# 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 236 UNIT MULTI-FAMILY DEVELOPMENT.**

### SITE ADDRESS:
**202 27TH AVE SE**

### PARCEL NUMBER
**041903-6-006**

### 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: Jorden Mellergaard**
**1816 11th Ave Unit C**
**Seattle, WA 98122**
**Phone 509.899.0326**
**jorden@timerlanepartners.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.

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

N
W E
S

GRAPHIC SCALE 1"=50'
0 50 100 150

### GENERAL 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 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.

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").

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 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.

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 that requires removal or relocation relating to this project shall be done so at the developer's expense.

8. 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.

9. The contractor shall install, replace, or relocate all signs, as shown on the plans or as affected by construction, per City Standards.

10. 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.

11. 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.

12. 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.

13. Certified record drawings are required prior to project acceptance.

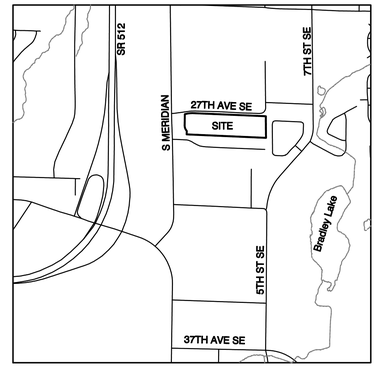
14. A NPDES Stormwater General Permit may be required by the Department of Ecology for this project. For information contact the Department of Ecology, Southwest Region Office at (360)407-6300.

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

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

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




Watertight trash/recycle containers required.

Trash enclosure side sewer shall comply with city of puyallup standard detail 04.03.04.

Roof downspouts for enclosures shall be connected to stormwater collection system.

Interior floor of the trash enclosure shall slope towards a Type 1 catch basin, or equivalent, and be plumbed to sanitary sewer. See site plan.

Surfaces must slope away from the enclosure to prevent stormwater tributary runoff from entering the enclosure area.

Recycling enclosure location.

PRCNC20260042

**City of Puyallup Planning Division APPROVED**
See permit conditions.
JHulseLew
02/17/2026
9:14:23 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.

ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 10/14 |
| 2 Revised per City review. | 1/16 |
| 3 Revised per City & Rush review. | 4/7/25 |
| 4 | 4/21/25 |
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JOB NO. 3227
DATE MAY 6, 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


Cover Sheet

*Bradley Heights*


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


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

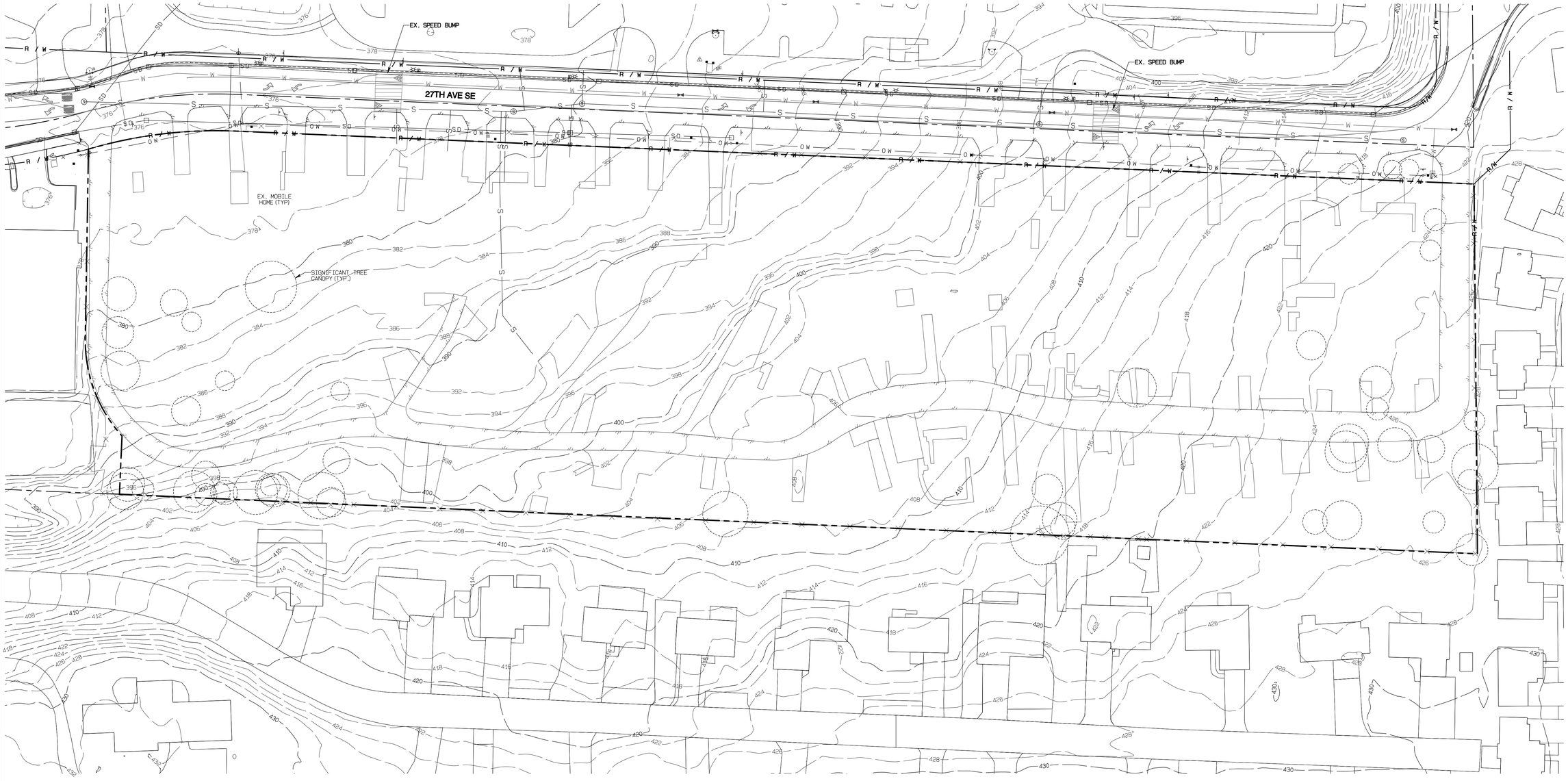

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:11:06PM

# Bradley Heights

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

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GRAPHIC SCALE 1"=40'
0 40 80 120




## 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: _____

NOTE:

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

ROBERT A. TRIVITT
4/24/2025
STATE OF WASHINGTON
21615
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 4/7/25 |
| 3 Revised per City & Rush 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: Paul Green
APPROVED BY: Paul Green


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Existing Conditions

*Bradley Heights*


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


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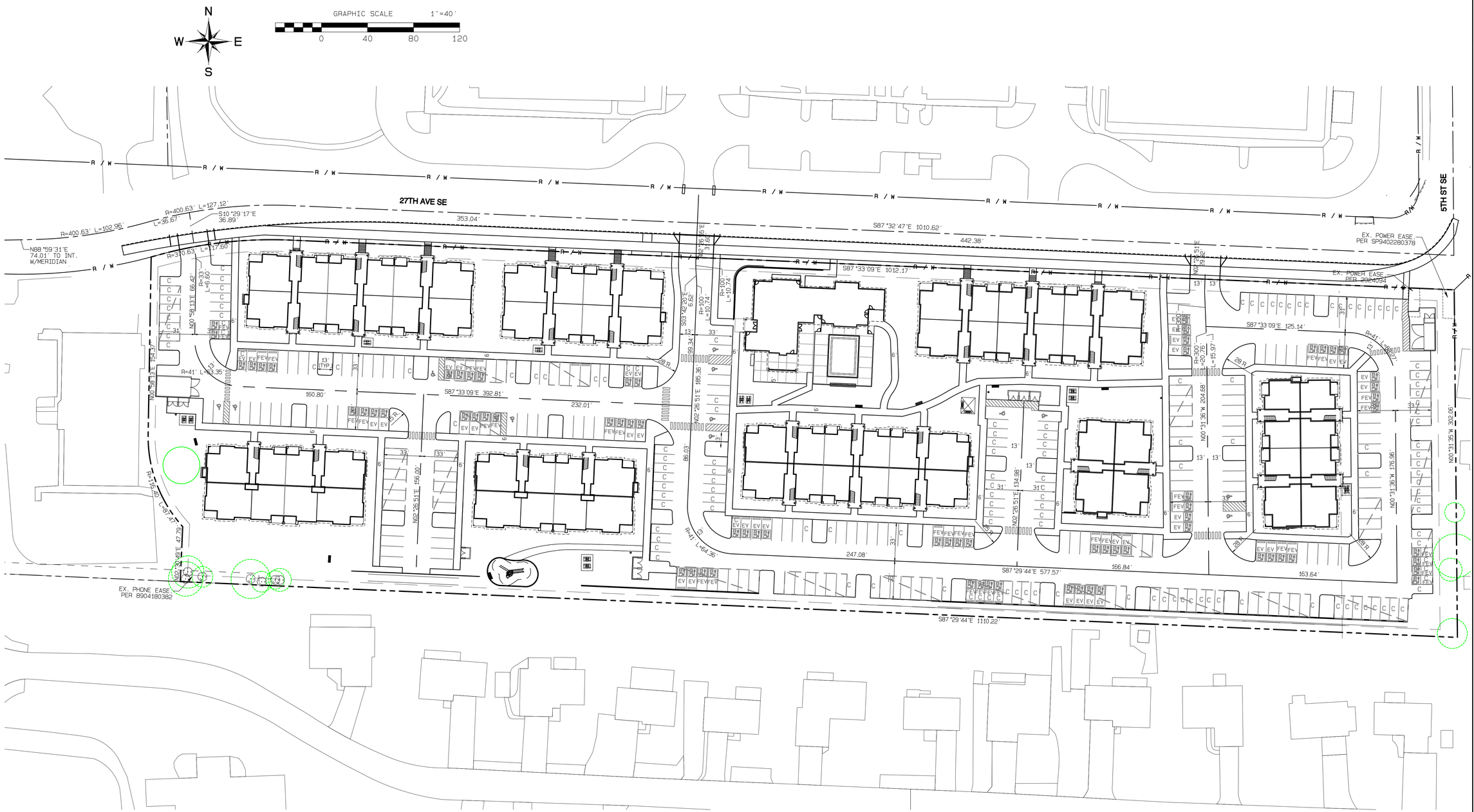
**G-2**

*SHEET* 2
*OF* 60


Project Desc.: Bradley Heights Path: F:\JOBS\3227 - Bradley Heights\Plans\Bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:12:44PM

# 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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ROBERT A. TRIVITT — 4/24/2025 — EXPIRES 9/29/2025 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 4/7/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
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JOB NO. 3227
DATE Mar 2024
DESIGNED BY: Rob Trivitt
DRAWN BY: Rob Trivitt
CHECKED BY: Paul Green
APPROVED BY: Paul Green


AZURE GREEN CONSULTANTS
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Horizontal Control

*Bradley Heights*


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Fax jorden@timerlanepartners.com


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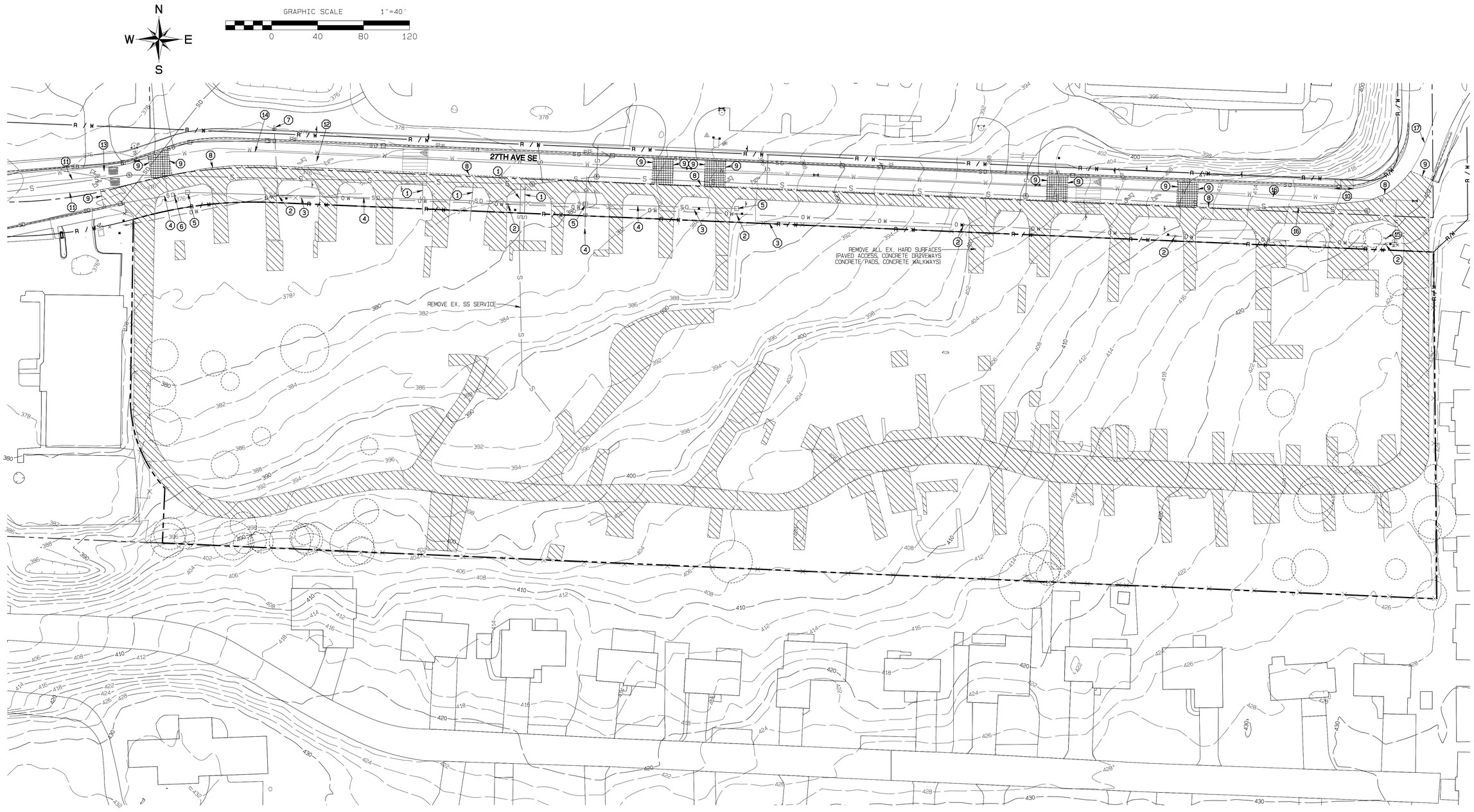
**G-3**

*SHEET* 3
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:13:08PM

# 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
   4 LOCATIONS IDENTIFIED ON PLANS
   PER CITY DATA THERE ARE THREE ADDITIONAL SERVICES
   CONTRACTOR TO PROVIDE CCTV INSPECTION
   FOR VERIFICATION OF NUMER 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 TWLTL 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: _____

**NOTE:**

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

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

ROBERT A. TRIVITT — 4/25/2025 — STATE OF WASHINGTON — 22415 — REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 4/7/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
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JOB NO: 3227
DESIGN BY: M.K. 2024
DESIGNED BY: Rob Trivitt
DRAWN BY: Rob Trivitt
CHECKED BY: Paul Green
APPROVED BY: Paul Green


AZURE GREEN CONSULTANTS
+feasibility +planning +engineering +surveying
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Demolition Plan

*Bradley Heights*


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*DRAWING*

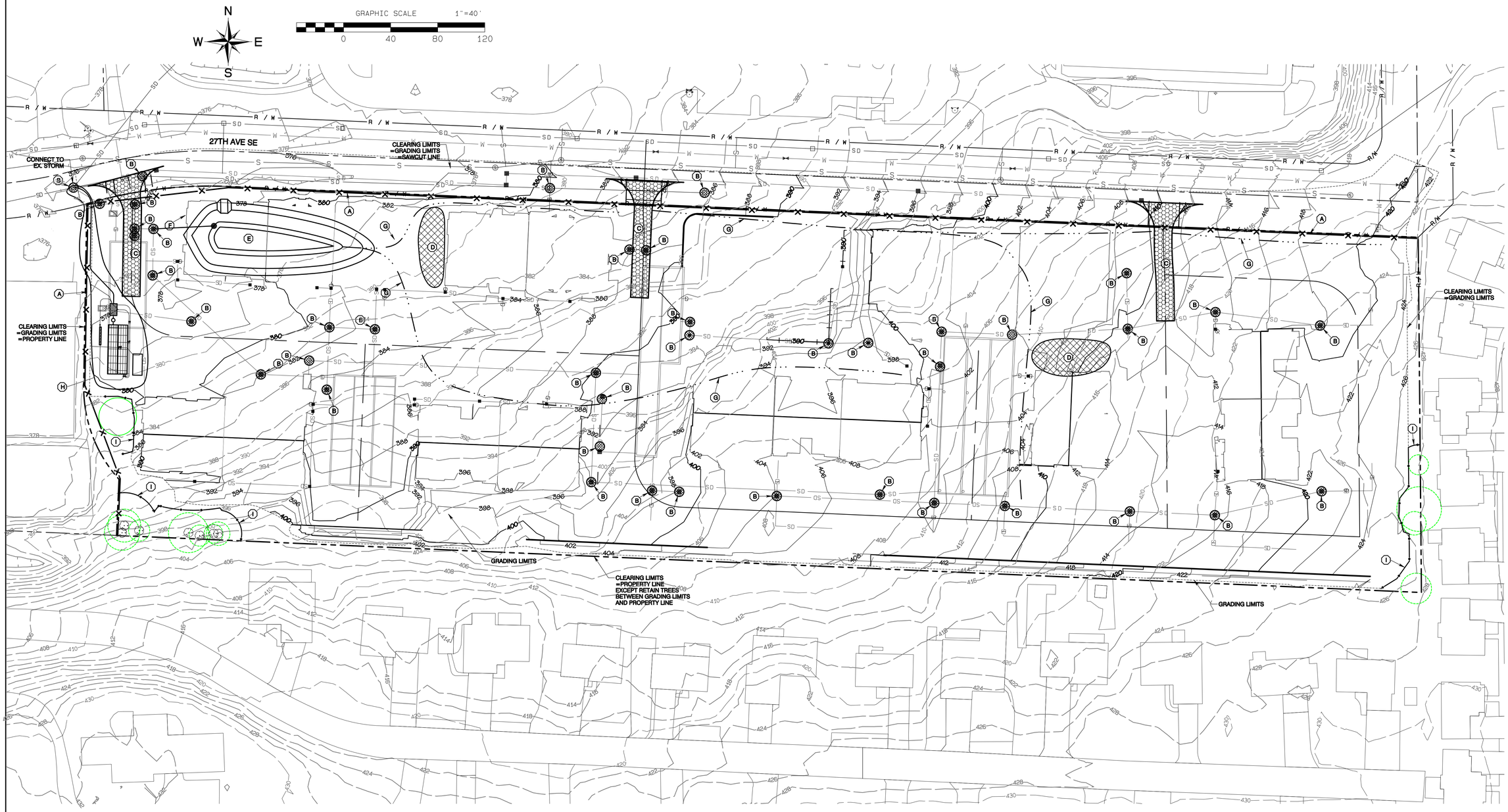
**G-4**

*SHEET* 4
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250425 ENG.pro 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
  DIA.=3"
  RISER
  TOP=378.36
  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: _____

NOTE:

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ROBERT A. TRIVITT
4/24/2025
EXPIRES 4/29/26
REGISTERED PROFESSIONAL ENGINEER
STATE OF WASHINGTON

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/8/24 |
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JOB NO. 3227
DATE 1/2024
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green


AZURE GREEN CONSULTANTS
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TESC Plan

*Bradley Heights*


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Phone 509.899.0326
Fax jorden@timerlanepartners.com


*DRAWING*

**G-5**

*SHEET* 5
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmkn\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:16:41PM

# Bradley Heights

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

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 DICTATE, FACILITIES WILL BE NECESSARY TO ENSURE COMPLETE SILTATION CONTROL ON THE SITE. DURING THE COURSE OF CONSTRUCTION, IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE 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.

CITY OF PUYALLUP
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

**GRADING, EROSION, AND SEDIMENTATION CONTROL NOTES**

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY |
|---|---|---|---|---|
| DM BROWN-SVOBODA | LINDA LEAS | COLLEEN HARRIS | LINDA LEAS | STANDARD |
| FILE NAME: F:\PW\ECOMMON\STDECITY\200910_GRDNS\STDS\05.02.01.dgn | DATE APPROVED: 07/01/2009 | DATE REVISED: 11/18/2014 | SCALE: 1:1 | 05.02.01 |

## 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 sandbags or tires on ropes with a maximum 10-foot grid spacing in all directions. All seams shall be taped or weighted down full length and there shall be a least a 12 inch overlap of all seams.
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 BASE.
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.

## 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):

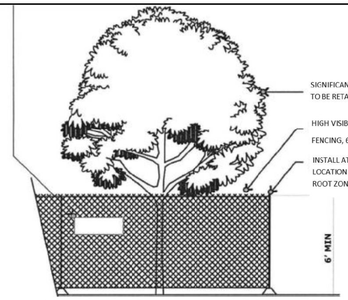
1. Seed mixture shall be 10% Redtop (92% purity, 90% germination); 40% Annual Rye (98% purity, 90% germination); 40% Chewing Fescue (97% purity, 80% germination); and 10% White dutch clover (96% purity, 90% germination) and shall be applied at the rate of 120 pounds per acre.
2. Seed beds planted between 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, armoring 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.

**TREE PROTECTION ZONE (TPZ)**

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

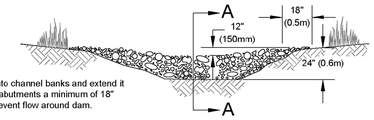



- MINIMUM SIX (6) FOOT HIGH TEMPORARY HIGH VISIBILITY ORANGE CONSTRUCTION FENCING SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF DISTURBANCE OR APPROVED FINAL LANDSCAPE PLAN SET. FENCING SHALL BE INSTALLED USING POSTS DRIVEN INTO GROUND—PIER BLOCKS SHALL NOT BE USED. AVOID POSTS DRIVEN INTO ROOTS LARGER THAN 1" DIAMETER. FENCING SHALL BE INSTALLED PRIOR TO WORK COMMENCING ON SITE AND REMAIN IN PLACE THROUGHOUT ALL PHASES ON 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 DAMP 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 ARBORIST WITH PRIOR WRITTEN APPROVAL BY THE CITY PLANNING DIVISION.
- THE ABOVE REFERENCED TPZ SIGNS SHALL BE PLACED EVERY 15 FEET ALONG THE FENCING AND SHALL REMAIN IN PLACE THROUGHOUT ALL PHASES OF CONSTRUCTION

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

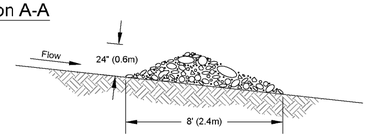
**Figure II-3.16: Rock Check Dam**

View Looking Upstream

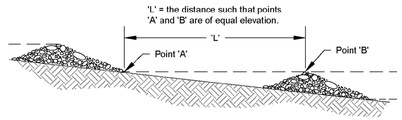



Note:
Key stone into channel banks and extend it beyond the abutments a minimum of 18" (0.5m) to prevent flow around dam.

Section A-A




Spacing Between Check Dams




NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

Rock Check Dam

Revised June 2016

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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.

ROBERT A. TRIVITT
4/24/2025
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
24915

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/6/25 |
| 2 Revised per City review. | 4/7/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

JOB NO. 3227
DATE Mar 12, 2024
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green

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

TESC Notes

*Bradley Heights*

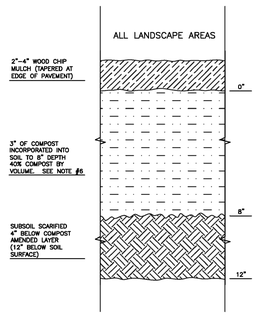
Timberlane Partners
1816 11th Ave Unit C
Seattle, WA. 98122
Phone 509.899.0326
Fax jorden@timberlanepartners.com

DRAWING
G-6
SHEET 6
OF 60

Project Desc: Bradley Heights Path: F:\ubbs\3227 - Bradley Heights\Tmain\brradley heights 20250424 ENG.ero Plot Date/Time: 4/24/2025/7:15:10PM

# Bradley Heights

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




NOTES:

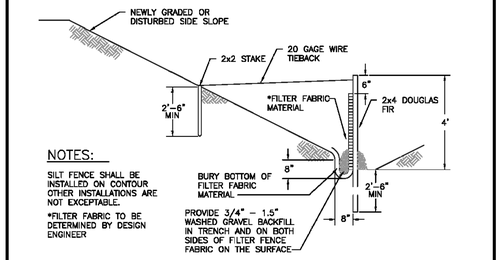
1. ALL SOIL AREAS DISTURBED OR COMPACTED DURING CONSTRUCTION, AND NOT COVERED BY BUILDINGS OR PAVEMENT, SHALL BE AMENDED WITH COMPOST AS DESCRIBED BELOW.
2. SUBSOIL SHOULD BE SCARIFIED (LOOSENED) 4 INCHES BELOW AMENDED LAYER, TO PRODUCE 12-INCH DEPTH OF UN-COMPACTED SOIL, EXCEPT WHERE SCARIFICATION WOULD DAMAGE TREE ROOTS OR AS DETERMINED BY THE ENGINEER. SEE NOTE BELOW REGARDING PLANTING STEPS FOR STREET TREES.
3. COMPOST SHALL BE TILLED IN TO 8 INCH DEPTH INTO EXISTING SOIL, OR PLACE 8 INCHES OF COMPOST-AMENDED SOIL, PER SOIL SPECIFICATION.
4. PLANTING BEDS SHALL RECEIVE 3 INCHES OF COMPOST TILLED IN TO 8-INCH DEPTH, OR MAY SUBSTITUTE 8" OF IMPORTED SOIL CONTAINING 35-40% COMPOST BY VOLUME. MULCH AFTER PLANTING, WITH 4 INCHES OF ARBORIST WOOD CHIP MULCH OR APPROVED EQUAL (6" OF LOOSE WOOD CHIPS AT THE TIME OF PLANTING TO ALLOW SETTLING TO 4").
5. SETBACKS: TO PREVENT UNEVEN SETTLING, DO NOT COMPOST-AMEND SOILS WITHIN 3 FEET OF UTILITY INFRASTRUCTURES (POLES, VAULTS, METERS ETC.), WITHIN ONE FOOT OF PAVEMENT EDGE, CURBS AND SIDEWALKS SOIL SHOULD BE COMPACTED TO APPROXIMATELY 90% PROCTOR TO ENSURE A FIRM SURFACE.
6. SEE SECTION 8.2(8) OF THE VMS FOR SOIL AMENDMENT AND INSTRUCTION PROCEDURES FOR STREET TREE PLANTER STRIPS. ALL STREET TREE PLANTER STRIPS SHALL RECEIVE 40% COMPOST AMENDED SOIL TO THE FULL DEPTH OF THE STREET TREE ROOTBALL.

CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

## SOIL AMENDMENT AND DEPTH

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| LINDA LIAN | DEBBI SEALS | COLLEEN HARRIS | XXXX | 01.02.08a |

| FILE NAME | DATE APPROVED | DATE REVISED | SCALE |
|---|---|---|---|
| F:\PW\CO\Mkt\SIT\DIS\CITY\STD\SIT01.01.01.08 | 08/01/2013 | XX/XX/XX | N.S. |

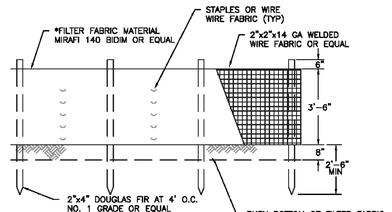



NOTES:

SILT FENCE SHALL BE INSTALLED ON CONTOUR OTHER INSTALLATIONS ARE NOT EXCEPTABLE.

*FILTER FABRIC TO BE DETERMINED BY DESIGN ENGINEER

**TYPICAL CROSS SECTION**




**ELEVATION**

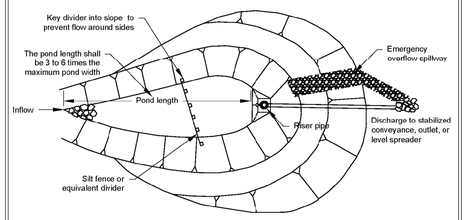
CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

## SILTATION FENCE

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| LINDA LUNDINO | LINDA LIAN | COLLEEN HARRIS | XXXX | 02.03.02 |

| FILE NAME | DATE APPROVED | DATE REVISED | SCALE |
|---|---|---|---|
| P:\PW\CO\Mkt\SIT\DIS\CITY\2009\05_SIT05.03.05 | 09/01/2005 | 05/01/2009 | NTS |

**Figure II-3.28: Sediment Pond Plan View**




Note: Pond may be formed by berm or by partial or complete excavation

NOT TO SCALE

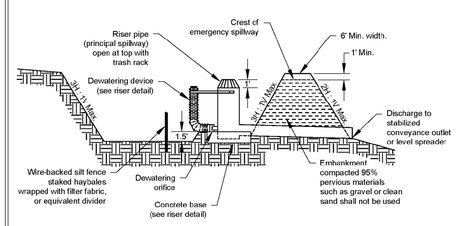
DEPARTMENT OF ECOLOGY State of Washington

## Sediment Pond Plan View

Revised June 2016

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**Figure II-3.29: Sediment Pond Cross Section**




NOT TO SCALE

DEPARTMENT OF ECOLOGY State of Washington

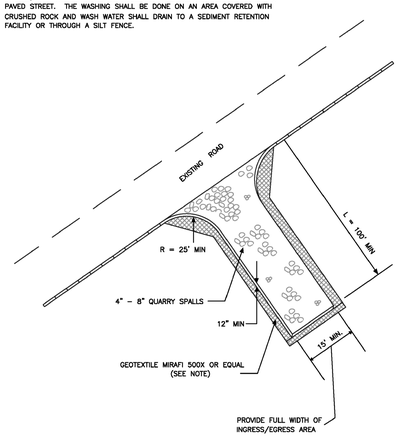
## Sediment Pond Cross Section

Revised June 2016

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NOTE:

1. GEOTEXTILE MIRAFI 500 X OR APPROVED EQUAL SHALL BE PLACED UNDER THE ENTIRETY OF THE TEMPORARY ENTRANCE.
2. ADDITIONAL ROCK SHALL BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD.
3. IF THE PAD DOES NOT ADEQUATELY REMOVE THE MUD FROM THE VEHICLE'S WHEELS, THE WHEELS SHALL BE HOSED OFF BEFORE THE VEHICLE ENTERS A PAVED STREET. THE WASHING SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK AND WASH WATER SHALL DRAIN TO A SEDIMENT RETENTION FACILITY OR THROUGH A SILT FENCE.

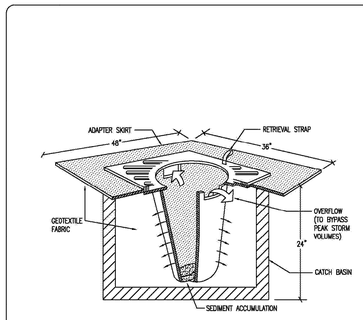



CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

## TEMPORARY CONSTRUCTION ENTRANCE

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| JIM BROWN EVOBOSA | LINDA LIAN | COLLEEN HARRIS | XXXX | 05.01.01 |

| FILE NAME | DATE APPROVED | DATE REVISED | SCALE |
|---|---|---|---|
| P:\PW\CO\Mkt\SIT\DIS\CITY\2009\05_GRD\05.01\05.01.01 | 07/01/2009 | XX/XX/XX | 1:40 |




*INLET PROTECTION NOTES:*

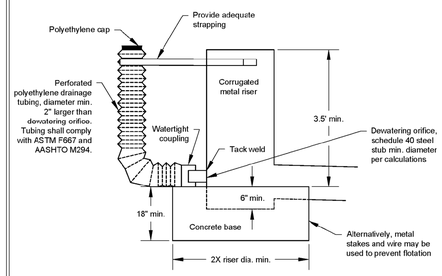
1. FILTERS SHALL BE INSPECTED AFTER EACH STORM EVENT AND CLEANED OR REPLACED WHEN 1/3 FULL.

BAG FILTER

NOT TO SCALE

*Figure 2 - 20. Catchbasin Filter*

**Figure II-3.30: Sediment Pond Riser Detail**




NOT TO SCALE

DEPARTMENT OF ECOLOGY State of Washington

## Sediment Pond Riser Detail

Revised June 2016

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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.

ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — 22415 — REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/14/24 |
| 2 Revised per City review. | 4/7/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
| 5 | |
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| 8 | |
| 9 | |
| 10 | |

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

TESC Details

*Bradley Heights*

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

*DRAWING*

**G-7**

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*OF* 60

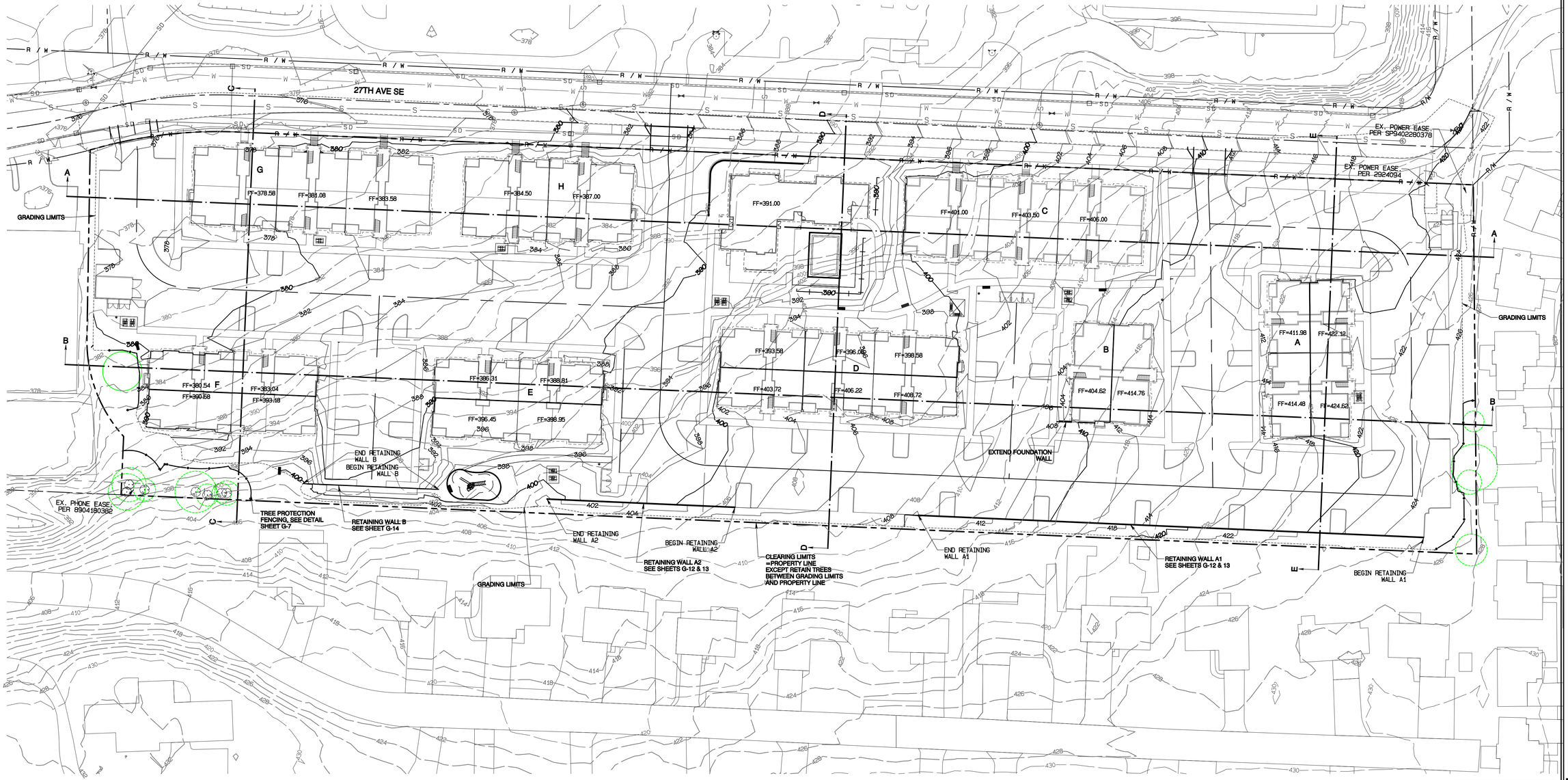
Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tews\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 7:15:34PM

# Bradley Heights

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

N
W E
S

GRAPHIC SCALE 1"=40'
0 40 80 120




RETAINING WALLS A1, A2, AND B TO BE CONSTRUCTED UNDER PERMITS
PRRWF20240214, PRRWF20240216, AND PRRWF20242017, 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.

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.

ROBERT A. TRIVITT
4/24/2025
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

| | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/16/24 |
| 2 Revised per City review. | 4/7/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
| 5 | |
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| 7 | |
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| 9 | |
| 10 | |

JOB NO. 3227
DATE 4/24/2025
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 Plan

Bradley Heights

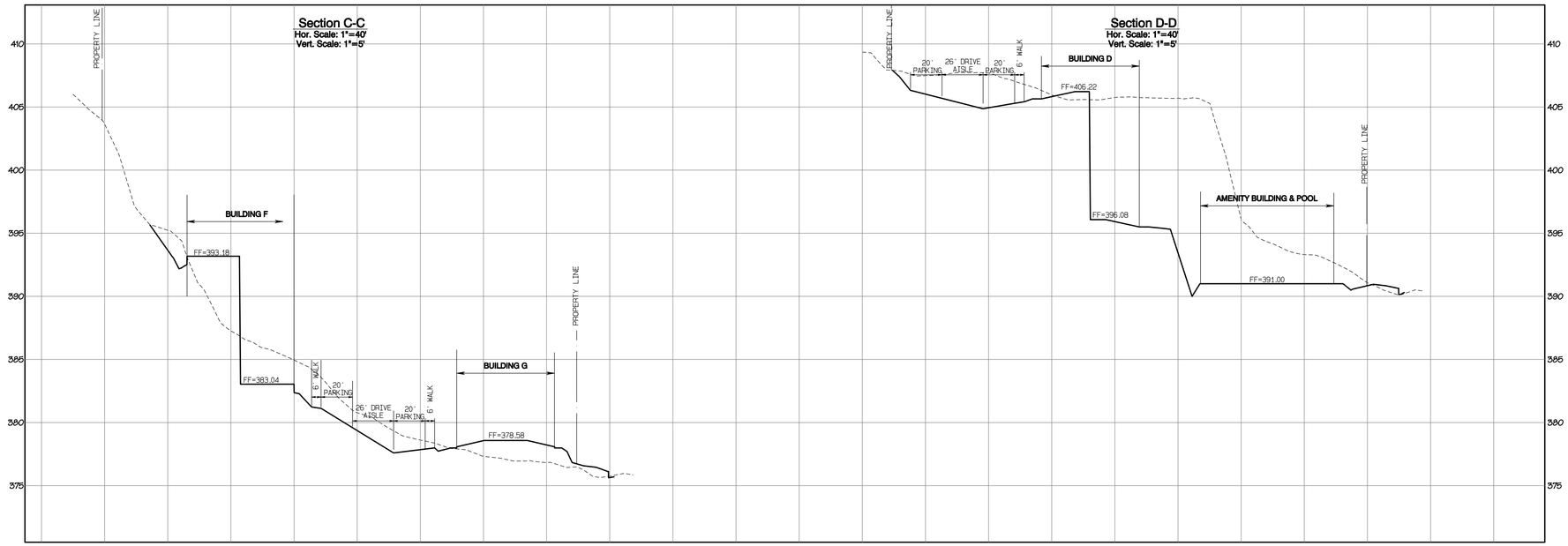
Timberlane Partners
1816 11th Ave Unit C
Seattle, WA, 98122
Phone 509.899.0326
Fax jorden@timerlanepartners.com

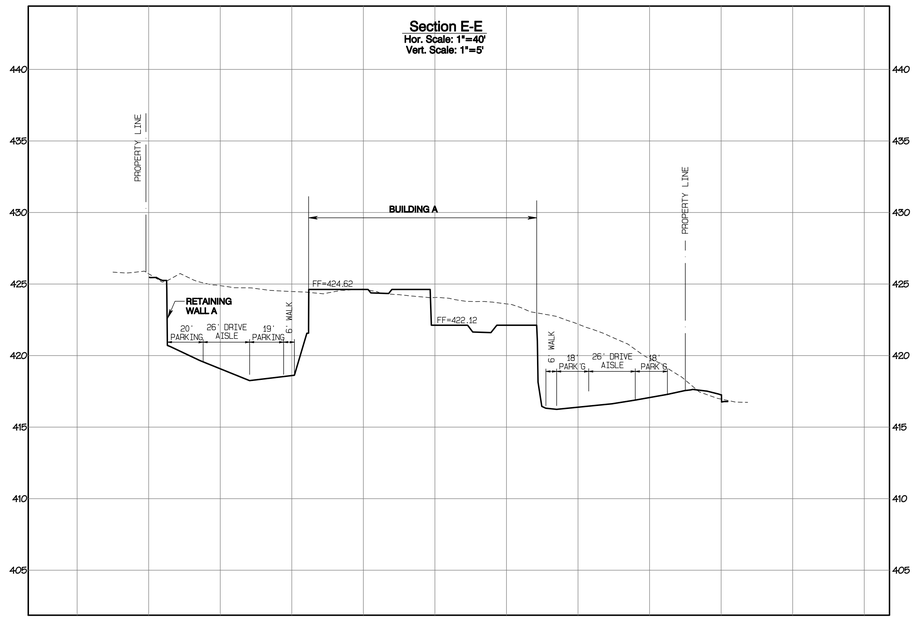
DRAWING
G-8
SHEET 8
OF 60

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 7:17:51PM

# Bradley Heights

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




ROBERT A. TRIVITT
STATE OF WASHINGTON
24015
REGISTERED PROFESSIONAL ENGINEER
4/24/2025

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/16/25 |
| 2 Revised per City review. | 4/7/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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JOB NO. 3227
DATE MAY 6, 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*

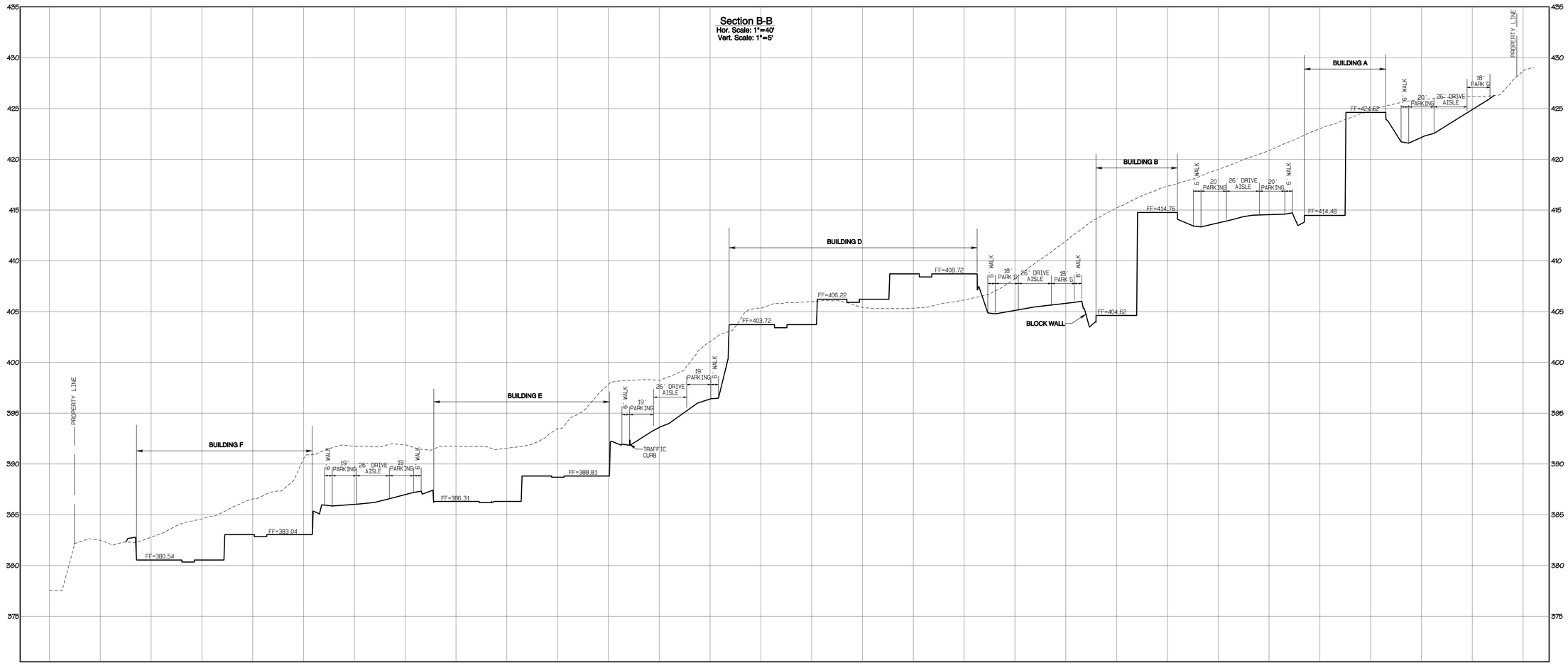
Timberlane Partners
1816 11th Ave Unit C
Seattle, WA. 98122
Phone 509.899.0326
Fax jorden@timerlanepartners.com

*DRAWING*
**G-9**
*SHEET* 9
*OF* 60

Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Twin\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:18:18PM

# Bradley Heights

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




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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

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

4/24/2025
ROBERT A. TRIVITT
STATE OF WASHINGTON
21615
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 4/7/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
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| 8 | |
| 9 | |
| 10 | |

JOB NO. 3227
DATE MAY 2024
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green

Grading Cross-Sections

*Bradley Heights*


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



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


*DRAWING*

**G-10**

*SHEET* 10
*OF* 60

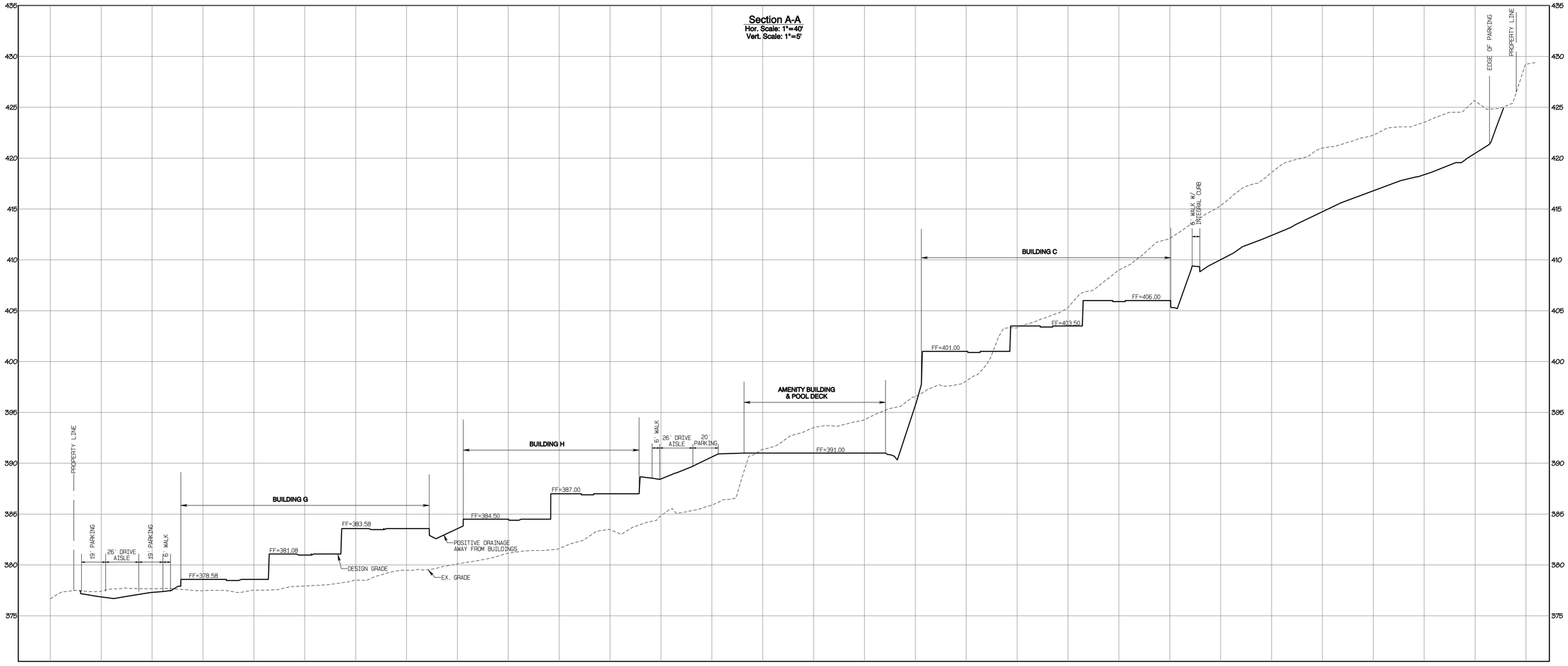

Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:18:58PM

# 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'




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

**NOTE:**

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4/24/2025
ROBERT A. TRIVITT
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 4/7/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
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| 8 | |
| 9 | |
| 10 | |

JOB NO. 3227
DATE May 6, 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 509.899.0326
Fax jorden@timberlanepartners.com


*DRAWING*

**G-11**

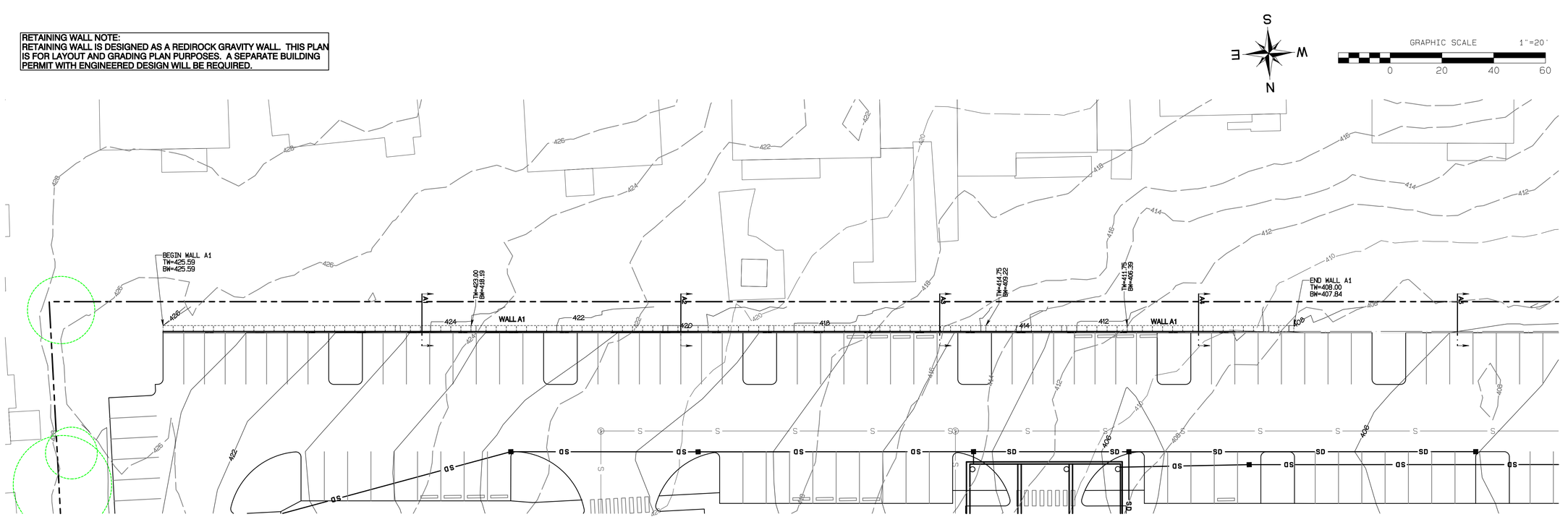
*SHEET* 11
*OF* 60

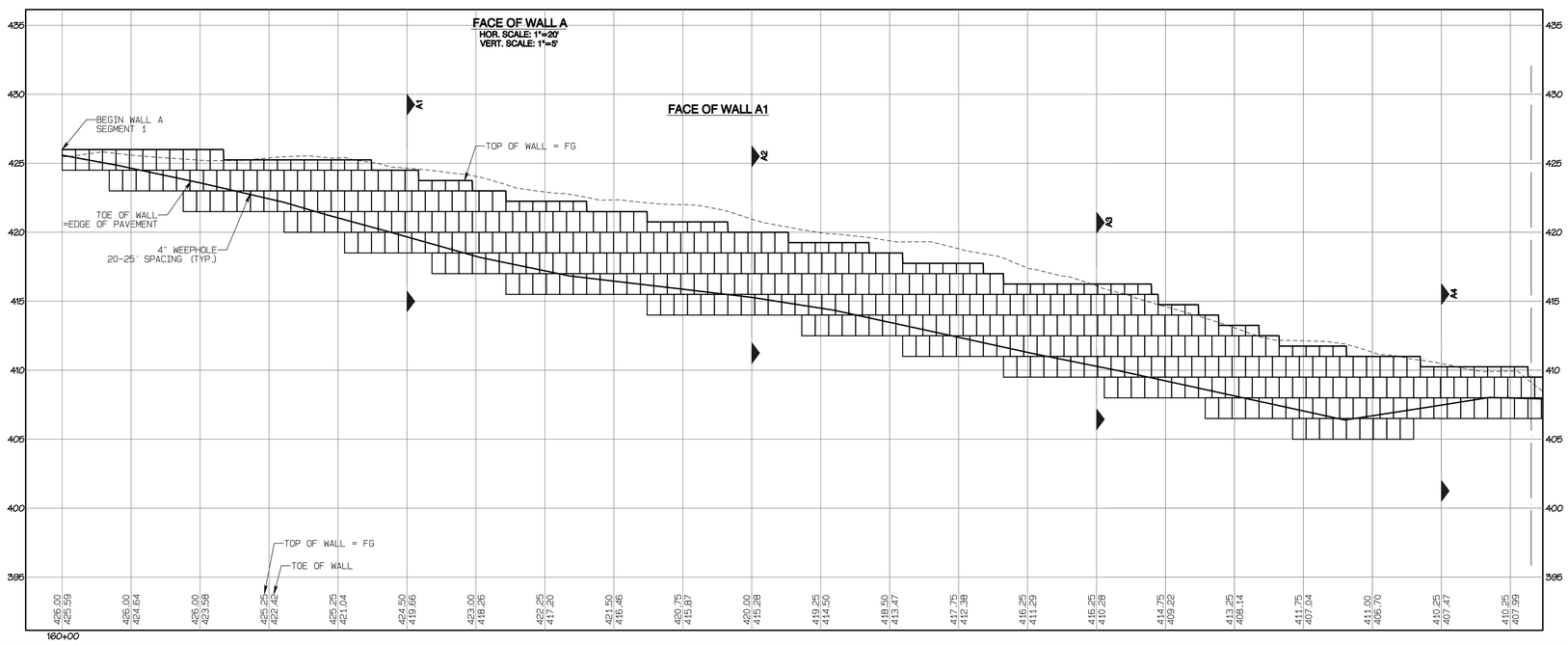

Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tews\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 7:19:15PM

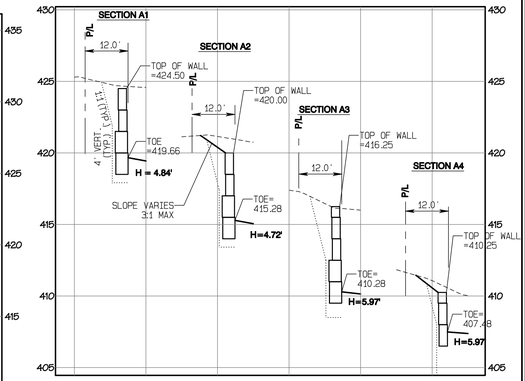
# Bradley Heights

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: _____

**NOTE:**

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

ROBERT A. TRIVITT — 4/24/2025 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — 40415

REVISION
1 Revised per City review and Wall A adjustment. 4/24/25
2 Revised per City review. 4/7/25
3 Revised per City & Rush review. 4/21/25
4
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JOB NO. 3227
DATE Mar 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

Retaining Wall A Plan

*Bradley Heights*

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

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

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tech\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 7:31:41PM

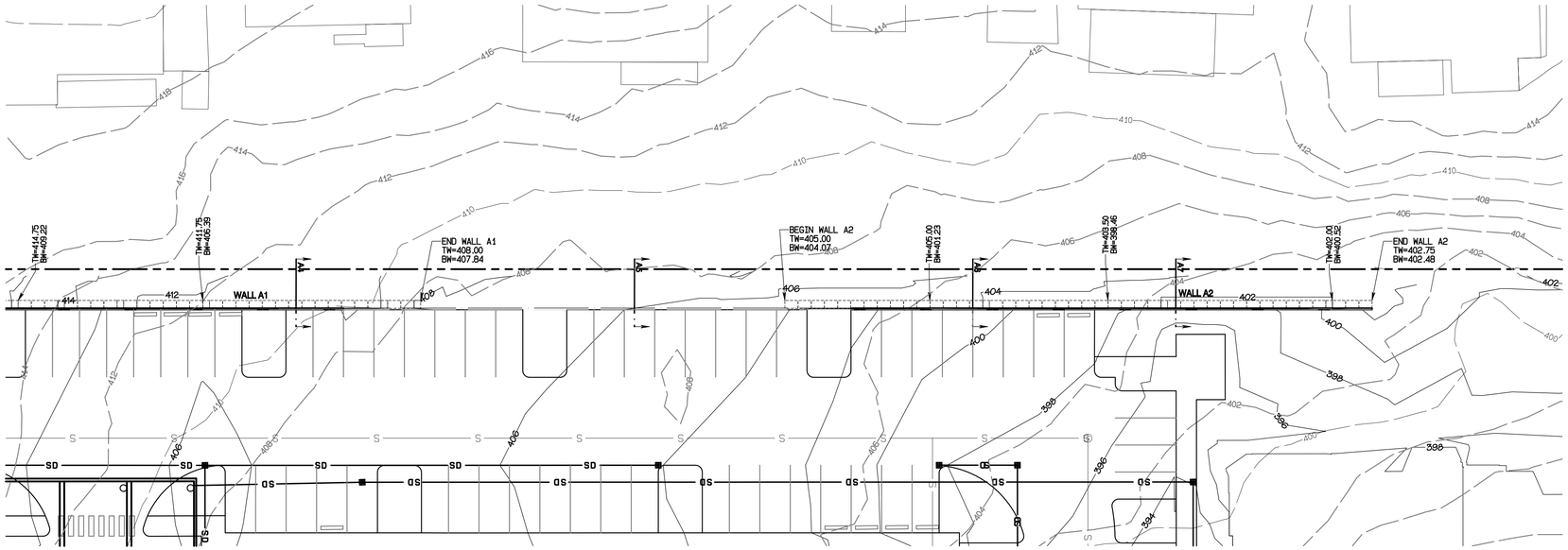
# Bradley Heights

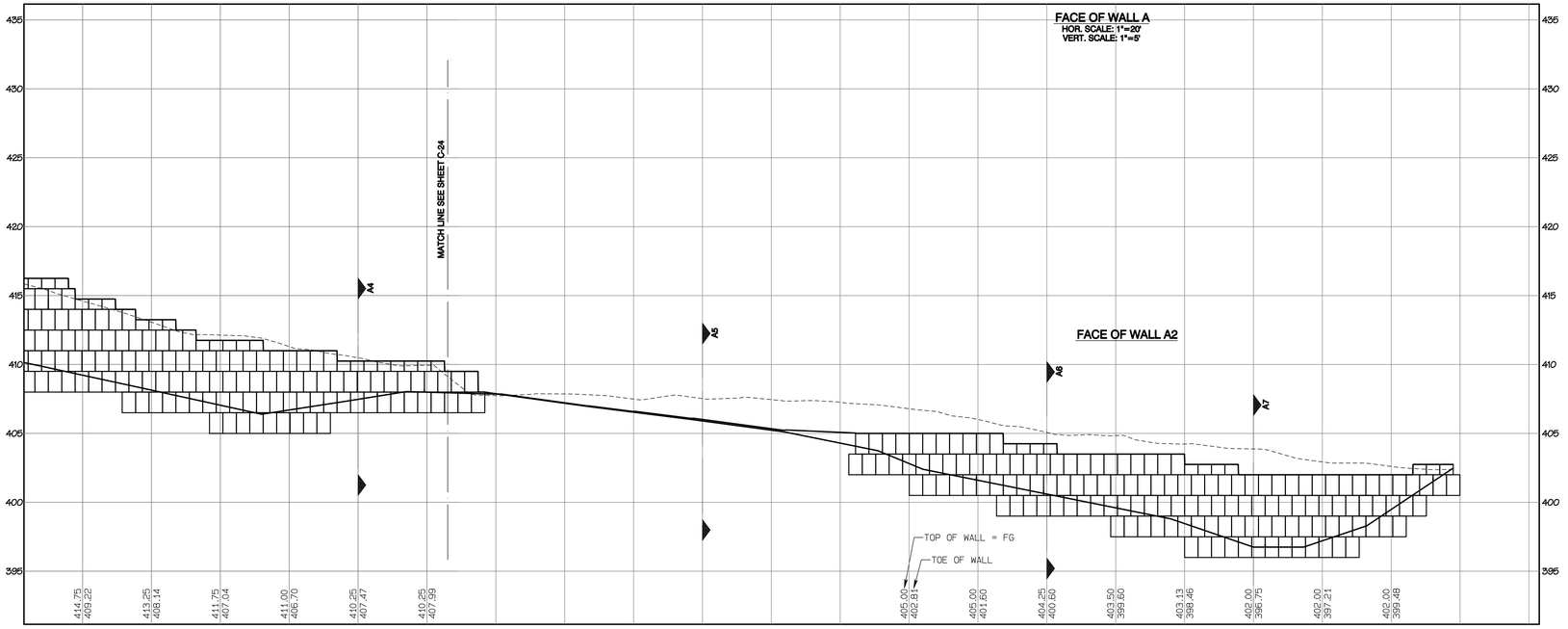
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

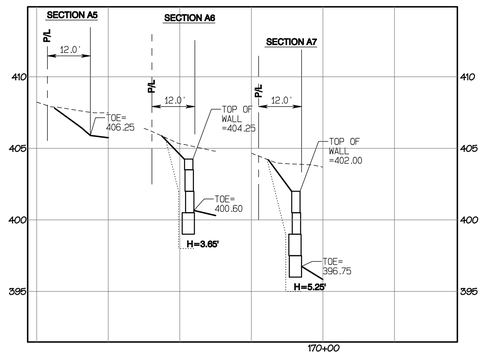
**RETAINING WALL NOTE:**
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S E W N

GRAPHIC SCALE 1"=20'
0 20 40 60




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

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ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — 24015 — REGISTERED PROFESSIONAL ENGINEER

| | REVISION | DATE |
|---|---|---|
| 1 | Revised per City review and Wall A adjustment. | 1/16/25 |
| 2 | Revised per City review. | 4/7/25 |
| 3 | Revised per City & Rush review. | 4/21/25 |
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| 10 | | |

JOB NO. 3227
DATE MAY 6, 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


Retaining Wall A Plan

*Bradley Heights*

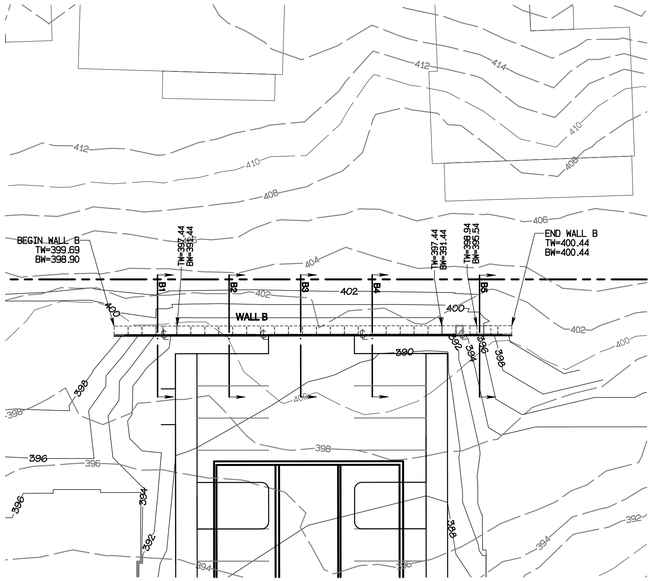

Timberlane Partners
1816 11th Ave Unit C
Seattle, WA. 98122
Phone 509.899.0326
Fax jorden@timberlanepartners.com

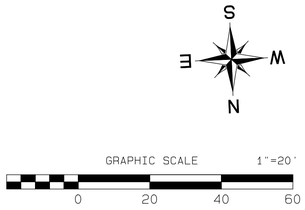

*DRAWING*
**G-13**
*SHEET* 13
*OF* 60


Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:31:02PM

# Bradley Heights

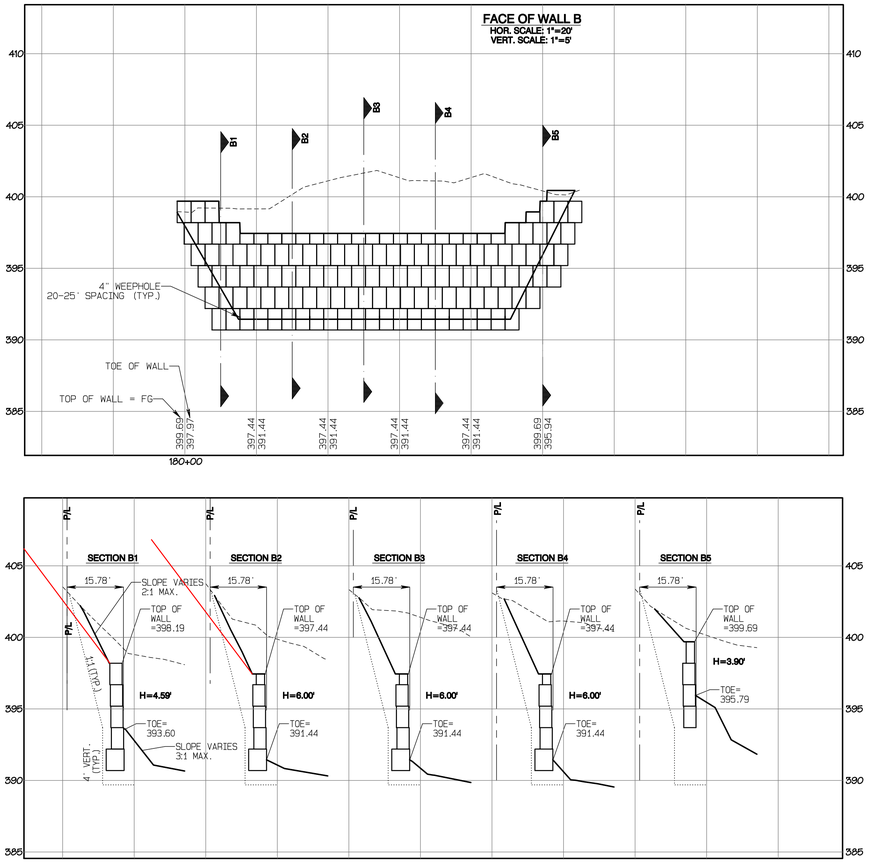
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington



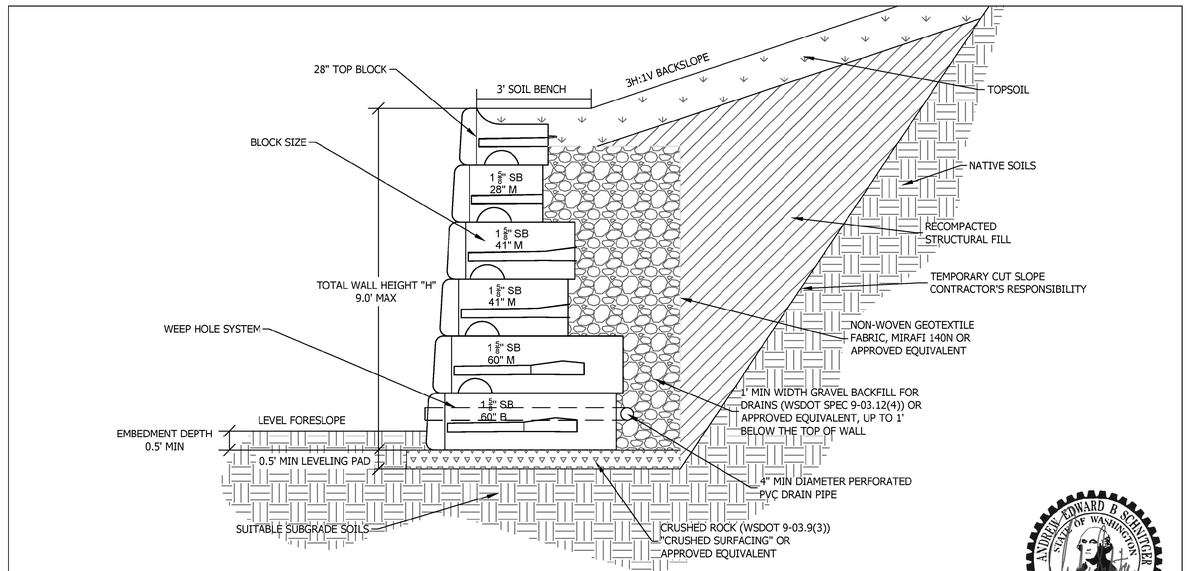

**RETAINING WALL NOTE:**
**RETAINING WALL IS DESIGNED AS A REDIROCK GRAVITY WALL. THIS PLAN IS FOR LAYOUT AND GRADING PLAN PURPOSES. A SEPARATE BUILDING PERMIT WITH ENGINEERED DESIGN WILL BE REQUIRED.**

**CROSS-SECTION IS SPECIFICALLY FOR WALL A1 AND IS FOR REFERENCE**
**SEE RETAINING WALL DESIGN UNDER:**
**WALL A1: PRRWF20250214**
**WALL A2: PRRWF20250216**
**WALL B: PRRWF20250217**










WALL B
(NO SCALE)

ANDREW EDWARD B SCHAITBER
STATE OF WASHINGTON
23020110
REGISTERED PROFESSIONAL ENGINEER
42225

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

GEORESOURCES
earth science & geotechnical engineering
4809 Pacific Hwy. E. | Fife, WA 98424 | 253.896.1011 | www.georesources.rocks

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

| DocID: Timberlane.BradleyHeights.F | April 2025 | Figure 2c |
|---|---|---|

APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

NOTE:

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ROBERT A. TRIVITT
4/24/2025
STATE OF WASHINGTON
21615
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 10/8/24 |
| 2 Revised per City review. | 4/7/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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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

Retaining Wall B Plan

*Bradley Heights*

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

*DRAWING*
**G-14**
*SHEET* 14
*OF* 60

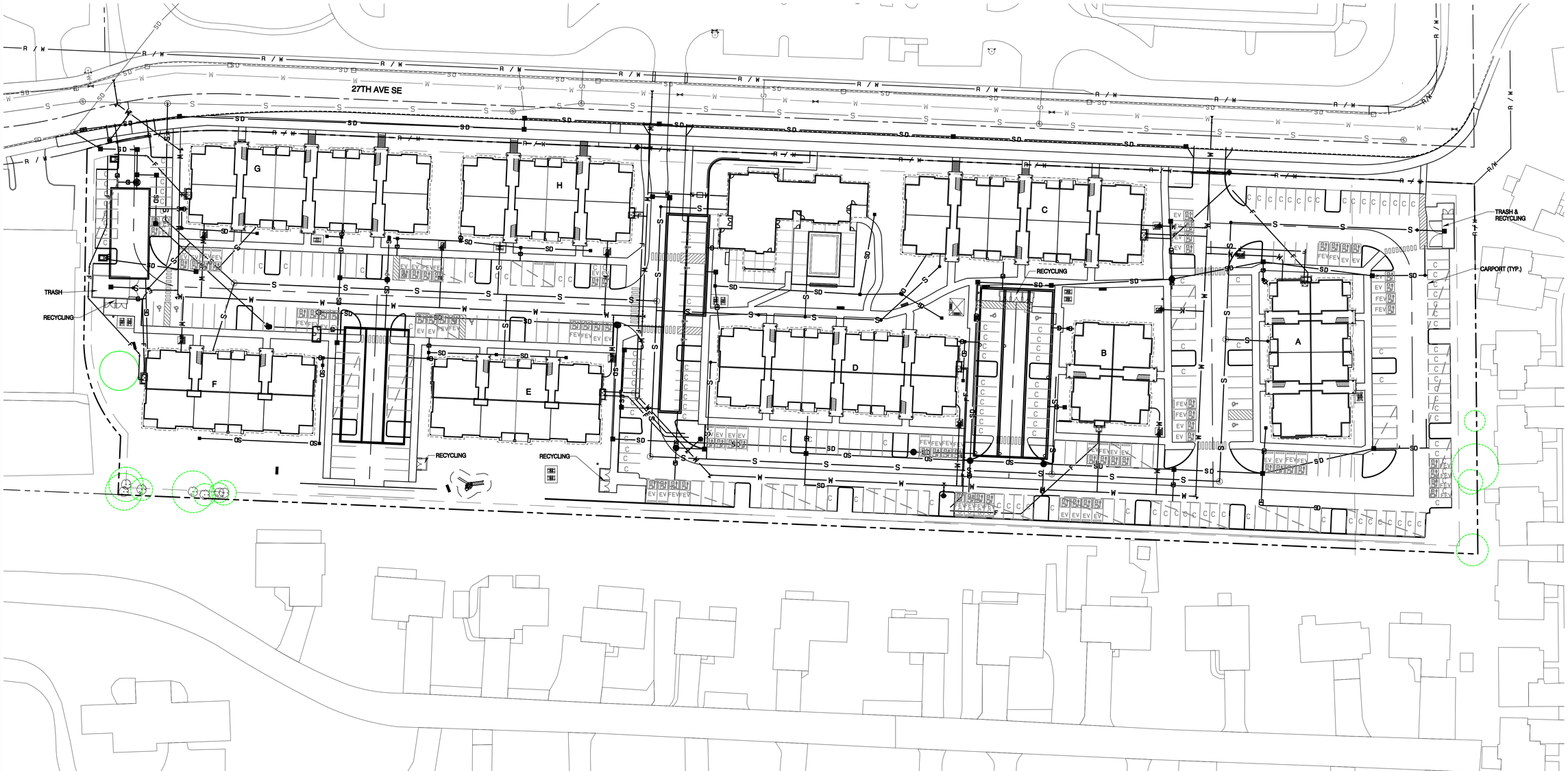
Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\Gradley Heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 7:31:23PM

# Bradley Heights

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

N
W E
S

GRAPHIC SCALE 1"=40'
0 40 80 120




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 | MIN. # | MIN. SLOPE | MATERIAL |
|---|---|---|---|
| REC. | 6 | 0.5% | PVC SDR-35 |
| A | 6 | 0.5% | PVC SDR-35 |
| B | 4 | 1.0% | PVC SDR-35 |
| C | 6 | 0.5% | PVC SDR-35 |
| D | 6 | 0.5% | PVC SDR-35 |
| E | 6 | 0.5% | PVC SDR-35 |
| F | 6 | 0.5% | PVC SDR-35 |
| G | 6 | 0.5% | PVC SDR-35 |
| H | 6 | 0.5% | PVC SDR-35 |
| CARPORT | 4 | 0.5% | DI IN DRIVING AREAS ELSE, PVC SDR-35 |

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.

ROBERT A. TRIVITT — 4/24/2025 — EXPIRES 9/29/2025 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/16/26 |
| 2 Revised per City review. | 3/4/25 |
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| 4 | |
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| 7 | |
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| 9 | |
| 10 | |

JOB NO. 3227
DATE 4/24/2025
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


Civil Composite

*Bradley Heights*

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

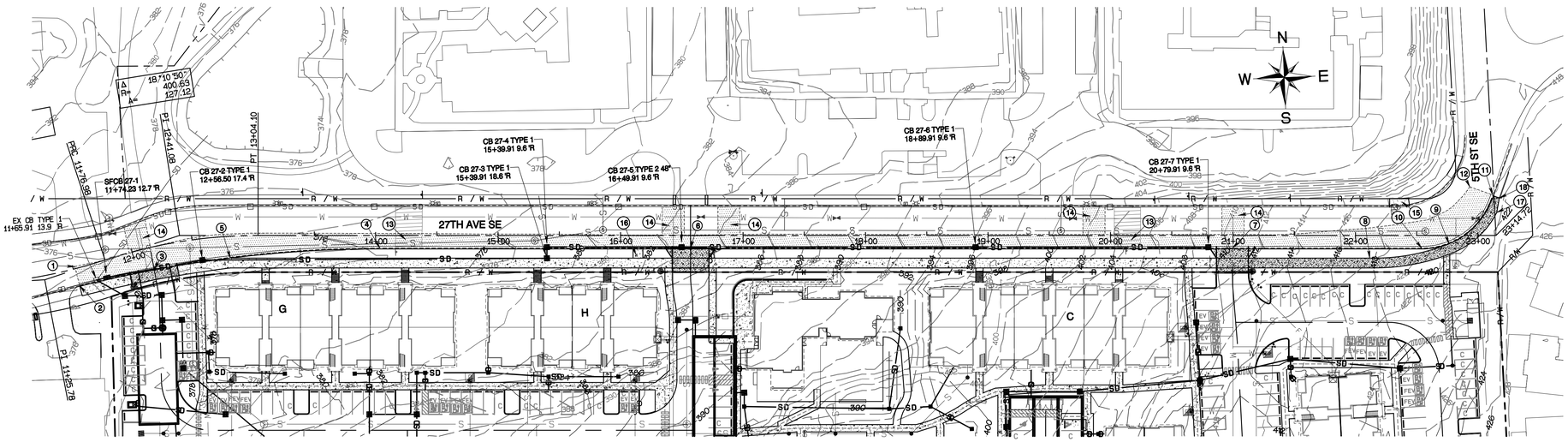
*DRAWING*
**SD-1**
*SHEET* 15
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Twin\Drawing heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 7:35:01PM

# Bradley Heights

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

GRAPHIC SCALE 1"=50'
0 50 100 150

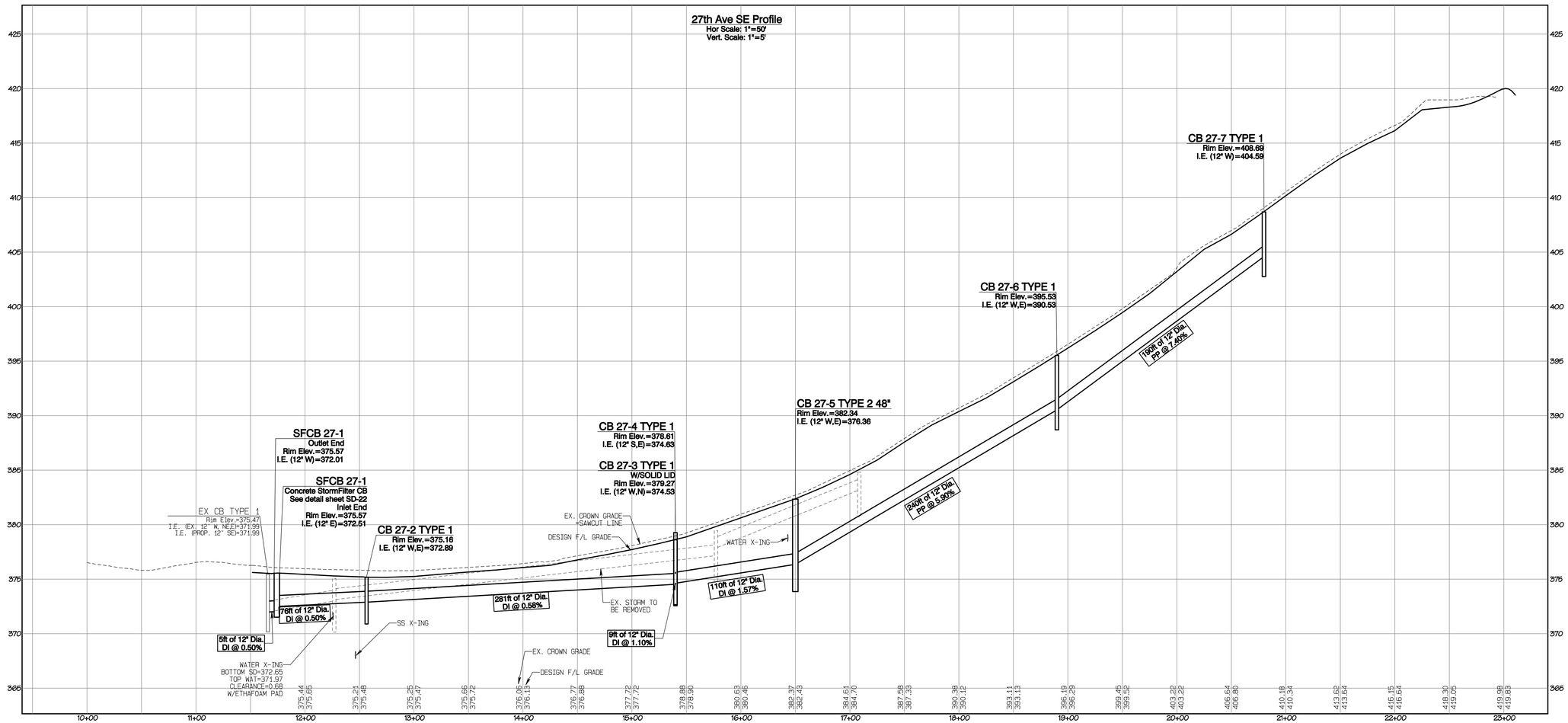



## CONSTRUCTION KEY NOTES

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 26' 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+76.39 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 39.6 '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 6 OPTION B, SHEET SD-17
15. INSTALL 16.5LF 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 18' BEHIND MAIN WALK
17. 23+15.34 18.7 'L
    BEGIN SIDEWALK TAPER
18. 23+17.44 30.5 'L
    END SIDEWALK, MATCH EXISTING

## 27th Ave SE Profile

Hor Scale: 1"=50'
Vert. Scale: 1"=5'




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.

ROBERT A. TRIVITT
4/24/2025
STATE OF WASHINGTON
21615
REGISTERED
PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/14 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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JOB NO. 3227
DATE MAY 1, 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


27th Ave SE Plan & Profile

*Bradley Heights*


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


*DRAWING*

**SD-2**

*SHEET* 16
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Trivitt\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 7:36:04PM

# Bradley Heights

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

27TH AVE SE

G

H

F

E

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.

N
W E
S

GRAPHIC SCALE 1"=20'
0 20 40 60

KEY NOTES

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

ROBERT A. TRIVITT
STATE OF WASHINGTON
4/24/2025
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/18/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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JOB NO. 3227
DATE 12/2024
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


Paving Plan

Bradley Heights

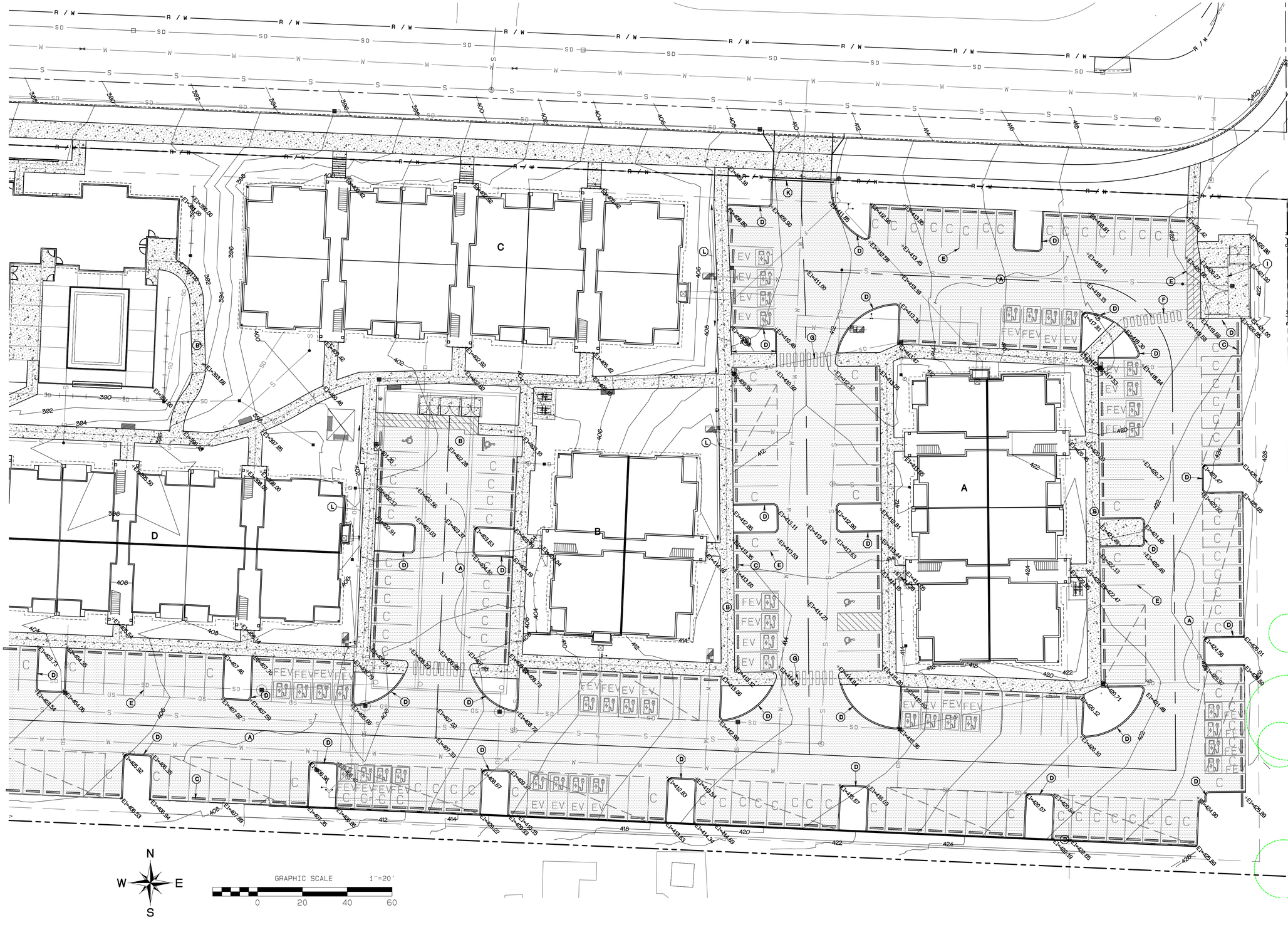

Timberlane Partners
1816 11th Ave Unit C
Seattle, WA, 98122
Phone 509.899.0326
Fax jorden@timberlanepartners.com


DRAWING
SD-3
SHEET 17
OF 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmwork\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 7:51:38PM

# Bradley Heights

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




APPROVED

BY: _____ CITY OF PUYALLUP DEVELOPMENT SERVICES

DATE: _____

NOTE:

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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

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

ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — 22415 — REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/7/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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JOB NO. 3227
DATE May 7, 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


Paving Plan

*Bradley Heights*


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


DRAWING
**SD-4**
SHEET 18
OF 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Trivitt\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:53:04PM

# Bradley Heights

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

27TH AVE SE

DETENTION GALLERY #1 SEE SHEET SD-10

DETENTION VAULT #2 SEE SHEETS SD-11 & SD-12

DETENTION VAULT #3 SEE SHEETS SD-13 & SD-14

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.

N W E S

GRAPHIC SCALE 1"=20'
0 20 40 60

ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

| NO. | DATE |
|---|---|
| 1 | 1/16/24 |
| 2 | 3/4/25 |
| 3 | 4/21/25 |
| 4 | |
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REVISION
1 Revised per City review and Wall A adjustment.
2 Revised per City review.
3 Revised per City & Rush review.

JOB NO. 3227
DATE 4/24/2025
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

Bradley Heights
Timberlane Partners
1816 11th Ave Unit C
Seattle, WA, 98122
Phone 509.899.0326
Fax jorden@timerlanepartners.com

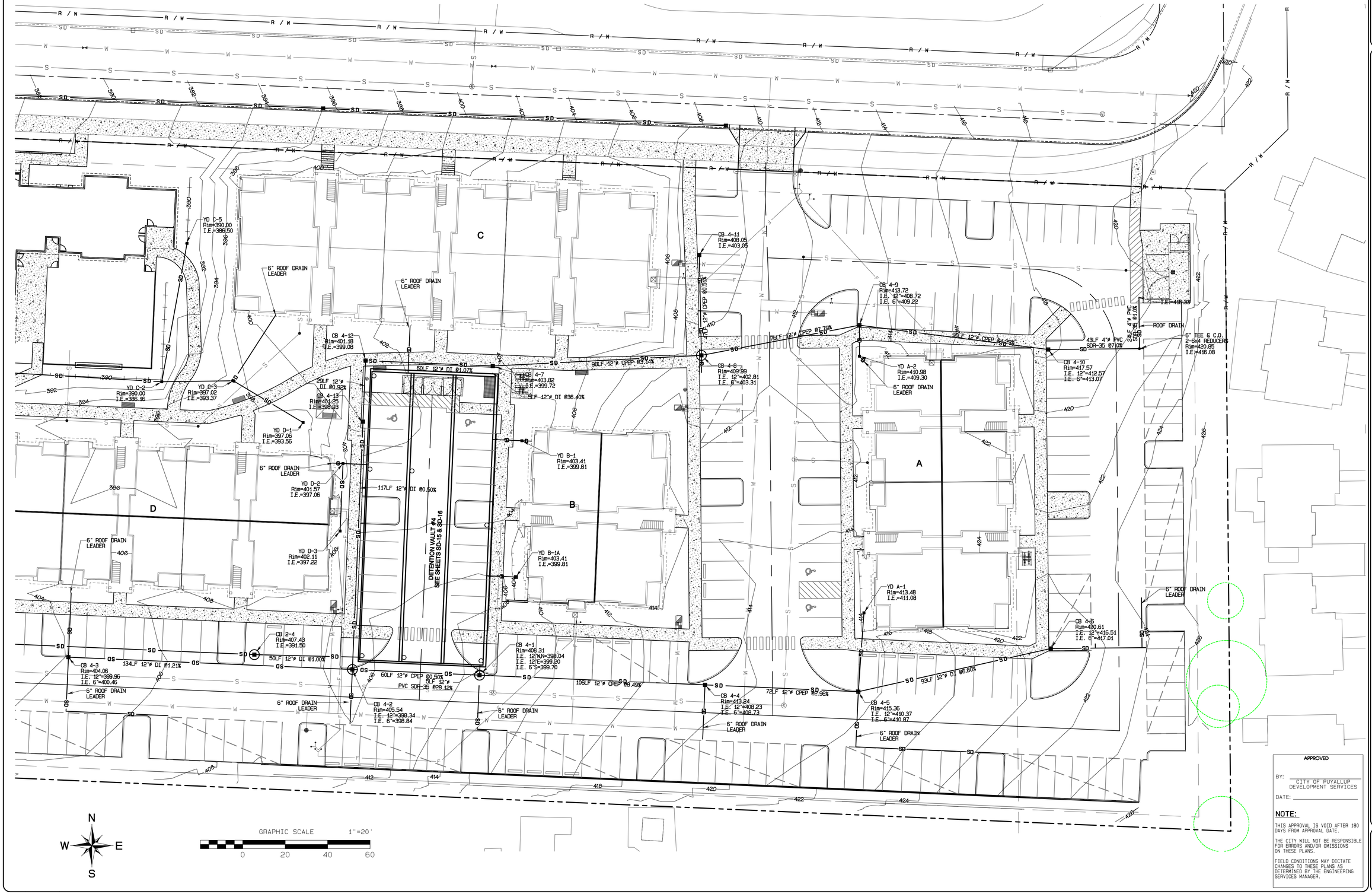
Storm Plan

DRAWING
SD-5
SHEET 19
OF 60

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:38:26PM

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

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ROBERT A. TRIVITT
STATE OF WASHINGTON
4/24/2025
REGISTERED
PROFESSIONAL ENGINEER

| | REVISION | DATE |
|---|---|---|
| 1 | Revised per City review and Wall A adjustment. | 1/17/25 |
| 2 | Revised per City review. | 3/4/25 |
| 3 | Revised per City & Rush review. | 4/21/25 |
| 4 | | |
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JOB NO. 3227
DATE 4/24/2025
DESIGNED BY: Rob Trivitt
DRAWN BY: Rob Trivitt
CHECKED BY: Paul Green
APPROVED BY: Paul Green


AZURE | GREEN CONSULTANTS
+civil +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 509.899.0326
Fax jorden@timberlanepartners.com


*DRAWING*

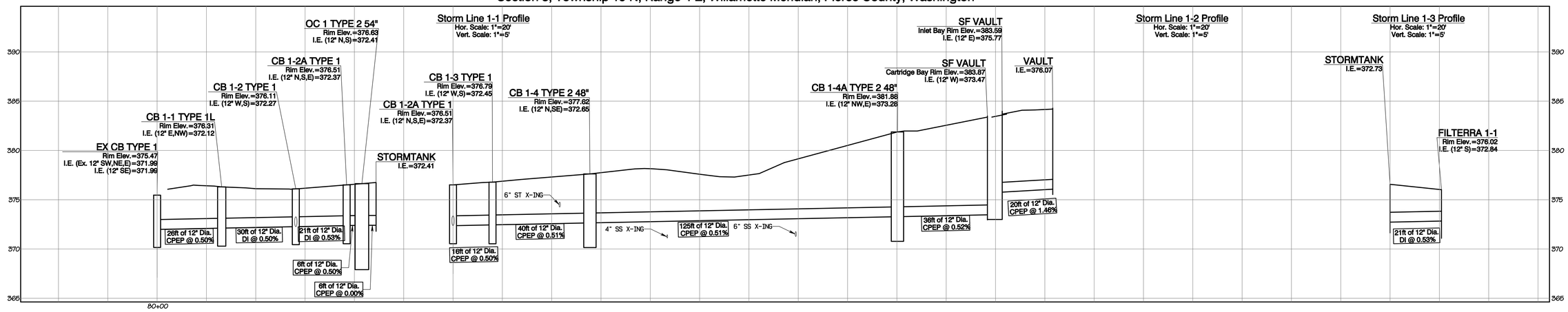
**SD-6**

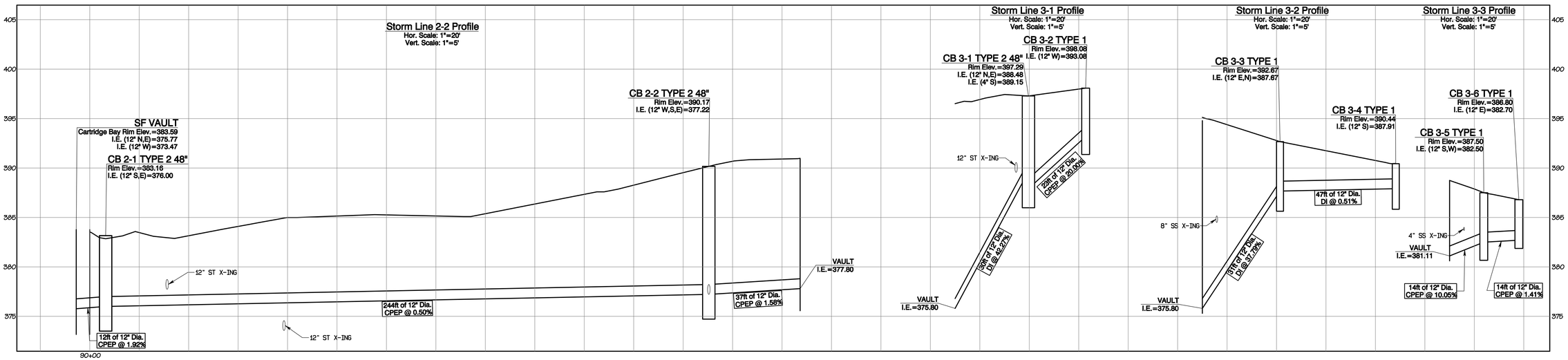
*SHEET* 20
*OF* 60

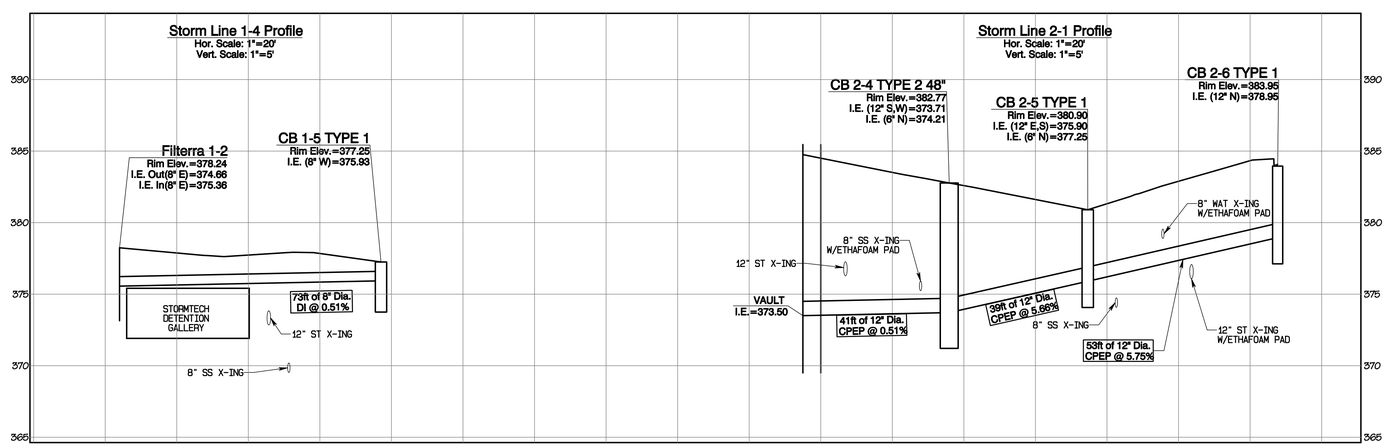
Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Trivitt\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:39:03PM

# Bradley Heights

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




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

NOTE:

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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

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

ROBERT A. TRIVITT
4/24/2025
EXPIRES 9/29/2025
PROFESSIONAL ENGINEER

| | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/16/25 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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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

Storm Profiles

*Bradley Heights*

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

*DRAWING*

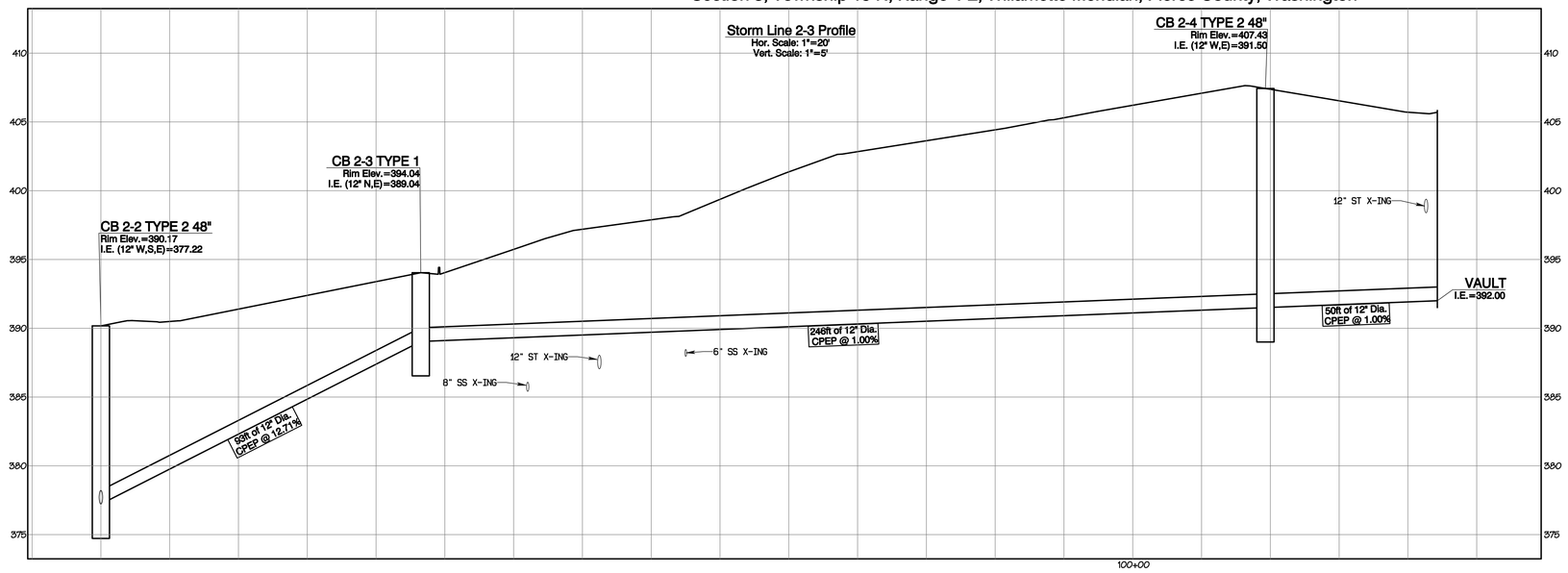
**SD-7**

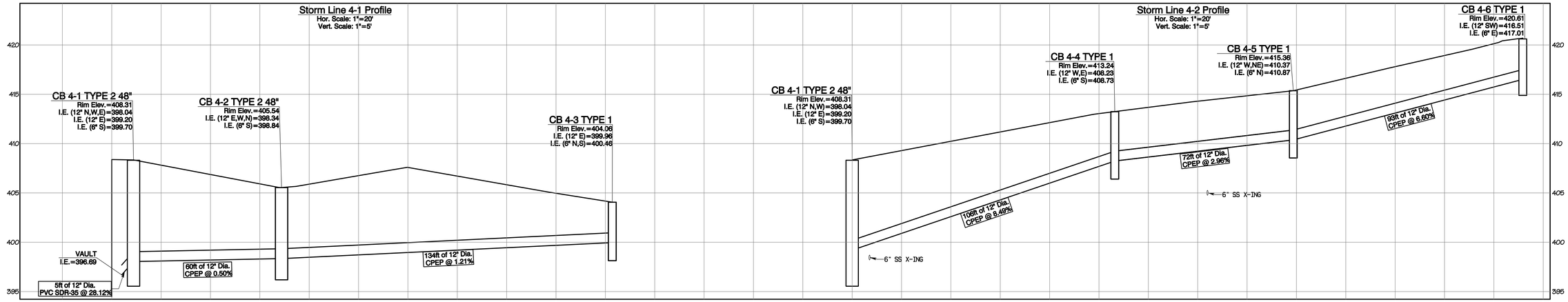
*SHEET* 21
*OF* 60

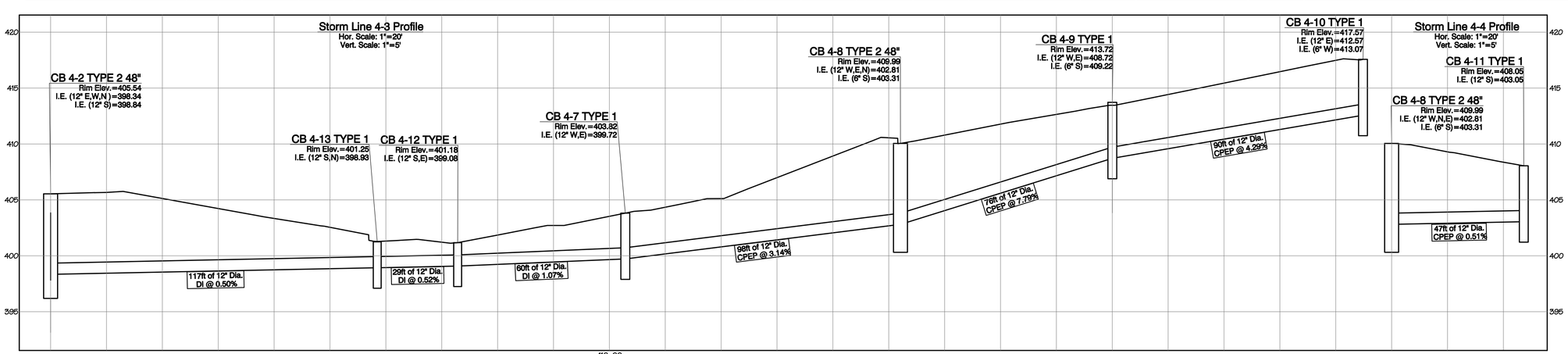
Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tiew\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 7:41:49PM

# Bradley Heights

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




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

NOTE:

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.

ROBERT A. TRIVITT
4/24/2025
STATE OF WASHINGTON
21615
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
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JOB NO. 3227
DATE MAY 2024
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green


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


Storm Profiles

*Bradley Heights*


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


*DRAWING*

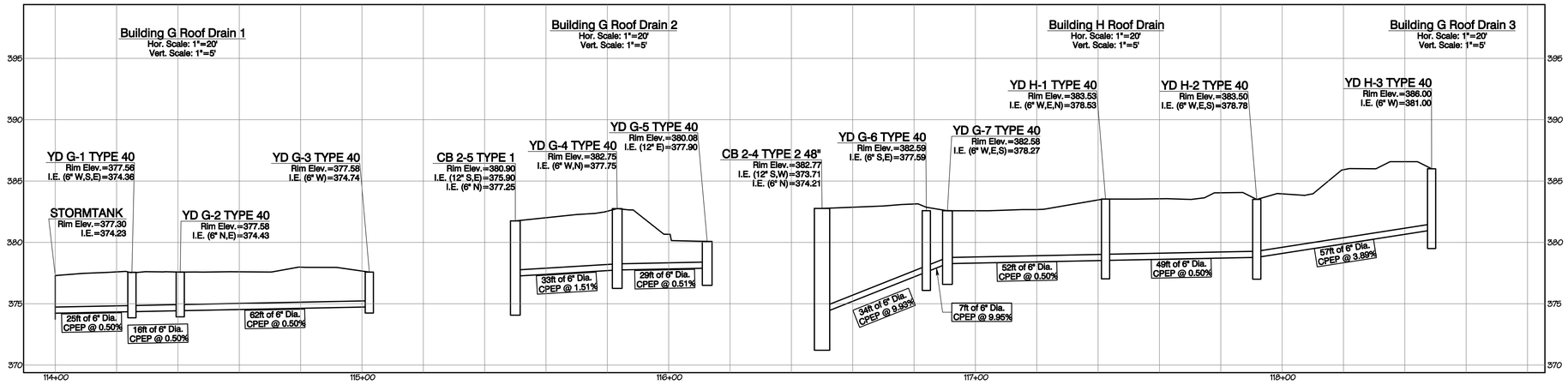
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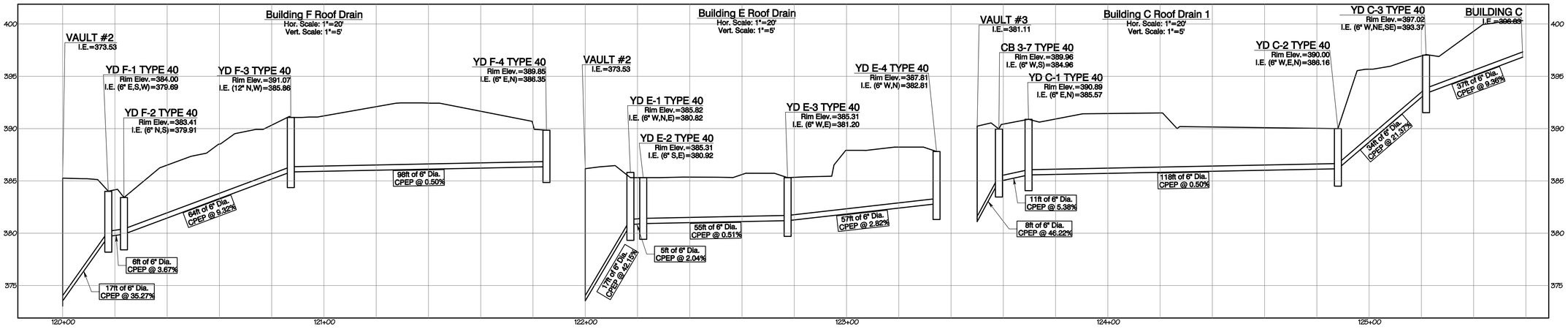
*SHEET* 22
*OF* 60

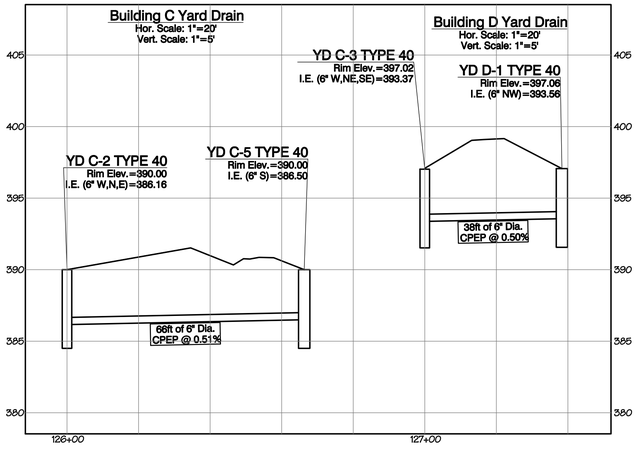

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmw\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 7:42:48PM

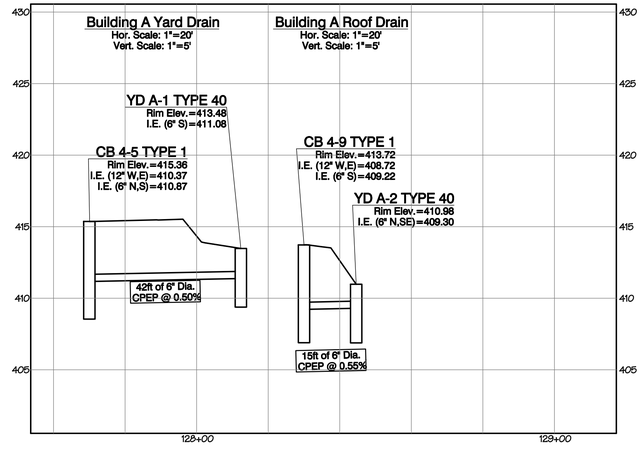
# Bradley Heights

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




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

**NOTE:**

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

ROBERT A. TRIVITT — 4/24/2025 — EXPIRES 9/29/2025 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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JOB NO. 3227
DATE MAY 24, 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


Roof/Yard Drain Profiles

*Bradley Heights*


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


*DRAWING*

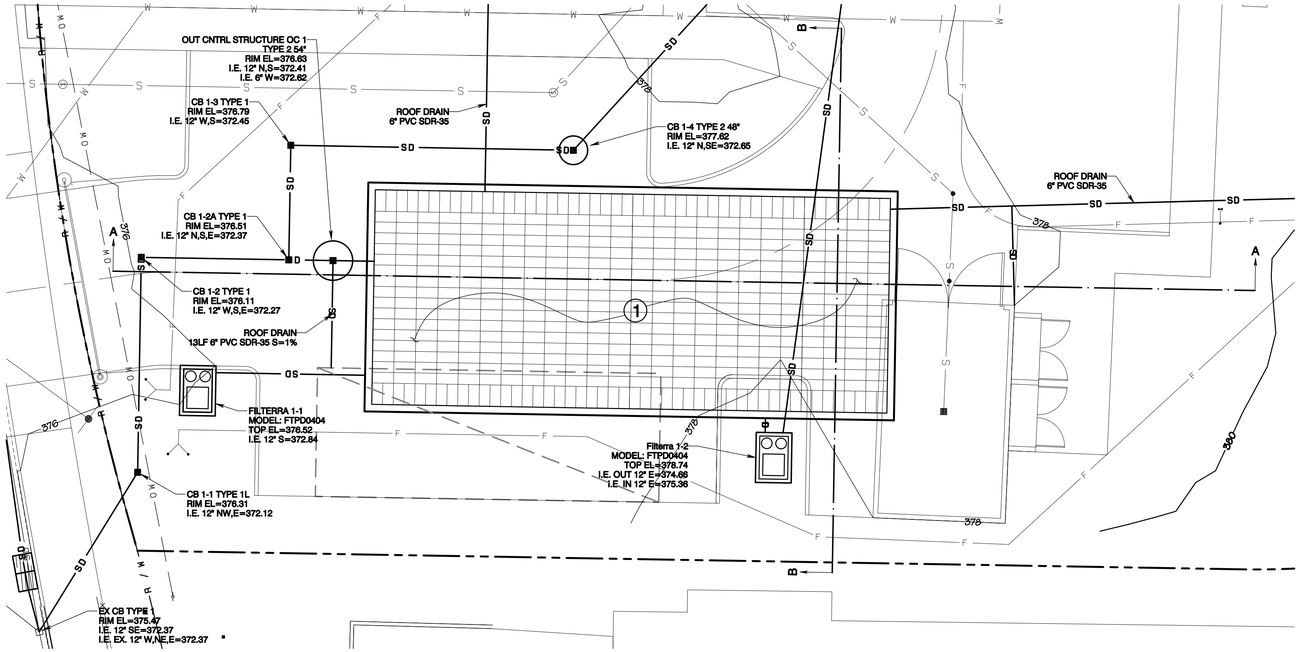
**SD-9**

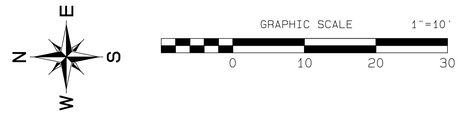
*SHEET* 23
*OF* 60


Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tews\bradley heights 20250424 ENG.prp Plot Date/Time: 4/24/2025 7:50:38PM

# Bradley Heights

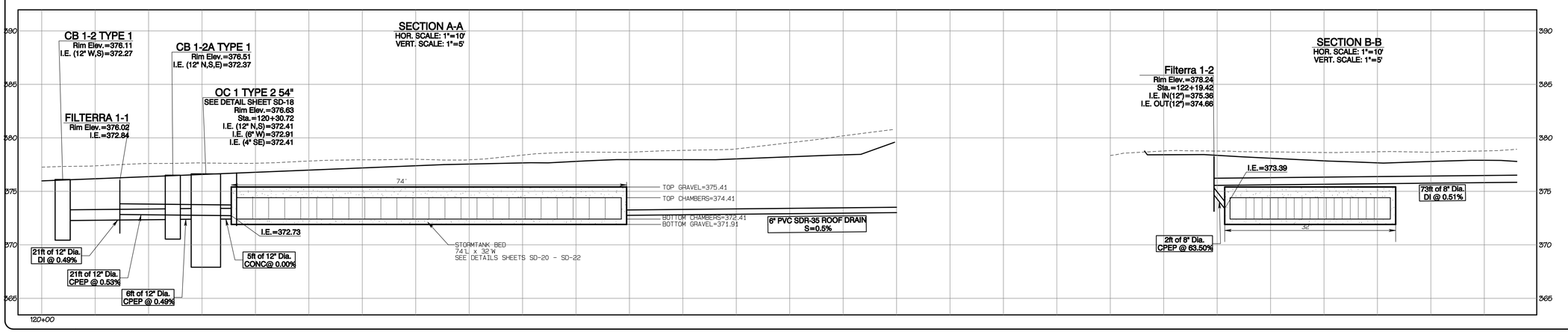
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington




**CONSTRUCTION KEY NOTES**

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




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.

ROBERT A. TRIVITT — 4/24/2025 — 15495 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| REVISION | DATE |
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| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
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| 4 | |
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JOB NO. 3227
DATE May 6, 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 509.899.0326
Fax jorden@timberlanepartners.com


*DRAWING*

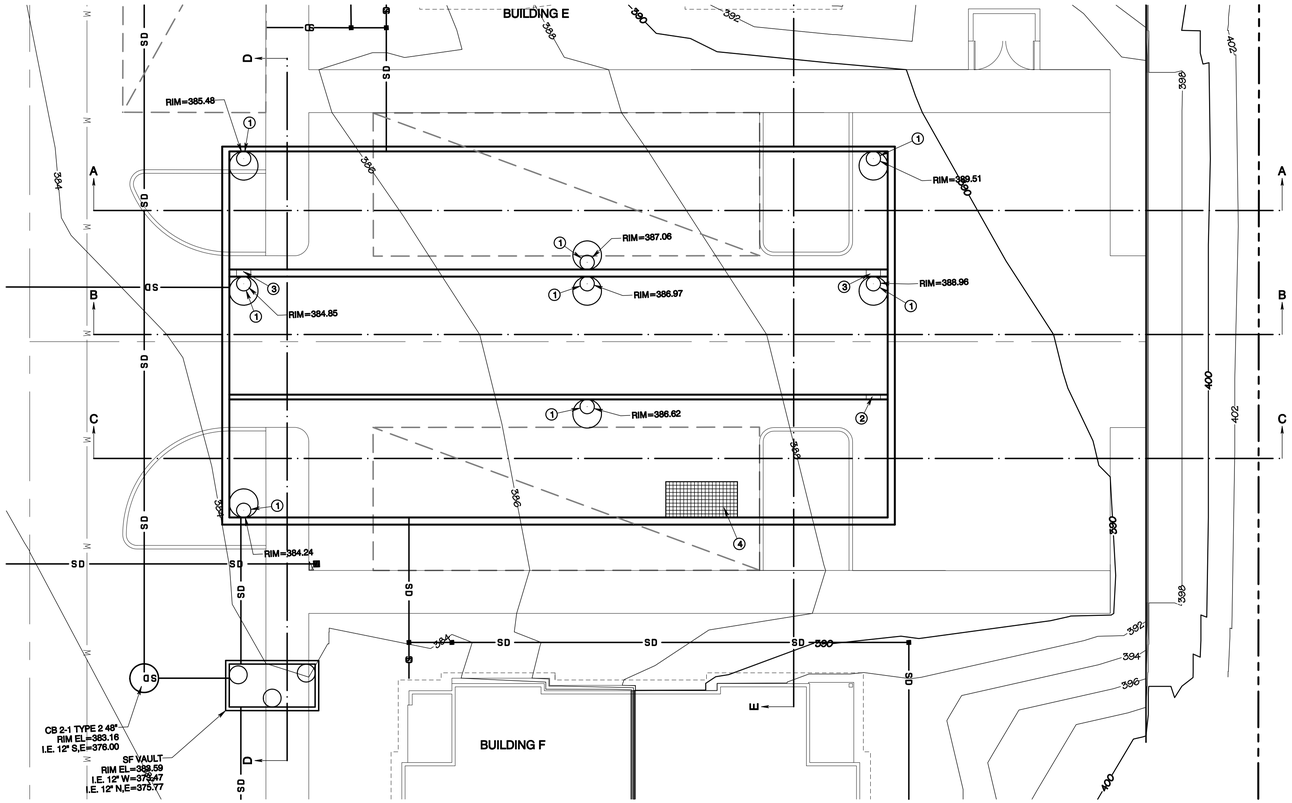
**SD-10**

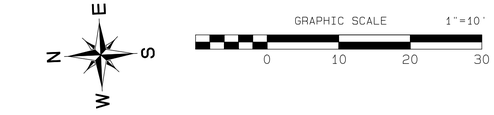
*SHEET* 24
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tews\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:55:21PM

# Bradley Heights

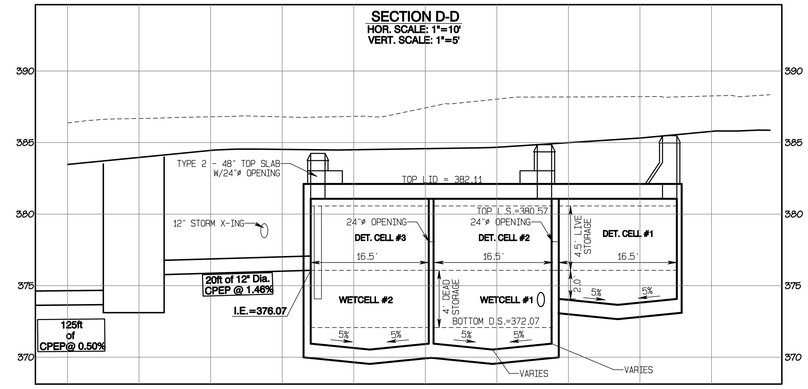
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

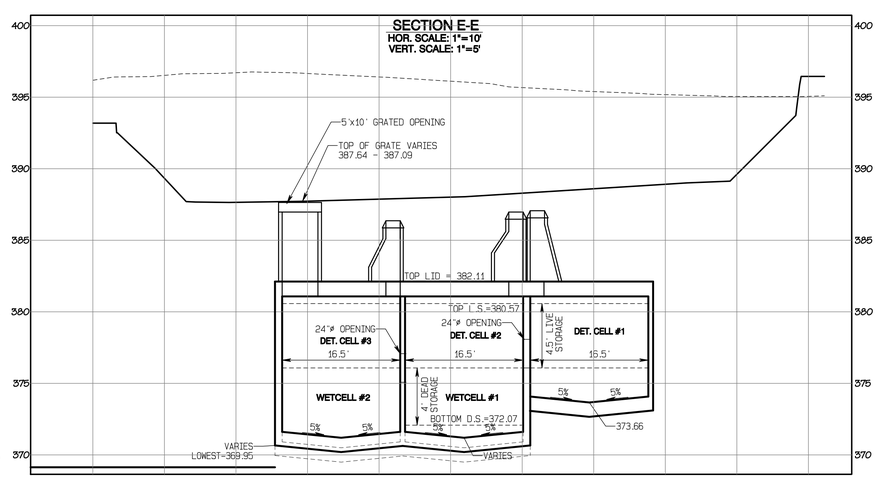


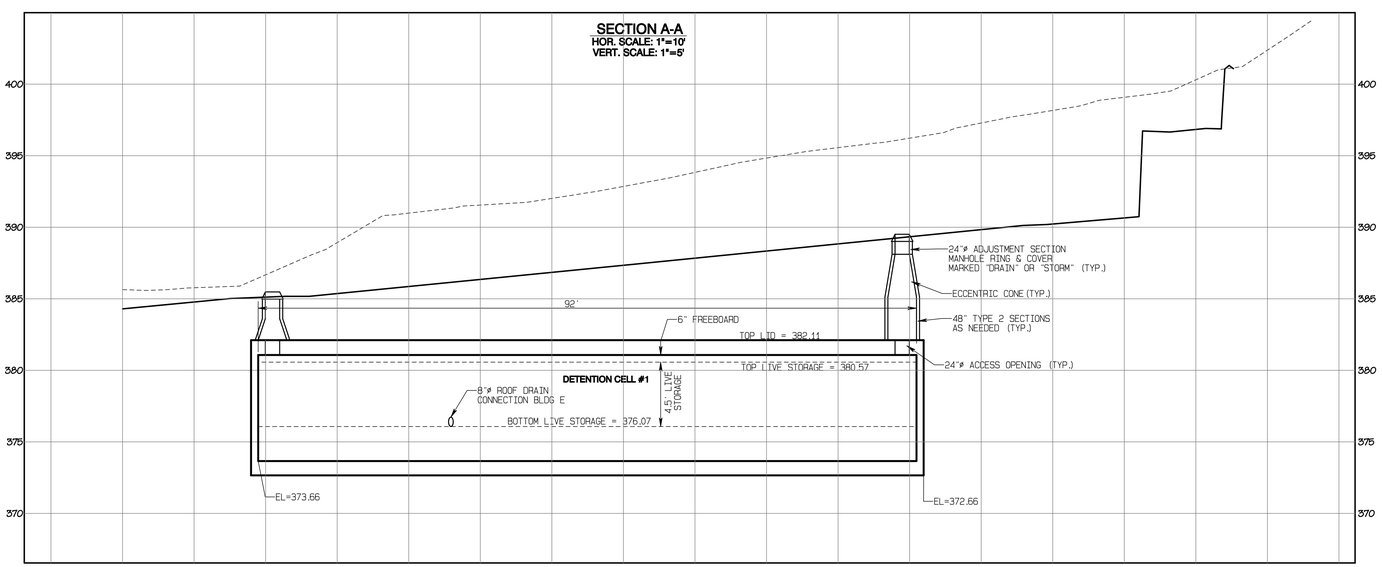




## CONSTRUCTION KEY NOTES

1. 24"ø ACCESS LID MARKED "DRAIN" (TYP.) W/LADDER PER STD 06.01.04, SHEET SD-22 & W/OSHA CONFINED ENTRY WARNING SIGN
2. 24"ø CONNECTION BETWEEN CELLS I.E. = 375.57
3. 24"ø CONNECTION BETWEEN CELLS I.E. = 376.07
4. 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




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.

ROBERT A. TRIVITT — 4/25/2025 — EXPIRES 9/26 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/16/25 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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| 10 | |

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


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


Vault #2 Plan

*Bradley Heights*


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


*DRAWING*

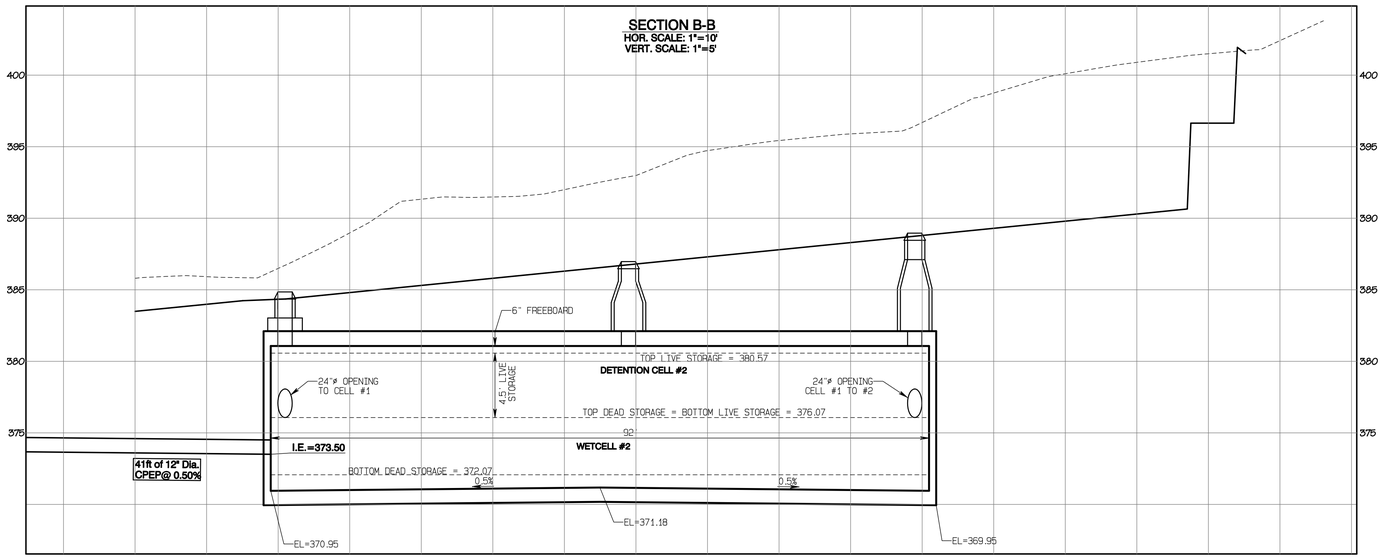
**SD-11**

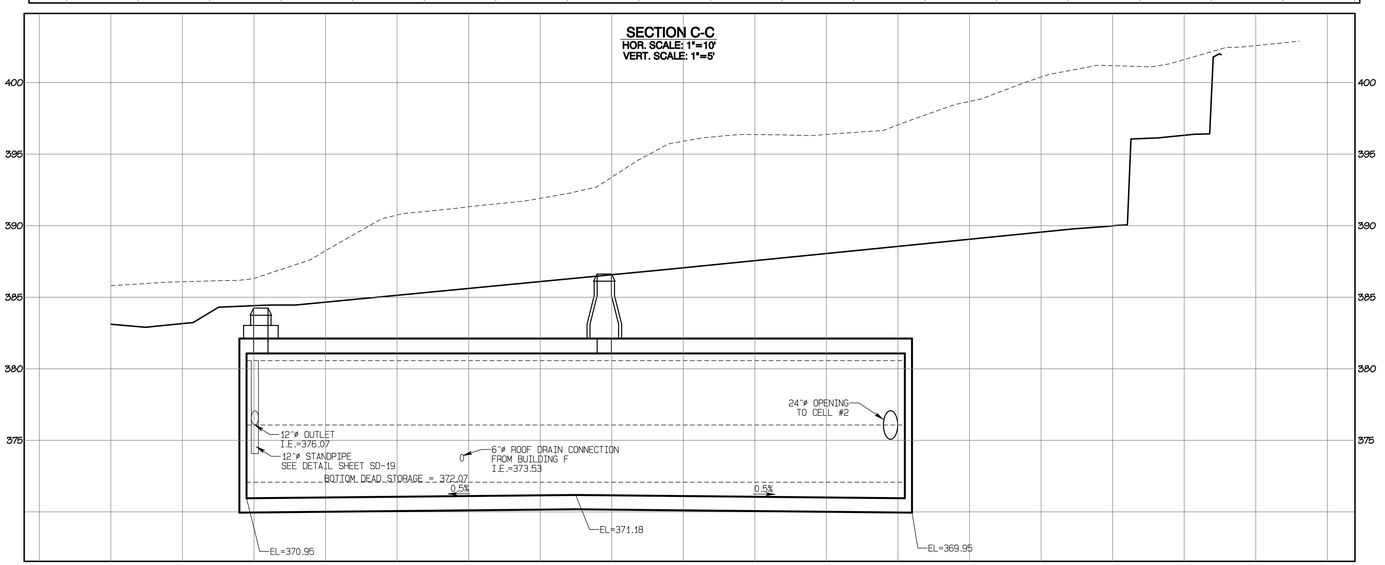
*SHEET* 25
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Dwgs\Bradley heights 20250425 ENG.pro Plot Date/Time: 4/25/2025 7:37:45AM

# Bradley Heights

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




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

NOTE:

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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

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

ROBERT A. TRIVITT
STATE OF WASHINGTON
21615
REGISTERED PROFESSIONAL ENGINEER
4/24/2025

| | REVISION | DATE |
|---|---|---|
| 1 | Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 | Revised per City review. | 3/4/25 |
| 3 | Revised per City & Rush review. | 4/21/25 |
| 4 | | |
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JOB NO. 3227
DATE May 6, 2024
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green


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


Vault #2 Cross-Sections

*Bradley Heights*


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


*DRAWING*

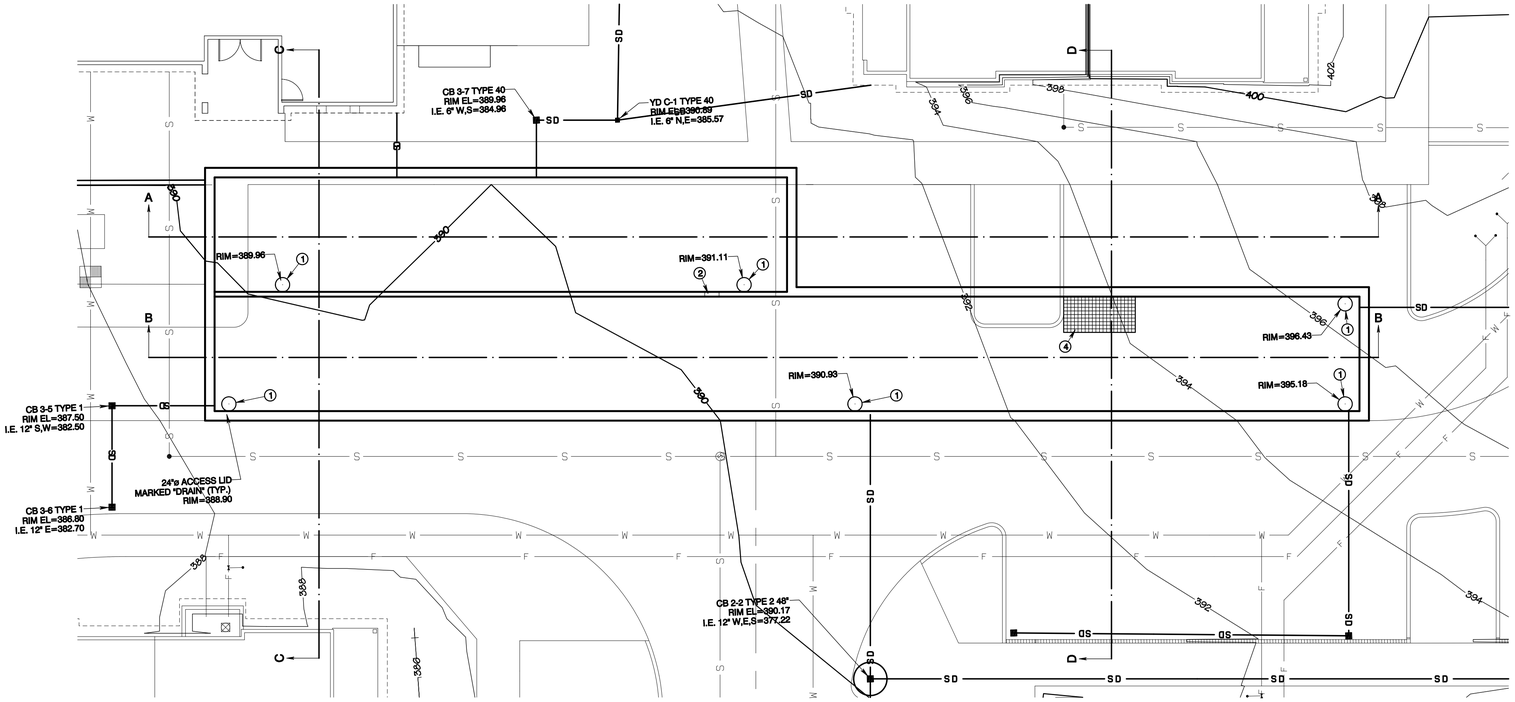
**SD-12**

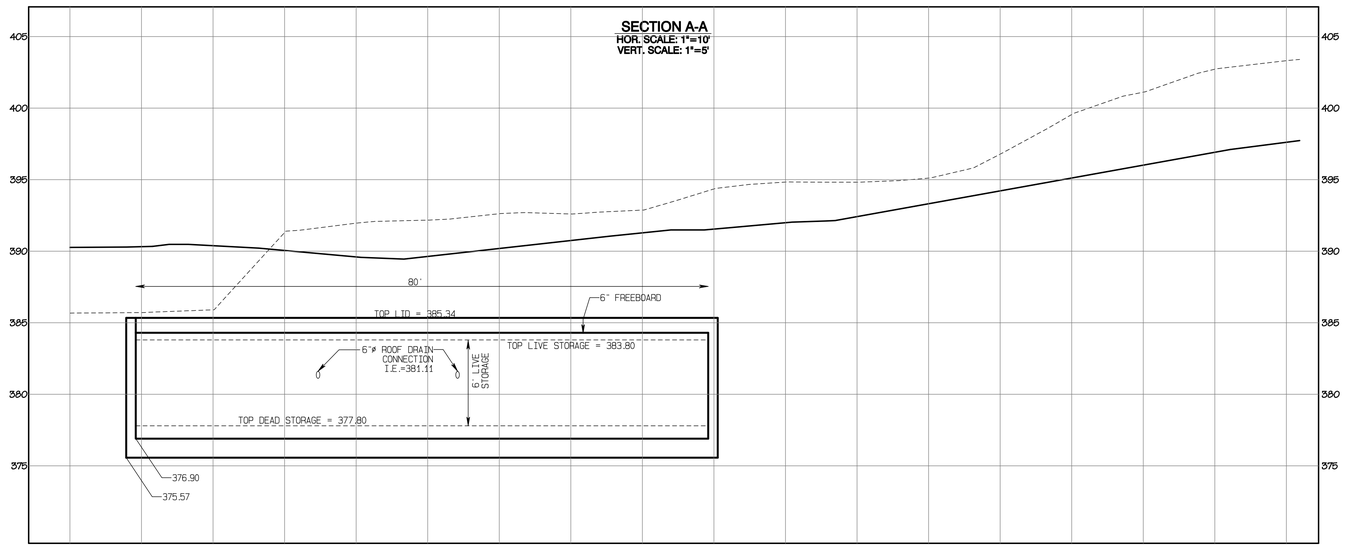
*SHEET* 26
*OF* 60

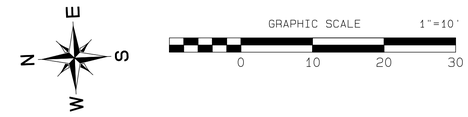
Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/7:56:21PM

# Bradley Heights

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




## CONSTRUCTION KEY NOTES

1. 24"ø ACCESS LID MARKED "DRAIN" (TYP.) W/LADDER PER STD 06.01.04, SHEET SD-22 & W/OSHA CONFINED ENTRY WARNING SIGN
2. 24"ø CONNECTION BETWEEN CELLS I.E. = 377.80
4. 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

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.

ROBERT A. TRIVITT — 4/25/2025 — EXPIRES 9/29/2025 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/10/25 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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JOB NO. 3227
DATE March 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 #3 Plan

*Bradley Heights*


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


*DRAWING*

**SD-13**

*SHEET* 27
*OF* 60

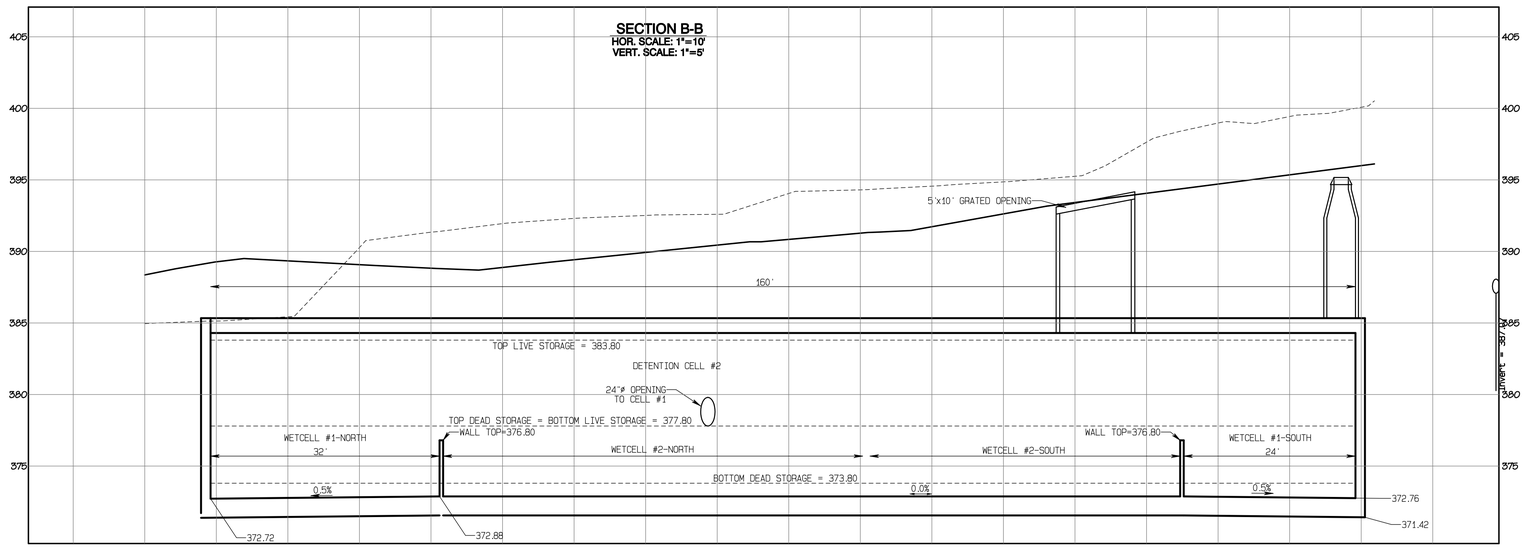

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250425 ENG.pro Plot Date/Time: 4/25/2025/7:38:34AM

# Bradley Heights

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

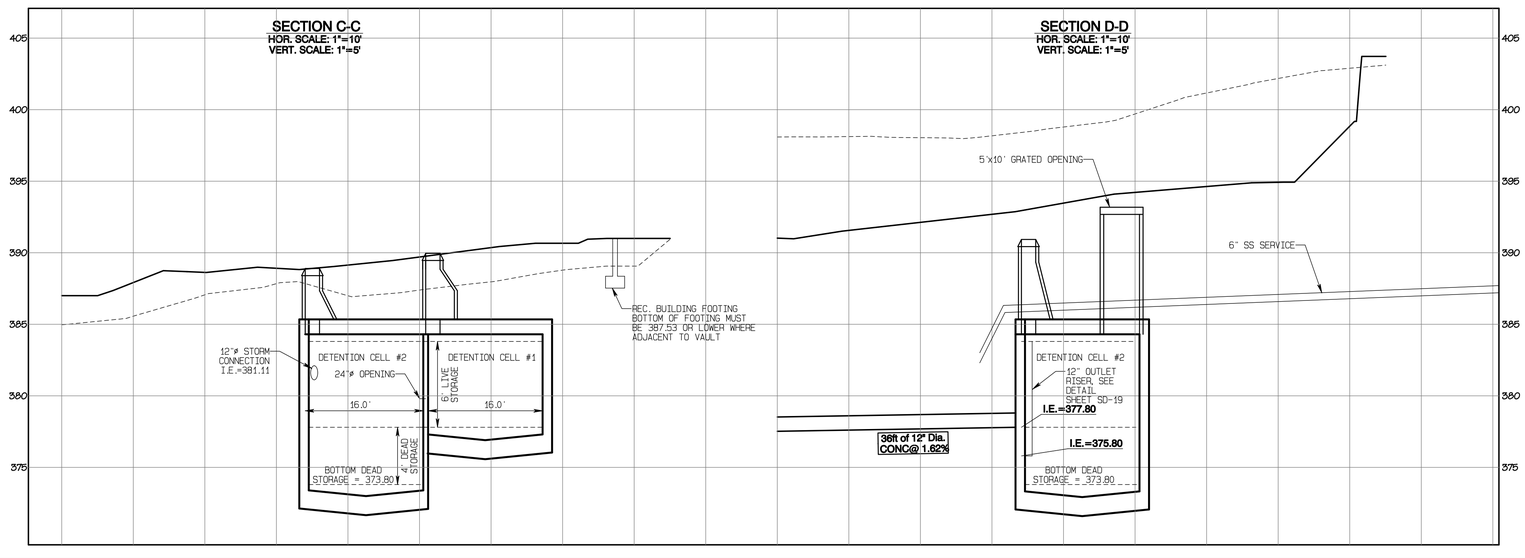
## SECTION B-B

HOR. SCALE: 1"=10'
VERT. SCALE: 1"=5'




## SECTION C-C

HOR. SCALE: 1"=10'
VERT. SCALE: 1"=5'




## SECTION D-D

HOR. SCALE: 1"=10'
VERT. SCALE: 1"=5'




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.

ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — 24015 — REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/10/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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| 10 | |

JOB NO. 3227
DATE May 1, 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 #3 Cross-Sections

Bradley Heights

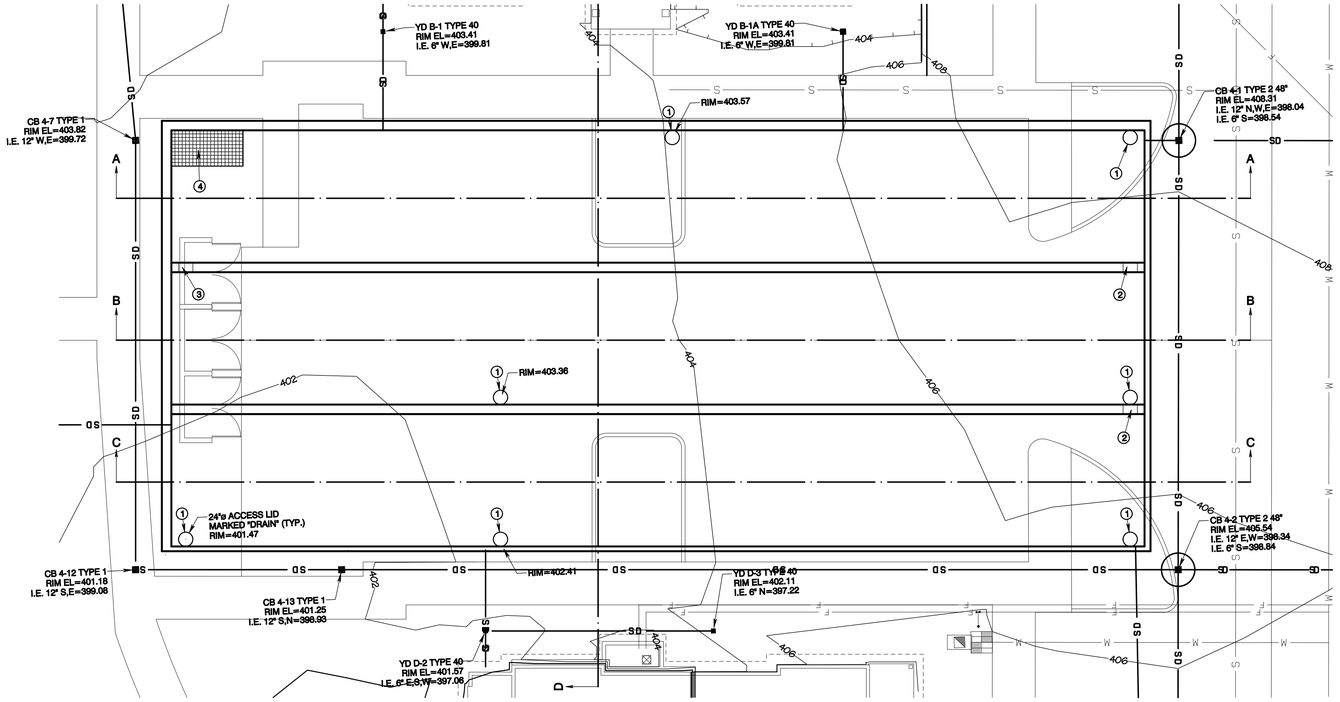

Timberlane Partners
1816 11th Ave Unit C
Seattle, WA, 98122
Phone 509.899.0326
Fax jorden@timberlanepartners.com

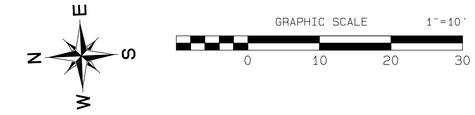

DRAWING
SD-14
SHEET 28
OF 60

Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tews\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:02:05PM

# Bradley Heights

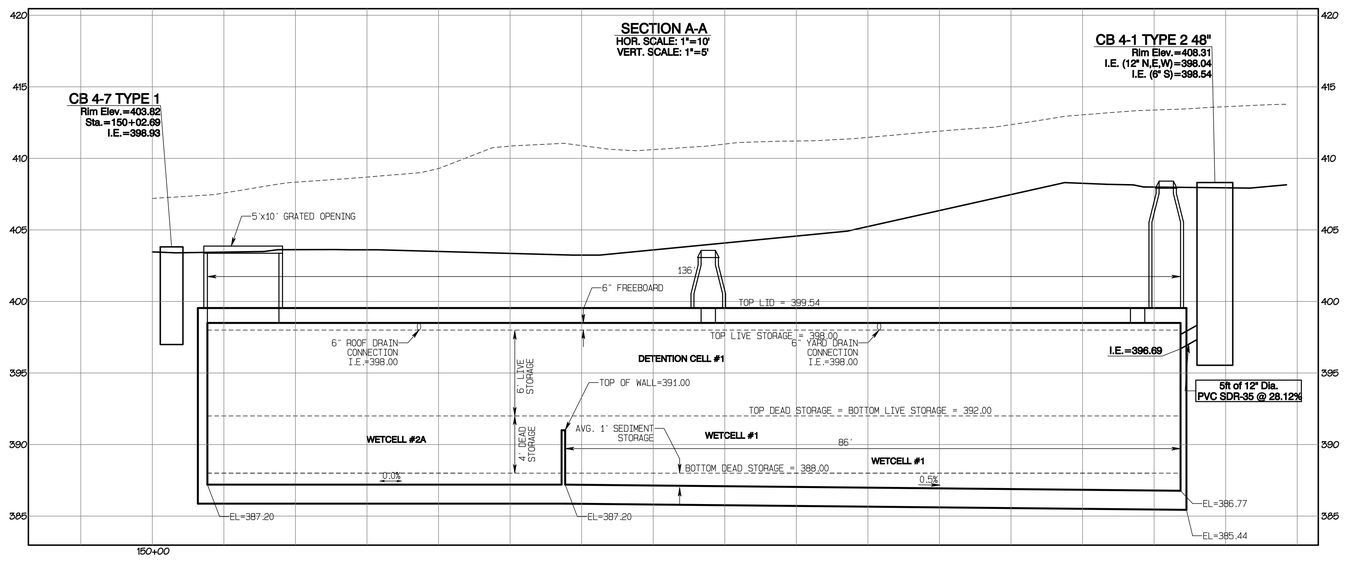
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

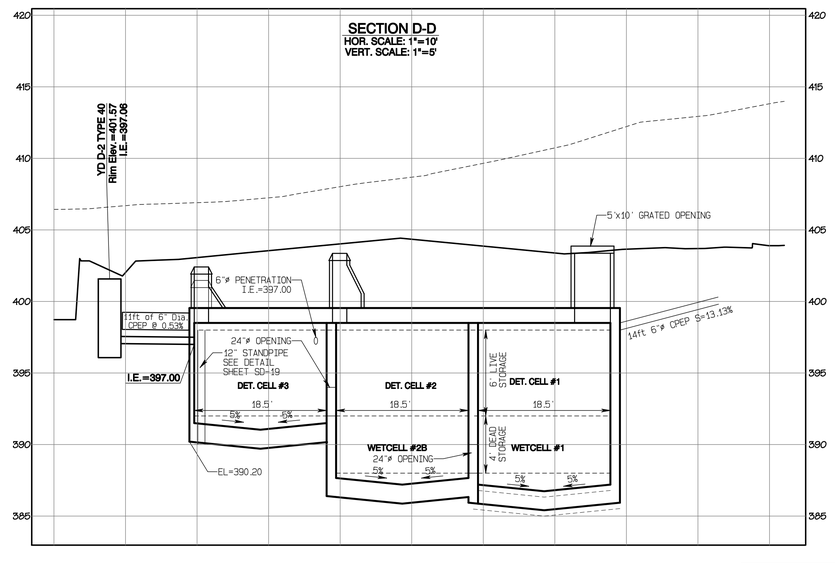



## CONSTRUCTION KEY NOTES

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




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.

4/25/2025
ROBERT A. TRIVITT
STATE OF WASHINGTON
21615
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/16/25 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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JOB NO. 3227
DATE May 1, 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 Plan

*Bradley Heights*


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


*DRAWING*

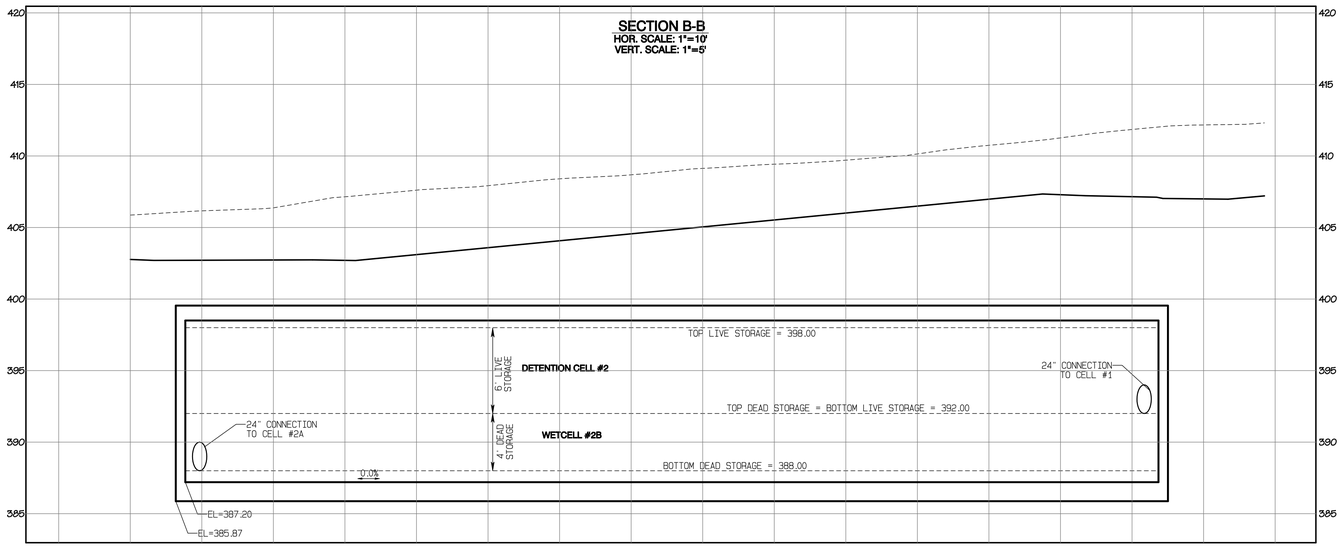
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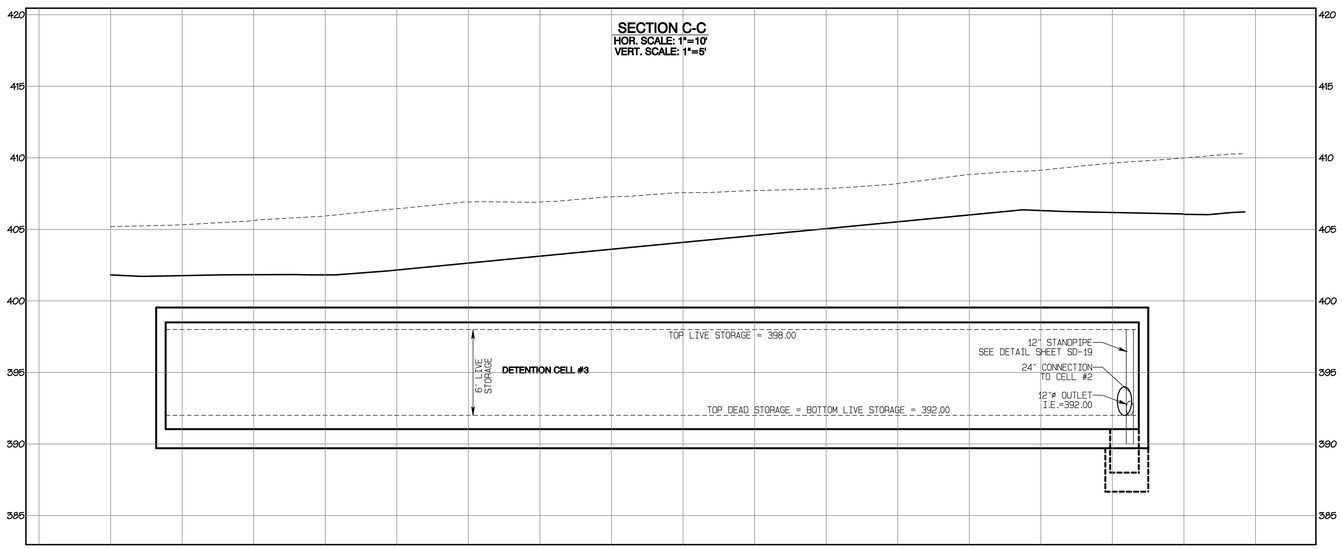
*SHEET* 29
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Dwg\bradley heights 20250425 ENG.dwg Plot Date/Time: 4/25/2025 7:39:27 AM

# Bradley Heights

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




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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

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

ROBERT A. TRIVITT — 4/24/2025 — EXPIRES 9/29/2025 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| | REVISION | DATE |
|---|---|---|
| 1 | Revised per City review and Wall A adjustment. | 1/10/24 |
| 2 | Revised per City review. | 3/4/25 |
| 3 | Revised per City & Rush review. | 4/21/25 |
| 4 | | |
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JOB NO. 3227
DATE May 6, 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 509.899.0326
Fax jorden@timberlanepartners.com


*DRAWING*

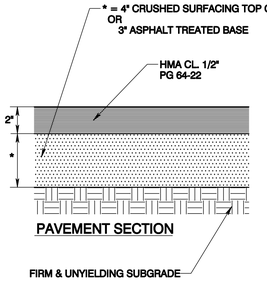
**SD-16**

*SHEET* 30
*OF* 60

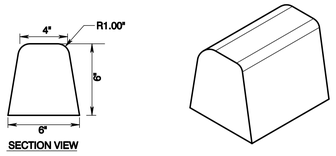

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tewin\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:04:26PM

# Bradley Heights

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




PAVEMENT SECTION



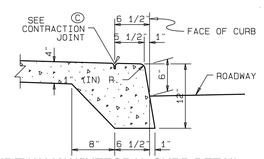

SECTION VIEW



ISOMETRIC VIEW

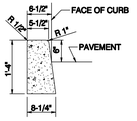
NOTES:
1. CONCRETE SHALL BE CLASS 3000 OR COMMERCIAL WITH AIR-ENTRAINMENT.
2. CONCRETE TO BE ANCHORED WITH ADHESIVE MEETING REQUIREMENTS OF SECTION 9-20 OF THE WSDOT/APWA STANDARD SPECIFICATIONS FOR TYPE II EPOXY RESIN.
3. CONTROL JOINTS SHALL BE PLACED NOT TO EXCEED 10' CLS.

EXTRUDED CURB DETAIL

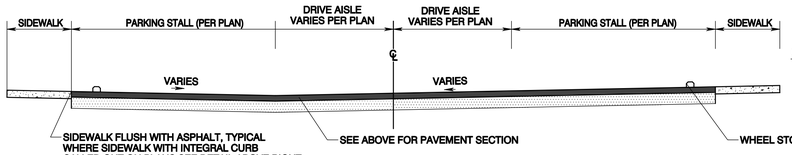



SIDEWALK W/INTEGRAL CURB DETAIL

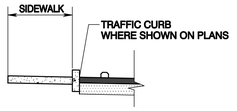
EXTEND SIDEWALK TRANSVERSE EXPANSION JOINTS TO INCLUDE CURB (FULL DEPTH)



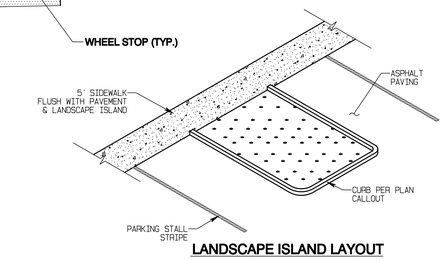

CEMENT CONCRETE TRAFFIC CURB DETAIL



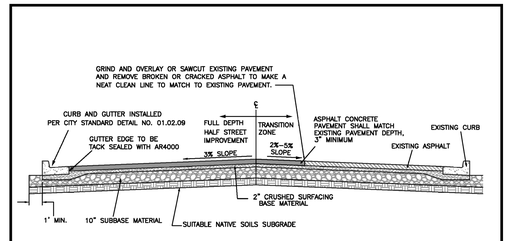

PAVING CROSS-SECTION
(NOT TO SCALE)




LAYOUT W/TRAFFIC CURB



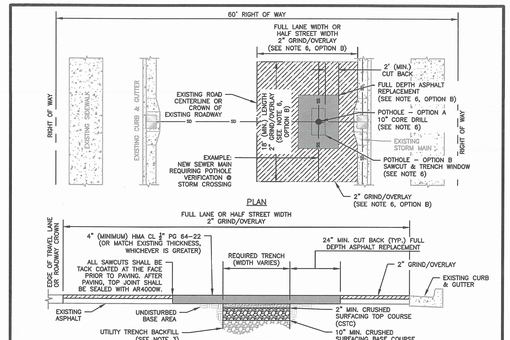

LANDSCAPE ISLAND LAYOUT




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

| CITY OF PUYALLUP DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | HALF STREET IMPROVEMENT | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JIM HWWA-SVOBODA | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: XXXX | | CITY STANDARD |
| FILE NAME: P:\DWGS\CAD\MISC\STDS\CITY2009\01_STD\01.02\01.01.19 | | DATE APPROVED: 03/01/2009 | DATE REVISED: XX/XX/XX | SCALE: 1:5 | 01.01.19 |




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)C, COMPACTING EARTH EMBANKMENTS, METHOD C OF THE WSDOT STANDARD SPECIFICATIONS.
5. IF PAVING SURFACES ADJACENT TO THE TRENCH OPENING MAY BE DAMAGED WHERE TRENCHES ARE MADE PARALLEL TO THE STREET, OR WHERE A NUMBER OF CROSS TRENCHES ARE LAID IN CLOSE PROXIMITY TO ONE ANOTHER OR WHERE THE EQUIPMENT USED MAY CAUSE SUCH DAMAGE, THE CITY ENGINEER MAY REQUIRE A NEGOTIATED CONTRIBUTION FROM THE PERMITTEE FOR RESURFACING IN LIEU OF PATCHING.

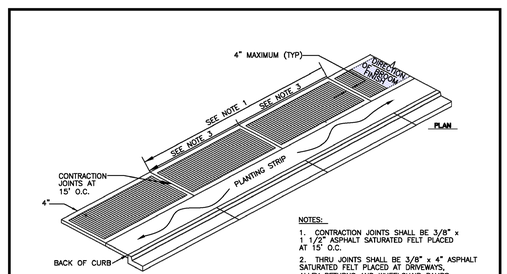
   IF THE TOTAL AREA OF THE PROPOSED PATCH OR PROBABLE DAMAGED AREA EXCEEDS 25 PERCENT OF THE TOTAL PAVEMENT SURFACING BETWEEN CURB FACES OR BETWEEN CONCRETE GUTTER EDGES IN ANY BLOCK, SUCH NEGOTIATIONS SHALL BE CARRIED ON AND CONTRIBUTIONS AGREED UPON PRIOR TO ISSUANCE OF A PERMIT. SUCH CONTRIBUTIONS SHALL BE IN ADDITION TO THE STANDARD PERMIT FEE.
6. POTHOLING FOR UTILITIES:

   OPTION A – UP TO A 10" DIAMETER CORE DRILL IS ALLOWED. CORE HOLES MADE DURING UTILITY POTHOLES SHALL BE BACKFILLED WITH CDF TO WITHIN 4" OF FINISHED GRADE. 4" OF HMA SHALL THEN BE PLACED AND COMPACTED, FLUSH WITH EXISTING GRADE.

   OPTION B – FOR POTHOLE WINDOWS LARGER THAN 10" IN DIAMETER OR TRENCHING COMPLETED IN EXISTING ROADWAY, THE CONTRACTOR SHALL MEET CITY STANDARD 06.01.01 FOR PIPE BEDDING AND BACKFILL REQUIREMENTS. PAVEMENT RESTORATION SHALL BE ACCOMPLISHED BY INSTALLING THE TRENCH PATCH, AS SHOWN HEREIN, AND THEN GRINDING/OVERLAYING TO A MINIMUM DEPTH OF 2". THE LIMITS OF THE REQUIRED GRIND/OVERLAY SHALL BE TO THE NEAREST LANE LINE, OR HALF STREET, AND SHALL BE A MINIMUM OF 18 FEET LONG (LONGITUDINALLY ALONG ROADWAY) CENTERED AT LOCATION OF PATCH. 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.

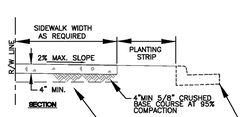
   WHERE LOCATION OF TRENCH OR POTHOLE WINDOW INTERSECTS ROAD CENTERLINE, A MINIMUM GRIND AND OVERLAY OF ONE FULL LANE WIDTH (12') IS REQUIRED CENTERED ON ROADWAY. NO LONGITUDINAL JOINTS WILL BE ALLOWED IN THE WHEEL PATH.
7. ALL MANHOLE FRAMES, VALVE FRAMES AND MONUMENT COVERS SHALL BE INSTALLED AFTER PLACEMENT OF ASPHALT. IF MORE THAN ONE LIFT IS NECESSARY, FRAMES AND LIDS WILL BE ADJUSTED TO FINISH GRADE AT FIRST LIFT AS DIRECTED BY THE CITY.

| CITY OF PUYALLUP OFFICE of THE CITY ENGINEER | APPROVED FOR PUBLICATION 4/15/18 | STREET PATCH | |
|---|---|---|---|
| | | (NOT TO SCALE) | CITY STANDARD 01.01.20 |
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MINIMUM SIDEWALK WIDTHS

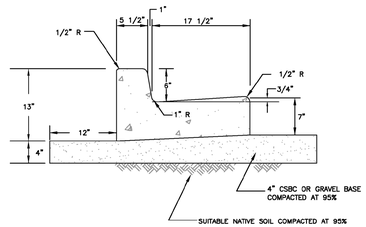
- 5'(RS ZONES) SINGLE FAMILY RESIDENTIAL AREAS (DETACHED DWELLINGS)
- 8'(RS ZONES) COMMERCIAL USES, WHEN REQUIRED BY DEVELOPMENT SERVICES MANAGER
- 8'(RM ZONES) MEDIUM AND HIGH DENSITY MULTI-FAMILY RESIDENTIAL AREAS
- 8'(ML ZONES) INDUSTRIAL AREAS
- 8'(CG, CBD ZONES) COMMERCIAL AREAS
- 8'(PF ZONES) PUBLIC FACILITIES AREAS
- 8'(F ZONES) FAIR AREAS
- * MATCH GREATEST WIDTH FOR ANY ADJACENT ZONE




NOTES:

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

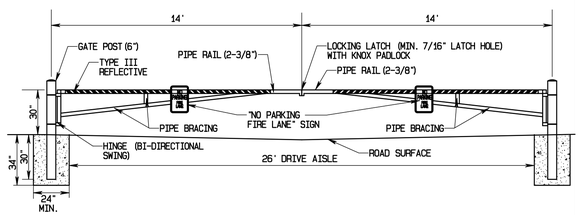
| CITY OF PUYALLUP DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | SIDEWALK WITH PLANTING STRIP | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JIM HWWA-SVOBODA | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: LINDA LIAN | | CITY STANDARD |
| FILE NAME: P:\DWGS\CAD\MISC\STDS\CITY2009\01_STD\01.02\01.02.02 | | DATE APPROVED: 07/01/2009 | DATE REVISED: 05/23/13 | SCALE: 1:5 | 01.02.02 |




NOTES:

1. CONTRACTION JOINTS SHALL BE 3/8" x 2 1/4" 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 TANGENCY 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.

| CITY OF PUYALLUP DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | CURB AND GUTTER | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JIM HWWA-SVOBODA | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: Linda Lian | | CITY STANDARD |
| FILE NAME: P:\DWGS\CAD\MISC\STDS\CITY2009\01_STD\01.02\01.02.09 | | DATE APPROVED: 07/01/2009 | DATE REVISED: 05/23/13 | SCALE: 1:5 | 01.02.09 |



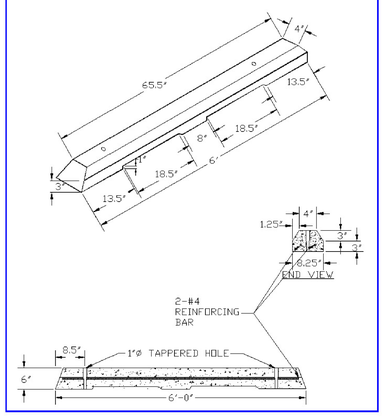

NOTES:

1. ALL MATERIALS SHALL BE SCHEDULE 40, GALVANIZED STEEL PIPE.
3. PROTECTIVE FINISH SHALL BE HOT-DIPPED, GALVANIZED GRAY.
3. CONTRACTOR TO INSTALL NO PARKING, FIRE LANE SIGN ON EACH SIDE OF TATE.
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 3,000 PSI.
6. COORDINATE INSTALLATION OF KNOX PADLOCK WITH FIRE.

GATE DETAIL
NOT TO SCALE

PARKING LOT WHEEL STOPS

shape concrete products




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.

ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — 22405 — REGISTERED PROFESSIONAL ENGINEER

| NO. | REVISION | DATE |
|---|---|---|
| 1 | Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 | Revised per City review. | 3/4/25 |
| 3 | Revised per City & Rush review. | 4/21/25 |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

JOB NO. 3227
DATE May 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


Details

Bradley Heights

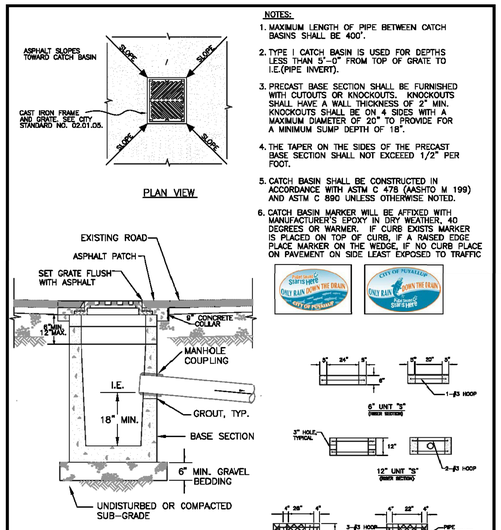

Timberlane Partners
1816 11th Ave Unit C
Seattle, WA, 98122
Phone 509.899.0326
Fax jorden@timberlanepartners.com


DRAWING
SD-17
SHEET 31
OF 60

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmex\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:28:45PM

# Bradley Heights

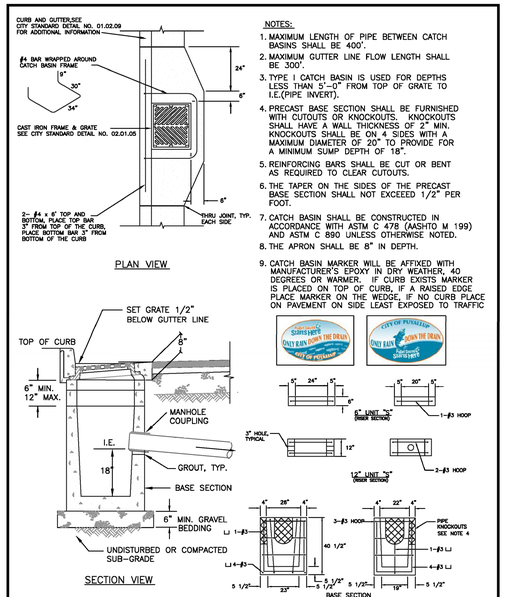
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington




NOTES:

1. MAXIMUM LENGTH OF PIPE BETWEEN CATCH BASINS SHALL BE 400'.
2. TYPE I CATCH BASIN IS USED FOR DEPTHS LESS THAN 5'-0" FROM TOP OF GRATE TO I.E.(PIPE INVERT).
3. PRECAST BASE SECTION SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. KNOCKOUTS SHALL BE ON 4 SIDES WITH A MAXIMUM DIAMETER OF 20" TO PROVIDE FOR A MINIMUM SUMP DEPTH OF 18".
4. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION SHALL NOT EXCEED 1/2" PER FOOT.
5. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) AND ASTM C 890 UNLESS OTHERWISE NOTED.
6. CATCH BASIN MARKER WILL BE AFFIXED WITH MANUFACTURER'S EPOXY IN DRY WEATHER, 40 DEGREES OR WARMER. IF CURB EXISTS MARKER IS PLACED ON TOP OF CURB, IF A RAISED EDGE PLACE MARKER ON THE WEDGE, IF NO CURB PLACE ON PAVEMENT ON SIDE LEAST EXPOSED TO TRAFFIC

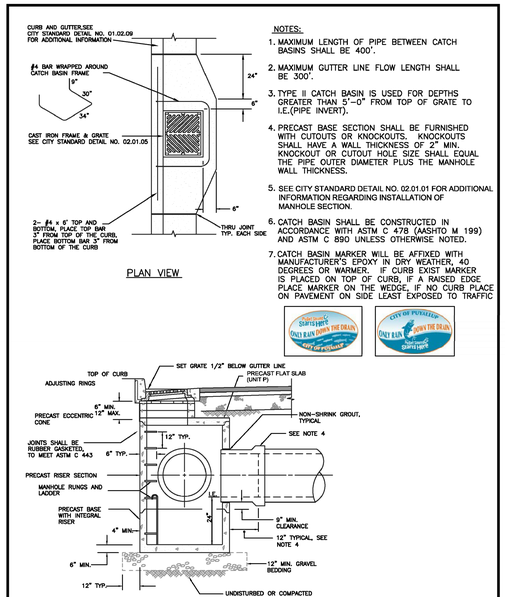
| CITY OF PUYALLUP | CATCH BASIN TYPE 1 (AREA DRAIN) | | | | |
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| DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | DRAWN BY: LINDA LANSING | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: XXXX | CITY STANDARD |
| | FILE NAME: P:\DWG\COMMON\STDDET\CITY\2009\01_SD\02.01.02 | | DATE APPROVED: 09/01/1992 | DATE REVISED: 09/01/2005 | SCALE: NTS 02.01.02 |




NOTES:

1. MAXIMUM LENGTH OF PIPE BETWEEN CATCH BASINS SHALL BE 400'.
2. MAXIMUM GUTTER LINE FLOW LENGTH SHALL BE 300'.
3. TYPE I CATCH BASIN IS USED FOR DEPTHS LESS THAN 5'-0" FROM TOP OF GRATE TO I.E.(PIPE INVERT).
4. PRECAST BASE SECTION SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. KNOCKOUTS SHALL BE ON 4 SIDES WITH A MAXIMUM DIAMETER OF 20" TO PROVIDE FOR A MINIMUM SUMP DEPTH OF 18".
5. REINFORCING BARS SHALL BE CUT OR BENT AS REQUIRED TO CLEAR CUTOUTS.
6. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION SHALL NOT EXCEED 1/2" PER FOOT.
7. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) AND ASTM C 890 UNLESS OTHERWISE NOTED.
8. THE APRON SHALL BE 8" IN DEPTH.
9. CATCH BASIN MARKER WILL BE AFFIXED WITH MANUFACTURER'S EPOXY IN DRY WEATHER, 40 DEGREES OR WARMER. IF CURB EXISTS MARKER IS PLACED ON TOP OF CURB, IF A RAISED EDGE PLACE MARKER ON THE WEDGE, IF NO CURB PLACE ON PAVEMENT ON SIDE LEAST EXPOSED TO TRAFFIC

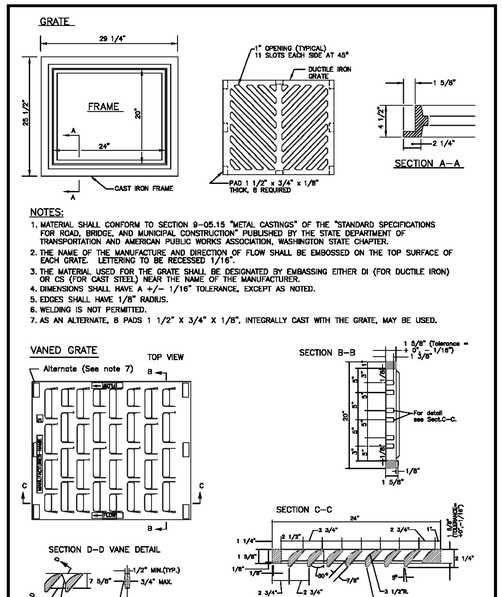
| CITY OF PUYALLUP | CATCH BASIN TYPE 1 (GUTTER DRAIN) | | | | |
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| DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | DRAWN BY: LINDA LANSING | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: XXXX | CITY STANDARD |
| | FILE NAME: P:\DWG\COMMON\STDDET\CITY\2009\02_SD\02.01.03 | | DATE APPROVED: 09/01/1992 | DATE REVISED: 09/01/2005 | SCALE: NTS 02.01.03 |




NOTES:

1. MAXIMUM LENGTH OF PIPE BETWEEN CATCH BASINS SHALL BE 400'.
2. MAXIMUM GUTTER LINE FLOW LENGTH SHALL BE 300'.
3. TYPE II CATCH BASIN IS USED FOR DEPTHS GREATER THAN 5'-0" FROM TOP OF GRATE TO I.E.(PIPE INVERT).
4. PRECAST BASE SECTION SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. KNOCKOUT OR CUTOUT HOLE SIZE SHALL EQUAL THE PIPE OUTER DIAMETER PLUS THE MANHOLE WALL THICKNESS.
5. SEE CITY STANDARD DETAIL NO. 02.01.01 FOR ADDITIONAL INFORMATION REGARDING INSTALLATION OF MANHOLE SECTION.
6. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) AND ASTM C 890 UNLESS OTHERWISE NOTED.
7. CATCH BASIN MARKER WILL BE AFFIXED WITH MANUFACTURER'S EPOXY IN DRY WEATHER, 40 DEGREES OR WARMER. IF CURB EXIST MARKER IS PLACED ON TOP OF CURB, IF A RAISED EDGE PLACE MARKER ON THE WEDGE, IF NO CURB PLACE ON PAVEMENT ON SIDE LEAST EXPOSED TO TRAFFIC

| CITY OF PUYALLUP | CATCH BASIN TYPE II | | | | |
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| DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | DRAWN BY: LINDA LANSING | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: XXXX | CITY STANDARD |
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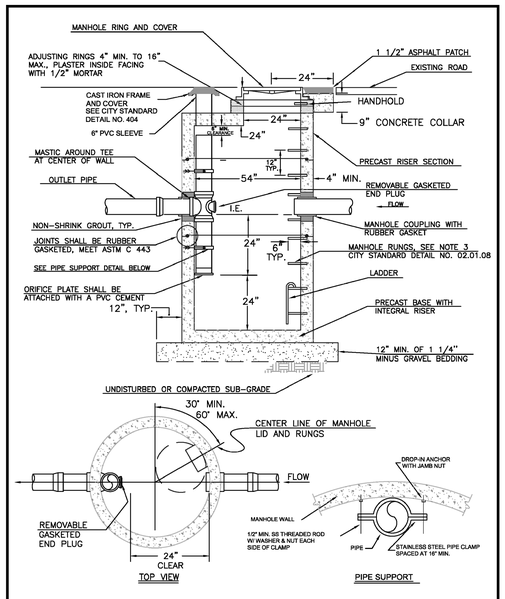



NOTES:

1. MATERIAL SHALL CONFORM TO SECTION 9-05.15 "METAL CASTINGS" OF THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" PUBLISHED BY THE STATE DEPARTMENT OF TRANSPORTATION AND AMERICAN PUBLIC WORKS ASSOCIATION, WASHINGTON STATE CHAPTER.
2. THE NAME OF THE MANUFACTURE AND DIRECTION OF FLOW SHALL BE EMBOSSED ON THE TOP SURFACE OF EACH GRATE. LETTERING TO BE RECESSED 1/16".
3. THE MATERIAL USED FOR THE GRATE SHALL BE DESIGNATED BY EMBASSING EITHER DI (FOR DUCTILE IRON) OR CS (FOR CAST STEEL) NEAR THE NAME OF THE MANUFACTURER.
4. DIMENSIONS SHALL HAVE A +/- 1/16" TOLERANCE, EXCEPT AS NOTED.
5. EDGES SHALL HAVE 1/8" RADIUS.
6. WELDING IS NOT PERMITTED.
7. AS AN ALTERNATE, 8 PADS 1 1/2" X 3/4" X 1/8", INTEGRALLY CAST WITH THE GRATE, MAY BE USED.




| CITY OF PUYALLUP | CATCH BASIN FRAME AND GRATE/VANED GRATE | | | | |
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| DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | DRAWN BY: LINDA LANSING | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: LINDA LIAN | CITY STANDARD |
| | FILE NAME: P:\DWG\COMMON\STDDET\CITY\2009\01_SD\02.01.05 | | DATE APPROVED: 07/01/2009 | DATE REVISED: 05/31/11 | SCALE: NTS 02.01.05 |

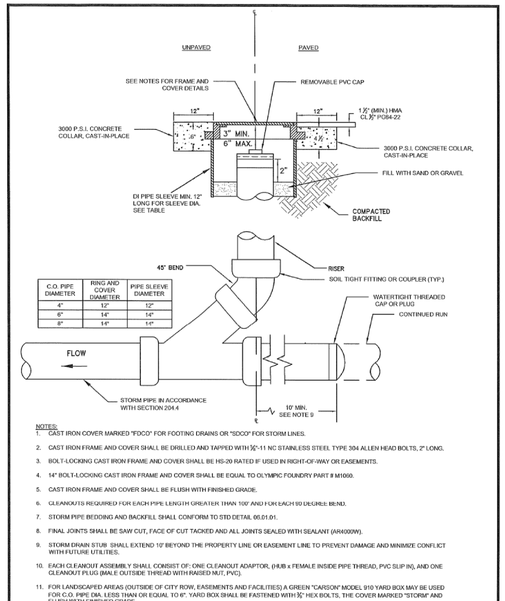



| CITY OF PUYALLUP | FLOW CONTROL MANHOLE WITH FLAT TOP | | | | |
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| DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | DRAWN BY: LINDA LANSING | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: XXXX | CITY STANDARD |
| | FILE NAME: P:\DWG\COMMON\STDDET\CITY\2009\03_SD\02.01.07 | | DATE APPROVED: 09/01/1992 | DATE REVISED: 09/01/2005 | SCALE: NTS 02.01.07 |

NOTES FOR FLOW CONTROL MANHOLE:

1. NEAT LINE CUTS SHALL BE AT TOP WITH A HOT PAVING GRADE ASPHALT AND FACE OF CUT TACKED.
2. FLOW CONTROL MANHOLES SHALL BE USED AS A SINGLE USE STRUCTURE.
3. MANHOLE RUNG SHALL CONFORM TO SECTION R, ASTM C 478 (ASSHTO M-199) AND MEET ALL WISHA REQUIREMENTS. MANHOLE RUNGS SHALL BE PARALLEL OR APPROXIMATELY RADIAL AT THE OPTION OF THE MANUFACTURER, EXCEPT THAT ALL STEPS IN ANY MANHOLE SHALL BE SIMILAR. PENETRATION OF OUTER WALL BY A RUNG LEG IS PROHIBITED. SEE MANHOLE STEP AND LADDER DETAIL, CITY STANDARD DETAIL NO. 06.01.04.
4. PRECAST RISER SECTION SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE WALL THICKNESS OF TWO (2) INCHES MINIMUM. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS MANHOLE WALL THICKNESS. MINIMUM DISTANCE BETWEEN HOLES IS EIGHT (8) INCHES.
5. PRECAST CONCRETE MANHOLE COMPONENTS SHALL CONFORM TO ASTM C 478.
6. FLEXIBLE JOINTS SHALL BE RUBBER GASKETED IN ACCORDANCE WITH THE WSDOT STANDARD SPECIFICATIONS. MORTARED, DRY-PACKED, OR CAST-IN-PLACE JOINTS WILL BE PERMITTED FOR CONNECTIONS TO OR THROUGH MANHOLES. A FLEXIBLE GASKETED JOINT SHALL BE INSTALLED WITHIN ONE (1) FOOT OF EACH CONNECTION TO OR THROUGH SAID MANHOLES. CONNECTIONS TO MANHOLE WITH PVC PIPE SHALL UTILIZE A MANHOLE COUPLING AND RUBBER GASKET.
7. THE COVER ON THE MANHOLE SHALL BE MARKED WITH "STORM" OR "DRAIN" IN TWO (2) INCH RAISED LETTERS. SEE MANHOLE RING AND COVER DETAIL, CITY STANDARDS DETAIL NO. 06.01.02 AND 06.01.03.
8. STAINLESS STEEL PIPE CLAMP WITH 1/2" DIAMETER STAINLESS STEEL THREADED ROD WITH WASHER AND NUT EACH SIDE OF CLAMP. PROVIDE 1/2" DIAMETER DROP-IN ANCHOR WITH JAMB NUT AT WALL. PIPE CLAMPS SHALL BE PLACED AT SIXTEEN (16) INCHES ON CENTER.
9. FLOW CONTROL UNIT SHALL BE MADE FROM PVC PIPE AND SHALL CONFORM TO THE STANDARD PIPE SPECIFICATIONS.

| CITY OF PUYALLUP | FLOW CONTROL MANHOLE NOTES | | | | |
|---|---|---|---|---|---|
| DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | DRAWN BY: LINDA LANSING | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: XXXX | CITY STANDARD |
| | FILE NAME: P:\DWG\COMMON\STDDET\CITY\2009\02_SD\02.01.08 | | DATE APPROVED: 09/01/1992 | DATE REVISED: 09/01/2005 | SCALE: NTS 02.01.08 |




| C.O. PIPE DIAMETER | RING AND COVER DIAMETER | PIPE SLEEVE DIAMETER |
|---|---|---|
| 4" | 12" | 12" |
| 6" | 14" | 14" |
| 8" | 14" | 14" |

NOTES:

1. CAST IRON COVER MARKED "FDCO" FOR FOOTING DRAINS OR "SDCO" FOR STORM LINES.
2. CAST IRON FRAME AND COVER SHALL BE DRILLED AND TAPPED WITH 3/4"-11 NC STAINLESS STEEL TYPE 304 ALLEN HEAD BOLTS, 2" LONG.
3. BOLT-LOCKING CAST IRON FRAME AND COVER SHALL BE HS-20 RATED IF USED IN RIGHT-OF-WAY OR EASEMENTS.
4. 14" BOLT-LOCKING CAST IRON FRAME AND COVER SHALL BE EQUAL TO OLYMPIC FOUNDRY PART # M1069.
5. CAST IRON FRAME AND COVER SHALL BE FLUSH WITH FINISHED GRADE.
6. CLEANOUTS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90 DEGREE BEND.
7. STORM PIPE BEDDING AND BACKFILL SHALL CONFORM TO STD DETAIL 05.01.01.
8. FINAL JOINTS SHALL BE SAW CUT, FACE OF CUT TACKED AND ALL JOINTS SEALED WITH SEALANT (AR4000W).
9. STORM DRAIN STUB SHALL EXTEND 10' BEYOND THE PROPERTY LINE OR EASEMENT LINE TO PREVENT DAMAGE AND MINIMIZE CONFLICT WITH FUTURE UTILITIES.
10. EACH CLEANOUT ASSEMBLY SHALL CONSIST OF: ONE CLEANOUT ADAPTOR, (HUB x FEMALE INSIDE PIPE THREAD, PVC SLIP IN), AND ONE CLEANOUT PLUG (MALE OUTSIDE THREAD WITH RAISED NUT, PVC).
11. FOR LANDSCAPED AREAS (OUTSIDE OF CITY ROW, EASEMENTS AND FACILITIES) A GREEN "CARSON" MODEL 910 YARD BOX MAY BE USED FOR C.O. PIPE DIA. LESS THAN OR EQUAL TO 6". YARD BOX SHALL BE FASTENED WITH 3/8" HEX BOLTS. THE COVER MARKED "STORM" AND FLUSH WITH FINISHED GRADE.

| CITY OF PUYALLUP | APPROVED AS PUBLISHED | STORM DRAIN CLEANOUT | | |
|---|---|---|---|---|
| PUBLIC WORKS AND DEVELOPMENT ENGINEERING | DATE SIGNED: 10/30/2013 | SCALE: NTS | DATE REVISED: 10/30/2013 | CITY STANDARD 02.01.09 |
| | | FILE NAME: P:\Shared\Drawings\C by Standards\2013\02 - PART 2 - STANDARD DETAILS\CAD\2d\02.01.09 | | |

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.

4/24/2025
ROBERT A. TRIVITT
STATE OF WASHINGTON
21615
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/16/25 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

JOB NO. 3227
DATE 11/14/2024
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green


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


Storm Details

*Bradley Heights*


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


*DRAWING*

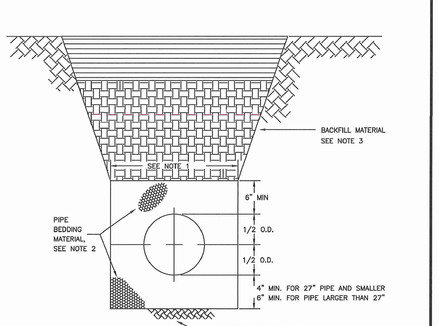
**SD-18**

*SHEET* 32
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmewn\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:08:33PM

# Bradley Heights

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




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

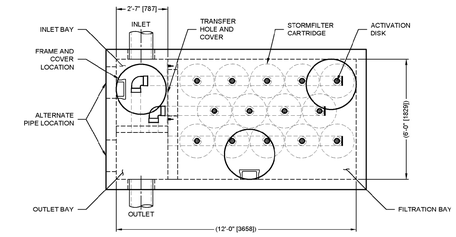
DATE ISSUED: 2/17/17

CITY OF PUYALLUP
OFFICE of THE CITY ENGINEER

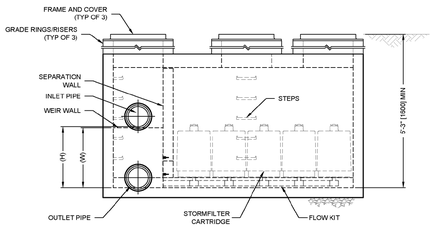
PIPE TRENCHING
BEDDING AND BACKFILL

| DRAWN BY | CHECKED BY | APPROVED BY | SUPERCEDES | DATE ISSUED: |
|---|---|---|---|---|
| JIM KRWSAVOBODA | TED HILL | MARK PALMER | W. STOCKMAN | 06/21/17 |
| FILE NAME: P:\DWGS\DRAWINGS\STD\CITYSTD\06_MISC\06-01.01.DGN | | DATE APPROVED: 03/01/2005 | SCALE: 1:1 | SHEET NO: XXXXXX XXXXXX |

CITY STANDARD 06.01.01




PLAN




ELEVATION

The Stormwater Management StormFilter®

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,322,629; 5,324,215; 5,707,527; 5,985,157; 6,027,639; 6,649,048; RELATED FOREIGN PATENTS; OR OTHER PATENTS PENDING.

## 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' [1829 x 3658] 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 (H) (ft. [mm]) | 3.05 [930] | | 2.3 [701] | | 1.8 [549] | |
| HEIGHT OF WEIR (W) (ft. [mm]) | 3.50 [1067] | | 2.25 [686] | | 1.50 [457] | |
| SPECIFIC FLOW RATE (gpm/sf [L/s/m²]) | 2 [1.36] | 1.67* [1.13]* | 2 [1.36] | 1.67* [1.13]* | 2 [1.36] | 1.67* [1.13]* |
| CARTRIDGE FLOW RATE (gpm [L/s]) | 22.0 [1.42] | 18.79 [1.19] | 11.25 [0.71] | 10.00 [0.63] | 12.53 [0.79] | 11.00 [0.69] | 8.35 [0.53] | 9.00 [0.57] |

* 1.67 gpm/sf [1.13 L/s/m²] SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY



FRAME AND GRATE
(24" SQUARE)
(NOT TO SCALE)




FRAME AND COVER
(30" ROUND)
(NOT TO SCALE)

## 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 | |
| PIPE DATA: | INVERT | MATERIAL | DIAMETER |
| INLET PIPE 1 | 375.77 | CPEP | 12" |
| INLET PIPE 2 | 375.77 | CPEP | 12" |
| OUTLET PIPE | 373.47 | CPEP | 12" |
| NOTES/SPECIAL REQUIREMENTS: | | | |

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 **30 SECONDS**. SPECIFIC FLOW RATE SHALL BE **2 GPM/SF [1.36 L/s/m²] (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 GPM/CF [13.39 L/s/m³] OF MEDIA (MAXIMUM).**

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. ALTERNATE DIMENSIONS ARE IN MILLIMETERS [mm] UNLESS NOTED OTHERWISE.
4. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.ContechES.com
5. 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
6. STRUCTURE SHALL MEET AASHTO HS20 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 M306 AND BE CAST WITH THE CONTECH LOGO.

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

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-526-3999 513-645-7000 513-645-7993 FAX

SFPD0612 (6' x 12')
PEAK DIVERSION STORMFILTER
STANDARD DETAIL

## STORMWATER 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 Transpoliation 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").

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 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.

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 require removal or relocation relating to this project, shall be done so at the developer's expense.

8. During construction, all existing and newly installed drainage structures shall be protected from sediments.

9. 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. 02.01.06 and 02.01.07.

10. Manhole ring and cover shall conform to City Standard Detail 06.01.02.

11. 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.

12. 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 invell of the storm pipe.

13. 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). Vaned grates shall conform to WSDOT Standard Plan B-30.30-03 (Olympic Foundry No. SM60V or equal).

14. Stormwater pipe shall be only PVC, concrete, ductile iron pipe, or dual walled Polypropylene pipe.
   a. The use of any other type shall be reviewed and approved by the Engineering Services Staff prior to installation.
   b. PVC pipe shall be per ASTM D3034, SDR 35 for pipe size I5-inch and smaller and F679 for pipe sizes 18 to 27 inch. Minimum cover on PVC pipe shall be 3.0 feet.
   c. 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.
   d. Ductile iron pipe shall be 1.0 foot.
   e. Polypropylene Pipe (PP) shall be dual walled, have a smooth interior and exterior corrugations and meet WSDOT 9-05.24(1). 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.

15. Trenching, bedding, and backfill for pipe shall conform to City Standard Detail No. 06.01.01.

16. Storm pipe shall be a minimum of 10 feet away from building foundations and/or roof lines.

17. 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.

18. 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.

ROBERT A. TRIVITT — STATE OF WASHINGTON — 4/24/2025 — REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City 6 Rush review. | 4/21/25 |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

JOB NO. 3227 2024
DESIGNED BY: Rob Trivitt
DRAWN BY: Rob Trivitt
CHECKED BY: Paul Green
APPROVED BY: Paul Green

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

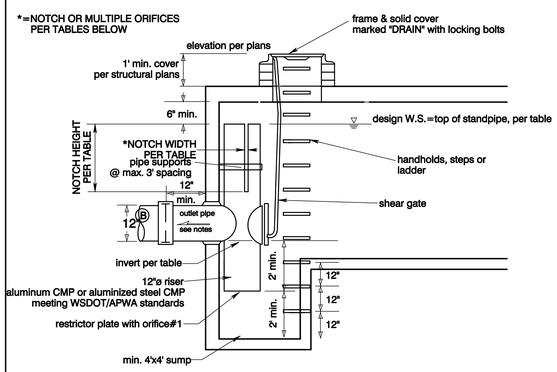
Storm Details

Bradley Heights

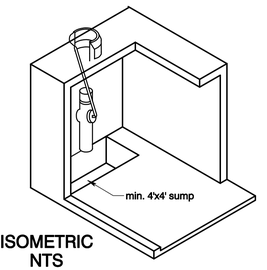

Timberlane Partners
1816 11th Ave Unit C
Seattle, WA, 98122
Phone 509.899.0326
Fax jorden@timberlanepartners.com


DRAWING
SD-19
SHEET 33
OF 60

## DETENTION VAULT OUTLET RISER DETAILS




SECTION A-A
NTS




ISOMETRIC
NTS

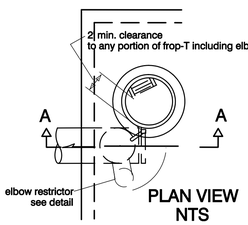
NOTES:
1. See separate structural plans for additional vault information.
2. See detail 02.01.07 & 02.01.08 for standard notes and additional detail.

VAULTS WITH NOTCH

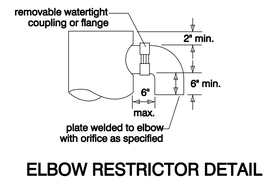
| VAULT # | I.E. OUT | ORIFICE #1 DIA. | NOTCH HEIGHT | NOTCH WIDTH | TOP OF RISER | RISER DIA. |
|---|---|---|---|---|---|---|
| ST1 | 372.41 | 1" | 6" | 6" | 374.41 | 12" |
| 2 | 376.07 | 1-5/16" | N/A | N/A | 379.57 | 12" |
| 3 | 377.80 | 3/4" | 1'-6" | 3/16" | 383.80 | 12" |

VAULT WITH 3 ORIFICES

| VAULT # | I.E. OUT | ORIFICE #1 DIA. | ORIFICE #2 DIA. | ORIFICE #2 HT | ORIFICE #3 DIA | ORIFICE #3 HT | TOP OF RISER | RISER DIA. |
|---|---|---|---|---|---|---|---|---|
| 4 | 392.00 | 2" | 3/4" | 2.75' | 2" | 4.75' | 398.00 | 12" |




PLAN VIEW
NTS




ELBOW RESTRICTOR DETAIL
NTS

## 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 6 | 1'-8" | 1.4 | 12"/12" | (1) 3' x 3' |
| FTPD0404S | CA ONLY | 4 x 4.5 | 4 x 6.5 | 1'-8" | 1.4 | 12"/12" | (1) 3' x 3' |
| FTPD0406 | N/A MID-ATL | 4 x 6 | 4 x 8 | 1'-8" | 1.4 | 12"/12" | (1) 3' x 3' |
| FTPD0405058 | MID-ATL ONLY | 4.5 x 5.83 | 4.5 x 7.83 | 1'-8" | 1.4 | 12"/12" | (1) 3' x 3' |
| FTPD0604 | ALL | 6 x 4 | 6 x 6 | 1'-8" | 1.4 | 12"/12" | (1) 3' x 3' |
| FTPD0606 | ALL | 6 x 6 | 6 x 8 | 1'-8" | 1.4 | 12"/12" | (1) 3' x 3' |
| FTPD0608 | ALL | 6 x 8 | 6 x 10 | 1'-8" | 1.4 | 12"/12" | (1) 4' x 4' |
| FTPD0610 | ALL | 6 x 10 | 6 x 12 | 1'-8" | 1.4 | 12"/12" | (1) 4' x 4' |
| FTPD0710 | ALL | 7 x 10 | 7 x 13 | 2'-6" | 2.1 | 24"/24" | (1) 4' x 4' |
| FTPD08105 | ALL | 8 x 10.5 | 8 x 14 | 3'-0" | 2.5 | 24"/24" | (1) 4' x 4' |
| FTPD08125 | ALL | 8 x 12.5 | 8 x 16 | 3'-0" | 2.5 | 24"/24" | (2) 4' x 4' |

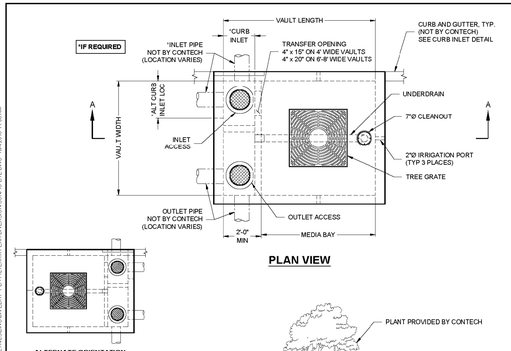
N/A = NOT AVAILABLE

## 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 |
|---|---|---|---|---|---|---|---|
| FTPD0404-D | N/A CA | 4 x 4 | 4 x 6 | 1'-8" | 4.6 | 12"/12" | (1) 3' x 3' |
| FTPD0404S-D | CA ONLY | 4 x 4.5 | 4 x 6.5 | 1'-8" | 4.6 | 12"/12" | (1) 3' x 3' |
| FTPD0406-D | N/A MID-ATL | 4 x 6 | 4 x 8 | 1'-8" | 4.6 | 12"/12" | (1) 3' x 3' |
| FTPD045058-D | MID-ATL ONLY | 4.5 x 5.83 | 4.5 x 7.83 | 1'-8" | 4.6 | 12"/12" | (1) 3' x 3' |
| FTPD0604-D | ALL | 6 x 4 | 6 x 6 | 1'-8" | 4.6 | 12"/12" | (1) 3' x 3' |
| FTPD0606-D | ALL | 6 x 6 | 6 x 8 | 1'-8" | 4.6 | 12"/12" | (1) 3' x 3' |
| FTPD0609-D | ALL | 6 x 8 | 6 x 10 | 1'-8" | 4.6 | 12"/12" | (1) 4' x 4' |
| FTPD0610-D | ALL | 6 x 10 | 6 x 12 | 1'-8" | 4.6 | 12"/12" | (1) 4' x 4' |
| FTPD0710-D | ALL | 7 x 10 | 7 x 13 | 2'-6" | 6.8 | 24"/24" | (1) 4' x 4' |
| FTPD08105-D | ALL | 8 x 10.5 | 8 x 14 | 3'-0" | 8.2 | 24"/24" | (1) 4' x 4' |
| FTPD08125-D | ALL | 8 x 12.5 | 8 x 16 | 3'-0" | 8.2 | 24"/24" | (2) 4' x 4' |

N/A = NOT AVAILABLE

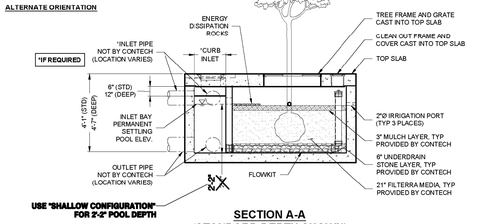
*MAX BYPASS FLOW IS INTERNAL WEIR FLOW. SITE SPECIFIC ANALYSIS IS REQUIRED TO DETERMINE CURB INLET FLOW CAPACITY



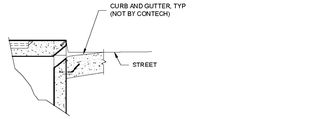

PLAN VIEW



ALTERNATE ORIENTATION




SECTION A-A
(STANDARD DEPTH SHOWN)




CURB INLET DETAIL

INTERNAL PIPE CONFIGURATION MAY VARY DEPENDING UPON OUTLET LOCATION.

filterra — THE FILTERRA® BIORETENTION SYSTEM IS OFFERED UNDER LICENSE FROM CONTECH ENGINEERED SOLUTIONS LLC.


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www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

FILTERRA PEAK DIVERSION (FTPD)
CONFIGURATION DETAIL

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 Path: F:\Jobs\3227 - Bradley Heights\Trevin\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 8:27:33PM
\\STORMWATERCOMMGPS\G:\ST-CP\MISC\TEP\STANDARD DRAWINGS\FTPD\ FILTERRA PEAK DIVERSION\FTPD DETAILS\DRAWING\FTPD-DETAILS.DWG 3/15/2022 8:11 AM
\\STORMWATERCOMMGPS\G:\ST-CP\MISC\TEP\STANDARD DRAWINGS\FTPD\ FILTERRA PEAK DIVERSION\OPTIONS\PARTIAL\VAULT DETAILS\DRAWING\VAULT DETAILS.DWG 10/4/2018 11:08 AM

# Bradley Heights

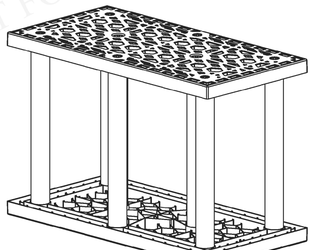
Section 3, Township 19 N, Range 4 E, Willamette Meridian, Pierce County, Washington

LAYFIELD

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

| | |
|---|---|
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| Estimated Liner | 5,254 $ft^2$ |
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| Minimum Excavation Required | 394.67 $yd^3$ |
| Minimum Excavation Depth | 4.50 ft |
| Stone Type | $\frac{3}{4}$" Clear Stone |
| Stone Void Space | 40% |
| Model Type | 25 Series ST-24 |

Bradley Heights Apartments
Puyallup, WA

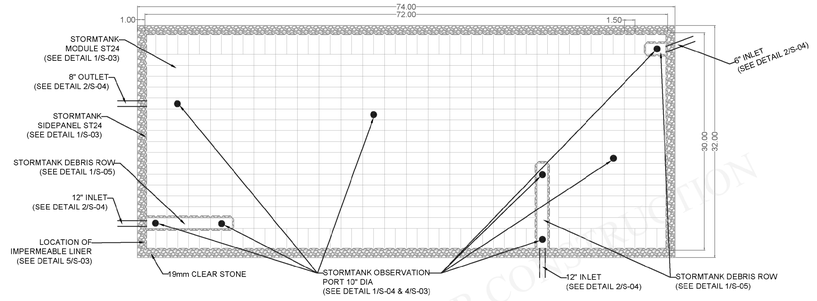
| REV | Record of Changes | Date | By |
|---|---|---|---|
| 1 | Preliminary Drawing | 19SEPT2023 | AK |
| 2 | Tank Re-Design | 08NOV2024 | GM |

Project Number: OP2023-7367
Page Name: Cover Page
Drawn by: AK | Checked By: JF
Scale: NTS | Date: 19SEPT2023

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Sheet: **01 OF 07**

ANSI B Size Page (Horizontal)




NOTES: (1/S-02)

a. All dimensions are measured in feet unless noted otherwise.
b. Reference Brentwood Industries standard drawings and notes for detailed information.
c. Reference current Brentwoood Module installation instructions for proper installation practices.
https://stormwater.brentwoodindustries.com/resources/
d. Engineer of record to confirm conformance to manufacturer's allowable proximity to other structures and slopes.
e. All inlet and pipe locations and designs by others.
f. The sub-grade and side backfill needs to be compacted to 95%, unless noted otherwise.
g. 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.
h. Top of Ground water is to be maintained 610 mm (2 ft) below the module to prevent buoyancy, unless otherwise noted by engineer.
i. The quantities related to stone and geosynthetics are estimated values as the roll size, overlaps, waste, ect. may vary.
j. Materials must be stored in a manner to prevent prolonged exposure to UV light.
k. Materials shall not be handled in temperatures lower than 4.4 °C to prevent damage.
l. Tank Sy stem 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.

2/S-02 MODULE LAYOUT SCALE: NTS

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Bradley Heights Apartments
Puyallup, WA

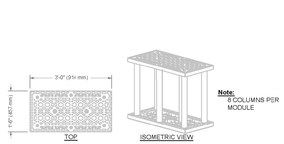
| REV | Record of Changes | Date | By |
|---|---|---|---|
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Project Number: OP2023-7367
Page Name: Module Layout
Drawn by: AK | Checked By: JF
Scale: NTS | Date: 19SEPT2023

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Sheet: **02 OF 07**

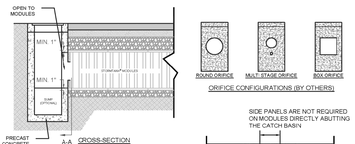
ANSI B Size Page (Horizontal)




Note: 8 COLUMNS PER MODULE

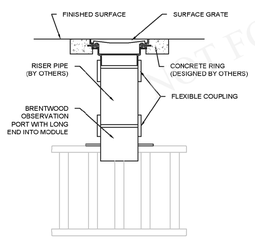
| STORMTANK® MODULE | | | | |
|---|---|---|---|---|
| NAME | HEIGHT (mm) | CAPACITY (m³/m) | LOID RATIO | NOMINAL WEIGHT kg |
| ST 24 | 24 " (609.6mm | 0.46 of 0.25 m³/m | 99.00% | 29.3 lbs (12kg) |

1'-6" (457 mm)
1'-10" (559mm)

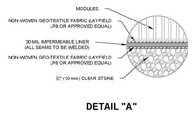



| MAXIMUM PIPE DIAMETERS | |
|---|---|
| MODULE | NOMINAL PIPE DIAMETER (mm) |
| ST-18 | 14" (365) |
| ST-24 | 20" (508) |
| ST-30 | 26" (660) |
| ST-33 | 28" (737) |
| ST-36 | 32" (813) |

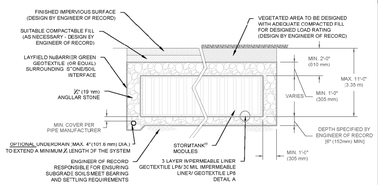
1/S-03 24" (610 mm) MODULE DETAIL
2/S-03 24" (610 mm) SIDE PANEL DETAIL
3/S-03 TYP. CATCH BASIN ABUTMENT DETAIL (IF APPLICABLE)




4/S-03 SINGLE STACK OBSERVATION PORT DETAIL




DETAIL "A"




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

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seattle@layfieldgroup.com

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Bradley Heights Apartments
Puyallup, WA

| REV | Record of Changes | Date | By |
|---|---|---|---|
| 1 | Preliminary Drawing | 19SEPT2023 | AK |
| 2 | Tank Re-Design | 08NOV2024 | GM |

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

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Sheet: **03 OF 07**

ANSI B Size Page (Horizontal)

APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

NOTE:

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4/24/2025 ROBERT A. TRIVITT 24915 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

JOB NO. 3227
DATE 4/24/2024
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

StormTank Details
Bradley Heights

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

DRAWING
SD-20
SHEET 34
OF 60

NOT FOR CONSTRUCTION

Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8 12:37PM

# Bradley Heights

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

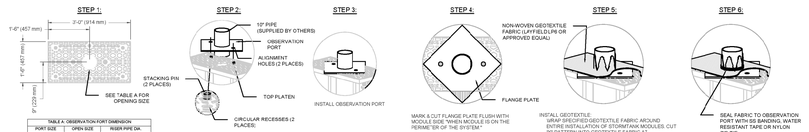
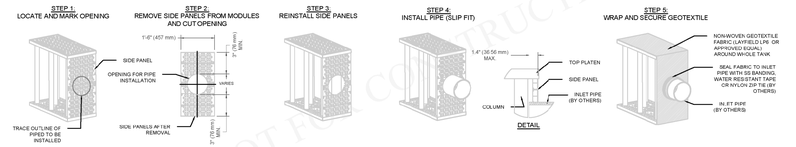



TABLE A: OBSERVATION PORT DIMENSION

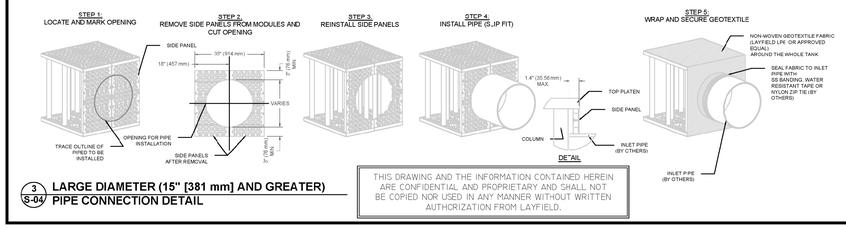
| PORT SIZE | OPEN SIZE | RISER PIPE DIA. |
|---|---|---|
| 6" (152 mm) | 7" (178 mm) | 6" (152 mm) |
| 8" (203 mm) | 9" (229 mm) | 8" (203 mm) |
| 10" (254 mm) | 11" (279 mm) | 10" (254 mm) |

LAYOUT & CUT OPENING INTO THE CENTER OF THE TOP PLATEN FOR BRENTWOOD OBSERVATION PORT.

**1 S-04 TYP. OBSERVATION PORT INSTALLATION DETAIL**




**2 S-04 SMALL DIAMETER (14" [356 mm] AND SMALLER) PIPE CONNECTION DETAIL**




**3 S-04 LARGE DIAMETER (15" [381 mm] AND GREATER) PIPE CONNECTION DETAIL**

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Bradley Heights Apartments

Puyallup, WA

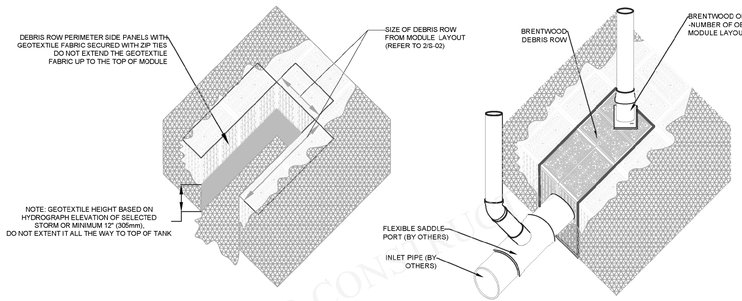
| REV | Record of Changes | Date | By |
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| 1 | Preliminary Drawing | 19SEPT2023 | AK |
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Project Number: OP2023-7367
Page Name: TYP. Pipe Penetration Details
Drawn by: AK | Checked By: JF
Scale: NTS | Date: 19SEPT2023

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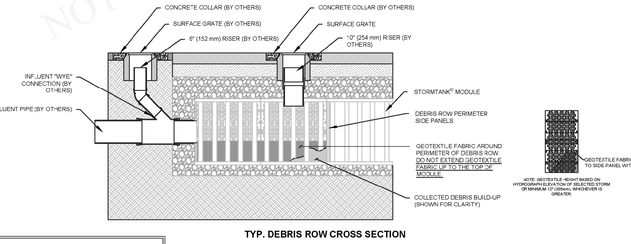
Sheet: **04 OF 07**

ANSI B Size Page (Horizontal)




**SIDE PANELS AND GEOTEXTILE FABRIC ALONG THE PERIMETER OF DEBRIS ROW**

**FINISHED DEBRIS ROW WITH INLET AND OBSERVATION PORT**




**TYP. DEBRIS ROW CROSS SECTION**

**1 S-05 TYP. DEBRIS ROW DETAIL SINGLE STACK SYSTEM**

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Bradley Heights Apartments

Puyallup, WA

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Page Name: TYP. Debris Row Details
Drawn by: AK | Checked By: JF
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Sheet: **05 OF 07**

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 soil requirements, and proximity to structures and slopes.

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

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

1.0 StormTank® Assembly

StormTank® Modules:

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

ASSEMBLY INSTRUCTIONS:

1. 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.
2. 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.
3. 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

4. If side panels are required, firmly tap the top platen upward to raise the top platen. Insert the side panel into the bottom platen.
5. 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

1. Stake out and excavate to elevations per approved plans.Excavation Requirements:
   a. Sub-grade excavation must be a minimum of 6" (152 mm) below designed StormTank® Module invert.
   b. 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.
   c. Remove objectionable material encountered within the excavation, including protruding material from the walls.
   d. 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

1. 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.
2. Unstable, unsuitable and/or compromised areas should be brought to the Engineer's attention and mitigating efforts determined prior to compacting the sub-grade.
3. 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

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

5.0 StormTank® Module Placement

1. 1. Install geotextile fabric and/or liner material, as specified.
   a. Geotextile fabric shall be placed per manufacturer's recommendations.
   b. Additional material to be utilized for wrapping above the system must be protected from damage until use.
2. Mark the footprint of the modules for placement.
   a. Ensure module perimeter outline is square or similar prior to Module placement.
   b. Care should be taken to note any connections, ports or other irregular units to be placed.
3. Install the individual modules by hand, as detailed below.
   a. 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.
   b. Make sure the top/bottom platens are in alignment in all directions to within a maximum 1/4" (6.4 mm).
   c. For double stack configurations:
      i. Install the bottom module first. **DO NOT INTERMIX VARIOUS MODULE HEIGHTS ACROSS LAYERS.** Backfilling prior to proceeding to second layer is optional.
      ii. Insert stacking pins (2 per module) into the top platen of the bottom module.
      iii. Place the upper module directly on top of the bottom module in the same direction, making sure to engage the pins.
4. Install the modules to completion, taking care to avoid damage to the geotextile and/or liner material.
5. Locate any ports or other penetration of the StormTank®.
   a. Install ports/penetrations in accordance with the approved submittals, contract documents and manufacturer's recommendations.
6. Upon completion of module installation, wrap the modules in geotextile fabric and/or liner.
   a. Geotextile fabric shall be wrapped and secured per manufacturer's recommendations.
   b. 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.

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 $ft^3$ |
| Module Storage Volume | 4,154.88 $ft^3$ |
| Stone Storage Volume | ---- $ft^3$ |
| System Footprint | 2,368 $ft^2$ |
| Estimated Geotextile Fabric | NuBarrier LP8 677 $yd^2$ 1,168 $yd^2$ |
| Estimated Liner | 5,254 $ft^2$ |
| Estimated Stone Volume | 146.96 $yd^3$ |
| Minimum Excavation Required | 394.67 $yd^3$ |
| Minimum Excavation Depth | 4.50 ft |
| Stone Type | $\frac{3}{4}$" Clear Stone |
| Stone Void Space | 40% |
| Model Type | 25 Series ST-24 |

Bradley Heights Apartments

Puyallup, WA

| REV | Record of Changes | Date | By |
|---|---|---|---|
| 1 | Preliminary Drawing | 19SEPT2023 | AK |
| 2 | Tank Re-Design | 08NOV2024 | GM |

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

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.

Sheet: **06 OF 07**

ANSI B Size Page (Horizontal)

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.

4/24/2025
ROBERT A. TRIVITT
STATE OF WASHINGTON
21615
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |

JOB NO. 3227
DATE 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

StormTank Details
*Bradley Heights*

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

*DRAWING*
**SD-21**
*SHEET* 35
*OF* 60

Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tech\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:12:52PM

# Bradley Heights

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

6.0 Side Backfill

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

1. Begin to place the Top Backfill.
   a. Material should be a 3/4" (19 mm) angular stone meeting Appendix B – Acceptable Fill Material.
   b. Place material utilizing an excavator, dozer or conveyor boom (Tech Bulletin Stormtank Module 25 Series Construction Equipment) and use a walk-behind plate vibrator to settle the stone and provide an even distribution.

DO NOT DRIVE ON THE MODULES WITHOUT A MINIMUM 12" (305 mm) COVER.

2. Upon completion of Top Backfilling, wrap the system in geotextile fabric and/or liner per manufacturer's recommendations.
3. 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

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

Impervious Area

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

Notes:

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

9.0 Inspection and Maintenance

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

Inspection

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

Cleaning:

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

STORMTANK Expect Results | **TECH BULLETIN**

Revision 2 — 02/01/21

**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 over Module | Wheel Load (Vehicles and Equipment) Maximum (Vehicle) | Maximum (Equipment) | Maximum Tracked Equipment Track Width | Maximum Wright (including material) | Roller Loads Maximum Drum Weight |
|---|---|---|---|---|---|
| 6 in. | Not Permitted | Not Permitted | N/A | LGP Equipment (< 5 psi) Only | Not Permitted |
| 12 in | 6,500 lbs. | 8,000 lbs. | N/A | LGP Equipment (< 10 psi) Only | < 10 psi |
| 18 in | 11,000 lbs. | 14,500 lbs. | 12 in. | 20,000 lbs. | 20,000 lbs. (Static Only) |
| | | | 18 in. | 30,000 lbs. | |
| | | | 24 in. | 40,000 lbs. | |
| | | | 36 in. | 60,000 lbs. | |
| 24 in | 15,000 lbs. | 20,000 lbs. | 12 in. | 40,000 lbs. | 40,000 lbs. (Including Dynamic) |
| | | | 18 in. | 50,000 lbs. | |
| | | | 24 in. | 60,000 lbs. | |
| | | | 36 in. | 80,000 lbs. | |

1. Vehicle has a tire contact area of 10"x10"
2. Equipment has a tire contact area of 10"x20" (dual wheel trucks like dump trucks)
3. Cover depth is based on angular material, utilization of other materials impacts load rating
4. Dumping directly over the system is prohibited, excluding asphalt into a paver unit
5. Consideration must be given for rutting into cover material when utilizing table
6. Excavation equipment cannot operate (excavate) from over the system
7. Material is prohibited from being stockpiled over a system
8. For specialty equipment (material handles, cranes, units with outriggers, etc.) contact a StormTank Rep. before utilization over the system

Page 1 of 1

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

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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Bradley Heights Apartments

Puyallup, WA

| REV | Record of Changes | Date | By |
|---|---|---|---|
| 1 | Preliminary Drawing | 15SEPT2023 | AK |
| 2 | Tank Re-Design | 08NOV2024 | GM |

Project Number: OP2023-7367

Page Name: Supplementary Notes

Drawn by: AK — Checked By: JF

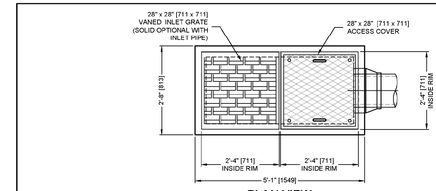
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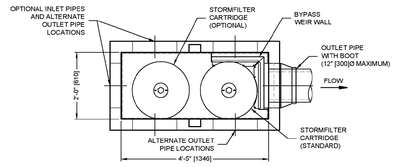
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**07 OF 07**

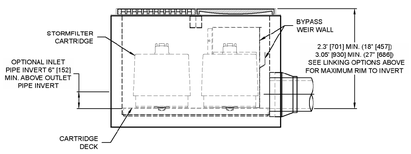
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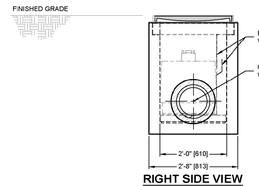

PLAN VIEW




PLAN VIEW
CASTINGS NOT SHOWN




ELEVATION VIEW



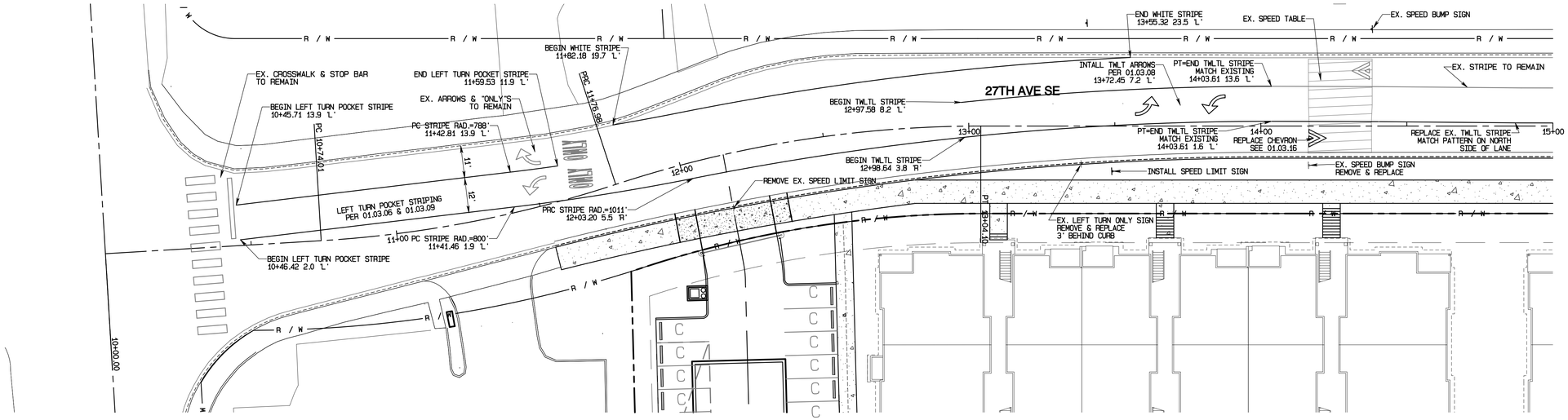

RIGHT SIDE VIEW

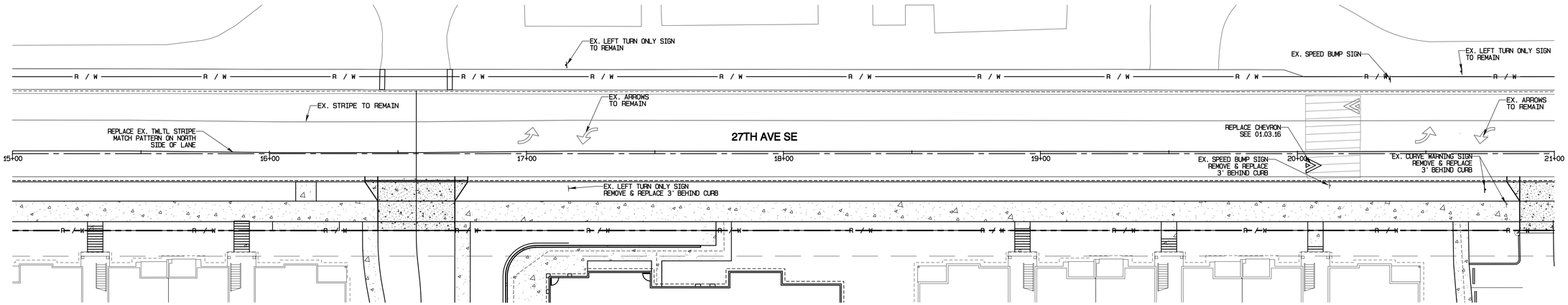
The Stormwater Management StormFilter®

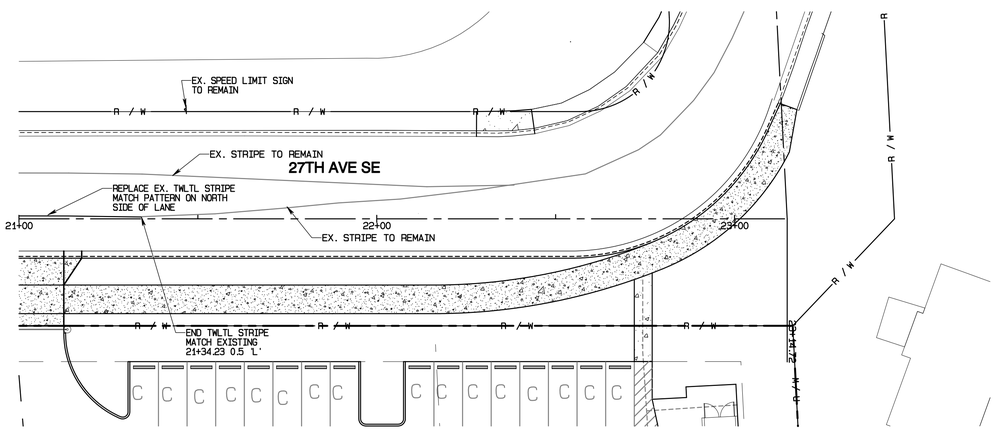
THE PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,322,629; 5,707,527; 5,759,415; 6,027,639; 6,350,374; 6,406,605; 6,649,048; 6,991,736; 7,186,333; 7,296,692; 7,297,266; 7,513,998; 7,625,484; 7,753,213; 8,431,016; 8,501,014; 8,512,561; 8,790,515; 9,039,897; 9,352,263; 9,795,902; 9,861,916; 10,137,393; 10,343,094; 10,376,816; 10,413,844; 10,464,000; 10,525,387; 10,556,194; 10,682,594; 10,682,595; 10,744,436; 10,744,437; 10,744,438; 10,744,439; 10,744,440; 10,744,441; 10,744,442; 10,744,443; 10,744,444; 10,744,445; 10,744,446; 10,744,447; 10,744,448; 10,744,449; 10,744,450; 10,744,451; 10,744,452; 10,744,453; 10,744,454; 10,744,455; 10,744,456; 10,744,457; 10,744,458; 10,744,459; 10,744,460; 10,744,461; 10,744,462; 10,744,463; 10,744,464; 10,744,465; 10,744,466; 10,744,467; 10,744,468; 10,744,469; 10,744,470; 10,744,471; 10,744,472; 10,744,473; 10,744,474; 10,744,475;

# Bradley Heights

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




NOTE:
PRIOR TO LAYING OUT NEW STRIPING, CONTRACTOR SHALL COORDINATE WITH THE CITY SIGN/STRIPING TECHNICIAN. JASON ROGGE 253-341-8371

N
W E
S

GRAPHIC SCALE 1"=20'

0 20 40 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.

ROBERT A. TRIVITT
4/24/2025
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

JOB NO. 3227
DATE March, 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


Channelization Plan

*Bradley Heights*


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


*DRAWING*

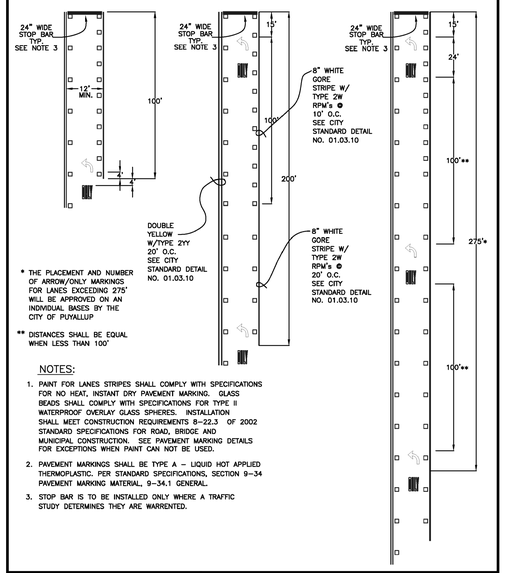
**SD-23**

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*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tewa\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:26:09PM

# Bradley Heights

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




NOTES:

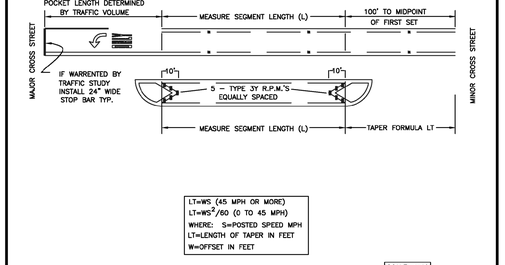
1. PAINT FOR LANES STRIPES SHALL COMPLY WITH SPECIFICATIONS FOR NO HEAT, INSTANT DRY PAVEMENT MARKING. GLASS BEADS SHALL COMPLY WITH SPECIFICATIONS FOR TYPE II WATERPROOF OVERLAY GLASS SPHERES. INSTALLATION SHALL MEET CONSTRUCTION REQUIREMENTS 8-22.3 OF 2002 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION. SEE PAVEMENT MARKING DETAILS FOR EXCEPTIONS WHEN PAINT CAN NOT BE USED.
2. PAVEMENT MARKINGS SHALL BE TYPE A – LIQUID HOT APPLIED THERMOPLASTIC. PER STANDARD SPECIFICATIONS, SECTION 9-34 PAVEMENT MARKING MATERIAL, 9-34.1 GENERAL.
3. STOP BAR IS TO BE INSTALLED ONLY WHERE A TRAFFIC STUDY DETERMINES THEY ARE WARRENTED.

CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

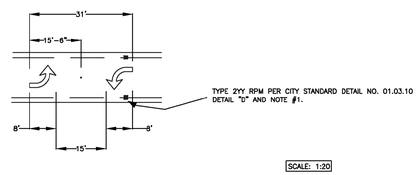
LEFT/RIGHT TURN POCKET ARROW AND ONLY LAYOUT

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| JIM SEWIN-SVOBODA | LINDA LIAN | COLLEEN HARRIS | LINDA LIAN | |
| FILE NAME: F:\DWGS\COMMON\STDS\CITY\2009\01_STD\01.03\01.03.06 | | DATE APPROVED: 07/01/2009 | DATE REVISED: 09/11/2013 | SCALE: 1:40 |

01.03.06




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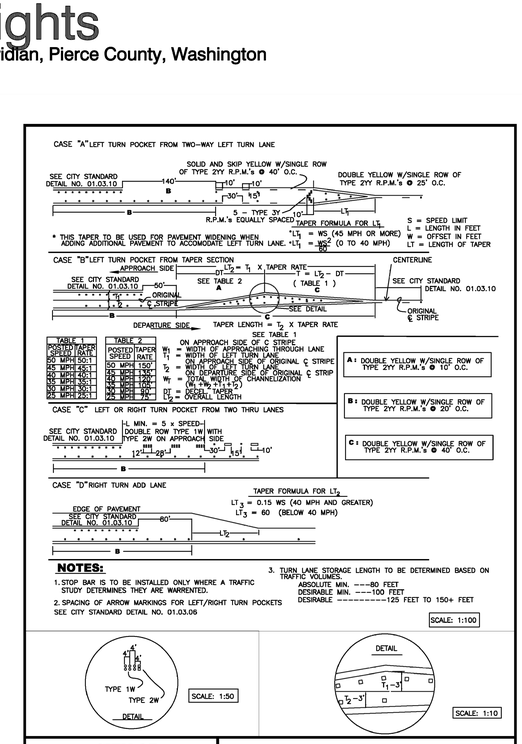

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CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

TWO-WAY LEFT TURN CHANNELIZATION (CONT.)

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| JIM SEWIN-SVOBODA | LINDA LIAN | COLLEEN HARRIS | XXXX | |
| FILE NAME: F:\DWGS\COMMON\STDS\CITY\2009\01_STD\01.03\01.03.08 | | DATE APPROVED: 07/01/2009 | DATE REVISED: XX/XX/XX | SCALE: VARIES |

01.03.08

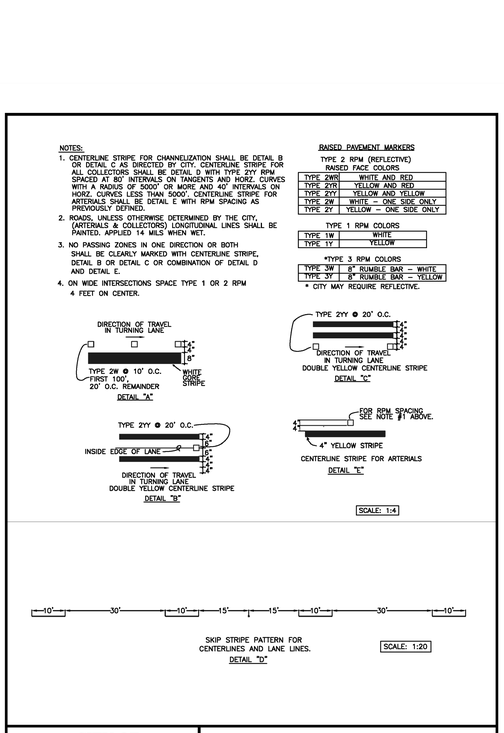



CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

LEFT TURN POCKETS

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| JIM SEWIN-SVOBODA | | COLLEEN HARRIS | XXXX | |
| FILE NAME: F:\DWGS\COMMON\STDS\CITY\2009\01_STD\01.03\01.03.09 | | DATE APPROVED: 07/01/2009 | DATE REVISED: XX/XX/XX | SCALE: VARIES |

01.03.09

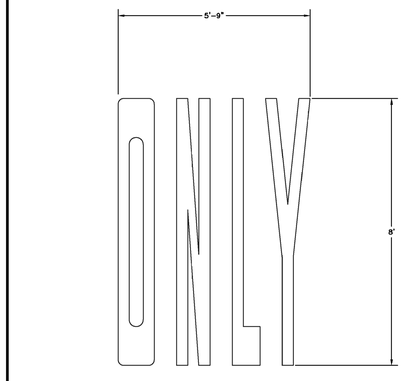



CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

PAVEMENT MARKING DETAILS

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| JIM SEWIN-SVOBODA | LINDA LIAN | COLLEEN HARRIS | XXXX | |
| FILE NAME: F:\DWGS\COMMON\STDS\CITY\2009\01_STD\01.03\01.03.10 | | DATE APPROVED: 07/01/2009 | DATE REVISED: XX/XX/XX | SCALE: VARIES |

01.03.10



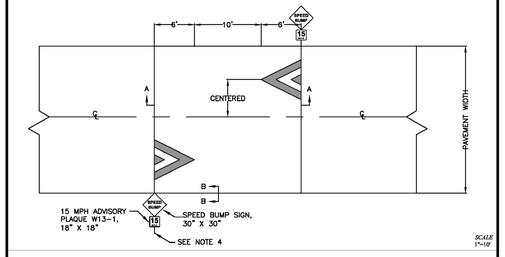

NOTE:
PAVEMENT MARKINGS, INCLUDING CROSSWALKS, SHALL BE TYPE A LIQUID HOT APPLIED THERMOPLASTIC. PER STANDARD SPECIFICATIONS, SECTION 9-34 PAVEMENT MARKING MATERIAL, 9-34.1 GENERAL.

CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

PAVEMENT MARKER "ONLY"

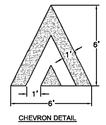
| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| JIM SEWIN-SVOBODA | LINDA LIAN | COLLEEN HARRIS | LINDA LIAN | |
| FILE NAME: F:\DWGS\COMMON\STDS\CITY\2009\01_STD\01.03\01.03.15 | | DATE APPROVED: 07/01/2009 | DATE REVISED: 09/11/2013 | SCALE: 1:5 |

01.03.15




NOTES:

1. SAWCUT OR FEATHER GRIND TO KEY IN SPEED TABLE. SEE SECTION A-A.
2. SIGN LOCATIONS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO INSTALLATION.
3. SPEED TABLE CHEVRON MARKING SHALL BE CENTERED IN THE DRIVING LANE AND SHALL BE THERMOPLASTIC, HEAT FUSED PREFORMED, 125 MIL., OR EQUAL APPROVED BY THE ENGINEER.
4. FOR A SERIES OF SPEED TABLES, USE THE ADVISORY SPEED PLAQUE AT ONLY THE FIRST SPEED TABLE IN EACH DIRECTION OF TRAVEL.
5. ALL SIGNS SHALL BE STIMSONITE TYPE 4 PRISMATIC PERMANENTLY BOUNDED WITH PROTECTIVE PLASTIC SHEETING.




CHEVRON DETAIL

SCALE 1"=5'

CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

SPEED TABLE

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| LINDA LIAN | SANDEEP TANDLE | | XXXX | |
| FILE NAME: F:\DWGS\COMMON\STDS\CITY\STD\03\STR\XX.XX-X | | DATE APPROVED: 04/06/2015 | DATE REVISED: XX/XX/XX | SCALE: VARIES |

01.03.16

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.

4/25/2025
ROBERT A. TRIVITT
STATE OF WASHINGTON
22405
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

JOB NO. 3227
DATE MAY 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


Channelization Details

*Bradley Heights*


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


*DRAWING*

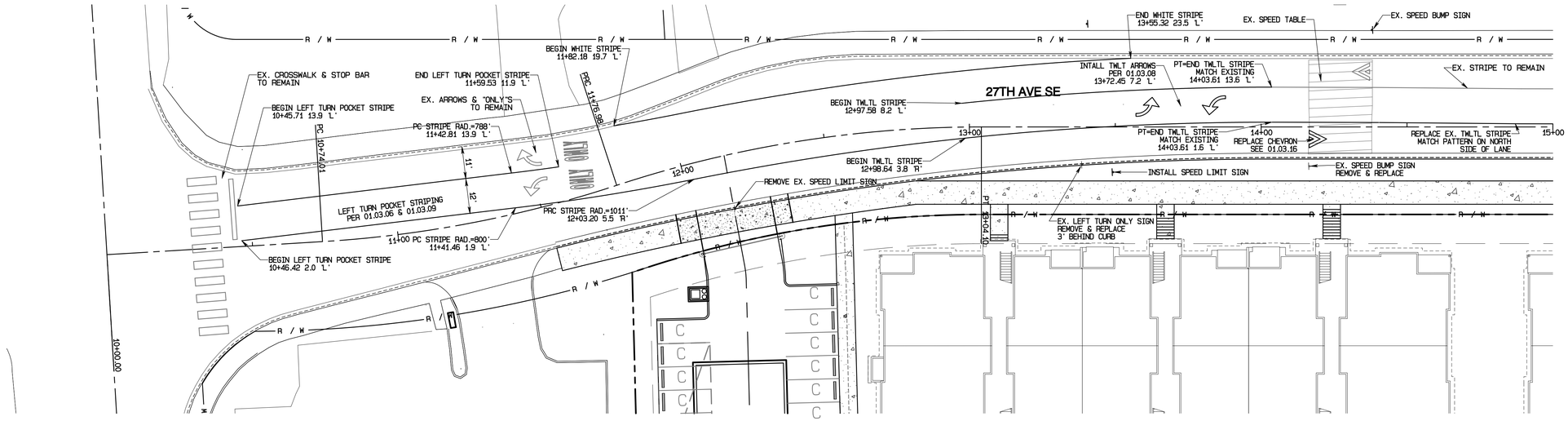
**SD-24**

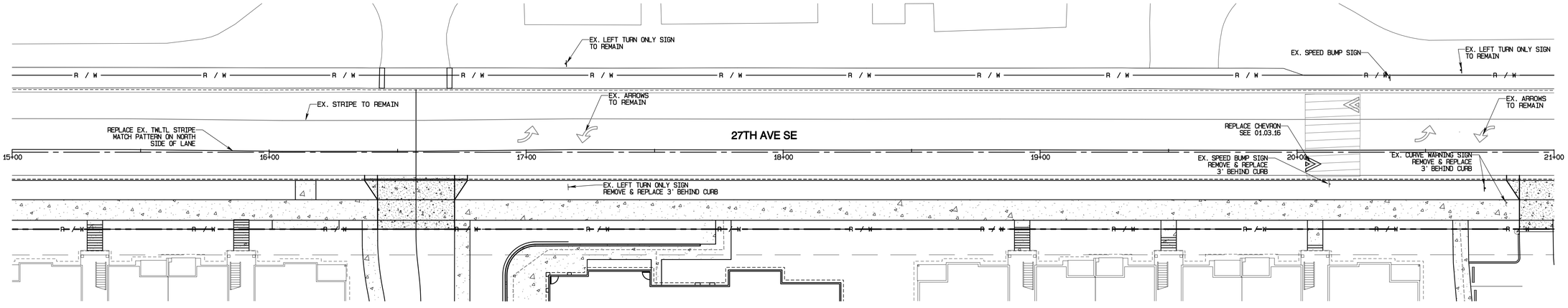
*SHEET* 38
*OF* 60

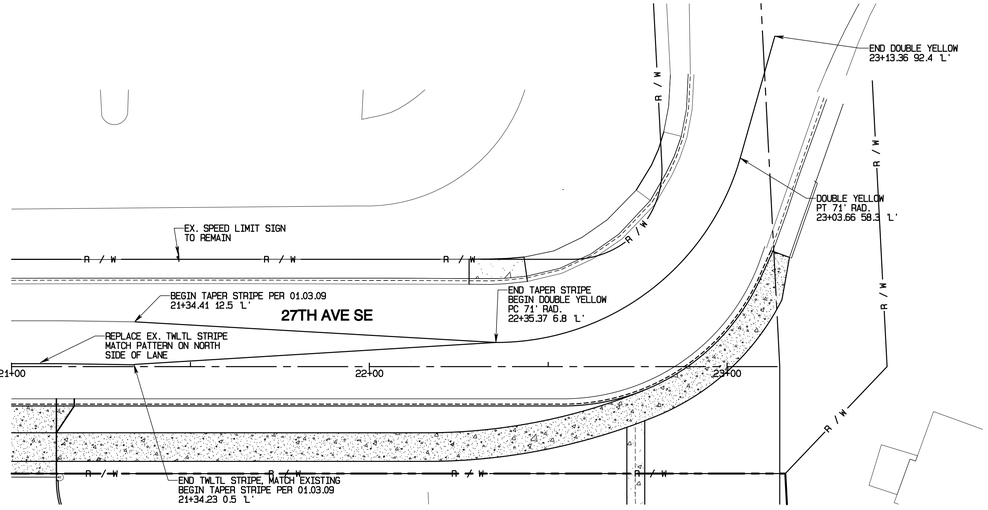
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# Bradley Heights

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




NOTE:
PRIOR TO LAYING OUT NEW STRIPING, CONTRACTOR SHALL COORDINATE WITH THE CITY SIGN/STRIPING TECHNICIAN. JASON ROGGE 253-341-8371

N
W E
S

GRAPHIC SCALE 1"=20'

0 20 40 60

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.

ROBERT A. TRIVITT — 4/25/2025 — STATE OF WASHINGTON — 21615 — REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

JOB NO. 3227
DATE May 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


Channelization Plan

*Bradley Heights*


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


*DRAWING*

**SD-23**

*SHEET* 37
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmewin\bradley heights 20250425.ENG.pro Plot Date/Time: 4/25/2025/8 07:43AM

# Bradley Heights

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

## 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 11 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 SAHALL BE HOT DIPPED GALVANIZED, MINIMUM 3 MIL THICKNESS.

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

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

   f. 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"X36"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.

| CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | STREET LIGHT SPECIFICATIONS | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JIM IRWIN-SVOBODA | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: LINDA LIAN | | CITY STANDARD |
| FILE NAME: P:\DWG\COMMON\STDTDET\CITY2009\01_STR\01-05\01-05.01 | | DATE APPROVED: 07/01/2009 | DATE REVISED: 01/25/2015 | SCALE: 1:1 | 01.05.01 |

## (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 FIRMLY BEDDED TO PREVENT FUTURE SETTLING. JUNCTION BOXES ARE PREFERRED NOT TO BE INSTALLED IN THE SIDEWALK. THE COVER SHALL BE GALVANIZED AND GROUNDED. THE LETTERS "LT" SHALL BE ETCHED ON THE COVER. (SEE CITY STANDARD DETAIL NO. 01.06.01). 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. 01.06.01.

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 ROME 2C AWG 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

   LUMINARE 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 LUMINARE 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

   ~~RESIDENTIAL STREETS AND NEIGHBORHOOD COLLECTORS:~~ **LEOTEK 54W GCJ3-30J-MV-40K-2R-GY-080-XQ**
   LEOTEK LED GC1-40F-MV-NW-2-530 (40 WATT LED)

   ~~ARTERIALS AND COMMERCIAL COLLECTORS:~~
   ~~GE EVOLVE LED ERS2-C-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)

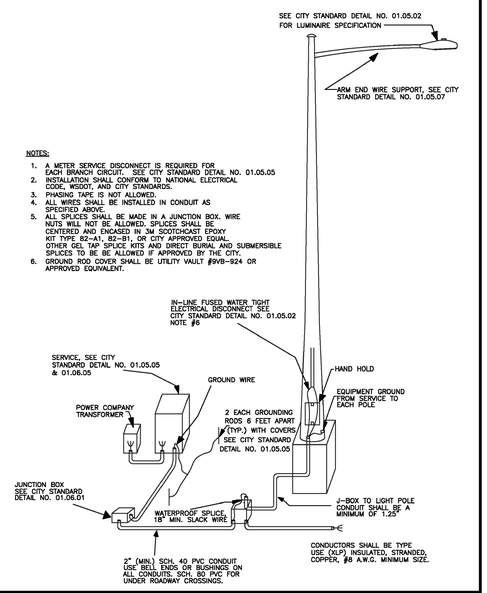
9. GUARANTEE

   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

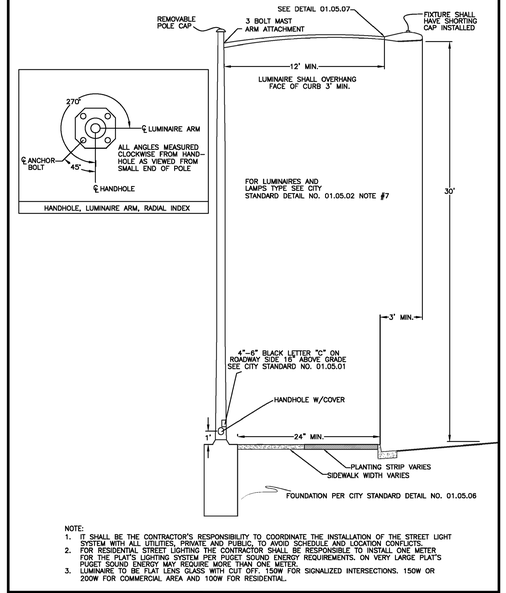
    SEE CITY STANDARD SECTION 01.01 ROADWAY DESIGN.

| CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | STREET LIGHT SPECIFICATIONS (CONT.) | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JIM IRWIN-SVOBODA | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: LINDA LIAN | | CITY STANDARD |
| FILE NAME: P:\DWG\COMMON\STDTDET\CITY2009\01_STR\01-05\01-05.02 | | DATE APPROVED: 07/01/2009 | DATE REVISED: 01/25/2015 | SCALE: 1:1 | 01.05.02 |



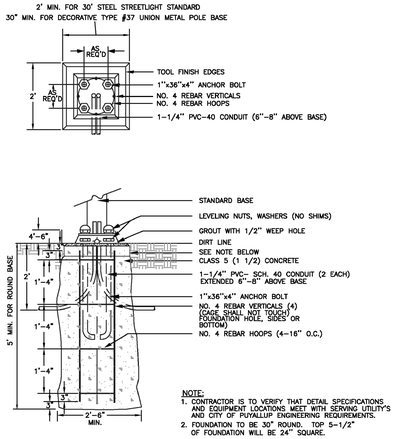

NOTES:
1. A METER SERVICE DISCONNECT IS REQUIRED FOR EACH BRANCH CIRCUIT. SEE CITY STANDARD DETAIL NO. 01.05.05
2. INSTALLATION SHALL CONFORM TO NATIONAL ELECTRICAL CODE, WSDOT, AND CITY STANDARDS.
3. PHASING TAPE IS NOT ALLOWED.
4. ALL WIRES SHALL BE INSTALLED IN CONDUIT AS SPECIFIED ABOVE.
5. ALL SPLICES SHALL BE MADE IN A JUNCTION BOX. WIRE NUTS WILL NOT BE ALLOWED. SPLICES SHALL BE CENTERED AND ENCASED IN 3M SCOTCHCAST EPOXY KIT TYPE 82-A1, 82-B1, OR CITY APPROVED EQUAL. OTHER GEL TAP SPLICE KITS AND DIRECT BURIAL AND SUBMERSIBLE SPLICES TO BE BE ALLOWED IF APPROVED BY THE CITY.
6. GROUND ROD COVER SHALL BE UTILITY VAULT #9VB-924 OR APPROVED EQUIVALENT.

| CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | TYPICAL STREET LIGHT INSTALLATION | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JIM IRWIN-SVOBODA | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: LINDA LIAN | | CITY STANDARD |
| FILE NAME: P:\DWG\COMMON\STDTDET\CITY2009\01_STR\01-05\01-05.03 | | DATE APPROVED: 07/01/2009 | DATE REVISED: 01/25/2015 | SCALE: 1:5 | 01.05.03 |




NOTE:
1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE INSTALLATION OF THE STREET LIGHT SYSTEM WITH ALL UTILITIES, PRIVATE AND PUBLIC, TO AVOID SCHEDULE AND LOCATION CONFLICTS.
2. FOR RESIDENTIAL STREET LIGHTING THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL ONE METER FOR THE PLAT'S LIGHTING SYSTEM PER PUGET SOUND ENERGY REQUIREMENTS. ON VERY LARGE PLAT'S PUGET SOUND ENERGY MAY REQUIRE MORE THAN ONE METER.
3. LUMINAIRE TO BE FLAT LENS GLASS WITH CUT OFF. 150W FOR SIGNALIZED INTERSECTIONS. 150W OR 200W FOR COMMERCIAL AREA AND 100W FOR RESIDENTIAL.

| CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | STREET LIGHT | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JIM IRWIN-SVOBODA | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: Linda Lian | | CITY STANDARD |
| FILE NAME: P:\DWG\COMMON\STDTDET\CITY2009\01_STR\01-05\01-05.04 | | DATE APPROVED: 07/01/2009 | DATE REVISED: 04/04/2013 | SCALE: 1:5 | 01.05.04 |

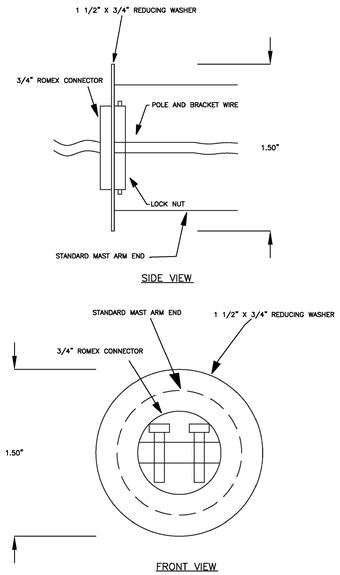



NOTE:
1. CONTRACTOR IS TO VERIFY THAT DETAIL SPECIFICATIONS AND EQUIPMENT LOCATIONS MEET WITH SERVING UTILITY'S AND CITY OF PUYALLUP ENGINEERING REQUIREMENTS.
2. FOUNDATION TO BE 30" ROUND. TOP 5-1/2" OF FOUNDATION WILL BE 24" SQUARE.

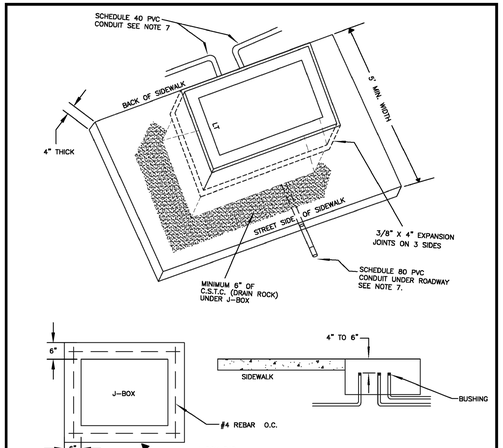
TEMPLATE FOR ANCHOR BOLT CIRCLE WILL BE A SINGLE PIECE OF 3/4" PLYWOOD WITH 4 BOLT HOLES TO FORM A BOLT CIRCLE OF 11-1/2" TO MATCH POLE MANUFACTURER'S BASE DESIGN.

LOWER LEVELING NUTS SHOULD BE CLOSE TO CONCRETE (ABOUT 1") TO PREVENT EXCESSIVE STRESSES IN THE ANCHOR BOLTS CAUSED BY TORSIONAL FORCES IN THE POLE. ANCHOR BOLTS WILL EXTEND ABOVE TOP NUT, 2 THREADS MINIMUM AND 5/8" MAXIMUM.

| CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | CONCRETE STREETLIGHT FOUNDATION TYPICAL | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JIM IRWIN-SVOBODA | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: XXXX | | CITY STANDARD |
| FILE NAME: P:\DWG\COMMON\STDTDET\CITY2009\01_STR\01-05\01-05.06 | | DATE APPROVED: 07/01/2009 | DATE REVISED: XX/XX/XX | SCALE: 1:2 | 01.05.06 |




| CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | STREET LIGHT POLE AND BRACKET WIRE SUPPORT AT ARM END | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JIM IRWIN-SVOBODA | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: XXXX | | CITY STANDARD |
| FILE NAME: P:\DWG\COMMON\STDTDET\CITY2009\01_STR\01-05\01-05.07 | | DATE APPROVED: 07/01/2009 | DATE REVISED: XX/XX/XX | SCALE: 2in=1 | 01.05.07 |




NOTES:
1. SEE W.S.D.O.T. STANDARD PLAN J-40.10-03 FOR J-BOX TYPE AND SIZE.
2. ALL LIDS SHALL BE GALVANIZED STEEL AND MARKED WITH AN "LT" OR "TS" PER W.S.D.O.T. STANDARD PLAN J-40.10-03. NON-SLIP SURFACE TREATMENT SHALL BE MESBAC1 OR SlipNOT #3.
3. TYPE III SHALL BE DUAL HINGED
4. IF NO SIDEWALK EXISTS, A CONCRETE COLLAR SHALL BE CONSTRUCTED 6" THICK, 6" WIDE, COMPLETELY SURROUNDING THE J-BOX WITH ONE #4 REBAR ON CENTER EACH SIDE AND TIED AT CORNERS. CLASS 5 (1 1/2) CONCRETE SHALL BE USED. BY PERMISSION, COLLAR MAY ENCOMPASS JUNCTION BOX AND STREET LIGHT. PREFERRED LOCATION OF JUNCTION BOX SHOULD NOT BE IN THE SIDEWALK, BUT RATHER AT THE BACK OF SIDEWALK WITH 3-SIDED COLLAR.
5. CONDUIT RUNS SHALL NOT EXCEED 195 FEET BETWEEN JUNCTION BOXES.
6. JUNCTION BOX SHALL BE LOCATED WITHIN 10 FEET OF EACH LUNIMAIRE POLE AND AT ROAD CROSSING.
7. CONDUIT MATERIAL SHALL BE AS SPECIFIED IN WSDOT STANDARD SPECIFICATION 8-20.3(5) OR AS MODIFIED ON SPECIAL PROVISIONS.
8. STREET LIGHT JUNCTION BOXES SHALL BE WELDED SHUT, 2'-2" LONG WELDS MIN., IMMEDIATELY AFTER L & I AND CITY INSPECTIONS TO HELP PREVENT WIRE THEFT. OTHER THEFT PREVENTION METHODS MAY BE USED IF APPROVED BY THE CITY.

| CITY OF PUYALLUP — DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS | JUNCTION BOX | | | | |
|---|---|---|---|---|---|
| DRAWN BY: JIM IRWIN-SVOBODA | CHECKED BY: LINDA LIAN | APPROVED BY: COLLEEN HARRIS | REVISED BY: LINDA LIAN | | CITY STANDARD |
| FILE NAME: P:\DWG\COMMON\STDTDET\CITY2009\01_STR\01-06\01-06.01 | | DATE APPROVED: 07/01/2009 | DATE REVISED: 11/18/2014 | SCALE: 1:2 | 01.06.01 |

APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

**NOTE:**

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4/24/2025
ROBERT A. TRIVITT
STATE OF WASHINGTON
22415
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/14/25 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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| 9 | |
| 10 | |

JOB NO. 3227
DATE 10/2024
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


Street Light Details

*Bradley Heights*


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


DRAWING
**SD-26**
SHEET 40
OF 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tews\Bradley Heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 8:15:53PM

# 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<br>3 INCH LETTERS - CLASS B WIDTH |
| FIRE LANE | 2 INCH LETTERS - CLASS B WIDTH<br>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

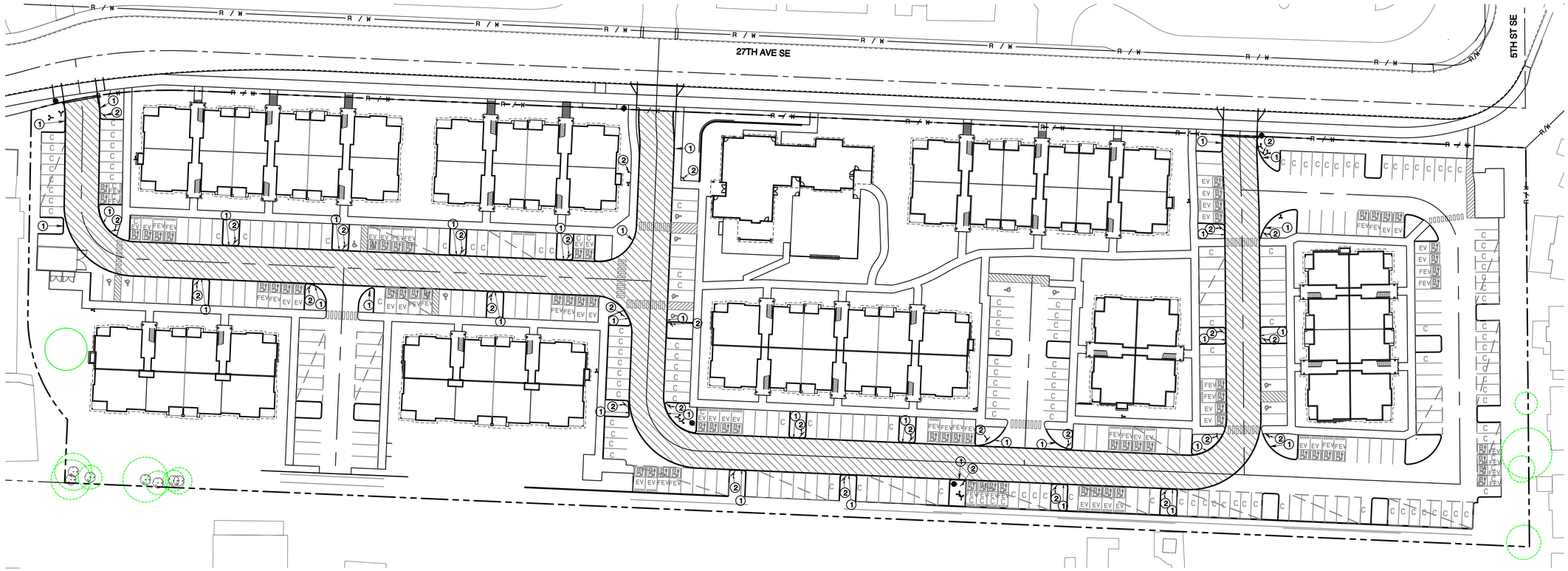
FIRE LANE - 26' WIDE

① 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.

② FIRE LANE SIGN, SEE NOTES TO LEFT

N
W E
S

GRAPHIC SCALE 1"=40'
0 40 80 120




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.

ROBERT A. TRIVITT — 4/24/2025 — EXPIRES 9/29/2025 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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JOB NO. 3227
DATE Nov. 2024
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green


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


Fire Lane Plan

Bradley Heights

Timberlane Partners
1816 11th Ave Unit C
Seattle, WA, 98122
Phone 509.899.0328
Fax jorden@timberlanepartners.com

DRAWING
SD-27
SHEET 41
OF 60


Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8 20:18PM

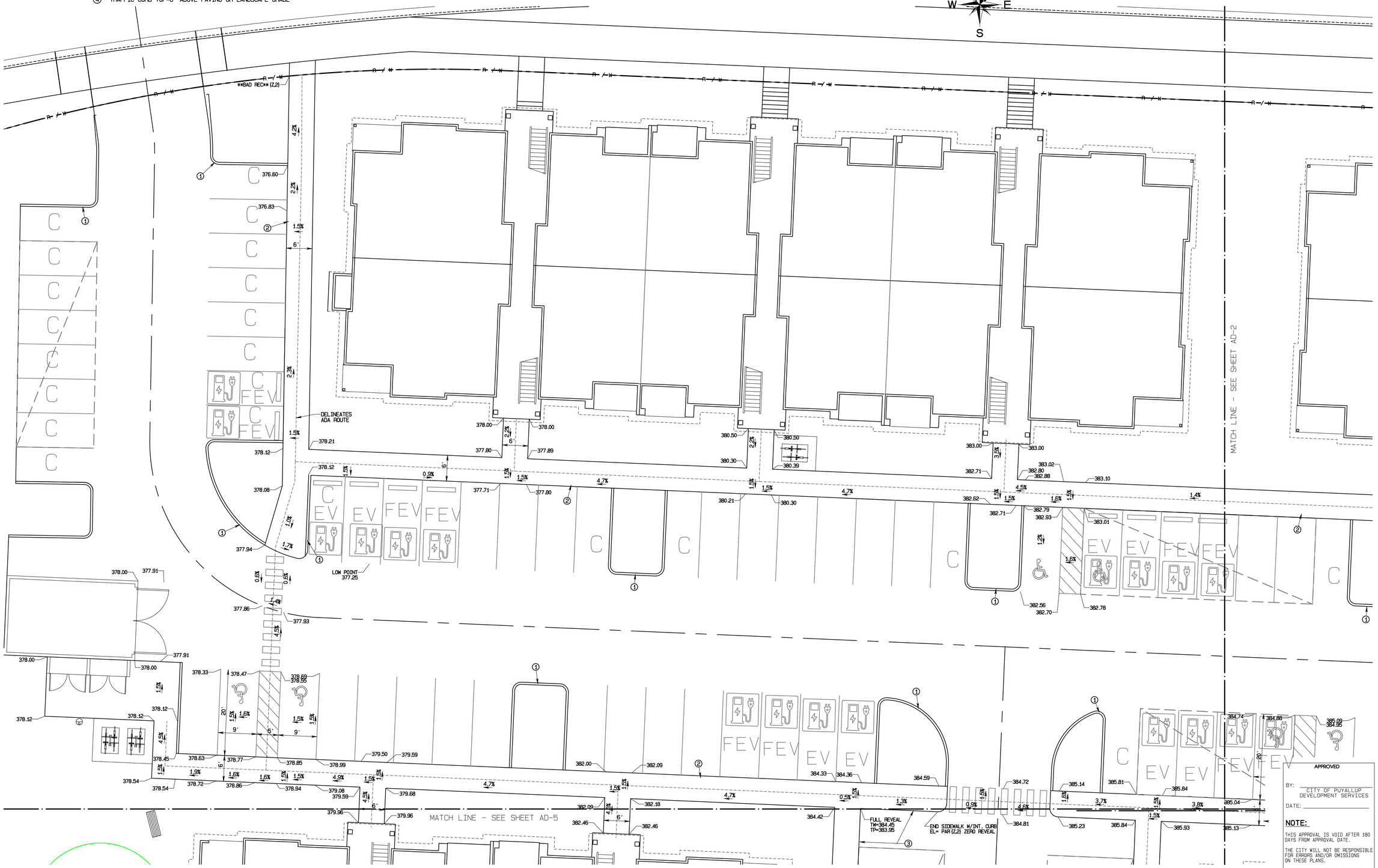
# Bradley Heights

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

N W E S

GRAPHIC SCALE 1"=10'
0 10 20 30




APPROVED

BY: _____ CITY OF PUYALLUP DEVELOPMENT SERVICES

DATE: _____

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ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — 21615 — REGISTERED PROFESSIONAL ENGINEER

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| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush 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
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 509.899.0326
Fax jorden@timberlanepartners.com


DRAWING
**AD-1**
SHEET 42
OF 60


Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tech\bradley Heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:30:52PM

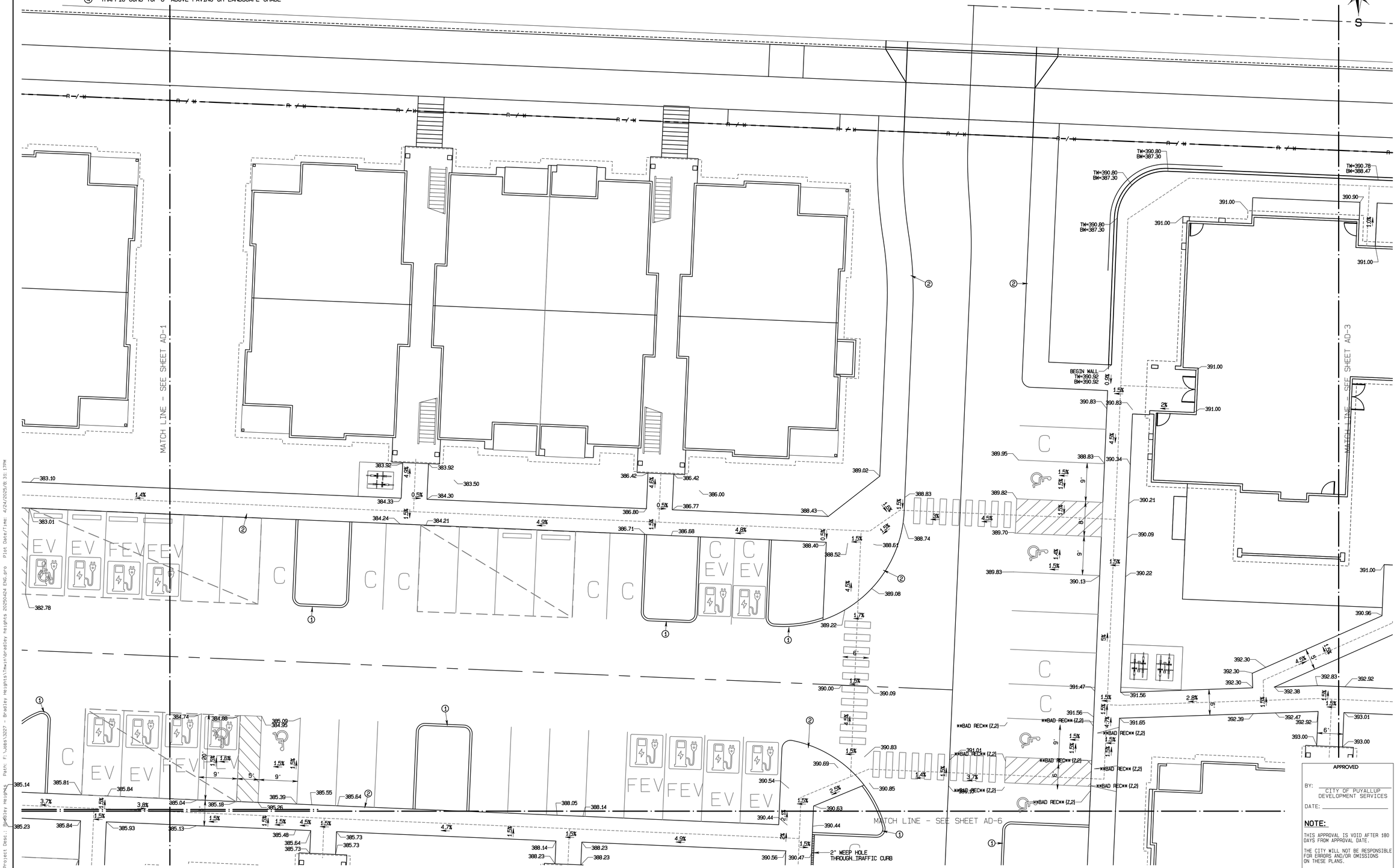
# Bradley Heights

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
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GRAPHIC SCALE 1"=10'
0 10 20 30

N W E S




APPROVED

BY: _____ CITY OF PUYALLUP DEVELOPMENT SERVICES

DATE: _____

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JOB NO. 3027
DATE March 4, 2025
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY: Paul Green


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ADA Route/Grading Details

*Bradley Heights*


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Seattle, WA, 98122
Phone 509.899.0326
Fax jorden@timberlanepartners.com


*DRAWING*

**AD-2**

*SHEET* 43
*OF* 60


Project Desc: Bradley Heights Path: F:\Jobs\3027 - Bradley Heights\Tews\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 8:31:17PM

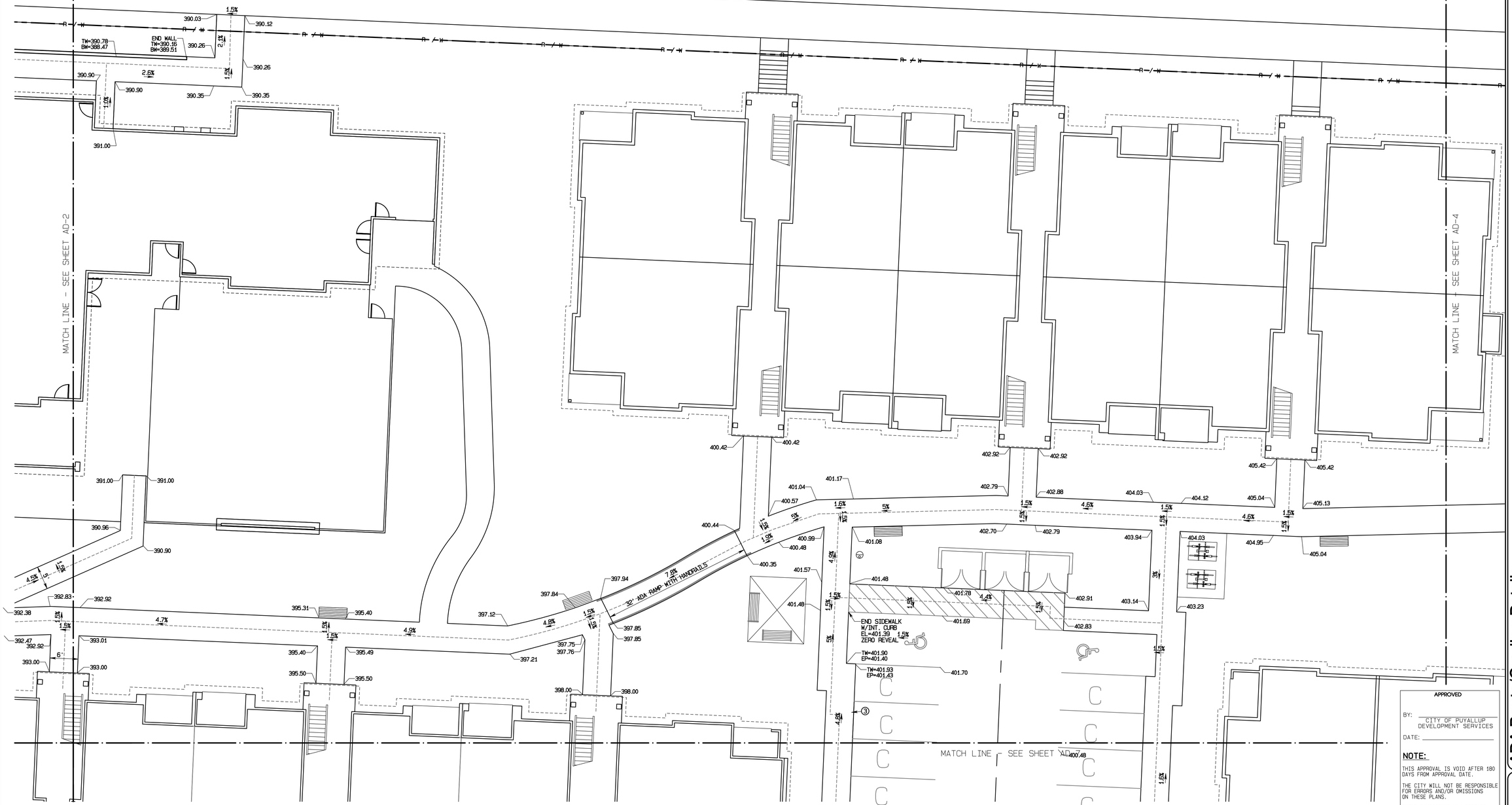
# Bradley Heights

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
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3. SIDEWALK WITH INTEGRAL CURB
4. TRAFFIC CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE

GRAPHIC SCALE 1"=10'
0 10 20 30

N W E S




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

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JOB NO. 3227
DATE March 4, 2025
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY: Paul Green


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


ADA Route/Grading Details

*Bradley Heights*


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Seattle, WA, 98122
Phone 509.899.0326
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*DRAWING*
**AD-3**
*SHEET* 44
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Revit\Bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:31:30PM

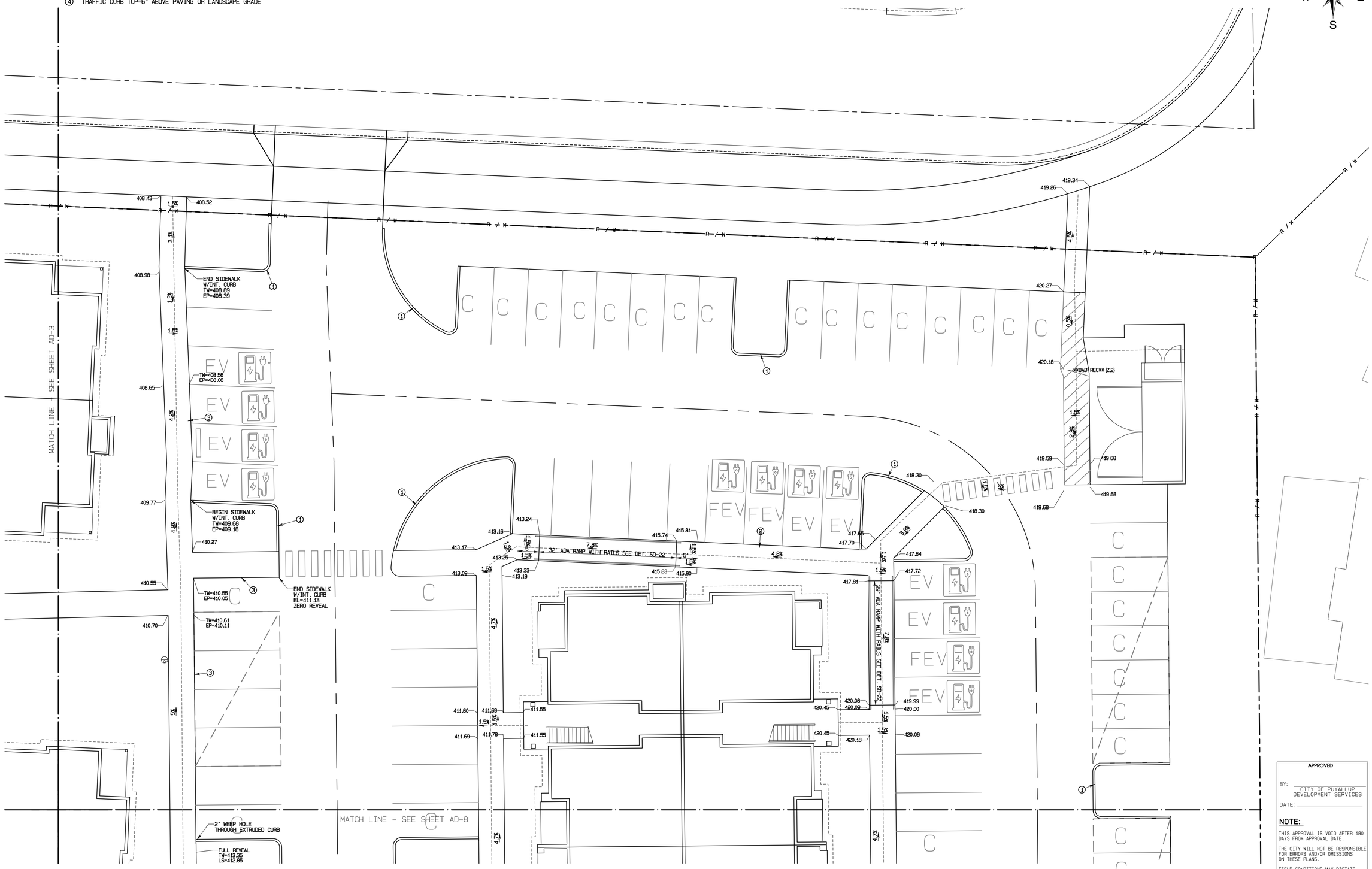
# Bradley Heights

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
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GRAPHIC SCALE 1"=10'
0 10 20 30

N W E S




APPROVED

BY: _____ CITY OF PUYALLUP DEVELOPMENT SERVICES

DATE: _____

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JOB NO. 3227
DATE March 4, 2025
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY: Paul Green


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


ADA Route/Grading Details

*Bradley Heights*

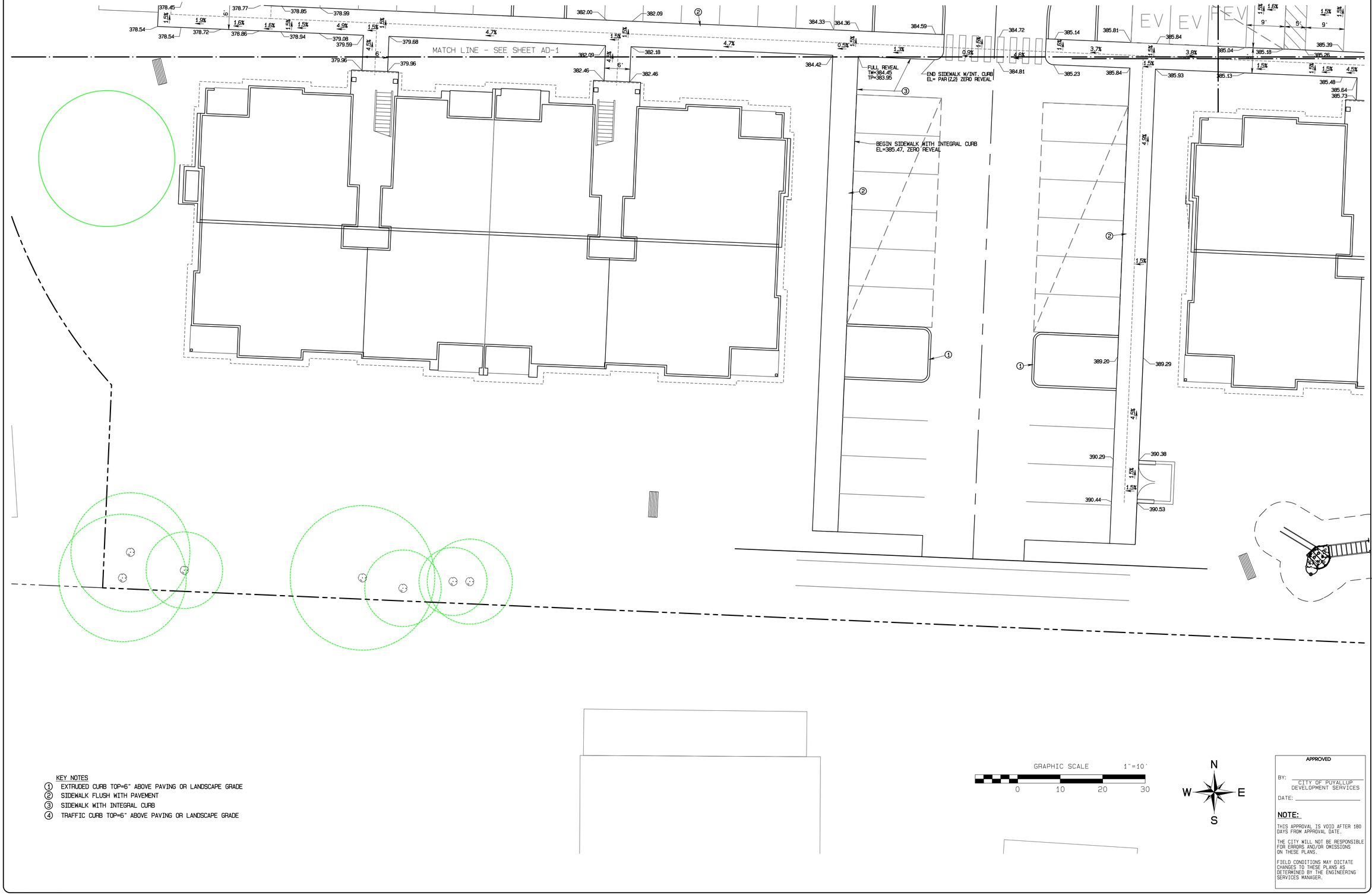

Timberlane Partners
1816 11th Ave Unit C
Seattle, WA, 98122
Phone 509.889.0326
Fax jorden@timberlanepartners.com


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


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Revit\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:31:45PM

# 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
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4. TRAFFIC CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE

APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

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ROBERT A. TRIVITT — 4/24/2025 — EXPIRES 4/24/2026 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/15/25 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
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JOB NO: 3227
DATE: March 4, 2025
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY: Paul Green


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ADA Route/Grading Details

*Bradley Heights*


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Fax jorden@timberlanepartners.com


DRAWING

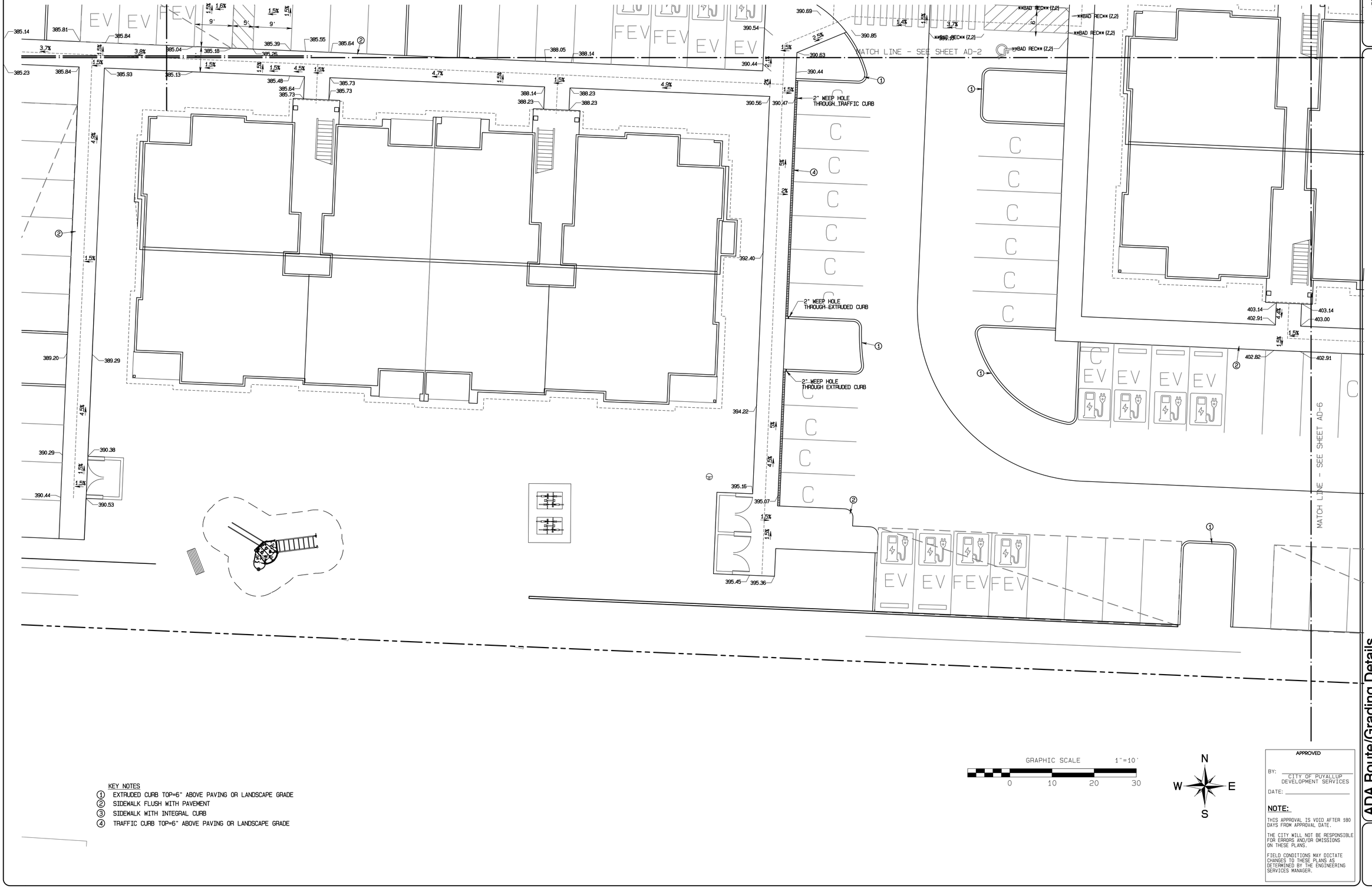
**AD-5**

SHEET 46
OF 60


Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmwk\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:34:56PM

# Bradley Heights

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




GRAPHIC SCALE 1"=10'

0 10 20 30

N W E S

KEY NOTES

1. EXTRUDED CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE
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3. SIDEWALK WITH INTEGRAL CURB
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APPROVED

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CITY OF PUYALLUP
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ROBERT A. TRIVITT — 4/24/2025 — 22415 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

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JOB NO. 3227
DATE March 4, 2025
DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY: Paul Green


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+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*


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*DRAWING*

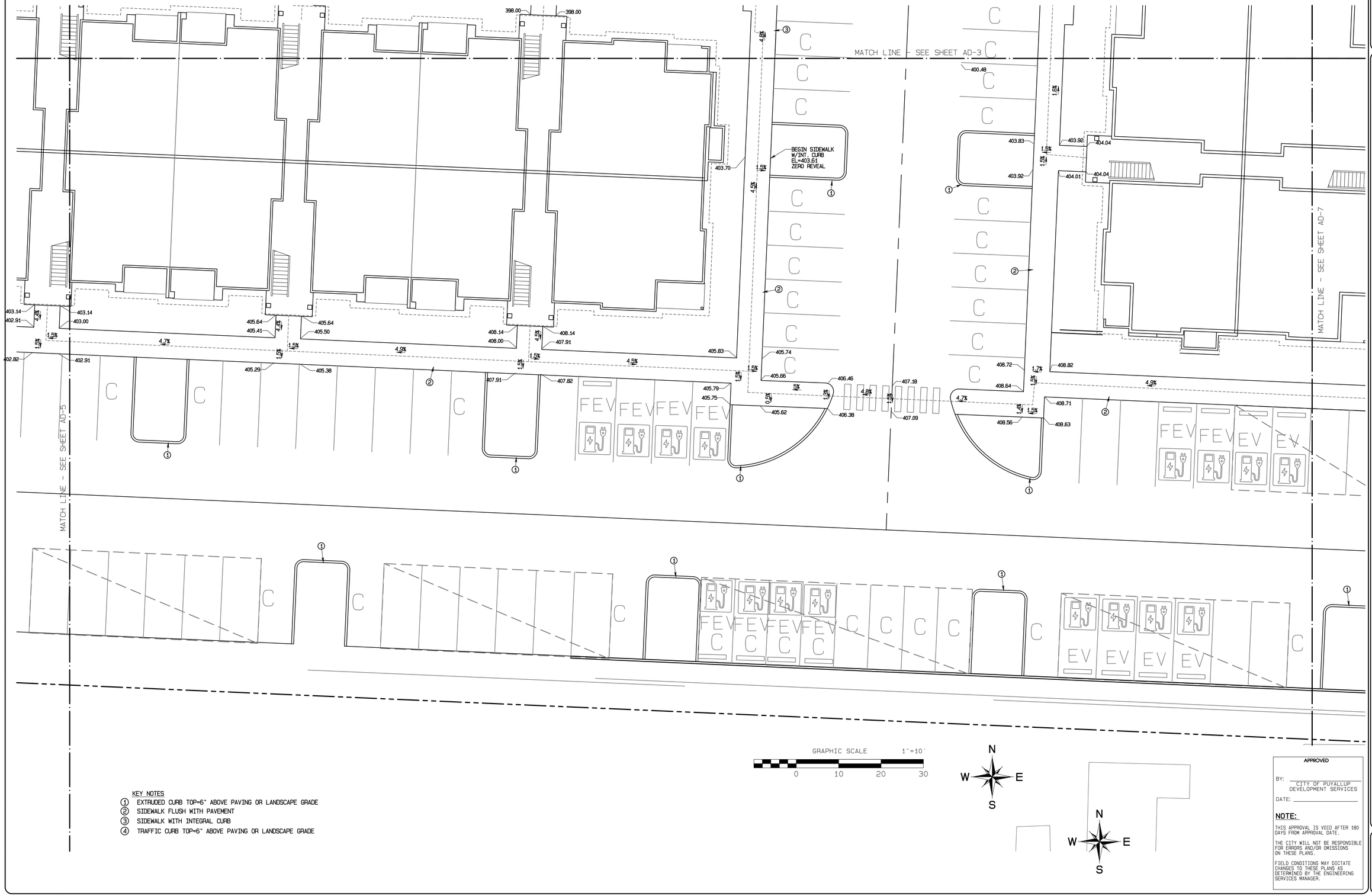
**AD-6**

*SHEET* 47
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:32:28PM

# Bradley Heights

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




GRAPHIC SCALE 1"=10'

0 10 20 30

N W E S

N W E S

KEY NOTES

1. EXTRUDED CURB TOP=6" ABOVE PAVING OR LANDSCAPE GRADE
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APPROVED

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ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — 24015 — REGISTERED PROFESSIONAL ENGINEER

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


ADA Route/Grading Details

*Bradley Heights*


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*DRAWING*

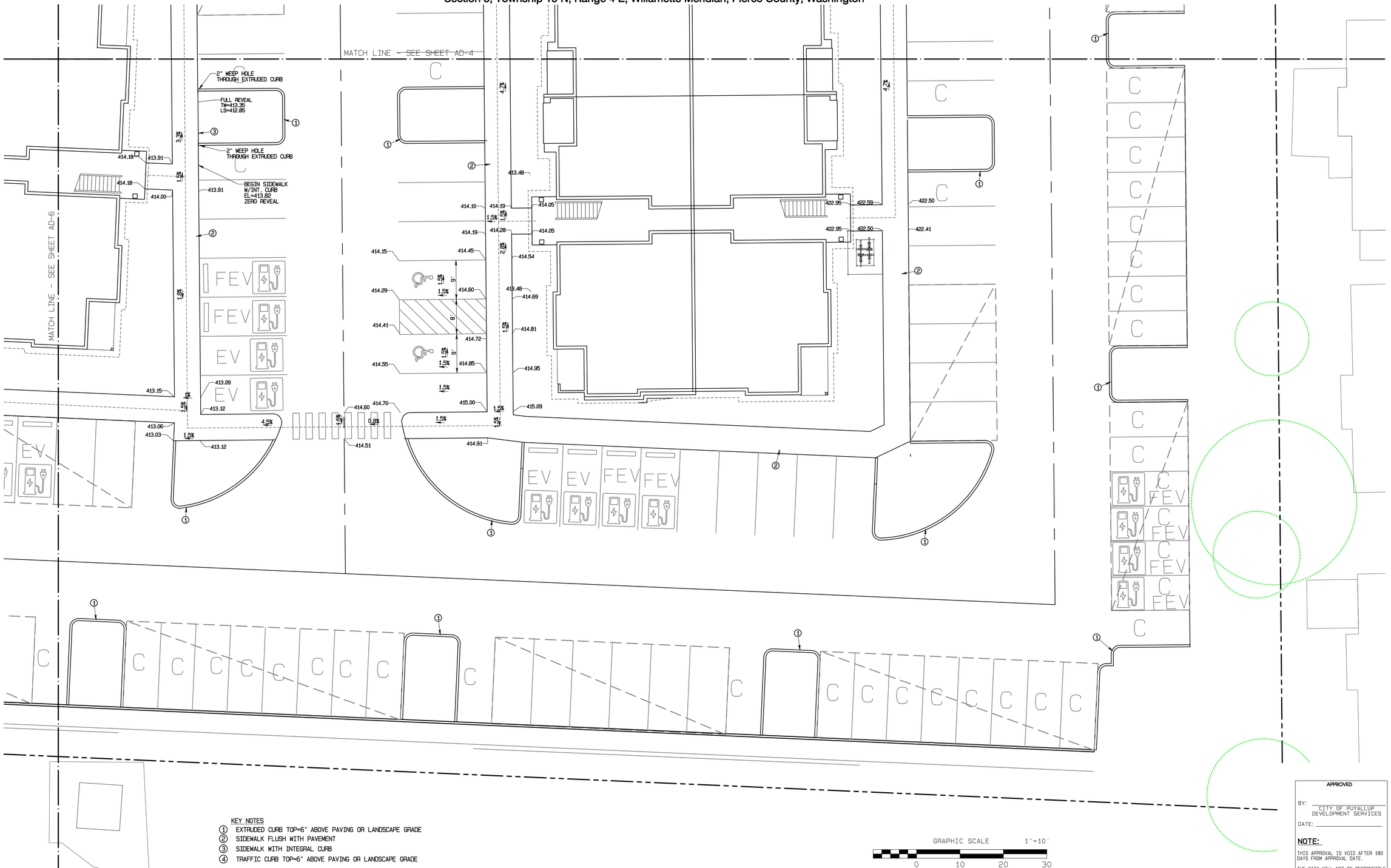
**AD-7**

*SHEET* 48
*OF* 60


Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmw\Bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:32:42PM

# 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
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GRAPHIC SCALE 1"=10'

0 10 20 30

APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

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ROBERT A. TRIVITT — 4/24/2025 — EXPIRES 9/29/2025 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

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JOB NO: 3027
DATE: March 4, 2025
DESIGNED BY:
DRAWN BY:
CHECKED BY:
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

ADA Route/Grading Details

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DRAWING
**AD-8**
SHEET 49
OF 60

Project Desc: Bradley Heights Path: F:\Jobs\3027 - Bradley Heights\Tmwk\Bradley Heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 8:33:38PM

# Bradley Heights

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

27TH AVE SE

SSMH 1
Rim=375.59
I.E. Out (Ex. 8" W)=367.48
I.E. In (Ex. 8" E)=367.50
I.E. In (8" S)=367.58

27LF 8"ø PVC SDR-35 S=1.50%

SSMH 1A
Rim=376.25
I.E. Out (8" N)=367.98
I.E. In (8" S)=368.08

SSMH 2
Rim=377.72
I.E. Out (8" N)=369.67
I.E. In (8" E)=369.77

69LF 8"ø PVC SDR-35 S=2.32%

42LF 6"ø PVC SDR-35 S=2.01%

18LF 4"ø DI S=2.0%

12LF 4"ø DI S=2.0%

5LF 4"ø S=2.00%

C.O. & 45° BEND
Rim=377.60
I.E. (4")=374.58

C.O.
Rim=377.96
I.E. (4")=374.83

PAD DRAIN
Rim=377.81
I.E. Out (4" E)=375.20
SEE DETAIL SHEET SS-5

345LF 8"ø PVC SDR-35 S=3.02%

SSMH 2A
Rim=378.82
I.E. Out (8" N)=371.37
I.E. In (8" E)=371.47

42LF 6"ø PVC SDR-35

34LF 6"ø PVC SDR-35

1-4" 90° BEND & C.O.
Rim=387.86
I.E.=383.53

54LF 4"ø PVC SDR-35 S=2.01%

77LF 4"ø PVC SDR-35 S=2.01%

POOL SLOT DRAIN, GRATE EL=390.86

SSMH 3
Rim=389.99
I.E. Out (8" W)=381.89
I.E. In (8" S)=381.99
I.E. In (4" N)=381.99

C.O.
Rim=393.44
I.E.=387.46

1-6" TEE & C.O.
Rim=394.35
I.E.=388.84

83LF 6"ø PVC SDR-35 S=2.0% MIN.

38LF 6"ø PVC SDR-35 S=3.64%

1-6" 90° BEND & C.O.
Rim=395.33
I.E.=389.46

127LF 8"ø PVC SDR-35 S=3.07%

79LF 8"ø PVC SDR-35

328LF 8"ø PVC SDR-35 S=3.67%

SSMH 4
Rim=396.76
I.E. Out (8" N)=385.80
I.E. In (8" E)=385.90

0+79
2+72
2+79
0+08
0+46

G
H
F
E

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.

N
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S

GRAPHIC SCALE 1"=20'
0 20 40 60

ROBERT A. TRIVITT
4/24/2025
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/14/25 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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| 10 | |

JOB NO. 3227
DATE 4/24/2025
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green

SS Plan

Bradley Heights

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

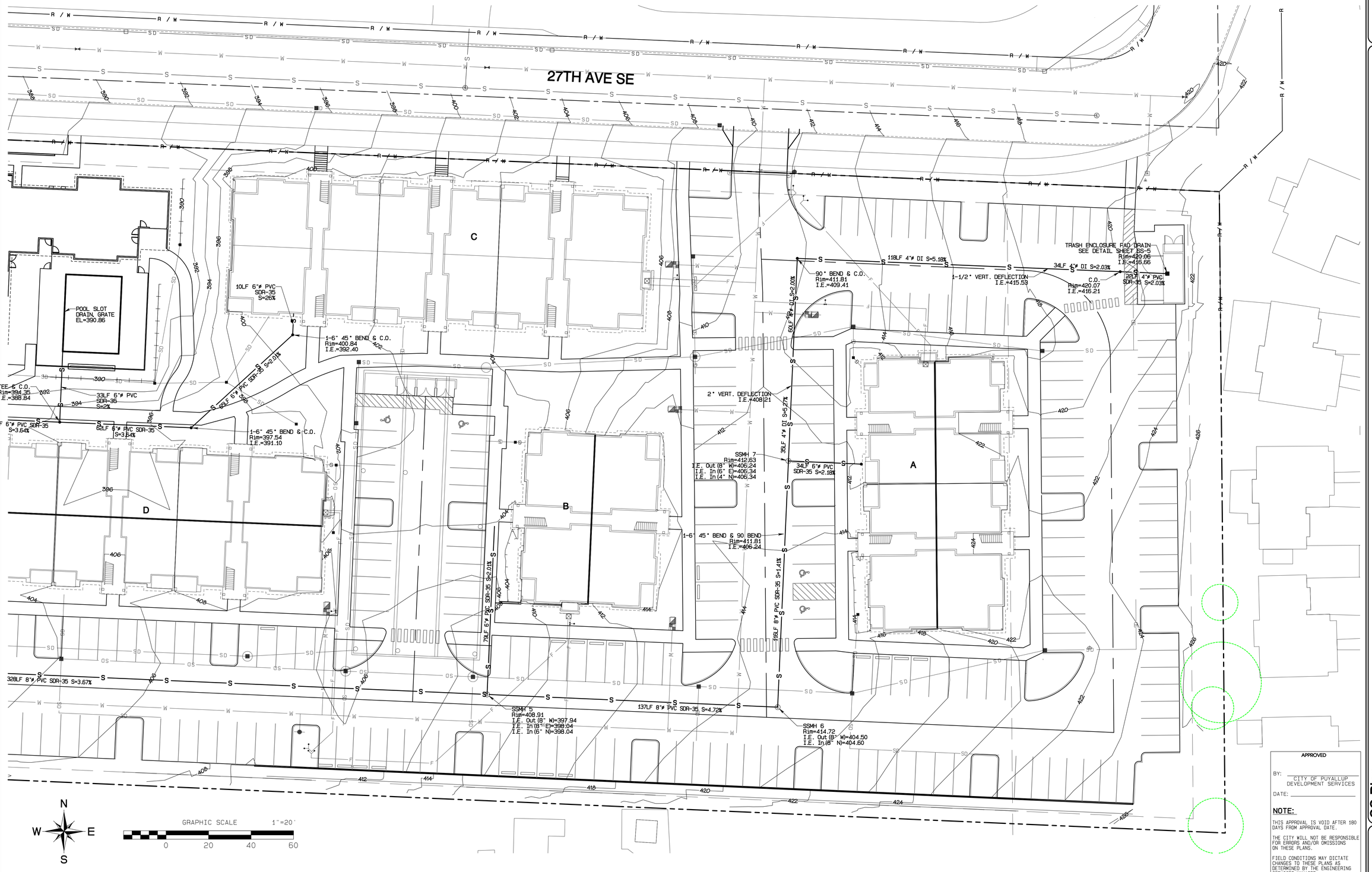
AZURE GREEN CONSULTANTS
+feasibility +planning +engineering +surveying
409 East Pioneer, Suite A - Puyallup, WA 98372 phone: 253.770.3144 fax: 253.770.3142

DRAWING
SS-1
SHEET 50
OF 60

Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmwk\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 8:37:28PM

# Bradley Heights

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




APPROVED

BY: _____ CITY OF PUYALLUP DEVELOPMENT SERVICES

DATE: _____

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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

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

ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — 24015 — REGISTERED PROFESSIONAL ENGINEER

| | REVISION | DATE |
|---|---|---|
| 1 | Revised per City review and Wall A adjustment. | 1/16/26 |
| 2 | Revised per City review. | 3/4/25 |
| 3 | Revised per City 6 Rush review. | 4/21/25 |
| 4 | | |
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| 10 | | |

JOB NO. 3227
DATE MAY 2024
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green


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


SS Plan

*Bradley Heights*


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


*DRAWING*

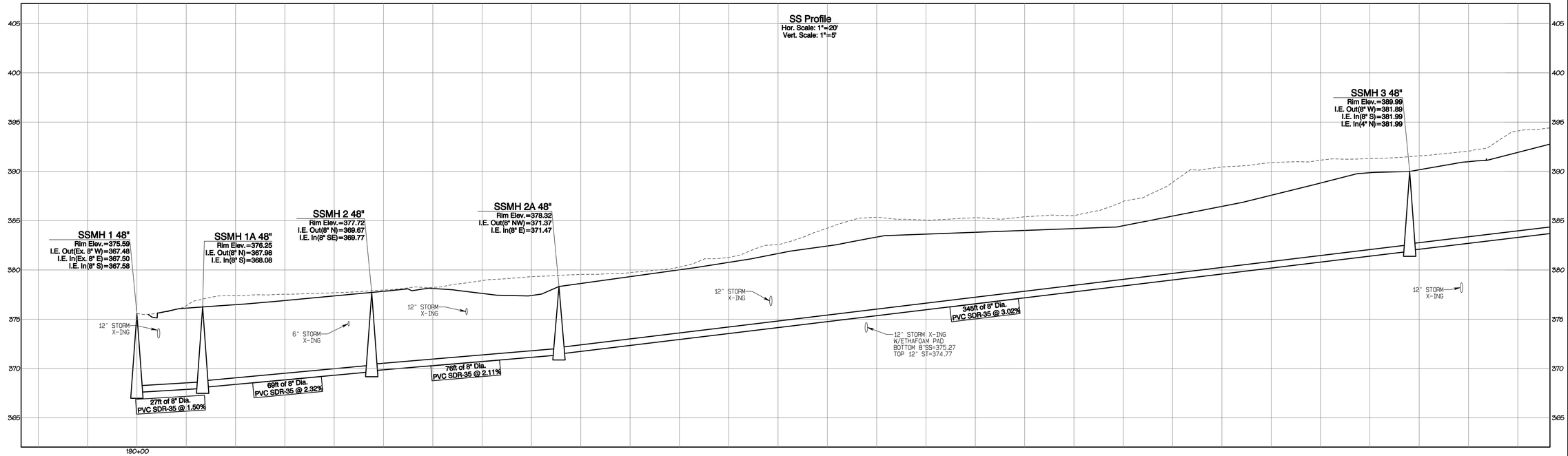
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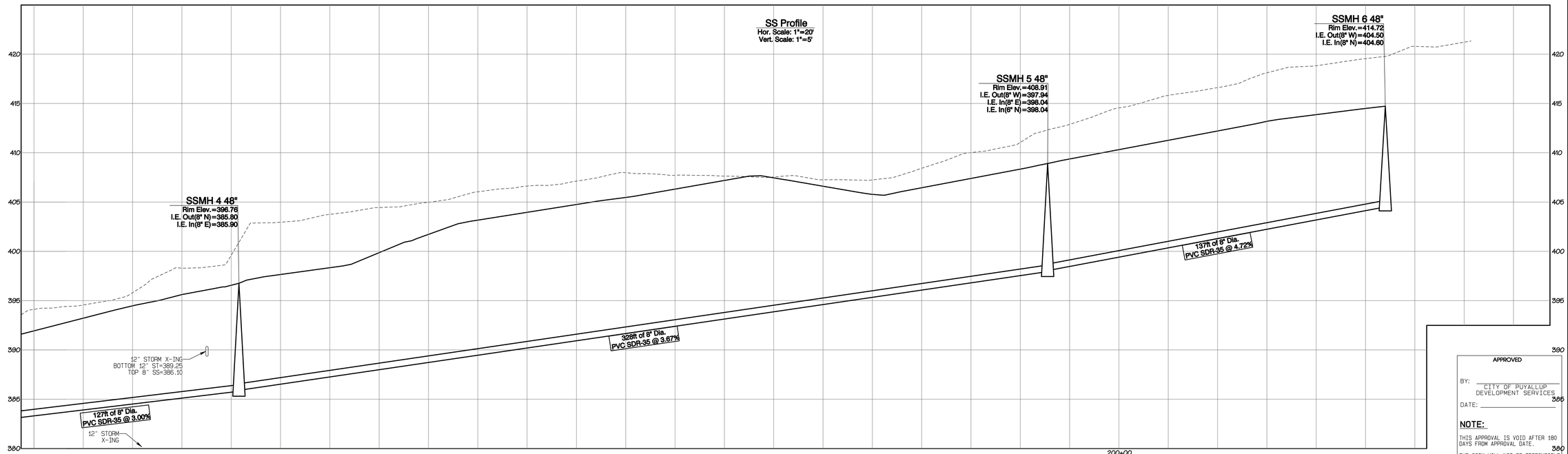
*SHEET* 51
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tews\brandley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 8:37:48PM

# Bradley Heights

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




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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

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

ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — 21642 — REGISTERED PROFESSIONAL ENGINEER

| | REVISION | DATE |
|---|---|---|
| 1 | Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 | Revised per City review. | 3/4/25 |
| 3 | Revised per City & Rush review. | 4/21/25 |
| 4 | | |
| 5 | | |
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JOB NO. 3227
DATE MAY 15, 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


SS Profiles

*Bradley Heights*


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


*DRAWING*

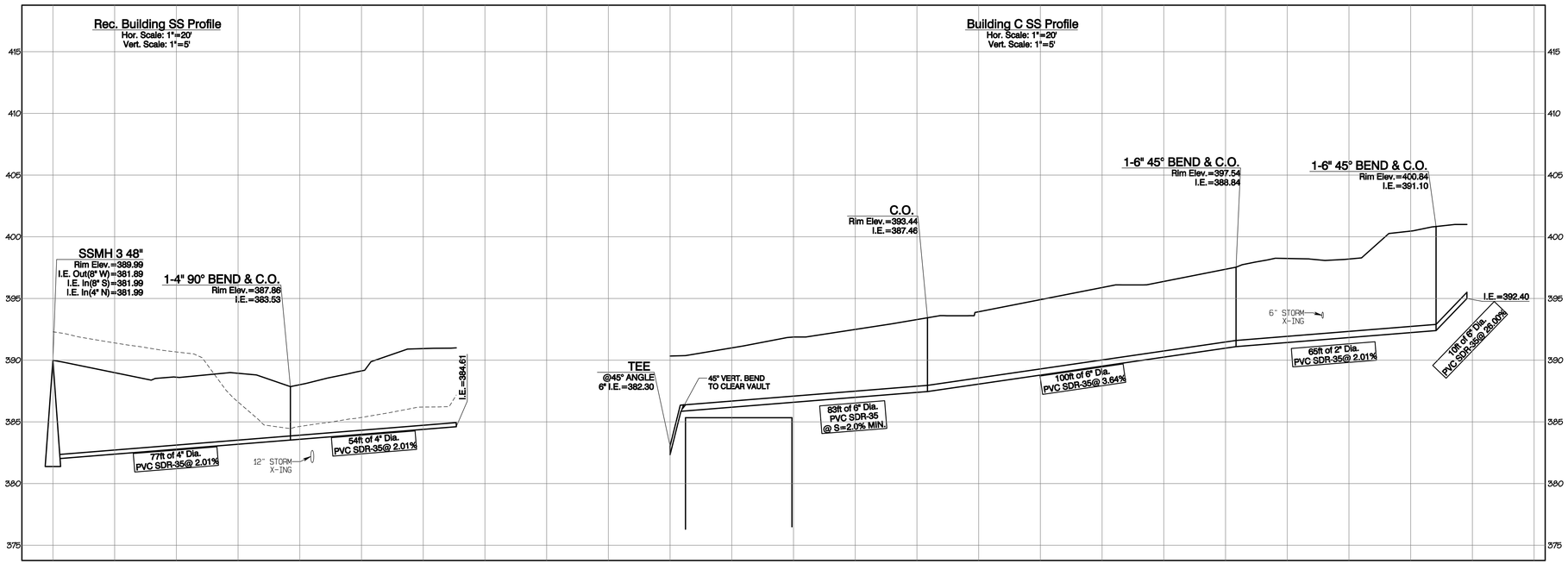
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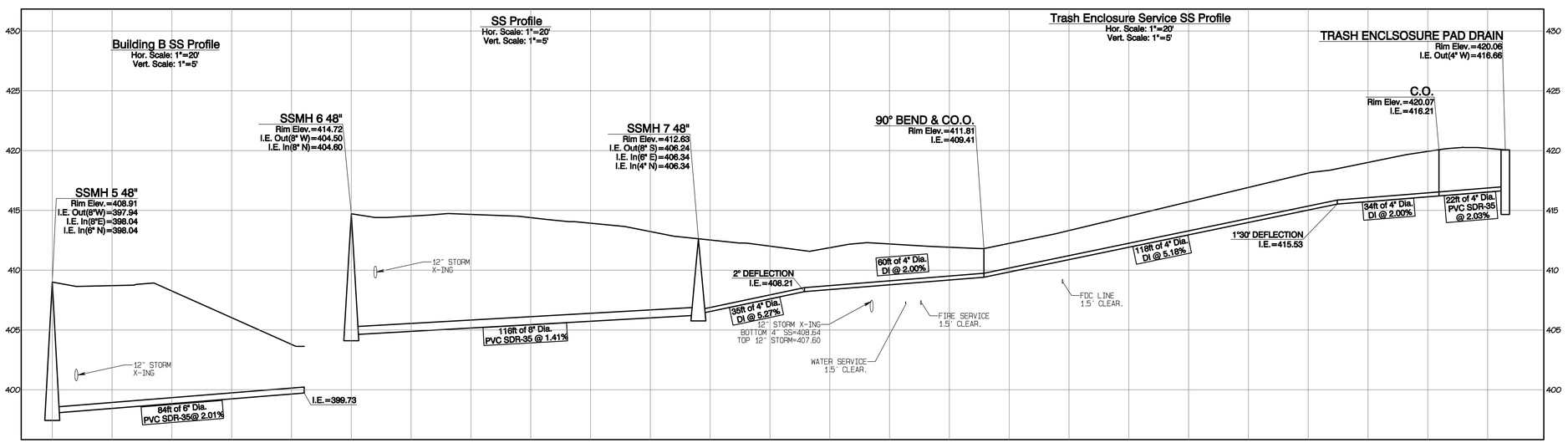
*SHEET* 52
*OF* 60


Project Desc: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tews\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:38:03PM

# Bradley Heights

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




APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

NOTE:

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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

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

ROBERT A. TRIVITT
4/24/2025
STATE OF WASHINGTON
EXPIRES 9/29/2025
REGISTERED PROFESSIONAL ENGINEER

| | REVISION | DATE |
|---|---|---|
| 1 | Revised per City review and Wall A adjustment. | 1/16/25 |
| 2 | Revised per City review. | 3/4/25 |
| 3 | Revised per City & Rush review. | 4/21/25 |
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| 10 | | |

JOB NO. 3227
DATE May 1, 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

SS Profiles

Bradley Heights

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

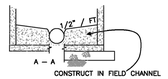
DRAWING
SS-4
SHEET 53
OF 60

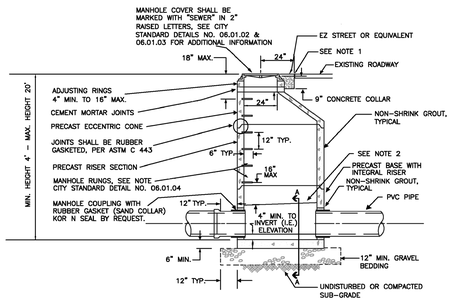
Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tews\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025 8:38:43PM

# Bradley Heights

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

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

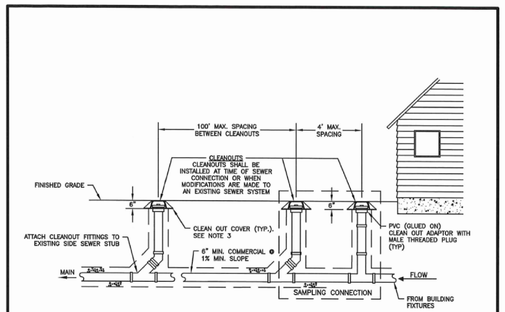



CITY OF PUYALLUP
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

SANITARY SEWER MANHOLE

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| BM BEWS-SVOBODA | LINDA LUAN | COLLEEN HARRIS | LINDA LUAN | 04.01.01 |
| FILE NAME: F:\DWGS\CIMS\DWSTDS\CITY\2009\04_SS\04.01\04.01.01 | DATE APPROVED: 07/01/2009 | DATE REVISED: 05/23/12 | SCALE: 1"=1' | |




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

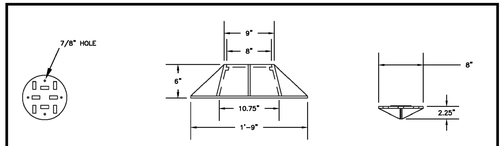
CITY OF PUYALLUP
PUBLIC WORKS AND DEVELOPMENT ENGINEERING

APPROVED FOR PUBLICATION — DATE ISSUED: 7/1/03

COMMERCIAL SIDE SEWER CONNECTION WITH SAMPLING CONNECTION

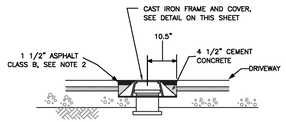
CITY STANDARD 04.03.04 (NOT TO SCALE)

FILE NAME: F:\PLAN\DRAWINGS\CITY STANDARDS\2003 - PART 1 - STANDARDS\04.03.04.dwg




FRAME AND COVER SECTION

SCALE 1:1




NOTES

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

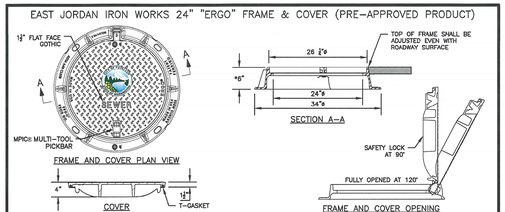
SCALE 1:2

CITY OF PUYALLUP
DEVELOPMENT ENGINEERING and PUBLIC WORKS DEPARTMENTS

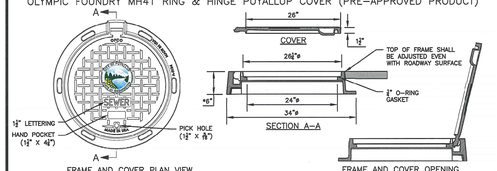
SIDE SEWER CLEAN OUT WHEN PLACED IN DRIVEWAY

| DRAWN BY | CHECKED BY | APPROVED BY | REVISED BY | CITY STANDARD |
|---|---|---|---|---|
| BM BEWS-SVOBODA | LINDA LUAN | COLLEEN HARRIS | XXXX | 04.03.05 |
| FILE NAME: F:\DWGS\CIMS\DWSTDS\CITY\2009\04_SS\04.03\04.03.05 | DATE APPROVED: 07/01/2009 | DATE REVISED: XX/XX/XX | SCALE: | |

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




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




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

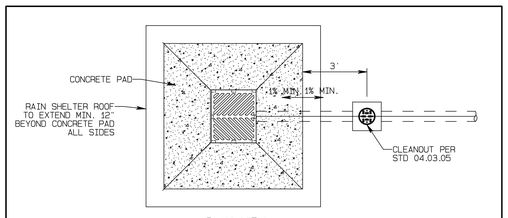
CITY OF PUYALLUP
OFFICE OF THE CITY ENGINEER

APPROVED FOR PUBLICATION — DATE ISSUED: 2/15/2018

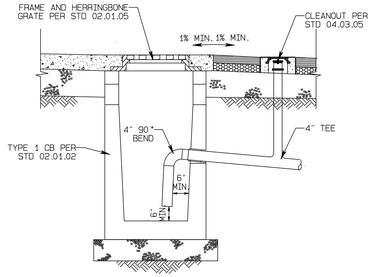
MANHOLE FRAME AND COVER

CITY STANDARD 06.01.02 (NOT TO SCALE)

FILE NAME: F:\PLAN\DRAWINGS\CITY STANDARDS\2017 STANDARD BOOK - PART 1 STANDARDS\06.01.02.dwg




PLAN VIEW




SECTION VIEW

**TRASH ENCLOSURE PAD DRAIN DETAIL**

SANITARY SEWER 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 sewer 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").

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 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.

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 require removal or relocation relating to this project shall be done so at the developer's expense.

8. Minimum grade on all 4 inch residential side sewers shall be 2 percent and 6 inch commercial side sewers shall be 1 percent; maximum shall be 8 percent. All side sewers shall be 6 inches within City right-of-way.

9. Side sewers shall be installed in accordance with City Standard Nos. 04.03.01, 04.03.02, 04.03.03 and 04.03.04. Side sewer installation work shall be done in accordance with the Washington Industrial Safety and Health Act (WISHA).

10. All sewer pipe shall be PVC, Polypropylene, or Ductile Iron. PVC sewer pipe shall conform to ASTM D-3034, SDR35 for pipe sizes 15-inch and smaller and ASTM F679 for pipe sizes 18- to 27-inch, ductile iron pipe shall be Class 51 or greater, lined with Protecto 401TM epoxy lining or equivalent, unless otherwise noted. 12-inch through 30-inch Polypropylene Pipe (PP) shall be dual walled, have a smooth interior and exterior corrugations and meet WSDOT 9-05.24(2). It shall meet or exceed ASTM F2764. 36-inch through 60-inch PP pipe shall be triple walled and meet WSDOT 9-05.24(2). It shall meet or exceed ASTM F2764. PP shall have a minimum pipe stiffness of 46 psi when tested in accordance with ASTM D2412. Testing shall be per ASTM F1417. Trenching, bedding, and backfill shall be in accordance with City Standard No. 06.01.01. Minimum cover on PVC and PP pipe shall be 3.0 feet. Minimum cover on ductile iron pipe shall be 1.0 foot.

11. Sanitary sewer manhole frames and covers shall conform to City Standard No. 06.01.02.

12. Sanitary sewer manholes shall conform to City Standard Nos. 04.01.01, 04.01.02, 04.01.03 and 04.01.04. All manholes shall be channeled for future lines as specified on these plans. Manhole steps and ladder shall conform to Standard No. 06.01.03.

13. Sanitary sewer pipe and side sewers shall be 10 feet away from building foundations and/or roof lines with the exception of side sewers that provide service to a single-family residence. At the discretion of the review engineer, a Licensed Professional Engineer will be required to stamp the design to account for depth or proximity to foundation, steep slopes, or other factors.

14. No side sewers shall be connected to any house or building until all manholes are adjusted to the finished grade of the completed asphalt roadway and the asphalt patch and seal around the ring are accepted.

15. For commercial developments in which sources of grease and/or oils may be introduced to the City sanitary sewer system, a City approved grease interceptor shall be installed downstream from the source.

16. Once sewer and all other utility construction is completed, all sanitary sewer mains and side sewers shall be tested per Section 406 of the City Standards.

APPROVED

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

NOTE:

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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

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

ROBERT A. TRIVITT — 24015 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — 4/24/2025

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City 6 Rush review. | 4/21/25 |
| 4 | |
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JOB NO: 3227
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


SS Details

*Bradley Heights*

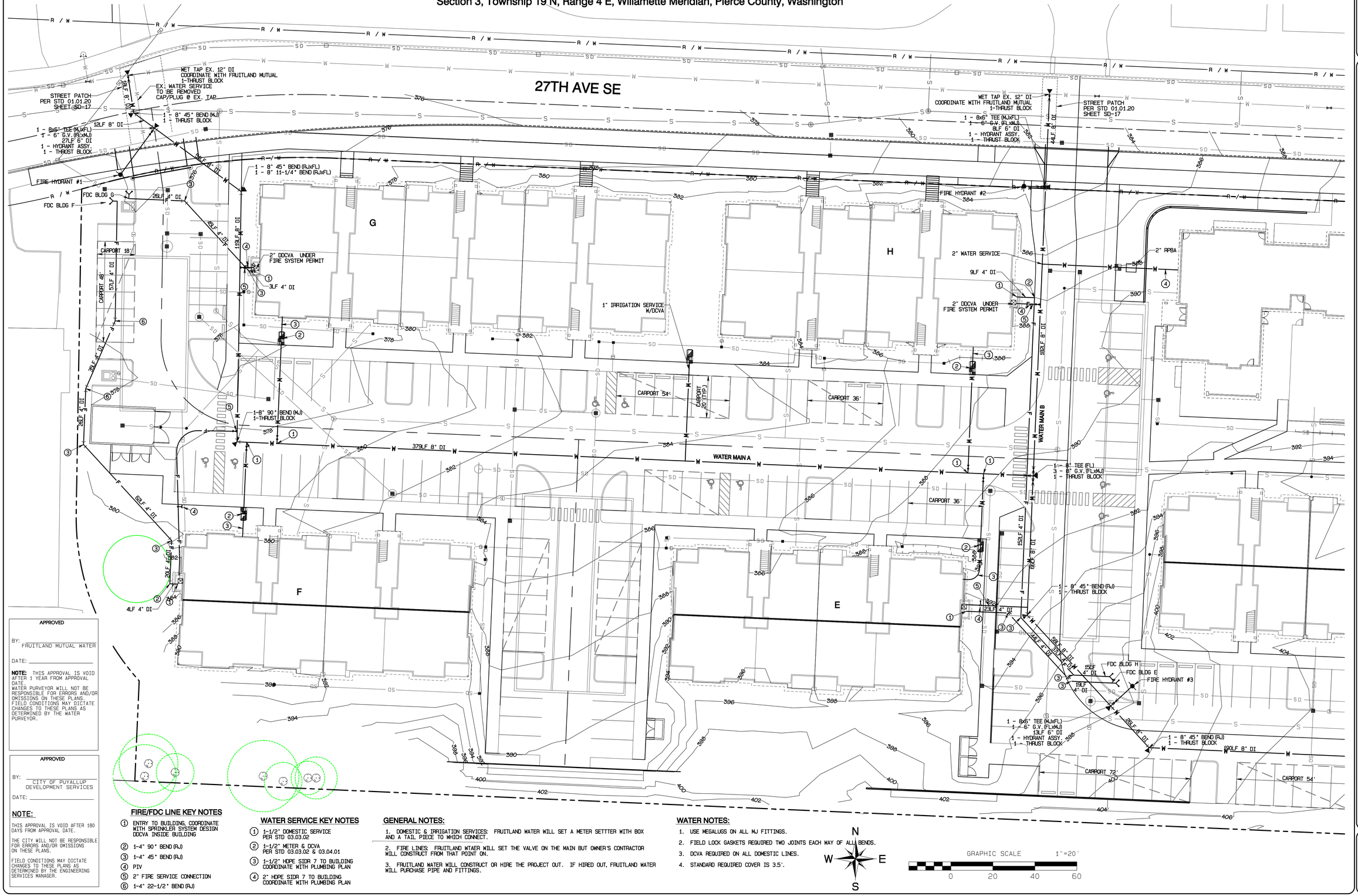

Timberlane Partners
1816 11th Ave Unit C
Seattle, WA. 98122
Phone 509.899.0326
Fax jorden@timberlanepartners.com


DRAWING
**SS-5**
SHEET 54
OF 60


Project Desc.: Bradley Heights Path: F:_data\3227 - Bradley Heights\Tmain\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:30:08PM

# Bradley Heights

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




**APPROVED**

BY: _____
FRUITLAND MUTUAL WATER

DATE: _____

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

**APPROVED**

BY: _____
CITY OF PUYALLUP
DEVELOPMENT SERVICES

DATE: _____

**NOTE:**

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE.

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

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

## FIRE/FDC LINE KEY NOTES

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

## WATER SERVICE KEY NOTES

1. 1-1/2" DOMESTIC SERVICE PER STD 03.03.02
2. 1-1/2" METER & DCVA PER STD 03.03.02 & 03.04.01
3. 1-1/2" HDPE SIDR 7 TO BUILDING COORDINATE WITH PLUMBING PLAN
4. 2" HDPE SIDR 7 TO BUILDING COORDINATE WITH PLUMBING PLAN

## GENERAL NOTES:

1. DOMESTIC & IRRIGATION SERVICES: FRUITLAND WATER WILL SET A METER SETTTER WITH BOX AND A TAIL PIECE TO WHICH CONNECT.
2. FIRE LINES: FRUITLAND WTAER 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. DCVA REQUIRED ON ALL DOMESTIC LINES.
4. STANDARD REQUIRED COVER IS 3.5'.

N W E S

GRAPHIC SCALE 1"=20'
0 20 40 60

ROBERT A. TRIVITT — 4/24/2025 — EXPIRES 9/29/2025 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/15/24 |
| 2 Revised per City review. | 3/1/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
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| 9 | |
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JOB NO. 3227
DATE 1/15/2024
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


Water Plan

*Bradley Heights*


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


*DRAWING*

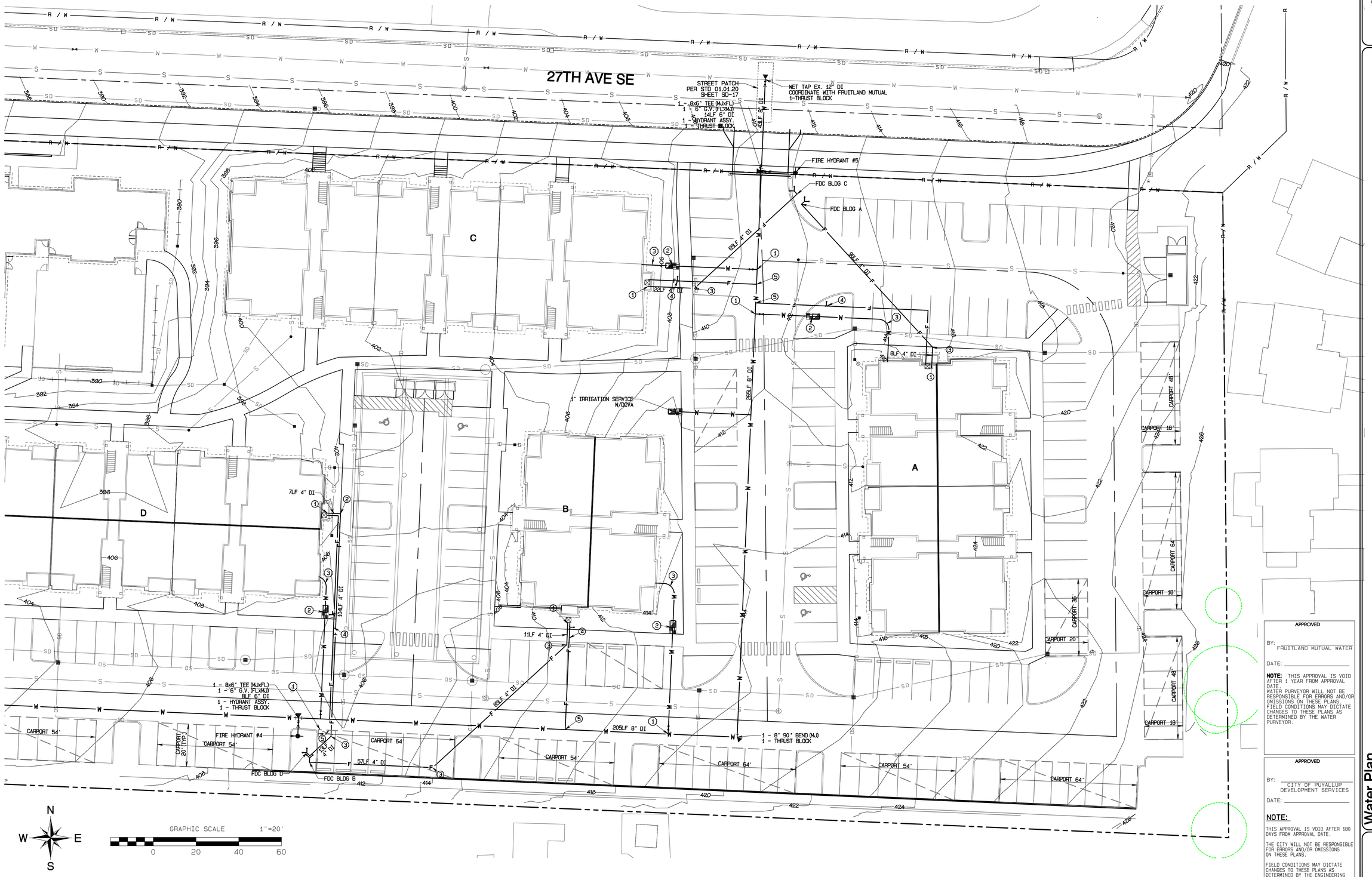
**W-1**

*SHEET* 55
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Drawings\Bradley Heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:46:03PM

# Bradley Heights

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




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.

ROBERT A. TRIVITT — 4/24/2025 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — 40415

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/14/25 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
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| 10 | |

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


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Water Plan

*Bradley Heights*


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


*DRAWING*

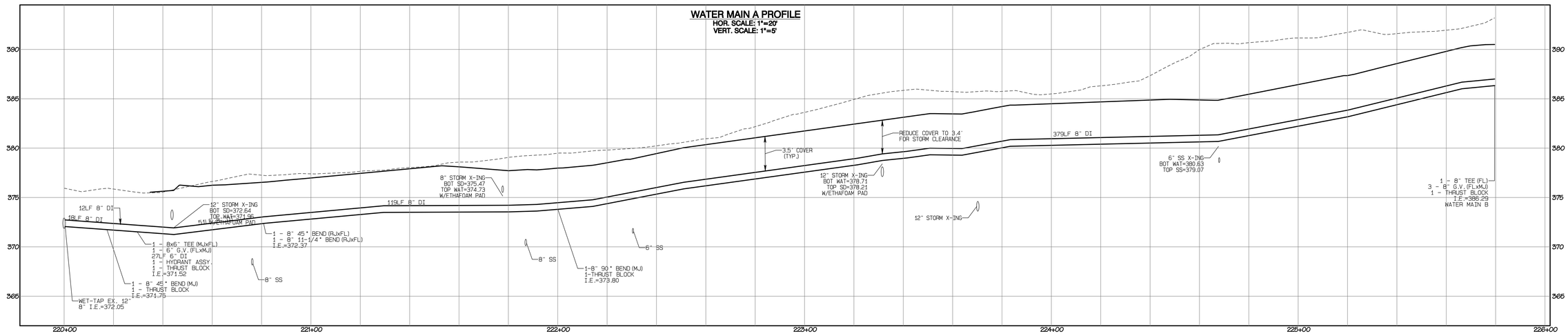
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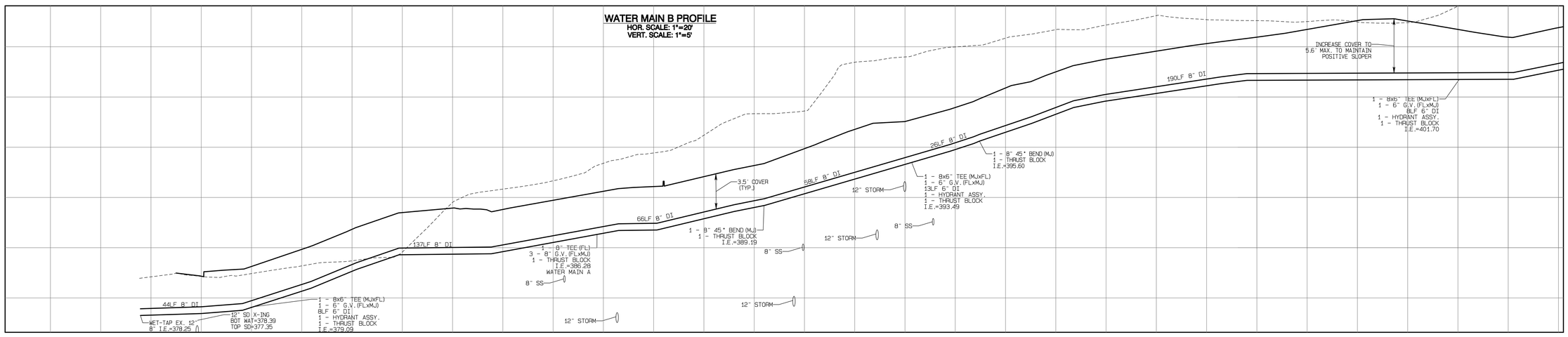
*SHEET* 56
*OF* 60

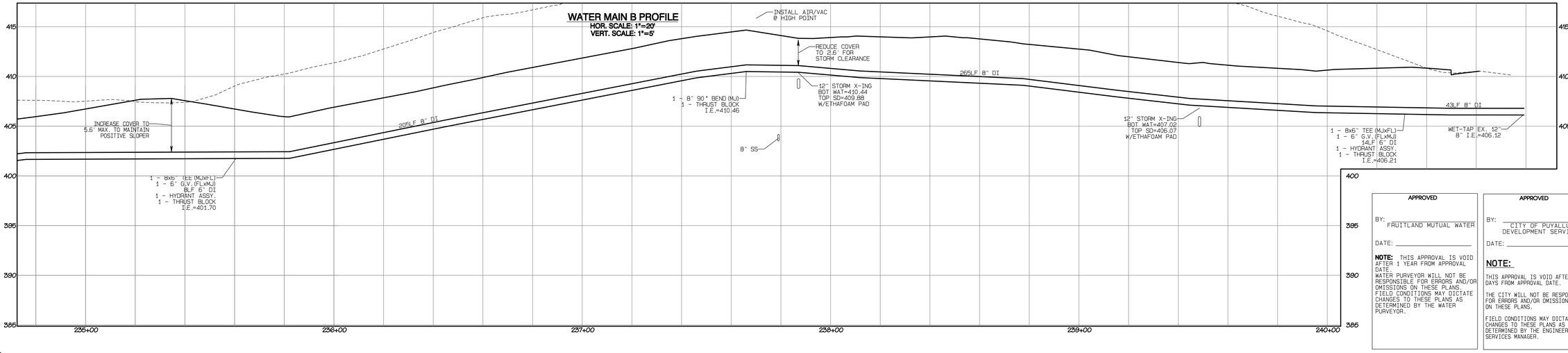

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Trivitt\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:46:30PM

# Bradley Heights

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




| APPROVED | APPROVED |
|---|---|
| BY: _____ FRUITLAND MUTUAL WATER | BY: _____ CITY OF PUYALLUP DEVELOPMENT SERVICES |
| DATE: _____ | 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. | **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. |

ROBERT A. TRIVITT — 4/24/2025 — EXPIRES 9/2/2025 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| NO. | REVISION | DATE |
|---|---|---|
| 1 | Revised per City review and Wall A adjustment. | 1/16/25 |
| 2 | Revised per City review. | 3/4/25 |
| 3 | Revised per City & Rush review. | 4/21/25 |
| 4 | | |
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JOB NO. 3227
DATE May 2024
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green


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


Water Main Profiles

*Bradley Heights*

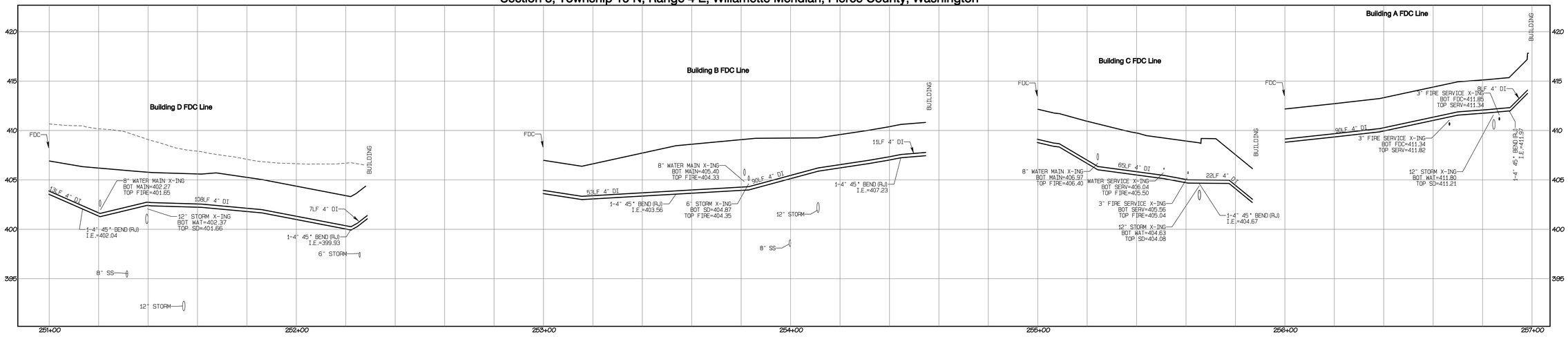

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1816 11th Ave Unit C
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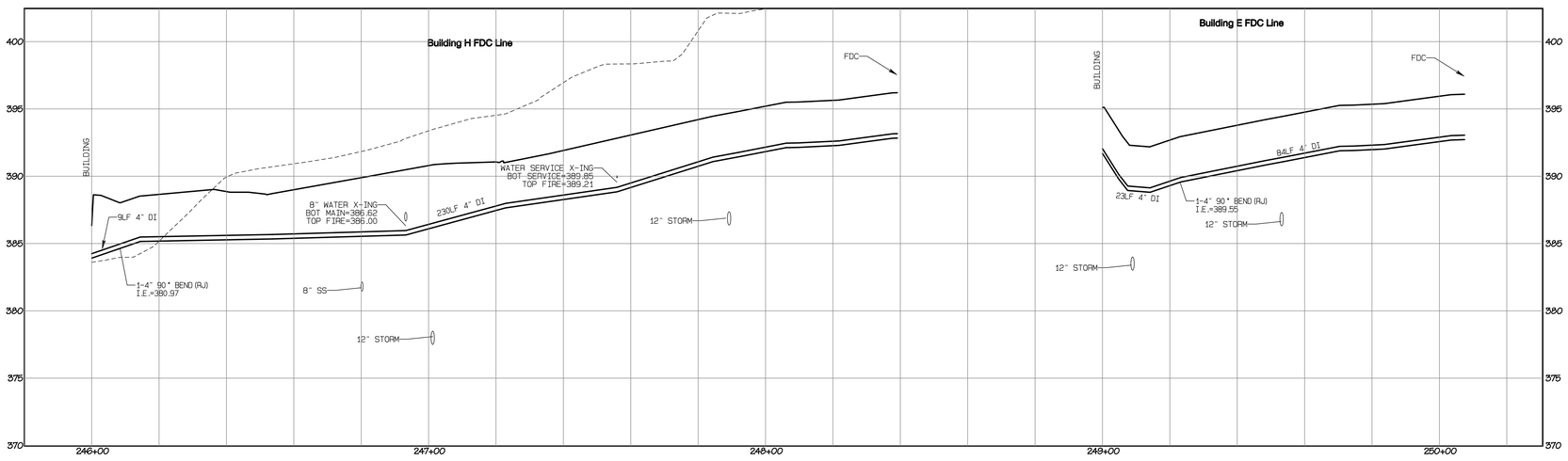

DRAWING
**W-3**
SHEET 57
OF 60

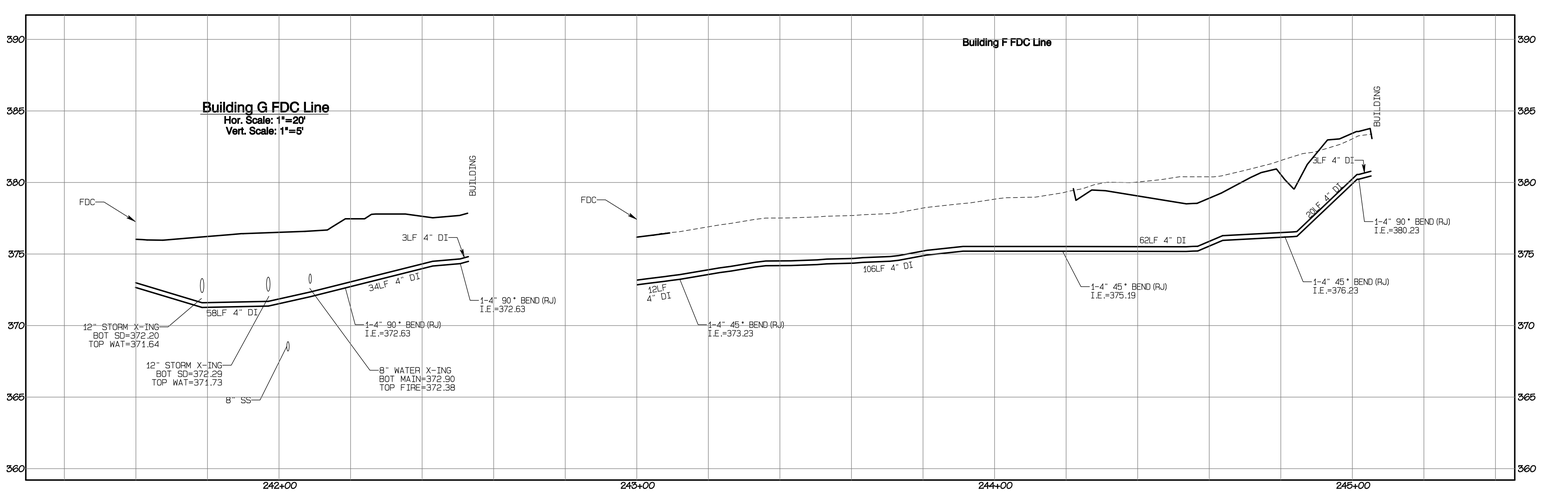

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmw\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:41:11PM

# Bradley Heights

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




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.

ROBERT A. TRIVITT — 4/24/2025 — STATE OF WASHINGTON — 22405 — REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 11/8/24 |
| 2 **Revised per City review.** | **3/4/25** |
| 3 Revised per City & Rush review. | 4/21/25 |
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JOB NO. 3227
DATE MAY 6, 2024
DESIGNED BY Rob Trivitt
DRAWN BY Rob Trivitt
CHECKED BY Paul Green
APPROVED BY Paul Green


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FDC Profiles

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Seattle, WA, 98122
Phone 509.899.0326
Fax jorden@timberlanepartners.com


*DRAWING*

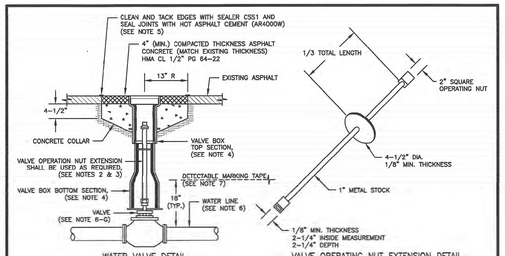
**W-4**

*SHEET* 58
*OF* 60


Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Tmw\in\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:41:36PM

# Bradley Heights

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




WATER VALVE DETAIL
NOT TO SCALE

VALVE OPERATING NUT EXTENSION DETAIL
NOT TO SCALE

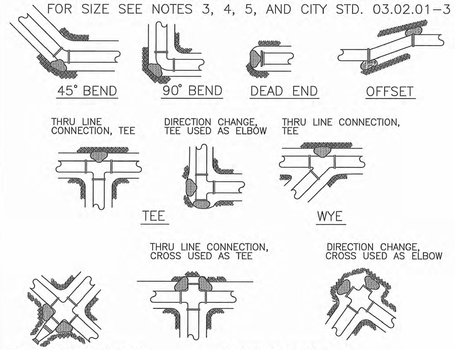
NOTES:

1. WATER MAINS SHALL HAVE A MINIMUM COVER OF 36" FROM PAVED FINAL 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, SIZED 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 VANRICH #940 SEATTLE OR APPROVED EQUAL. THE WORD "WATER" 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 5800 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 AWWA C 151, THICKNESS CLASS 52, AND THE EXTERIOR SHALL BE COATED WITH COAL TAR VARNISH. PIPE AND FITTINGS SHALL BE MORTOR LINED AND SHALL CONFORM TO AWWA C 104. THE THICKNESS OF THE LINING SHALL BE NOT LESS THAN 1/16" THICK FOR 3" 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 APPROVED EQUAL, OR MECHANICAL JOINT TYPE PER AWWA 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 B8M FOR BOLTS, AND ASTM A 194, GRADE 8M FOR NUTS. BOLTS AND NUTS LARGER THAN ONE AND ONE-QUARTER (1-1/4) INCHES SHALL BE STEEL, ASTM A 307, GRADE B, WITH CHROMIUM PLATING, ASTM A 165, TYPE MS.
   - D. BOLTS USED IN FLANGE INSTALLATION SETS SHALL CONFORM TO ASTM B 193, GRADE B7. 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 AWWA C 110 AND AWWA 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.
     1) RESILIENT SEATED WEDGE GATE VALVE: GATE VALVES SHALL CONFORM TO THE LATEST AWWA SPECIFICATIONS FOR COLD WATER, DOUBLE-DISK GATE VALVES, 200 PSI WORKING PRESSURE. THEY SHALL BE IRON-BODIED, BRONZE MOUNTED, NON-RISING STEM, WITH TWO (2) INCH SQUARE NUT. COUNTER-CLOCKWISE OPENING, MECHANICAL JOINT AND / OR FLANGED ENDS (6" VALVES ON FIRE HYDRANT LINES WHICH SHALL BE MECHANICAL JOINTS BY FLANGED). VALVE STEMS SHALL BE PROVIDED WITH O-RING SEALS AND SHALL BE AS MANUFACTURED BY THE MUELLER COMPANY OR APPROVED EQUAL.
     2) BUTTERFLY VALVES: BUTTERFLY VALVES CONFORMING WITH AWWA C 504, CLASS 150 AND SHALL HAVE STANDARD AWWA TWO (2) INCH SQUARE NUT.
7. DETECTABLE MARKING TAPE SHALL BE INSTALLED 18" ABOVE PIPE, BE BLUE IN COLOR, AND READ "CAUTION WATER LINE BELOW" MEETING WSDOT SPEC. 9-15.1B.

| CITY OF PUYALLUP OFFICE of THE CITY ENGINEER | APPROVED FOR PUBLICATION — DATE MAILED: 2/5/2018 | WATER VALVES AND MAINS (NOT TO SCALE) | CITY STANDARD 03.01.01 |
|---|---|---|---|

FILE NAME: P:\BMD\CDMMENTS\TOS\CITYSTDS\03.01.01-WATER VALVES AND MAINS.DWG

DRAWINGS DEPICT BLOCK LOCATION, NOT SIZE.
FOR SIZE SEE NOTES 3, 4, 5, AND CITY STD. 03.02.01-3




NOTES:

1. THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN CONSTRUCTING THRUST BLOCKS:
   - A. BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL.
   - B. THE PIPE FITTING(S) 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 BEDDED, SEE CITY OF PUYALLUP STANDARD BEDDING DETAIL NO. 06.01.01
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 | DATE SIGNED: 11/5/17 | HORIZONTAL THRUST BLOCKING | CITY STANDARD 03.02.01-1 |
|---|---|---|---|

| DRAWN BY: HH/ERWIN-SVORODA | CHECKED BY: LINDA LIAN | APPROVED BY: MARK PALMER | REVISED BY: LINDA LIAN | DATE REVISED: 08/20/08 XX/XX/XX XX/XX/XX XX/XX/XX | SCALE: NTS | DATE APPROVED: 10/22/2004 | CITY STANDARD 03.02.01-1 |
|---|---|---|---|---|---|---|---|

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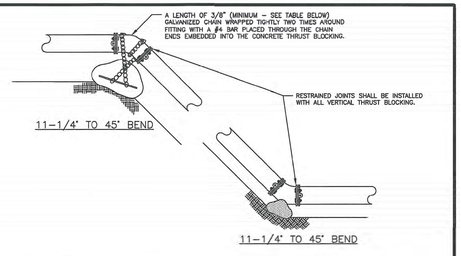



TABLE 1: CONCRETE BLOCKING FOR VERTICAL BENDS

| PIPE DIAMETER (INCHES) | TEST PRESSURE (PSI) | BEND ANGLE (DEG) | CONCRETE VOLUME ($YD^3$) | CUBE 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 | 3.6 | | |
| | | 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 | 1/2" | 24" |
| 14" | 200 | 11.25° | 75 | 4.2 | 3/8" | 17" |
| | | 22.5° | 147 | 5.3 | 1/2" | 20" |
| | | 45° | 272 | 6.5 | 1/2" | 27" |
| 16" | 200 | 11.25° | 98 | 4.6 | 3/8" | 17" |
| | | 22.5° | 192 | 5.8 | 1/2" | 24" |
| | | 45° | 355 | 7.1 | 3/4" | 30" |

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 | APPROVED FOR PUBLICATION — DATE MAILED: 2/5/2018 | VERTICAL THRUST BLOCKING (NOT TO SCALE) | CITY STANDARD 03.02.01-2 |
|---|---|---|---|

FILE NAME: P:\BMD\CDMMENTS\TOS\CITYSTDS\03.02.01-VERTICAL THRUST BLOCKING.DWG

TABLE 2: THRUST AT FITTINGS AT 200 PSI

| SIZE | TEST PRESSURE (PSI) | THRUST FITTINGS AT 200 PSI A TEE AND DEAD ENDS | B 90° BEND | C 45° BEND | D 22.5° BEND | E 11.25° BEND |
|---|---|---|---|---|---|---|
| 4" | 200 | 3,140 | 4,440 | 2,405 | 1,225 | 615 |
| 6" | 200 | 7,070 | 9,995 | 5,410 | 2,760 | 1,385 |
| 8" | 200 | 12,565 | 17,770 | 9,620 | 4,905 | 2,465 |
| 10" | 200 | 19,635 | 27,770 | 15,030 | 7,660 | 3,850 |
| 12" | 200 | 28,275 | 39,985 | 21,640 | 11,030 | 5,545 |
| 14" | 200 | 38,485 | 54,425 | 29,455 | 15,015 | 7,545 |
| 16" | 200 | 50,265 | 71,085 | 38,470 | 19,615 | 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.

$39,985 \times \frac{300 \text{ PSI}}{200 \text{ PSI}} = 59,978 \text{ LBS}$

② TO DETERMINE THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET (SF):

SEE TABLE 3, BEARING VALUE OF SOIL

EXAMPLE:
FOR SAND AND GRAVEL BEARING VALUE FROM TABLE 3 IS 3,000 LBS/SF

59,978 LBS ÷ 3000 LB/SF = 20 SF OF AREA

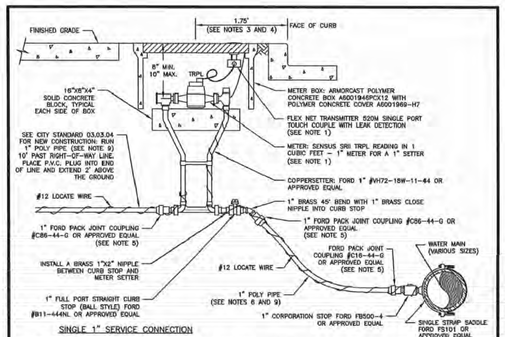
③ CONTRACTOR TO PROVIDE BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE

④ AREAS SHALL BE ADJUSTED FOR OTHER PRESSURE CONDITIONS.

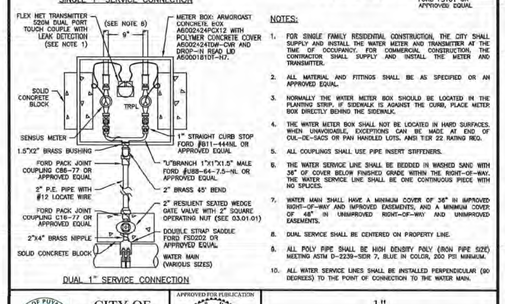
⑤ NO WATER MAIN SHALL DEAD END AGAINST A MAIN LINE VALVE. DEAD END WATER MAINS SHALL BE BLOCKED AGAINST A RESTRAINED MECHANICAL JOINT (M.J.) PLUG OR CAP.

| CITY OF PUYALLUP OFFICE of THE CITY ENGINEER | APPROVED FOR PUBLICATION — DATE MAILED: 2/5/2018 | THRUST BLOCKING TABLE (NOT TO SCALE) | CITY STANDARD 03.02.01-3 |
|---|---|---|---|

FILE NAME: P:\BMD\CDMMENTS\TOS\CITYSTDS\03.02.01-THRUST BLOCKING TABLE.DWG




SINGLE 1" SERVICE CONNECTION



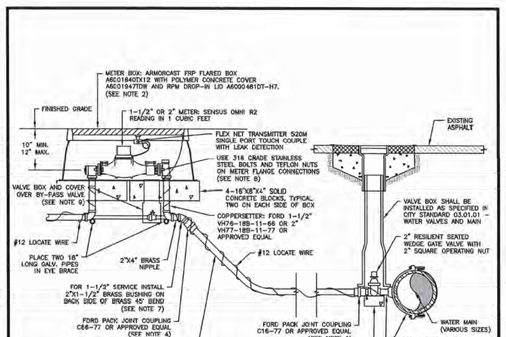

DUAL 1" SERVICE CONNECTION

NOTES:

1. FOR SINGLE FAMILY RESIDENTIAL CONSTRUCTION, THE CITY SHALL SUPPLY AND INSTALL THE WATER METER AND TRANSMITTER AT THE TIME OF OCCUPANCY. FOR COMMERCIAL CONSTRUCTION, THE CONTRACTOR SHALL SUPPLY AND INSTALL THE METER AND TRANSMITTER.
2. ALL MATERIAL AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
3. NORMALLY THE WATER METER BOX SHOULD BE LOCATED IN THE PLANTING STRIP, IF SIDEWALK IS AGAINST THE CURB, PLACE METER BOX DIRECTLY BEHIND THE SIDEWALK.
4. THE WATER METER BOX SHALL NOT BE LOCATED IN HARD SURFACES. WHEN UNAVOIDABLE, EXCEPTIONS CAN BE MADE AT END OF CUL-DE-SACS OR PAN HANDLED LOTS, AND TIER 22 RATING REQ.
5. ALL COUPLINGS SHALL USE PIPE INSERT STIFFENERS.
6. THE WATER SERVICE LINE SHALL BE BEDDED IN WASHED SAND WITH 36" OF COVER BELOW FINISHED GRADE WITHIN THE RIGHT-OF-WAY. THE WATER SERVICE LINE SHALL BE ONE CONTINUOUS PIECE WITH NO SPLICES.
7. WATER MAIN SHALL HAVE A MINIMUM COVER OF 36" IN IMPROVED RIGHT-OF-WAY AND IMPROVED EASEMENTS, AND A MINIMUM COVER OF 48" IN UNIMPROVED RIGHT-OF-WAY AND UNIMPROVED EASEMENTS.
8. DUAL SERVICE SHALL BE CENTERED ON PROPERTY LINE.
9. ALL POLY PIPE SHALL BE HIGH DENSITY POLY (IRON PIPE SIZE) MEETING ASTM D-2239-SIDR 7, BLUE IN COLOR, 200 PSI MINIMUM.
10. ALL WATER SERVICE LINES SHALL BE INSTALLED PERPENDICULAR (90 DEGREES) TO THE POINT OF CONNECTION TO THE WATER MAIN.

| CITY OF PUYALLUP PUBLIC WORKS AND DEVELOPMENT ENGINEERING | APPROVED FOR PUBLICATION — DATE MAILED: 11/6/23 | 1" WATER SERVICE CONNECTION (NOT TO SCALE) | CITY STANDARD 03.03.01-2 |
|---|---|---|---|

FILE NAME: P:\BMD\CDMMENTS\TOS\CITYSTDS\03.03.01-2-1" WATER SERVICE CONNECTION.DWG

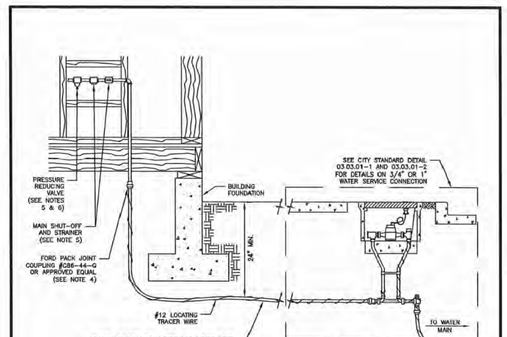



NOTES:

1. ALL MATERIALS AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
2. NORMALLY THE WATER METER BOX SHOULD BE LOCATED IN THE PLANTING STRIP. IF SIDEWALK IS AGAINST THE CURB, PLACE METER BOX DIRECTLY BEHIND THE SIDEWALK. THE WATER METER BOX SHALL NOT BE LOCATED IN HARD SURFACES. WHEN UNAVOIDABLE, EXCEPTIONS CAN BE MADE AT END OF CUL-DE-SACS OR PAN HANDLED LOTS. AND TIER 22 RATING REQUIRED.
3. 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.
4. ALL POLY PIPE COUPLINGS SHALL USE PIPE INSERT STIFFENERS.
5. THE WATER SERVICE LINE SHALL BE BEDDED IN WASHED SAND WITH 36" OF COVER BELOW FINISHED GRADE WITHIN THE RIGHT-OF-WAY. THE WATER SERVICE LINE SHALL BE ONE CONTINUOUS PIECE WITH NO SPLICES.
6. ALL POLY PIPE SHALL BE HIGH DENSITY POLY (IRON PIPE SIZE) MEETING ASTM D-2239-SIDR 7, BLUE IN COLOR, 200 PSI MINIMUM.
7. FOR A 1-1/2" WATER SERVICE, ALL MATERIAL SHALL BE 2" FROM THE WATER MAIN TO THE COPPERSETTER. REDUCE FROM 2" TO 1-1/2" IMMEDIATELY BEFORE COPPERSETTER.
8. THE STAINLESS STEEL METER FLANGE BOLTS SHALL BE 5/8" DIAMETER FOR THE 1-1/2" METER, AND 3/4" DIAMETER FOR THE 2" METER.
9. PROVIDE A 6" CIRCULAR VALVE BOX WITH COVER (APPLIED ENGINEERING PRODUCT MODEL 708 WITH GREEN LID OR AN APPROVED EQUAL) COVER BY-PASS VALVE.
10. ALL WATER SERVICE LINES SHALL BE INSTALLED PERPENDICULAR (90 DEGREES) TO THE POINT OF CONNECTION TO THE WATER MAIN.

| CITY OF PUYALLUP PUBLIC WORKS AND DEVELOPMENT ENGINEERING | APPROVED FOR PUBLICATION — DATE MAILED: 11/6/23 | 1-1/2" AND 2" WATER SERVICE CONNECTION (NOT TO SCALE) | CITY STANDARD 03.03.02 |
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FILE NAME: P:\BMD\CDMMENTS\TOS\CITYSTDS\03.03.02-1-1/2" AND 2" WATER SERVICE CONNECTION.DWG




NOTES

1. SERVICE LINE MAY BE 200 PSI POLY PIPE IN UNCONTAMINATED SOILS. IN SOILS THAT MAY CONTAIN HYDROCARBONS USE 1" "K" COPPER PIPE
2. PIPE TO BE BEDDED WITH MATERIAL FREE OF ROCKS.
3. POLY PIPE SHOULD BE PLACED IN THE TRENCH IN A SNAKELIKE FASHION (NOT STRAIGHT WITHOUT SLACK). THIS WILL ACCOMMODATE GROUND MOVEMENT AND KEEP PRESSURE OFF THE FITTINGS.
4. PLASTIC WATER SERVICE PIPING MAY TERMINATE WITHIN A BUILDING, PROVIDED THE CONNECTION TO THE POTABLE WATER DISTRIBUTION SYSTEM SHALL BE ACCESSIBLE. SEE THE CURRENT UNIFORM PLUMBING CODE FOR MORE INFORMATION.
5. THE MAIN SHUT-OFF VALVE, PRESSURE REDUCING VALVE, AND STRAINER SHALL BE LOCATED INSIDE THE BUILDING IN AN ACCESSIBLE LOCATION. THEY SHOULD BE LOCATED BEFORE ANY BRANCH CONNECTIONS, AND PROTECTED FROM FREEZING. THE MAIN SHUT-OFF VALVE SHALL BE BRASS.
6. ALL PROPERTIES WITH WATER SERVICE CONNECTIONS LOCATED SOUTH OF 151ST AVE SE AND SOUTH OF 151ST AVE SW SHALL HAVE AN APPROVED PRIVATELY OWNED AND PRIVATELY MAINTAINED PRESSURE REDUCING VALVE (PRV) LOCATED ON THEIR WATER SERVICE LINE.
7. ALL PROPERTIES WITH IRRIGATION BRANCH CONNECTIONS LOCATED SOUTH OF 151ST AVE SE AND SOUTH OF 151ST AVE SW SHOULD HAVE AN APPROVED PRIVATELY OWNED AND PRIVATELY MAINTAINED PRESSURE REDUCING VALVE (PRV) LOCATED ON THEIR IRRIGATION BRANCH LINE.
8. ALL INSTALLATIONS WITHIN TWO (2) FEET OF THE BUILDING SHALL COMPLY WITH THE CURRENT UNIFORM PLUMBING CODE.

| CITY OF PUYALLUP PUBLIC WORKS AND DEVELOPMENT ENGINEERING | APPROVED FOR PUBLICATION — DATE MAILED: 11/6/23 | PRIVATE WATER SERVICE LINES (NOT TO SCALE) | CITY STANDARD 03.03.04 |
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FILE NAME: P:\BMD\CDMMENTS\TOS\CITYSTDS\03.03.04-PRIVATE WATER SERVICE LINES.DWG

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 City Water (TCW) 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 TCW 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 TCW 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 21.4-1964.

WATER NOTES CONTINUED ON W-6

| APPROVED | APPROVED |
|---|---|
| BY: FRUITLAND MUTUAL WATER | BY: CITY OF PUYALLUP DEVELOPMENT SERVICES |
| DATE: | 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. | **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. |

ROBERT A. TRIVITT — STATE OF WASHINGTON — 22415 — REGISTERED PROFESSIONAL ENGINEER — 4/24/2025

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/8/24 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City & Rush review. | 4/21/25 |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

JOB NO. 3227.2024
DESIGNED BY: Rob Trivitt
DRAWN BY: Rob Trivitt
CHECKED BY: Paul Green
APPROVED BY: Paul Green

Water Details
*Bradley Heights*

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

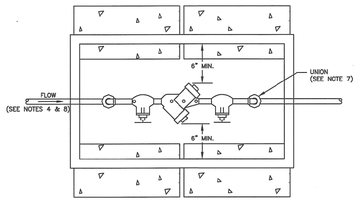
AZURE GREEN CONSULTANTS
civil engineering • surveying
planning • feasibility
409 East Pioneer, Suite A - Puyallup, WA 98372 phone: 253.770.3144 fax: 253.770.3142

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

Project Desc.: Bradley Heights Path: F:\Jobs\3227 - Bradley Heights\Trees\bradley heights 20250424 ENG.pro Plot Date/Time: 4/24/2025/8:42:29PM

# Bradley Heights

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




NOTES:

1. 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.
2. THE DCVA 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.
3. DCVA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO THE ASSEMBLY ARE ALLOWED.
4. DCVA SHALL BE PLACED IMMEDIATELY DOWNSTROM OF WATER METER. WHEN IRRIGATION SYSTEM IS CONNECTED OFF DOMESTIC WATER LINE, IRRIGATION DCVA SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF THE BRANCH CONNECTION.
5. DCVA SHALL BE SIZED EQUAL OR COMPARABLE TO METER SIZE.
6. 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.
7. DIELECTRIC UNIONS MUST BE USED TO SEPARATE DISSIMILAR MATERIALS.
8. USE ONLY BRASS OR COPPER BETWEEN THE METER AND THE UNION ON THE CUSTOMER'S SIDE OF THE DCVA.

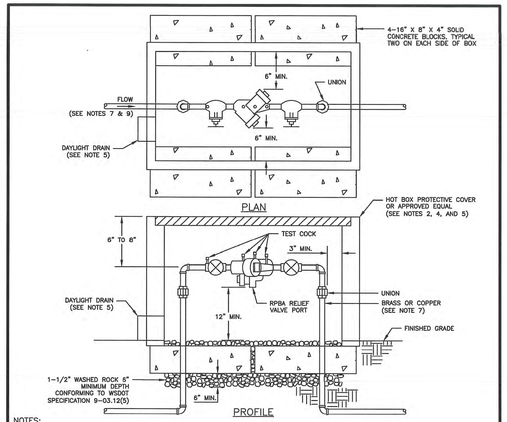
CITY OF PUYALLUP, OFFICE of THE CITY ENGINEER

APPROVED FOR PUBLICATION — DATE SEALED: 2/5/2019

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

(NOT TO SCALE) — CITY STANDARD 03.04.01

FILE NAME: F:\DRAWINGS\CROSS-CONNECTION\STANDARDS\03040-PART 1- STANDARD DETAILS\CC-03.04.01.dgn




NOTES:

1. 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.
2. THE RPBA SHALL BE INSTALLED WITH ADEQUATE SPACE TO FACILITATE MAINTENANCE AND TESTING. IT SHALL BE TESTED AFTER INSTALLATION, BY A WASHINGTON STATE CERTIFIED BACK-FLOW ASSEMBLY TESTER, TO INSURE ITS SATISFACTORY OPERATION BEFORE OCCUPANCY, AND ANNUALLY THEREAFTER. SEND TEST RESULTS TO: CITY OF PUYALLUP, WATER QUALITY OPERATIONS, 1100 39TH AVE SE, PUYALLUP, WA 98374.
3. THE RPBA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO THE ASSEMBLY ARE ALLOWED.
4. THE RPBA SHALL NOT BE INSTALLED IN A PIT BELOW GROUND LEVEL.
5. THE PROTECTIVE COVERING FOR THE RPBA, WHICH PROTECTS THE ASSEMBLY FROM FREEZING, MUST INCLUDE A DAYLIGHT DRAIN. THE DRAIN MUST BE INSTALLED ABOVE GROUND OR ABOVE THE MAXIMUM FLOOD LEVEL, WHICHEVER IS HIGHER. THE DRAIN MUST BE A MINIMUM OF TWICE THE SIZE OF THE RPBA, TO BE ABLE TO HANDLE THE VOLUME OF WATER THAT POTENTIALLY COULD BE DISCHARGED FROM THE RELIEF VALVE PORT.
6. THE RPBA SHALL BE SIZED EQUAL OR COMPARABLE TO THE METER SIZE.
7. USE ONLY BRASS OR COPPER BETWEEN THE METER AND THE BOTTOM VERTICAL 90 DEGREE BEND ON THE CUSTOMER'S SIDE OF THE RPBA.
8. DIELECTRIC UNIONS MUST BE USED TO SEPARATE DISSIMILAR MATERIALS.
9. THE RPBA SHOULD BE LOCATED IMMEDIATELY DOWN STREAM OF THE METER, AND SHOULD NOT BE INSTALLED INSIDE A BUILDING.
10. AN RPBA INSTALLED MORE THAN FIVE (5) FEET ABOVE FLOOR LEVEL MUST HAVE A PLATFORM UNDER IT FOR THE TESTER OR MAINTENANCE PERSON TO STAND ON. THE PLATFORM MUST BE OSHA APPROVED AND MEET ALL APPLICABLE SAFETY STANDARDS AND CODES.

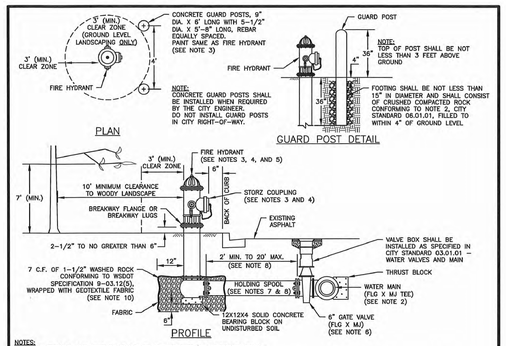
CITY OF PUYALLUP, OFFICE of THE CITY ENGINEER

APPROVED FOR PUBLICATION — DATE SEALED: 2/5/2019

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

(NOT TO SCALE) — CITY STANDARD 03.04.02

FILE NAME: F:\DRAWINGS\CROSS-CONNECTION\STANDARDS\03040-PART 1- STANDARD DETAILS\CC-03.04.02.dgn




NOTES:

1. ALL MATERIALS AND FITTINGS SHALL BE AS SPECIFIED OR APPROVED EQUAL.
2. 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.
3. THE FIRE HYDRANT AND CONCRETE GUARD POSTS SHALL BE PAINTED, RUST-OLEUM SAFETY YELLOW #7543 (TWO COATS) OR AN APPROVED EQUAL. THE STORZ FITTING SHALL NOT BE PAINTED.
4. FIRE HYDRANTS SHALL HAVE TWO 2-1/2" HOSE PORTS (NATIONAL STANDARD THREAD) WITH CAPS AND CHAINS AND ONE 4" PUMPER PORT (#8 TACOMA STEAMER PORT THREAD) WITH A 5" "STORZ" COUPLING AND BLIND CAP INSTALLED ON THE STEAMER PORT, (STEAMER PORT SHALL FACE THE STREET), 1-1/4" PENTAGONAL OPERATING NUT (COUNTER-CLOCKWISE OPENING), O-RING TYPE STUFFING BOX, AUTOMATIC BARREL DRAINS AND 5-1/4" 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 AWWA SPECIFICATIONS NO. C 502-73 FOR DRY, TYPE HYDRANTS FOR ORDINARY WATER SERVICE. FIRE HYDRANTS SHALL INCLUDE THE ENTIRE ASSEMBLY COMPLETE, INCLUDING HYDRANT, GATE VALVE AND BOX, CONNECTING PIPING, FITTINGS, AND ACCESSORIES.
5. FIRE HYDRANTS SHALL BE AVK, CLOW MEDALLION, M & H 1205, MUELLER CENTURION, OR WATEROUS.
6. GATE VALVES SHALL CONFORM TO THE LATEST AWWA SPECIFICATIONS FOR COLD WATER, RESILIENT SEATED WEDGE GATE VALVES, 200 PSI WORKING PRESSURE. THEY SHALL BE IRON-BODIED BRONZE-MOUNTED, NON-RISING STEM, COUNTER-CLOCKWISE OPENING, MECHANICAL JOINT BY FLANGED. VALVE STEMS SHALL BE PROVIDED WITH O-RING SEALS AND SHALL BE AS MANUFACTURED BY THE MUELLER COMPANY OR APPROVED EQUAL.
7. 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.
8. IF DISTANCE 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 HYDRAULIC FIRE FLOW MODEL. ANY HYDRANT RUN EXCEEDING 50 FEET IN LENGTH SHALL BE NO LESS THAN 8-INCHES IN DIAMETER.
9. FIRE HYDRANTS SHALL BE LOCATED A MINIMUM OF 50 FEET FROM A BUILDING OR STRUCTURE.
10. THE CONTRACTOR SHALL PLACE A 6 OZ. GEOTEXTILE FABRIC AROUND THE WASHED ROCK AREA, ENDS TO OVERLAP.
11. A FLUORESCENT ORANGE BAG MUST COVER AND BE SECURED TO THE FIRE HYDRANT UNTIL APPROVED FOR USE BY CITY ENGINEER.
12. A MINIMUM THREE FOOT (3') RADIUS UNOBSTRUCTED 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, OVERREACHING BRANCHES OF TREES ADJACENT TO HYDRANTS SHALL HAVE A MAINTAINED VERTICAL CLEARANCE OF SEVEN (7') FEET ABOVE FINISHED GRADE OF THE FIRE HYDRANT.

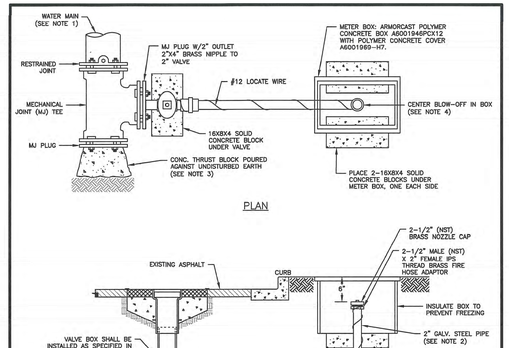
CITY OF PUYALLUP, OFFICE of THE CITY ENGINEER

APPROVED FOR PUBLICATION — DATE SEALED: 11/17/2020

**FIRE HYDRANT ASSEMBLY**

(NOT TO SCALE) — CITY STANDARD 03.05.01

FILE NAME: F:\DRAWINGS\CROSS-CONNECTION\STANDARDS\03050-PART 1- STANDARD DETAILS\CC-03.05.01.dgn




NOTES:

1. 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.
2. OVERALL LENGTH OF RISER IS 6" SHORTER THAN NORMAL DEPTH OF BURY.
3. THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE. WRAP IN PLASTIC BEFORE POURING CONCRETE BLOCKING.
4. 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 HARD SURFACES.

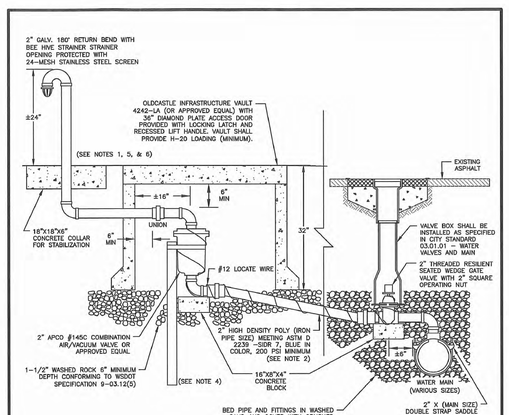
CITY OF PUYALLUP, OFFICE of THE CITY ENGINEER

APPROVED FOR PUBLICATION — DATE SEALED: 2/5/2019

**2" BLOW-OFF ASSEMBLY**

(NOT TO SCALE) — CITY STANDARD 03.06.01

FILE NAME: F:\DRAWINGS\CROSS-CONNECTION\STANDARDS\03060-PART 1- STANDARD DETAILS\CC-03.06.01.dgn




NOTES:

1. 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 TAPE OR EQUAL TO 1" ABOVE GROUND LEVEL.
2. 2" HIGH DENSITY POLY PIPE SHALL MAINTAIN A MINIMUM ONE-DEGREE RISE FROM THE WATER MAIN TO THE AIR/VACUUM VALVE.
3. AIR/VACUUM VALVE VAULT AND VENT RISER TO BE INSTALLED OUT OF THE STREET. EXACT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.
4. 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.
5. VENT RISER AND RETURN BEND SHALL BE PAINTED, RUST-OLEUM SAFETY YELLOW #7543 OR APPROVED EQUAL.
6. IF NEW PLAT, INCLUDE EASEMENT BEHIND SIDEWALK FOR VENT RISER. VENT RISER SHALL BE NO MORE THAN 2 FOOT BEHIND SIDEWALK.

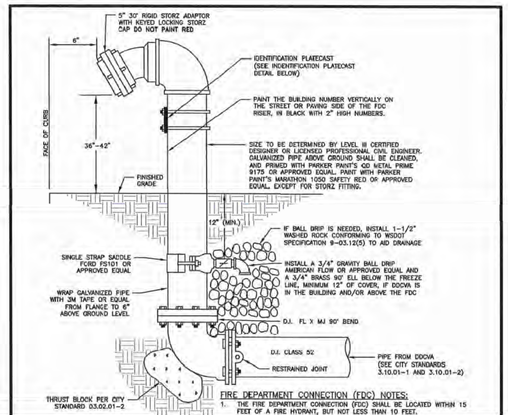
CITY OF PUYALLUP, OFFICE of THE CITY ENGINEER

APPROVED FOR PUBLICATION — DATE SEALED: 10/15/2019

**AIR/VACUUM VALVE**

(NOT TO SCALE) — CITY STANDARD 03.07.01

FILE NAME: F:\DRAWINGS\CROSS-CONNECTION\STANDARDS\03070-PART 1- STANDARD DETAILS\CC-03.07.01.dgn



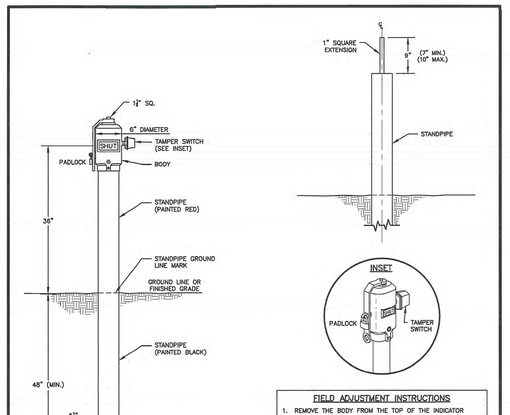

CITY OF PUYALLUP, PUBLIC WORKS AND DEVELOPMENT ENGINEERING

APPROVED FOR PUBLICATION — DATE SEALED: 5/6/23

**FIRE DEPARTMENT CONNECTION (FDC)**

(NOT TO SCALE) — CITY STANDARD 03.10.02

FILE NAME: F:\DRAWINGS\CROSS-CONNECTION\STANDARDS\03100-PART 2- STANDARD DETAILS\CC-03.10.02.dgn




FIELD ADJUSTMENT INSTRUCTIONS

1. REMOVE THE BODY FROM THE TOP OF THE INDICATOR POST ASSEMBLY.
2. CUT THE REQUIRED LENGTH OFF THE BOTTOM OF THE STANDPIPE FOR THE GROUND LINE TO MATCH UP WITH STANDPIPE GROUND LINE MARK.
3. CUT THE 1" SQ. EXTENSION AT A DISTANCE OF 9" ABOVE THE TOP OF THE STANDPIPE.
4. SET THE "OPEN" AND "SHUT" TARGETS FOR THE APPROPRIATE VALVE SIZE.
5. RE-ATTACH THE BODY TO THE TOP OF THE INDICATOR POST ASSEMBLY.
6. ALL POST INDICATOR VALVES SHALL BE INSTALLED WITH AN ELECTRONIC UL LISTED TAMPER SWITCH.
7. THERE SHALL BE 36" OF UNOBSTRUCTED CLEARANCE AROUND THE PERIMETER OF ALL POST INDICATOR VALVES.
8. POST INDICATOR VALVE SHALL BE LOCATED AT A MINIMUM 5-ft FROM BUILDING.

CITY OF PUYALLUP, OFFICE of THE CITY ENGINEER

APPROVED FOR PUBLICATION — DATE SEALED: 2/5/2019

**POST INDICATOR VALVE**

(NOT TO SCALE) — CITY STANDARD 03.10.03

FILE NAME: F:\DRAWINGS\CROSS-CONNECTION\STANDARDS\03100-PART 2- STANDARD DETAILS\CC-03.10.03.dgn

WATER NOTES CONTINUED FROM SHEET W-5

11. 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 or approved equal. A two-piece epoxy coated or 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.
12. 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.
13. 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.
14. Valve marker posts shall be installed where valve boxes are hidden from view or in unpaved areas. The installation shall be in accordance with City Standard Detail 03.01.02.
15. 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.
16. Pipe fitting for water mains shall be ductile iron and shall be mechanical joint conforming to AWWA Specification C111-72.
17. Water main pipe and service connections shall be a minimum of 10 feet away from building foundations and/or roof lines.
18. 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.
19. Trenching, bedding, and backfill for water mains shall be installed in accordance with City Standard Detail 06.01.01.
20. 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.
21. Any lead joint fitting disturbed during construction shall be replaced with a mechanical joint fitting at the contractor's expense.
22. 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.
23. 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.
24. When using a fire hydrant for non-firefighting purposes, a city hydrant meter must be used. Coordinate the acquisition of the hydrant meter with the City's Utility Billing Division at Puyallup City Hall. A city approved backflow protection assembly shall be installed by the person requesting use of a fire hydrant. The assembly shall be accompanied by a current backflow assembly test report. The test report shall be available at the site for the duration of the hydrant use.

| APPROVED | APPROVED |
|---|---|
| BY: FRUITLAND MUTUAL WATER | BY: CITY OF PUYALLUP DEVELOPMENT SERVICES |
| DATE: | 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. | **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. |

4/24/2025 — ROBERT A. TRIVITT — 22015 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

| REVISION | DATE |
|---|---|
| 1 Revised per City review and Wall A adjustment. | 1/14/25 |
| 2 Revised per City review. | 3/4/25 |
| 3 Revised per City 6 Rush review. | 4/21/25 |
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| 7 | |
| 8 | |
| 9 | |
| 10 | |

JOB NO. 3267
DATE 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

Water Details

*Bradley Heights*

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

*DRAWING*

**W-6**

*SHEET* 60
*OF* 60

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