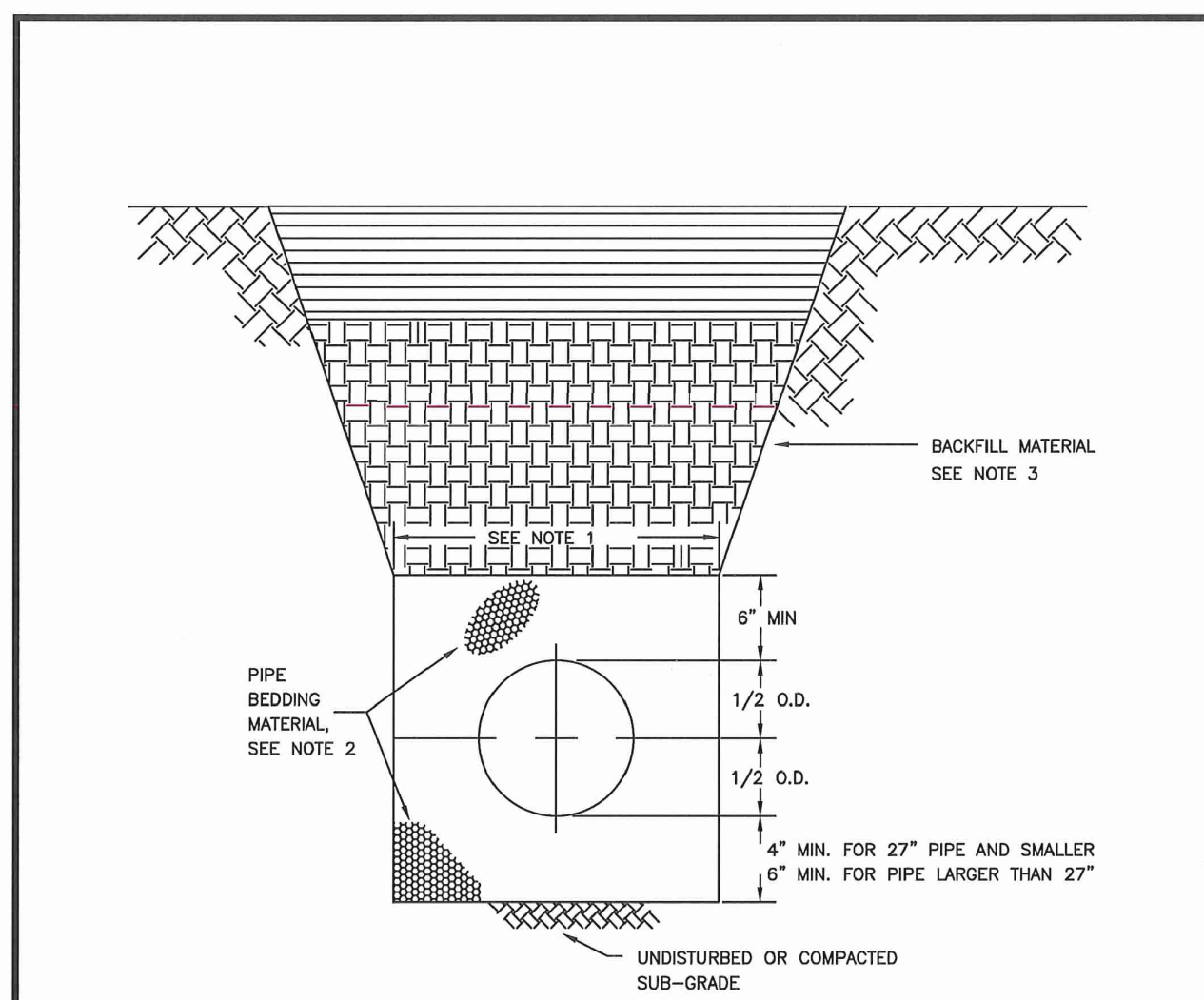
**Bradley Heights**  
 Timberline Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone: 509.898.0326  
 Fax: jordan@timberlinepartners.com

**DRAWING**  
**SD-17**  
 SHEET 31 OF 60



# Bradley Heights

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

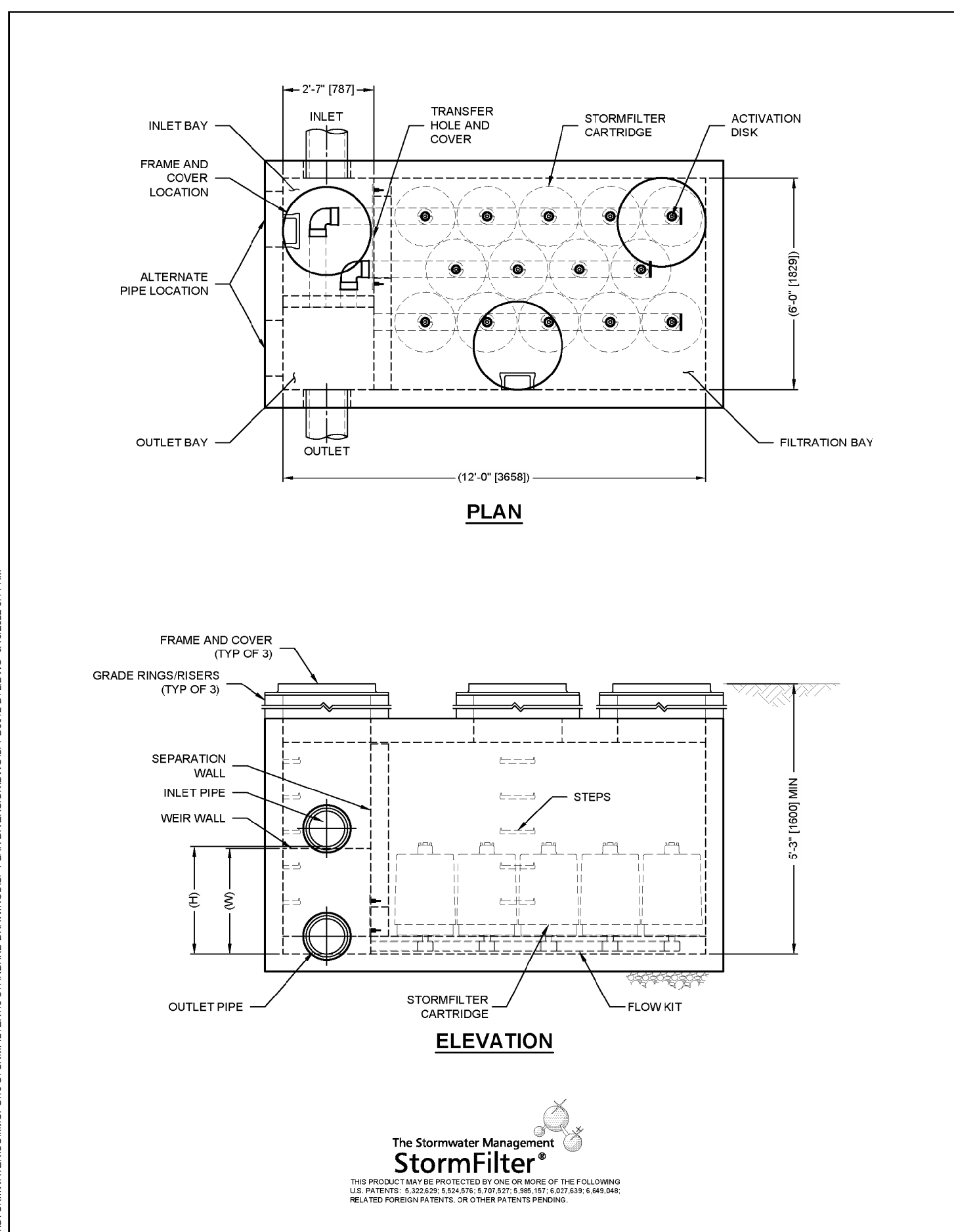


- TRENCHING SHALL MEET THE REQUIREMENTS OF SECTION 7-08.3(1) AND 2-06.3(1) OF THE WSDOT SPECIFICATIONS.
- BEDDING MATERIAL SHALL CONFORM TO 9-03.12(3) GRAVEL BACKFILL FOR PIPE ZONE BEDDING.
- GRAVEL BACKFILL SHALL CONFORM TO 9-03.12(1) GRAVEL BACKFILL FOR FOUNDATIONS, CLASS A.

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

**PIPE TRENCHING BEDDING AND BACKFILL**

DATE: **06.01.01**



### STORMFILTER DESIGN NOTES

- STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCALLY APPROVED SURFACE AREA SPECIFIC FLOW RATE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.
- A 6" x 12" (1524 x 3048) PEAK DIVERSION STYLE STORMFILTER IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (14) AND IS AVAILABLE IN A LEFT INLET (AS SHOWN) OR A RIGHT INLET CONFIGURATION.
- ALL PARTS AND INTERNAL ASSEMBLY PROVIDED BY CONTECH UNLESS NOTED OTHERWISE.

CARTRIDGE SIZE (in. [mm])	27 (686)	18 (457)	LOW DROP
RECOMMENDED HYDRAULIC DROP (ft. [mm])	2.06 (630)	2.3 (701)	1.8 (549)
HEIGHT OF WEIR (ft. [mm])	2 (1.36)	1.67 (1.13)	2 (1.36)
SPECIFIC FLOW RATE (gpm/[ft <sup>2</sup> L/min/m <sup>2</sup> )	2.2 (1.42)	1.87 (1.19)	2.1 (1.36)
CARTRIDGE FLOW RATE (gpm/[ft <sup>2</sup> L/min/m <sup>2</sup> )	2.2 (1.42)	1.87 (1.19)	2.1 (1.36)

\* 1.67 gpm/[ft<sup>2</sup> (1.13 L/min/m<sup>2</sup>) SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHORUS (PSORB) MEDIA ONLY.

### SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	WATER QUALITY FLOW RATE (cfs [L/s])	0.2872
PEAK FLOW RATE (cfs [L/s])	1.5944	
RETURN PERIOD OF PEAK FLOW (yrs)	100	
CARTRIDGE FLOW RATE	12.53	
CARTRIDGE SIZE (27, 18, LOW DROP [LD])	18	
MEDIA TYPE (PERLITE, ZPG, PSORB)	PSORB	
NUMBER OF CARTRIDGES REQUIRED	11	
INLET BAY RIM ELEVATION	383.59	
FILTER BAY RIM ELEVATION	383.87	

### PERFORMANCE SPECIFICATION

FILTER CARTRIDGES SHALL BE MEDIA FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7" (178). FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS. SPECIFIC FLOW RATE SHALL BE 2.2 GPM/FT<sup>2</sup> (1.36 L/MIN/M<sup>2</sup>) (MAXIMUM). SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (SF). MEDIA VOLUMETRIC FLOW RATE SHALL BE 6.0 GPM/IN<sup>3</sup> (13.3 L/MIN/M<sup>3</sup>) OF MEDIA (MAXIMUM).

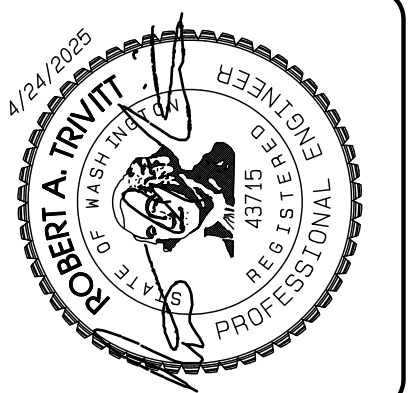
### GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH (1) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- ALTERNATE DIMENSIONS ARE IN MILLIMETERS (MM) UNLESS NOTED OTHERWISE.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. [www.conteches.com](http://www.conteches.com)
- STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO H20 LOAD RATING, ASSUMING EARTH COVER OF 0'-10" (3048) AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M208 AND BE CAST WITH THE CONTECH LOGO.

### INSTALLATION NOTES

- ANY SUBBASE BACKFILL DEPTH AND/OR ANTI-FLOTATION PROVISIONS ARE SITE SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND SUPPORT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION RELATED EROSION RUNOFF.
- CONTRACTOR TO REMOVE THE TRANSFER OPENING COVER WHEN THE SYSTEM IS BROUGHT ONLINE.

- ### STORMWATER 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 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 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 (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 which require removal or relocation relating to this project, shall be done so at the developer's expense.
  - During construction, all existing and newly installed drainage structures shall be protected from sediments.
  - All storm manholes shall conform to City Standard Detail No. 02.01.01. Flow control manhole/oil water separator shall conform to City Standard Detail No. 02.01.05 and 02.01.07.
  - Manhole ring and cover shall conform to City Standard Detail 06.01.02.
  - Catch basins Type I shall conform to City Standard Detail No.02.01.02 and 02.01.03 and shall be used only for depths less than 5 feet from top of the grate to the invert of the storm pipe.
  - Catch basins Type II shall conform to City Standard Detail No.02.01.04 and shall be used for depths greater than 5 feet from top of the grate to the invert of the storm pipe.
  - Cast iron or ductile iron frame and grate shall conform to City Standard Detail No.02.01.05. Grate shall be marked with drains to stream. Solid catch basin lids (square unless noted as round) shall conform to WSDOT Standard Plan B-30.20-04 (Olympic Foundry No. SM60 or equal). Vented grates shall conform to WSDOT Standard Plan B-30.30-03 (Olympic Foundry No. SM60 or equal).
  - Stormwater pipe shall be only PVC, concrete, ductile iron pipe, or dual walled Polypropylene pipe.
    - The use of any other type shall be reviewed and approved by the Engineering Services Staff prior to installation.
    - PVC pipe shall be per ASTM D3034, SDR 35 for pipe size 15-inch and smaller and F679 for pipe sizes 18 to 27 inch. Minimum cover on PVC pipe shall be 3.0 feet.
    - Concrete pipe shall conform to the WSDOT Standard Specifications for concrete underdrain pipe. Minimum cover on concrete pipe shall not less than 3.0 feet.
    - Ductile iron pipe shall be Class 50, conforming to AWWA C151. Minimum cover on ductile iron pipe shall be 10 feet.
    - Polypropylene Pipe (PP) shall be dual walled, have a smooth interior and exterior corrugations and meet WSDOT 9-05.24(d), 12-inch through 30-inch pipe shall meet or exceed ASTM F2736 and AASHTO M330, Type S, or Type D, 36-inch through 60-inch pipe shall meet or exceed ASTM F2881 and AASHTO M330, Type S, or Type D. Testing shall be per ASTM F1417. Minimum cover over Polypropylene pipe shall be 3-feet.
  - Trenching, bedding, and backfill for pipe shall conform to City Standard Detail No. 06.01.01.
  - Storm pipe shall be a minimum of 10 feet away from building foundations and/or roof lines.
  - All storm drain mains shall be tested and inspected for acceptance as outlined in Section 406 of the City of Puyallup Sanitary Sewer System Standards.
  - All temporary sedimentation and erosion control measures, and protective measures for critical areas and significant trees shall be installed prior to initiating any construction activities.



REVISION	DATE	BY	DESCRIPTION
1	11/26/24	TRIVITT	REVISED PER CITY REVIEW AND MAIL A. ADJUSTMENT.
2	3/1/25	TRIVITT	REVISED PER CITY REVIEW.
3	4/21/25	TRIVITT	REVISED PER CITY & RUSH REVIEW.
4			
5			
6			
7			
8			
9			
10			

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

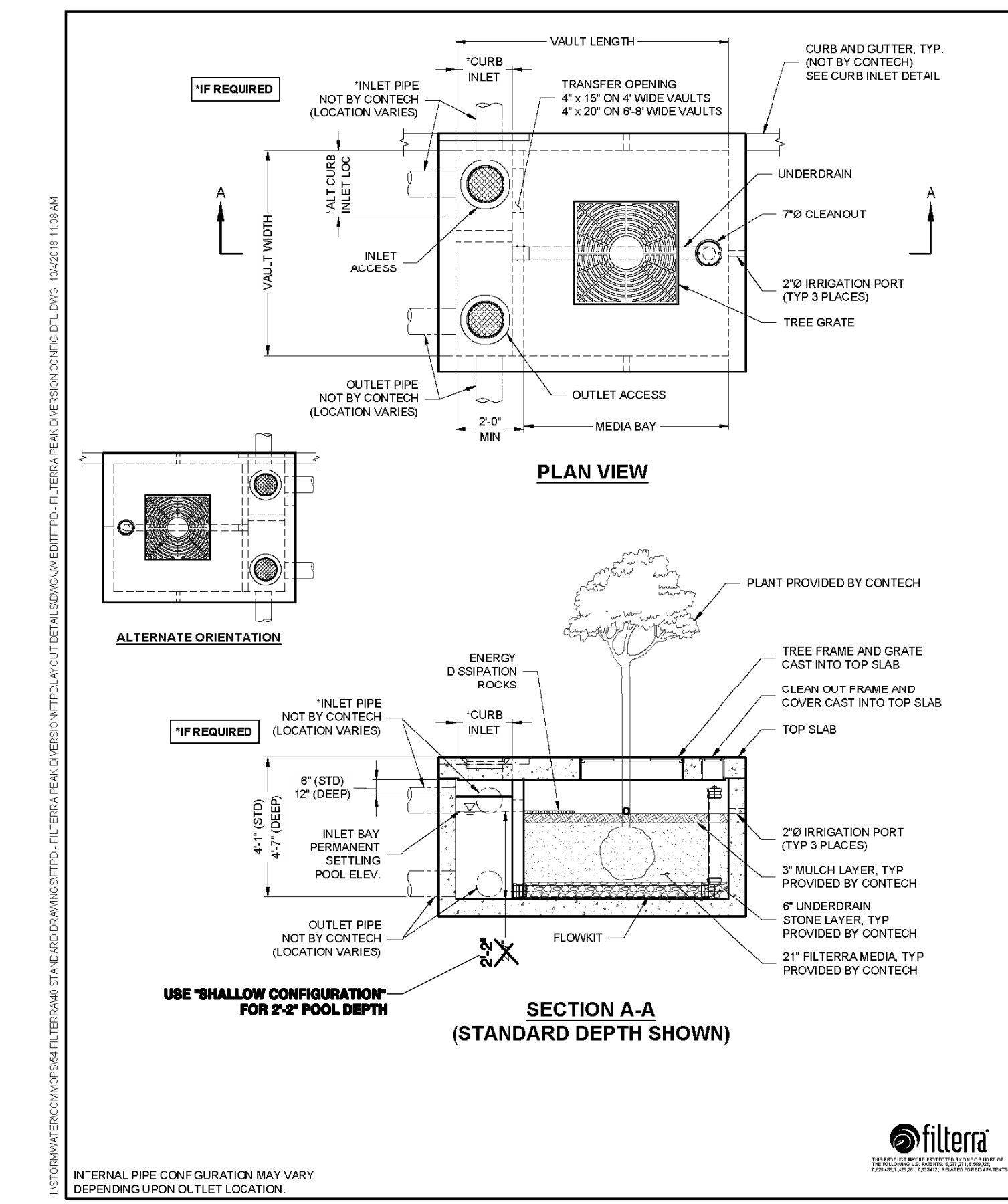
409 East Pioneer, Suite A • Puyallup, WA 98372  
phone: 253.770.3144 fax: 253.770.3142

**Storm Details**

**Bradley Heights**

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

**DRAWING**  
**SD-19**  
SHEET 33 OF 60



### FTPD STANDARD HEIGHT CONFIGURATION

DESIGNATION (OPTIONS - P, -T, -PT)	AVAILABILITY	MEDIA BAY SIZE	VAULT SIZE (W x L)	WEIR LENGTH/ MAX CURB OPENING	*MAX BYPASS FLOW (CFS)	INLET/ OUTLET ACCESS DIA.	TREE GRATE QTY & SIZE
FTPD0404	N/A CA	4 x 4	4 x 4	1'-6"	1.4	12"12"	(1) 3' x 3'
FTPD0406	CA ONLY	4 x 6	4 x 6	1'-6"	1.4	12"12"	(1) 3' x 3'
FTPD0408	N/A MID-ATL	4 x 8	4 x 8	1'-6"	1.4	12"12"	(1) 3' x 3'
FTPD0408-D	MID-ATL ONLY	4.5 x 5.83	4.5 x 7.83	1'-6"	1.4	12"12"	(1) 3' x 3'
FTPD0604	ALL	6 x 4	6 x 6	1'-6"	1.4	12"12"	(1) 3' x 3'
FTPD0606	ALL	6 x 6	6 x 6	1'-6"	1.4	12"12"	(1) 3' x 3'
FTPD0608	ALL	6 x 8	6 x 10	1'-6"	1.4	12"12"	(1) 4' x 4'
FTPD0810	ALL	6 x 10	6 x 12	1'-6"	1.4	12"12"	(1) 4' x 4'
FTPD1010	ALL	7 x 10	7 x 13	2'-0"	2.1	24"24"	(1) 4' x 4'
FTPD0810S	ALL	8 x 10.5	8 x 14	3'-0"	2.5	24"24"	(1) 4' x 4'
FTPD0812S-D	ALL	8 x 12.5	8 x 16	3'-0"	2.5	24"24"	(1) 4' x 4'

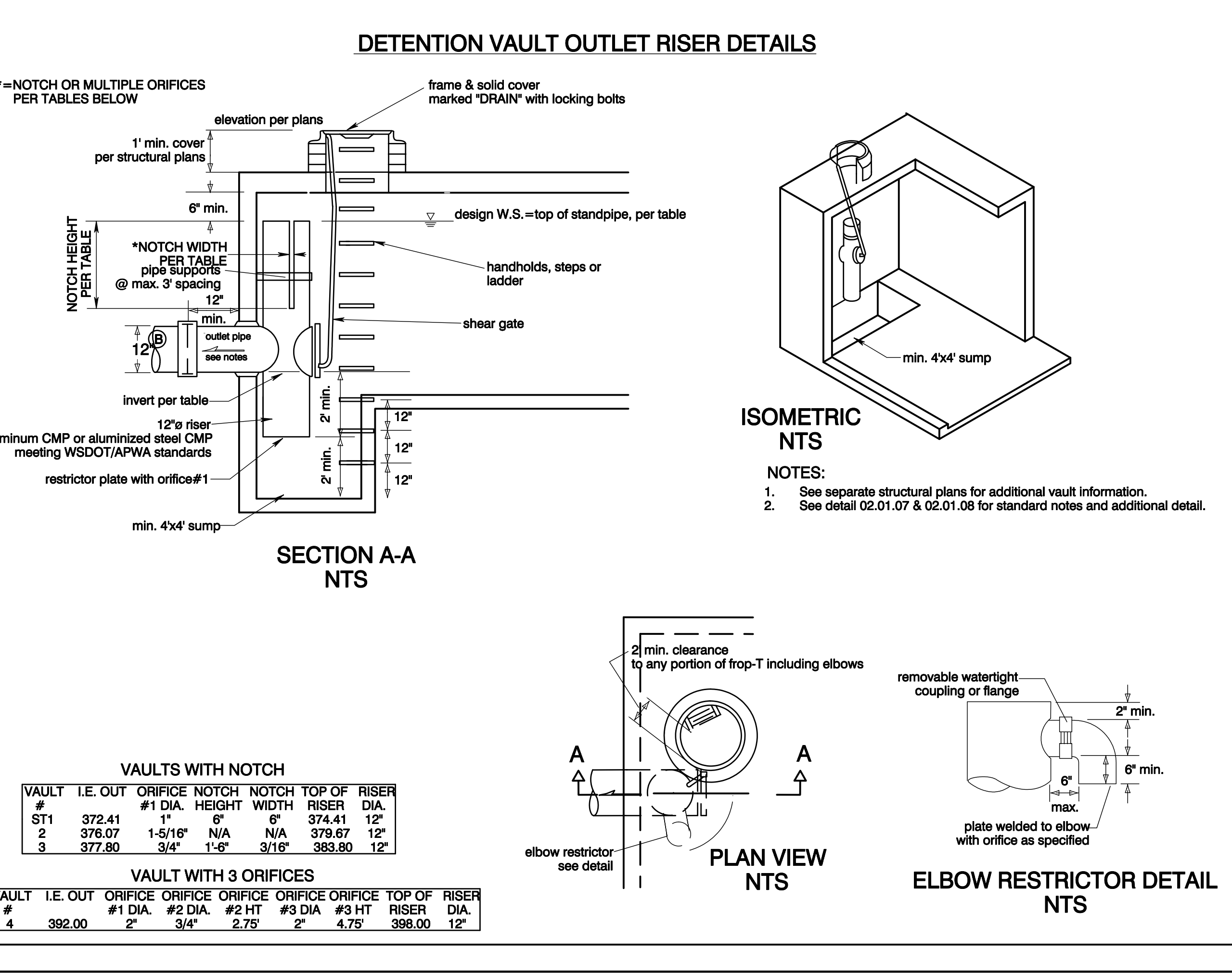
N/A = NOT AVAILABLE

### FTPD-D DEEP OPTION CONFIGURATION

DESIGNATION (OPTIONS - P, -T, -PT)	AVAILABILITY	MEDIA BAY SIZE	VAULT SIZE (W x L)	WEIR LENGTH/ MAX CURB OPENING	*MAX BYPASS FLOW (CFS)	INLET/ OUTLET ACCESS DIA.	TREE GRATE QTY & SIZE
FTPD0810-D	N/A CA	4 x 4	4 x 4	1'-6"	4.6	12"12"	(1) 3' x 3'
FTPD0810S-D	CA ONLY	4 x 4	4 x 4	1'-6"	4.6	12"12"	(1) 3' x 3'
FTPD0608-D	N/A MID-ATL	4 x 6	4 x 6	1'-6"	4.6	12"12"	(1) 3' x 3'
FTPD0608S-D	MID-ATL ONLY	4.5 x 5.83	4.5 x 7.83	1'-6"	4.6	12"12"	(1) 3' x 3'
FTPD0810S-D	ALL	6 x 4	6 x 6	1'-6"	4.6	12"12"	(1) 3' x 3'
FTPD0810S-D	ALL	6 x 6	6 x 6	1'-6"	4.6	12"12"	(1) 3' x 3'
FTPD0810S-D	ALL	6 x 8	6 x 10	1'-6"	4.6	12"12"	(1) 4' x 4'
FTPD0810S-D	ALL	6 x 10	6 x 12	1'-6"	4.6	12"12"	(1) 4' x 4'
FTPD1010S-D	ALL	7 x 10	7 x 13	2'-0"	8.8	24"24"	(1) 4' x 4'
FTPD0812S-D	ALL	8 x 10.5	8 x 14	3'-0"	8.2	24"24"	(1) 4' x 4'
FTPD0812S-D	ALL	8 x 12.5	8 x 16	3'-0"	8.2	24"24"	(1) 4' x 4'

N/A = NOT AVAILABLE

\*MAX BYPASS FLOW IS INTERNAL WEIR FLOW. SITE SPECIFIC ANALYSIS IS REQUIRED TO DETERMINE CURB INLET FLOW CAPACITY



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.

# Bradley Heights

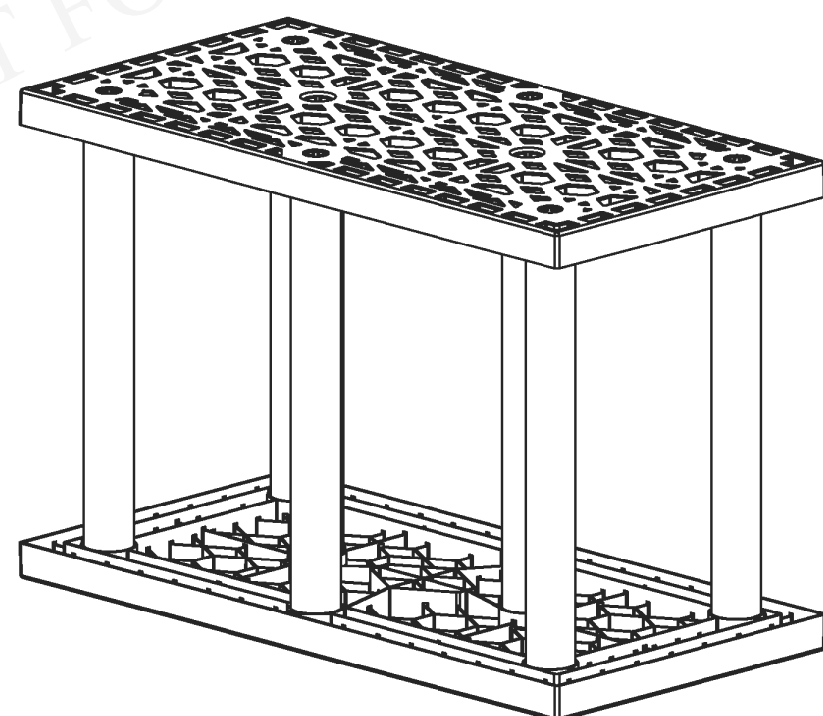
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



## 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

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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

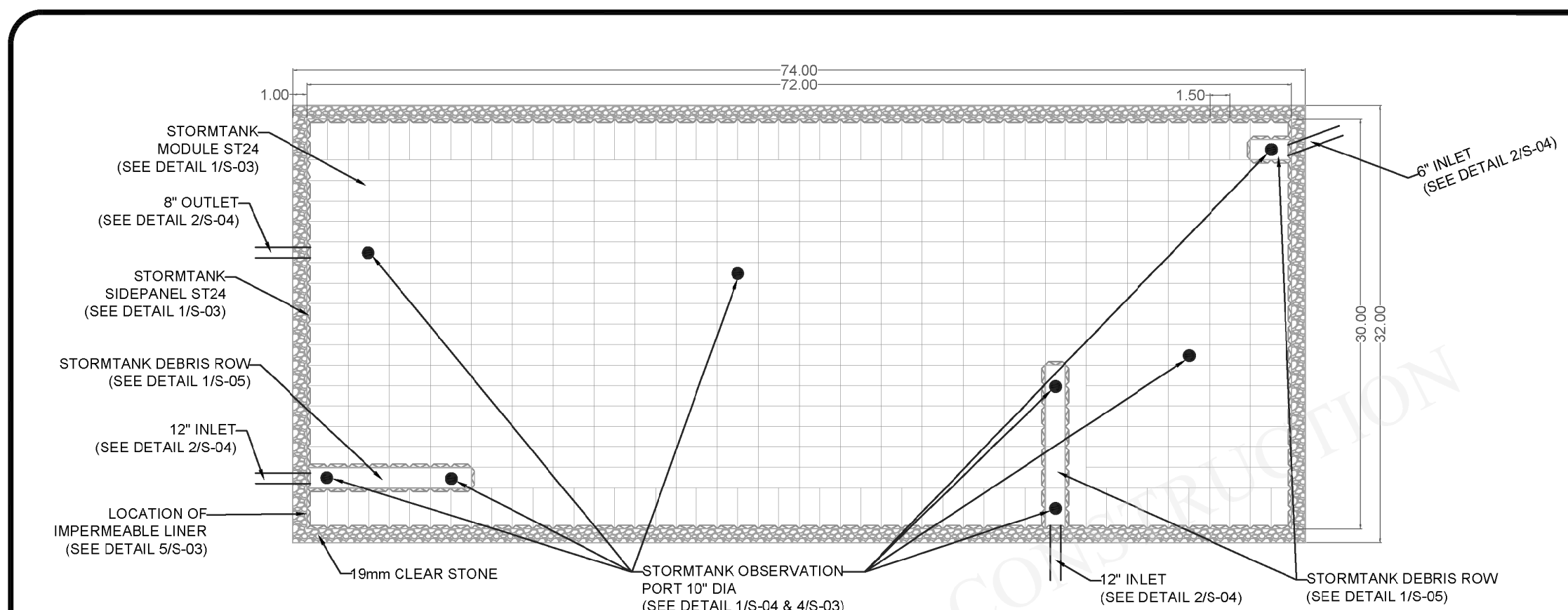
REV	Record of Changes	Date	By
△	Preliminary Drawing	15SEP2023	AK
△	Task Re-Design	08NOV2024	GM

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

#### SINGLE STACK MODULE SYSTEM

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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

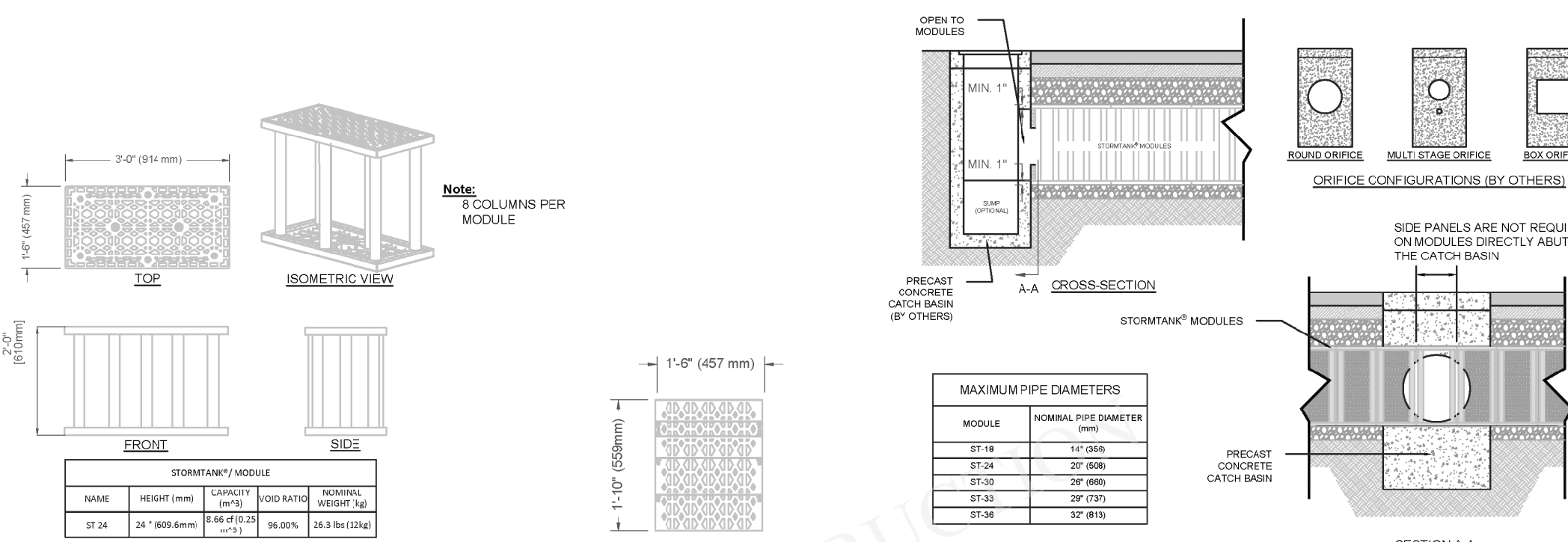
REV	Record of Changes	Date	By
△	Preliminary Drawing	15SEP2023	AK
△	Task Re-Design	08NOV2024	GM

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

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02 OF 07

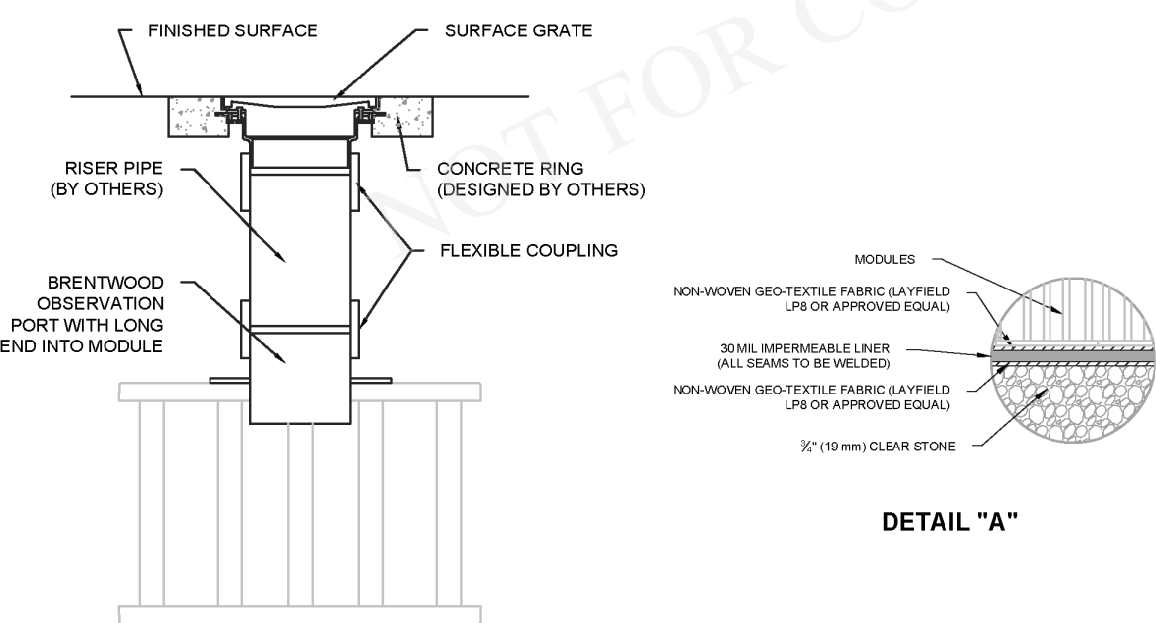
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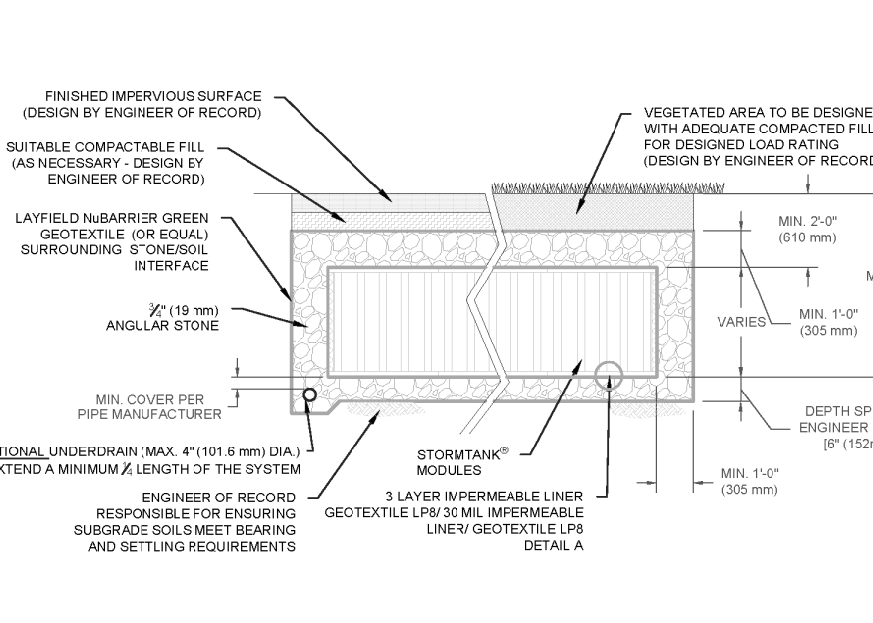
1 S-03 24" (610 mm) MODULE DETAIL

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



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

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Bradley Heights Apartments  
Puyallup, WA

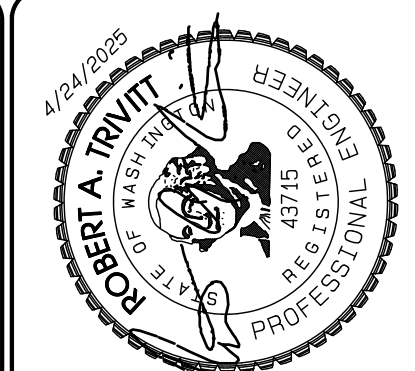
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Drawn by	AK	Checked by	JF
Scale	NTS	Date	19SEP2023

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03 OF 07

ANSI B Size Page (Horizontal)



REVISION	DATE
1	11/15/24
2	3/4/25
3	4/21/25
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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

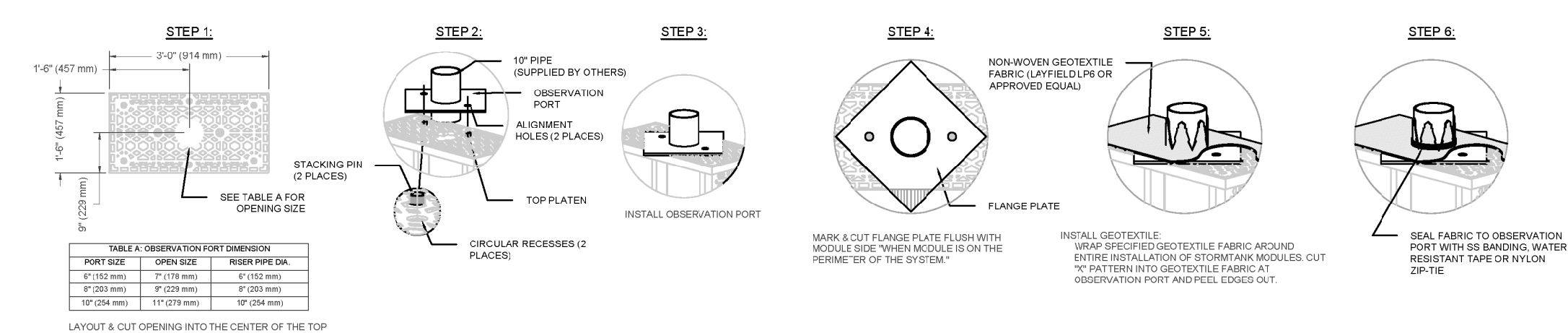
**StormTank Details**  
Bradley Heights  
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA, 98122  
Phone 509.896.0326  
Fax jordan@timberlanepartners.com

**DRAWING**  
**SD-20**  
SHEET 34  
OF 60

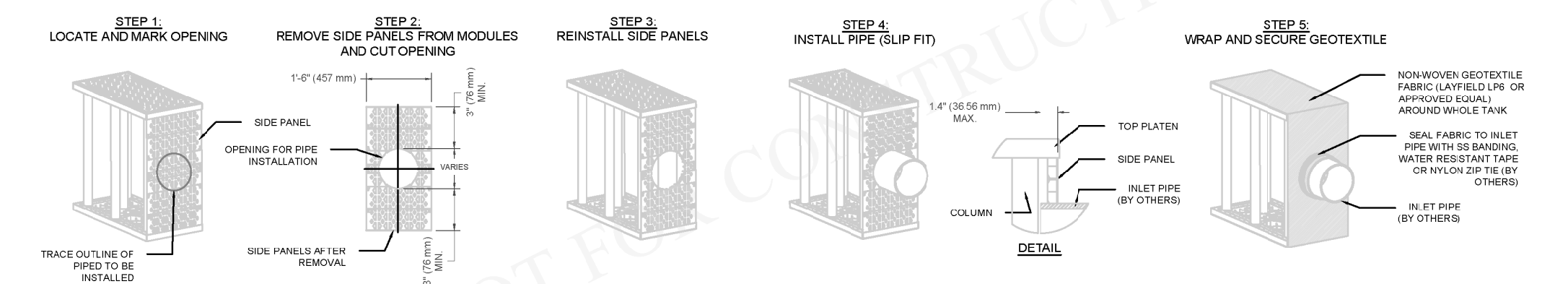
Project: Date: C: Bradley Heights - Bradley Heights Apartments - Brentwood Stormtank Details - 4/24/2025/06:12:33PM

# Bradley Heights

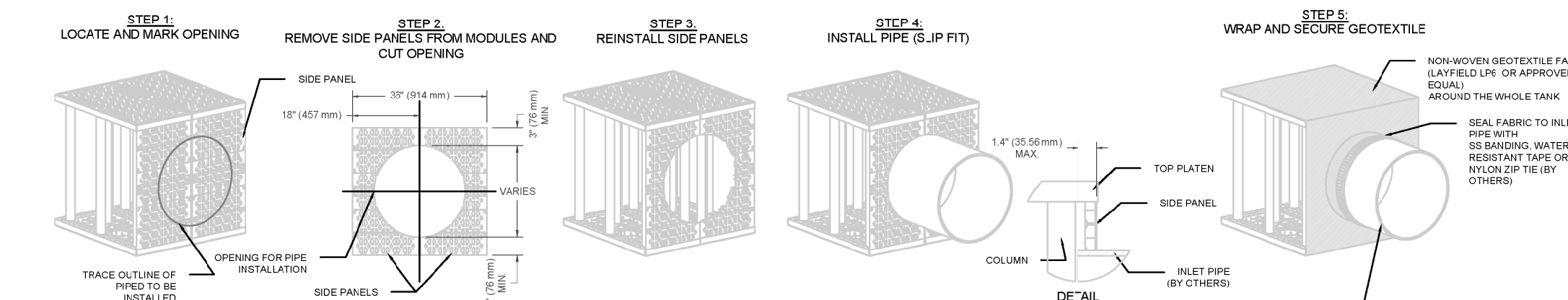
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



1 TYP. OBSERVATION PORT INSTALLATION DETAIL



2 SMALL DIAMETER (14" [356 mm] AND SMALLER) PIPE CONNECTION DETAIL



3 LARGE DIAMETER (15" [381 mm] AND GREATER) PIPE CONNECTION DETAIL

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LAYFIELD 1901 Raymond Ave. S.W. Suite B Renton, WA 98057 Ph: (425)-254-1075 scattle@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	NudBarrier 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
Δ	Preliminary Drawing	19SEPT2023	AK
Δ	Task Re-Design	08NOV2024	GM

Project Number: OP2023-7367

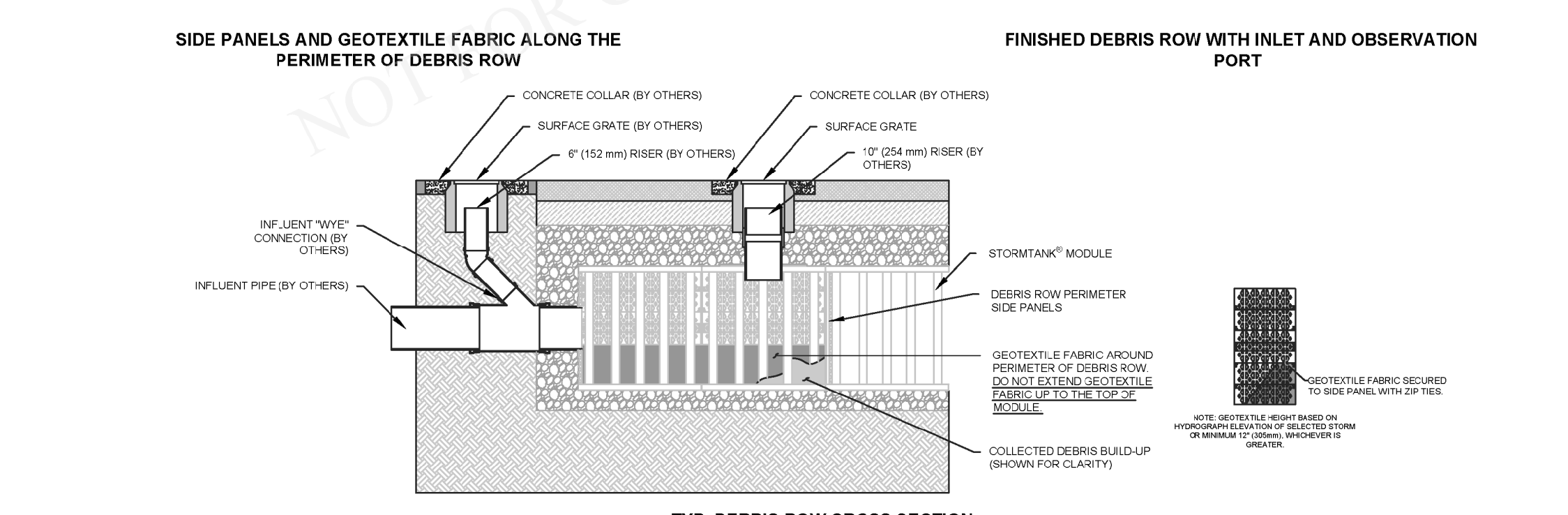
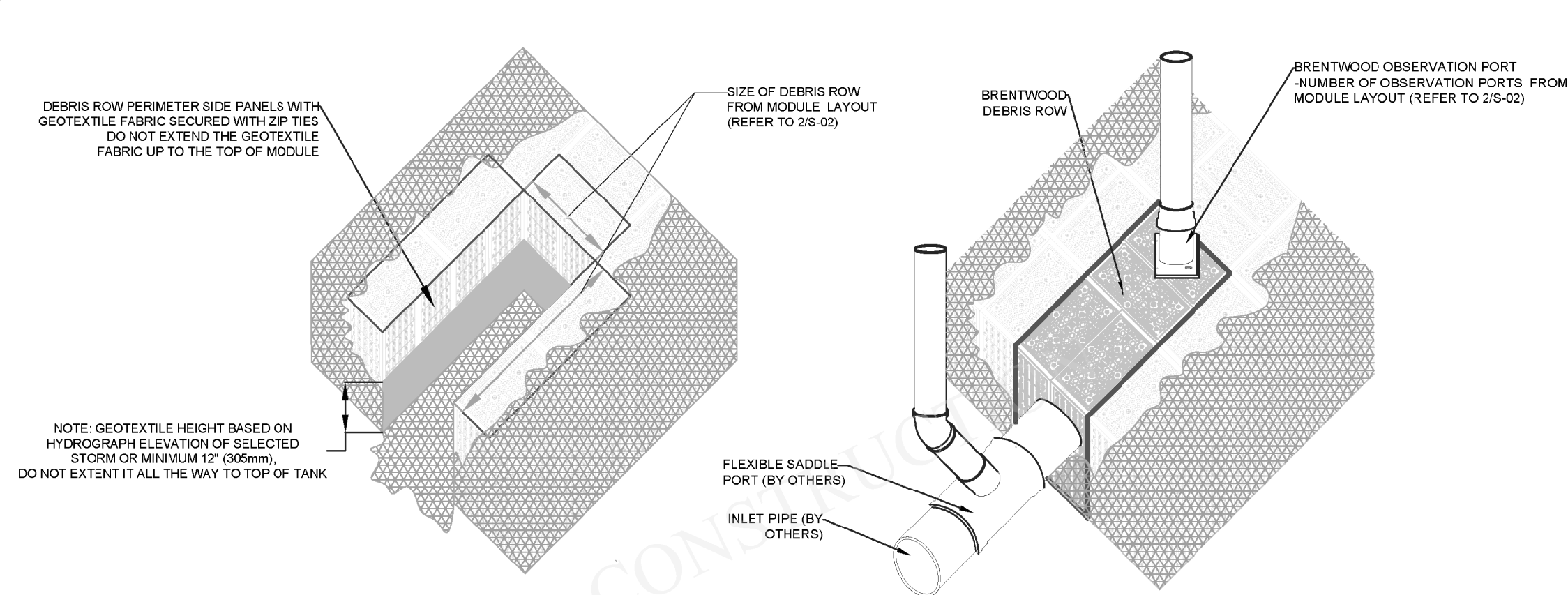
Page Name: TYP. Pipe Penetration Details

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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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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ANSI B Size Page (Horizontal)

**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 size 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.

**SIDE PANEL**

- If side panels are required, firmly tap the top platen upward to raise the top platen. Insert the side panel into the bottom platen.
- Align the top of the side panel with the top platen and firmly seat the top platen utilizing a rubber mallet.

**GENERAL NOTES:**

- Remove packaging material and check for any damage. Report any damaged components to a StormTank® Distributor or Brentwood personnel.
- StormTank® components are backed by a one year warranty, when installed per manufacturer's recommendations.

**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.

\* The Engineer of Record shall reference Brentwood StormTank Module Installation document Appendix A for minimum soil bearing capacity required based on Load Rating and top cover depth. Minimum soil bearing capacity is required so that settlements are less than 1" through the entire sub-grade and do not exceed long-term 1/2" differential settlement between any two adjacent units within the system. Sub-grade must be designed to ensure soil bearing capacity is maintained throughout all soil saturation levels.

**4.0 Leveling Bed Installation**

- 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.

- 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.
- Correct any unsatisfactory conditions.

**5.0 StormTank® Module Placement**

- 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.
- Mark the footprint of the modules for placement.
  - Ensure module perimeter outline is square or similar prior to Module placement.
  - Care should be taken to note any connections, ports or other irregular units to be placed.
- 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.
- Install the modules to completion, taking care to avoid damage to the geotextile and/or liner material.
- 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

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Estimated Liner	5,254 ft <sup>2</sup>
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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
Δ	Preliminary Drawing	19SEPT2023	AK
Δ	Task Re-Design	08NOV2024	GM

Project Number: OP2023-7367

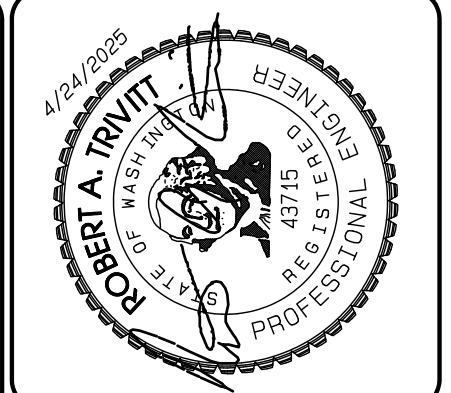
Page Name: Supplementary Notes

Drawn by: AK Checked by: JF

Scale: NTS Date: 19SEPT2023

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REVISION	DATE	BY
1	11/16/24	AK
2	3/4/25	AK
3	4/21/25	AK
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DESIGNED BY: JF  
DRAWN BY: AK  
CHECKED BY: JF  
APPROVED BY: GM

JOB NO: 2307

DATE: May 14, 2024

DESIGNED BY: JF

DRAWN BY: AK

CHECKED BY: JF

APPROVED BY: GM

**AZURE GREEN CONSULTANTS**

feasibility • planning • engineering • surveying

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Phone: 253.770.3144 Fax: 253.770.3142

**StormTank Details**

Bradley Heights

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

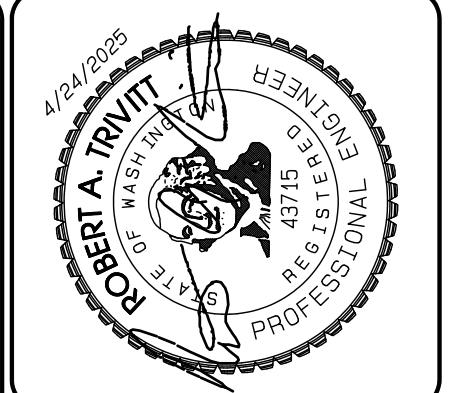
**DRAWING**

**SD-21**

SHEET 35  
OF 60

# 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 Seres 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.

**STORMTANK®** TECH BULLETIN

Revision 2 02/09/21

**StormTank® Module 25 Series Construction Equipment**

**Background**

To provide clarity on construction equipment that can travel over a StormTank Module system during construction, the below table has been created. This table is not all inclusive and evaluation by the contractor on a case-by-case equipment may be necessary before proceeding.

Cover Depth	Wheel Load (Vehicle and Equipment)		Maximum Tracked Equipment		Roller Loads	
	Maximum	Minimum	Track Width	Maximum Weight (Including material)	Maximum Drum Weight	Maximum Drum Weight
6 in.	Not Permitted	Not Permitted	N/A	LGP Equipment (≤ 10,000 lbs)	Not Permitted	Not Permitted
12 in.	6,500 lbs.	4,000 lbs.	24 in.	30,000 lbs.	30,000 lbs.	< 150 psi
18 in.	11,000 lbs.	14,500 lbs.	24 in.	30,000 lbs.	30,000 lbs.	(Static Only)
			36 in.	40,000 lbs.	60,000 lbs.	
24 in.	15,000 lbs.	20,000 lbs.	24 in.	40,000 lbs.	40,000 lbs.	
			36 in.	50,000 lbs.	60,000 lbs.	(Including Dynamic)

**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.

- 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

Page 1 of 1

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Minimum Excavation Required	394.67 yd <sup>3</sup>
Minimum Excavation Depth	4.50 ft
Stone Void Space	2 <sup>nd</sup> Clear Stone 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: DP2023-7367

Supplementary Notes

Drawn by: AK	Checked by: JF
Date: NTS	Date: 19SEP2023

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Sheet: **07 OF 07**

ANSI B Size Page (Horizontal)

**CONTECH ENGINEERED SOLUTIONS LLC**

**STORMFILTER DESIGN NOTES**

- CONCRETE CATCHBASIN STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCAL APPROVALS
- PEAK CONVEYANCE CAPACITY IS 1.3 CFS
- CONCRETE CATCHBASIN STORMFILTER IS AVAILABLE WITH UP TO TWO (2), 18" (457) OR 27" (686) TALL CARTRIDGES
- UP TO 4 INDIVIDUAL UNITS MAY BE LINKED FOR AN ULTIMATE CAPACITY OF EIGHT (8) CARTRIDGES

CARTRIDGE SIZE (in. (mm))	27 (686)	18 (457)
ACTIVATION HEAD (ft. (mm))	3.05 (930)	3.10 (945)
SPECIFIC FLOW RATE (gpm/(ft <sup>2</sup> (m <sup>2</sup> )))	2.11 (56)	1.87 (47)
CARTRIDGE FLOW RATE (gpm (L/s))	18.79 (1.19)	16.95 (0.94)
	12.53 (0.79)	7.57 (0.44)

\* 1.67 (gpm/ft<sup>2</sup>) (1.13 (L/s/m<sup>2</sup>)) SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

LINKING OPTIONS SHOWN BELOW. FLEXIBLE INLET PIPE, GRATED AND SOLID COVER PLACEMENT. MAXIMUM HEIGHT FOR LINKED UNITS VARIES. CONTACT YOUR CONTECH REPRESENTATIVE FOR MORE INFORMATION.

QUAD UNIT, TRIPLE UNIT, PAIR UNIT, SINGLE UNIT

GENERAL NOTES:

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH (1) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- ALL DIMENSIONS ARE IN MILLIMETERS (MM) UNLESS NOTED OTHERWISE.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE: [www.conteches.com](http://www.conteches.com)
- STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- FILTER CARTRIDGES SHALL BE MEDIA FILLED, PASSIVE, SIMON ACTUATED, RADIAL FLOW AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7 INCHES (178). FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
- SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM (L/S)) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (SF (M<sup>2</sup>)).
- STRUCTURE SHALL MEET AASHTO H2020 LOAD RATING, ASSUMING EARTH COVER OF 0' ± 0.2' (0) AND GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M589 AND BE CAST WITH THE CONTECH LOGO.

INSTALLATION NOTES:

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
- CONTRACTOR TO PROVIDE AND INSTALL PIPES. MATCH PIPE INVERTS SHOWN ON PROJECT SPECIFIC DRAWINGS.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION RELATED EROSION RUNOFF.

**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID	SFCR 27-1
WATER QUALITY FLOW RATE (cfs (L/s))	0.0711
PEAK FLOW RATE (cfs (L/s))	0.8285
RETURN PERIOD OF PEAK FLOW (yrs)	100
CARTRIDGE SIZE (Z (ft. (m)))	27
CARTRIDGE FLOW RATE	18.79
MEDIA TYPE (PERLITE, ZPG, PSORB)	PSORB
NUMBER OF CARTRIDGES REQUIRED	2
RIM ELEVATION	375.57
PIPE DATA	
INLET PIPE 1	INVERT MATERIAL DIAMETER
INLET PIPE 2	372.51 DI 12"
OUTLET PIPE	372.01 DI 12"

NOTES: SPECIAL REQUIREMENTS:

**CONTECH ENGINEERED SOLUTIONS LLC**  
www.conteches.com  
11815 NE Glenn-Wading Drive, Portland, OR 97220  
503-548-6667 503-240-3393 800-561-1271 FAX

MACARTHUR STUDIO - 662238-010  
CONCRETE CATCHBASIN STORMFILTER

**HANDRAIL AT RAMP**

HANDRAIL O.D. 1-1/4" MIN. TO 2" MAX.

44" MIN. CLEAR

34"± CONSISTENT ALONG LENGTH OF RAMP

12" MIN.

6" RAMP

SLEEVE 6" LONG EPOXY GROUT RAIL INTO SLEEVE

**TOP AND BOTTOM HANDRAIL EXTENSIONS**

12" MIN.

**RAILING DETAILS**  
NOT-TO-SCALE

**MANHOLE LADDER**

LADDER TO HANG FROM MANHOLE STEP

28" MAX TO LAST RUNG

5 1/2"

TWO FOOT MAX

11 1/2"

12"

57"

12" MIN TO FIRST RUNG

**PREFABRICATED POLY LADDER**

Vault ladder shall be a lane poly ladder or an approved equal, meeting the requirements of ASTM C-478, A-615, D4101 and AASHTO M-199

RAIL 9/16" GRADE 60 ROUND BAR

RUNG 1/2" GRADE 60 REBAR

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

DATE	BY	FOR	DATE	BY	FOR	CITY
06.01.04						

**REVISION**

NO.	DATE	DESCRIPTION
1	11/19/24	REVISED PER CITY REVIEW AND MAIL A. ADJUSTMENT.
2	3/4/25	REVISED PER CITY REVIEW.
3	4/21/25	REVISED PER CITY & RUSH REVIEW.
4		
5		
6		
7		
8		
9		
10		

**DATE:** 11/19/24

**DESIGNED BY:** Rob Trovitt

**DRAWN BY:** Rob Trovitt

**CHECKED BY:** Rob Trovitt

**APPROVED BY:** Rob Trovitt

**JOB NO:** 23027

**DATE:** May 14, 2024

**DESIGNED BY:** Rob Trovitt

**DRAWN BY:** Rob Trovitt

**CHECKED BY:** Rob Trovitt

**APPROVED BY:** Rob Trovitt

**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

**DRAWING**  
**SD-22**  
SHEET 36 OF 60

**APPROVED**

BY: CITY OF PUYALLUP DEVELOPMENT SERVICES

DATE:

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

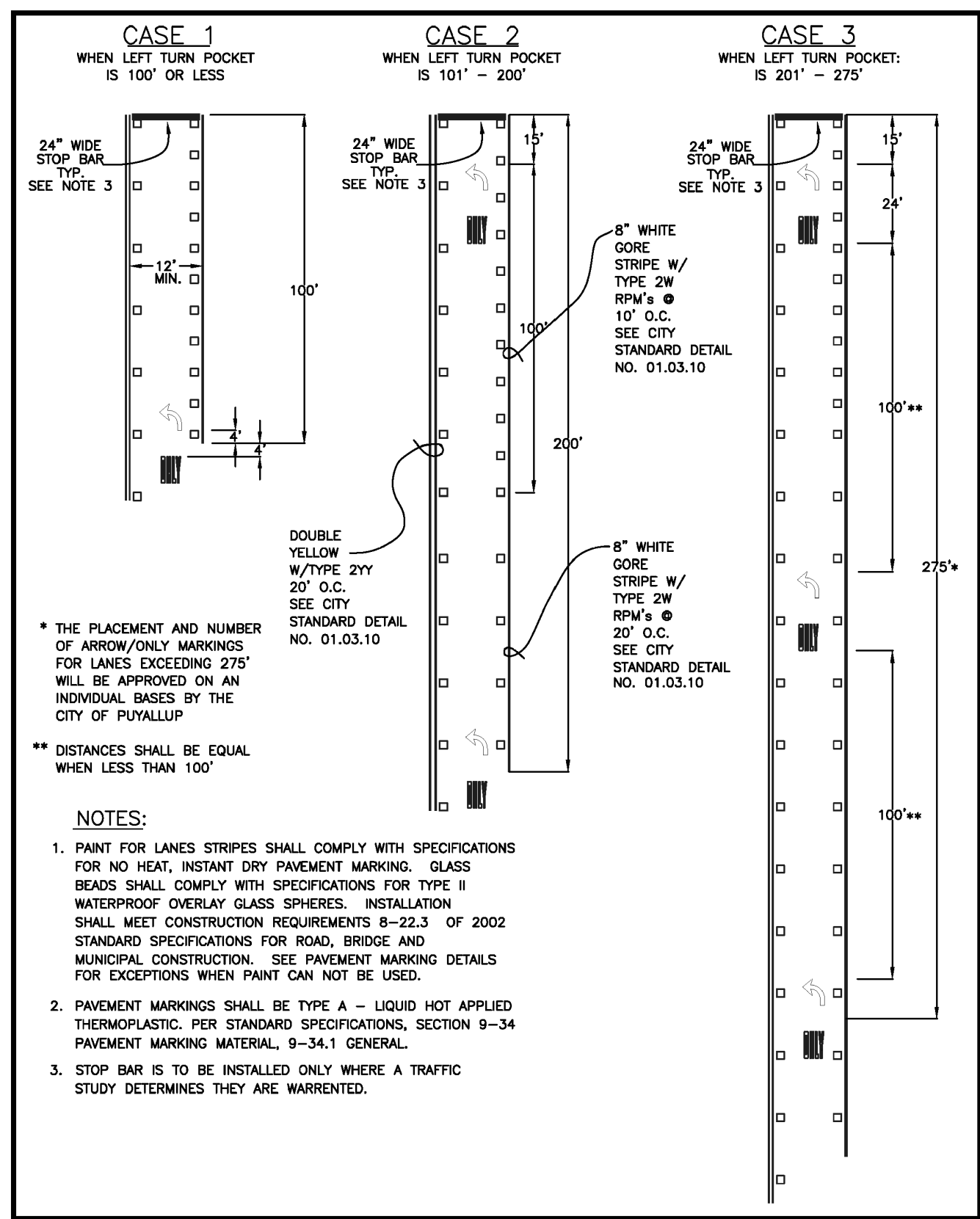
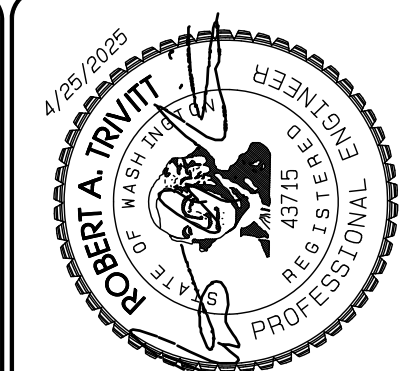
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.

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

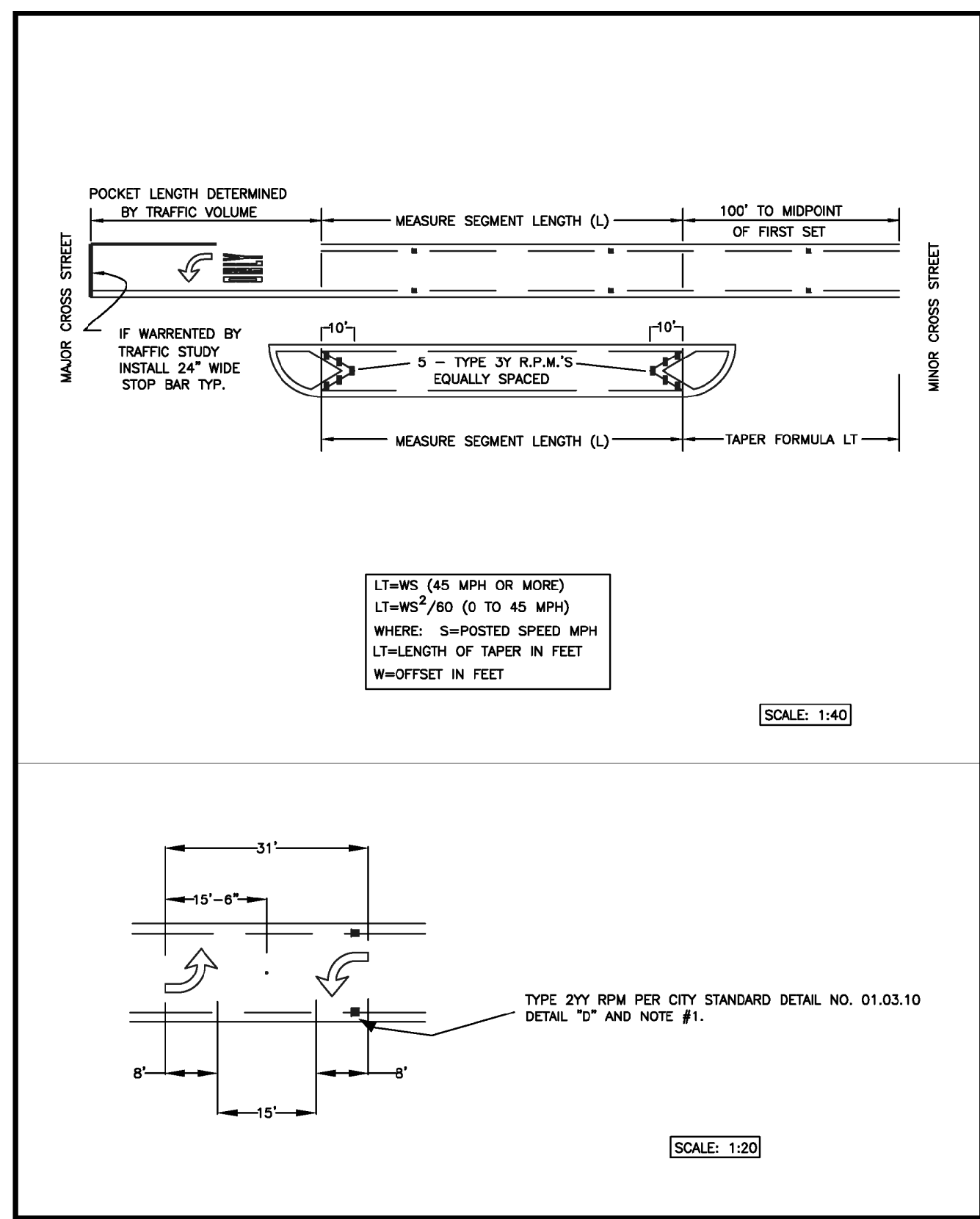


# Bradley Heights

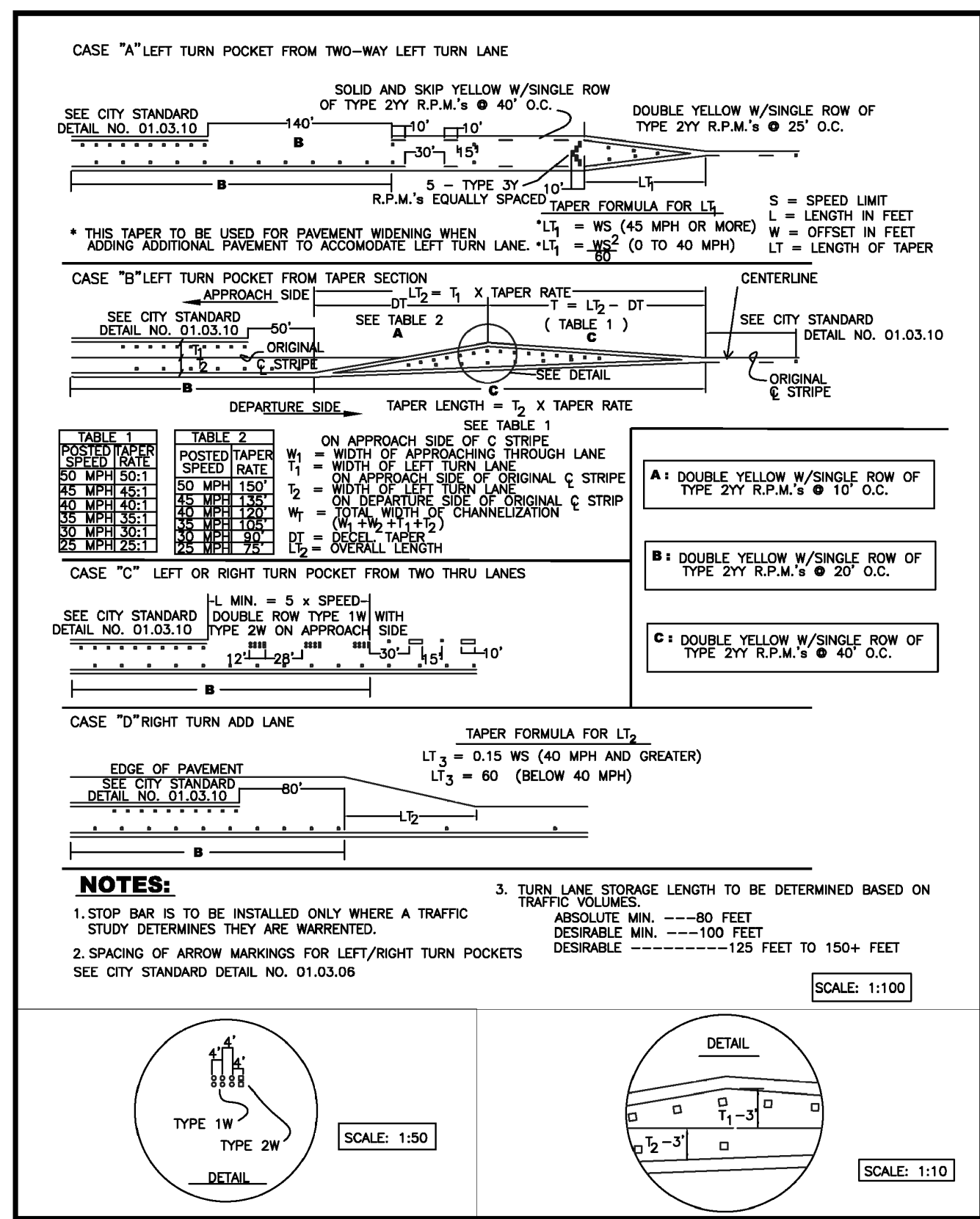
## Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



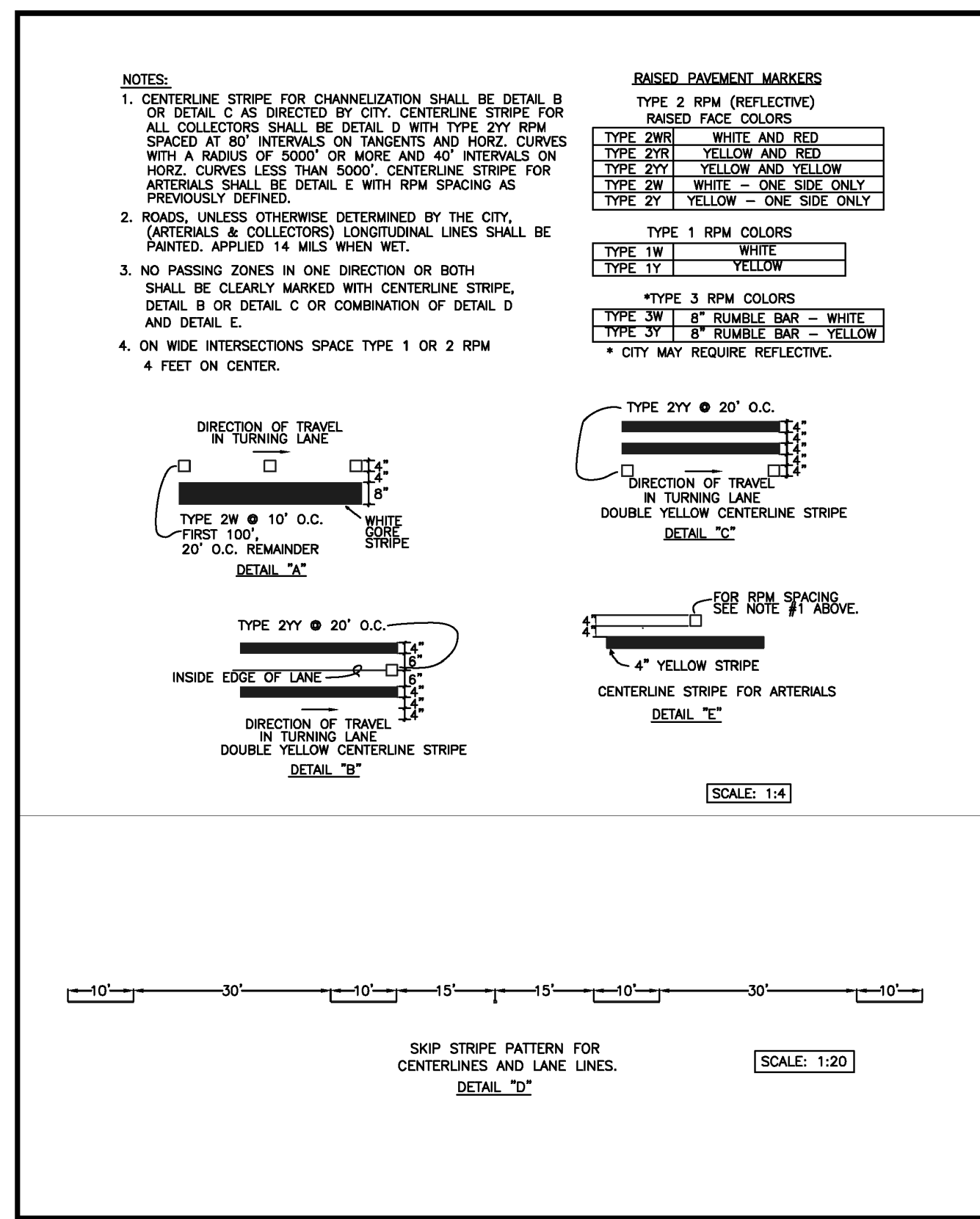
<b>CITY OF PUYALLUP</b>	<b>LEFT/RIGHT TURN POCKET ARROW AND ONLY LAYOUT</b>
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS DRAWN BY: JIM FRYER/EVERUDA CHECKED BY: LINDA LIAN FILE NAME: P:\PROJECTS\BRADLEYHEIGHTS\010310\010310.DWG DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.06	APPROVED BY: COLLIER HARRIS APPROVED BY: TONYA DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.06



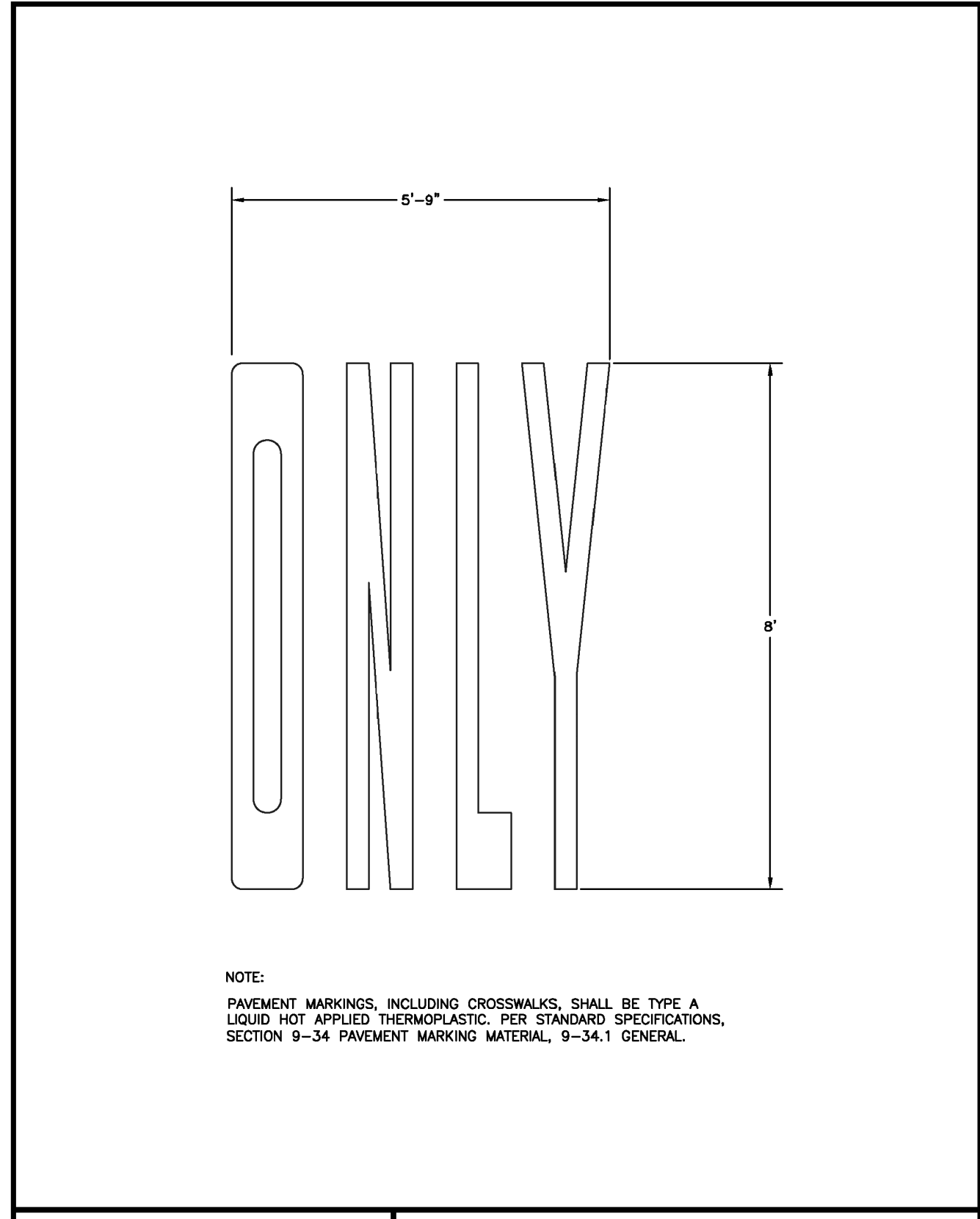
<b>CITY OF PUYALLUP</b>	<b>TWO-WAY LEFT TURN CHANNELIZATION (CONT.)</b>
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS DRAWN BY: JIM FRYER/EVERUDA CHECKED BY: LINDA LIAN FILE NAME: P:\PROJECTS\BRADLEYHEIGHTS\010310\010310.DWG DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.08	APPROVED BY: COLLIER HARRIS APPROVED BY: TONYA DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.08



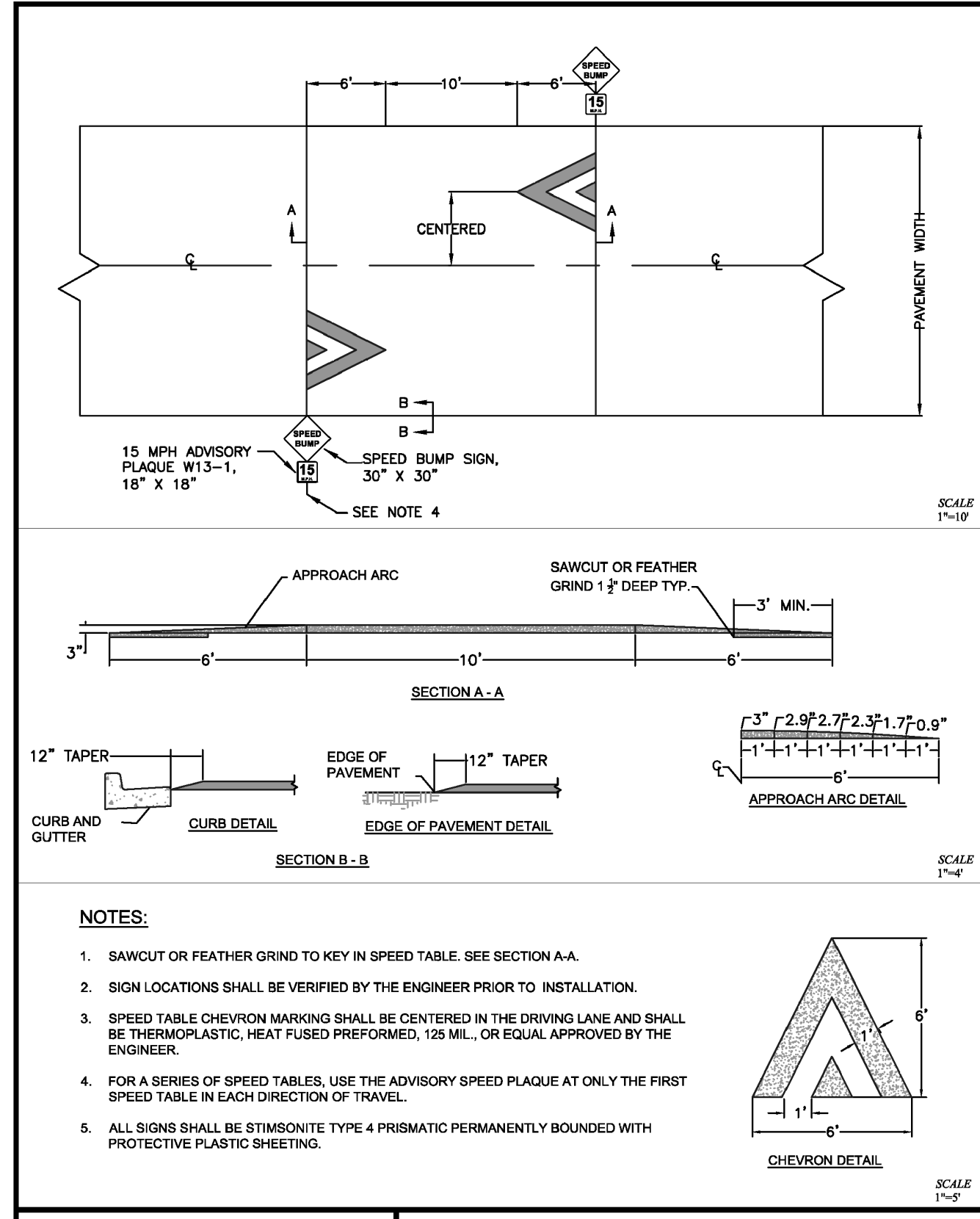
<b>CITY OF PUYALLUP</b>	<b>LEFT TURN POCKETS</b>
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS DRAWN BY: JIM FRYER/EVERUDA CHECKED BY: LINDA LIAN FILE NAME: P:\PROJECTS\BRADLEYHEIGHTS\010310\010310.DWG DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.09	APPROVED BY: COLLIER HARRIS APPROVED BY: TONYA DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.09



<b>CITY OF PUYALLUP</b>	<b>PAVEMENT MARKING DETAILS</b>
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS DRAWN BY: JIM FRYER/EVERUDA CHECKED BY: LINDA LIAN FILE NAME: P:\PROJECTS\BRADLEYHEIGHTS\010310\010310.DWG DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.10	APPROVED BY: COLLIER HARRIS APPROVED BY: TONYA DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.10



<b>CITY OF PUYALLUP</b>	<b>PAVEMENT MARKER "ONLY"</b>
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS DRAWN BY: JIM FRYER/EVERUDA CHECKED BY: LINDA LIAN FILE NAME: P:\PROJECTS\BRADLEYHEIGHTS\010310\010310.DWG DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.15	APPROVED BY: COLLIER HARRIS APPROVED BY: TONYA DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.15



<b>CITY OF PUYALLUP</b>	<b>SPEED TABLE</b>
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS DRAWN BY: JIM FRYER/EVERUDA CHECKED BY: LINDA LIAN FILE NAME: P:\PROJECTS\BRADLEYHEIGHTS\010310\010310.DWG DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.16	APPROVED BY: COLLIER HARRIS APPROVED BY: TONYA DATE APPROVED: 01/03/2024 DATE REVISION: 01/03/2024 SCALE: AS SHOWN CITY STANDARD: 01.03.16

JOB NO: 2307 DATE: May 14, 2024 DESIGNED BY: Jim Trivitt DRAWN BY: Jim Trivitt CHECKED BY: Linda Lian APPROVED BY: Tonya Harris REVISION: 1. Revised per City review and Mail A adjustment. 11/26/24 2. Revised per City review. 3/4/25 3. Revised per City & Road review. 4/21/25
--

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

**AZURE GREEN CONSULTANTS**

+feasibility +planning +engineering +surveying

Puyallup, WA 98372

**Channelization Details**

**Bradley Heights**

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

DRAWING

SD-24

SHEET 38 OF 60

APPROVED

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

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

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

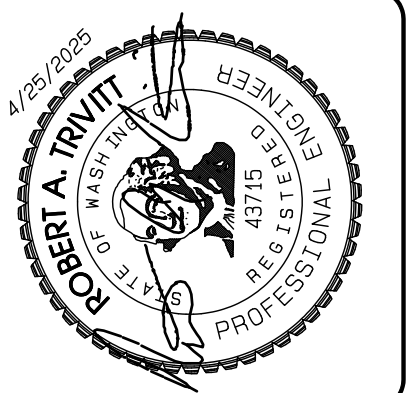
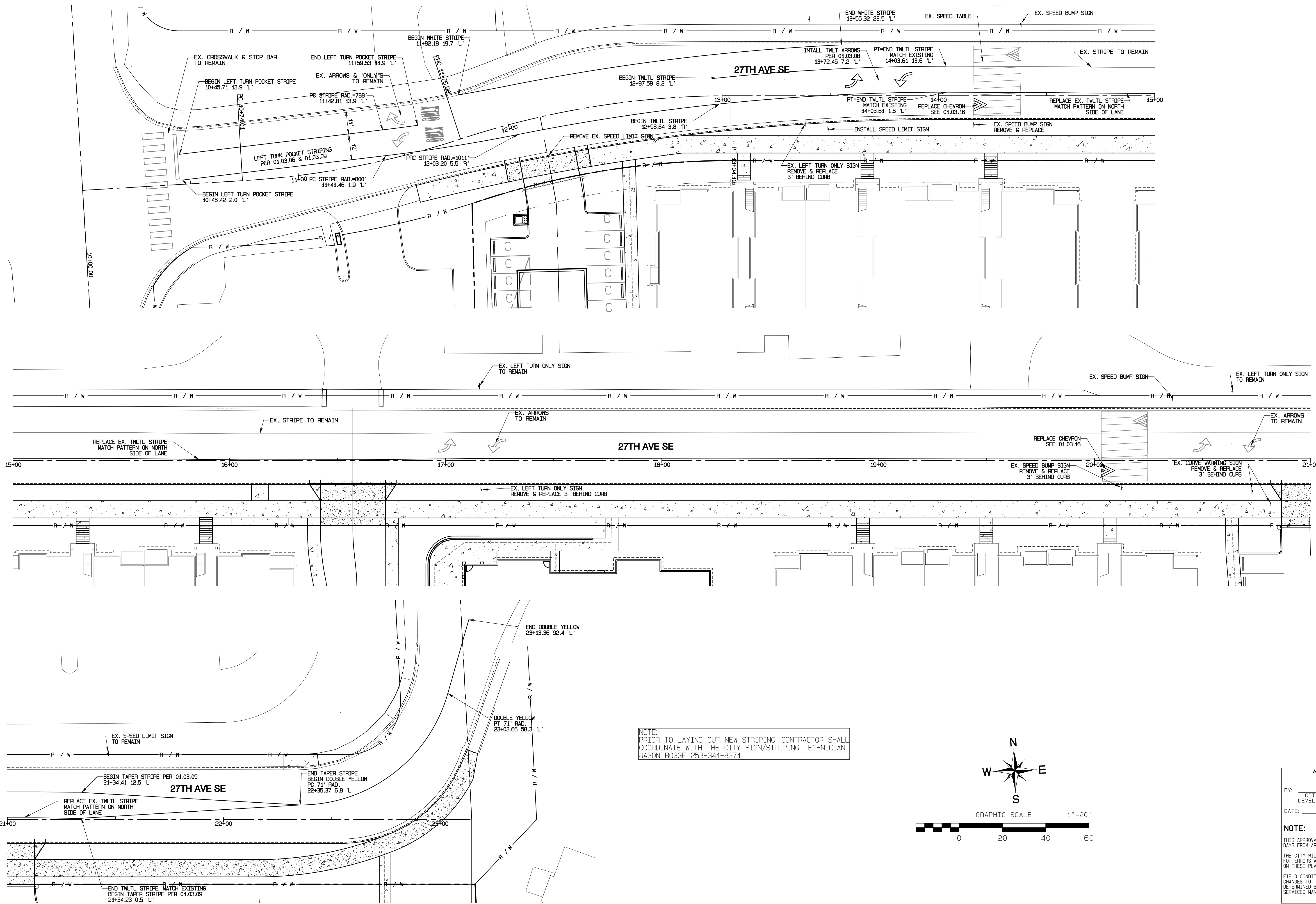
THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.

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

Project Desc.: Bradley Heights; Date: E:\urban\3227 - Bradley Heights\Time\In\Roadway\Highways\20250425\_E106.dwg; PLOT Date/Time: 4/25/2025 09:05:16AM

# Bradley Heights

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



REVISION	DATE
1	11/26/24
2	3/4/25
3	4/21/25
4	
5	
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7	
8	
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10	

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

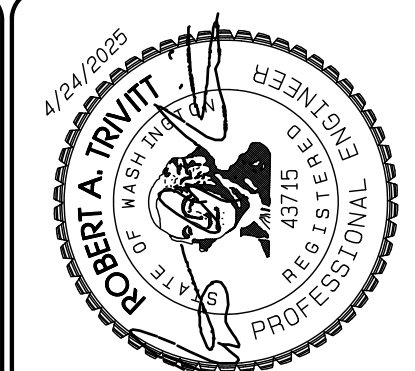
**Channelization Plan**  
 Bradley Heights  
 Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.886.0326  
 Fax jordan@timberlanepartners.com

**DRAWING**  
**SD-23**  
 SHEET 37  
 OF 60

Project Desc.: Bradley Heights Date: E:\urban\3227 - Bradley Heights\Timberlane\KALV\heights\_20250425\_EHG.dwg PLOT DATE: 5/14/24 4:25:23 PM 07:43 AM

# Bradley Heights

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



REVISION	DATE
1	11/26/24
2	3/4/25
3	4/21/25
4	
5	
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10	

DESIGNED BY: R. Trivitt  
 DRAWN BY: R. Trivitt  
 CHECKED BY: R. Trivitt  
 APPROVED BY: R. Trivitt

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

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

## STREET LIGHTING SPECIFICATIONS

### 1. 30-FOOT STEEL STREETLIGHT STANDARD

#### a. DIMENSIONS

STREETLIGHT STANDARDS SHALL PROVIDE A FIXTURE MOUNTING HEIGHT OF 30'0" PLUS OR MINUS 6" WITH A TYPICAL 12 FOOT MAST ARM WITH A THREE FOOT OVERHANG.

BASE PLATE SHALL HAVE SLOTTED HOLES TO ACCOMMODATE 1-INCH ANCHOR BOLTS AND 1 1/2" BOLT CIRCLE WITH MINIMUM CLEARANCE OF 1" BETWEEN BOLT AND POLE.

HANDHOLE CENTER SHALL BE LOCATED APPROXIMATELY 12 INCHES FROM THE BASE PLATE, ROTATED 270 DEGREES FROM MAST ARM SO AS THE HANDHOLE IS LOCATED ON THE SIDE OPPOSING ONCOMING TRAFFIC.

#### b. STRENGTH

POLES SHALL MEET ALL STRENGTH REQUIREMENTS OF AASHTO FOR 90 MPH ISOTACH WHEN USED WITH A LUMINAIRE WEIGHING 48 POUNDS WITH A E.P.A. OF 1.1 SQUARE FEET. ALL ATTACHING BOLTS AND SCREWS THAT ARE NOT GALVANIZED SHALL BE STAINLESS STEEL.

#### c. FINISH

THE POLES AND ALL HARDWARE SHALL BE HOT DIPPED GALVANIZED, MINIMUM 3 MIL THICKNESS.

#### d. MAST ARM ATTACHMENT SHALL BE SECURED BY 3 BOLTS.

EACH POLE SHALL HAVE HANDHOLE (WITH COVER), GROUND LUG AND REMOVABLE POLE CAP.

EACH CITY POLE SHALL HAVE A BLACK 4" TO 6" LETTER C STENCILED ON ROADWAY SIDE OF POLE 16" ABOVE GRADE.

### 2. ANCHORAGE

a. POLES SHALL BE ANCHORED WITH 4 BOLTS, 1"x3/8"x4" #8UNC WITH HOT DIPPED GALVANIZING AFTER THREADS ARE CUT. GALVANIZED AREA SHALL EXTEND FROM THREADED END FOR A MINIMUM OF 12 INCHES. BOLTS SHALL BE PROVIDED WITH 2 GALVANIZED NUTS AND FLAT WASHERS FOR LEVELING. SHIMS WILL NOT BE USED.

b. A NON-SHRINKING GROUT SHALL BE INSTALLED WITH ONE 1/2" DRAIN HOLE UNDER THE BASE PLATE AFTER THE ENGINEER HAS APPROVED THE POLE INSTALLATION.

### 3. CONDUIT

ALL CONDUIT SHALL BE BURIED A MINIMUM OF 24 INCHES DEEP. ALL ROADWAY CROSSINGS SHALL BE RIGID METALLIC OR SCHEDULE 80 PVC. CONDUIT SHALL CONFORM TO SECTION 9-29 OF WSDOT STANDARD SPECIFICATIONS. SCHEDULE 80 PVC MAY BE USED IN LOCATIONS OTHER THAN ROADWAY CROSSINGS.

## (STR LIGHT SPECS CONTINUED)

### 4. JUNCTION BOXES (WHEN REQUIRED)

JUNCTION BOXES SHALL BE INSTALLED AT LOCATIONS AS SHOWN ON THE PLANS. THEY WILL CONFORM TO WSDOT STANDARD PLAN J-40.10-02, TYPE 1. THEY SHALL BE LEVEL WITH THE SIDEWALK GRADE AND FINELY BEDED TO PREVENT FUTURE SETTLING. JUNCTION BOXES ARE PREFERRED NOT TO BE INSTALLED IN THE SIDEWALK. THE COVER SHALL BE GALVANIZED AND GROUND. THE LETTERS "JT" SHALL BE ETCHED ON THE COVER. (SEE CITY STANDARD DETAIL NO. 01.05.01). IF THE JUNCTION BOX IS NOT IN THE SIDEWALK THEN IT SHALL HAVE A CONCRETE COLLAR. IF THE JUNCTION BOX IS IN THE SIDEWALK THEN IT SHALL HAVE A NON-SLIP SURFACE TREATMENT. SEE CITY STANDARD DETAIL NO. 01.05.01.

### 5. CONDUCTORS, WIRES, ETC.

WIRE CONDUCTORS FOR UNDERGROUND FEEDER RUNS AND FOR CIRCUITRY FROM THE IN-LINE FUSE IN THE POLES TO THE JUNCTION BOX SHALL BE 600 VOLT, SINGLE CONDUCTOR STRANDED COPPER AND INSULATED WITH USE GRADE POLYVINYL CHLORIDE COMPOUND (XLP) OR APPROVED EQUAL IN ACCORDANCE WITH THE INSULATED POWER CABLE ENGINEER'S ASSOCIATION SPECIFICATIONS. AN AWG NO. 8 GREEN INSULATED STRANDED COPPER WIRE WILL BE RUN TO THE SERVICE GROUND LUG ON EACH POLE. FEEDERS SHALL BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. WIRES INSIDE THE POLE BETWEEN BALLAST AND IN-LINE FUSES SHALL BE ROMEX 2C AND 10 STRANDED POLE AND BRACKET WIRE OR APPROVED EQUAL. SPLICES WILL BE ALLOWED IN JUNCTION BOXES AND POLE BASES ONLY. NO MORE THAN 2 CONDUITS WILL BE ALLOWED INSIDE THE STREET POLE.

### 6. FUSES

LUMINAIRE FUSING AND ELECTRICAL CONNECTIONS AT LIGHT STANDARD BASES SHALL CONFORM TO SECTION 9-29.7 OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS AND AS SHOWN ON THE UNIFORM LUMINAIRE WIRING DETAIL IN THE APPENDIX. IN-LINE FUSE HOLDERS SHALL BE SEC. MODEL 1791-SF WITH FNM-5 FUSES OR APPROVED EQUAL. (REFER TO CITY STANDARD DETAIL NO. 01.06.01)

### 7. LUMINAIRES AND LAMPS

ESSENTIAL STREETS AND NEIGHBORHOOD COLLECTORS: LEOTEX 54W GC-18-30J-MV-40K-2R-GY-080-X00  
 LEOTEX LED OCT-14E-MV-NW-2-530 (67 WATT LED)

ARTERIALS AND COMMERCIAL COLLECTORS: DE VOLVO LED ERS2-E-0-HX-EX-5-40 (130 WATT LED)

THE CITY WILL ENERGIZE THE STREET LIGHTS WHEN A HOME IS OCCUPIED ADJACENT TO A STREET LIGHT OR IMMEDIATELY ACROSS THE STREET. AT THE DEVELOPER'S REQUEST, STREET LIGHTS MAY BE ENERGIZED PRIOR TO OCCUPANCY OF HOMES. HOWEVER, THE DEVELOPER OR BUILDER SHALL ASSUME FULL RESPONSIBILITY FOR ELECTRICAL POWER COSTS AND REPAIR COSTS DUE TO VANDALISM, THEFT, OR CONSTRUCTION.

### 8. SAFE WIRING LABELS

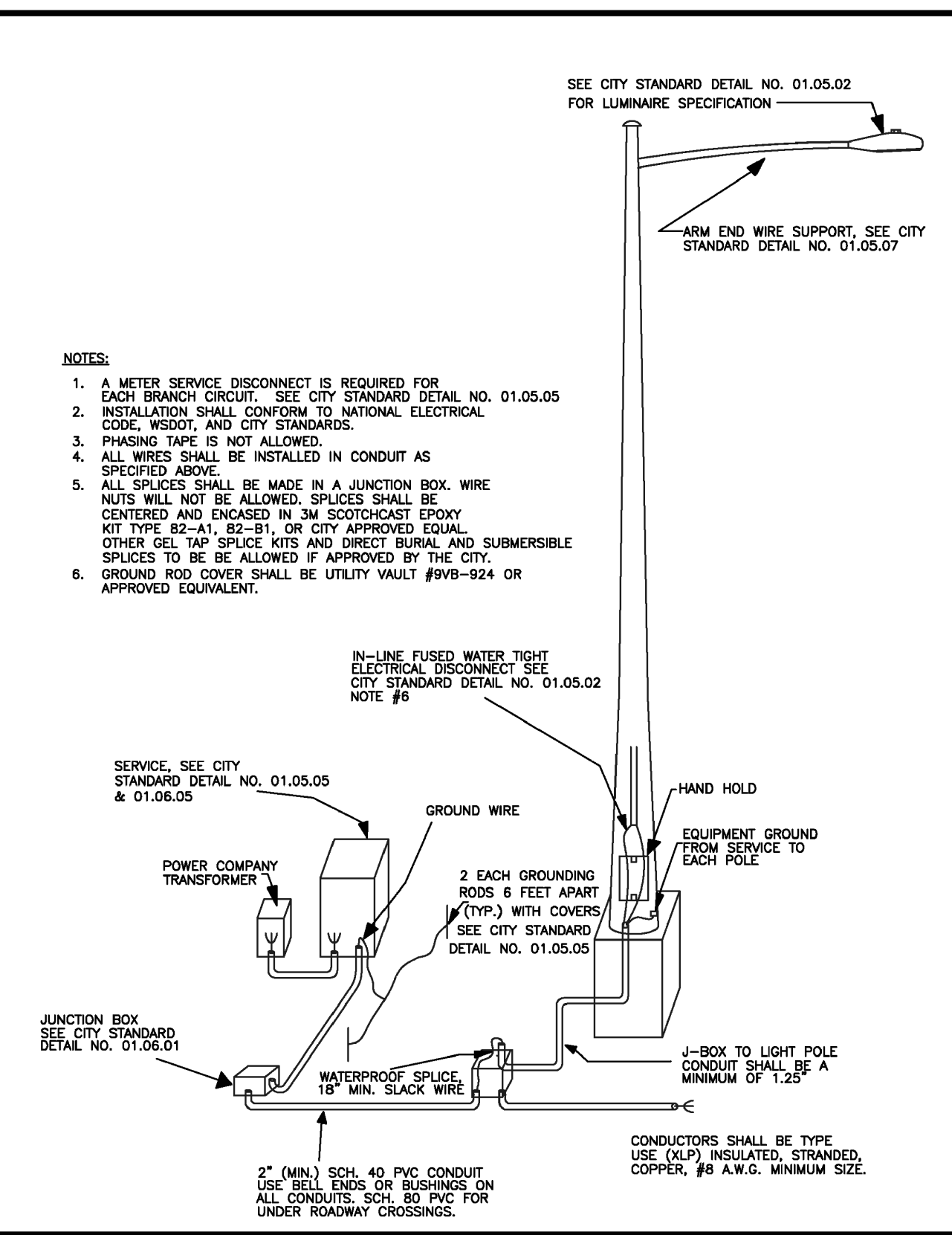
THE CONTRACTOR IS ADVISED THAT SAFE WIRING LABELS REQUIRED BY LABOR AND INDUSTRIES SHALL APPLY ON THIS PROJECT. (ELECTRICAL INSPECTION STICKER)

### 9. GUARANTEE

THE CONTRACTOR SHALL SURRENDER TO THE CITY OF PUYALLUP ANY GUARANTEE OR WARRANTY ACQUIRED BY HIM AS A NORMAL TRADE PRACTICE IN CONNECTION WITH THE PURCHASE OF ANY MATERIALS OR ITEMS USED IN THE CONSTRUCTION OF THE ILLUMINATION.

### 10. LOCATION

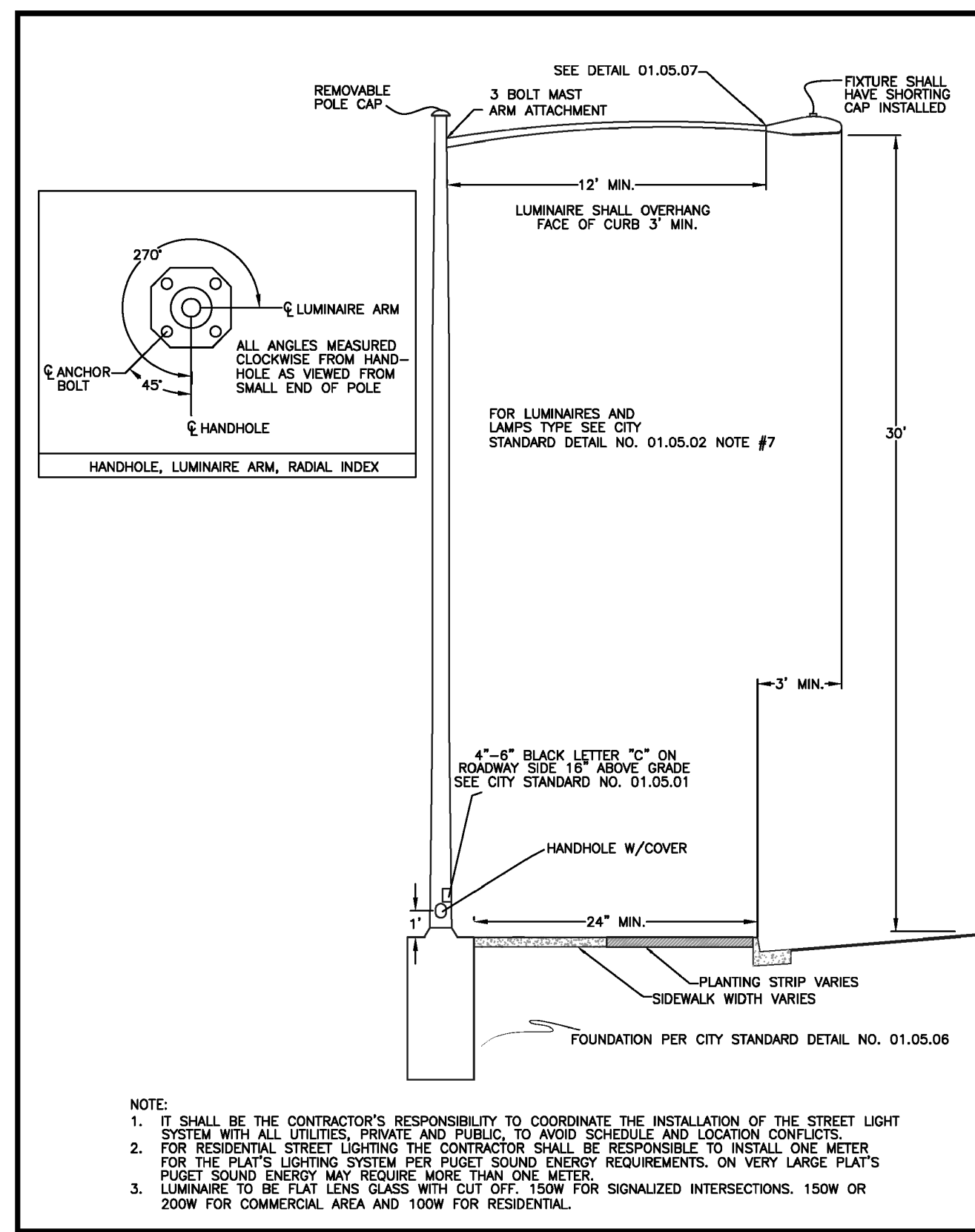
SEE CITY STANDARD SECTION 01.01 ROADWAY DESIGN.



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

**STREET LIGHT SPECIFICATIONS (CONT.)**

DATE APPROVED: 01/05/01



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

**STREET LIGHT**

DATE APPROVED: 01/05/04

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

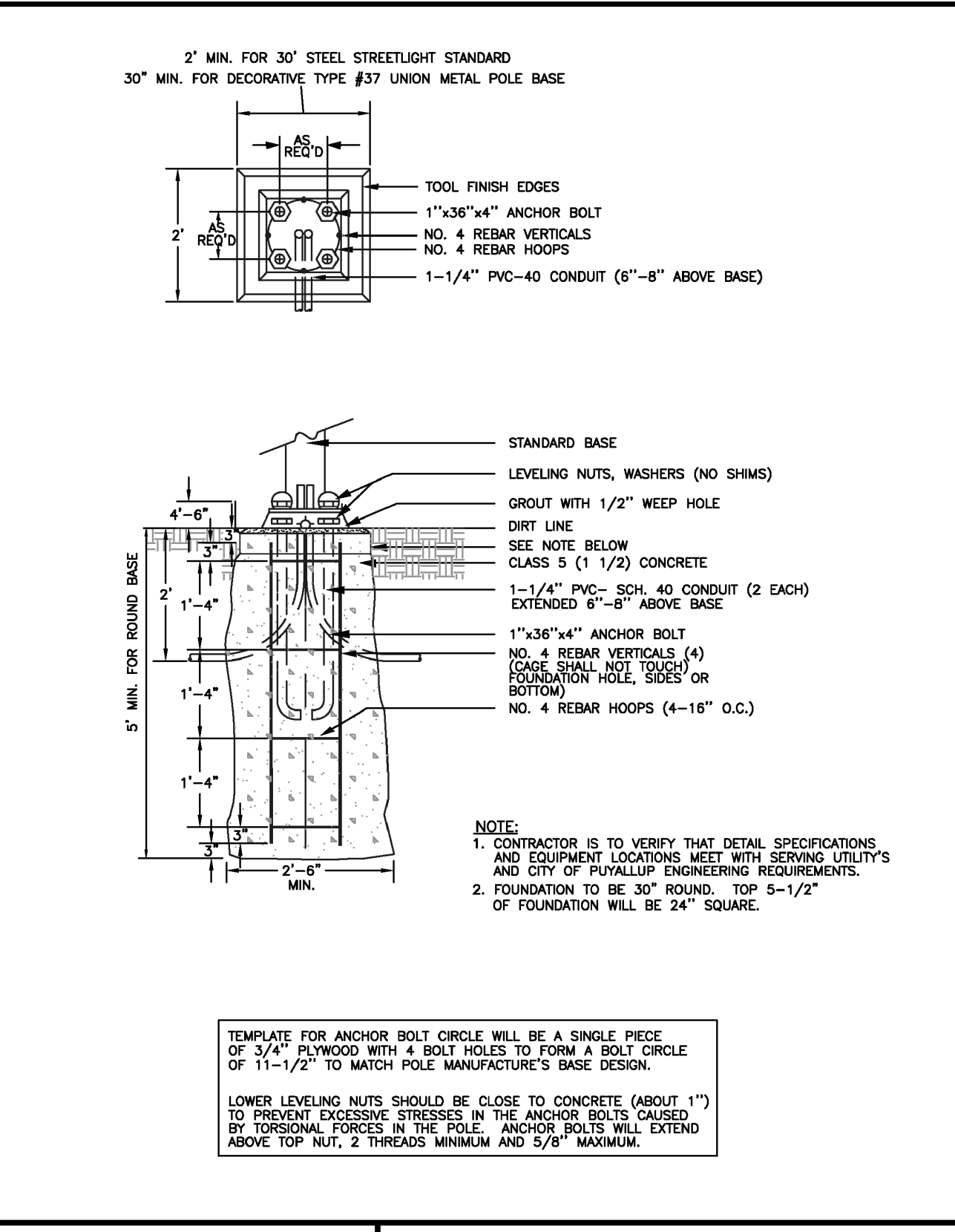
**STREET LIGHT SPECIFICATIONS**

DATE APPROVED: 01/05/01

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

**STREET LIGHT SPECIFICATIONS (CONT.)**

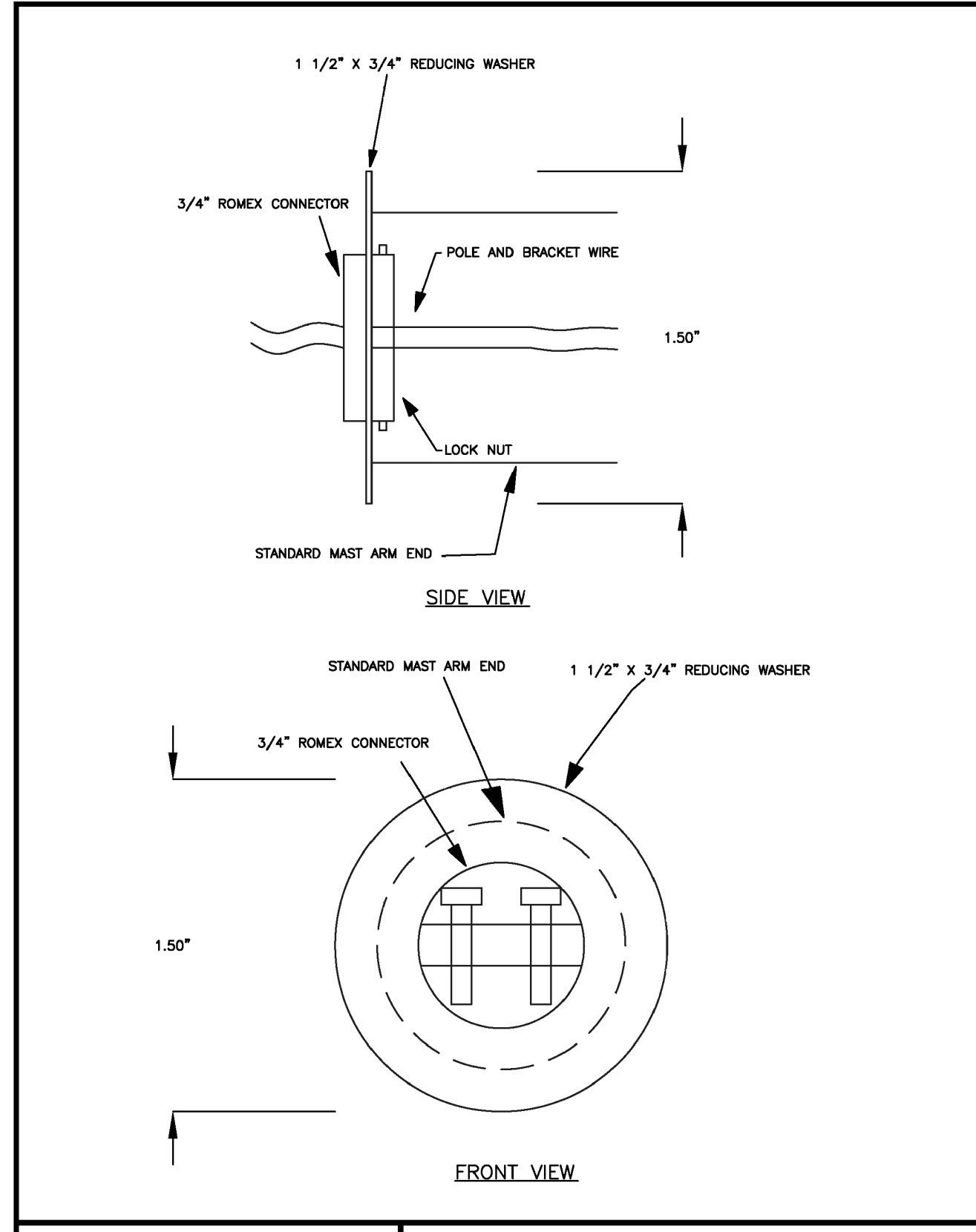
DATE APPROVED: 01/05/02



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

**CONCRETE STREETLIGHT FOUNDATION TYPICAL**

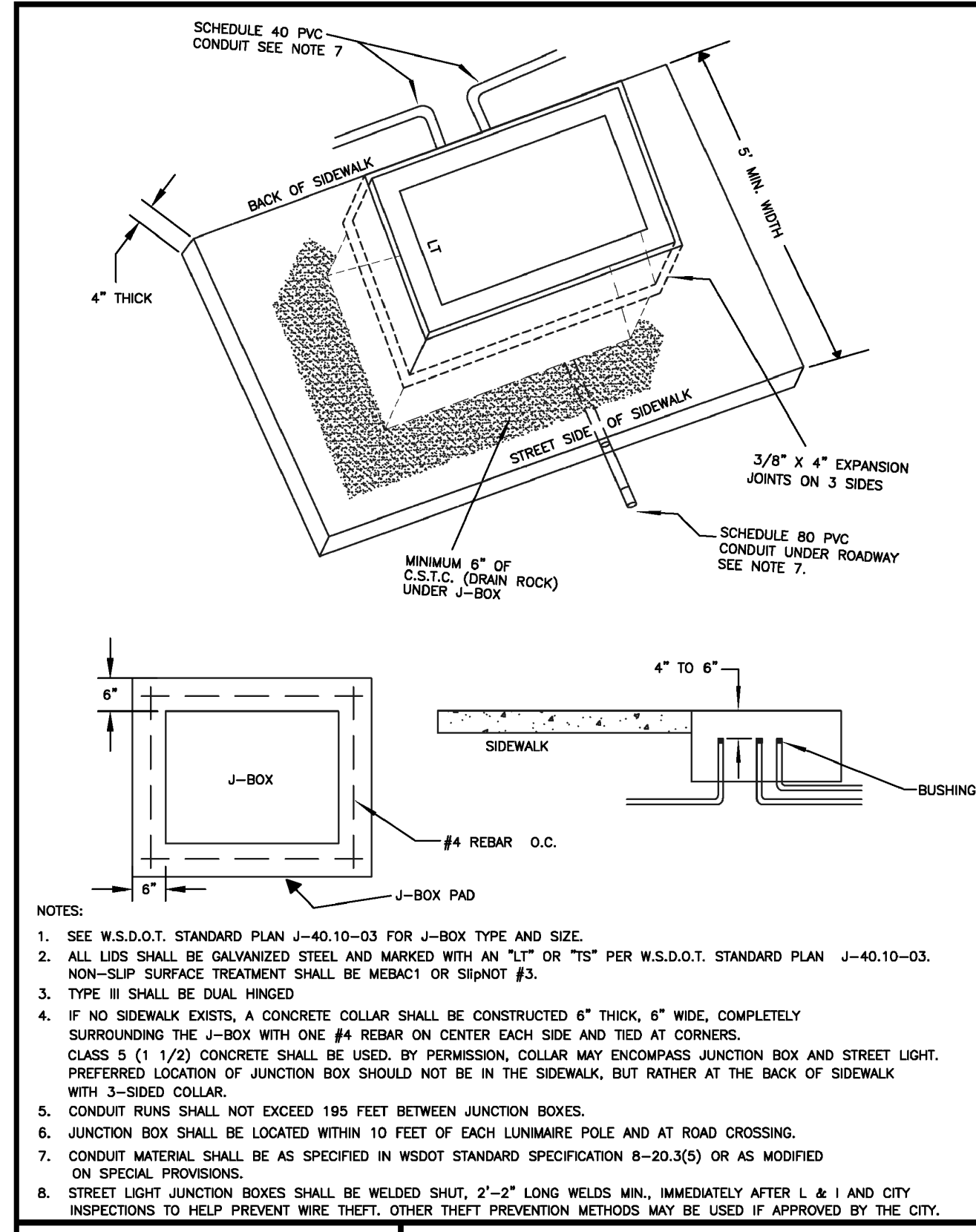
DATE APPROVED: 01/05/06



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

**STREET LIGHT POLE AND BRACKET WIRE SUPPORT AT ARM END**

DATE APPROVED: 01/05/07



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

**JUNCTION BOX**

DATE APPROVED: 01/06/01

Project Date: 2/20/25 - Bradley Heights  
 Date: 11/26/24 - Bradley Heights  
 Date: 3/4/25 - Bradley Heights  
 Date: 4/21/25 - Bradley Heights

# Bradley Heights

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

## FIRE LANE IDENTIFICATION

EACH SIDE OF THE ACCESS FOR PARKING LOT C/L A AND C/L B SHALL BE IDENTIFIED BY A 4-INCH WIDE LINE OR BY PAINTING THE CURB IN A BRIGHT YELLOW COLOR AND SHALL BE MARKED WITH SIGNS PER ACC 10.36.175 READING:

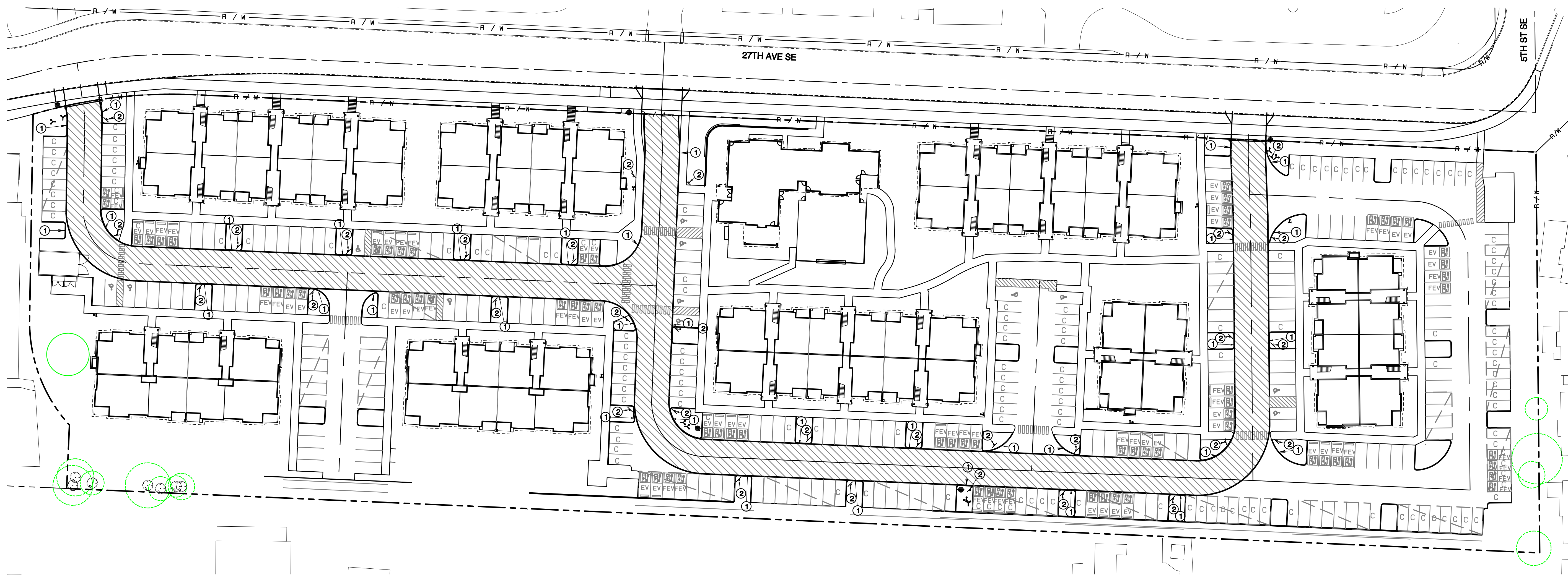
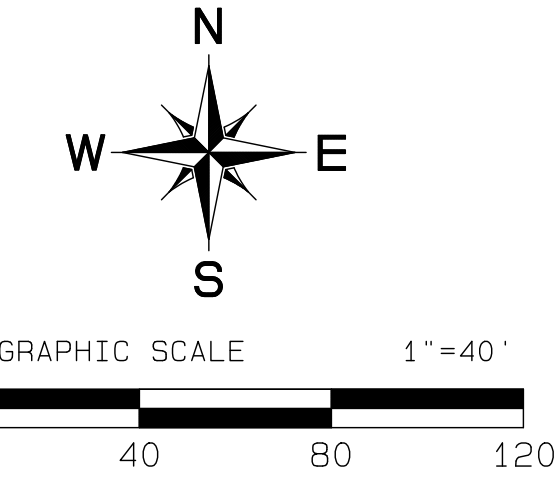
NO PARKING	3 INCH LETTERS - CLASS C WIDTH 3 INCH LETTERS - CLASS B WIDTH
FIRE LANE	2 INCH LETTERS - CLASS B WIDTH 2 INCH LETTERS - CLASS C WIDTH

- SIGNS SHALL BE 12 INCHES WIDE BY 18 INCHES HIGH
- SIGNS SHALL BE REFLECTIVE IN NATURE
- LETTERS SHALL BE IN RED WITH WHITE BACKGROUND
- SIGNS SHALL BE PLACED AT 50 FOOT INTERVALS
- SIGNS SHALL BE NO LESS THAN 4 FEET OFF GROUND
- SIGNS SHALL BE PLACED AT A 45° ANGLE TO THE DRIVE AISLE

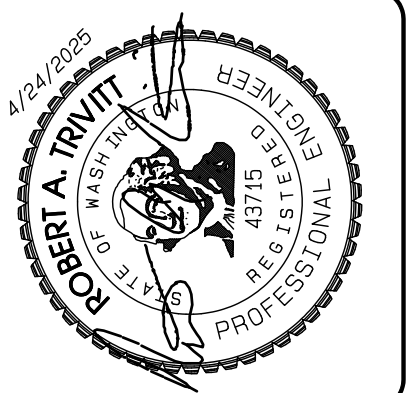
## FIRE LANE LEGEND/KEY NOTES



- 6" WIDE RED STRIPE WITH "FIRE LANE - NO PARKING" IN 4" WHITE LETTERS, REPEATED ON 15' SPACING. REQUIRED ANY LOCATION WHERE CURB OR SIDEWALK IS IMMEDIATELY ADJACENT TO FIRE LANE.
- FIRE LANE SIGN, SEE NOTES TO LEFT



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. Revised per City review and No. 11 A adjustment.	11/29/24
2. Revised per City review.	3/4/25
3. Revised per City & RSDH review.	4/27/25
4. Revised per City & RSDH review.	
5. Revised per City & RSDH review.	
6. Revised per City & RSDH review.	
7. Revised per City & RSDH review.	
8. Revised per City & RSDH review.	
9. Revised per City & RSDH review.	
10. Revised per City & RSDH review.	

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

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

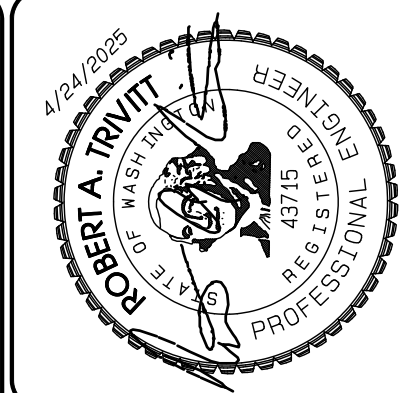
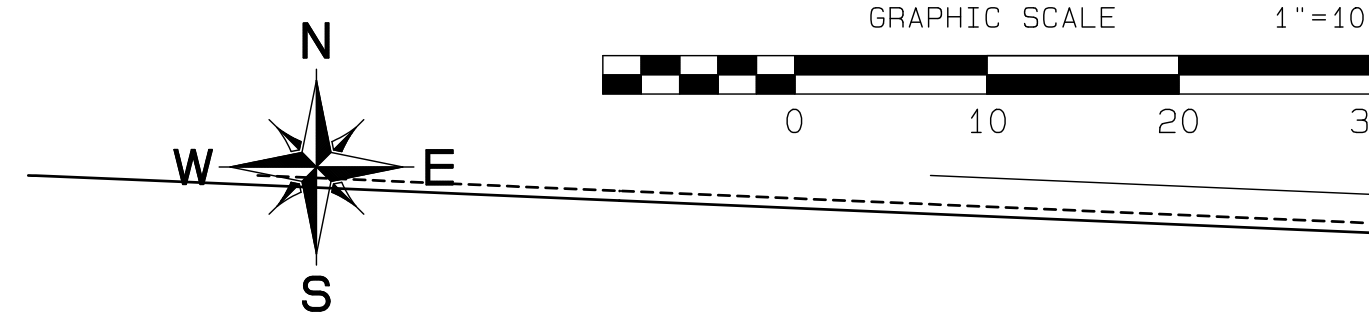
DRAWING  
**SD-27**  
SHEET 41  
OF 60

Project Desc.: Bradley Heights - 1816 11th Ave Unit C, Puyallup, WA 98372 - 4/24/2025/08:20:18PM

# Bradley Heights

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

- KEY NOTES**
- ① EXTRUDED CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE
  - ② SIDEWALK FLUSH WITH PAVEMENT
  - ③ SIDEWALK WITH INTEGRAL CURB
  - ④ TRAFFIC CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE



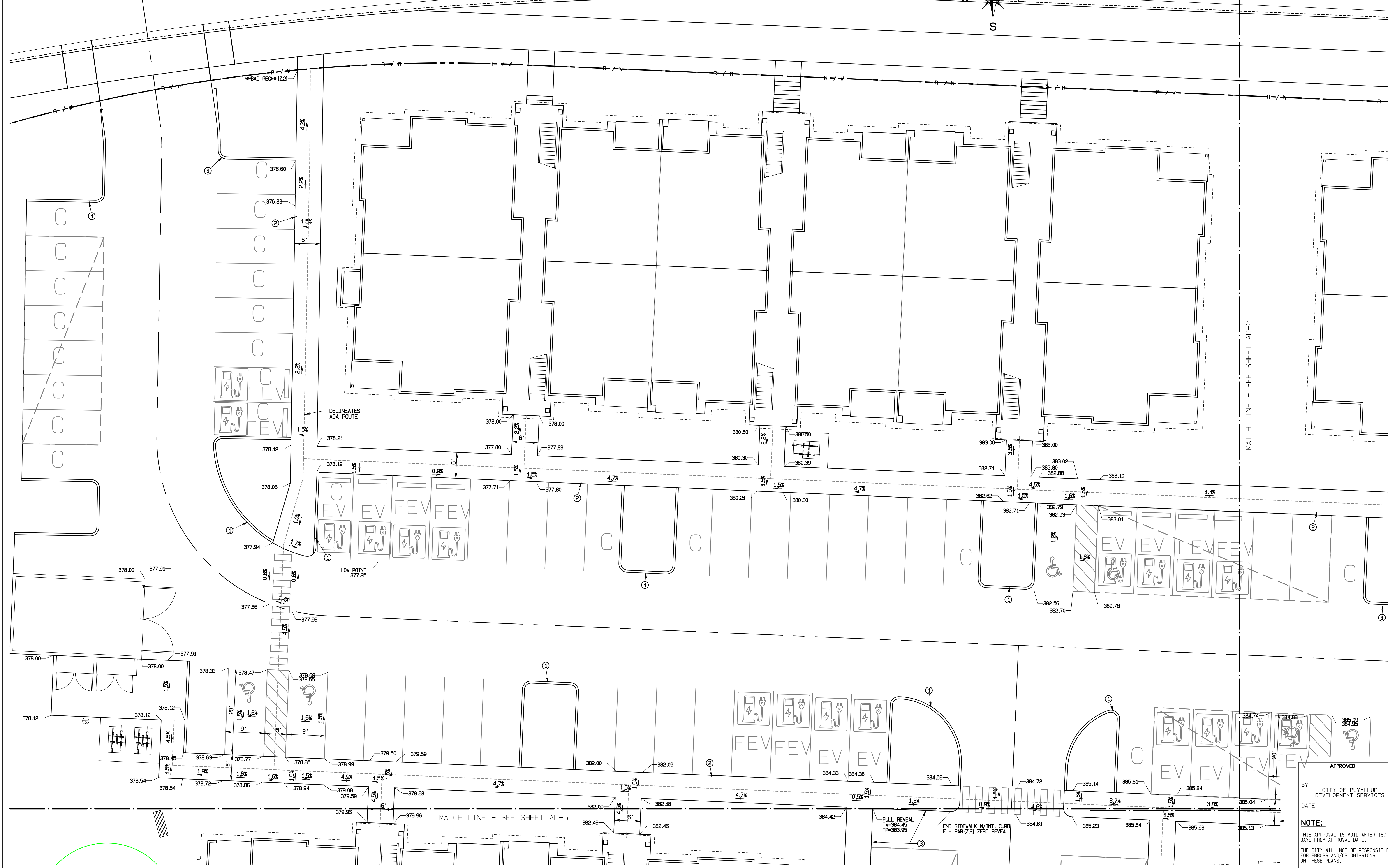
REVISION	DATE
1	11/29/24
2	3/4/25
3	4/21/25
4	
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6	
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JOB NO. 3327  
 DATE: March 4, 2025  
 DESIGNED BY:  
 DRAWN BY:  
 APPROVED BY: PAUL BREWER

**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.

**ADA Route/Grading Details**

**Bradley Heights**

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

**DRAWING**

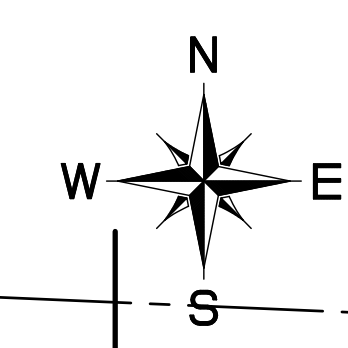
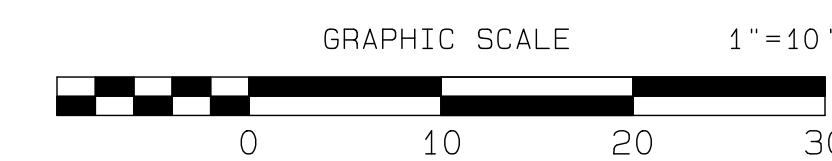
**AD-1**

SHEET 42  
 OF 60

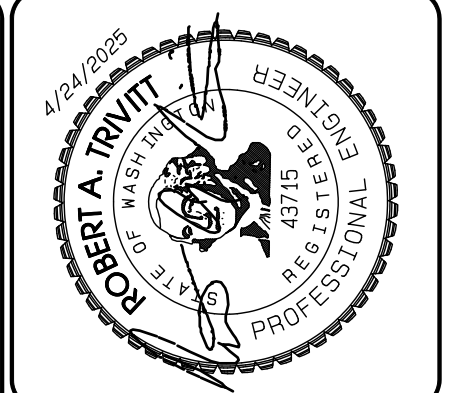
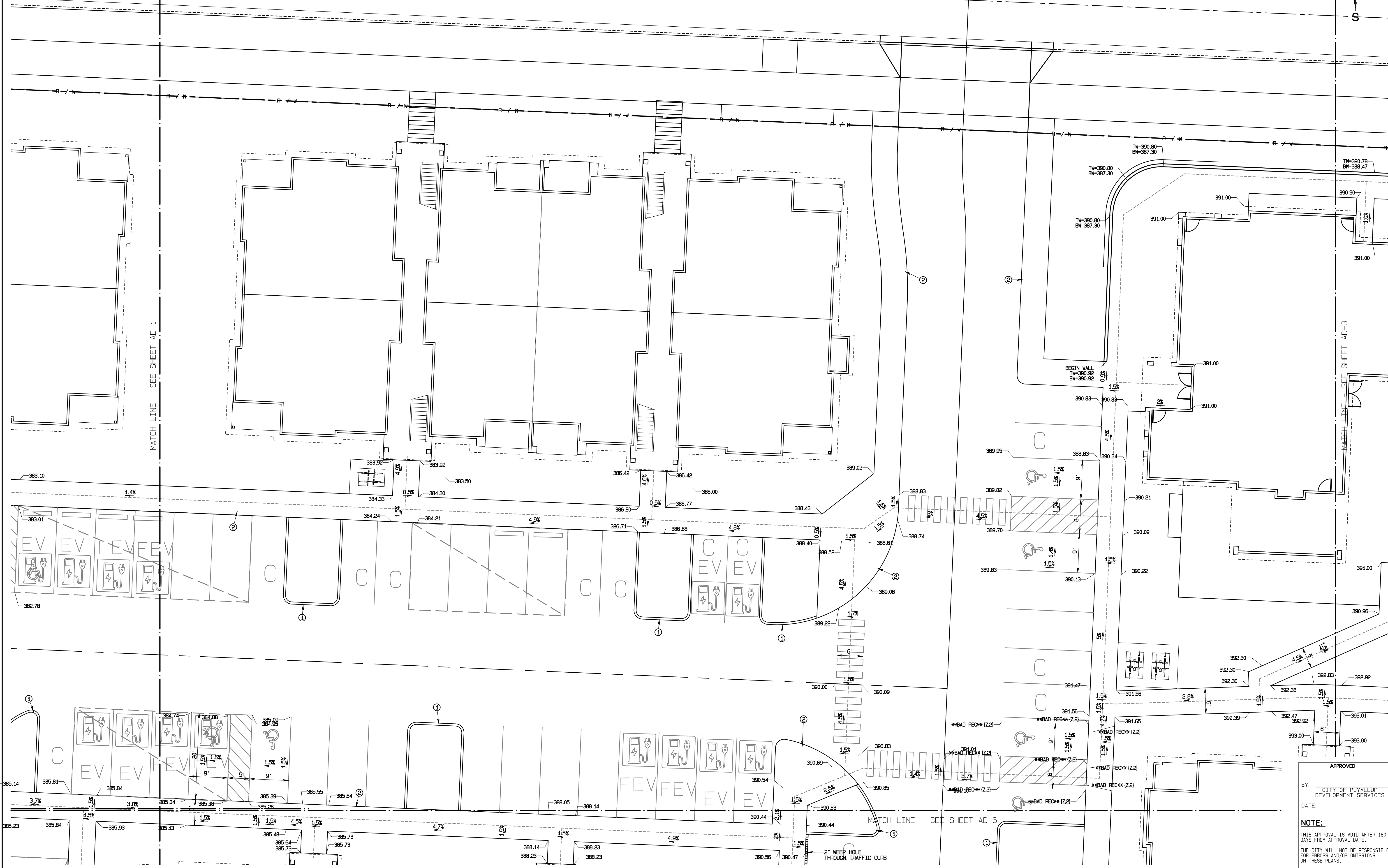
Project Desc.: Bradley Heights; Date: E:\urban\3327 - Bradley Heights\Time\Bradley Heights 20250424 EIR.dwg; PLOT Date/Time: 4/24/2025 9:30:52PM

# Bradley Heights

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



- KEY NOTES**
- ① EXTRUDED CURB TOP-6" ABOVE PAVING OR LANDSCAPE GRADE
  - ② SIDEWALK FLUSH WITH PAVEMENT
  - ③ SIDEWALK WITH INTEGRAL CURB
  - ④ TRAFFIC CURB TOP-6" ABOVE PAVING OR LANDSCAPE GRADE



REVISION	DATE	DESCRIPTION
1	11/26/24	Revised per City review and M&J A adjustment.
2	3/4/25	Revised per City review.
3	4/21/25	Revised per City & P&H review.
4		Revised per City & P&H review.
5		
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JOB NO. 3327  
 DATE: March 4, 2025  
 DESIGNED BY:  
 DRAWN BY:  
 APPROVED BY: PAUL BREWER

**AZURE GREEN**  
 CONSULTANTS

+ feasibility + planning + engineering + surveying

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

**ADA Route/Grading Details**

**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:**  
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**DRAWING**

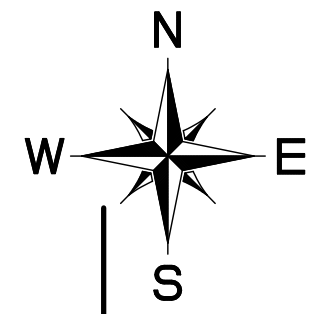
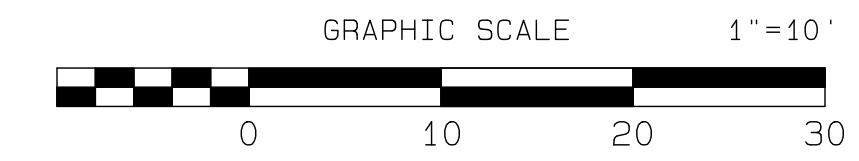
**AD-2**

SHEET 43  
 OF 60

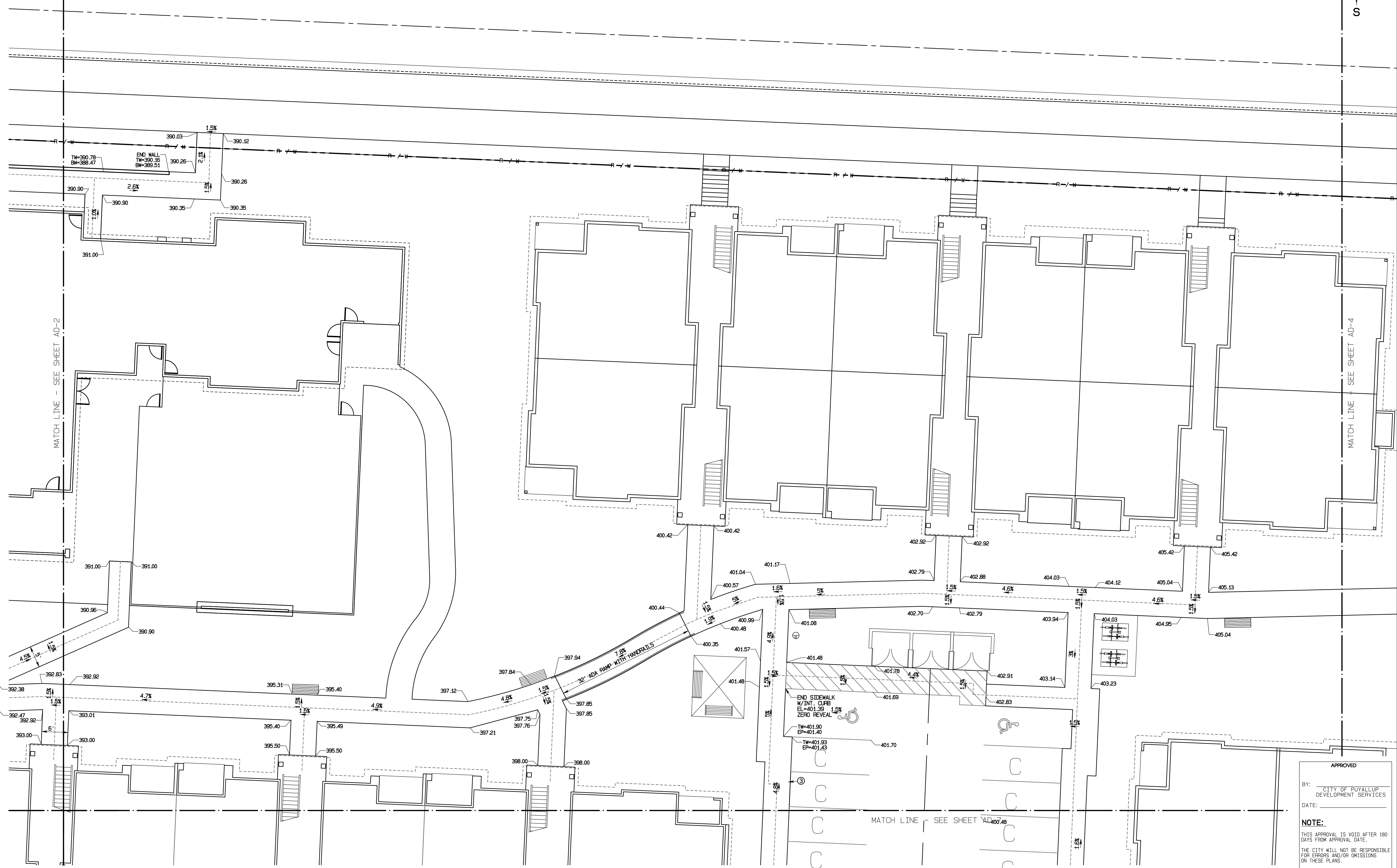
Project Desc.: Bradley Heights; Date: E:\sub\3327 - Bradley Heights\Timberlane\AD-2\250424\_EHG.dwg; P&H Date/Time: 4/24/2025/8:31:17PM

# Bradley Heights

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



- KEY NOTES**
- ① EXTRUDED CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE
  - ② SIDEWALK FLUSH WITH PAVEMENT
  - ③ SIDEWALK WITH INTEGRAL CURB
  - ④ TRAFFIC CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE



REVISION	DATE	BY
1	11/26/24	REVISED PER CITY REVIEW AND MAIL A ADJUSTMENT.
2	3/4/25	REVISED PER CITY REVIEW.
3	4/21/25	REVISED PER CITY & PDR REVIEW.
4		
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JOB NO: 3327  
 DATE: March 4, 2025  
 DESIGNED BY:  
 DRAWN BY:  
 APPROVED BY: PAUL BREWER

**AZURE GREEN**  
 CONSULTANTS

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

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

**ADA Route/Grading Details**

**Bradley Heights**

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

APPROVED

BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

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

**NOTE:**  
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**DRAWING**

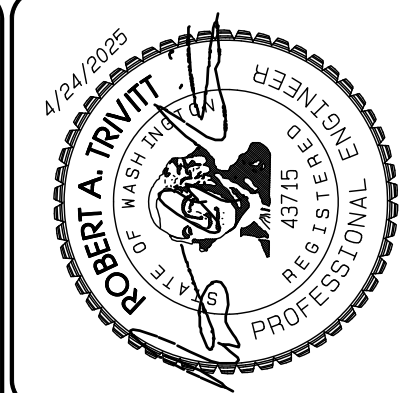
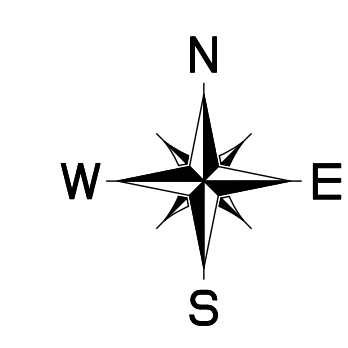
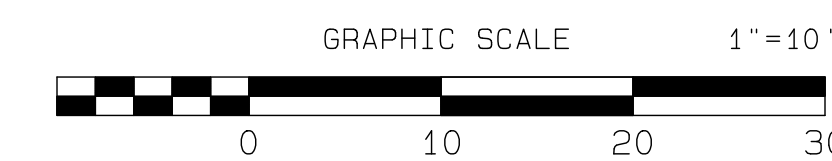
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SHEET 44  
 OF 60

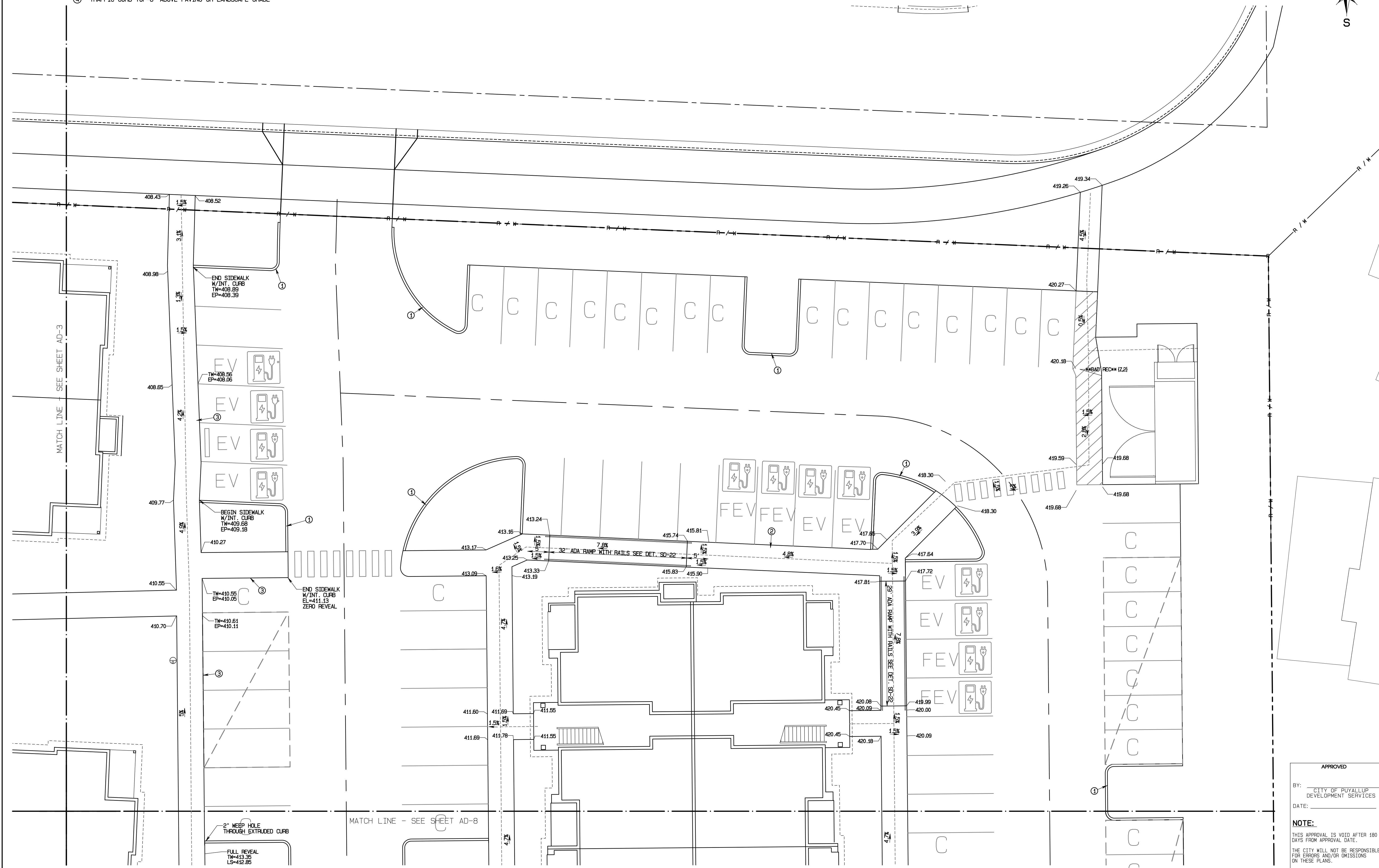
Project Desc.: Bradley Heights Part: E:\Jobs\3327 - Bradley Heights\Timberlane\ADA Route\3327\_0250624\_EHG.dwg PLOT DATE/TIME: 4/24/2025 9:31:30PM

# Bradley Heights

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



- KEY NOTES**
- ① EXTRUDED CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE
  - ② SIDEWALK FLUSH WITH PAVEMENT
  - ③ SIDEWALK WITH INTEGRAL CURB
  - ④ TRAFFIC CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE



REVISION	DATE
1 Revised per City review and Mail A adjustment.	11/20/24
2 Revised per City review.	3/4/25
3 Revised per City & Pugh review.	4/21/25
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JOB NO. 3327  
 DATE: March 4, 2025  
 DESIGNED BY:  
 DRAWN BY:  
 APPROVED BY: PAUL BREWER

**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: \_\_\_\_\_

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**ADA Route/Grading Details**

**Bradley Heights**

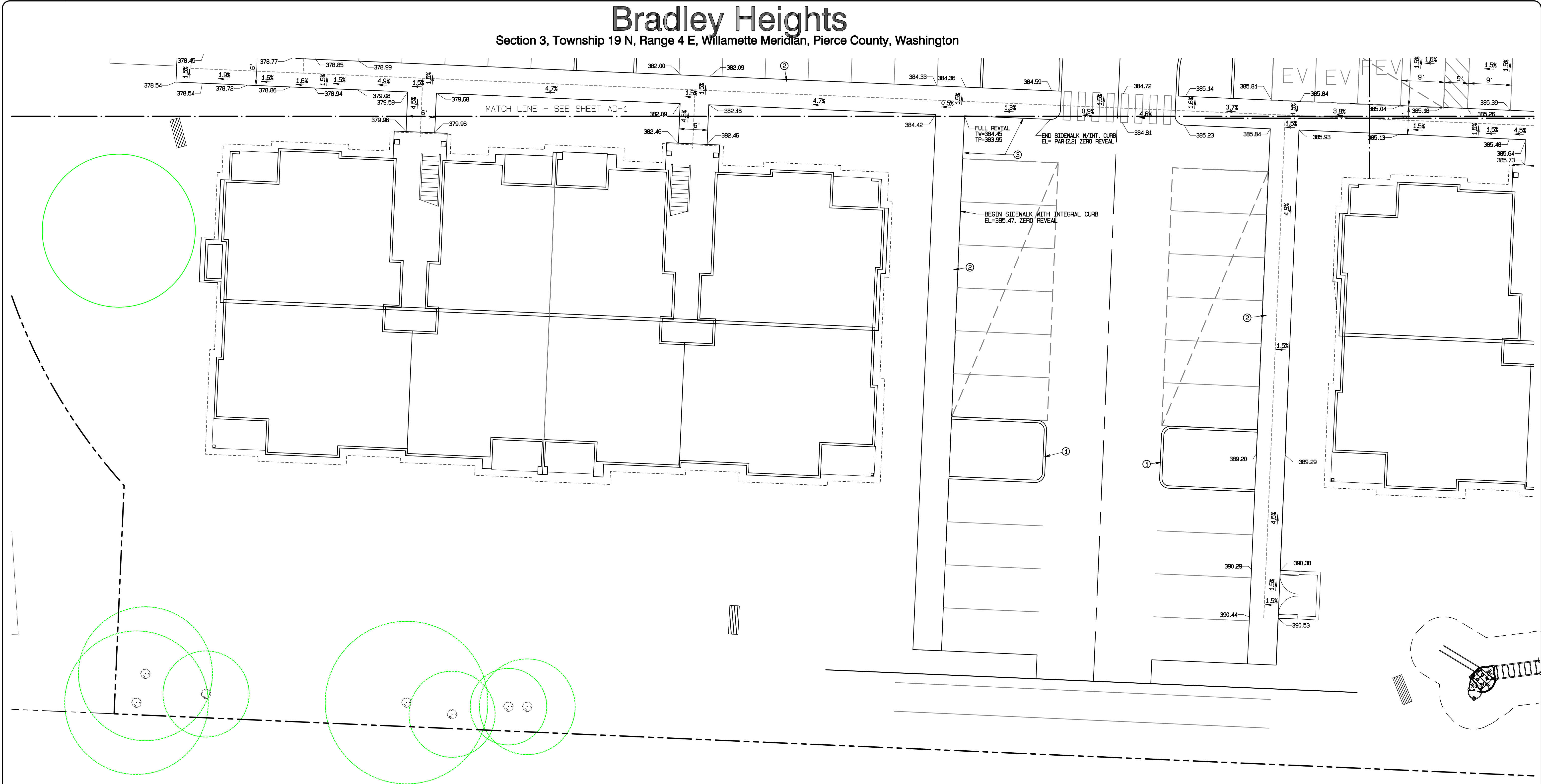
Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 206.886.0326  
 Fax jordan@timberlanepartners.com

**DRAWING**  
**AD-4**  
 SHEET 45  
 OF 60

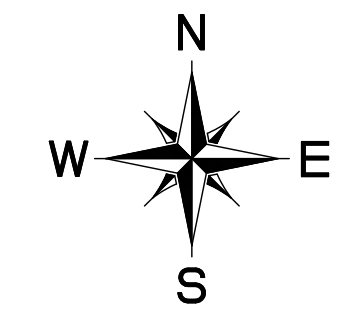
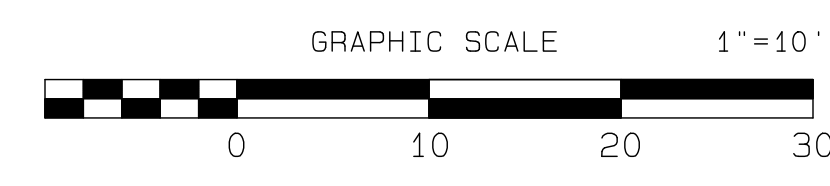
Project Desc.: Bradley Heights; Plan#: E:\sub3327 - Bradley Heights\Timberlane\AD-4\24\25\08\_31.dgn

# Bradley Heights

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



- KEY NOTES**
- ① EXTRUDED CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE
  - ② SIDEWALK FLUSH WITH PAVEMENT
  - ③ SIDEWALK WITH INTEGRAL CURB
  - ④ TRAFFIC CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE



APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

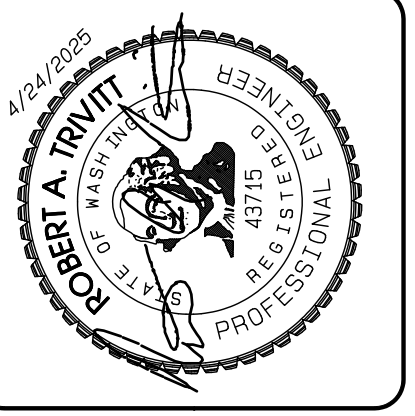
DATE: \_\_\_\_\_

**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.	11/19/24
2 Revised per City review.	3/4/25
3 Revised per City & Paul review.	4/21/25
4 Revised per City & Paul review.	
5	
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JOB NO. 3327  
DATE: March 4, 2025  
DESIGNED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
APPROVED BY: PAUL GREER

**AZURE GREEN CONSULTANTS**

feasibility • planning • engineering • surveying

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

**ADA Route/Grading Details**

**Bradley Heights**

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

**DRAWING**

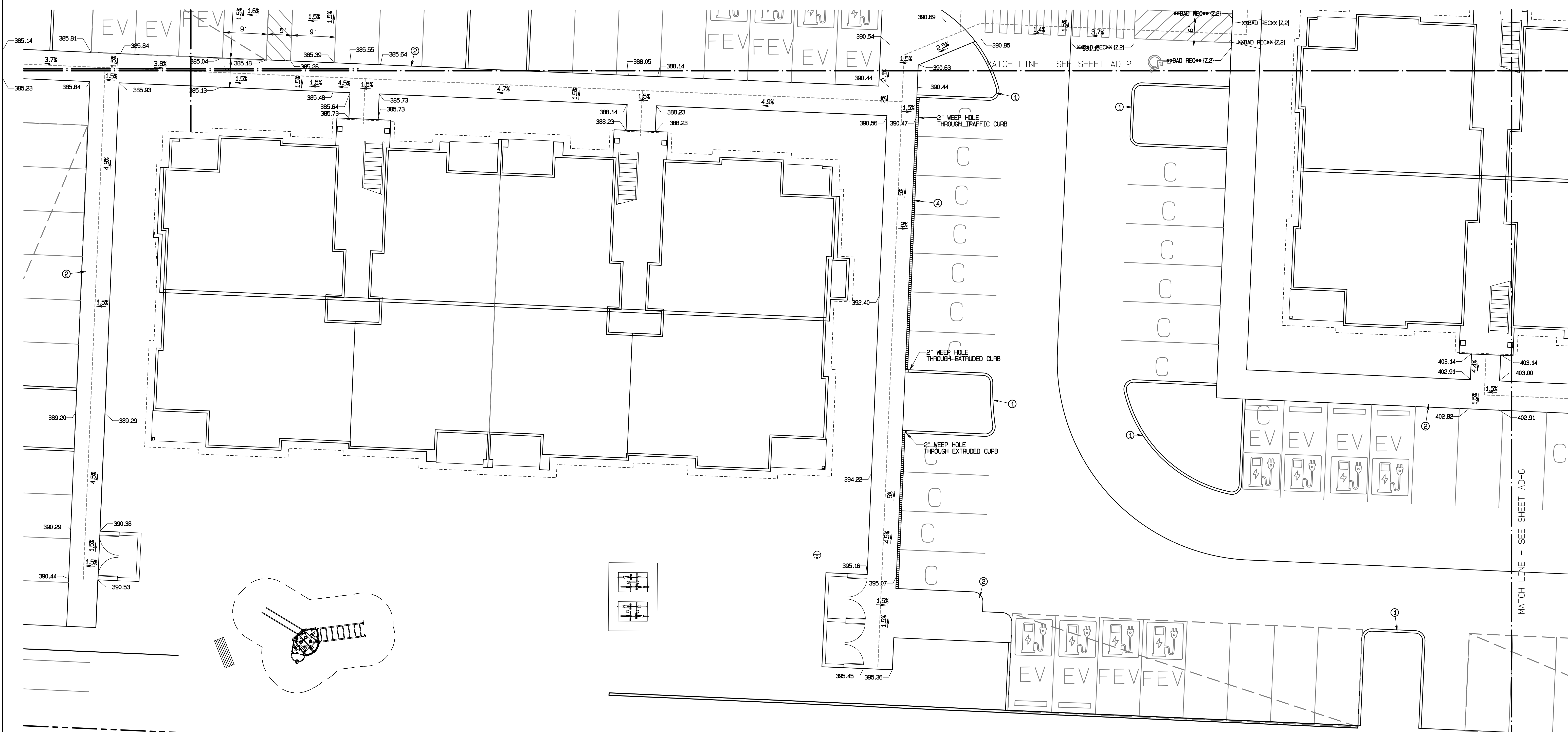
**AD-5**

SHEET 46  
OF 60

Project Desc.: Bradley Heights; Path: F:\urban\3327 - Bradley Heights\Timberlane\Bradley Heights 20250424 EHG.dwg; Plot Date/Time: 4/24/2025 9:34:58PM

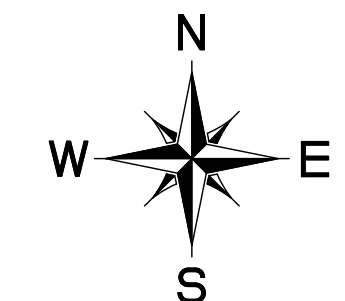
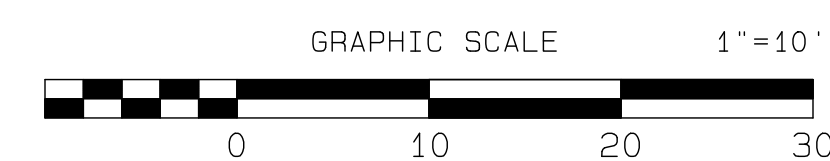
# Bradley Heights

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



Project Desc.: Bradley Heights; Date: E:\sub\3227 - Bradley Heights\Timberlane\Drawings\20250424 EIR.dwg; PLOT Date/Time: 4/24/2025 9:32:28PM

- KEY NOTES**
- ① EXTRUDED CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE
  - ② SIDEWALK FLUSH WITH PAVEMENT
  - ③ SIDEWALK WITH INTEGRAL CURB
  - ④ TRAFFIC CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE



APPROVED

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

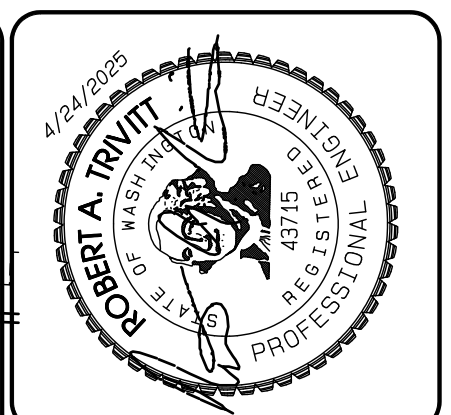
DATE: \_\_\_\_\_

**NOTE:**

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REVISION	DATE
1	11/26/24
2	3/4/25
3	4/21/25
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JOB NO: 3227  
DATE: March 4, 2025  
DESIGNED BY:  
DRAWN BY:  
APPROVED BY: PAUL BREWER

**AZURE GREEN**  
CONSULTANTS

feasibility • planning • engineering • surveying

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

**ADA Route/Grading Details**

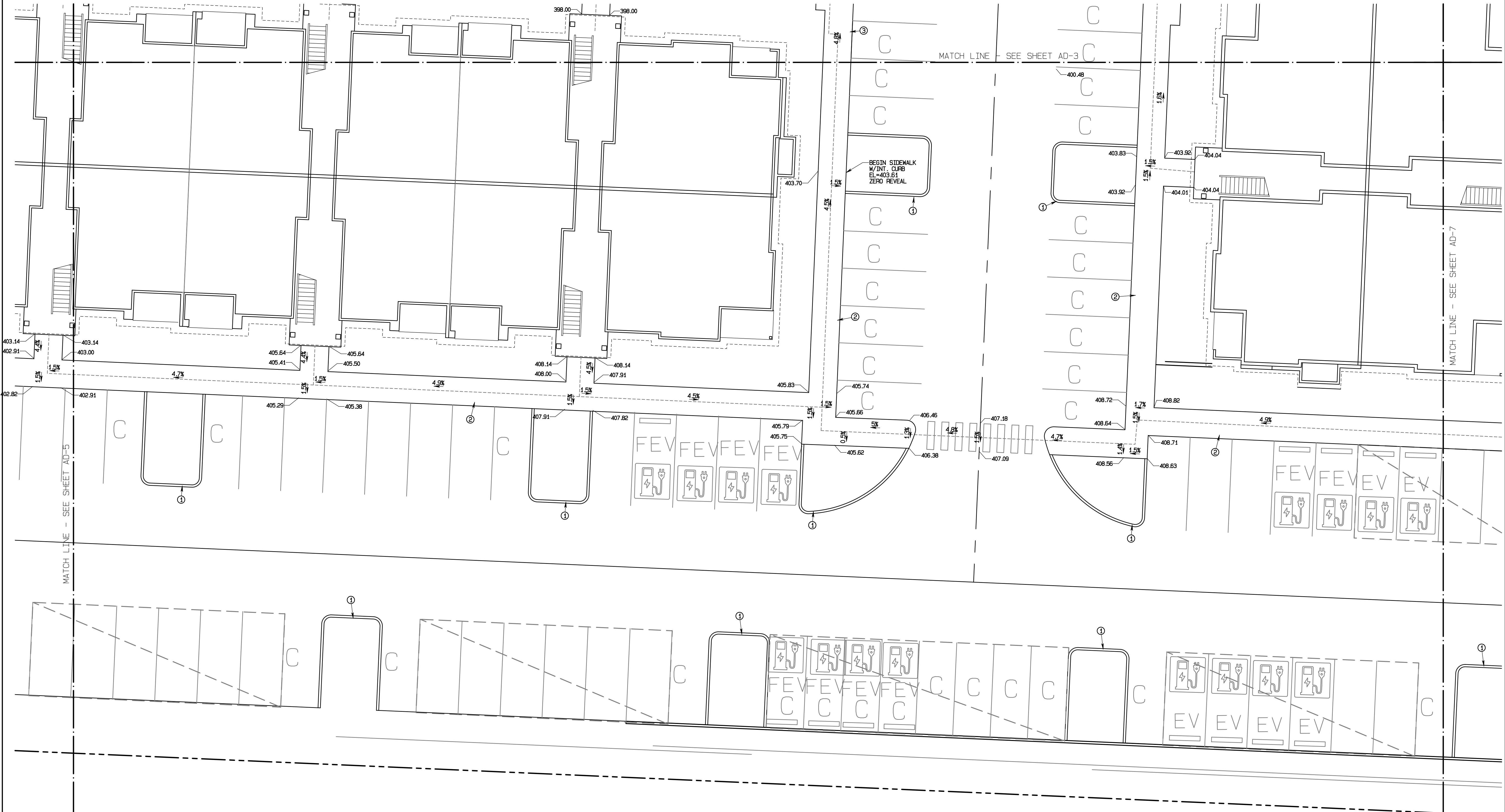
**Bradley Heights**

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

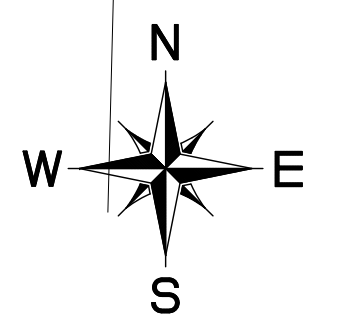
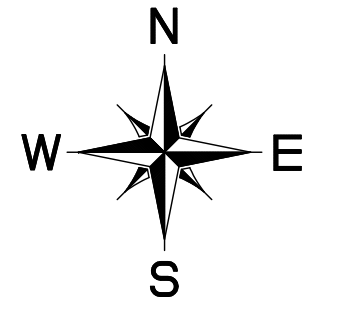
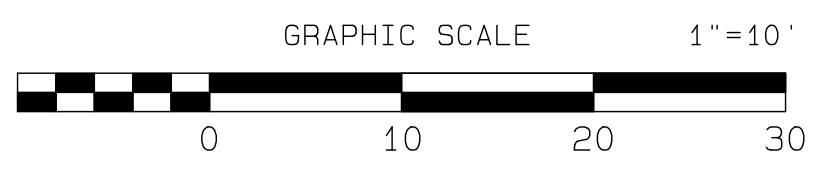
**DRAWING**  
**AD-6**  
SHEET 47  
OF 60

# Bradley Heights

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



- KEY NOTES**
- ① EXTRUDED CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE
  - ② SIDEWALK FLUSH WITH PAVEMENT
  - ③ SIDEWALK WITH INTEGRAL CURB
  - ④ TRAFFIC CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE



APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

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

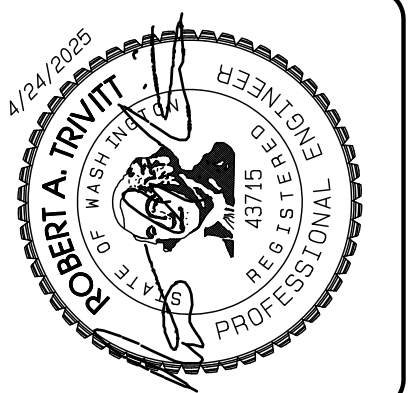
**NOTE:**

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Project Desc.: Bradley Heights; Plan#: F:\urban\3227 - Bradley Heights\Timberlane\Bradley Heights 20250424 EMB.dwg; PLOT Date: 4/24/2025 9:32:42PM



REVISION	DATE
1 Revised per City review and Mail A adjustment.	11/29/24
2 Revised per City review.	3/4/25
3 Revised per City & Paul review.	4/21/25
4	
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JOB NO: 3227  
DATE: March 4, 2025  
DESIGNED BY:  
DRAWN BY:  
CHECKED BY:  
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

**ADA Route/Grading Details**

**Bradley Heights**

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

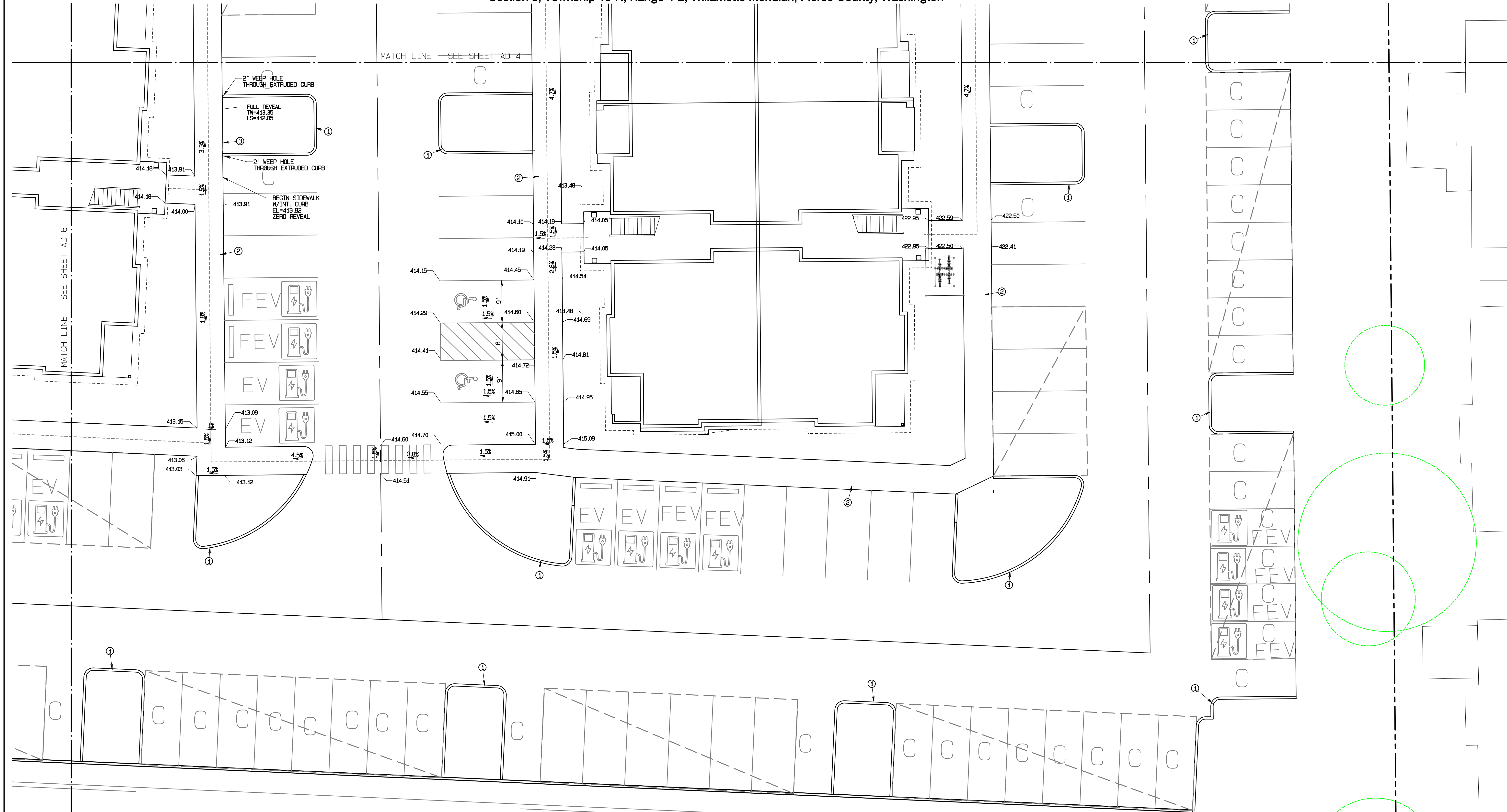
**DRAWING**

**AD-7**

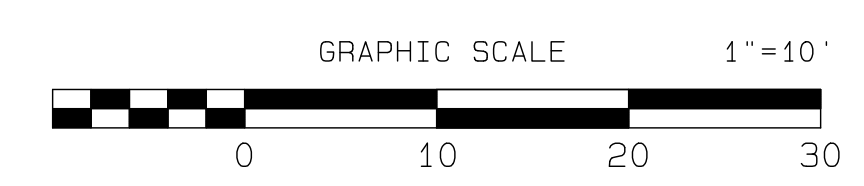
SHEET 48  
OF 60

# Bradley Heights

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



- KEY NOTES**
- ① EXTRUDED CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE
  - ② SIDEWALK FLUSH WITH PAVEMENT
  - ③ SIDEWALK WITH INTEGRAL CURB
  - ④ TRAFFIC CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE



APPROVED

BY: CITY OF PUYALLUP  
DEVELOPMENT SERVICES

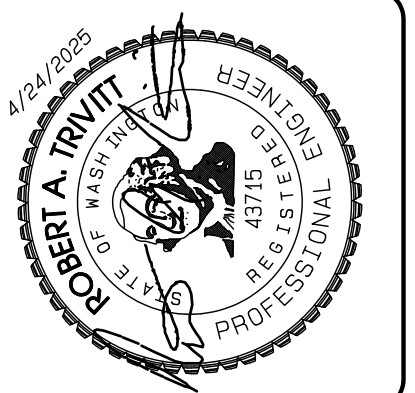
DATE: \_\_\_\_\_

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REVISION	DATE
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JOB NO. 3327  
DATE: March 4, 2025  
DESIGNED BY:  
DRAWN BY:  
APPROVED BY: PAUL BREWER

**AZURE GREEN CONSULTANTS**

feasibility • planning • engineering • surveying

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

**ADA Route/Grading Details**

**Bradley Heights**

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

**DRAWING**

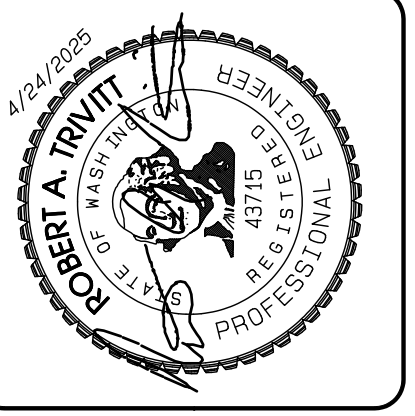
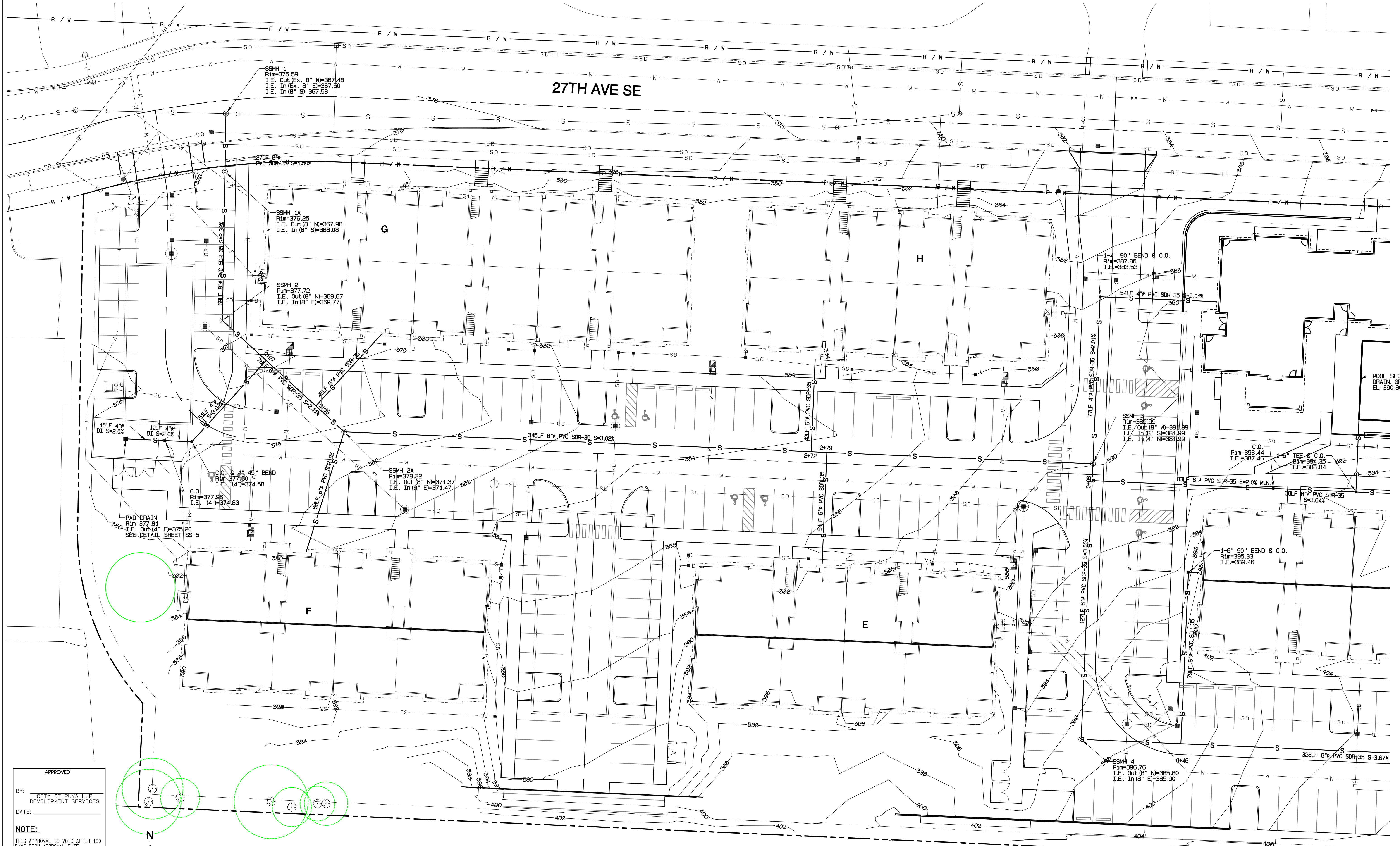
**AD-8**

SHEET 49  
OF 60

Project Desc.: Bradley Heights; Plan#: F:\urban\3327 - Bradley Heights\Timberlane\Bradley Heights 20250424 EMB.dwg; PLOT Date: 4/24/2025 9:33:39PM

# Bradley Heights

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



REVISION	DATE
1 Revised per City review and Mail A adjustment.	11/26/24
2 Revised per City review.	3/1/25
3 Revised per City & Ashi review.	4/21/25
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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

**SS Plan**

**Bradley Heights**

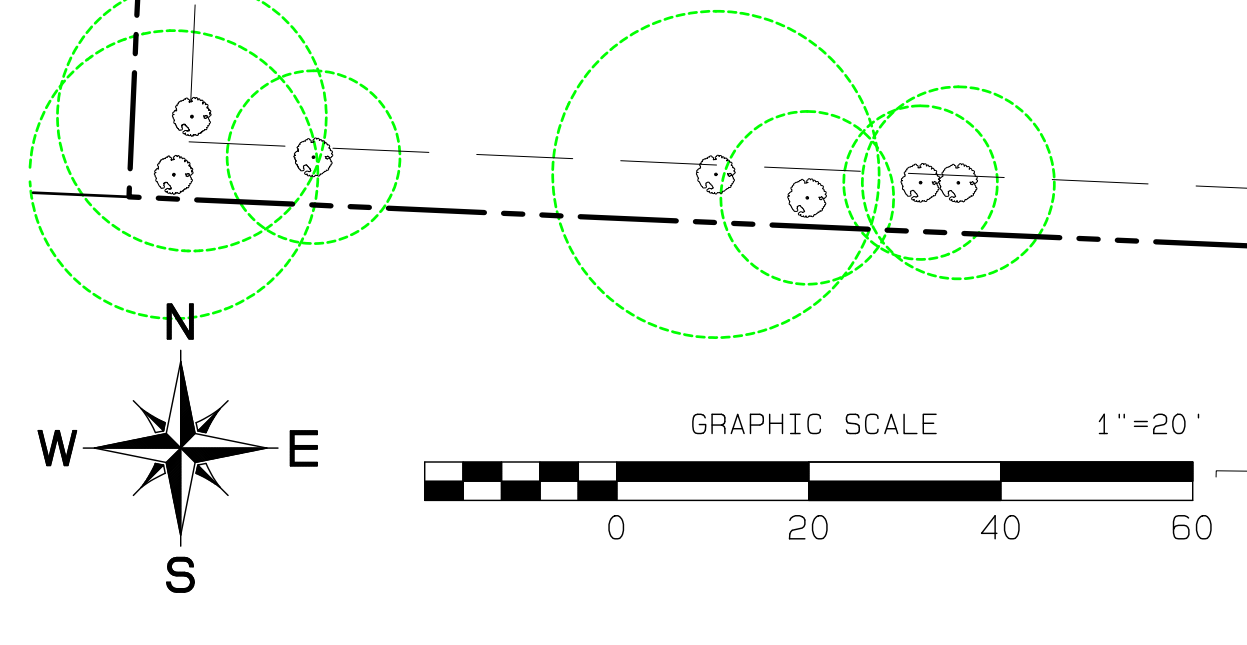
Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 509.886.0326  
 Fax jordan@timberlanepartners.com

**APPROVED**

BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

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

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**DRAWING**

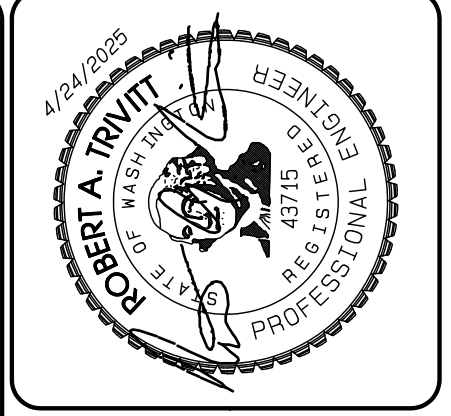
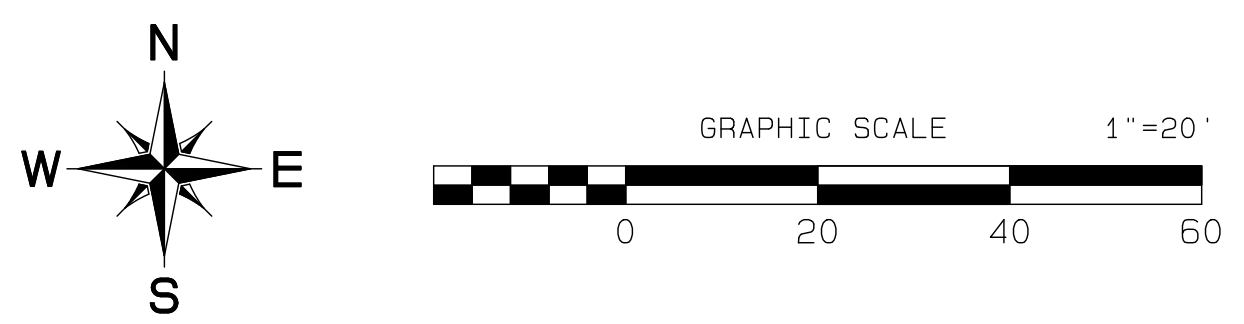
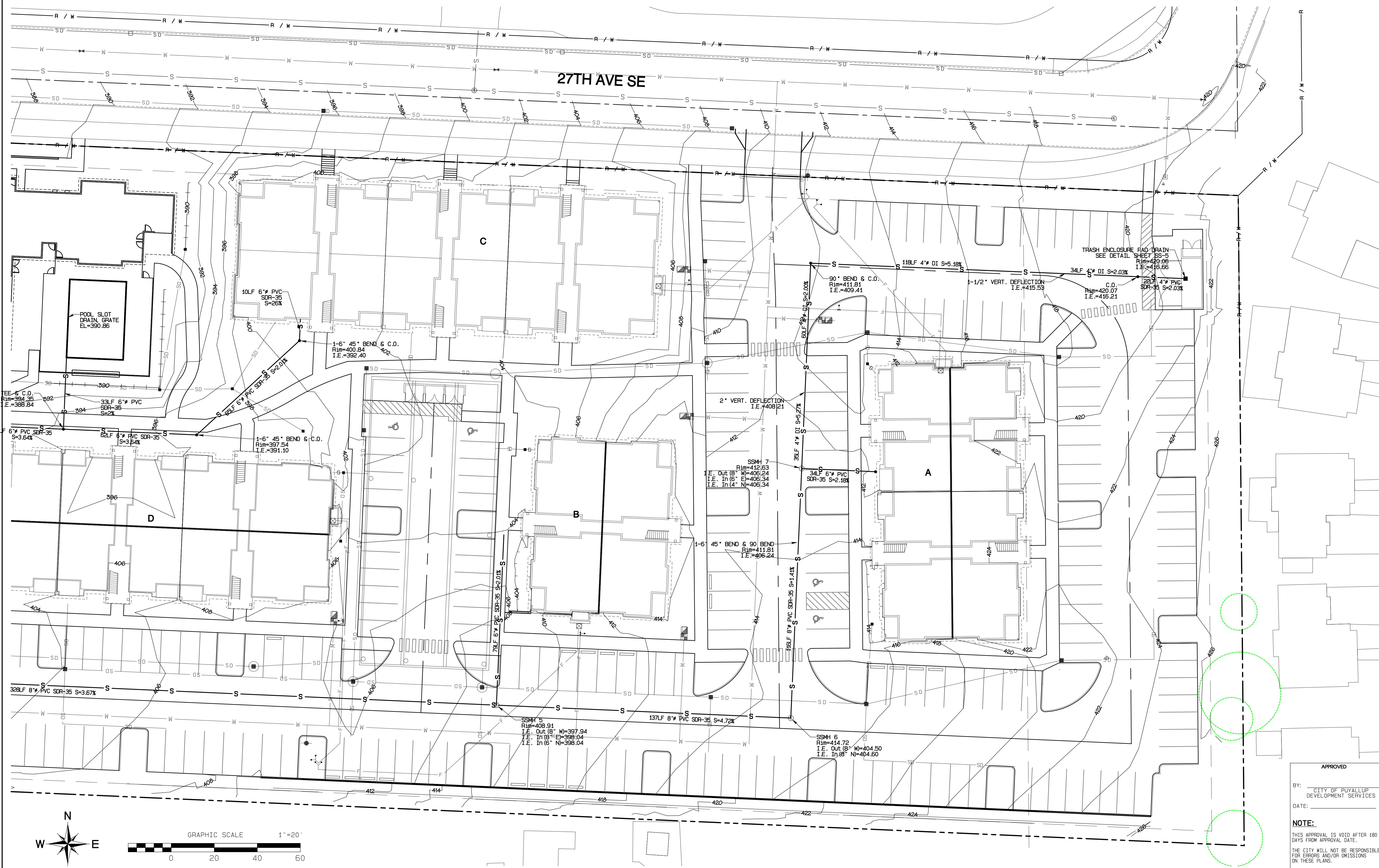
**SS-1**

SHEET 50  
 OF 60

Project Desc.: Bradley Heights; Date: E:\urban\3227 - Bradley Heights\Timberlane\Bradley Heights 20250424 EHG.dwg; P01; Date/Time: 4/24/2025 9:37:28PM

# Bradley Heights

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



REVISION	DATE
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2 Revised per City review.	3/1/25
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JOB NO. 3327  
 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

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

APPROVED

BY: CITY OF PUYALLUP  
 DEVELOPMENT SERVICES

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

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

**SS Plan**

**Bradley Heights**

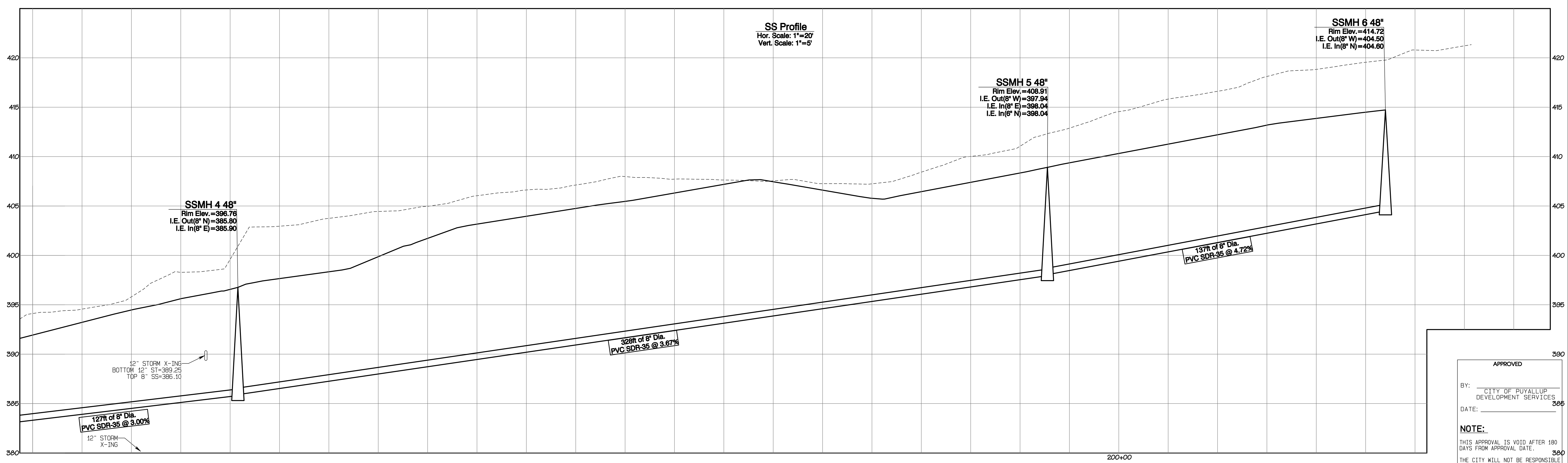
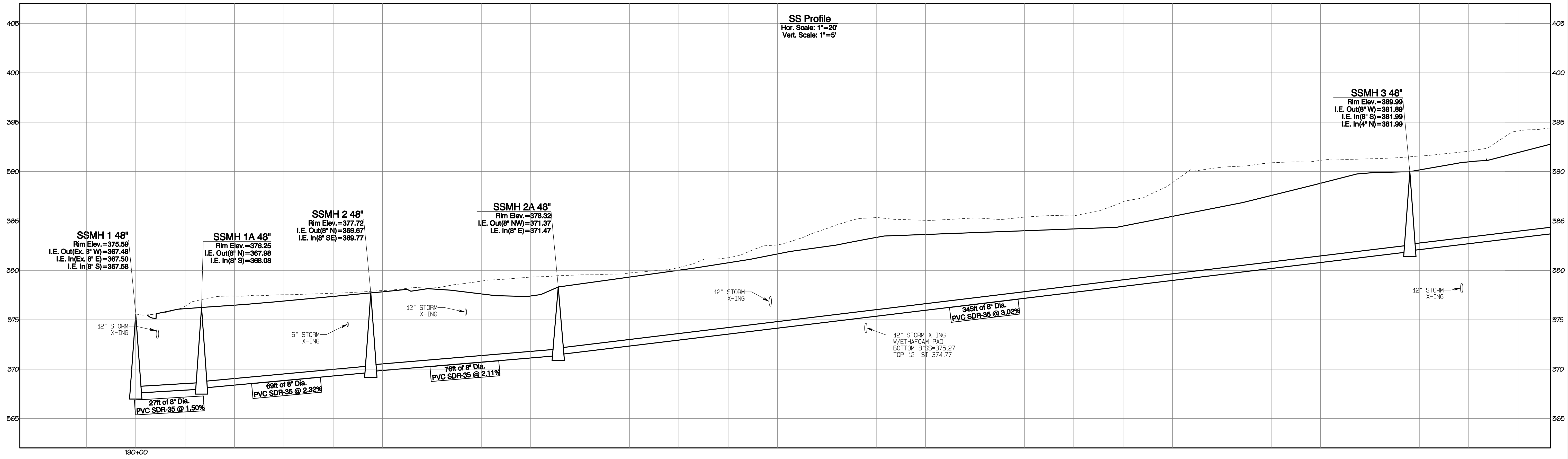
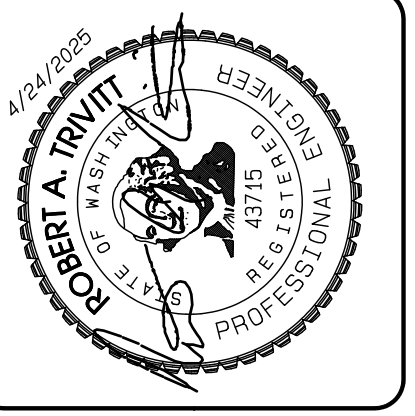
Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 206.896.0326  
 Fax jordan@timberlanepartners.com

**DRAWING**  
**SS-2**  
 SHEET 51  
 OF 60

Project Desc: Bradley Heights; Date: E:\sub\3327 - Bradley Heights\Timberlane\Drawings\20250424\_EHG.dwg; PLOT Date/Time: 4/24/2025 9:37:46PM

# 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 Mail A adjustment.	11/20/24
2 Revised per City review.	3/4/25
3 Revised per City & Ash review.	4/21/25
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JOB NO.	DATE	DESIGNED BY	DRAWN BY	APPROVED BY
3327	May 14, 2024	Rob Trivitt	Rob Trivitt	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

**SS Profiles**

**Bradley Heights**

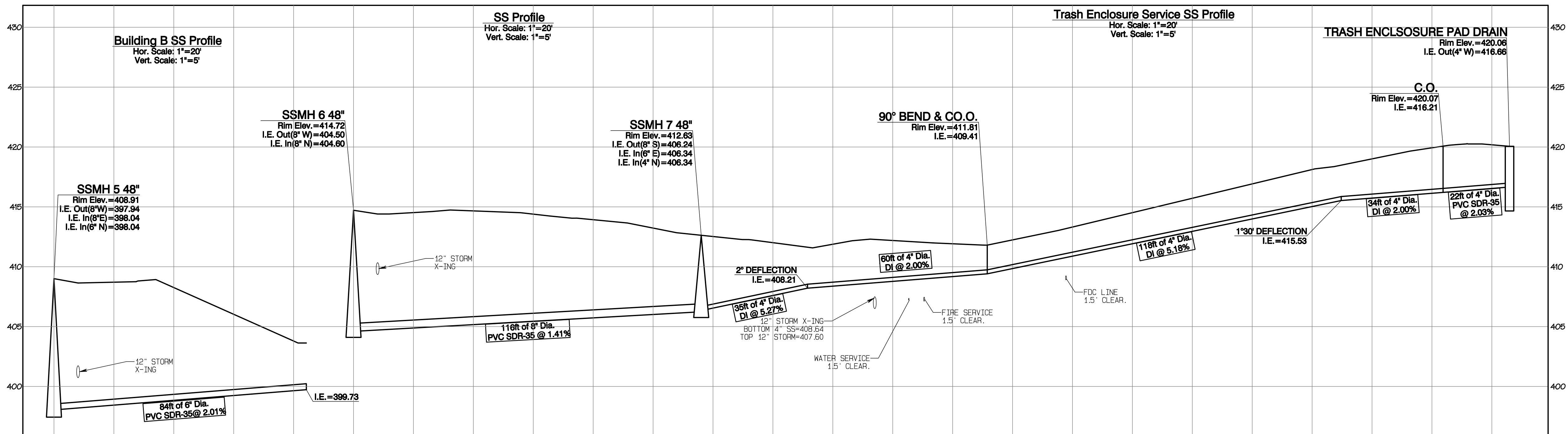
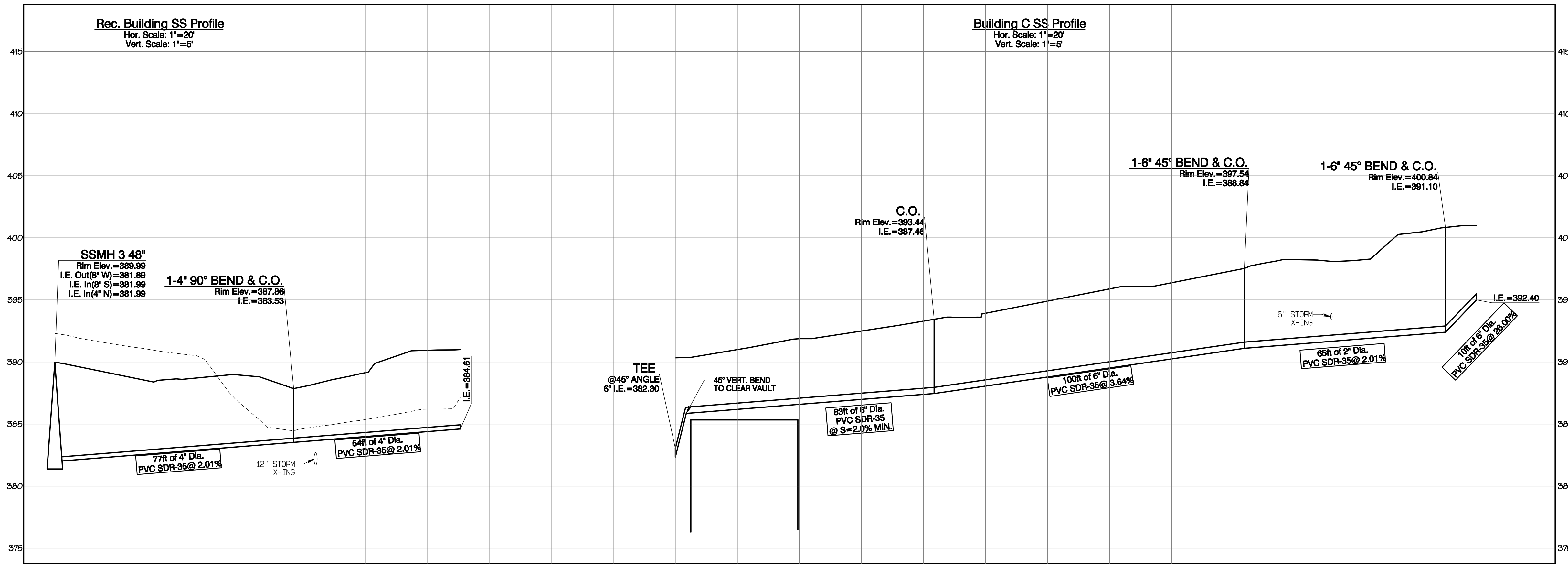
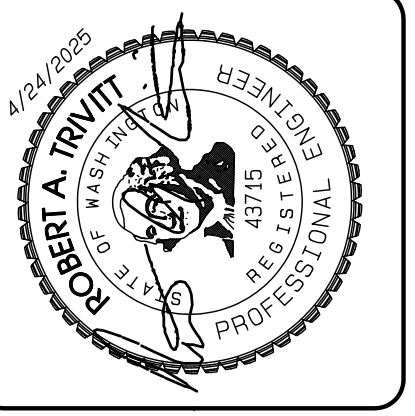
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 509.899.0326  
Fax jordan@timberlanepartners.com

**DRAWING**  
**SS-3**  
SHEET 52  
OF 60

Project Desc.: Bradley Heights Date: F:\sub\3327 - Bradley Heights\Time\Drawings\heights 20250424 EWB.pro P:\1\_data\Files - 4/24/2025\3327.dwg

# Bradley Heights

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



REVISION	DATE
1	11/20/24
2	3/4/25
3	4/21/25
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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

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 phone: 253.770.3144, fax: 253.770.3142

**SS Profiles**

**Bradley Heights**

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 Fax jordan@timberlanepartners.com

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.

DRAWING

**SS-4**

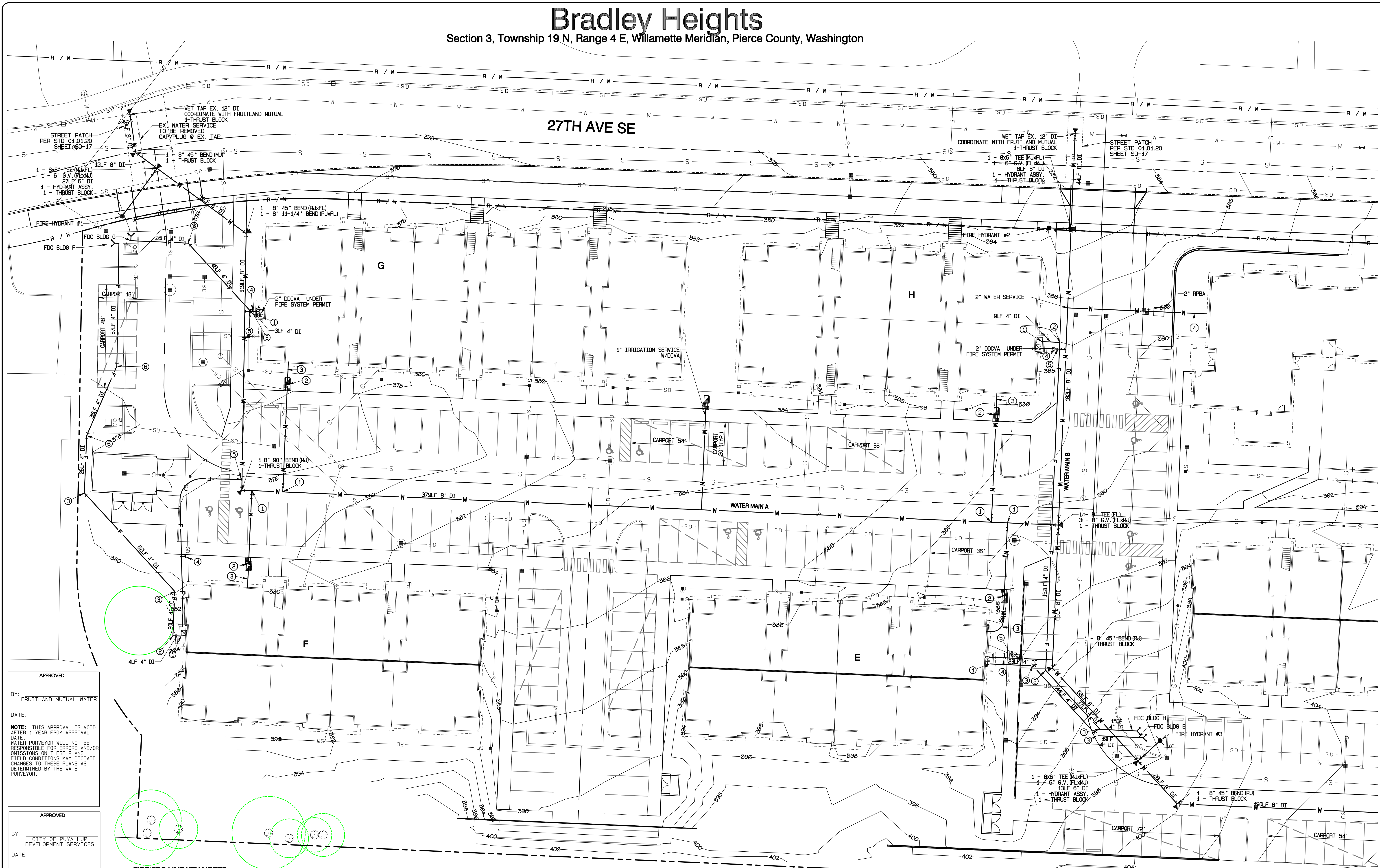
SHEET 53  
 OF 60

Project Desc.: Bradley Heights; Path: F:\sub\3227 - Bradley Heights\Timberlane\Drawings - P01.dwg; Title: SS Profiles; Date: 4/24/2025 9:38:43 AM



# Bradley Heights

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



27TH AVE SE

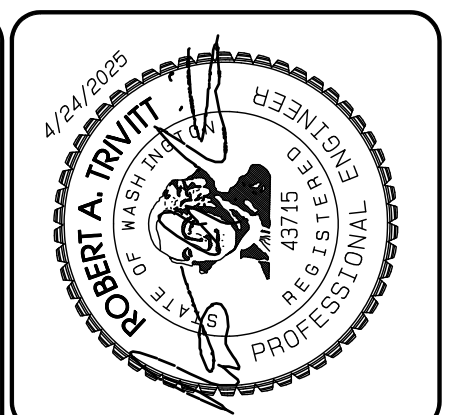
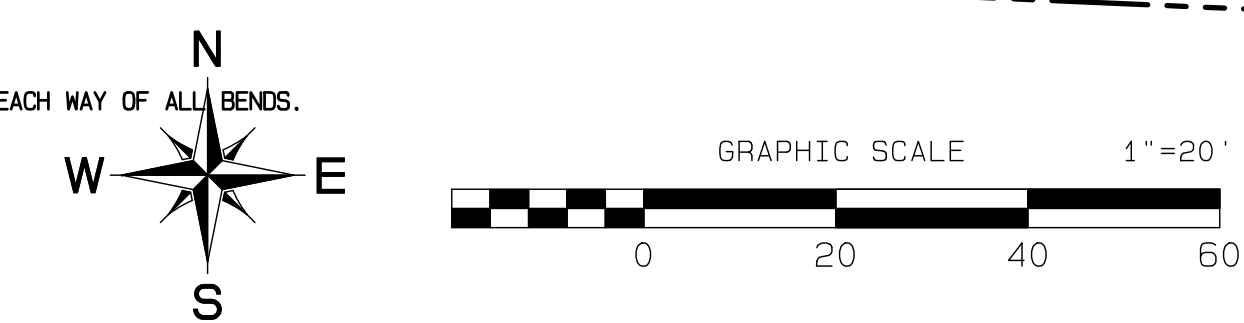
**APPROVED**  
BY: FRUITLAND MUTUAL WATER  
DATE: \_\_\_\_\_  
**NOTE:** THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE. WATER PURVEYOR WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE WATER PURVEYOR.

**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 DCVCA 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 & DCVCA PER STD 03.03.02 & 03.04.01
  - 3- 1-1/2" HOPE SIDR 7 TO BUILDING COORDINATE WITH PLUMBING PLAN
  - 4- 2" HOPE SIDR 7 TO BUILDING COORDINATE WITH PLUMBING PLAN

- 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. DCVCA REQUIRED ON ALL DOMESTIC LINES.
  4. STANDARD REQUIRED COVER IS 3.5".



REVISION	DATE
1	11/20/24
2	3/1/25
3	4/21/25
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JOB NO. 3327  
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

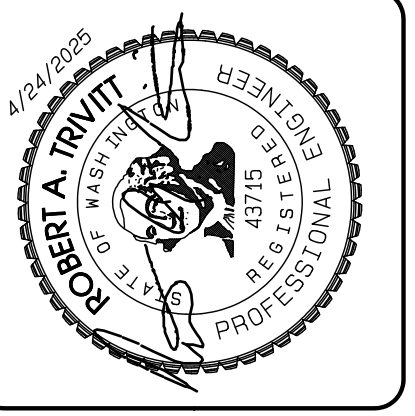
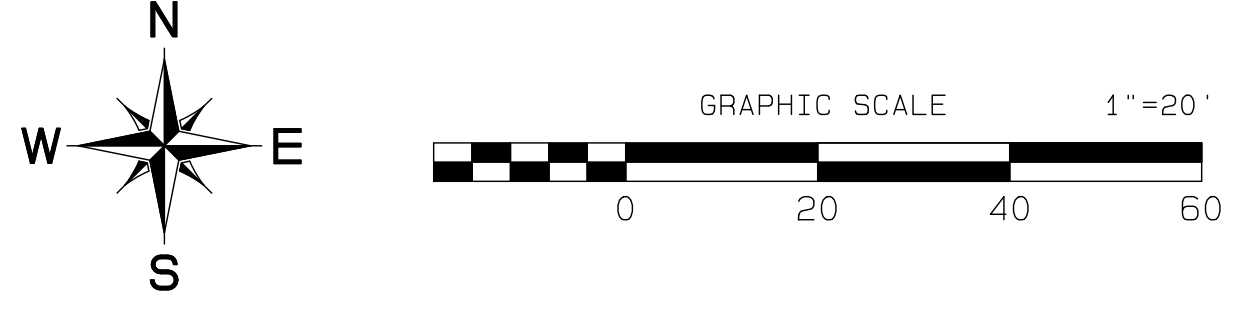
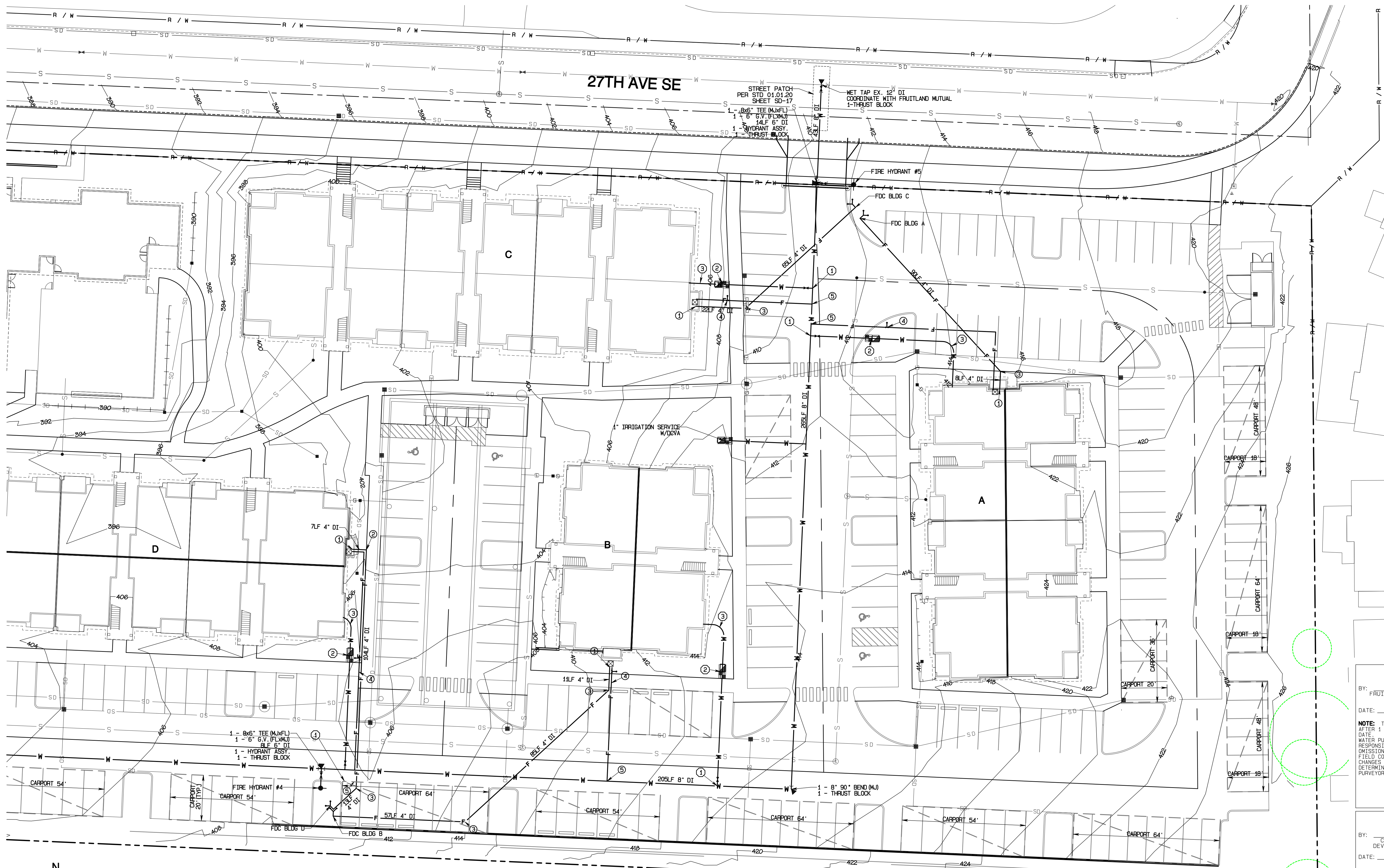
**Water Plan**  
Bradley Heights  
Timberlane Partners  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone 206.886.0326  
Fax jordan@timberlanepartners.com

**DRAWING**  
**W-1**  
SHEET 55  
OF 60

Project Date: 11/20/24; Drawn By: Rob Trivitt; Checked By: Rob Green; Approved By: Rob Green; Date: 11/20/24; Job No: 3327; Title: Bradley Heights - Water Main & Fire Service Plan; Scale: As Shown; Sheet: 55 of 60

# Bradley Heights

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



REVISION	DATE
1 Revised per City review and Mail A adjustment.	11/25/24
2 Revised per City review.	3/1/25
3 Revised per City & Ashi review.	4/27/25
4 Revised per City & Ashi review.	
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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

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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: \_\_\_\_\_

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**Water Plan**

**Bradley Heights**

Timberlane Partners  
 1816 11th Ave Unit C  
 Seattle, WA 98122  
 Phone 206.886.0326  
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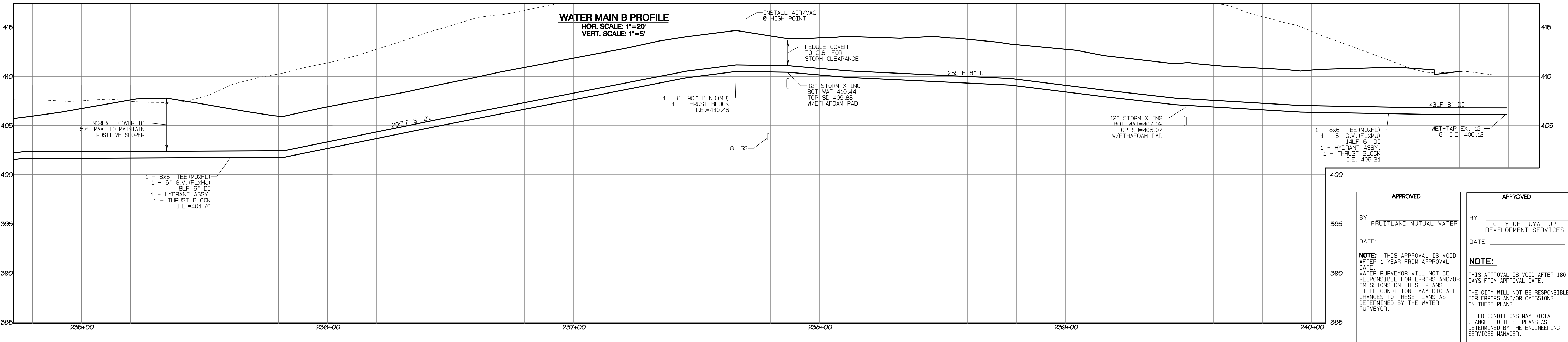
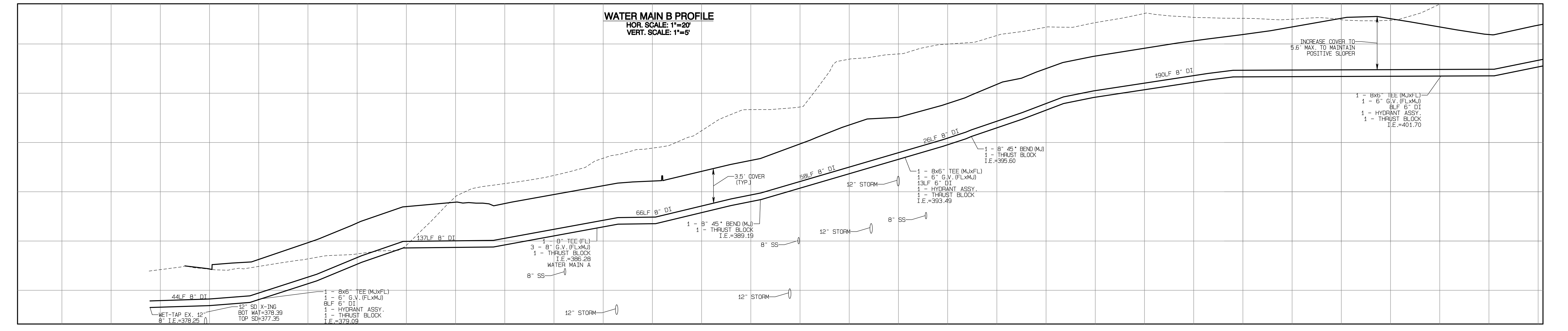
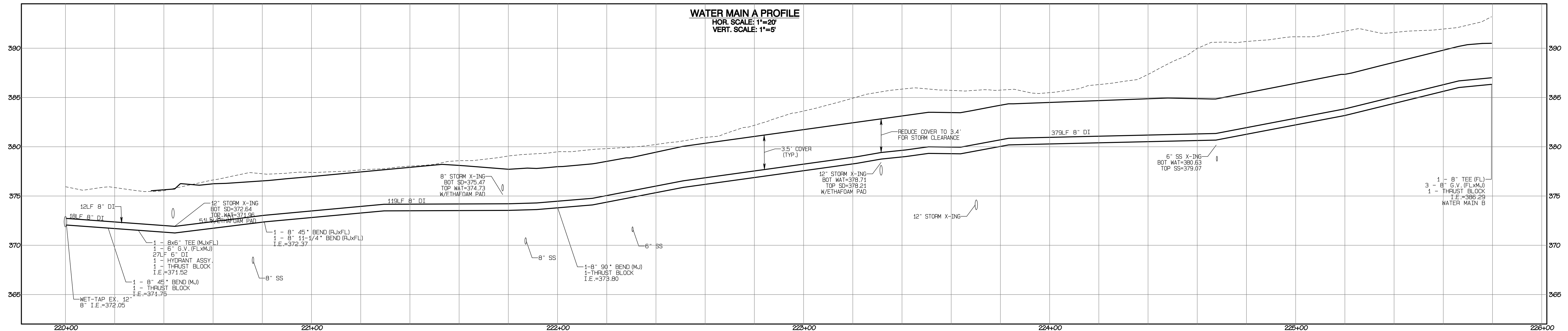
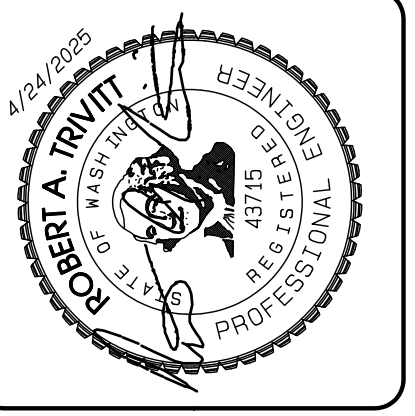
**DRAWING**  
**W-2**

SHEET 56  
 OF 60

Project Desc: Bradley Heights Part: E:\Jobs\3327 - Bradley Heights\Timberlane\Drawings\190624\DWG\190624\_01.dwg PLOT Date: 5/14/24 4:24:23 PM Scale: 1"=20'

# Bradley Heights

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



REVISION	DATE	DESCRIPTION
1	11/20/24	REVISED PER CITY REVIEW AND MAIL A ADJUSTMENT.
2	3/1/25	REVISED PER CITY REVIEW.
3	4/21/25	REVISED PER CITY & ASH REVIEW.
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JOB NO. 2327  
 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

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

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

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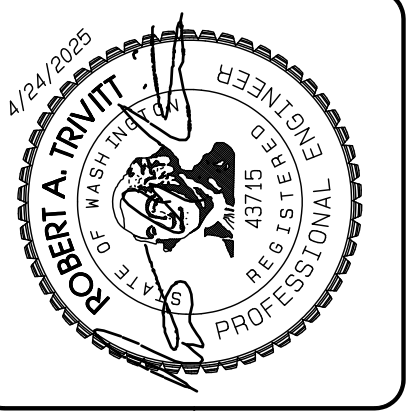
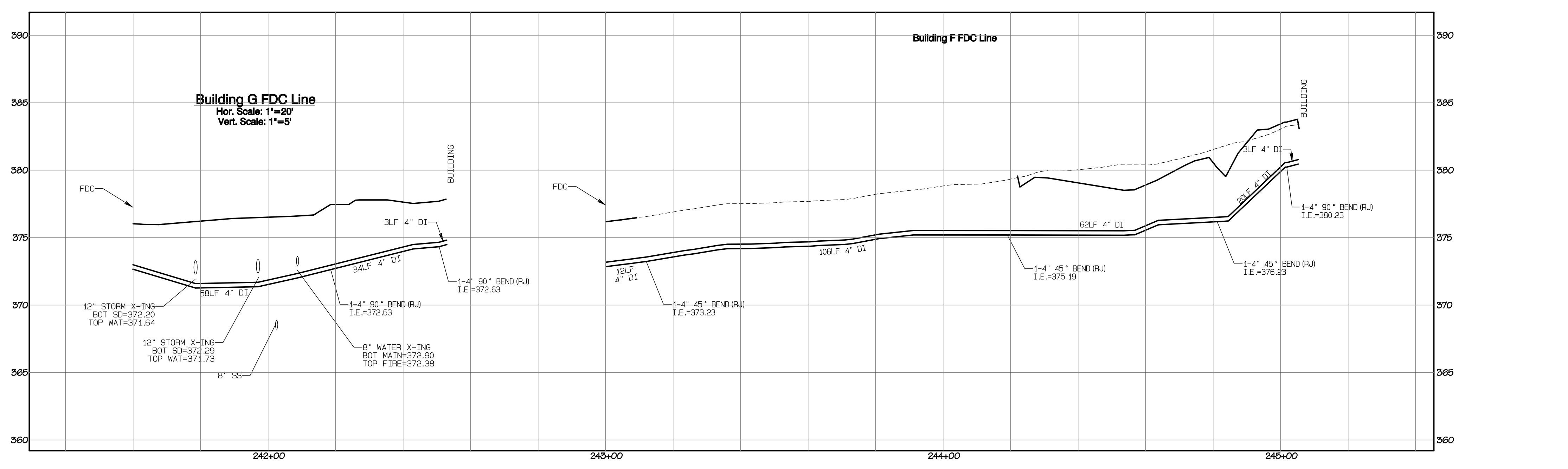
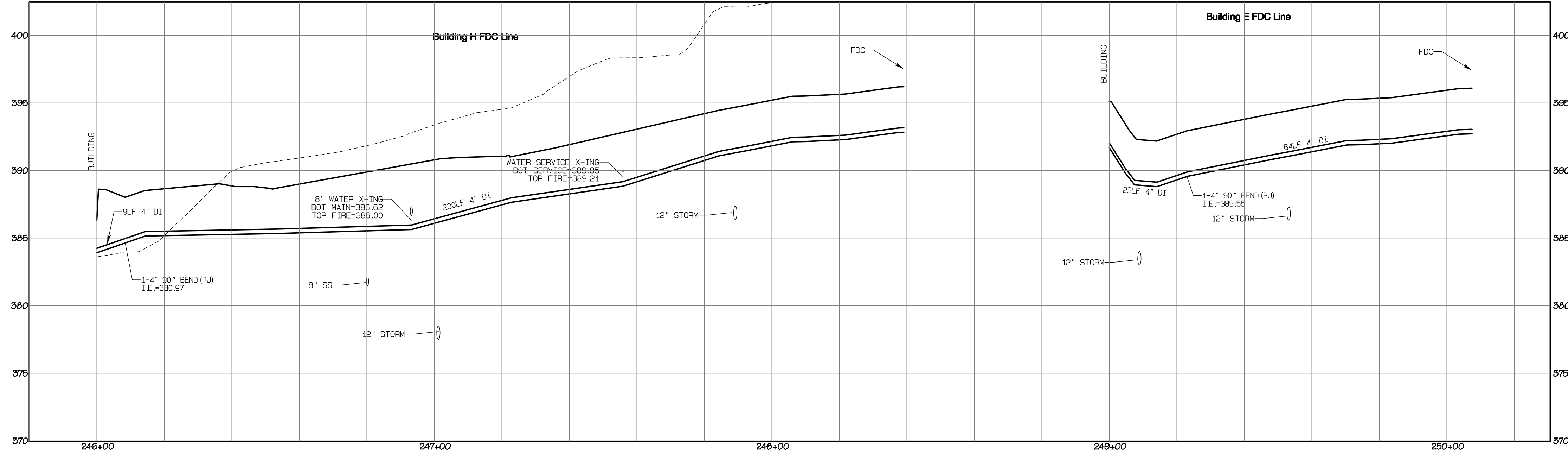
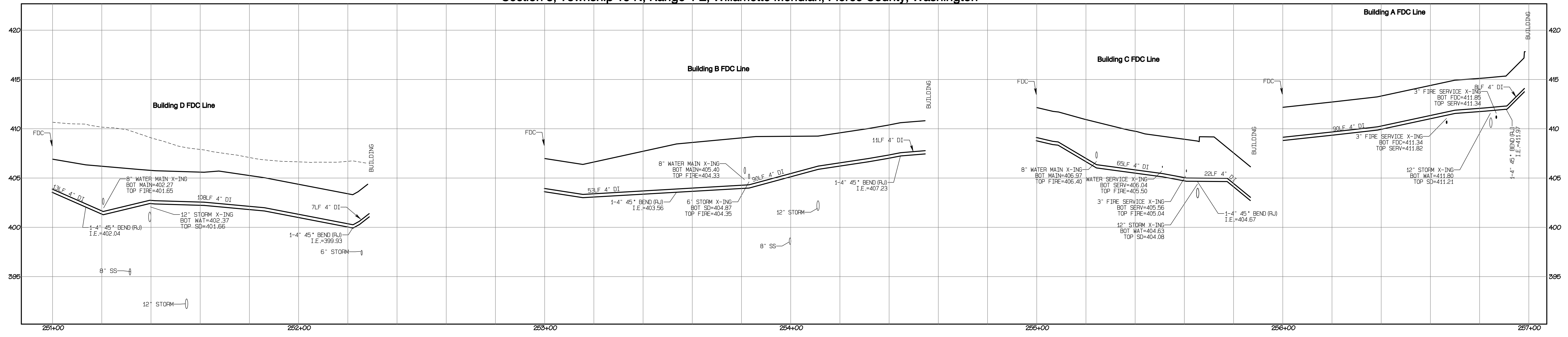
**APPROVED**  
 BY: CITY OF PUYALLUP DEVELOPMENT SERVICES  
 DATE: \_\_\_\_\_

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Project Desc.: Bradley Heights; Date: E:\sub\3227 - Bradley Heights\Time\Drawings\Highways\20250424\_EHG.dwg; Plot Date/Time: 4/24/2025 9:41:11 PM

# Bradley Heights

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



REVISION	DATE
1	11/15/24
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3	4/27/25
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1 Revised per City review and Mill A adjustment.  
 2 Revised per City review.  
 3 Revised per City & Ash review.  
 4 Revised per City & Ash review.

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

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

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

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

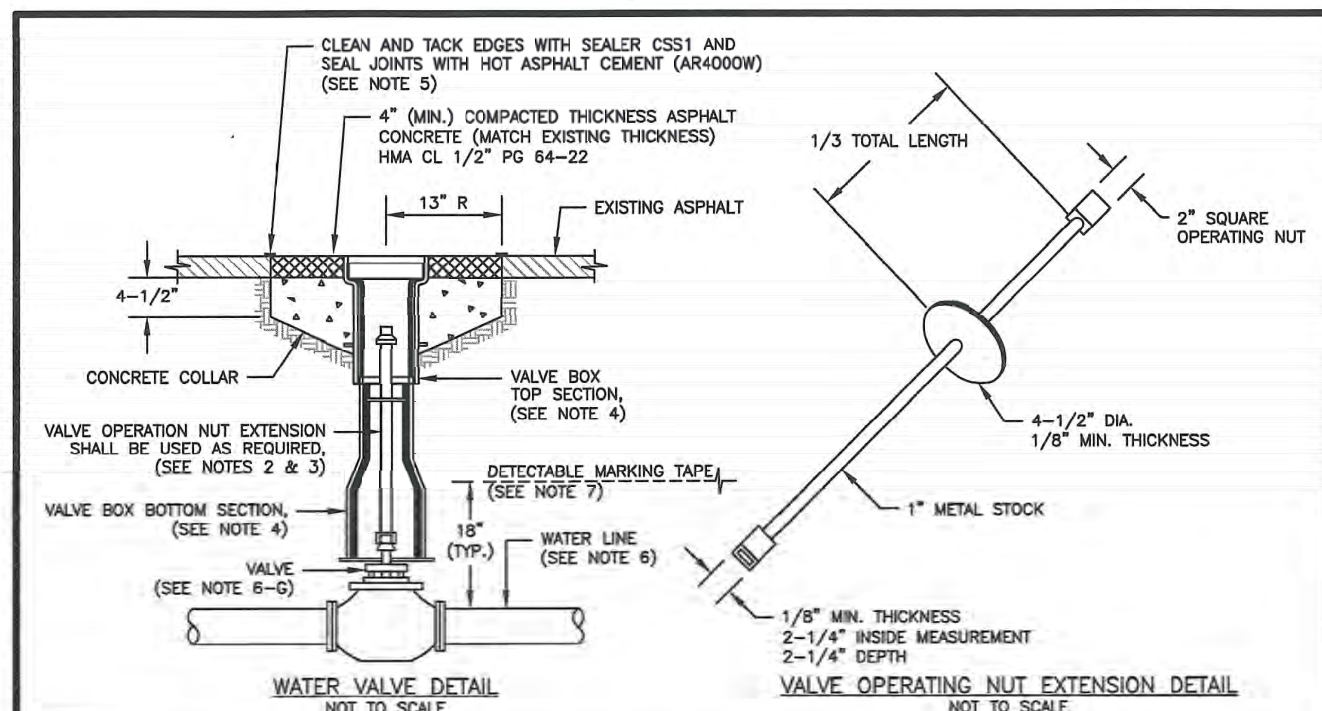
**NOTE:** THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE. WATER PURVEYOR WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE WATER PURVEYOR.

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Project Desc: Bradley Heights Date: E:\sub\3227 - Bradley Heights\Timberlane\Drawings\20250424\_Eng.dwg PLOT Date: 4/24/2025 9:41:36PM

# Bradley Heights

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

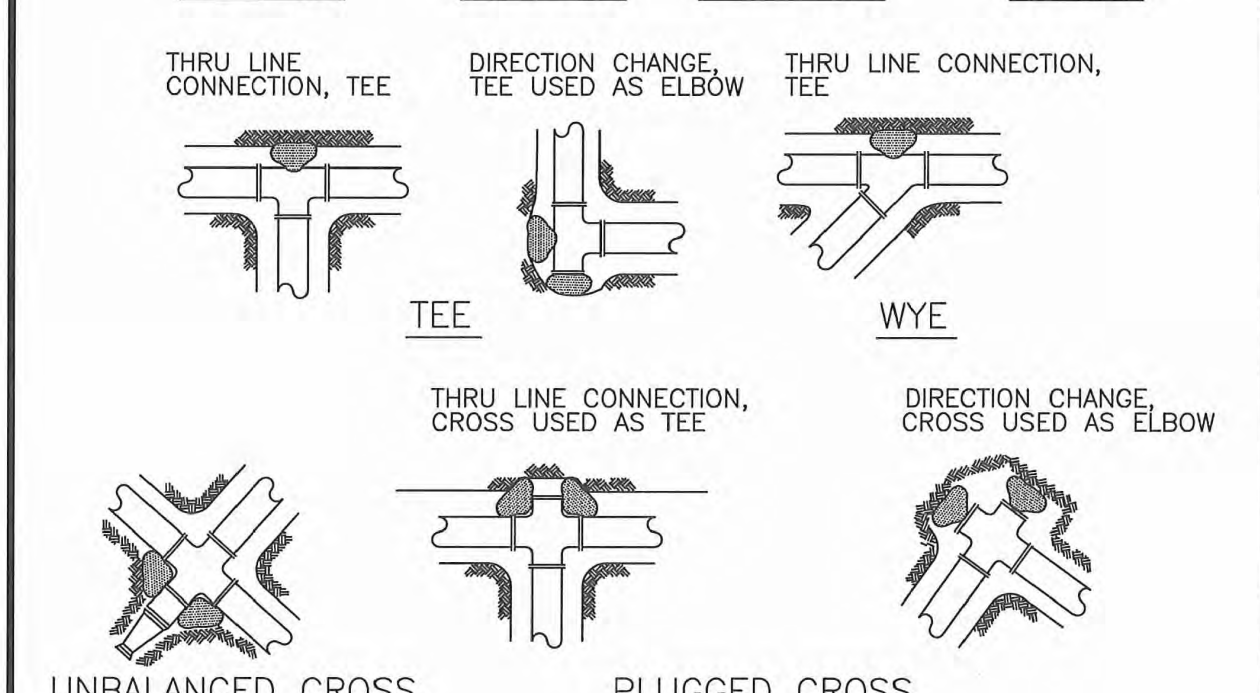
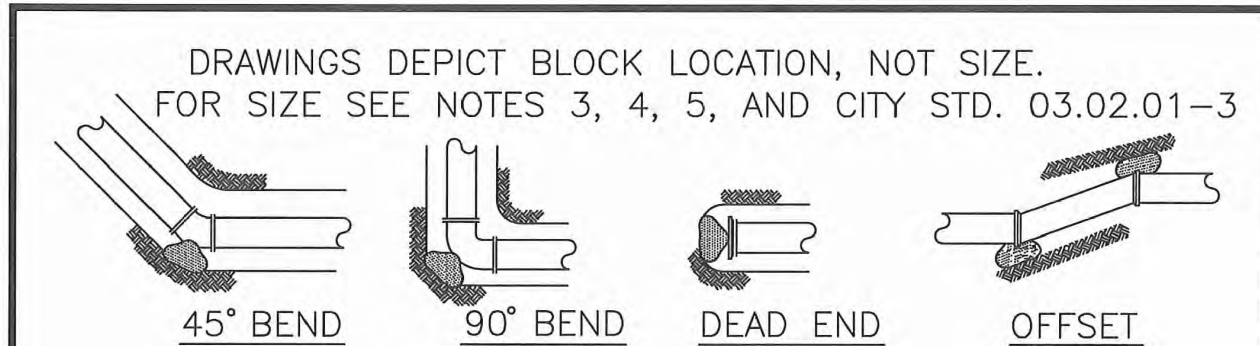


- NOTES:**
1. WATER MAINS SHALL HAVE A MINIMUM COVER OF 24" FROM FINISHED GRADE IN IMPROVED RIGHT-OF-WAY AND IMPROVED EASEMENTS, AND A MINIMUM OF 48" IN UNIMPROVED RIGHT-OF-WAY AND UNIMPROVED EASEMENTS.
  2. VALVE OPERATING NUT EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN FIVE (5) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF TWO (2) FEET LONG. ONLY ONE EXTENSION TO BE USED PER VALVE. TOP OF EXTENSION SHALL BE 2 FEET 6 INCHES TO 3 FEET BELOW FINISHED GRADE.
  3. ALL VALVE OPERATING NUT EXTENSIONS ARE TO BE MADE OF STEEL, SIZE AS NOTED, AND PAINTED WITH TWO COATS OF METAL PAINT.
  4. VALVE BOXES SHALL BE TWO-Piece, ADJUSTABLE, CAST IRON WITH EXTENSION PIECES (IF NECESSARY), AS MANUFACTURED BY THE MANUFACTURER (E.G. SULLY OR APPROVED EQUAL). THE BODY WATER VALVE SHALL BE CAST IN RELIEF ON THE VALVE BOX COVER. VALVE BOX TOPS INSTALLED IN ARTERIAL ROADWAYS SHALL BE MANUFACTURED BY EAST JORDAN (EJ) IRONWORKS MODEL 8555 WITH VALVE BOX COVER MODEL 8500 OR APPROVED EQUAL.
  5. NEAT LINE CUTS SHALL BE SEALED WITH A HOT PAVING GRADE ASPHALT AND FACE OF CUT TACKED.
  6. WATER MAINS SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH DIVISION 7 OF THE WSDOT STANDARD SPECIFICATIONS SUPPLEMENTED WITH THE FOLLOWING:
    - A. DUCTILE IRON PIPE SHALL CONFORM TO ANNA C 151, THICKNESS CLASS 52, AND THE EXTERIOR SHALL BE COATED WITH COAL TAR VARNISH. PIPE AND FITTINGS SHALL BE WETTED LINED AND SHALL CONFORM TO ANNA C 104. THE THICKNESS OF THE LINED SHALL BE NOT LESS THAN 1/16" THICK FOR 2" TO 12" PIPE, 3/32" THICK FOR 14" TO 24" PIPE, AND 1/8" THICK FOR 30" TO 54" PIPE. THE CEMENT LINING SHALL CONFORM TO THE REQUIREMENTS OF ASTM C 150.
    - B. JOINTS SHALL BE TYTON PUSH-ON JOINTS, OR MECHANICAL JOINT TYPE PER ANNA C 111 EXCEPT WHERE FLANGED JOINTS ARE REQUIRED TO CONNECT TO VALVES OR OTHER EQUIPMENT.
    - C. BOLTS AND NUTS FOR BURIED FLANGES LOCATED OUTDOORS, ABOVE GROUND, OR IN OPEN VAULTS IN STRUCTURES SHALL BE TYPE 316 STAINLESS STEEL CONFORMING TO ASTM A 193, GRADE 80M FOR BOLTS, AND ASTM A 194, GRADE 80M FOR NUTS. BOLTS AND NUTS LARGER THAN ONE AND ONE-EIGHTH (1-1/8) INCHES SHALL BE STEEL, ASTM A 307, GRADE 8, WITH CHROMIUM PLATING, ASTM A 165, TYPE III.
    - D. BOLTS USED IN FLANGE INSTALLATION SETS SHALL CONFORM TO ASTM B 193, GRADE 87. NUTS SHALL COMPLY WITH ASTM A 194, GRADE 2H.
    - E. PROVIDE A WASHER FOR EACH NUT, WHERE NEEDED. WASHERS SHALL BE OF THE SAME MATERIAL AS THE NUTS.
    - F. ALL FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF ANNA C 110 AND ANNA C 111.
    - G. RESILIENT SEATED WEDGE GATE VALVES SHALL BE USED FOR TEN (10) INCH MAINS AND SMALLER. BUTTERFLY VALVES SHALL BE USED FOR MAINS GREATER THAN TEN (10) INCHES.
  7. DETECTABLE MARKING TAPE SHALL BE INSTALLED 18" ABOVE PIPE, BE BLUE IN COLOR, AND READ "CAUTION WATER LINE BELOW" MEETING WSDOT SPEC. 9-10.16.

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

**WATER VALVES AND MAINS**

CITY STANDARD 03.02.01-1  
DATE: 03/01/18

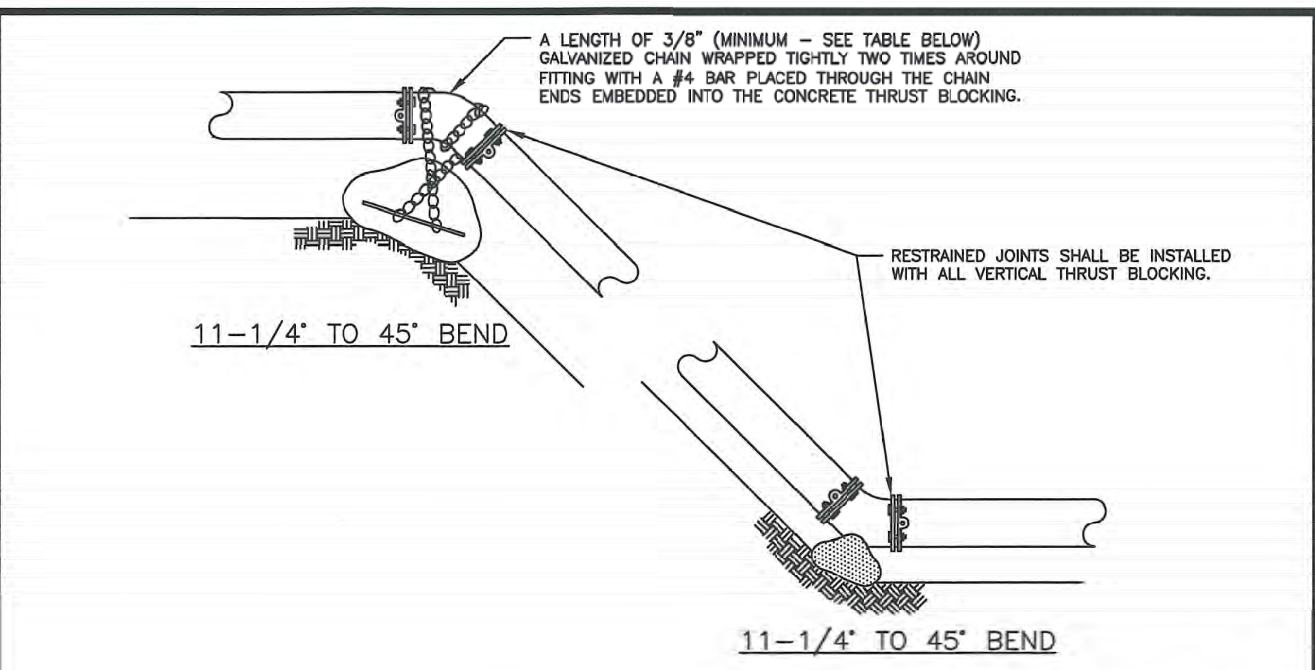


- UNBALANCED CROSS**      **PLUGGED CROSS**
- NOTES:**
1. THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN CONSTRUCTING THRUST BLOCKS:
    - A. BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL.
    - B. THE PIPE FITTINGS AND BOLTS MUST BE ACCESSIBLE. WRAP IN PLASTIC BEFORE POURING CONCRETE BLOCKING.
    - C. CONCRETE SHOULD BE CURED FOR AT LEAST 5 DAYS AND SHOULD HAVE A MINIMUM COMPRESSION STRENGTH OF 2,000 PSI AT 28 DAYS.
    - D. RESTRAINED JOINTS SHALL BE INSTALLED, IN ADDITION TO CONCRETE THRUST BLOCKING, WHEN THRUST BLOCK CURING TIME IS LIMITED.
    - E. BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.
  2. ALL PIPE SHALL BE PROPERLY BEDED, SEE CITY OF PUYALLUP STANDARD BEARING DETAIL NO. 03.01.01.
  3. CONTRACTOR TO PROVIDE BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE.
  4. DIVIDE THRUST BY SAFE BEARING LOAD TO DETERMINE REQUIRED AREA (IN SQUARE FEET) OF CONCRETE TO DISTRIBUTE LOAD.
  5. BEARING SURFACE AREAS TO BE ADJUSTED BY THE ENGINEER FOR OTHER PRESSURE AND/OR SOIL CONDITIONS.

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

**HORIZONTAL THRUST BLOCKING**

CITY STANDARD 03.02.01-1  
DATE: 03/02/01



**TABLE 1: CONCRETE BLOCKING FOR VERTICAL BENDS**

PIPE DIAMETER (INCHES)	TEST PRESSURE (PSI)	BEND ANGLE (DEG)	CONCRETE VOLUME (CY)	CURE SIZE (FEET)	CHAIN SIZE (INCHES)	CHAIN EMBEDMENT (INCHES)
4"	200	11.25°	6	1.8	3/8"	17"
		22.5°	12	2.3		
		45°	22	2.8		
6"	200	11.25°	14	2.4	3/8"	17"
		22.5°	27	3.0		
		45°	50	3.7		
8"	200	11.25°	25	2.9	3/8"	17"
		22.5°	48	3.8		
		45°	89	4.5		
10"	200	11.25°	38	3.4	3/8"	17"
		22.5°	75	4.2		
		45°	139	5.2		
12"	200	11.25°	55	3.8	3/8"	17"
		22.5°	108	4.8		
		45°	200	5.8		
14"	200	11.25°	75	4.2	3/8"	17"
		22.5°	147	5.3		
		45°	272	6.5		
16"	200	11.25°	98	4.8	3/8"	17"
		22.5°	192	5.8		
		45°	355	7.1		

ALL NOTES ON CITY STANDARD 03.02.01-1 SHALL APPLY TO THIS DETAIL. SEE CITY STANDARD 03.02.01-3 FOR ADDITIONAL INFORMATION.

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

**VERTICAL THRUST BLOCKING**

CITY STANDARD 03.02.01-2  
DATE: 03/02/01

**TABLE 2: THRUST AT FITTINGS AT 200 PSI**

SIZE	TEST PRESSURE (PSI)	THRUST FITTINGS AT 200 PSI				
		A	B	C	D	E
4"	200	3,140	2,405	1,225	815	
6"	200	7,070	9,395	5,410	2,760	1,385
8"	200	12,565	17,770	8,820	4,505	2,465
10"	200	19,835	27,770	15,030	7,860	3,850
12"	200	28,275	39,885	21,840	11,030	5,545
14"	200	38,485	54,425	29,455	15,015	7,545
16"	200	50,265	71,085	38,470	19,815	9,855

**TABLE 3: BEARING VALUE OF SOIL**

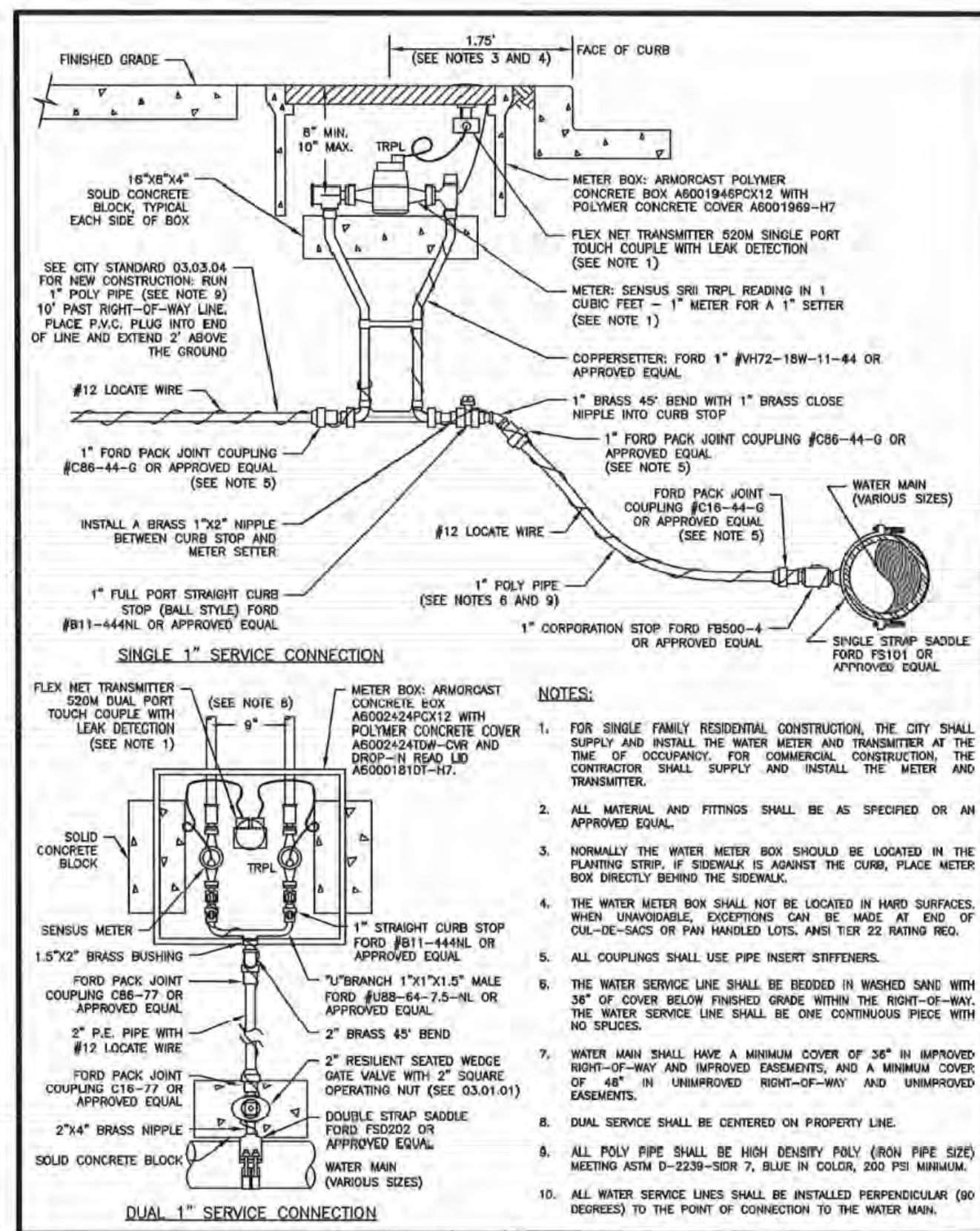
SOIL TYPE	SAFE BEARING LOAD (LBS/SF)
MUCK, PEAT, ETC.	0
SOFT CLAY/ALLUVIAL SOIL	1,000
SAND	2,000
SAND AND GRAVEL	3,000
SAND AND GRAVEL CEMENTED WITH CLAY	4,000
HARD SHALE	10,000

- SEE CITY STANDARDS 03.02.01-1 AND 03.02.01-2 FOR ADDITIONAL INFORMATION.
- NOTES:**
1. TO DETERMINE THRUST AT PRESSURES OTHER THAN PSI SHOWN, MULTIPLY THE THRUST OBTAINED IN TABLE 2 BY THE RATIO OF THE PRESSURE TO 200 PSI.  
EXAMPLE: THE THRUST ON A 12 INCH, 90° BEND AT 300 PSI.  
39,885 x 300/200 = 59,828 LBS
  2. TO DETERMINE THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET (SF):  
EXAMPLE: FOR SAND AND GRAVEL BEARING VALUE FROM TABLE 3 IS 3,000 LBS/SF  
59,828 LBS ÷ 3,000 LBS/SF = 20 SF OF AREA
  3. CONTRACTOR TO PROVIDE BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE.
  4. AREAS SHALL BE ADJUSTED FOR OTHER PRESSURE CONDITIONS.
  5. NO WATER MAIN SHALL DEAD END AGAINST A MAIN LINE VALVE. DEAD END WATER MAINS SHALL BE BLOCKED AGAINST A RESTRAINED MECHANICAL JOINT (M.J.) PLUG OR CAP.

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

**THRUST BLOCKING TABLE**

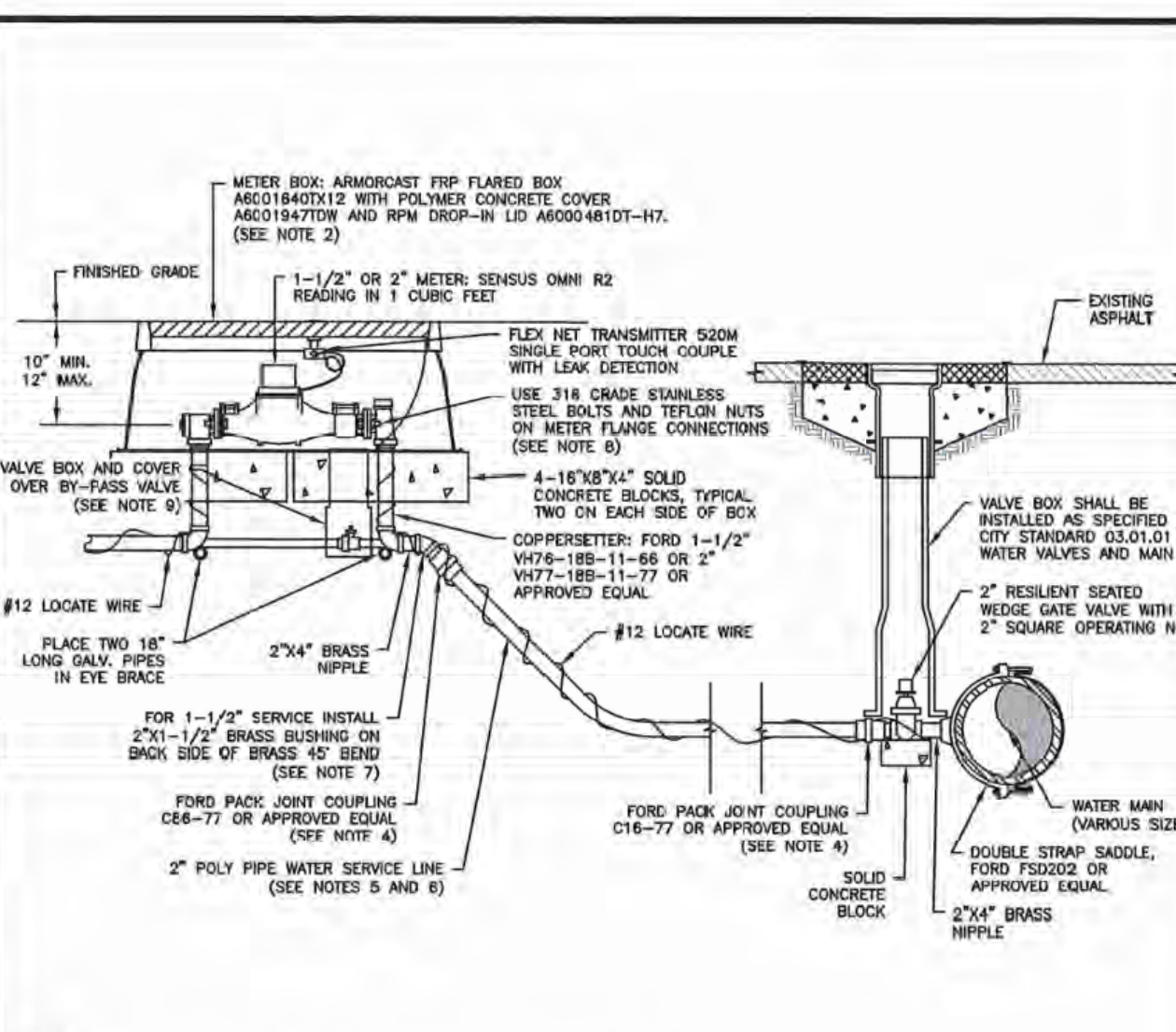
CITY STANDARD 03.02.01-3  
DATE: 03/02/01



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

**1" WATER SERVICE CONNECTION**

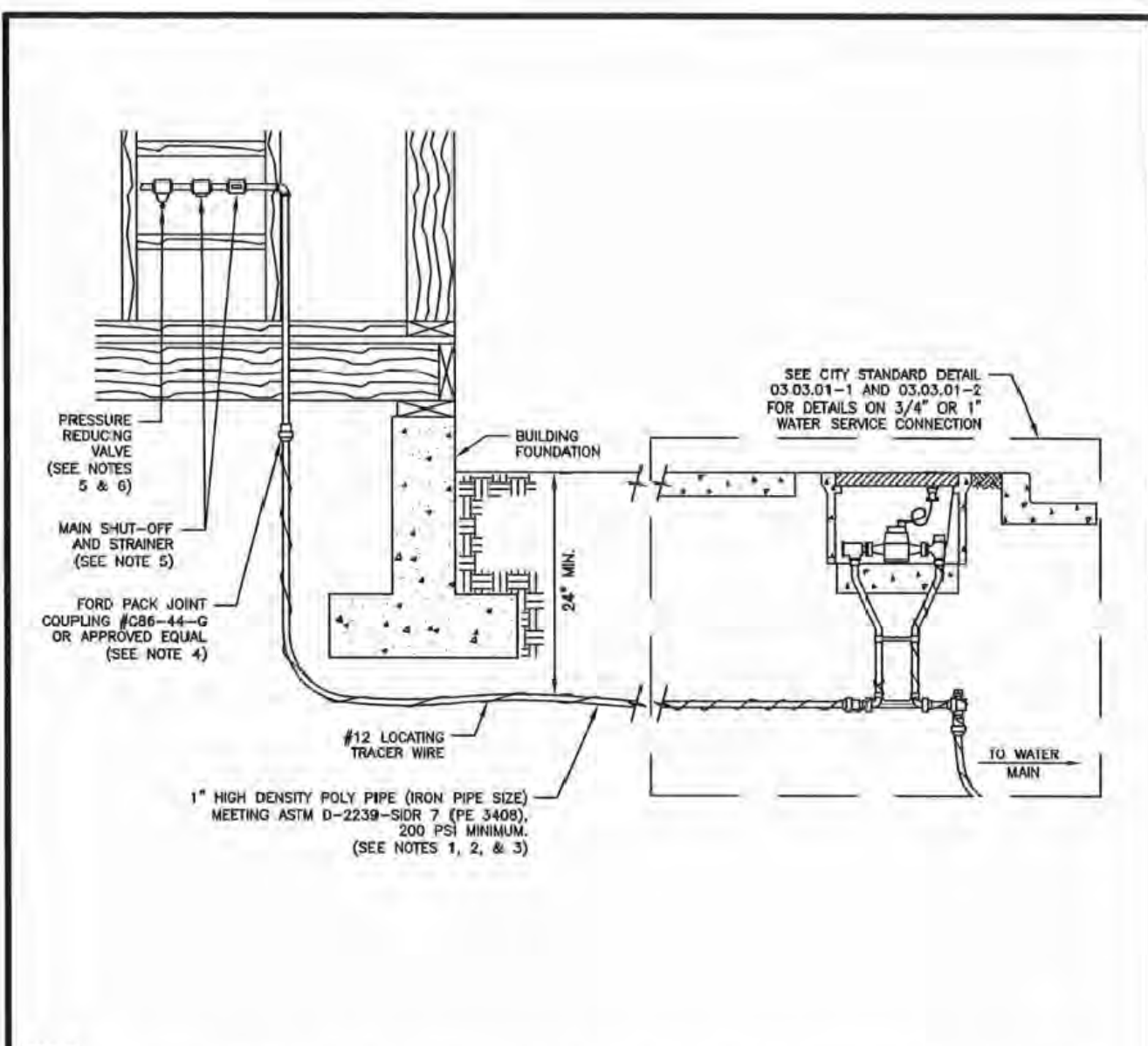
CITY STANDARD 03.03.01-2  
DATE: 03/03/01



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

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

CITY STANDARD 03.03.02  
DATE: 03/03/02



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

**PRIVATE WATER SERVICE LINES**

CITY STANDARD 03.03.04  
DATE: 03/03/04

- WATER SYSTEM PLAN NOTES:**
1. 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.
  2. 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.
  3. 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), or as directed by Fruitland Mutual Water Company (FMWC), Valley Water (VW), or Tacoma Water (TW) is the purveyor.
  4. A copy of these approved plans and applicable city developer specifications and details shall be on site during construction.
  5. Any revisions made to these plans must be reviewed and approved by the developer's engineer, the Engineering Services Staff, and the FMWC, VW or TW when served by that purveyor, prior to any implementation in the field. The City shall not be responsible for any errors and/or omissions on these plans.
  6. 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.
  7. Any structure and/or obstruction which requires removal or relocation relating to this project shall be done so at the developer's expense.
  8. Bacteriological (Coliform and Iron Bacteria) test samples will be taken by the City (or FMWC, VW or TW when served by that purveyor) and paid for by the contractor, except for Capital Improvement Projects (CIP) which shall be paid for by the City.
  9. Water mains shall have a minimum cover of 36 inches from paved final grade in improved right-of-way and improved easements, and a minimum of 48 inches in unimproved right-of-way and unimproved easements.
  10. Pipe for water mains shall be ductile iron conforming to Section 7-09 of the Standard Specifications, Class 52 with tyton or approved equal joints. Pipe shall be cement lined in accordance with A.S.A. Specification A 214-1964.
- WATER NOTES CONTINUED ON W-6

**APPROVED**

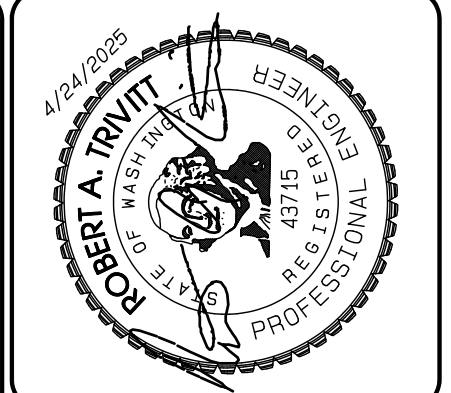
BY: FRUITLAND MUTUAL WATER  
DATE: \_\_\_\_\_

**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 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.



REVISION	DATE	DESCRIPTION
1	11/26/24	1. Revised per City review and Mail A adjustment.
2	3/1/25	2. Revised per City review.
3	4/27/25	3. Revised per City & Ashi review.
4		4. Revised per City & Ashi review.
5		5. Revised per City & Ashi review.
6		6. Revised per City & Ashi review.
7		7. Revised per City & Ashi review.
8		8. Revised per City & Ashi review.
9		9. Revised per City & Ashi review.
10		10. Revised per City & Ashi review.

**AZURE GREEN CONSULTANTS**

+ feasibility    + planning    + engineering    + surveying

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

**Water Details**

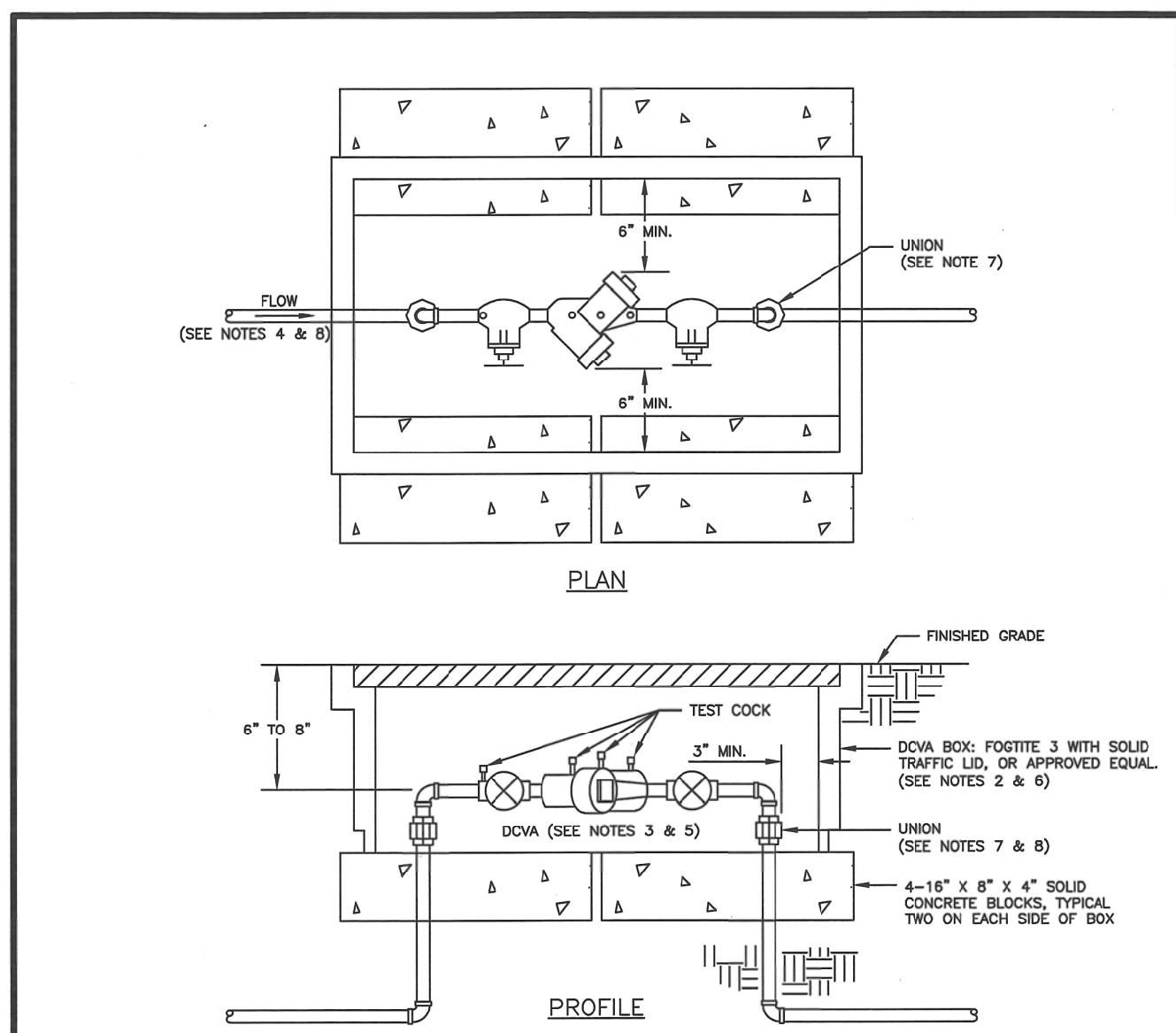
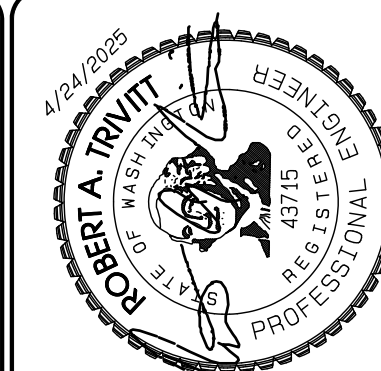
**Bradley Heights**

**Timberline Partners**  
1816 11th Ave Unit C  
Seattle, WA 98122  
Phone: 509.896.0326  
Fax: jordan@timberlinepartners.com

**DRAWING**  
**W-5**  
SHEET 59 OF 60

# Bradley Heights

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



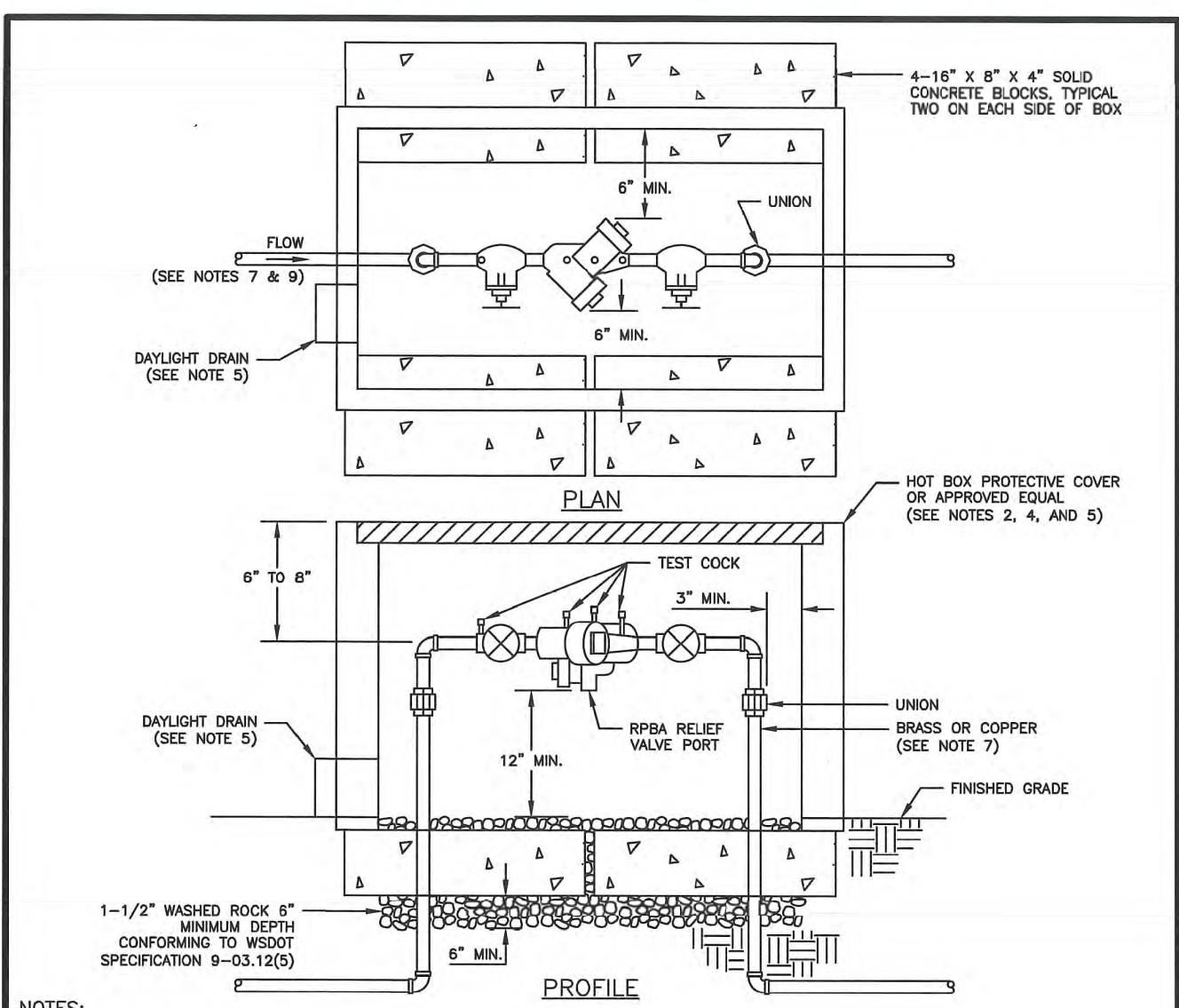
- NOTES:**
- BACKFLOW ASSEMBLY MUST BE SELECTED FROM WASHINGTON STATE DEPARTMENT OF HEALTH'S LIST OF BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE, LATEST EDITION.
  - THE DOWA SHALL BE INSTALLED WITH ADEQUATE SPACE TO FACILITATE MAINTENANCE AND TESTING. IT SHALL BE TESTED 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 OR 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

APPROVED FOR PUBLICATION: DATE: 2/5/2019 (NOT TO SCALE)

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

CITY STANDARD: 03.04.01



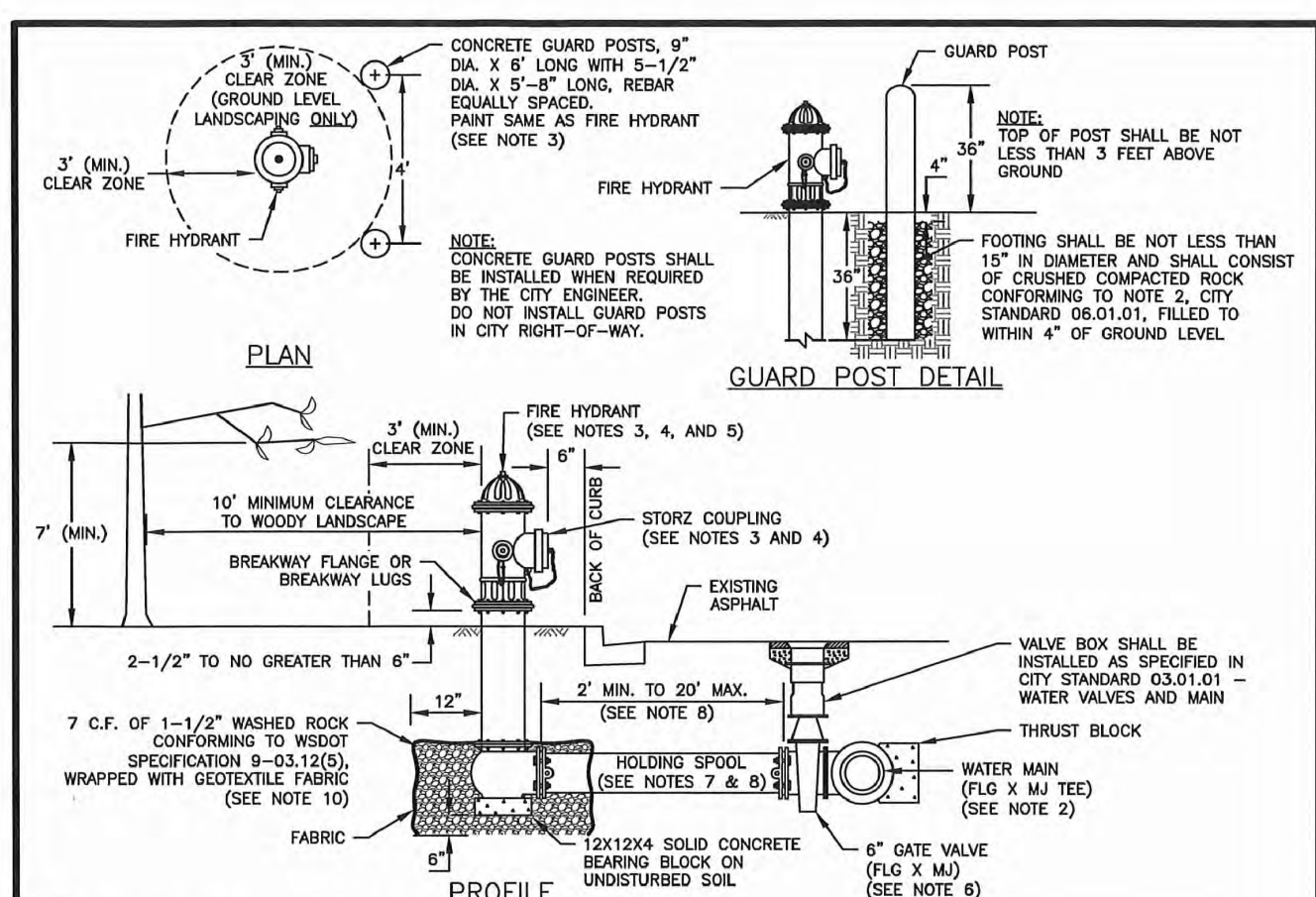
- NOTES:**
- BACKFLOW ASSEMBLY MUST BE SELECTED FROM WASHINGTON STATE DEPARTMENT OF HEALTH'S LIST OF BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE, LATEST EDITION.
  - THE RPSA SHALL BE INSTALLED WITH ADEQUATE SPACE TO FACILITATE MAINTENANCE AND TESTING. IT SHALL BE TESTED 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 RPSA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO THE ASSEMBLY ARE ALLOWED.
  - THE RPSA SHALL NOT BE INSTALLED IN A PIT BELOW GROUND LEVEL.
  - THE PROTECTIVE COVERING FOR THE RPSA, 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 RPSA, TO BE ABLE TO HANDLE THE VOLUME OF WATER THAT POTENTIALLY COULD BE DISCHARGED FROM THE RELIEF VALVE PORT.
  - THE RPSA SHALL BE SIZED EQUAL OR COMPARABLE TO THE METER SIZE.
  - USE ONLY BRASS OR COPPER BETWEEN THE METER AND THE BOTTOM VERTICAL, 90 DEGREE BEND ON THE CUSTOMER'S SIDE OF THE RPSA.
  - ELECTRIC UNIONS MUST BE USED TO SEPARATE DISSIMILAR MATERIALS.
  - THE RPSA SHOULD BE LOCATED IMMEDIATELY DOWN STREAM OF THE METER, AND SHOULD NOT BE INSTALLED INSIDE A BUILDING.
  - AN RPSA 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

APPROVED FOR PUBLICATION: DATE: 2/5/2019 (NOT TO SCALE)

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

CITY STANDARD: 03.04.02



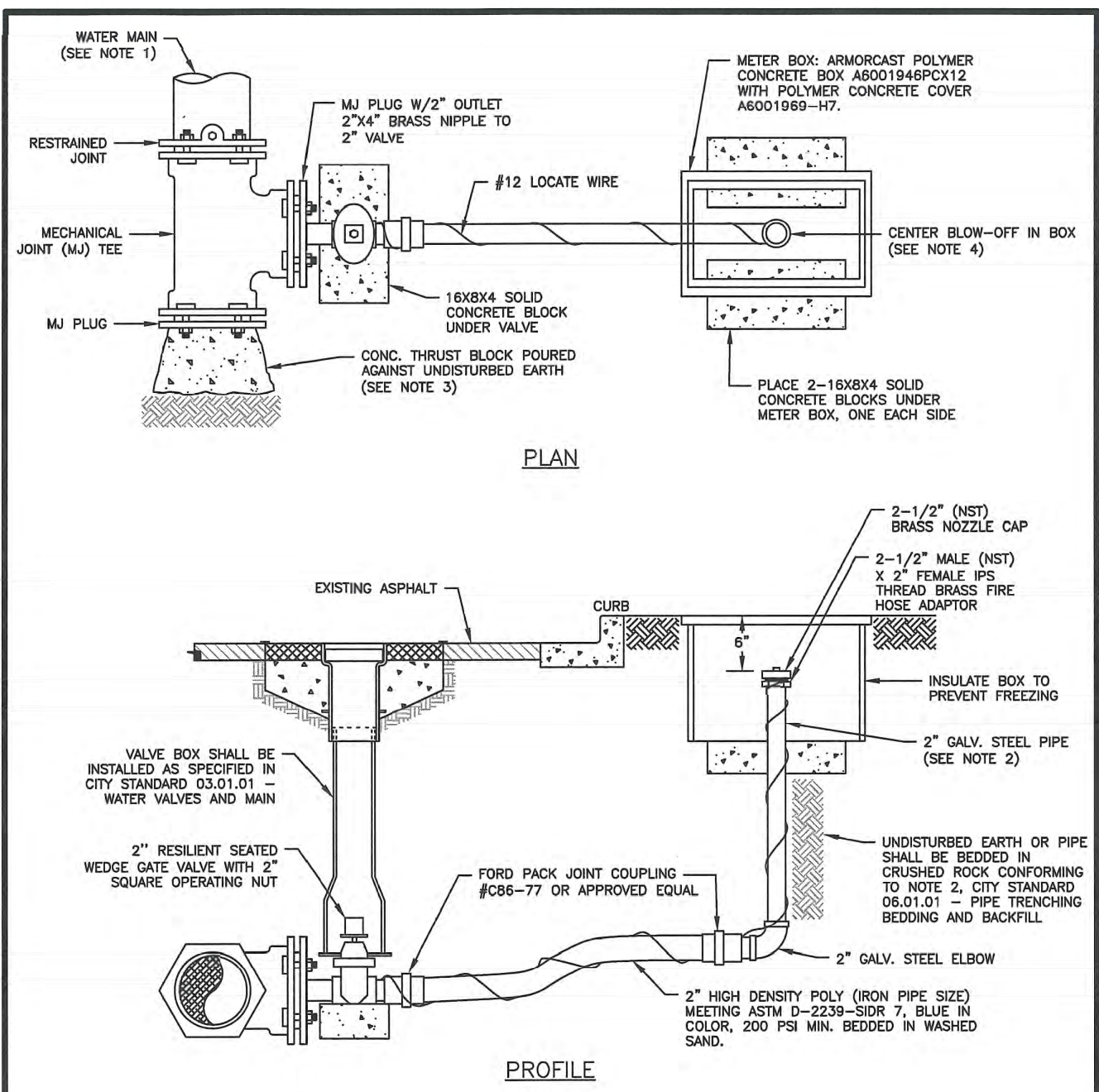
- NOTES:**
- ALL MATERIALS AND FITTINGS SHALL BE AS SPECIFIED OR APPROVED EQUAL.
  - WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" IN IMPROVED RIGHT-OF-WAY AND IMPROVED EASEMENTS, AND A MINIMUM 48" IN UNIMPROVED RIGHT-OF-WAY AND UNIMPROVED EASEMENTS.
  - THE FIRE HYDRANT AND CONCRETE GUARD POSTS SHALL 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 MEDIUM, M & H 1200, WUELLER 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 MULLER 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 8-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 COVER 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

APPROVED FOR PUBLICATION: DATE: 1/11/2020 (NOT TO SCALE)

**FIRE HYDRANT ASSEMBLY**

CITY STANDARD: 03.05.01



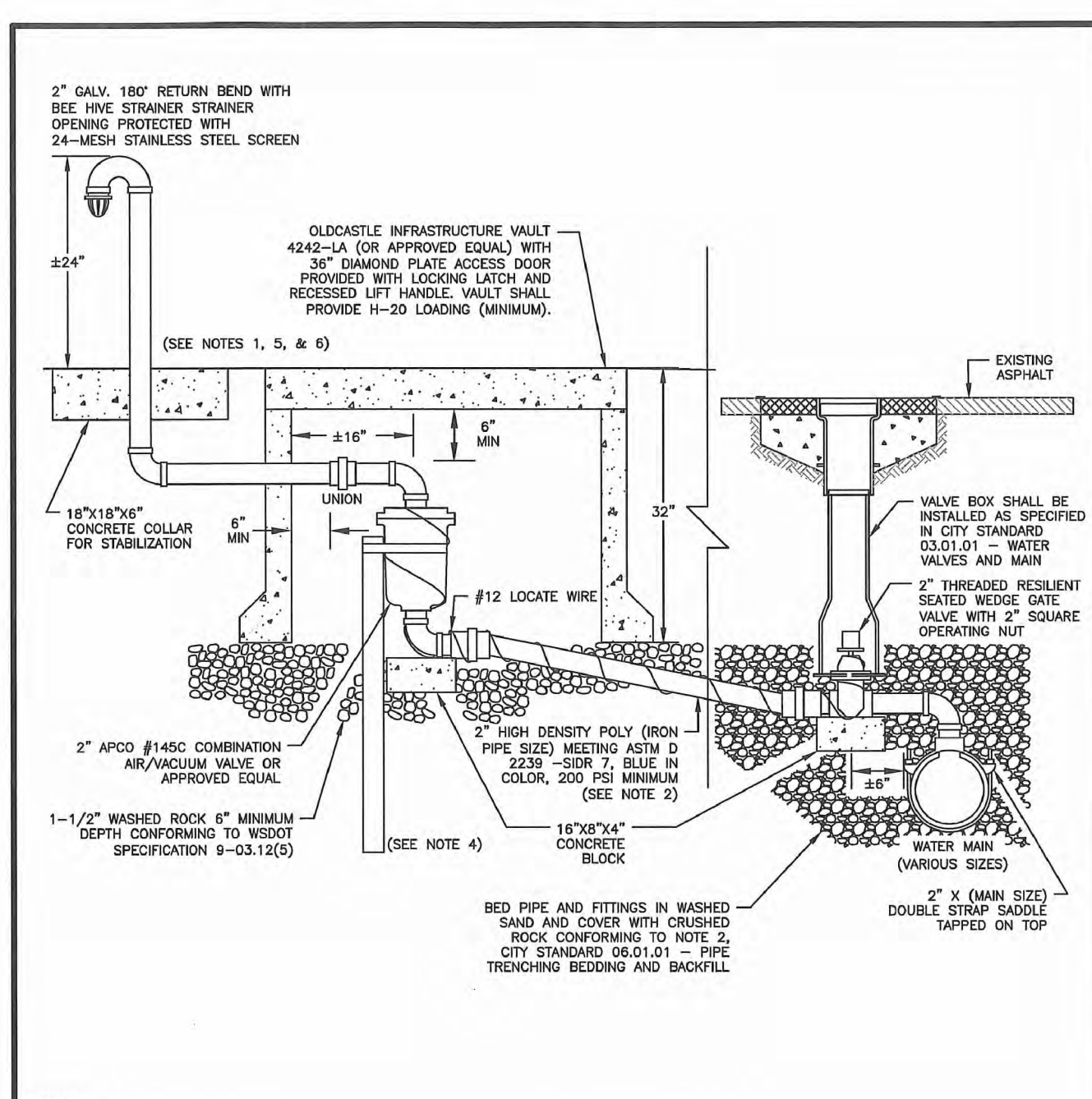
- NOTES:**
- WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" IN IMPROVED RIGHT-OF-WAY AND IMPROVED EASEMENTS, AND A MINIMUM OF 48" IN UNIMPROVED RIGHT-OF-WAY AND UNIMPROVED EASEMENTS.
  - OVERALL LENGTH OF RISER IS 6" SHORTER THAN NORMAL DEPTH OF BURIAL.
  - THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE. 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

APPROVED FOR PUBLICATION: DATE: 2/5/2019 (NOT TO SCALE)

**2" BLOW-OFF ASSEMBLY**

CITY STANDARD: 03.06.01



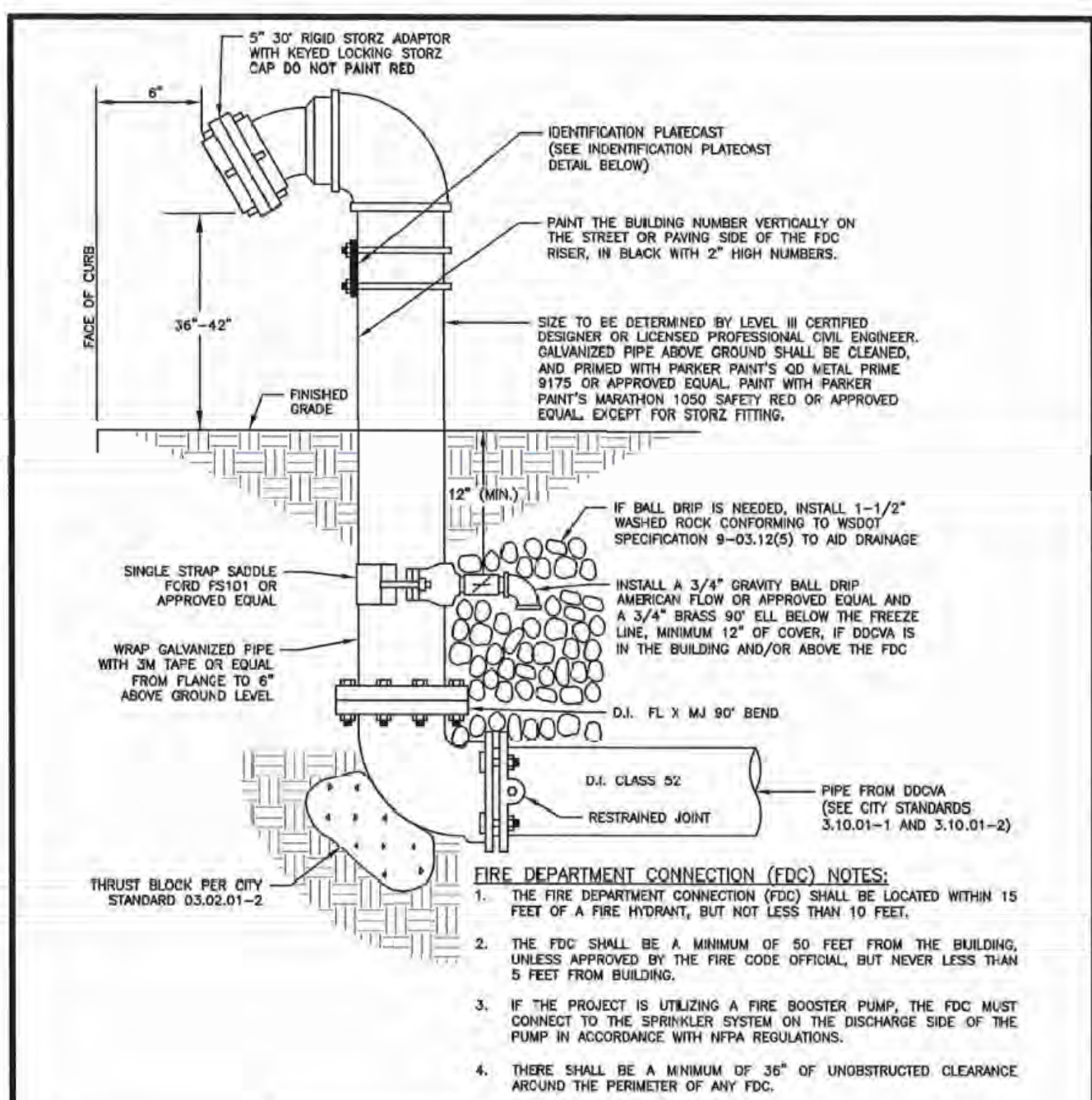
- NOTES:**
- ALL FITTINGS FROM THE WATER MAIN TO THE BOTTOM OF THE AIR/VACUUM VALVE SHALL BE BRASS. ALL FITTINGS ABOVE THE AIR/VACUUM VALVE SHALL BE GALVANIZED STEEL. WRAP GALVANIZED PIPE BELOW GROUND WITH 3M TAP OR EQUAL TO 1" ABOVE GROUND LEVEL.
  - 2" HIGH DENSITY POLY PIPE SHALL MAINTAIN A MINIMUM 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

APPROVED FOR PUBLICATION: DATE: 12/15/2014 (NOT TO SCALE)

**AIR/VACUUM VALVE**

CITY STANDARD: 03.07.01



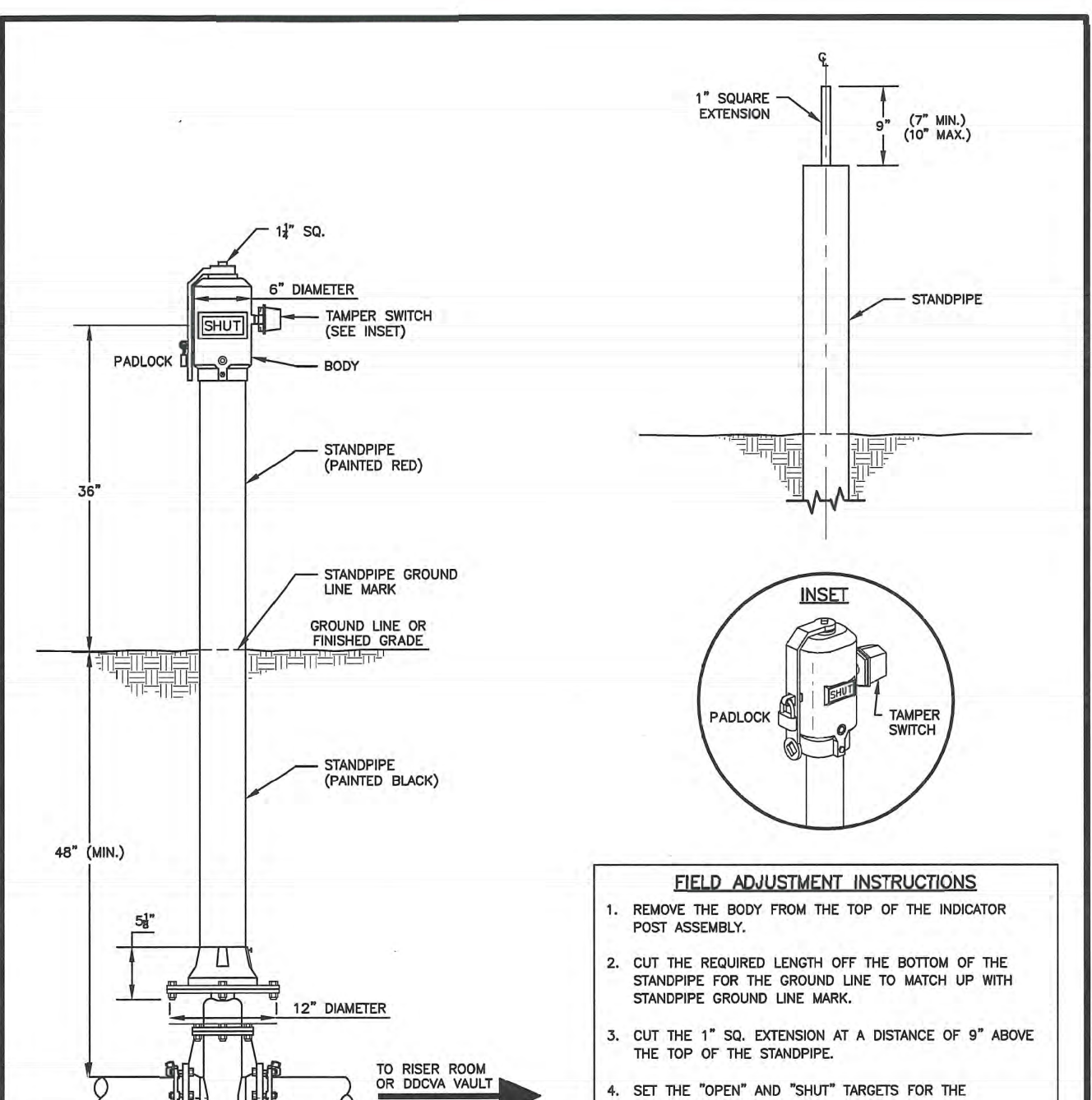
- FIRE DEPARTMENT CONNECTION (FDC) NOTES:**
- THE FDC SHALL BE LOCATED WITHIN 15 FEET OF A FIRE HYDRANT, BUT NOT LESS THAN 10 FEET.
  - THE FDC SHALL BE A MINIMUM OF 50 FEET FROM THE BUILDING, UNLESS APPROVED BY THE FIRE CODE OFFICIAL, BUT NEVER LESS THAN 5 FEET FROM BUILDING.
  - IF THE PROJECT IS UTILIZING 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

APPROVED FOR PUBLICATION: DATE: 12/15/2014 (NOT TO SCALE)

**FIRE DEPARTMENT CONNECTION (FDC)**

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

APPROVED FOR PUBLICATION: DATE: 2/5/2019 (NOT TO SCALE)

**POST INDICATOR VALVE**

CITY STANDARD: 03.10.03

- WATER NOTES CONTINUED FROM SHEET W-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 unpaired 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 double check valve assembly or a reduced pressure backflow 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 will 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.

**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 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.

**Water Details**

**Bradley Heights**

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

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+feasibility +planning +engineering +surveying  
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**DRAWING**

**W-6**

SHEET 60 OF 60

Project Name: Bradley Heights  
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