

Go East Landfill Closure  
Construction Quality Assurance Report

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**Appendix B**  
**Approved Plans and Specifications**  
PACE Engineers, Inc., Approved 5/16/2022

# GO EAST LANDFILL CLOSURE

## LAND DISTURBANCE ACTIVITY - LDA #1

### JUNE 9, 2021

**DEVELOPMENT DATA:**

**OWNER/APPLICANT:**

P&GE LLC  
11255 KIRKLAND WAY, SUITE 300  
KIRKLAND, WA 98033  
425.827.2014  
GARY@GARYEASTLAW.COM  
MARTYP@PACEENGRS.COM

**ENGINEER/CONTACT:**

PACE ENGINEERS, INC  
MARTY PENHALLEGON, P.E.  
11255 KIRKLAND WAY, SUITE 300  
KIRKLAND, WA 98033  
425.827.2014  
MARTYP@PACEENGRS.COM

**LANDSCAPE ARCHITECT:**

PACE ENGINEERS, INC  
V. BRIAN WAY, PLA  
11255 KIRKLAND WAY, SUITE 300  
KIRKLAND, WA 98033  
425.827.2014  
BRIANW@PACEENGRS.COM

**SENSITIVE AREAS CONSULTANT:**

WETLAND RESOURCES, INC  
SCOTT BRAINARD  
9505 19TH AVE SE  
EVERETT, WA 98208  
425.337.3174

**STRUCTURAL ENGINEER:**

TERRA ASSOCIATES, INC.  
CAROLYN S. DECKER, P.E.  
12220 113TH AVENUE NE, SUITE 130  
KIRKLAND, WASHINGTON 98034  
425.821.7777  
CDECKER@TERRA-ASSOCIATES.COM

**SITE INFORMATION:**

**ADDRESS:**

4330 108TH STREET SE  
EVERETT, WA 98208

**DATUM:**

HORIZONTAL DATUM: NAD83/91 PER W.S.D.O.T. CONTROL POINTS NO. GP31009-98, GP31005-88 AND GP31005-87 AND SNOHOMISH COUNTY CONTROL POINTS NO. 2805P09 AND 2805R11.

VERTICAL DATUM: NAVD 88 PER SNOHOMISH COUNTY AND W.S.D.O.T. CONTROL POINTS LISTED ABOVE.

**TAX PARCEL NUMBERS:**

2805210040-0200 ±1,781,717 SQUARE FEET (±40.9026 ACRES)

**ZONING:**

R-9,600

**RECORD LEGAL DESCRIPTION**

NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 21, TOWNSHIP 28 NORTH, RANGE 5 EAST, W.M., RECORDS OF SNOHOMISH COUNTY, WASHINGTON.

SITUATE IN THE COUNTY OF SNOHOMISH, STATE OF WASHINGTON.

**SURVEYOR:**

PACE ENGINEERS, INC  
DAVID R. FULTON, PLS  
11255 KIRKLAND WAY, SUITE 300  
KIRKLAND, WA 98033  
425.827.2014  
DAVIDR@PACEENGRS.COM

**GEOTECHNICAL:**

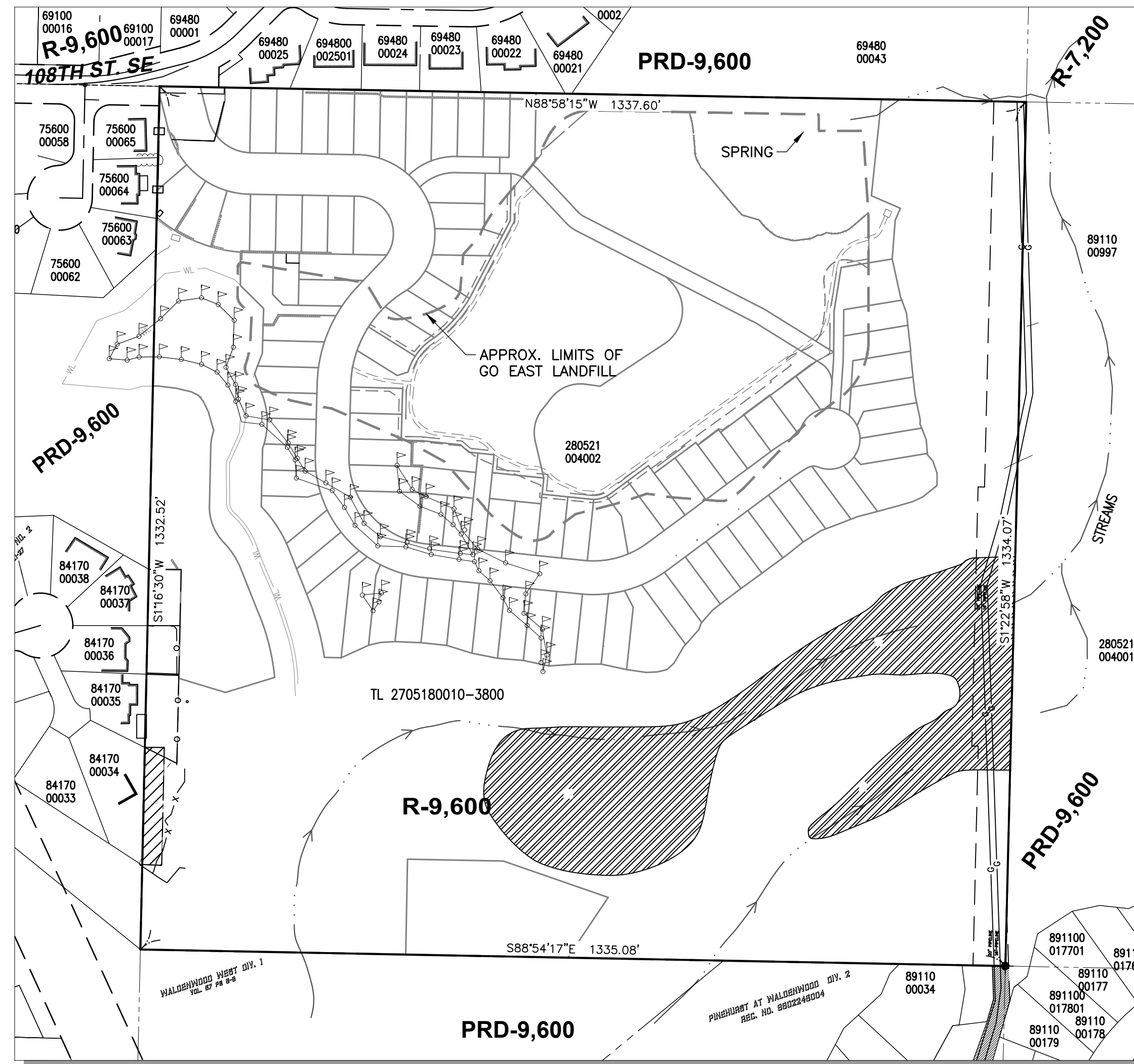
AESI  
JON SONDERGAARD  
911 5TH AVE, SUITE 100  
KIRKLAND, WA 98033  
425.827.7701

**TRAFFIC:**

GIBSON TRAFFIC CONSULTANTS, INC.  
MATT PALMER, P.E.  
2813 ROCKEFELLER AVE., SUITE B  
EVERETT, WA 98201  
425.339.8266  
MATTP@GIBSONTRAFFIC.COM

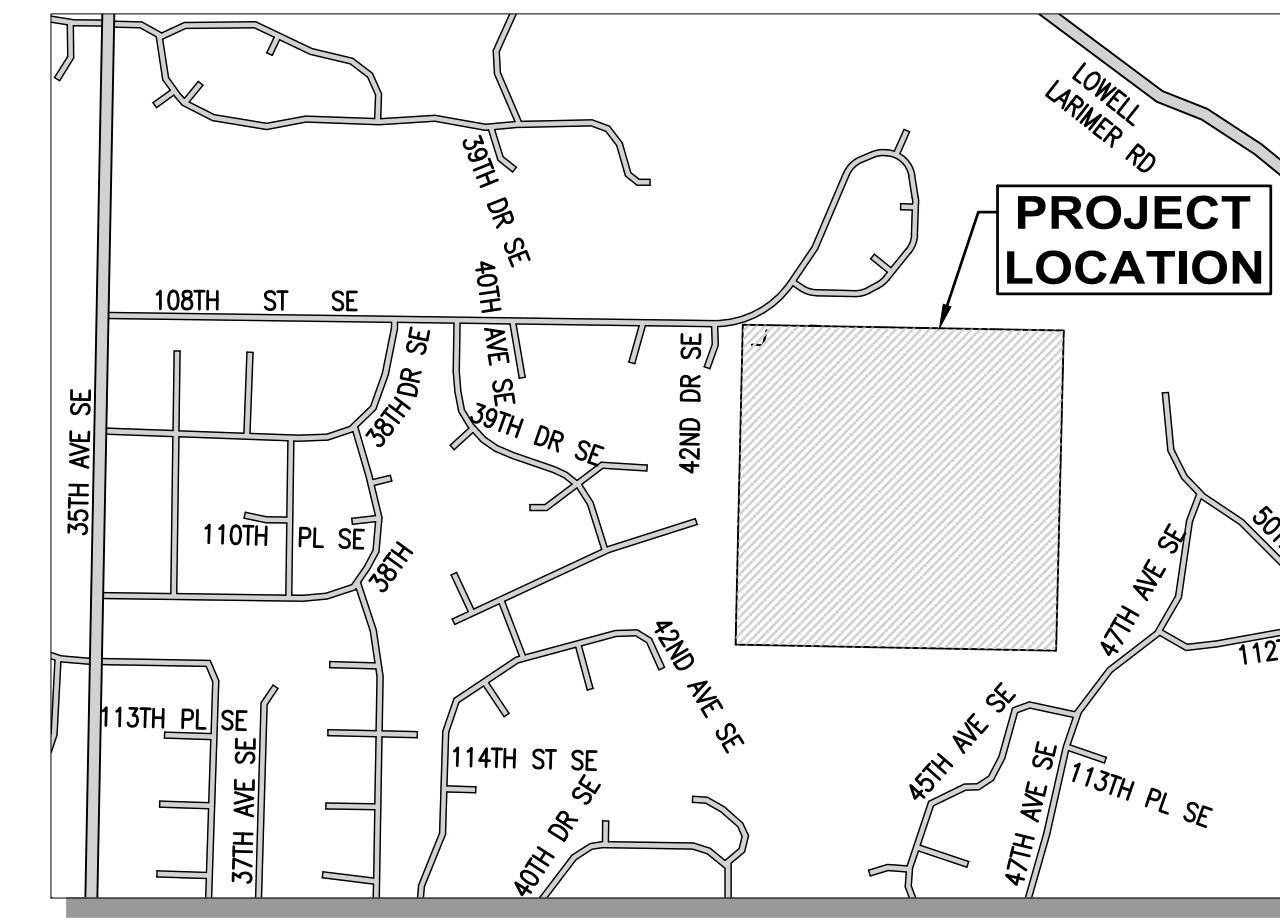
**CERTIFIED EROSION AND SEDIMENT CONTROL LEAD:**

PACE ENGINEERS, INC  
MICHAEL MARANAN, ECO-3-4241709  
11255 KIRKLAND WAY, SUITE 300  
KIRKLAND, WA 98033  
425.827.2014  
MICHAELM@PACEENGRS.COM



**SITE MAP**  
1"=150'

**NOTE:**  
PROPERTY OUTSIDE FEMA FLOOD PLAIN



**VICINITY MAP**  
1"=800'

**Sheet List Table**

Sheet Number	Sheet Title
<b>Closure Plans</b>	
1	COVER SHEET
2	EXISTING CONDITIONS
3	EXISTING CONDITIONS
4	GRADING & DRAINAGE PLAN
5	GRADING MATRIX PLAN & QUANTITIES
6	CROSS SECTIONS
7	DETAILS
7A	DETAILS
8	DETAILS
8A	DETAILS
9	NOTES
10	GENERAL NOTES
11	COMPOSITE UTILITY PLAN
12	STORM DRAIN PROFILES
13	POND DETAIL SHEET
14	STORM DETAILS AND SPECIFICATIONS
15	TEMPORARY EROSION & SEDIMENT CONTROL PLAN
16	TEMPORARY EROSION & SEDIMENT CONTROL DETAILS
17	TEMPORARY EROSION & SEDIMENT CONTROL DETAILS
18	STREAM PLAN & PROFILE
19	WALL GRADING PLAN
20	WALL GRADING PLAN
21	LANDSCAPE PLAN
22	LANDSCAPE DETAILS
23	MITIGATION PLAN (WRI, SHEET 1 OF 2)
24	MITIGATION PLAN (WRI, SHEET 2 OF 2)
25	WALL DETAILS (TERRA ASSOCIATES, INC.)

Minor Revision Approved June 23, 2021

CALL BEFORE YOU DIG 811  
UNDERGROUND SERVICE (USA)

**VERIFY SCALE**  
BAR IS ONE INCH ON ORIGINAL DRAWING.  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

**GRADING & IMPERVIOUS INFORMATION: PFN 20 118246LDA**

TOTAL CUT: 168,000± CY\*  
TOTAL FILL: 166,000± CY\*  
\*SEE SHEET 5 FOR GRADING SEQUENCE  
NEW IMPERVIOUS: 0 SF  
NEW PLUS REPLACED IMPERVIOUS: 0 SF  
TOTAL PROPOSED IMPERVIOUS: 0 SF  
NOTE THAT THESE QUANTITIES ARE FOR PERMITTING PURPOSES ONLY. CONTRACTOR SHALL PERFORM HIS OWN TAKE-OFFS FOR PURPOSES OF BIDDING.

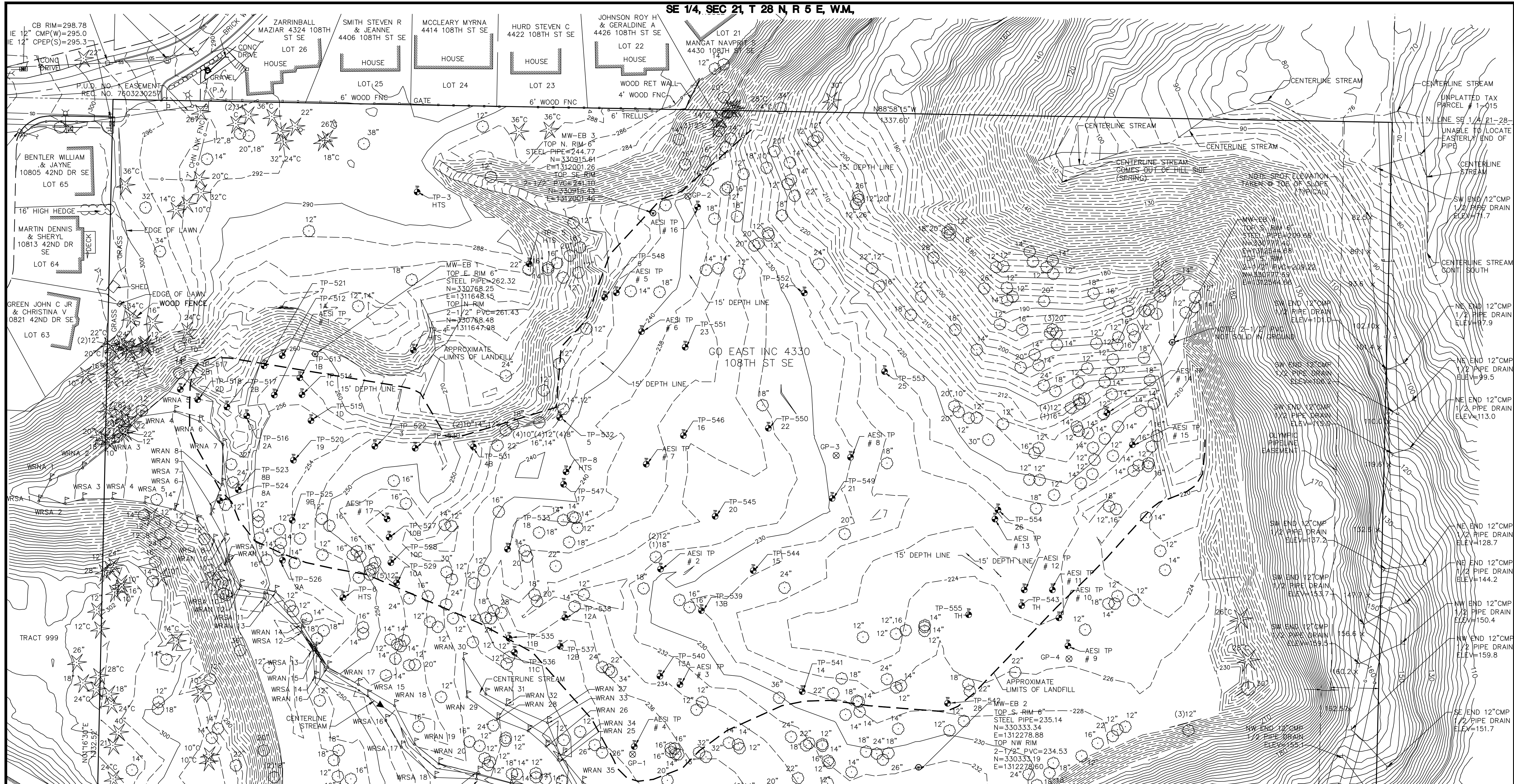
**Snohomish County Planning Development Services**  
APPROVED FOR CONSTRUCTION  
By: *[Signature]* P.i.  
R/W Permit No. 20 108693 D8  
Date: 6/23/2021

**APPROVED:**  
Planning and Development Services  
06/23/2021  
By: Joshua Machen, AICP Senior Planner

DATE	
REVISION	
SYM	
<p>11255 Kirkland Way, Suite 300 Kirkland, WA 98033 p. 425.827.2014 f. 425.827.9043 Civil   Structural   Planning   Survey paceengrs.com</p>	
<p>6/1/2021</p>	
GO EAST LANDFILL CLOSURE	COVER SHEET
SCALE:	DATE:
AS NOTED	6/9/2021
DESIGNED BY:	CHECKED BY:
MP	MP
JOB NUMBER	
P09382.00	
DWG NAME:	
P09382_CVR	
SHEET 1	OF 25

FILE NAME: P:\P09382\_00\_GO\_EAST\CAD\FIGURES\SHEETS\LANDFILL\_CLOSURE\2018\P09382\_CVR.DWG  
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 PLOT TIME: 6/9/2021 10:55:55 AM  
 XREF FILES: PACE.XXD

SE 1/4, SEC 21, T 28 N, R 5 E, W.M.

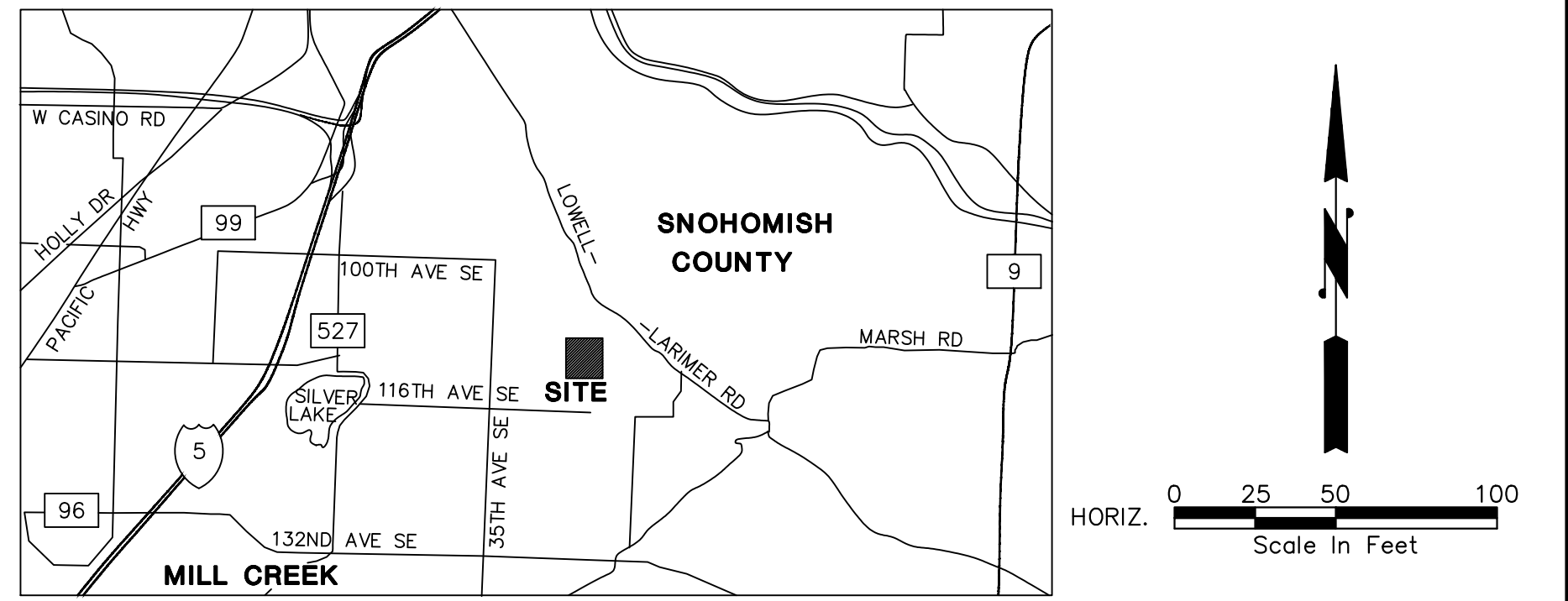


MATCHLINE, SEE SHEET 3

LEGEND	
⊕	WATER VALVE
⊕	HYDRANT
⊕	WATER METER
⊕	MANHOLES (SS/SD)
⊕	CB
⊕	POWER/UTILITY POLE
⊕	GUY ANCHOR
⊕	POWER TRANSFORMER
⊕	POWER/TELEPHONE VAULT
⊕	POWER METER
⊕	TELEPHONE/TV RISER
⊕	GAS VALVE
⊕	GAS METER
⊕	STREET LIGHT
⊕	SPOT ELEVATION
⊕	SIGN
⊕	ROCKERY
⊕	FOUND CASED MONUMENT
⊕	TEST PIT SYMBOL
⊕	AESI TP
⊕	AESI EXPLORATION PITS
⊕	MCNAUGHTONS EXPLORATION PITS
⊕	CONIFEROUS TREE
⊕	ALL DECIDUOUS TREES ARE MOSTLY ALDER, MAPLE
⊕	12\"/>
⊕	NOTE: ALL TREE DIAMETERS MEASURED AT STANDARD HEIGHT
⊕	WRAN ♂
⊕	WETLAND FLAG AND DESIGNATION
⊕	MONITORING WELL
⊕	GP-2 ⊕
⊕	GAS PROBE SYMBOL
---	CENTER LINES
---	PROPERTY LINES
---	RIGHT-OF-WAY LINES
---	LOT LINES
---	WATER LINE
---	SEWERY LINE
---	STORM DRAIN LINE
---	GAS LINE
---	UNDERGROUND POWER LINES
---	UNDERGROUND TELEPHONE LINES
---	UNDERGROUND CABLE TV LINES
---	OVERHEAD POWER LINES
---	OVERHEAD UTILITY LINES
---	CHAIN LINK FENCE
---	WIRE FENCE
---	WOOD FENCE

**SURVEY NOTES:**  
 HORIZONTAL DATUM: NAD83/91 PER W.S.D.O.T. CONTROL POINTS NO. GP31009-98, GP31005-88 AND GP31005-87 AND SNOHOMISH COUNTY CONTROL POINTS NO. 2805P09 AND 2805R11.  
 BASIS OF BEARINGS: HELD BEARING OF N88°55'17\"/>

**RECORD LEGAL DESCRIPTION:**  
 NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 21, TOWNSHIP 28 NORTH, RANGE 5 EAST, W.M., RECORDS OF SNOHOMISH COUNTY, WASHINGTON.  
 SITUATE IN THE COUNTY OF SNOHOMISH, STATE OF WASHINGTON.  
 NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 21, TOWNSHIP 28 NORTH, RANGE 5 EAST, W.M., RECORDS OF SNOHOMISH COUNTY, WASHINGTON.  
 SITUATE IN THE COUNTY OF SNOHOMISH, STATE OF WASHINGTON.  
 SITE AREA: ±1,781,717 SQUARE FEET (±40.9026 ACRES)  
 ALL DISTANCES SHOWN ARE GROUND DISTANCES UNLESS OTHERWISE NOTED.  
 THE LOCATION AND DESCRIPTION OF ALL SURVEY MARKERS SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS TAKEN ON JUNE 2009 - JUNE, 2010, UNLESS OTHERWISE INDICATED.  
 PROPERTY DESCRIPTIONS AND EASEMENT INFORMATION IS PER CHICAGO TITLE INSURANCE COMPANY ORDER NO. 5242740 DATED MARCH 3, 2009.  
 WORK PERFORMED IN CONJUNCTION WITH THIS SURVEY UTILIZED THE FOLLOWING EQUIPMENT AND PROCEDURES: (A) 2\"/>



**VICINITY MAP:**  
 PFN 20 118246LDA  
 Snohomish County Planning Development Services  
 APPROVED FOR CONSTRUCTION  
 By: *[Signature]* P.i.  
 R/W Permit No. 20 108693 D8  
 Date: 6/23/2021

FILE NAME: P:\P09\09382.00 GO EAST\CAD\FIGURES\LANDFILL\_CLOSURE (2018)\P09382\_EC.DWG  
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 PLOT TIME: 6/9/2021 10:55:56 AM  
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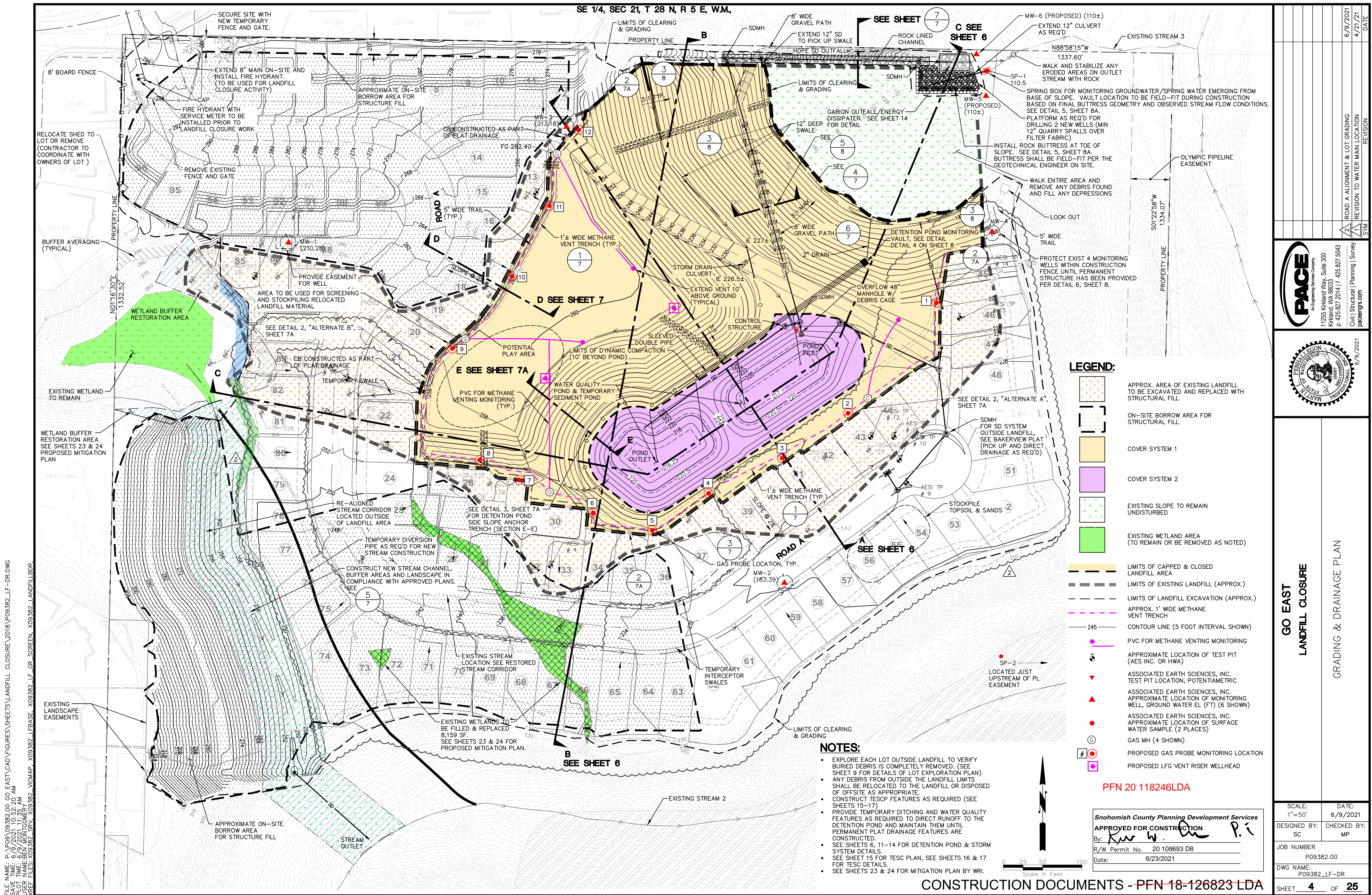
THIS TOPOGRAPHIC SURVEY DRAWING ACCURATELY PRESENTS SURFACE FEATURES LOCATED DURING THE COURSE OF THIS SURVEY. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED SOLELY UPON INFORMATION PROVIDED BY OTHERS AND PACE ENGINEERS, INC. DOES NOT ACCEPT RESPONSIBILITY OR ASSUME LIABILITY FOR THEIR ACCURACY OR COMPLETENESS. CONTRACTOR/ENGINEERS SHALL VERIFY EXACT SIZE AND LOCATION PRIOR TO CONSTRUCTION.  
 CALL FOR LOCATE: UTILITY LOCATION SERVICE: 1-800-425-5555.  
 NOTE: CONTOURS BY PACE GROUND SURVEY METHODS ARE DASHED, CONTOURS FROM PUGET SOUND LIDAR CONSORTIUM ARE CONTINUOUS.

PORTION OF NW QUARTER OF THE SE QUARTER OF SECTION 21, TOWNSHIP 28 NORTH, RANGE 5 EAST, W.M.,

CONSTRUCTION DOCUMENTS - PFN 18-126823 LDA

DATE	
REVISION	
SYM	
11255 Kirkland Way, Suite 300 Kirkland, WA 98033 p. 425.827.2014 / f. 425.827.9043 Civil   Structural   Planning   Survey paceeng.com	
GO EAST LANDFILL CLOSURE EXISTING CONDITIONS	
SCALE:	DATE:
1"=50'	6/9/2021
DESIGNED BY:	CHECKED BY:
SC	MP
JOB NUMBER	
P09382.00	
DWG NAME:	
P09382_EC	
SHEET	OF
2	25





FILE NAME: P:\POS\09382\_00\_GO EAST\CAD\FIGURES\LANDFILL\_CLOSURE (2018)\P09382\_LF-DR.DWG  
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- LEGEND:**
- APPROX. AREA OF EXISTING LANDFILL TO BE EXCAVATED AND REPLACED WITH STRUCTURAL FILL
  - ON-SITE BORROW AREA FOR STRUCTURAL FILL
  - COVER SYSTEM 1
  - COVER SYSTEM 2
  - EXISTING SLOPE TO REMAIN UNDISTURBED
  - EXISTING WETLAND AREA (TO REMAIN OR BE REMOVED AS NOTED)
  - LIMITS OF CAPPED & CLOSED LANDFILL AREA
  - LIMITS OF EXISTING LANDFILL (APPROX.)
  - LIMITS OF LANDFILL EXCAVATION (APPROX.)
  - APPROX. 1' WIDE METHANE VENT TRENCH
  - 245 CONTOUR LINE (5 FOOT INTERVAL SHOWN)
  - PVC FOR METHANE VENTING MONITORING
  - APPROXIMATE LOCATION OF TEST PIT (AES INC. OR HWA)
  - ASSOCIATED EARTH SCIENCES, INC. TEST PIT LOCATION, POTENTIOMETRIC
  - ASSOCIATED EARTH SCIENCES, INC. APPROXIMATE LOCATION OF MONITORING WELL, GROUND WATER EL. (FT) (6 SHOWN)
  - ASSOCIATED EARTH SCIENCES, INC. APPROXIMATE LOCATION OF SURFACE WATER SAMPLE (2 PLACES)
  - GAS MH (4 SHOWN)
  - PROPOSED GAS PROBE MONITORING LOCATION
  - PROPOSED LFG VENT RISER WELLHEAD

- NOTES:**
- EXPLORE EACH LOT OUTSIDE LANDFILL TO VERIFY BURIED DEBRIS IS COMPLETELY REMOVED. (SEE SHEET 9 FOR DETAILS OF LOT EXPLORATION PLAN)
  - ANY DEBRIS FROM OUTSIDE THE LANDFILL LIMITS SHALL BE RELOCATED TO THE LANDFILL OR DISPOSED OF OFFSITE AS APPROPRIATE
  - CONSTRUCT TESC FEATURES AS REQUIRED (SEE SHEETS 15-17)
  - PROVIDE TEMPORARY DITCHING AND WATER QUALITY FEATURES AS REQUIRED TO DIRECT RUNOFF TO THE DETENTION POND AND MAINTAIN THEM UNTIL PERMANENT PLAT DRAINAGE FEATURES ARE CONSTRUCTED.
  - SEE SHEETS 6, 11-14 FOR DETENTION POND & STORM SYSTEM DETAILS.
  - SEE SHEET 15 FOR TESC PLAN, SEE SHEETS 16 & 17 FOR TESC DETAILS.
  - SEE SHEETS 23 & 24 FOR MITIGATION PLAN BY WRL.

**PFN 20 118246LDA**

**Snohomish County Planning Development Services**  
 APPROVED FOR CONSTRUCTION  
 By: *R.W. [Signature]* P.i.  
 R/W Permit No. 20 108693 D8  
 Date: 6/23/2021

**PACE**  
 An Engineering Services Company  
 11255 Kirkland Way, Suite 300  
 Kirkland, WA 98033  
 P: 425.827.2014 | F: 425.827.9043  
 Civil | Structural | Planning | Survey |  
 paceengr.com



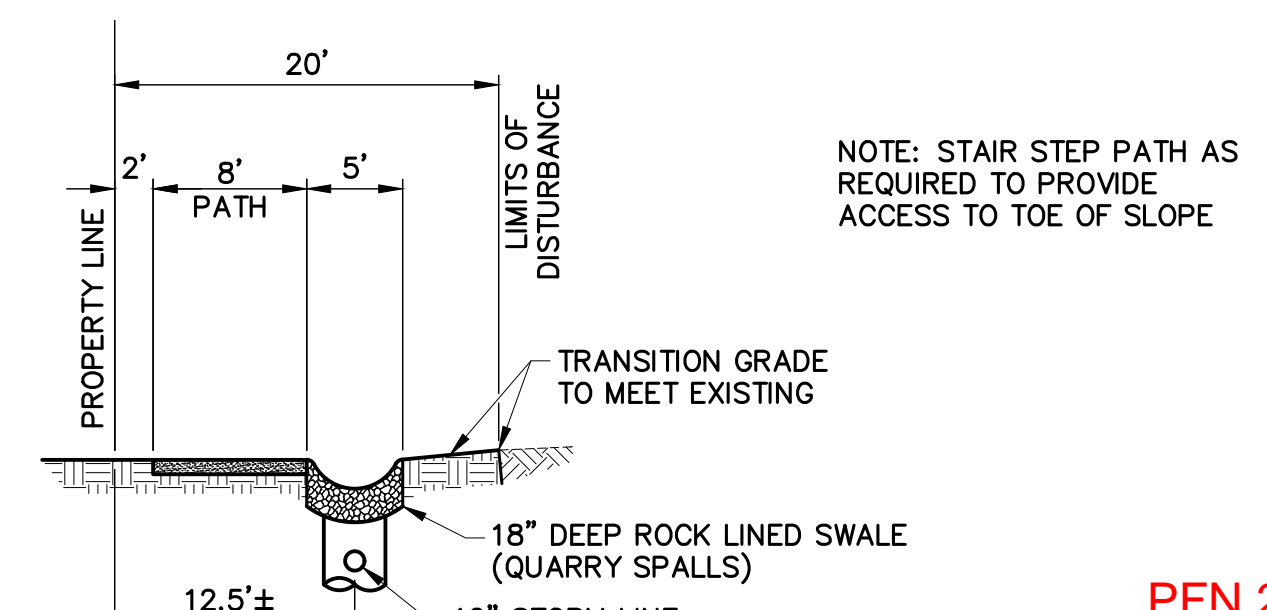
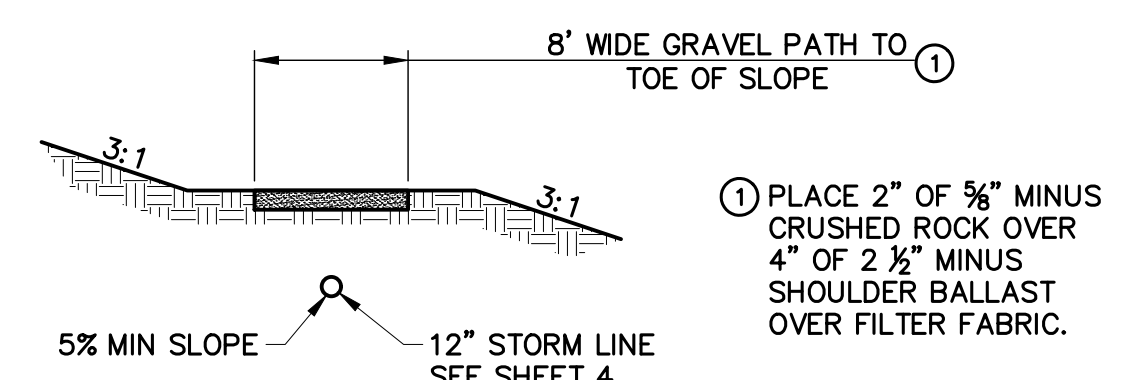
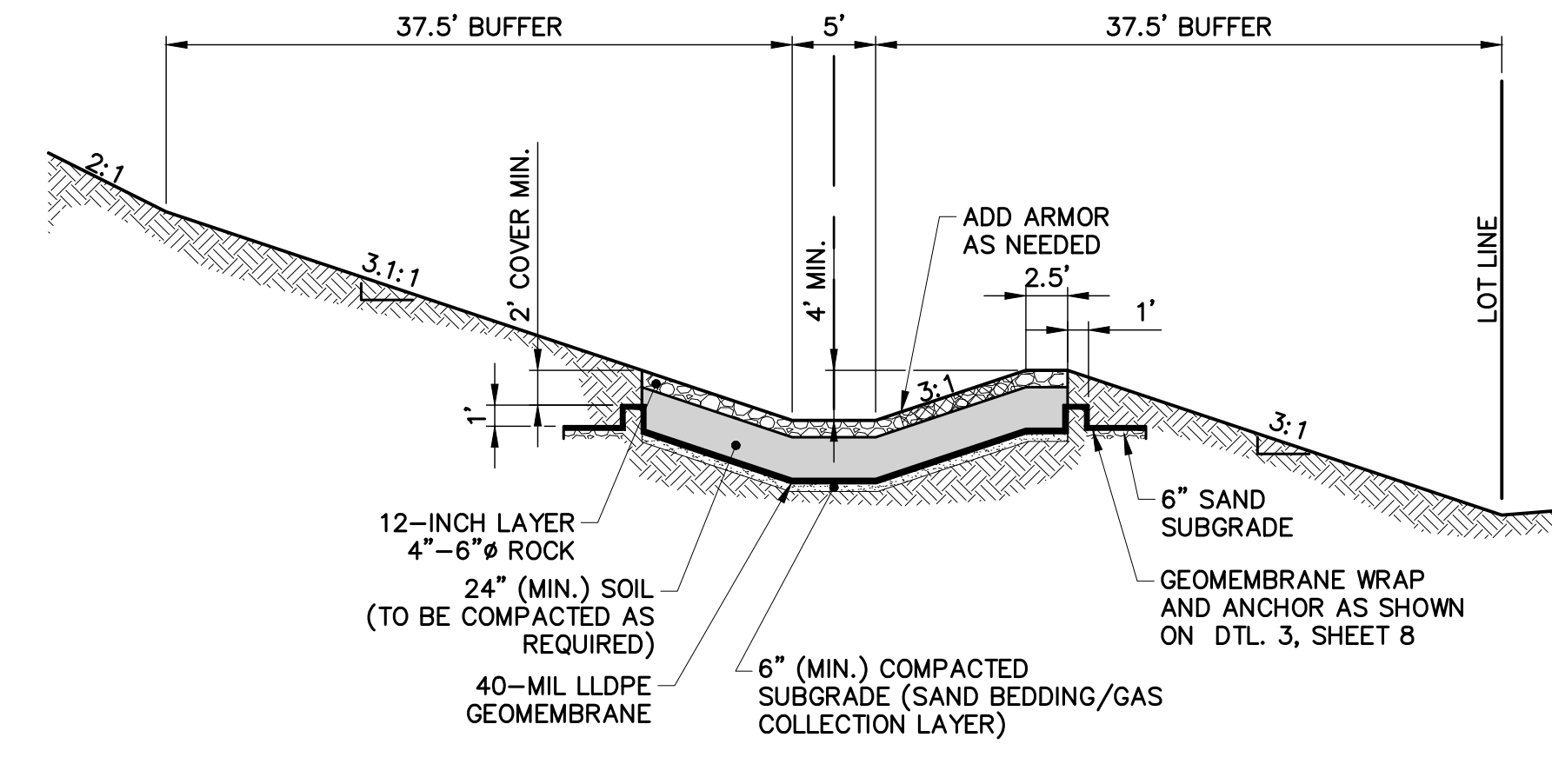
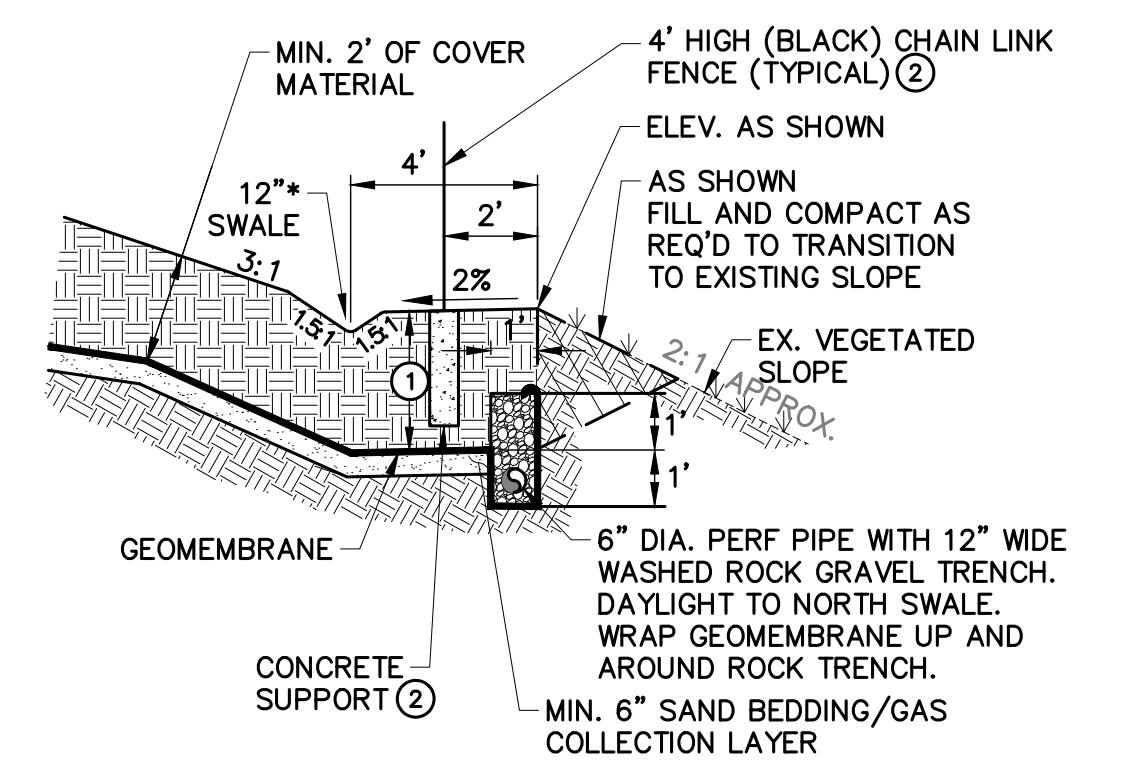
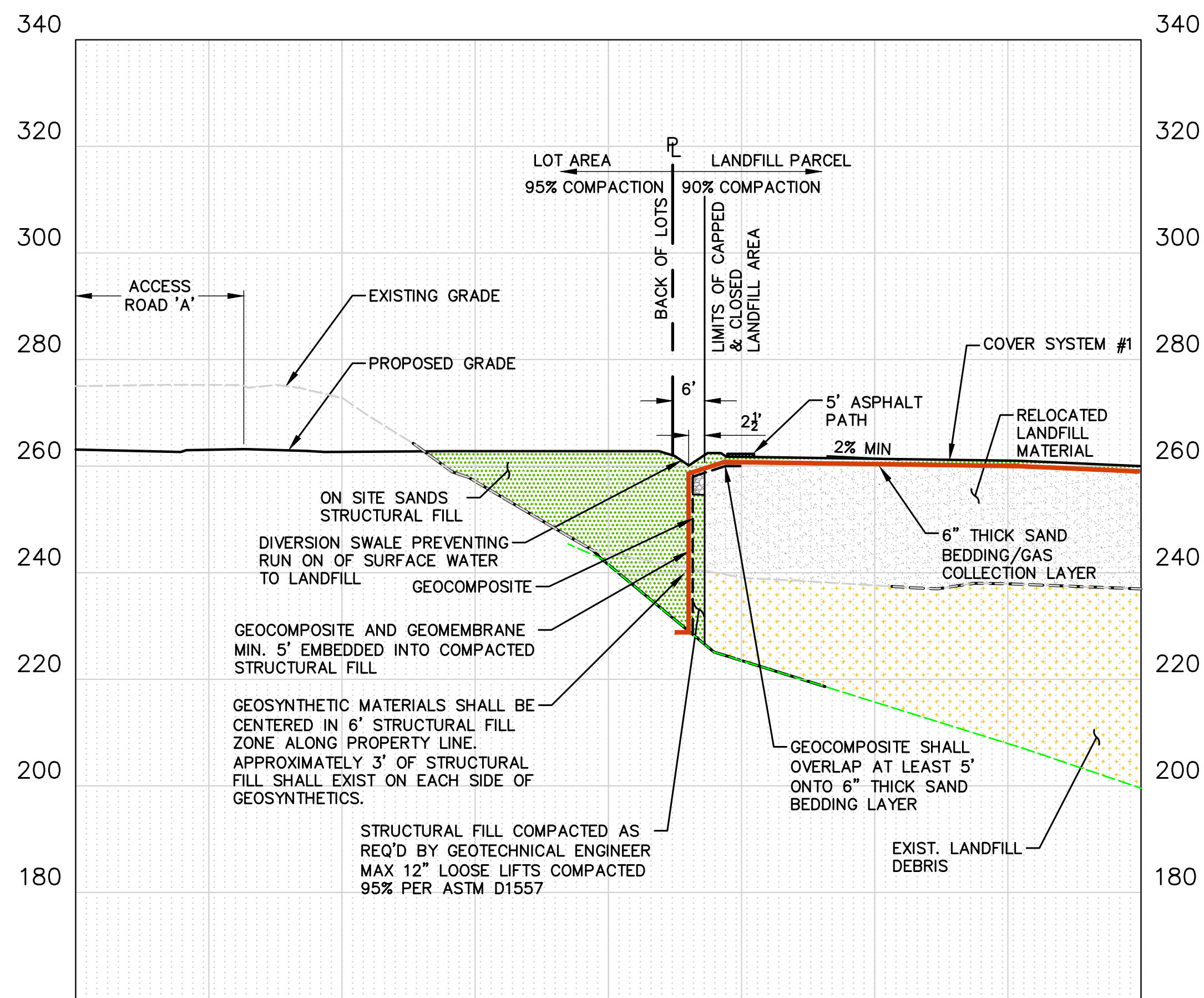
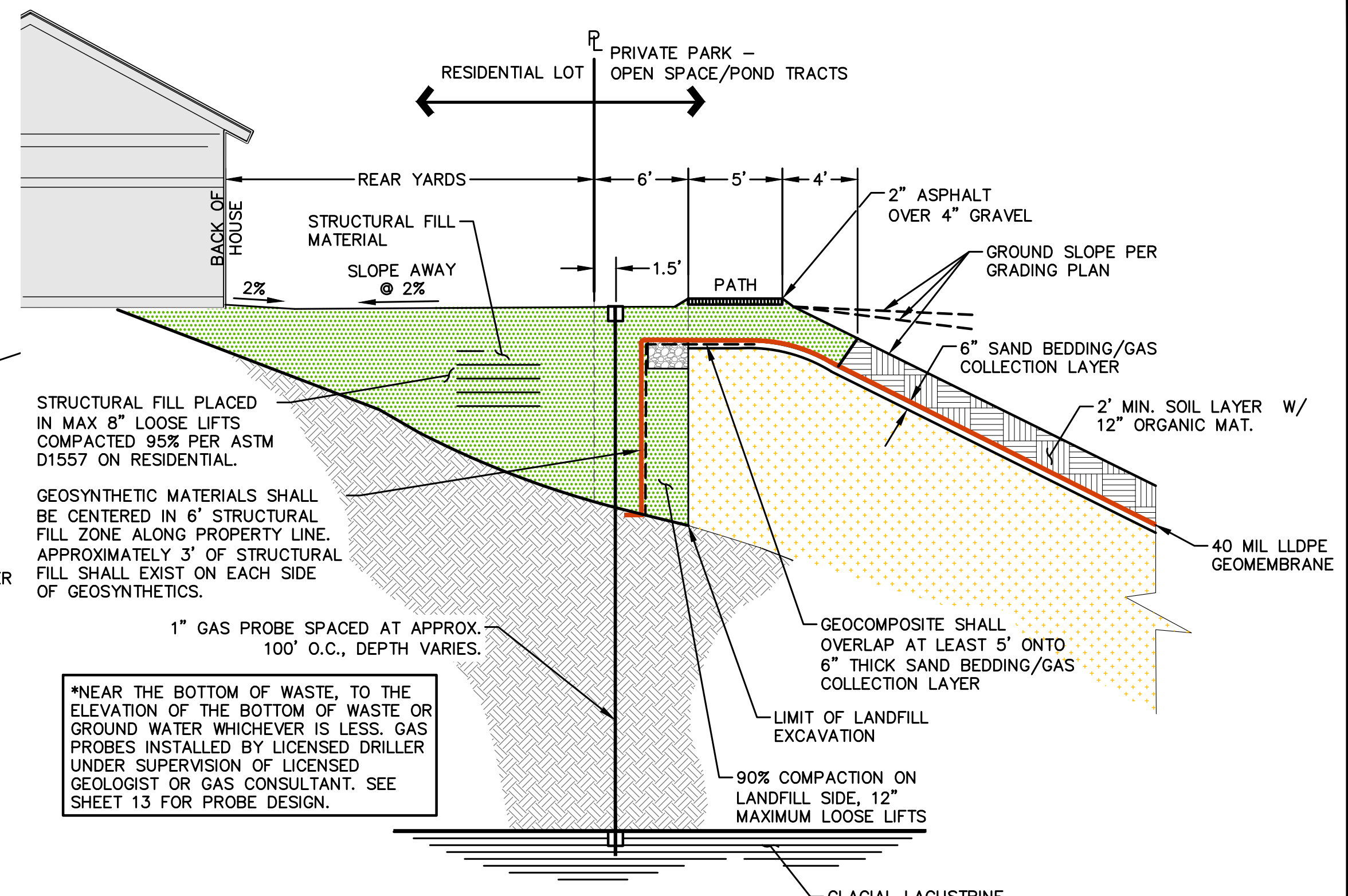
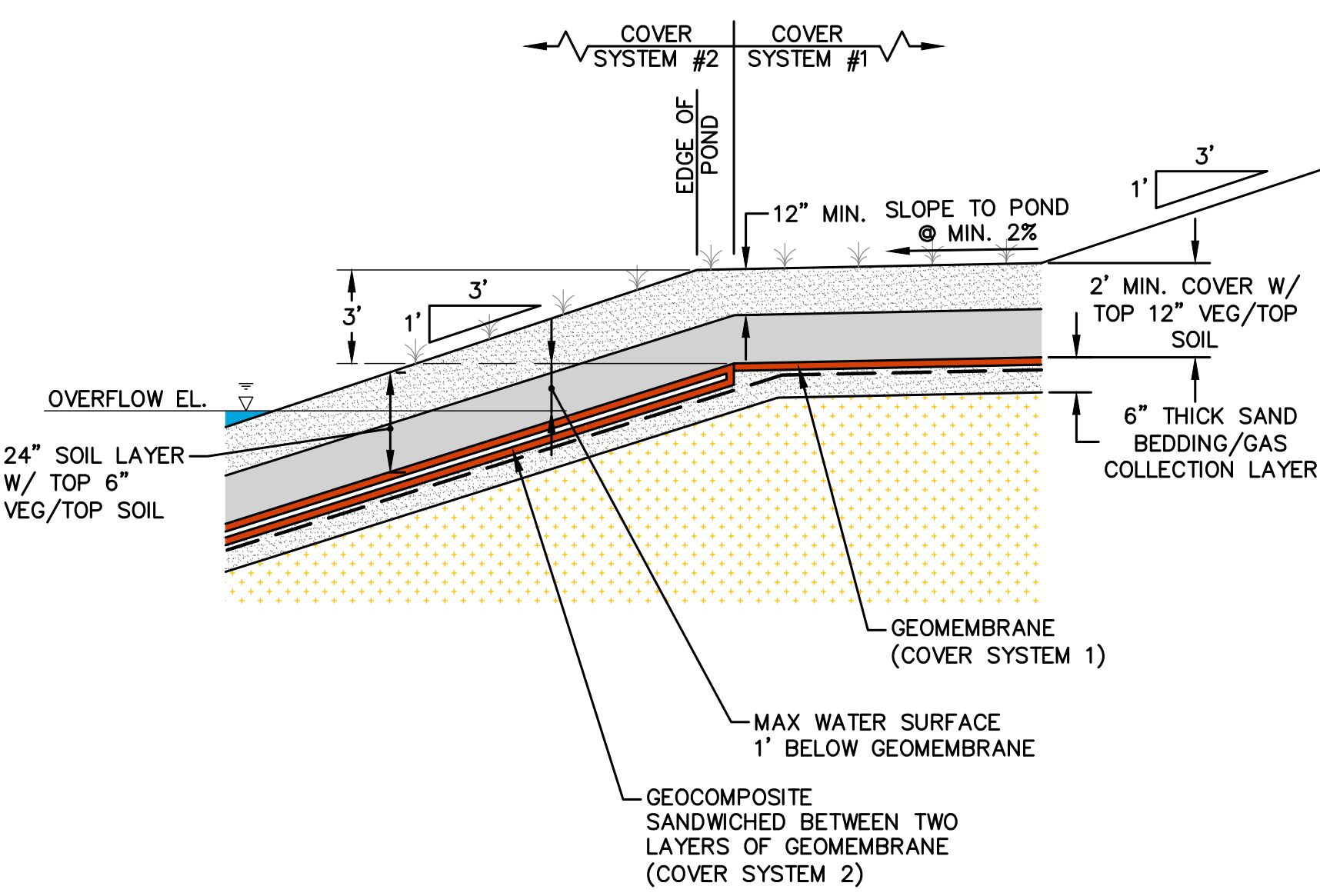
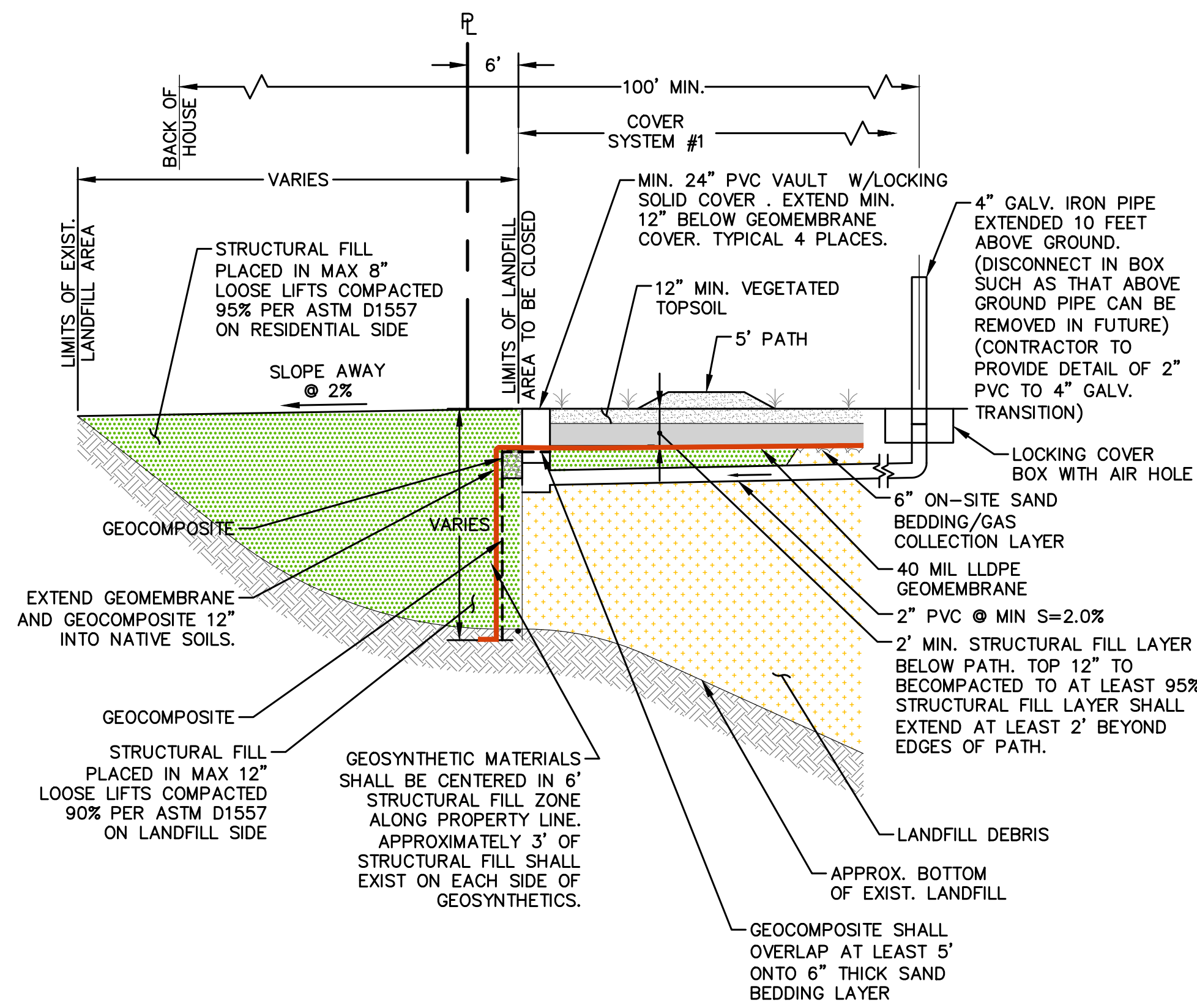
**GO EAST**  
**LANDFILL CLOSURE**  
**GRADING & DRAINAGE PLAN**

SCALE: 1"=50'	DATE: 6/9/2021
DESIGNED BY: SC	CHECKED BY: MP
JOB NUMBER P09382.00	
DWG NAME: P09382_LF-DR	
SHEET <b>4</b> OF <b>25</b>	

6/9/2021	DATE
4/21/21	REVISION
2	ROAD A ALIGNMENT & LOT GRADING
1	REVISION TO WATER MAIN LOCATION
SYN	







**PACE**  
An Engineering Services Company  
11255 Kirkland Way, Suite 300  
Kirkland, WA 98033  
p. 425.827.2014 | f. 425.827.9043  
Civil | Structural | Planning | Survey  
paceengr.com

6/9/2021

GO EAST  
LANDFILL CLOSURE  
DETAILS

PFN 20 118246LDA

Snohomish County Planning Development Services  
APPROVED FOR CONSTRUCTION

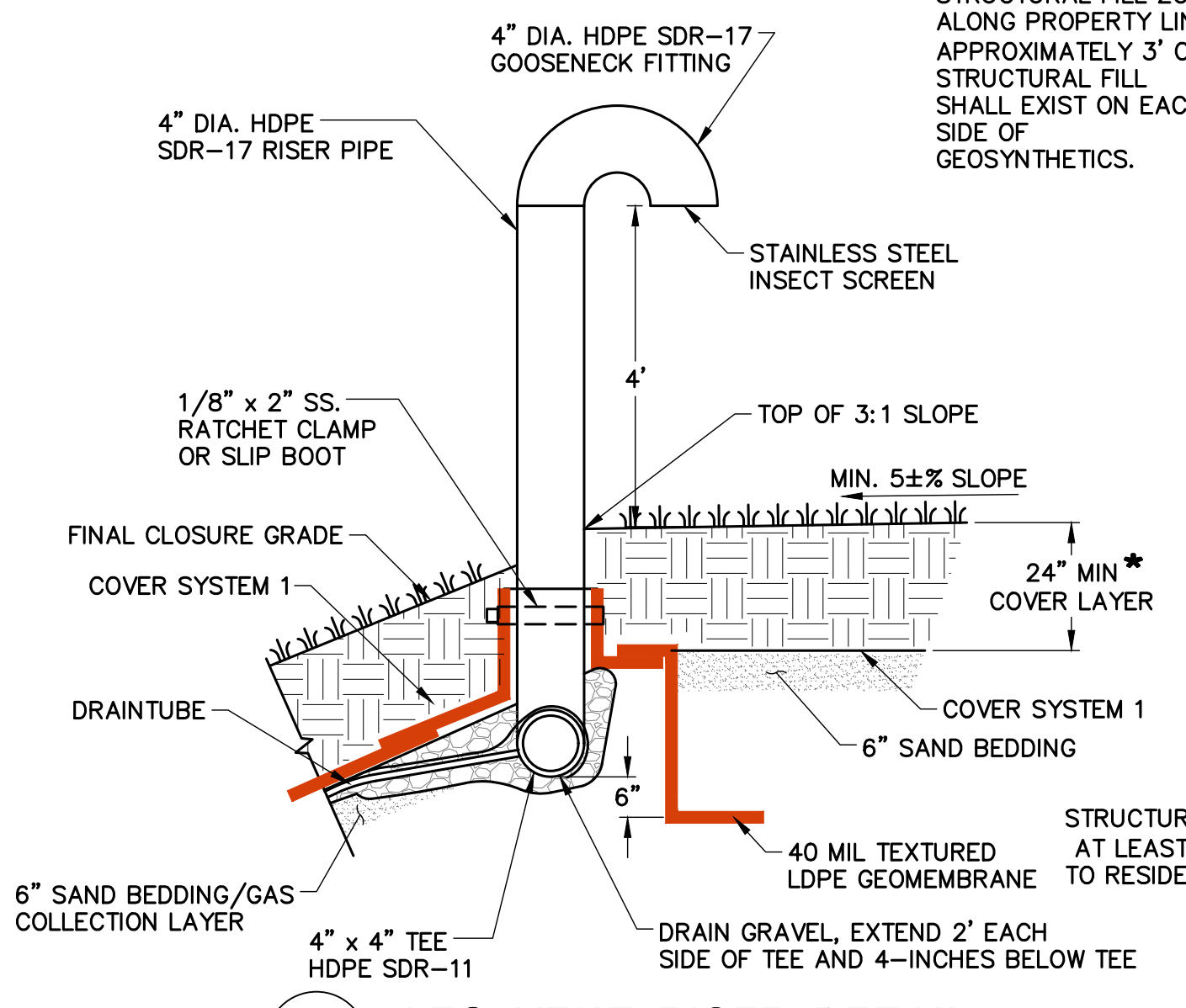
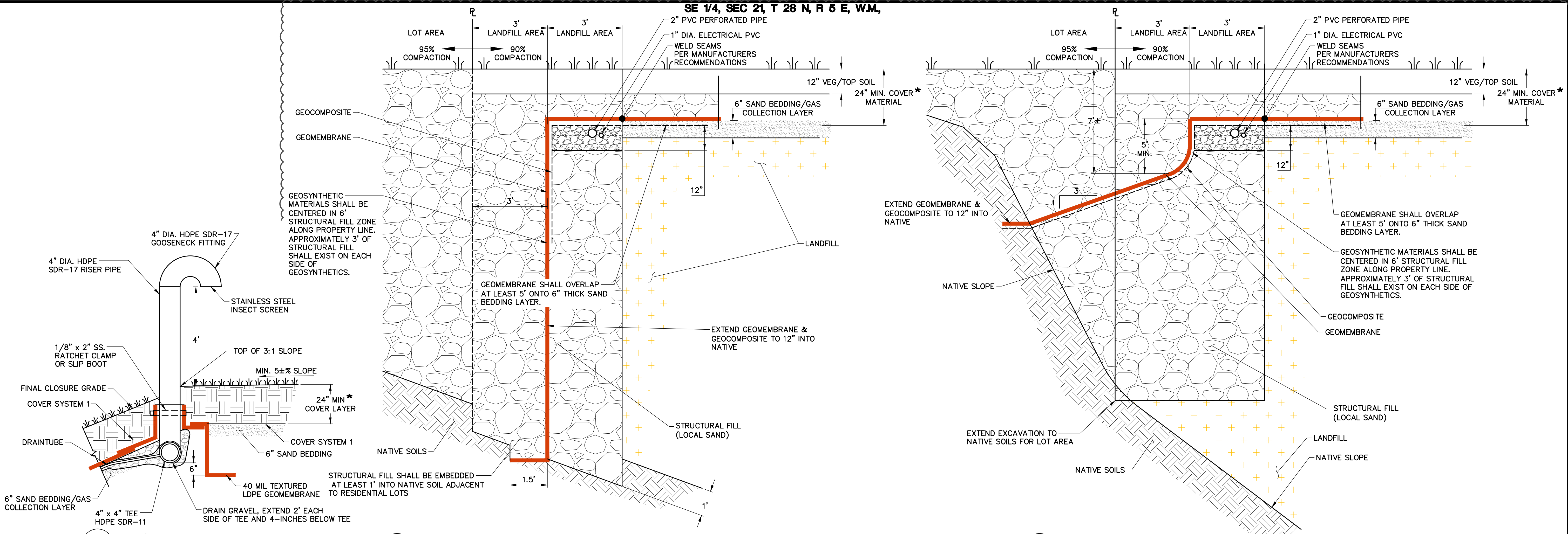
R/W Permit No. 20 108693 D8  
Date: 6/23/2021

SCALE: AS SHOWN	DATE: 6/9/2021
DESIGNED BY: MP	CHECKED BY: MP
JOB NUMBER: P09382.00	
DWG NAME: P09382_LF-XS	

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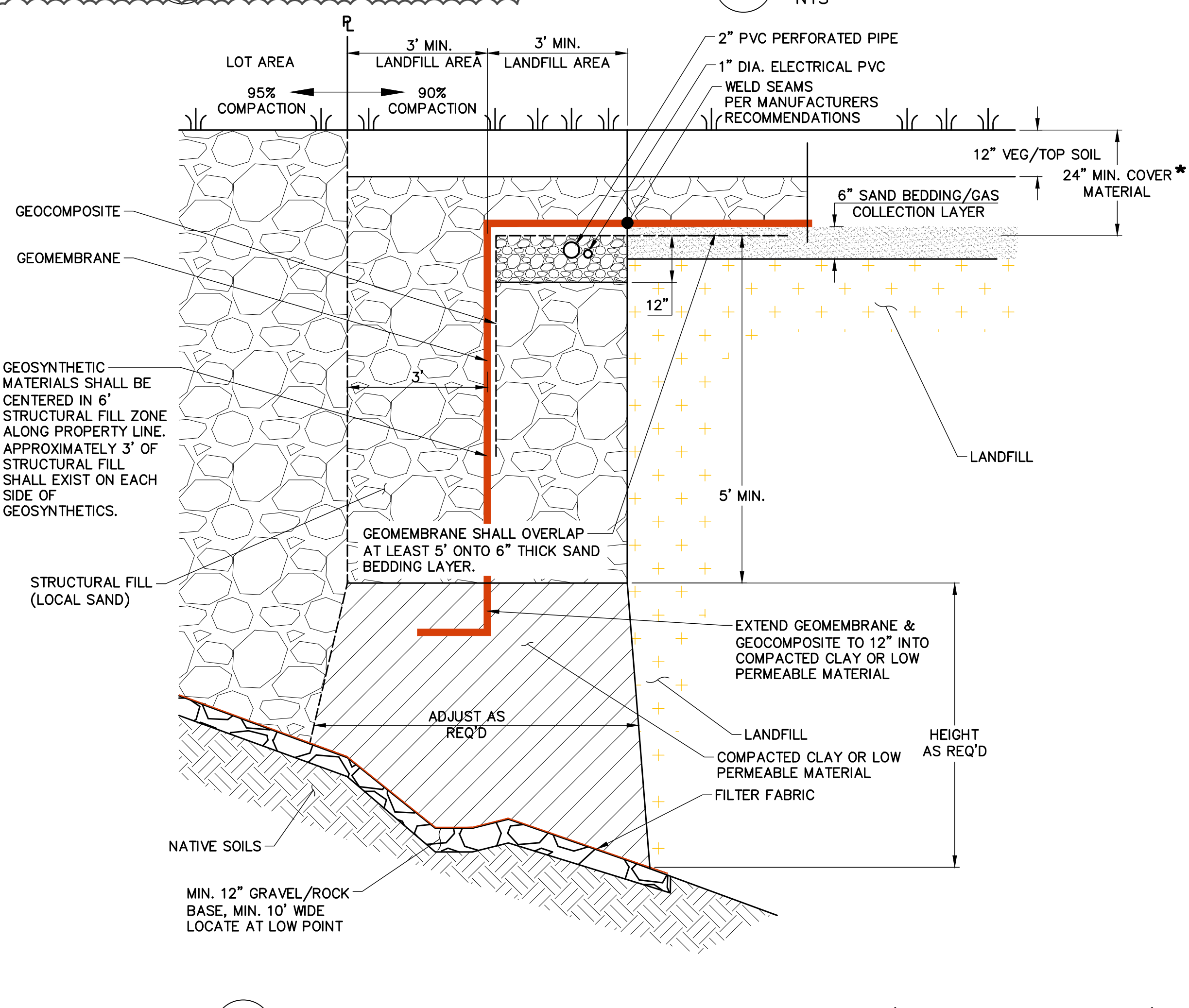
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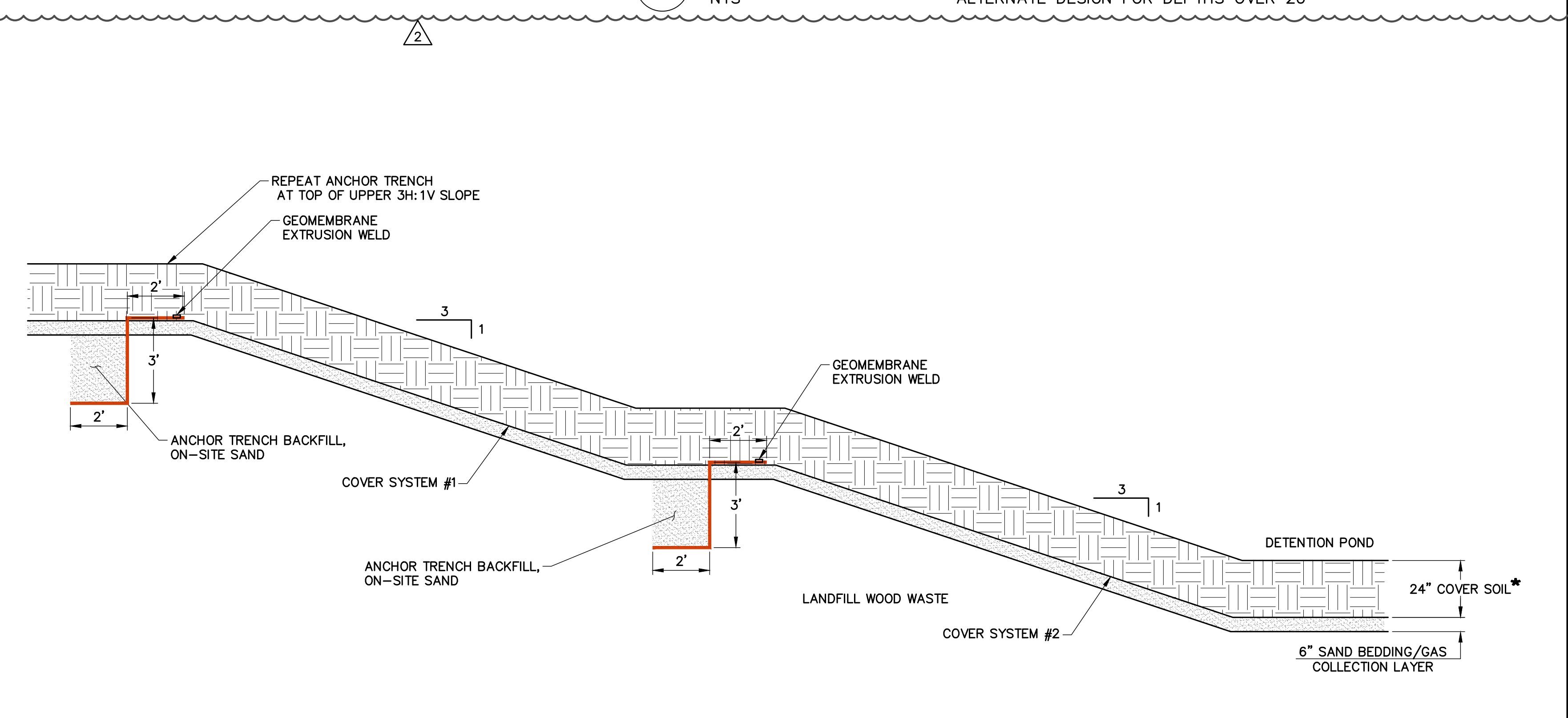
**1 LFG VENT RISER DETAIL**  
NTS

**2 LANDFILL COVER PERIMETER TIE-IN DETAIL (RESIDENTIAL LOTS)**  
NTS

**ALTERNATE A 2 LANDFILL COVER PERIMETER TIE-IN DETAIL (RESIDENTIAL LOTS)**  
NTS  
ALTERNATE DESIGN FOR DEPTHS OVER 20'



**ALTERNATE B 2 LANDFILL COVER PERIMETER TIE-IN DETAIL (RESIDENTIAL LOTS)**  
NTS  
ALTERNATE DESIGN FOR DEPTHS OVER 20'



**3 SECTION E-E (SHEET 4 OF 25) DETENTION POND SIDE SLOPE ANCHOR TRENCH DETAIL, TYP.**  
NTS

\* NOTE: 24" MIN. COVER MATERIAL TO CONSIST OF 12-INCHES OF ON-SITE SANDS UNDER 12-INCHES OF TOPSOIL.

**Snohomish County Planning Development Services**  
APPROVED FOR CONSTRUCTION  
By: *R. W. P.*  
R/W Permit No. 20 108693 D8  
Date: 6/23/2021

NO.	REVISION	DATE
1	ROAD A ALIGNMENT & LOT GRADING	6/9/2021
2		

**PACE**  
An Engineering Services Company  
11255 Kirkland Way, Suite 300  
Kirkland, WA 98033  
p. 425.827.2014 | f. 425.827.9043  
Civil | Structural | Planning | Survey  
paceengr.com



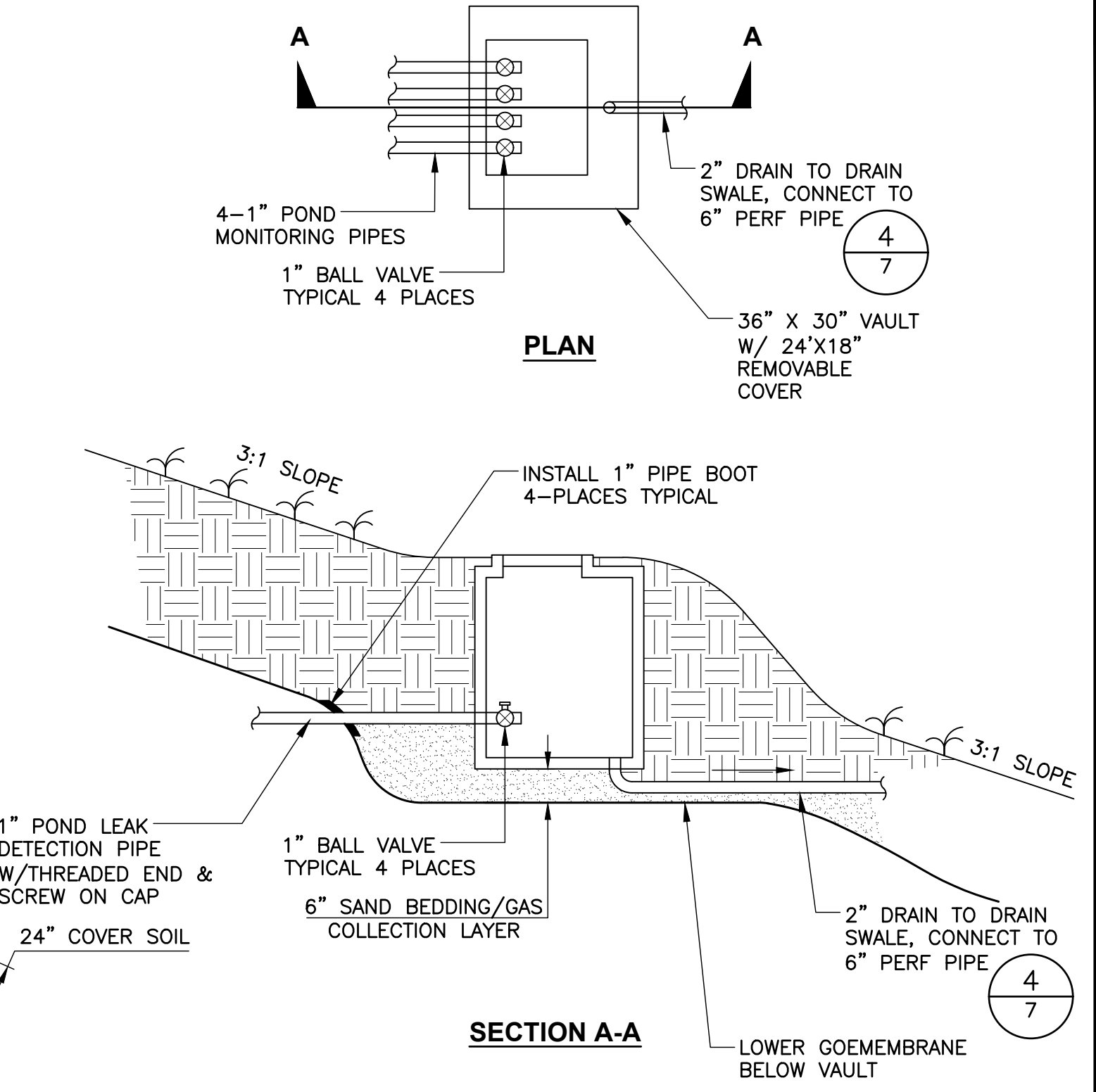
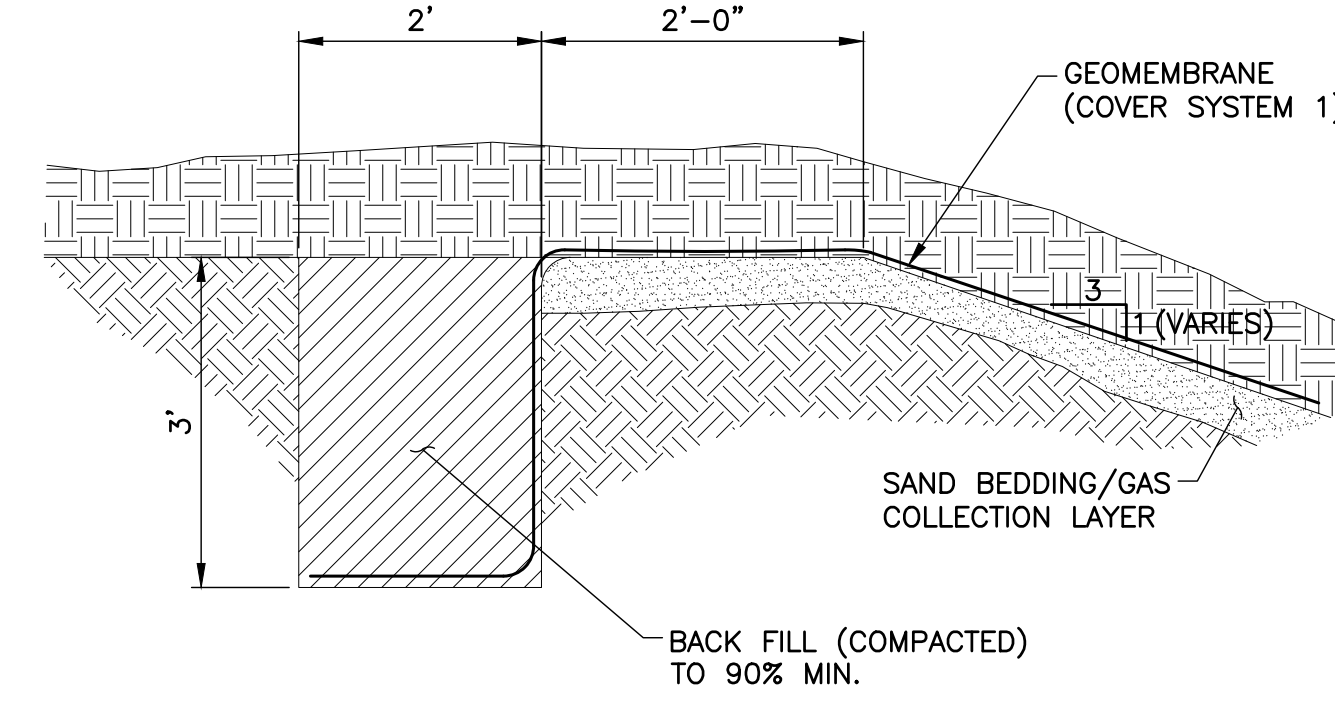
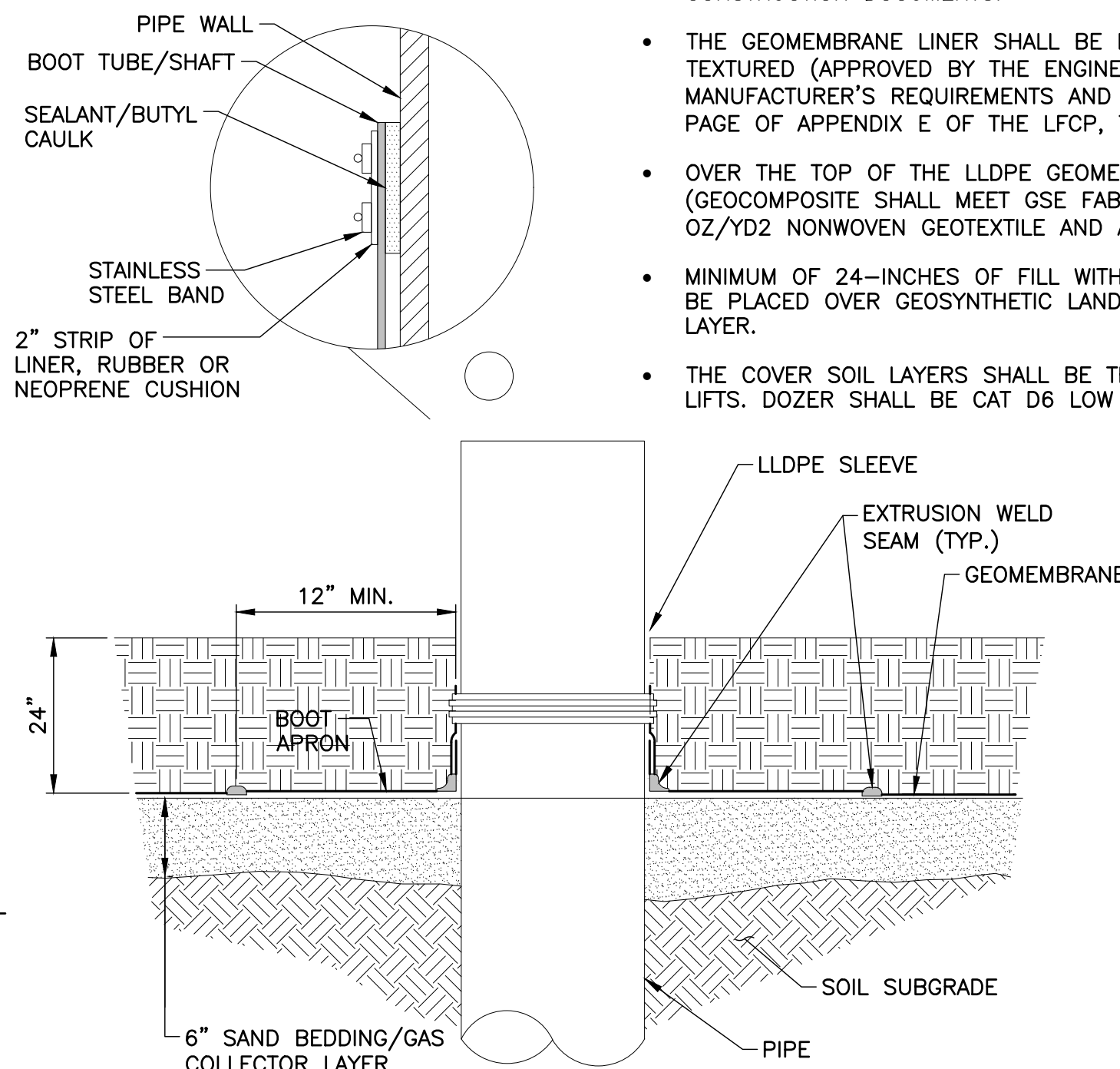
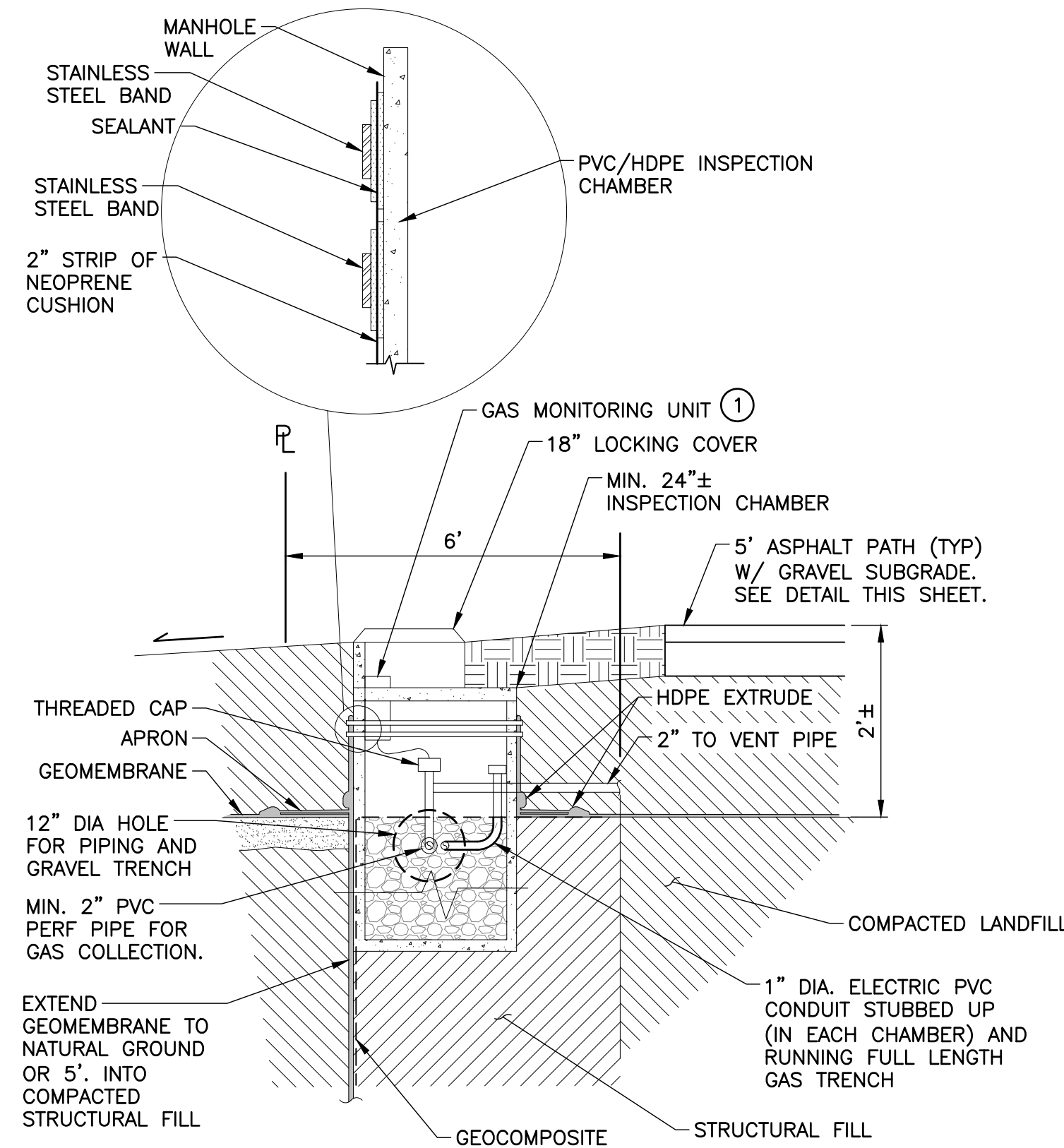
**GO EAST**  
**LANDFILL CLOSURE**  
**DETAILS**

SCALE:	DATE:
AS SHOWN	6/9/2021
DESIGNED BY:	CHECKED BY:
MP	MP
JOB NUMBER	
P09382.00	
DWG NAME:	
P09382_LF-XS	
SHEET <b>7A</b> OF <b>25</b>	

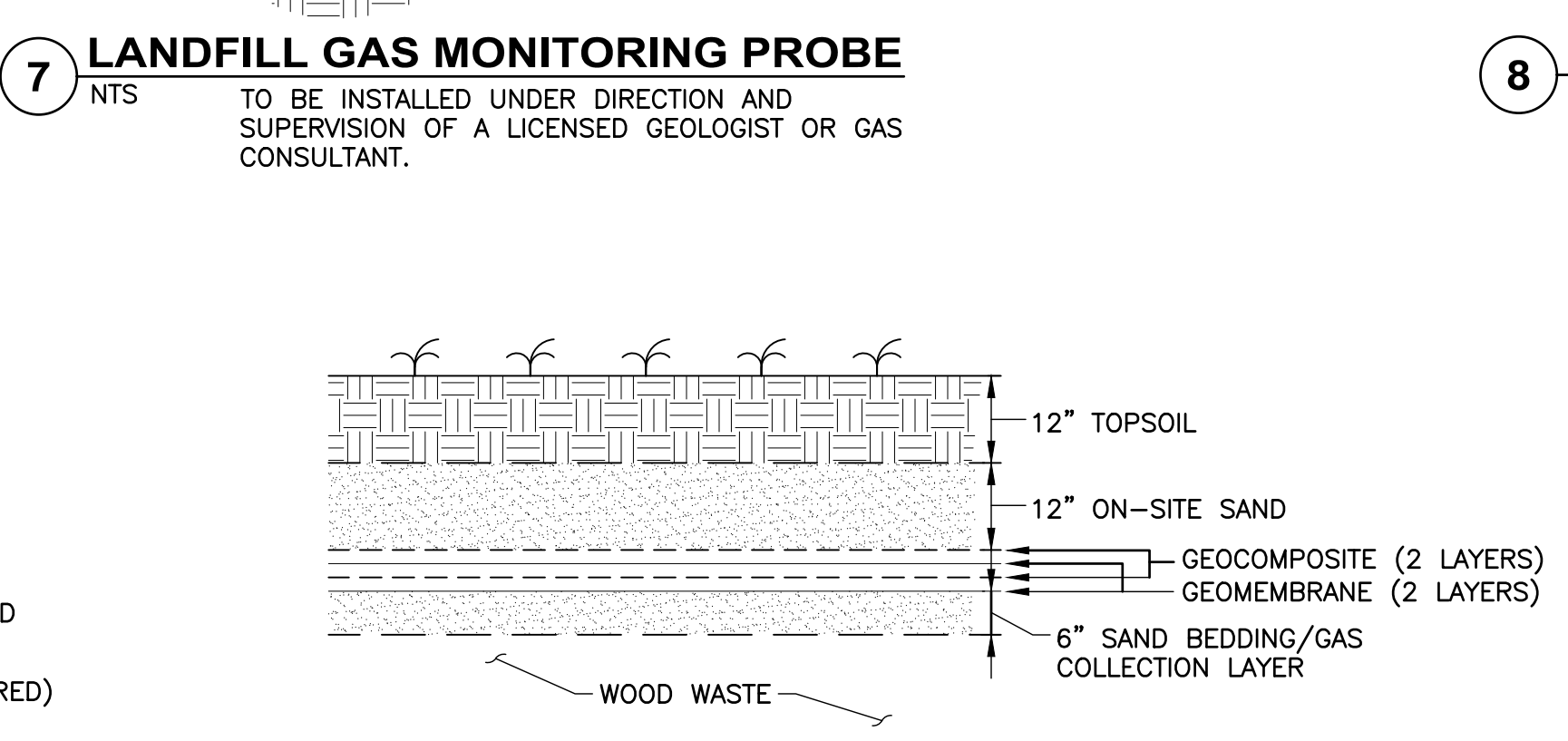
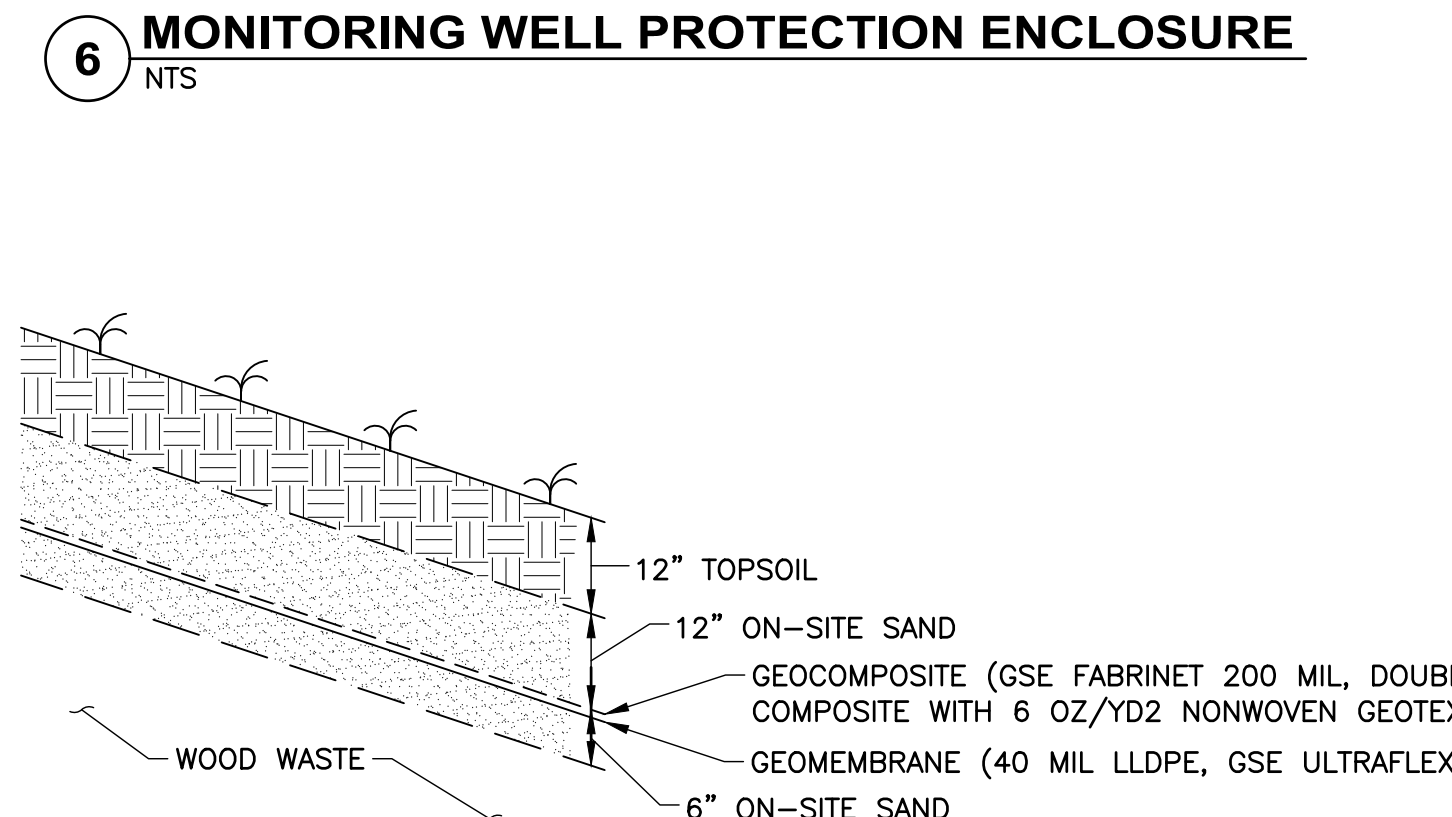
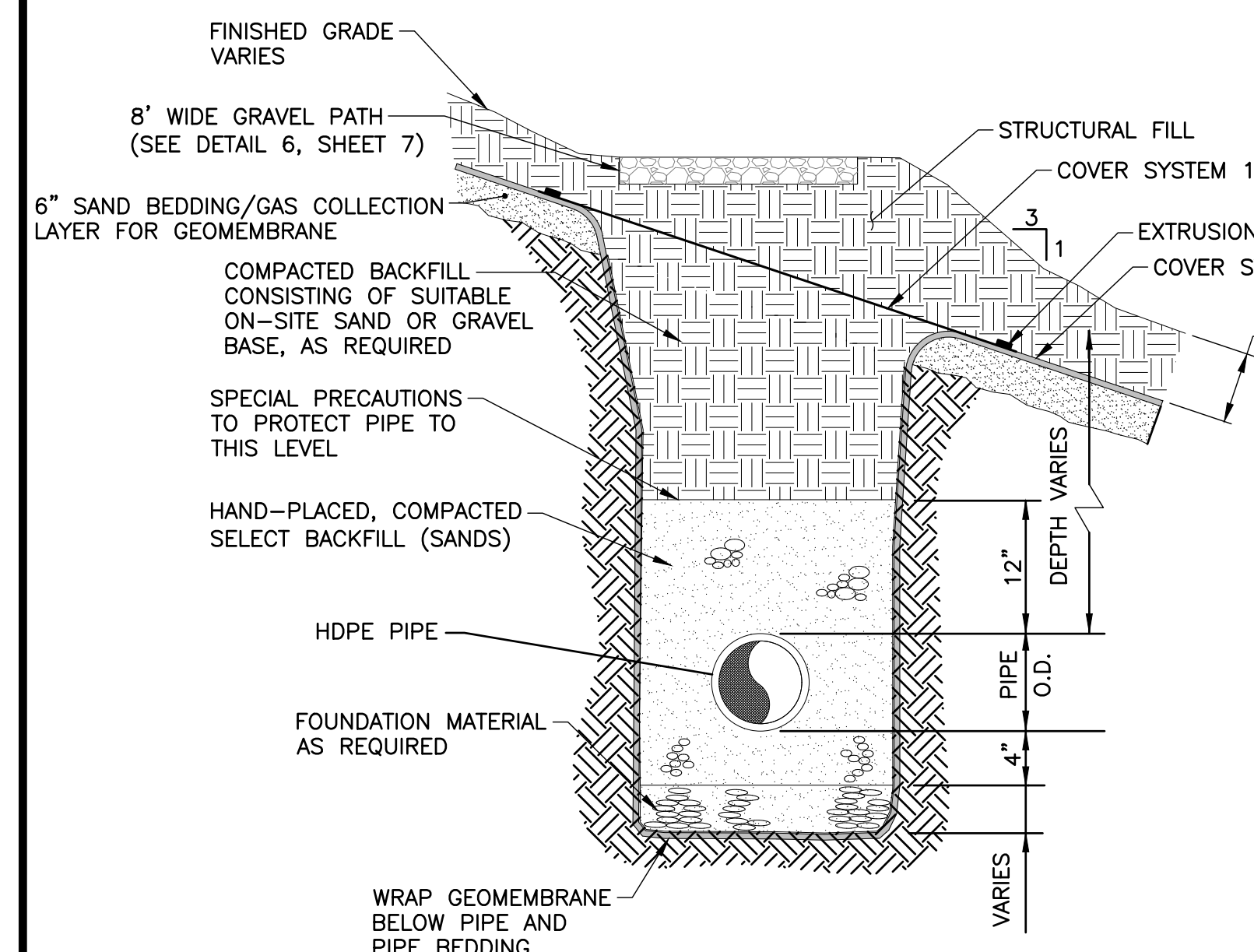
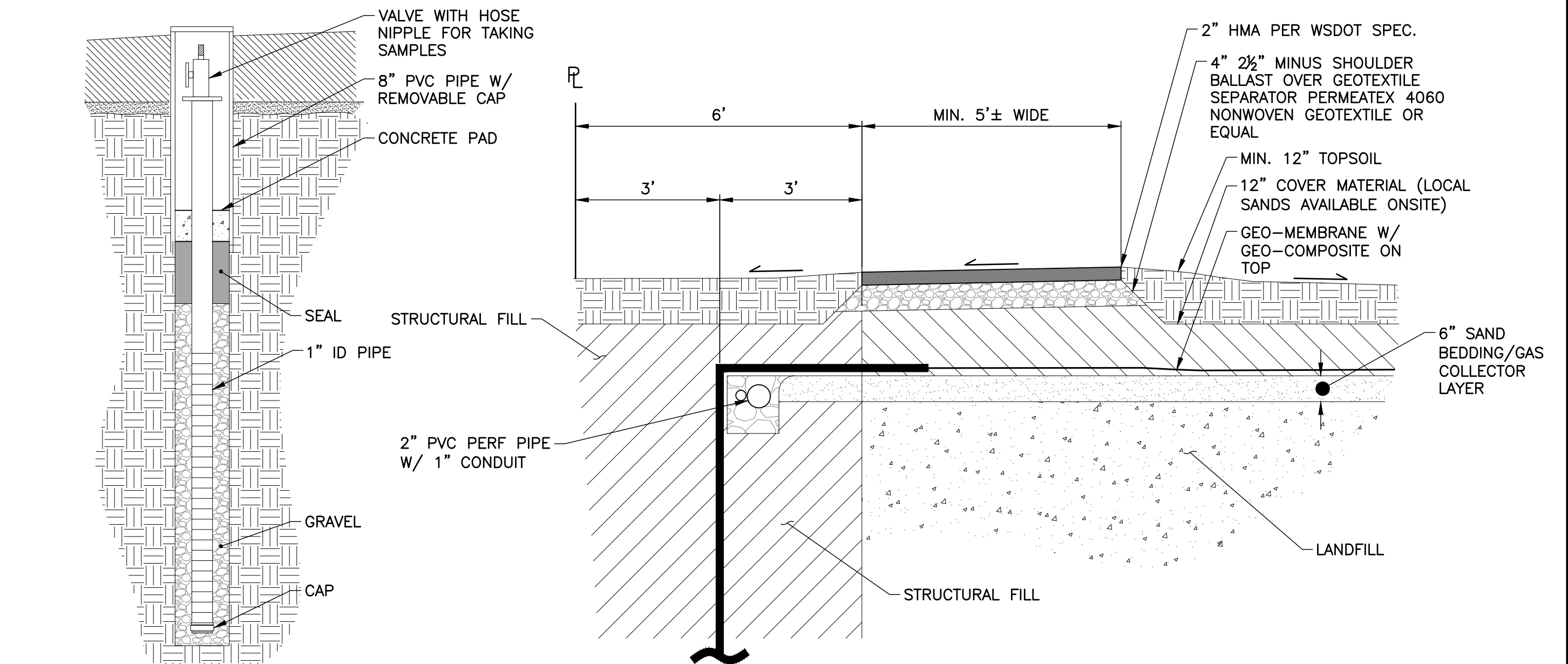
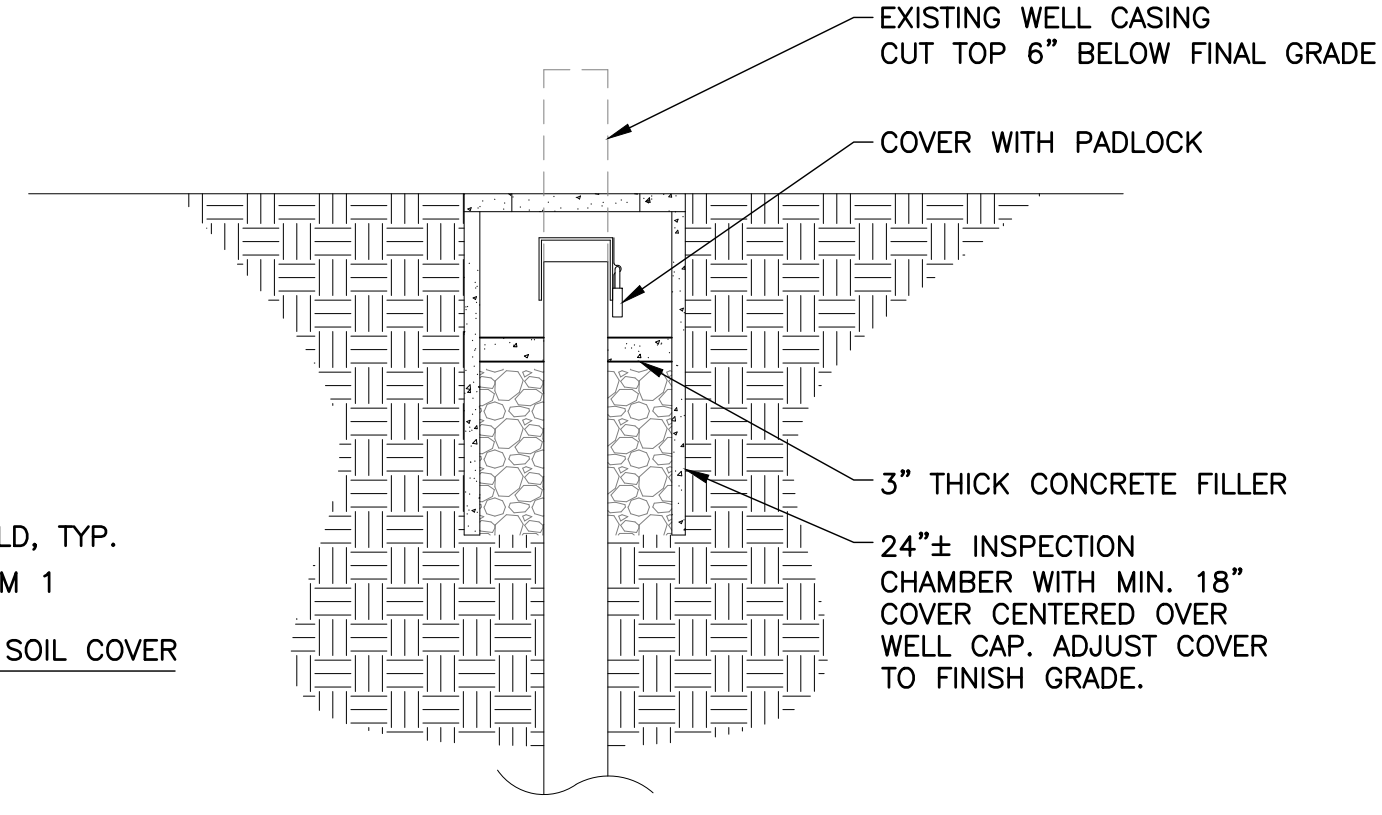
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GENERAL NOTES:

- ALL SITE AND LAND FILL EXCAVATION, AND FILL BEING PLACED, SHALL BE ACCOMPLISHED IN COMPLIANCE WITH THE GEOTECH REPORT INCLUDED IN APPENDIX "A" OF THE LFCP AND AS SPECIFIED ON SHEET 9 AND 14.
- PROJECT GEOTECHNICAL ENGINEER SHALL VERIFY ALL LANDFILL MATERIAL HAS BEEN REMOVED IN THE "WEDGE" EXCAVATION AND AT LEAST 6 FEET PAST PROPERTY LINE ONTO LANDFILL SIDE, PRIOR TO PLACING ANY STRUCTURAL FILL BACK INTO THE EXCAVATED AREA.
- ALL FILLS PLACED BOTH INSIDE AND OUTSIDE OF THE REDUCED LANDFILL LIMITS SHALL BE PLACED AND COMPACTED IN LIFTS AS DIRECTED BY THE GEOTECHNICAL ENGINEER AND IN COMPLIANCE WITH THE GEOTECHNICAL ENGINEER'S REQUIREMENTS AND THE CONSTRUCTION DOCUMENTS.
- THE GEOMEMBRANE LINER SHALL BE LLDPE 40 MILS THICKNESS DOUBLE-SIDED TEXTURED (APPROVED BY THE ENGINEER) AND INSTALLED IN COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS AND MEET THE SPECIFICATIONS SHOWN ON THE FIRST PAGE OF APPENDIX E OF THE LFCP, TITLED "LLDPE TEXTURED SPECIFICATIONS".
- OVER THE TOP OF THE LLDPE GEOMEMBRANE, PLACE A GEOCOMPOSITE DRAINAGE LAYER (GEOCOMPOSITE SHALL MEET GSE FABRINET 200 MIL, DOUBLE-SIDED COMPOSITE WITH 6 OZ/YD2 NONWOVEN GEOTEXTILE AND AS SPECIFIED ON SHEET 14).
- MINIMUM OF 24-INCHES OF FILL WITH UPPER 12-INCH BEING VEGETATIVE SOILS SHALL BE PLACED OVER GEOSYNTHETIC LANDFILL COVER LAYERS. COMPOSITE GEONET DRAINAGE LAYER.
- THE COVER SOIL LAYERS SHALL BE TRACK-WALKED WITH DOZER IN 12-INCH LOOSE LIFTS. DOZER SHALL BE CAT D6 LOW GROUND PRESSURE EQUIPMENT OR SMALLER.



**1 METHANE GAS MONITOR** CAPABLE OF RECORDING GAS LEVELS 24/7, WITH MONITORING HOSE CONNECTED TO GAS COLLECTION PIPING.



- NOTES:
- BACKFILL MATERIAL AND COMPACTION SHALL BE IN CONFORMANCE WITH GEOTECH REQUIREMENTS AND THE SNOHOMISH COUNTY PERMIT REQUIREMENTS, AS MAY BE APPLICABLE.
  - OVER 4' DEPTH, SLOPE TRENCH SIDE WALLS PER OSHA REQUIREMENTS.

PFN 20 118246LDA

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*[Signature]* P.E.  
R/W Permit No. 20 108693 D8  
Date: 6/23/2021

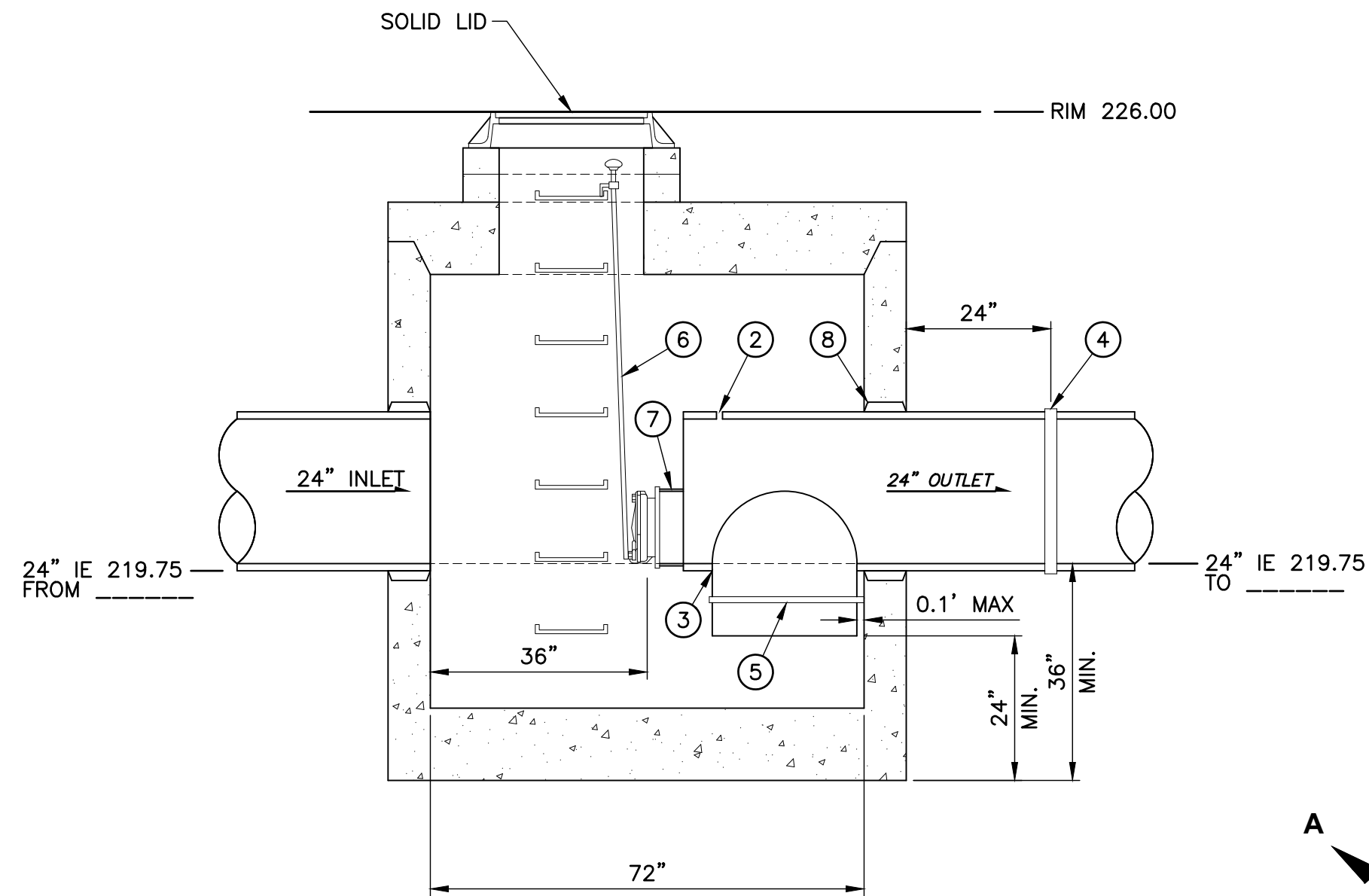
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GO EAST  
LANDFILL CLOSURE  
DETAILS

SCALE: AS NOTED	DATE: 6/9/2021
DESIGNED BY: SC	CHECKED BY: MP
JOB NUMBER P09382.00	
DWG NAME: P09382_GN-DET	
SHEET 8 OF 25	

FILE NAME: P:\P09382\_00\_GO\_EAST\CAD\FIGURES\SHEETS\LANDFILL\_CLOSURE\2018\P09382\_GN-DET.DWG  
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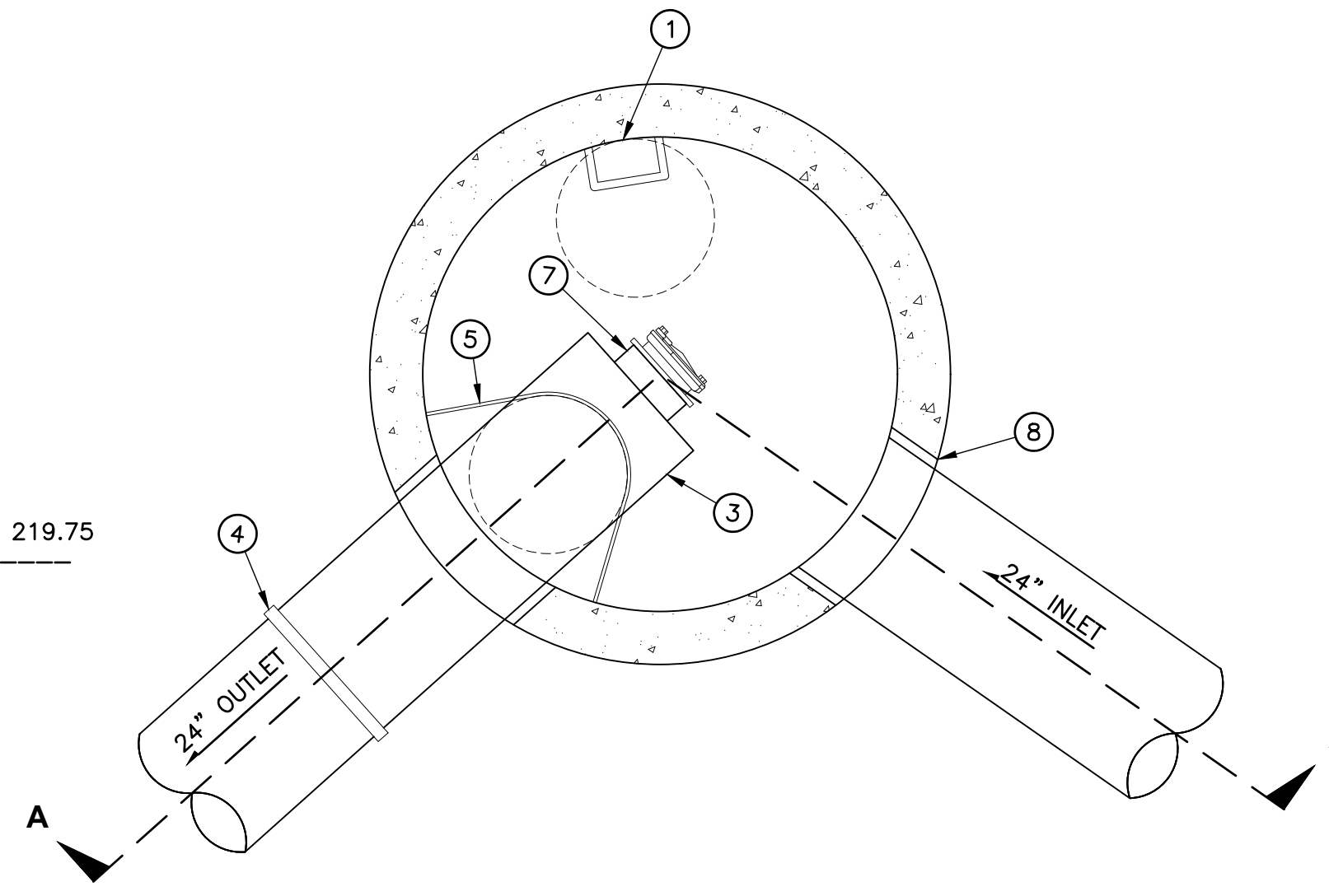


SECTION A-A

DETAIL KEYNOTES

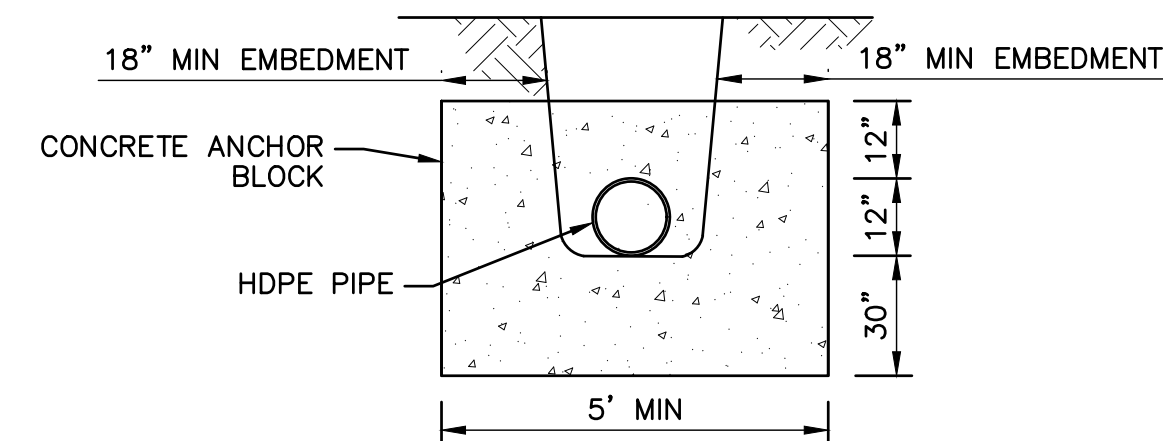
1. INSTALL MANHOLE ACCESS SO THAT LIFT GATE IS VISIBLE THROUGH OPENING AND STEPS CLEAR INLET AND RESTRICTOR UNIT.
2. 1" VENT HOLE
3. SEPARATOR ASSEMBLY
4. BAND STRAP WITH GASKET
5. SECURE SEPARATOR TO MANHOLE WITH 8 GA ALUMINUM STRAP. BOLT TO MANHOLE WALL WITH STAINLESS STEEL ANCHOR BOLTS AND TACK WELD TO SEPARATOR UNIT.
6. LIFT HANDLE
7. 12" DIA. CLEANOUT
8. GROUT ALL JOINTS INSIDE AND OUTSIDE

PLAN VIEW

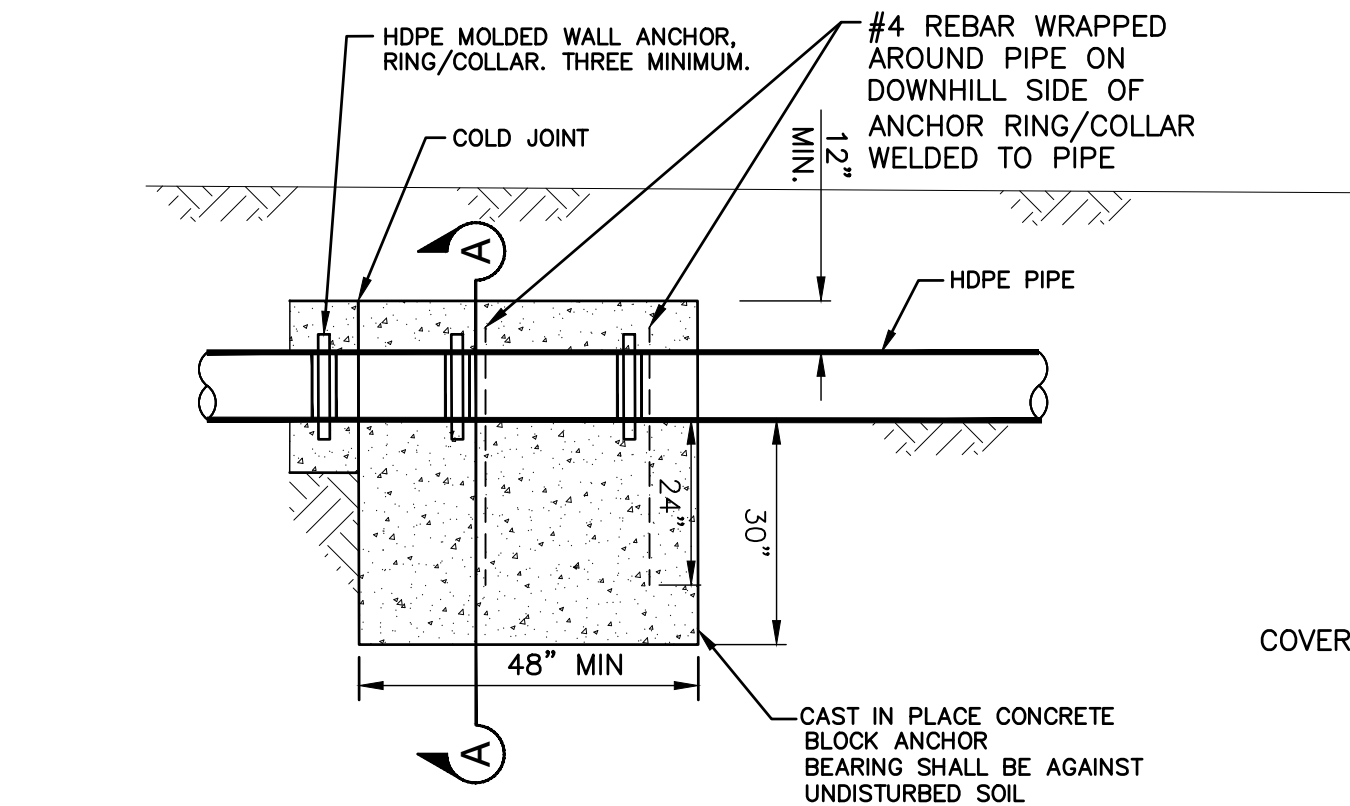


1 SDM 18, 72" W/MATERIALS SEPARATOR

1"=2"

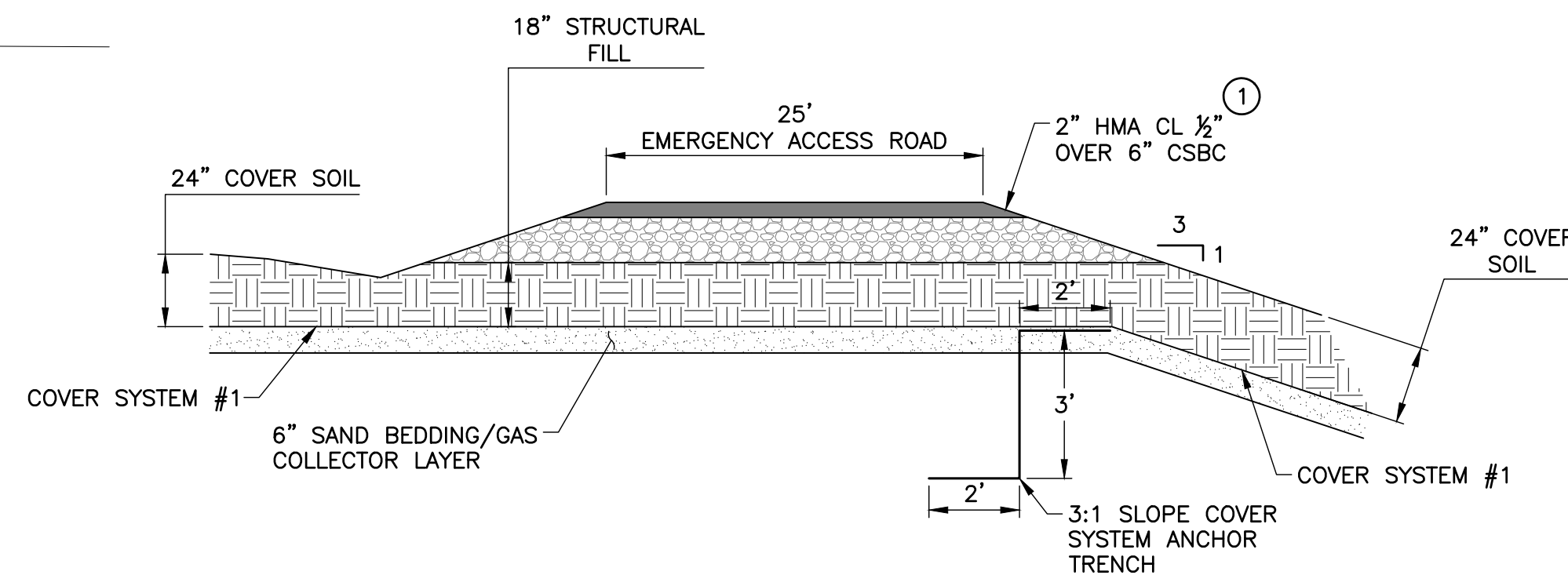


SECTION A-A



3 CONCRETE BLOCK ANCHOR DETAIL

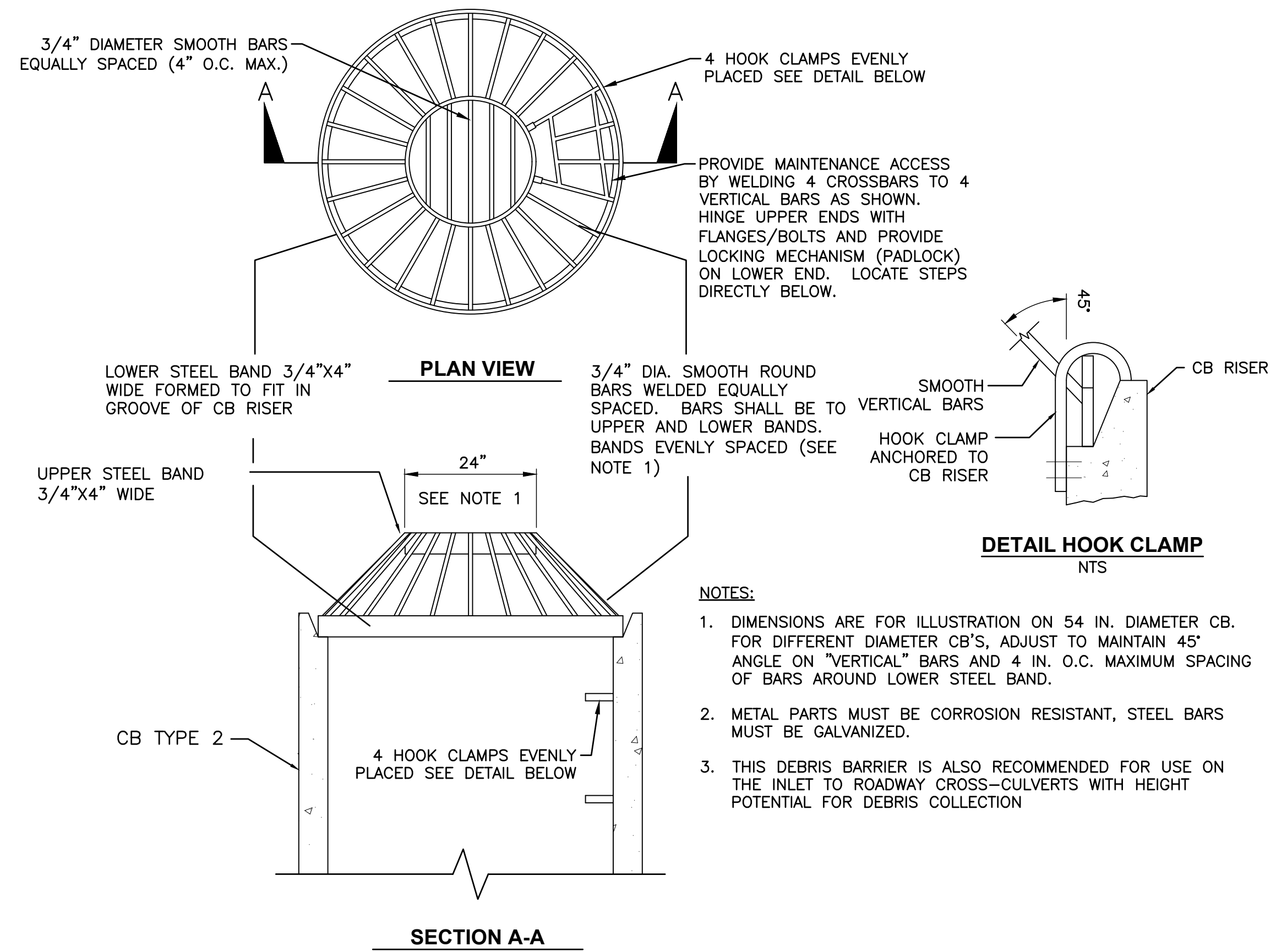
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4 EMERGENCY ACCESS ROAD

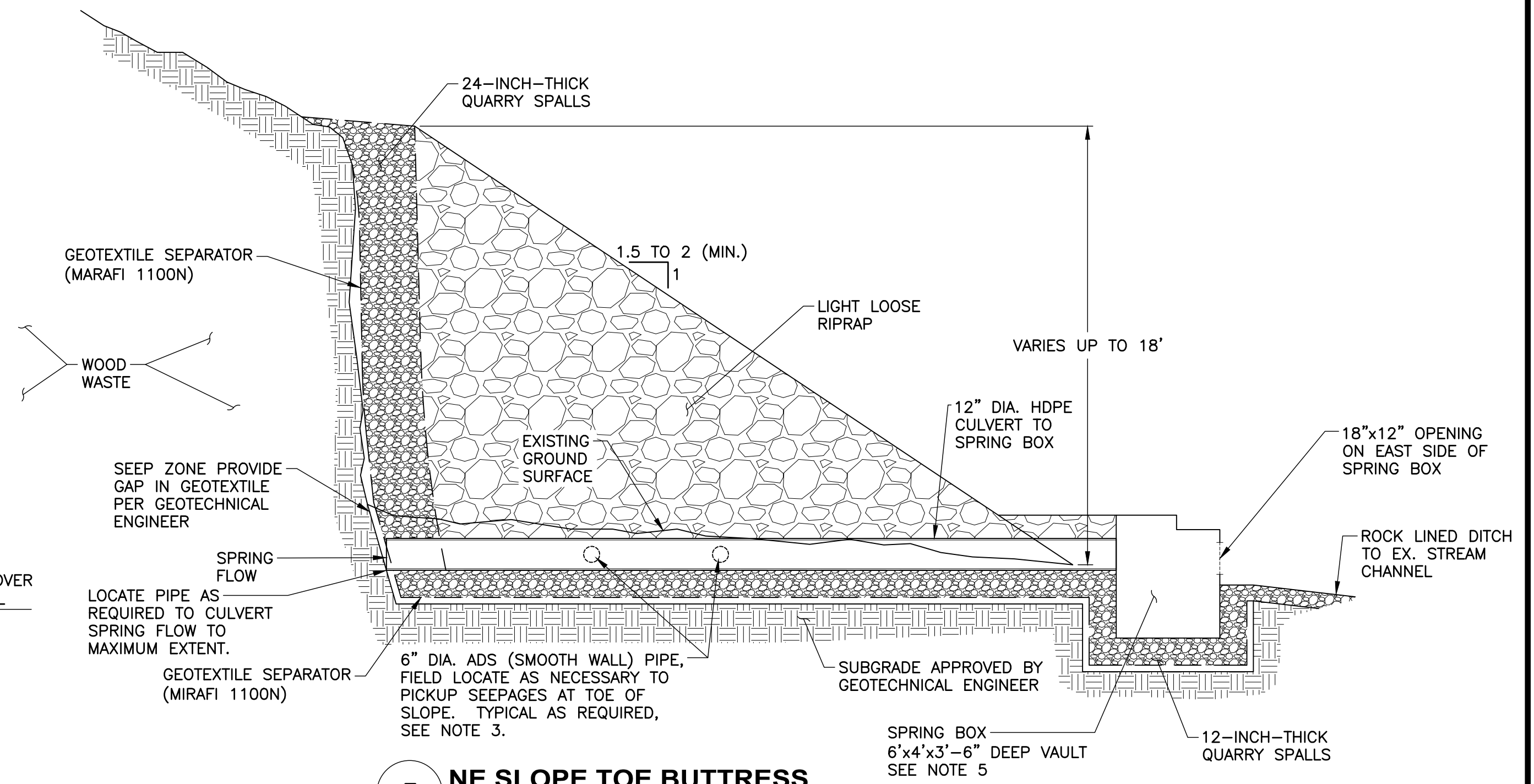
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- NOTE: PLACEMENT OF CSBC AND HMA TO BE ACCOMPLISHED IN LDA #2 WORK. FINAL SUBGRADING TO BE COMPLETED IN LDA #1 WORK



2 DEBRIS CAGE DETAIL

NTS



5 NE SLOPE TOE BUTTRESS

NTS

- NOTES:
1. APPROXIMATELY 40-50 FT LONG, FIELD FIT TO EXISTING CONDITIONS.
  2. SUBGRADE SHALL CONSIST OF SUITABLE NATIVE SOILS. SOFT AND LOOSE SOILS SHALL BE REMOVED AS REQUIRED BY GEOTECHNICAL ENGINEER TO EXPOSE SUITABLE SOILS.
  3. ALL PIPE TO BE BED WITH GEOTEXTILE FABRIC AS CALLED OUT, AND LOCAL SAND FROM MIN. 4" BELOW PIPE TO 6" OVER TOP OF ALL PIPE. SLOPE ALL COLLECTOR PIPES TOWARDS 12" CULVERT AND "TEE" INTO CULVERT AS REQUIRED. THE ACTUAL NUMBER OF COLLECTOR PIPES TO BE FIELD DETERMINED.
  4. TOE BUTTRESS SHALL BE CONSTRUCTED TO 2H:1V MAXIMUM STEEPNESS WHERE BUTTRESS BLENDS INTO EXISTING SLOPES.
  5. SPRING BOX SHALL BE UTILITY VAULT 644-LA WITH LOCKING STEEL COVER OR APPROVED EQUAL.

PFN 20 108693 D8

Snohomish County Planning Development Services  
 APPROVED FOR CONSTRUCTION  
 By: *R.W. P.I.*  
 R/W Permit No. 20 108693 D8  
 Date: 6/23/2021

DATE	
REVISION	
SYM	
<p>11255 Kirkland Way, Suite 300          Kirkland, WA 98033          p. 425.827.2014   f. 425.827.9043          Civil   Structural   Planning   Survey          paceengr.com</p>	
<p>6/9/2021</p>	
GO EAST	LANDFILL CLOSURE
DETAILS	
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AS NOTED	6/9/2021
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SC	MP
JOB NUMBER	
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DWG NAME:	
P09382_GN-DET	
SHEET 8A	OF 25

FILE NAME: P:\P09382\_00\_GO EAST\CAD\FIGURES\SHEETS\LANDFILL\_CLOSURE (2018)\P09382\_GN-DET.DWG  
 SAVE TIME: 5/25/2021 2:24:31 PM  
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GO-EAST LANDFILL WASTE SCREENING PROGRAM

THE FOLLOWING TABLE SHOWS HOW TO HANDLE DIFFERENT TYPES OF WASTE MATERIALS THAT MAY BE FOUND IN EXCAVATED LANDFILL MATERIAL.

Table with 4 columns: ITEM, OFFSITE HAZARDOUS WASTE DISPOSAL, OFFSITE NON-HAZARDOUS WASTE DISPOSAL, ONSITE LANDFILL, ONSITE FILL OUTSIDE OF LANDFILL. Rows include items like CARPET, FOAM, INSULATION, TIRES, CONFIRMED FRIABLE ASBESTOS, etc.

NOTES: MTCA (MODEL TOXICS CONTROL ACT) VALUES AND TCLP (TOXICITY CHARACTERISTIC LEACHING PROCEDURE) VALUES ARE SET FORTH IN TABLE 6.4 - RECOMMENDED PARAMETERS AND SUGGESTED VALUES FOR DETERMINING REUSE AND DISPOSAL OPTIONS FOR LANDFILL MATERIAL.

THE PUGEST SOUND CLEAN AIR AGENCY DEFINES "ASBESTOS-CONTAINING MATERIAL" AS ANY MATERIAL CONTAINING MORE THAN 1 PERCENT ASBESTOS, AND "FRIABLE ASBESTOS-CONTAINING MATERIAL" AS ASBESTOS-CONTAINING MATERIAL THAT, WHEN DRY, CAN BE CRUMBLED, PULVERIZED, OR REDUCED TO POWDER BY HAND PRESSURE OR BY THE FORCES EXPECTED TO ACT UPON THE MATERIAL IN THE COURSE OF DEMOLITION, RENOVATION, OR DISPOSAL.

THE U.S. ENVIRONMENTAL PROTECTION AGENCY DEFINES "LEAD-BASED PAINT" AS PAINT THAT CONTAINS AT LEAST 1 MILLIGRAM OF LEAD PER SQUARE CENTIMETER OR THAT HAS A LEAD CONCENTRATION OF AT LEAST 0.5 PERCENT.

LOT EXPLORATION PLAN (OUTSIDE LANDFILL AREA)

- 1. THE FOLLOWING REPRESENTS A TEST PIT SAMPLING AND OBSERVATION PLAN INTENDED TO COMPLY WITH THE SNOHOMISH COUNTY HEARING EXAMINER'S REQUIREMENTS FOR RESIDENTIAL LOT AREAS OF THE BAKERVIEW PLAT.
2. THIS PLAN AND ITS EXECUTION SHALL BE OVERSEEN AND VERIFIED BY THE FOLLOWING: PROPERTY OWNER, SNOHOMISH COUNTY HEALTH DISTRICT REPRESENTATIVE, PDS REPRESENTATIVE, AND PROJECT COA ENGINEER/PROFESSIONAL (WHO SHALL BE RESPONSIBLE TO COMPIL AND DOCUMENT EXECUTION OF THE PLAN).

LANDFILL CLOSURE PLAN (LFCP) REQUIREMENTS AND RECOMMENDATIONS
NOTES FOR LAND DISTURBING ACTIVITY (LDA) PERMIT

NOTE: THESE REQUIREMENTS PERTAIN ONLY TO THE CLOSURE ACTIVITY RELATED TO THE GO-EAST LANDFILL CLOSURE AND NOT BAKERVIEW PLAT WORK.

- 1. PRIOR TO LANDFILL CLOSURE ACTIVITY, CONDUCT NECESSARY TESTING PER SECTION 3.6.2 OF THE LFCP. IT INCLUDES SAMPLES TAKEN FOR EVERY 500 CUBIC YARDS FOR FIRST 2500 CUBIC YARDS AND EVERY 2500 CUBIC YARDS THEREAFTER.
c. USING FLAGGERS AND TRAFFIC CONTROL AS REQUIRED FOR ANY HEAVY PERIODS OF TRAFFIC ON AND OFF THE SITE.
d. COMPLY WITH OTHER MITIGATION IMPOSED BY THE REQUIRED STREET USE PERMIT TO BE ISSUED FOR THE PROJECT BY THE COUNTY.

SUGGESTED CONSTRUCTION SEQUENCE

- 1. CONDUCT TREE REMOVAL AND CLEARING OF THE AREAS OF THE SITE BEING GRADED.
2. CONSTRUCT TESCP FACILITIES INCLUDING DITCHES AND CHECK DAMS, SILT FENCING ETC. AS NEEDED.
3. INSTALL STREAM DIVERSION PIPE AT DEPTH AND LOCATION TO PREVENT CONFLICT OR CONTAMINATION TO THE STREAM WATERS.

PFN 20 118246LDA

Snohomish County Planning Development Services
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FILE NAME: P:\P09\09382\_00 GO EAST\CAD\FIGURES\SHEETS\LANDFILL CLOSURE (2018)\P09382\_GN-DET.DWG
SAVE TIME: 5/25/2021 2:24:31 PM
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VIEW FILE: PACE382.DWG

Table with columns for REVISION, SYM, and DATE.

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GO EAST LANDFILL CLOSURE NOTES
SCALE: AS NOTED DATE: 6/9/2021
DESIGNED BY: SC CHECKED BY: MP
JOB NUMBER: P09382.00
DWG NAME: P09382\_GN-DET
SHEET 9 OF 25

GENERAL NOTES - AS RELATED TO GRADING, DRAINAGE AND ALL AREAS OUTSIDE THE RECONFIGURED LANDFILL AREA

- 1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE APPLICABLE EDITIONS OF THE SNOHOMISH COUNTY ENGINEERING DESIGN AND DEVELOPMENT STANDARDS (EDDS), SNOHOMISH COUNTY CODE, WASHINGTON STATE DEPARTMENT OF TRANSPORTATION/AMERICAN PUBLIC WORKS ASSOCIATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, AND THE SNOHOMISH COUNTY DRAINAGE MANUAL.
2. THE PROJECT IS VESTED TO THE 2009 EDITION OF THE SNOHOMISH COUNTY ENGINEERING DESIGN AND DEVELOPMENT STANDARDS. THE CONTRACTOR SHALL KEEP A SET OF THE EDDS ON SITE AT ALL TIMES.
3. ALL WORK PERTAINING TO THIS PROJECT SHALL BE SUBJECT TO INSPECTION BY THE COUNTY INSPECTOR OR HIS DESIGNATED REPRESENTATIVE. PRIOR TO BEGINNING ANY SITE WORK, THE CONTRACTOR SHALL CONTACT THE COUNTY INSPECTOR AT (425) 388-3338 AND SCHEDULE A PRE-CONSTRUCTION CONFERENCE.
4. IF THE PROJECT SITE AS DEFINED IN SCC 30.63A.915.351 IS MORE THAN ONE ACRE, THE CESCL IDENTIFIED IN THE SWPPP NARRATIVE SHALL BE ON SITE OR ON CALL AT ALL TIMES (SCC30.63A.510).
5. THE CESCL SHALL NOTIFY THE COUNTY INSPECTOR IN WRITING ANY TIME A BMP PROVES TO BE INADEQUATE RESULTING IN AN ACTUAL DISCHARGE OF OR POSES A POTENTIAL TO DISCHARGE A SIGNIFICANT AMOUNT OF ANY POLLUTANT PURSUANT TO SCC 7.53 TO WATERS OF THE STATE OR THE COUNTY'S MS-4 DRAINAGE SYSTEM (SCC30.63A.510). SAID NOTIFICATION SHALL BE MADE WITHIN 24 HOURS OF THE DISCHARGE EVENT OR PROBLEM IDENTIFICATION.
6. IF INDIVIDUALS REVIEWING OR INSPECTING WORK ARE REPLACED DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO THE CIVIL ENGINEER, SOILS ENGINEER, CESCL OR THE ENGINEERING GEOLOGIST, WORK REQUIRING THEIR REVIEW SHALL BE STOPPED UNTIL ANOTHER QUALIFIED PERSON AGREES TO ACCEPT RESPONSIBILITY AND NOTIFIES PLANNING & DEVELOPMENT SERVICES IN WRITING (SCC 30.63A.855 AND SCC 30.63B.340(4)).
7. A ROW USE PERMIT IS REQUIRED FROM THE DPW FOR ANY LANE/ROAD CLOSURES WITHIN THE SNOHOMISH COUNTY ROW. CONTACT DPW AT LEAST 15 DAYS PRIOR TO CONSTRUCTION ACTIVITY WITHIN THE PUBLIC ROW. SNOHOMISH COUNTY DOES NOT HAVE JURISDICTION ON STATE ROUTES OR ROADWAYS WITHIN INCORPORATED CITIES, PRIVATE ROADS OR PRIVATE PROPERTY. FOR ANY ACTIVITY ENCRDACHING ON SUCH PROPERTY THE APPLICANT SHALL OBTAIN PERMISSION FROM THE APPROPRIATE AUTHORITY.
8. FIELD CHANGES REQUIRING REDESIGN SHALL BE SUBMITTED AND APPROVED PRIOR TO CONSTRUCTION.
9. ENGINEERED RECORD DRAWINGS SHALL BE REQUIRED PRIOR TO SITE APPROVAL (EDDS SECTION 10-05).
10. SURVEY MONUMENTS SHALL BE FOUND AND SET IN ACCORDANCE WITH SNOHOMISH COUNTY ENGINEERING DESIGN AND DEVELOPMENT STANDARDS (EDDS), CHAPTER 4-03, DETAIL 4-130. MONUMENTS AND PROPERTY CORNERS SHALL BE PROTECTED FROM DISTURBANCE DURING CONSTRUCTION. A LICENSED SURVEYOR SHALL OBTAIN A PERMIT FOR REMOVAL OR REPLACEMENT OF ANY ROW MONUMENTS, SURVEY MONUMENTS, OR PROPERTY CORNERS IN ACCORDANCE WITH STATE LAW AND WAC 332-120 PRIOR TO ANY DISTURBANCE TO THE CORNER. THE POINTS TO BE PROTECTED OR REPLACED SHALL BE RELOCATED BY A PROFESSIONAL LAND SURVEYOR AND SHOWN ON THE CONSTRUCTION PLANS.
11. REMOVE ABANDONED PIPES WITHIN THE RIGHT-OF-WAY.
12. ALL PIPES SHALL HAVE A MINIMUM OF 12" COVER AT THE TOP OF THE BELL, OR SHALL HAVE MINIMUM COVER PER THE MANUFACTURER'S SPECIFICATIONS, WHICHEVER IS GREATER. [EDDS 5-04.1.9.]
13. PRIOR TO PLACING ANY SURFACE MATERIALS ON THE ROADWAY, IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER OR UTILITY TO PROVIDE DENSITY TEST REPORTS (AS SPECIFIED IN EDDS) CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF WASHINGTON. [EDDS 8-05.]
14. APPROVED PERMANENT TRAFFIC CONTROL SIGNS AND MARKINGS WITHIN THE PUBLIC RIGHT-OF-WAY (ROW) SHALL BE INSTALLED BY COUNTY FORCES. THE DEVELOPER SHALL PAY FOR INSTALLATION OF ALL DEVICES. THE INSPECTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS (DPW) TRAFFIC OPERATIONS WHEN THE PROJECT IS READY FOR CHANNELIZATION AND SIGNING. IF COUNTY FORCES ARE UNAVAILABLE TO PERFORM THE STRIPING INSTALLATION WITHIN AN APPROPRIATE TIME FRAME, THE PERMIT HOLDER SHALL CONTRACT FOR THE STRIPING INSTALLATION. DPW TRAFFIC OPERATIONS SHALL BE CONTACTED AT LEAST 2 DAYS IN ADVANCE OF INSTALLATION TO VERIFY CHANNELIZATION LAYOUT.
15. DURING PROJECT CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TEMPORARY CONSTRUCTION SIGNS, TRAFFIC CONTROL SIGNS, DELINEATORS AND TEMPORARY MARKINGS AS REQUIRED. ALL SIGNS, TRAFFIC CONTROL SIGNS, DELINEATORS AND TEMPORARY MARKINGS SHALL BE ACCORDING TO THE CURRENT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
16. ACCESS BY EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
17. AFTER WORK WITHIN THE TRAVELED ROADWAY IS COMPLETED AT THE END OF EACH DAY, THE ROAD SHALL BE CLEARED OF DEBRIS AND EQUIPMENT, AND COMPLETELY OPEN TO TRAFFIC (UNLESS OTHERWISE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS OF THE COUNTY). LIGHTED BARRICADES OR BARRELS SHALL DELINEATE ALL AREAS WITHIN THE ROADWAY AFFECTED BY CONSTRUCTION (I.E. EDGE OF PAVEMENT, NEW CURB EDGES NOT ILLUMINATED BY STREET LIGHTS).
18. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR INTERIM TRAFFIC CONTROL DURING CONSTRUCTION ON OR ALONG TRAVELED COUNTY ROADWAYS. THE DEVELOPER/CONTRACTOR MUST SUBMIT A TRAFFIC CONTROL PLAN TO PUBLIC WORKS (PERMIT COUNTER) AND RECEIVE APPROVAL PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.
19. THE WORKMANSHIP AND MATERIALS FOR ALL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE COUNTY R/W SHALL BE IN ACCORDANCE WITH EDDS SECTIONS 8-02, 8-04, 8-05, 8-09 AND THE MOST RECENT COPY OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION (WSDOT/APWA).
20. ALL WORK WITHIN THE SITE AND COUNTY RIGHT-OF-WAY SHALL BE SUBJECT TO THE INSPECTION OF THE COUNTY ENGINEER OR HIS DESIGNATED REPRESENTATIVE.
21. THE TEMPORARY EROSION/SEDIMENTATION CONTROL FACILITY SHALL BE CONSTRUCTED PRIOR TO ANY GRADING OR EXTENSIVE LAND CLEARING IN ACCORDANCE WITH THE APPROVED TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN. THESE FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED.
22. ALL STORM SEWER PIPE MATERIALS SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS CHAPTER 9-05.
23. DOUBLE WALL, SMOOTH INTERIOR (ADS, N-12 T.M.) LINED CORRUGATED POLYETHYLENE (LCPE) PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 294S FOR SIZES 12 TO 36 INCH DIAMETER. (PVC) POLYVINYL CHLORIDE PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM D3034 SOR 35 FOR SIZES UP TO 15 INCH DIAMETER AND ASTM F679, TYPE 1 ONLY FOR SIZES 18 TO 27 INCH DIAMETER.
24. PIPE MATERIAL FOR HDPE BUTT-FUSED SHALL BE: HIGH DENSITY POLYETHYLENE (HDPE) SDR 11. THE PIPE MUST COMPLY WITH ASTM STANDARDS DEPENDING UPON THE PURPOSE OF THE MATERIAL. FOR THE PIPE MATERIAL, ASTM D 2447, D 3350, F 1962, AND F 714 SHALL APPLY. HDPE PIPE WILL BE BUTT-FUSED INTO THE MAXIMUM AVAILABLE LENGTHS. ALL HDPE BUTT-FUSED JOINTS SHALL BE COMPLETED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AS TO EQUIPMENT AND TECHNIQUE BY WORKERS WHO HAVE A DEMONSTRATED ABILITY AND EXPERIENCE IN THE FUSION PROCESS. ELECTRONIC DETECTION MATERIAL FOR NON-CONDUCTIVE PIPING PRODUCTS SHALL BE 12 GAUGE COPPER CLAD WHICH MUST BE ATTACHED TO THE PIPE SECURELY TO WITHSTAND THE HD.
25. LCPE DOUBLE WALL - SMOOTH I.D. PIPE, AASHTO M-294 TYPE S SHALL HAVE 1 FOOT MINIMUM COVER PER MANUFACTURER'S RECOMMENDATIONS TO OBTAIN H-20 LOADING.
26. ALL PIPE INLETS AND OUTFALLS TO HAVE BEVELED END SECTIONS PER EDDS STD. DET. 5-050. ALL CPP PIPE TO BE MITERED TO NEW SLOPE AFTER FINAL GRADING.
27. ALL TRENCH BEDDING AND BACKFILL SHALL BE PER WSDOT/APWA STD. PLAN B-55, 22-00.
28. ALL PIPE SHALL BE PLACED ON STABLE EARTH, OR IF IN THE OPINION OF THE COUNTY ENGINEER, THE EXISTING FOUNDATION IS UNSATISFACTORY, THEN IT SHALL BE EXCAVATED BELOW GRADE AND BACKFILLED WITH A GRAVEL MATERIAL TO SUPPORT THE PIPE.
29. THE BACKFILL SHALL BE PLACED EQUALLY ON BOTH SIDES OF THE PIPE OR PIPE-ARCH IN LAYERS WITH A LOOSE AVERAGE DEPTH OF 6", MAXIMUM DEPTH 8", THOROUGHLY TAMPING EACH LAYER. THESE COMPACTED LAYERS MUST EXTEND FOR ONE DIAMETER ON EACH SIDE OF THE PIPE OR TO THE SIDE OF THE TRENCH. MATERIALS TO COMPLETE THE FILL OVER PIPE SHALL BE THE SAME AS DESCRIBED.
30. ALL CATCH BASINS SHALL BE TYPE I, TYPE I-L OR TYPE II AS NOTES ON THE PLANS.

GENERAL NOTES - AS RELATED TO GRADING, DRAINAGE AND ALL AREAS OUTSIDE THE RECONFIGURED LANDFILL AREA (CONT.)

- 31. ALL CATCH BASIN GRATES ARE SHOWN AT FLOW LINE ELEVATIONS.
32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL MANHOLE, INLET, AND CATCH BASIN FRAMES AND GRATES JUST PRIOR TO POURING OF CURBS AND PAVING.
33. ALL CATCH BASINS WITH A DEPTH OVER 5.0 FEET TO THE FLOW LINE SHALL BE TYPE II CATCH BASINS.
34. ALL CATCH BASIN MANHOLES, INLETS AND CATCH BASINS SHALL HAVE LOCKING LIDS.
35. STANDARD LADDER STEPS SHALL BE PROVIDED IN ALL CATCH BASINS/MANHOLES EXCEEDING FOUR (4) FEET IN DEPTH.
36. THE CATCH BASIN FRAME AND GRATES SHALL BE PER SNOHOMISH COUNTY STD. DETAIL 5-180, OR AS SHOWN ON PLAN. USE VANED GRATE PER STD. DRAWING 5-200 ON CATCH BASINS WHERE STREET GRADE IS OVER 4%. ALL SOLID COVERS AND GRATES SHALL BE SECURED WITH 5/8" STAINLESS STEEL SOCKET HEAD CAP SCREWS. USE AN ANTI-SEIZE COMPOUND AT THE TIME SCREWS ARE INSTALLED.
37. BACKFILL TRENCH OF NEW UTILITIES SHALL BE COMPACTED TO 95% RELATIVE COMPACTION UNDER ROADWAYS AND 90% RELATIVE COMPACTION OFF ROADWAYS, AS SPECIFIED IN WSDOT STANDARD SPEC. SECTION 2.03.3(14)D AND SECTION 2-03.3(14)B.
38. STORM WATER CONVEYANCE FACILITIES MUST BE FLUSHED AND CLEANED PRIOR TO SNOHOMISH COUNTY ACCEPTANCE.
39. PROVIDE AND MAINTAIN THE TEMPORARY SEDIMENTATION COLLECTION FACILITIES TO INSURE SEDIMENT LADEN WATERS DO NOT ENTER THE NATURAL DRAINAGE SYSTEM.
40. ALL DISTURBED AREAS SUCH AS DETENTION FACILITIES, ROADWAY BACK-SLOPES, ETC., SHALL BE SEEDED WITH A PERENNIAL GROUND COVER GRASS TO MINIMIZE EROSION. GRASS SEEDING WILL BE DONE USING AN APPROVED HYDROSEEDER OR AS OTHERWISE APPROVED BY SNOHOMISH COUNTY.
41. ALL EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH COUNTY STANDARDS. PRE-CONSTRUCTION SOILS INVESTIGATION MAY BE REQUIRED TO EVALUATE SOILS STABILITY.
42. IF CUT AND FILL SLOPES EXCEED A MAXIMUM OF TWO FEET HORIZONTAL TO ONE FOOT VERTICAL, A ROCK, BLOCK OR CONCRETE RETAINING WALL MAY BE REQUIRED. ALL ROCK RETAINING WALLS GREATER THAN FOUR (4) FEET IN HEIGHT ARE TO FOLLOW COUNTY SPECIFICATIONS AND TO BE DESIGNED AND CERTIFIED BY A CIVIL ENGINEER EXPERIENCED IN SOILS MECHANICS.
43. STOCKPILES ARE TO BE LOCATED IN SAFE AREAS AND ADEQUATELY PROTECTED BY TEMPORARY SEEDING AND MULCHING. HYDRO-SEED PREFERRED.
44. COMPACTION: EARTH EMBANKMENTS TO BE COMPACTED PER THE GEOTECHNICAL REPORT.
45. RIP-RAP SHALL BE PLACED IN AREAS AS SHOWN ON PLANS PER SECTION 8-15.3(2). MATERIALS SHALL MEET MINIMUM REQUIREMENTS OF SECTION 9-13.1.(2).
46. N/A
47. N/A
48. ALL STEEL PIPES, CULVERTS, TANKS, AND OTHER STEEL PARTS OF ANY STORM DRAINAGE SYSTEM SHALL BE GALVANIZED AND HAVE A TREATMENT 1 ASPHALT COATING OR BETTER AS SPECIFIED IN THE WSDOT STD SPECIFICATION SECTION 9-05.4(3). NOTE: ALUMINUM AND CONCRETE PIPES AND STRUCTURES DO NOT REQUIRE A TREATMENT 1 COATING.
49. SURVEY MONUMENTS SHALL BE FOUND AND SET IN ACCORDANCE WITH SNOHOMISH COUNTY ENGINEERING DESIGN AND DEVELOPMENT STANDARDS (EDDS), CHAPTER 4-03, DETAIL 4-130.
MONUMENTS AND PROPERTY CORNERS SHALL BE PROTECTED FROM DISTURBANCE DURING CONSTRUCTION. A LICENSED SURVEYOR SHALL OBTAIN A PERMIT FOR REMOVAL OR REPLACEMENT OF ANY ROW MONUMENTS, SURVEY MONUMENTS, OR PROPERTY CORNERS IN ACCORDANCE WITH STATE LAW AND WAC 332-120 PRIOR TO ANY DISTURBANCE TO THE CORNER. THE POINTS TO BE PROTECTED OR REPLACED SHALL BE RELOCATED BY THE PROJECT SURVEYOR OR ENGINEER AND SHOWN ON THE CONSTRUCTION PLANS.
50. WHEN ABUTTING NEW PAVEMENT TO EXISTING PAVEMENT THE CONTRACTOR SHALL NEAT LINE SAWCUT, CLEAN, HEAT AND TACK EXISTING PAVEMENT WITH SEALER CSS-1 AND SEAL WITH AR4000 AND SAND. SAWCUT SHALL BE A MINIMUM OF 1 FOOT INSIDE THE EXISTING EDGE OF PAVEMENT. A FOUR FOOT WIDE SECTION OF NEW PAVEMENT IS THE MINIMUM WIDTH REQUIRED.
51. PRIOR TO PLACING ANY SURFACE MATERIALS ON THE ROADWAY, IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER OR UTILITY TO PROVIDE DENSITY TEST REPORTS (AS SPECIFIED IN EDDS) CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF WASHINGTON. TEST RESULTS TO BE SUBMITTED WITH AS-BUILT DRAWINGS.
52. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR INTERIM TRAFFIC CONTROL DURING CONSTRUCTION ON OR ALONG TRAVELED COUNTY ROADWAYS. THE DEVELOPER/CONTRACTOR MUST SUBMIT A TRAFFIC CONTROL PLAN TO PUBLIC WORKS (PERMIT COUNTER) AND RECEIVE APPROVAL PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.
53. CONSISTENT WITH EDDS CHAPTER 8-05, ANY DEVELOPERS, UTILITIES, OR OTHERS INTENDING TO TRENCH IN EXISTING OR PROPOSED COUNTY RIGHT-OF-WAY SHALL NOTIFY PLANNING AND DEVELOPMENT SERVICES INSPECTION SECTION NOT LESS THAN 3 WORKING DAYS PRIOR TO PERFORMING THE WORK, OR MUST APPLY FOR EDDS DEVIATION IF NOT CONSISTENT WITH EDDS CHAPTER 8. THIS NOTIFICATION SHALL INCLUDE:
A. LOCATION OF THE WORK (SITE LOCATION AND LOCATION OF THE TRENCH WORK RELATIVE TO EXISTING/PROPOSED ROADS)
B. PERMIT NUMBER
C. METHOD OF COMPACTION TO BE USED
D. DAY AND HOUR WHEN COMPACTION IS TO BE DONE
E. DAY AND HOUR WHEN TESTING IS TO BE DONE.
54. ALL FIRE HYDRANTS INSTALLATIONS SERVING THE DEVELOPMENT, EITHER PUBLIC OR PRIVATE, SHALL COLOR CODE THE TOPS OF THE HYDRANTS IN ACCORDANCE WITH SEC TABLE 30.53A.330(12)(d). IN ADDITION TO COLOR CODING HYDRANTS THE DEVELOPER SHALL ALSO INSTALL BLUE REFLECTORS TO INDICATE HYDRANT LOCATIONS. COLOR CODING OF THE FIRE HYDRANTS AND THE INSTALLATION OF BLUE STREET REFLECTORS SHALL BE COMPLETED PRIOR TO FINAL APPROVAL OF ANY DEVELOPMENT OR NEW CONSTRUCTION.

BMP T5.13 - DESIGN CRITERIA

- SOIL RETENTION. THE DUFF LAYER AND NATIVE TOPSOIL SHOULD BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED TO OTHER PORTIONS OF THE SITE WHERE FEASIBLE.
• SOIL QUALITY. THE RESULTING SOIL SHOULD BE CONDUCTIVE TO THE TYPE OF VEGETATION TO BE ESTABLISHED. ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERVIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION, DEMONSTRATE THE FOLLOWING:
O A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF TEN PERCENT DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT (BASED ON A LOSS-ON-IGNITION TEST) IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE ORIGINAL UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.
O PLANTING BEDS MUST BE MULCHED WITH 2 INCHES OF ORGANIC MATERIAL.
O QUALITY OF COMPOST AND OTHER MATERIALS USED TO MEET THE ORGANIC CONTENT REQUIREMENTS:
1. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BIORETENTION (BMP T7.30), WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE.
2. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 35% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1.
3. THE CARBON TO NITROGEN RATIO MAY BE AS HIGH AS 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.
O CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIAL MEETING THE REQUIREMENTS ABOVE, OR OTHER ORGANIC MATERIALS AMENED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND NOT EXCEEDING THE CONTAMINANT LIMITS IDENTIFIED IN TABLE 220-B, TESTING PARAMETERS, IN WAC 173-350-220.
• IMPLEMENTATION OPTIONS: THE SOIL QUALITY DESIGN GUIDELINES LISTED ABOVE CAN BE MET BY USING ONE OF THE METHODS LISTED BELOW.
O LEAVE UNDISTURBED NATIVE VEGETATION AND SOIL, AND PROTECT FROM COMPACTION DURING CONSTRUCTION.
O AMEND DISTURBED SOIL ACCORDING TO THE FOLLOWING PROCEDURES:
1. SCARIFY SUBSOIL TO A DEPTH OF ONE FOOT
2. IN PLANTING BEDS, PLACE THREE INCHES OF COMPOST AND TILL IN TO AN EIGHT-INCH DEPTH.
3. IN TURF AREAS, PLACE TWO INCHES OF COMPOST AND TILL IN TO AN EIGHT-INCH DEPTH.
4. APPLY TWO TO FOUR INCHES OF ARBORIST WOOD CHIP, COARSE BARK MULCH, OR COMPOST MULCH TO PLANTING BEDS AFTER FINAL PLANTING.
• IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET THE ORGANIC MATTER AND DEPTH REQUIREMENTS.

MAINTENANCE

- SOIL QUALITY AND DEPTH SHOULD BE ESTABLISHED TOWARD THE END OF CONSTRUCTION AND, ONCE ESTABLISHED, SHOULD BE PROTECTED FROM COMPACTION, SUCH AS FROM LARGE MACHINERY USE, AND FROM EROSION.
• SOIL SHOULD BE PLANTED AND MULCHED AFTER INSTALLATION.
• PLANT DEBRIS OR ITS EQUIVALENT SHOULD BE LEFT ON THE SOIL SURFACE TO REPLENISH ORGANIC MATTER.

ESTIMATED COMPOST OR TOPSOIL QUANTITY BY AREA

Table with 6 columns: DESCRIPTION, APPLICATION, AREA (SQUARE FEET), DEPTH (INCHES), MATERIAL, QUANTITY (CUBIC YARDS). Rows include INFREQUENTLY MAINTAINED SEEDED AREAS, PLANTING AREAS, and MAINTAINED TURF/LAWN AREAS.

TOTAL COMPOST (CY)\*: 4,918

TOTAL TOPSOIL (CY): 699

\*TILLING COMPOST INTO GRAVEL BORROW OR STRUCTURAL FILL WILL NOT MEET THE MINIMUM REQUIREMENTS FOR PREPARING THE PLANTING AREAS AND ESTABLISHING THE PROPOSED PLANTING. IF NATURAL SUBGRADE CANNOT BE USED, IMPORTED TOPSOIL IS RECOMMENDED.

DYNAMIC COMPACTION SPECIFICATIONS:

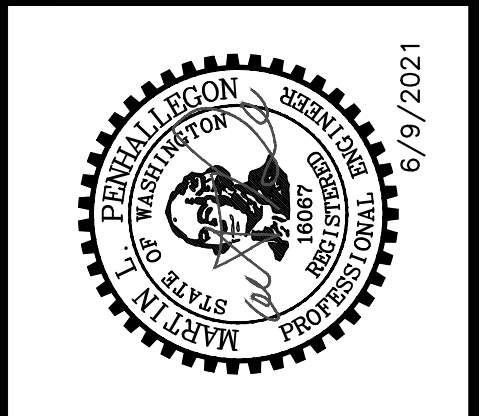
- DYNAMIC COMPACTION FOR THE COVER SYSTEM 2 WITHIN THE LANDFILL CLOSURE SHALL MEET THE FOLLOWING GENERAL REQUIREMENTS.
• 75 FOOT DROP HEIGHT.
• 12 TON WEIGHT.
• 12-FT CENTER TO CENTER SPACING WITH TRIANGULAR PATTERN.
• 4 DROPS PER POINT.
• ONE PASS UNLESS DIRECTED BY GEOTECHNICAL ENGINEER ON ADDITIONAL PASS IS NEEDED.
• VARIATIONS OF THESE REQUIREMENTS MUST BE APPROVED BY ENGINEER OBSERVING THIS OPERATION IN FIELD.
• MONITOR VIBRATION AT PROPERTY BOUNDARY CLOSEST TO PROPERTY BOUNDARY.

PFN 20 118246LDA

Approval stamp: Snohomish County Planning Development Services, APPROVED FOR CONSTRUCTION, By: [Signature], R/W Permit No. 20 108693 D8, Date: 6/23/2021

Revision table with columns: NO., DESCRIPTION, DATE, REVISION, SYM.

PACE logo and contact information: 11255 Kirkland Way, Suite 300, Kirkland, WA 98033, p. 425.827.2014 f. 425.827.9043, Civil | Structural | Planning | Survey | paceengs.com



GO EAST LANDFILL CLOSURE GENERAL NOTES. SCALE: AS NOTED, DATE: 6/9/2021. DESIGNED BY: SC, CHECKED BY: MP. JOB NUMBER: P09382.00. DWG NAME: P09382\_GN-DET. SHEET 10 OF 25.

FILE NAME: P:\P09\09382.00\_GO EAST\CAD\FIGURES\LANDFILL\_CLOSURE\2018\P09382\_GN-DET.DWG. SAVE TIME: 5/25/2021 2:24:31 PM. PLOT TIME: 6/9/2021 10:58:AM. XREF FILES: PACE.XREF

108TH ST SE  
EX FIRE HYDRANT

SEE SHEET 4 FOR  
DESIGN OF WATER

42ND DRIVE SE

FOR DETAILED WALL ELEVATIONS, SEE  
SHEETS 19 & 20. DESIGN OF WALLS OVER  
4" IN HEIGHT REQUIRED BY PROFESSIONAL  
ENGINEER UNDER SEPARATE PERMIT.

22 SDMH 48" RIM 194.78  
45LF 18" HDPE S=16.93%  
SDMH 48" V 186.79  
107LF 18" HDPE S=47.42%  
24 SDMH 48" RIM 101.32  
25LF 18" HDPE S=2.00%  
GABION OUTFALL ENERGY DISSIPATOR

SPRING BOX  
SEE DETAIL 5, SHEET 8A

PLATFORM AS REQ'D FOR  
DRILLING 2 NEW WELLS  
(MIN. 12" QUARRY SPALLS  
OVER FILTER FABRIC)

APPROXIMATE EXISTING  
LANDFILL LIMITS

DETENTION POND  
MONITORING VAULT,  
SEE DETAIL 4 ON SHEET 8

261LF 18" HDPE  
S=11.36%

19 CONTROL STRUCTURE  
RIM 226.31  
2" PVC  
DRAIN  
PIPES

MONITORING  
DRAINS

POND OUTLET  
IE 221.0

APPROXIMATE  
PROPOSED  
LANDFILL LIMITS

DETENTION POND

42LF 8" DI  
S=0.00%

19LF 18" HDPE  
S=1.03%

15LF 18" HDPE  
S=0.00%

219LF 18" HDPE  
S=0.91%

47LF 24" LCPE  
S=1.58%

95LF 24" LCPE  
S=0.96%

139LF 24" LCPE  
S=0.63%

83LF 24" LCPE  
S=0.65%

25LF 12" LCPE  
S=11.84%

28LF 8" LCPE  
S=2.21%

CB 16-1, TYPE 1  
N= 330635.55  
E= 1312479.84  
RIM= 226.41  
IE IN= 222.56 (8" N)  
IE OUT= 222.56 (8" S)

CB 16, TYPE 2-48"  
N= 330608.21  
E= 1312475.97  
RIM= 228.15  
IE IN= 220.62 (24" S)  
IE IN= 221.95 (8" N)  
IE OUT= 220.62 (24" NW)

CB 15, TYPE 2-48"  
N= 330525.76  
E= 1312495.28  
RIM= 227.92  
IE IN= 221.14 (24" SW)  
IE OUT= 221.14 (24" N)

CB 14, TYPE 2-48"  
N= 330454.33  
E= 1312423.25  
RIM= 228.01  
IE IN= 222.05 (24" SW)  
IE IN= 222.05 (12" NW)  
IE OUT= 222.05 (24" NE)

CB 14A, TYPE 1  
N= 330475.60  
E= 1312410.27  
RIM= 227.99  
IE OUT= 225.00 (12" SE)

STORM STRUCTURES

- 20A TYPE 2-48" EMERGENCY OVERFLOW  
RIM 224.66  
IE OUT= 220.80 (18" N)
- SDMH 18, SDMH 72" W/MATERIALS SEPARATOR  
N= 330667.56  
E= 1312350.40  
RIM= 226.00  
IE IN= 219.75 (24" SE)  
IE OUT= 219.75 (24" SW)

Snohomish County Planning Development Services  
APPROVED FOR CONSTRUCTION  
By: *[Signature]* P.E.  
R/W Permit No. 20 108693 D8  
Date: 6/23/2021

PFN 20 118246LDA

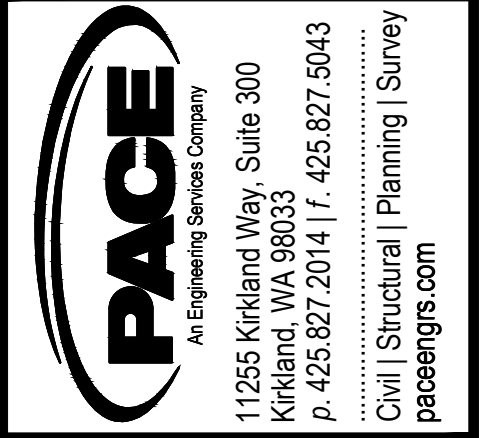
FILE NAME: P:\P09\09382\_00\_GO EAST\CAD\FIGURES\SHEETS\LANDFILL CLOSURE (2018)\P09382\_LF-CUP.DWG  
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 PLOT TIME: 6/9/2021 10:58:58 AM  
 XREF FILES: X09382\_SIT, X09382\_SITE, CONTOURSSET\_200FTBUFFER, X09382\_UT, X09382\_SD, X09382\_PREPLATBDR.

11TH ST SE

STREAM RELOCATION  
SEE SECTION DETAIL ON SHEET 7.  
SEE PLAN ON SHEET 18

25 TYPE 2-48"  
W/DEBRIS CAGE  
RIM 247.42

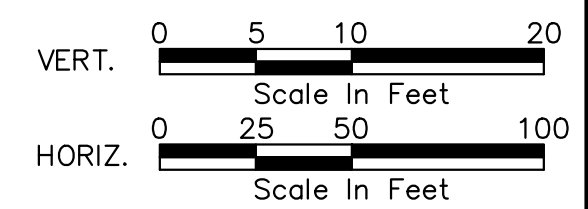
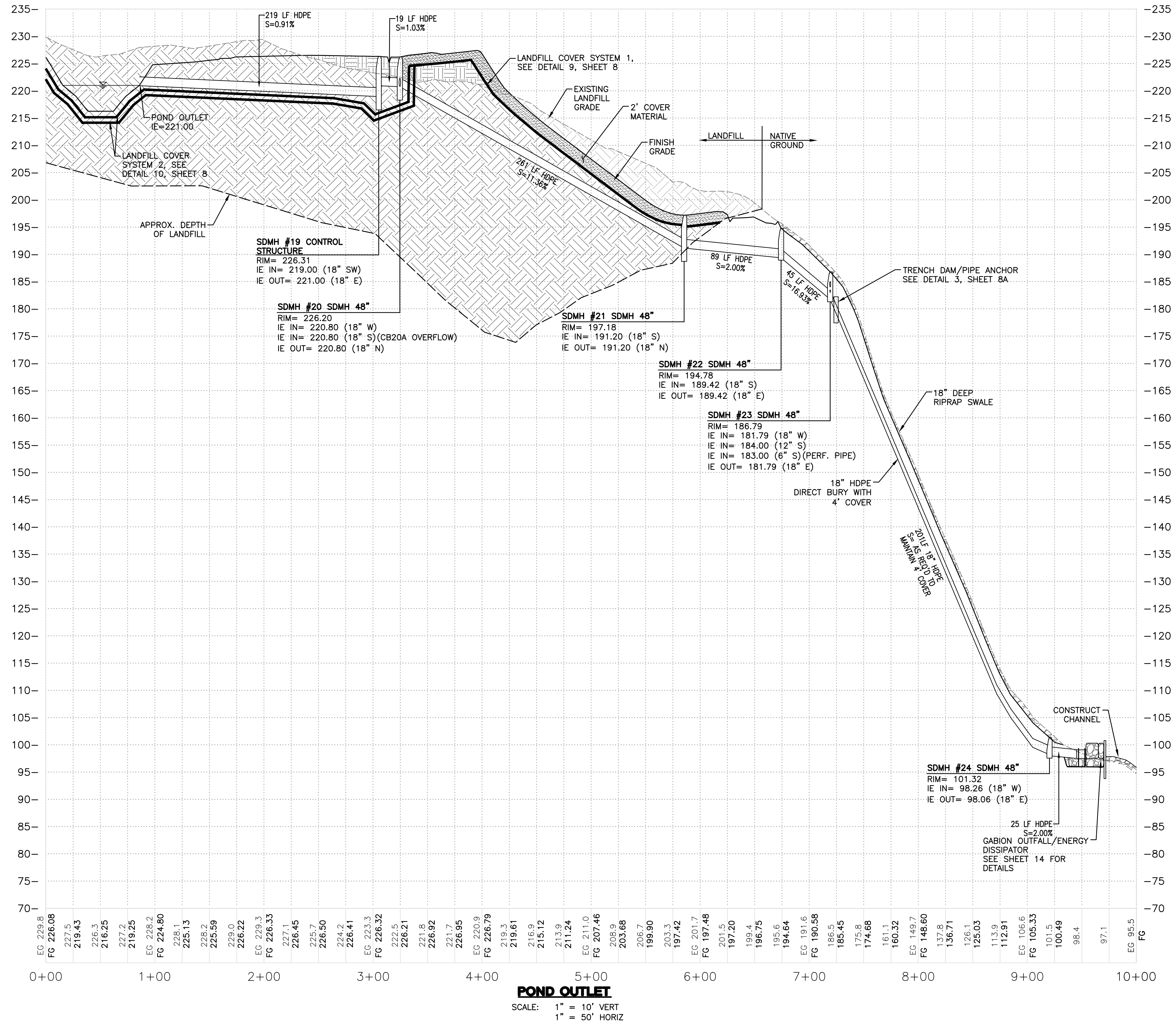
SEE SHEET 18 FOR PLAN & PROFILE



GO EAST  
LANDFILL CLOSURE  
COMPOSITE UTILITY PLAN

SCALE: AS SHOWN	DATE: 6/9/2021
DESIGNED BY: MP	CHECKED BY: MP
JOB NUMBER P09382.00	
DWG NAME: P09382_LF-CUP	
SHEET 11 OF 25	

DATE	6/9/2021
REVISION	4/21/21
SYN	
2	ROAD ALIGNMENT & LOT GRADING
1	REVISION TO WATER MAIN LOCATION



**POND OUTLET**  
SCALE: 1" = 10' VERT  
1" = 50' HORIZ

PFN 20 118246LDA

**Snohomish County Planning Development Services**  
APPROVED FOR CONSTRUCTION  
By: *[Signature]* P.i.  
R/W Permit No. 20 108693 D8  
Date: 6/23/2021

**PACE**  
An Engineering Services Company  
11255 Kirkland Way, Suite 300  
Kirkland, WA 98033  
p. 425.827.2014 f. 425.827.9043  
Civil | Structural | Planning | Survey  
paceengr.com



**GO EAST**  
**LANDFILL CLOSURE**  
STORM DRAIN PROFILES

SCALE: AS SHOWN	DATE: 6/9/2021
DESIGNED BY: MP	CHECKED BY: MP
JOB NUMBER P09382.00	
DWG NAME: P09382_LF-PRO	

FILE NAME: P:\P09\09382.00 GO EAST\CAD\FIGURES\SHEETS\LANDFILL CLOSURE\2018\P09382\_LF-PRO.DWG  
SAVE TIME: 5/26/2021 12:45:15 PM  
PLOT TIME: 6/9/2021 10:59:AM  
XREF FILES: PACE382





**STANDARD SPECIFICATIONS**

ALL WORK, MATERIALS, AND TESTING SHALL CONFORM TO THE LATEST AMENDED VERSION OF THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" PREPARED BY WSDOT/APWA, EXCEPT AS HEREIN SUPPLEMENTED OR MODIFIED. THE LATEST AMENDED VERSION OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION CAN BE FOUND HERE:

HTTP://WWW.WSDOT.WA.GOV/BUSINESS/CONSTRUCTION/SPECIFICATIONS/AMENDMENTS/GSPS.HTM

THE STANDARD SPECIFICATIONS ARE MODIFIED BY THE PROVISIONS AND REQUIREMENTS LISTED BELOW, CALLOUT ON DRAWINGS AND REQUIREMENTS CONTAINED IN THE GO EAST LANDFILL CLOSURE PLAN WITH UPDATES TO JANUARY 2018 INCLUDING APPENDICES.

**INTENT AND INTERPRETATION OF CONTRACT DOCUMENTS**

- INTENT OF THE CONTRACT DOCUMENTS: THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS CALLED FOR BY ONE IS AS BINDING AS IF CALLED FOR BY ALL AND INCLUDE ALL THOSE DOCUMENTS LISTED BELOW IN THE LISTING TITLED "LIST OF APPLICABLE SPECIFICATIONS AND CONTROL DOCUMENTS". ANY WORK THAT MAY BE REASONABLY INFERRED, FROM THE DRAWINGS AND SPECIFICATIONS, OR INCLUDED IN THE GO EAST LANDFILL CLOSURE PLAN AND ITS APPENDICES, AS BEING REQUIRED TO PRODUCE THE INTENDED RESULT SHALL BE PROVIDED BY THE CONTRACTOR WHETHER OR NOT IT IS SPECIFICALLY CALLED FOR.
- DRAWINGS: DRAWINGS INCLUDE DESIGNS, LAYOUTS, CONDITIONS, SPECIFICATIONS, REQUIREMENTS, AND GENERAL DIRECTION. FIGURED DIMENSIONS ON DRAWINGS SHALL GOVERN OVER SCALE DIMENSIONS, AND DETAILED DRAWINGS SHALL GOVERN OVER GENERAL DRAWINGS. SPECIFICATION REQUIREMENTS AND DIRECTION PROVIDED ON PLANS SHALL GOVERN EXECUTION OF THE WORK.
- ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS: IN RESOLVING CONFLICTS RESULTING FROM ERRORS OR DISCREPANCIES IN ANY OF THE CONTRACT DOCUMENTS, THE ORDER OF PRECEDENCE SHALL BE AS FOLLOWS:
  - PERMITS FROM OTHER AGENCIES AS MAY BE REQUIRED BY LAW
  - CHANGE ORDERS
  - CONTRACT AGREEMENT
  - ADDENDA
  - CONTRACTOR'S BID (BID FORMS, IF ANY)
  - GO EAST LANDFILL CLOSURE PLAN WITH APPENDICES
  - DRAWINGS
  - WSDOT STANDARD SPECIFICATIONS AND CURRENT AMENDMENTS
  - TECHNICAL SPECIFICATIONS ON DRAWINGS

WITH REFERENCE TO THE DRAWINGS, THE ORDER OF PRECEDENCE IS AS FOLLOWS:

- FIGURES GOVERN OVER SCALED DIMENSIONS
- DETAILED DRAWINGS GOVERN OVER GENERAL DRAWINGS
- ADDENDA/CHANGE ORDER DRAWINGS GOVERN OVER ANY OTHER DRAWINGS
- DRAWINGS GOVERN OVER STANDARD DRAWINGS
- DIRECTIONS AND SPECIFICATIONS

**LIST OF APPLICABLE SPECIFICATIONS AND CONTROL DOCUMENTS**

- STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, PREPARED BY WSDOT/APWA, LATEST VERSION.
- GO EAST LANDFILL CLOSURE PLAN REVISED JANUARY 2018.
- GO EAST LANDFILL CLOSURE PLAN, APPENDIX A, GEOTECH REPORT BY ASSOCIATED EARTH SCIENCES, REVISED FEB. 28, 2013 WITH EXPLORATION LOGS.
- GO EAST LANDFILL CLOSURE PLAN, APPENDIX E, GEOMEMBRANE LINER MANUAL AND LLDPE SPECIFICATION AND REQUIREMENTS.
- GO EAST LANDFILL CLOSURE PLAN, APPENDIX I, WASTE EXCAVATION, SCREENING, AND DISPOSAL.
- GO EAST LANDFILL CLOSURE PLAN, APPENDIX K, AND UPDATE OF THE CONSTRUCTION QUALITY ASSURANCE PLAN PREPARED TO SUPPORT THIS LDA DOCUMENT.
- SILVER LAKE WATER AND SEWER DISTRICT, STANDARD SPECIFICATIONS AND DEVELOPER EXTENSION REQUIREMENTS FOR EXTENSION OF WATER SERVICE TO THE PROPERTY.

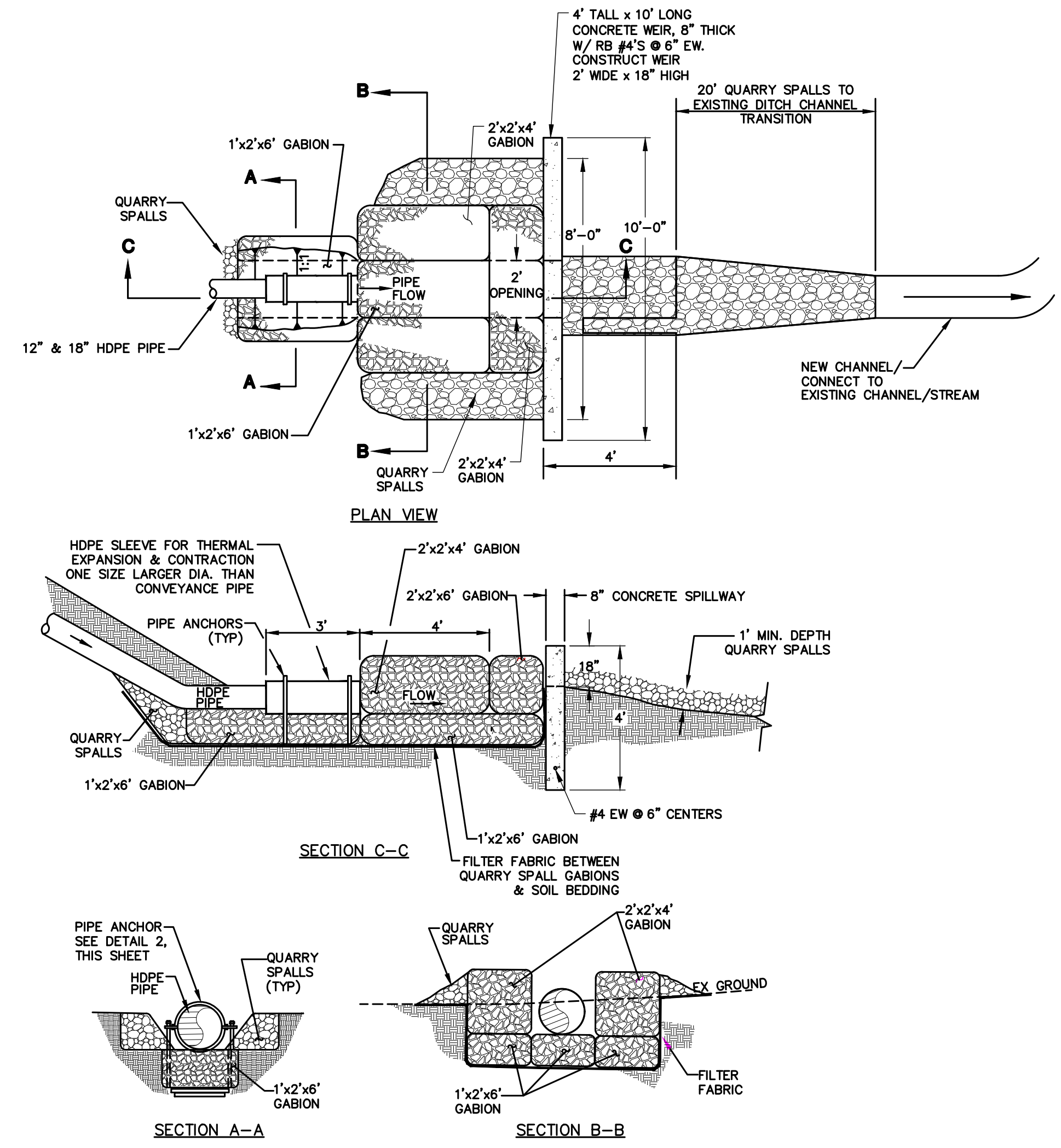
**PERMITS AND APPROVALS REQUIRING COMPLIANCE**

- DEPARTMENT OF ECOLOGY, CONSTRUCTION STORMWATER GENERAL PERMIT (CSWGP) # WAR306901.
- SNOHOMISH HEALTH DISTRICT, SOLID WASTE FACILITY PERMIT # SW-027.
- DEPARTMENT OF THE ARMY, NATIONWIDE PERMIT (NWP) 29, # NWS-2014-552.
- DEPARTMENT OF ECOLOGY LETTER DATED APRIL 20, 2017, NWR #29 APPROVAL MEETS REQUIREMENT OF WASHINGTON STATE 401 WATER QUALITY CERTIFICATION.
- DEPARTMENT OF ECOLOGY LETTER JUNE 1, 2018, SHD PERMIT # SW-027, CONCURRENCE THAT PERMIT, AND FACILITY CLOSURE CONFORM TO APPLICABLE LAWS AND REGULATIONS AND APPROVED COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN.
- FOREST PRACTICE PERMIT ISSUED FOR THE BAKERVIEW PROJECT.
- APPLICABLE SNOHOMISH COUNTY STREET USE AND LDA AND OTHER RELATED PROJECT PERMITS.
- WASHINGTON DEPARTMENT OF FISH AND WILDLIFE HYDRAULIC PROJECT APPROVAL PERMIT #2018-4-764+01.

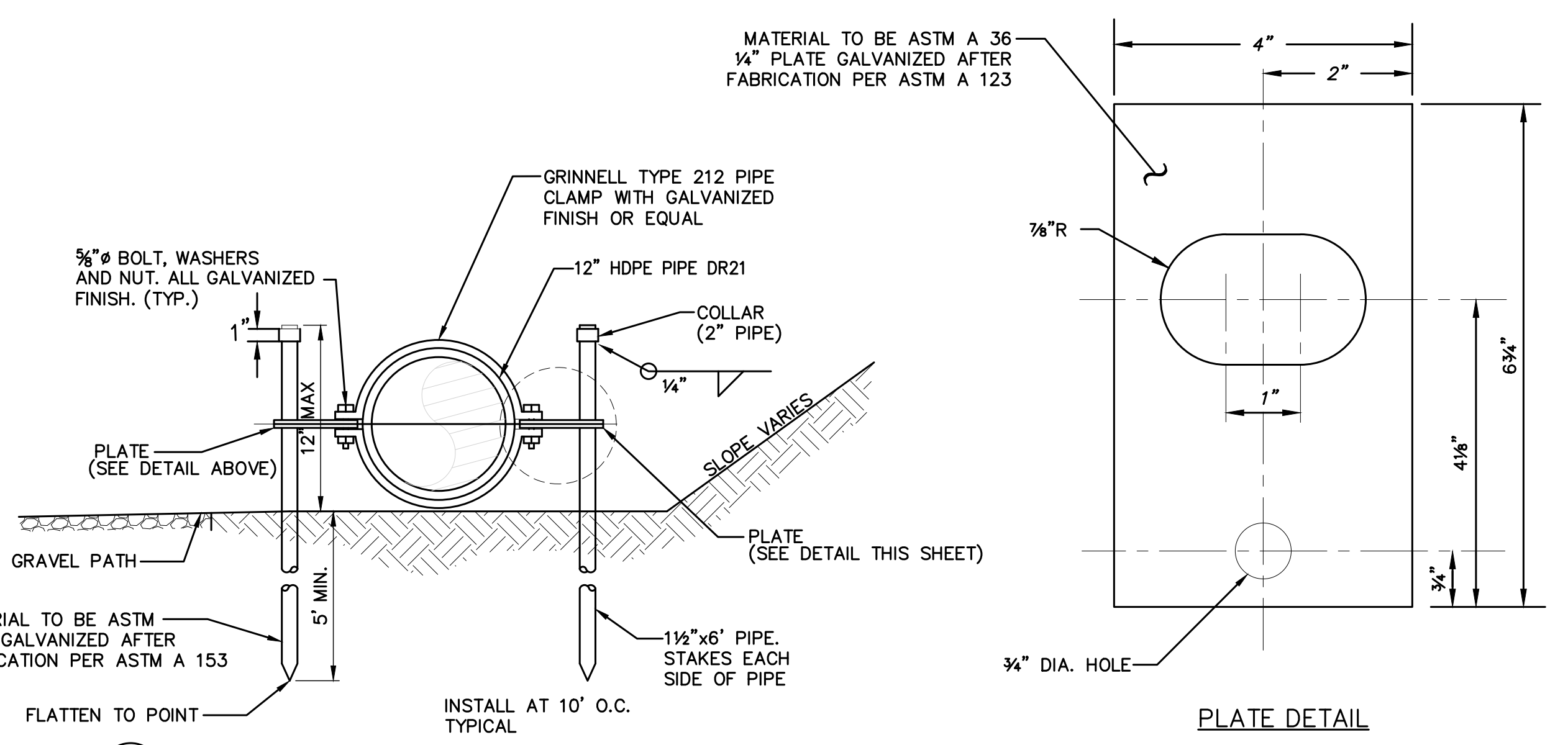
**LANDFILL CLOSURE SPECIFICATIONS AND REQUIREMENTS**

THE FOLLOWING SPECIFICATIONS APPLY TO THE GO EAST LANDFILL CLOSURE ACTIVITIES ONLY, AND NOT TO THE BAKERVIEW PLAT OR LAND DISTURBANCE ACTIVITY PERMIT ISSUED FOR THE BAKERVIEW PLAT WORK.

- LOG, CLEAR, AND REMOVE VEGETATIVE MATERIAL FROM THE LANDFILL AREA. REMOVE LOGS AND BRUSH FROM SITE. CHIP AND STOCKPILE LIMBS TO BE PROTECTED ONSITE FOR FUTURE USE OR REMOVE FROM SITE AS DEEMED APPROPRIATE. COMPLY WITH FOREST PRACTICE PERMIT REQUIREMENTS.
- REMOVE TOPSOIL/ORGANIC SOILS, STOCKPILE, AND COVER AND PROTECT ONSITE FOR FUTURE REUSE ON THE RECONFIGURED LANDFILL AREA IF ANY EXISTS.
- REMOVE PREVIOUSLY PLACED "COVER" MATERIAL THAT IS NOT CONTAMINATED BY LANDFILL MATERIAL OVER THE LANDFILL LYING BELOW THE REMOVED TOPSOIL (ITEM 2 ABOVE), STOCKPILE ONSITE, AND PROTECT BY COVERING WITH PLASTIC SHEETING, OR EQUAL FOR FUTURE REUSE ON THE RECONFIGURED LANDFILL.
- MAINTAIN PLASTIC SHEETING COVER OVER ALL EXPOSED LANDFILL NOT BEING WORKED. MAXIMUM ONE ACRE CAN BE WORKED AT ANY ONE TIME AND IT MUST BE COVERED NIGHTLY WITH PLASTIC SHEETING.
- GRADE, PROOF-ROLL AND COMPACT THE LANDFILL SURFACE FOR THE AREA INSIDE THE "WEDGE" THAT IS TO REMAIN. SEE SECTION 9.0 SITE PREPARATION OF THE GEOTECH REPORT, APPENDIX A OF THE LANDFILL CLOSURE PLAN FOR FURTHER REQUIREMENTS.
- STRUCTURAL FILL SHALL BE PLACED IN THE "WEDGE AREA" AND FILL AREAS OUTSIDE THE RECONFIGURED LANDFILL AS DESCRIBED IN SECTION 10.0 OF THE GEOTECH REPORT CONTAINED IN APPENDIX A OF THE LANDFILL CLOSURE PLAN.
  - OUTSIDE OF THE LANDFILL BOUNDARY PLACE STRUCTURAL FILL IN 8-INCH LOOSE LIFTS WITHIN ABOUT 3 PERCENT OF OPTIMUM MOISTURE CONTENT TO AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DENSITY USING ASTM D1557 AS THE STANDARD.
  - WITHIN THE LANDFILL PLACE IN 12-INCH LOOSE LIFTS AND COMPACT TO 90% MAXIMUM DENSITY.
- SOILS PLACED OVER THE GEOMEMBRANE SHOULD HAVE A MAXIMUM PARTICLE SIZE OF 2 INCHES (NOT CRUSHED/FRACTURED) AND NOT CONTAIN ANY LANDFILL OR DELETERIOUS MATERIAL. IT IS ANTICIPATED COVER MATERIAL WILL BE FROM ONSITE EXCAVATION LOCATED OUTSIDE THE LANDFILL PROPER BUT COULD INCLUDE IMPORT MATERIAL INCLUDING TOPSOILS. A MINIMUM OF THE TOP 12 INCHES SHALL BE VEGETATIVE MATERIAL (WHICH CAN CONSIST OF STOCK PILED TOPSOIL/ORGANIC SOILS FROM ITEM 2 ABOVE) OVER A MINIMUM 12 INCHES OF LOCAL EXCAVATED SAND, SILT MATERIAL. PLACE INITIAL 12-INCH MINIMUM LOOSE LIFT COVER SOIL LAYER OVER THE GEOMEMBRANE SYSTEM PER THE MANUFACTURER'S RECOMMENDATIONS. COMPACT BY TRACK-WALKING WITH A MAXIMUM CAT D4 LOW GROUND PRESSURE DOZER (4 PASSES MINIMUM). SEE NOTE 9 ALSO.
- GEOMEMBRANE: THE GEOMEMBRANE SHALL BE LLDPE (LINEAR LOW DENSITY POLYETHYLENE GEOMEMBRANE) 40 MILS THICK AND DOUBLE-SIDED TEXTURED AND MEET THE REQUIREMENTS CONTAINED IN THE APPROPRIATE TABLE IN APPENDIX E OF THE LANDFILL CLOSURE PLAN. INSTALLATION, TESTING, PREPARATION, FIELD SEAMING, REPAIRS, ETC., SHALL BE IN COMPLIANCE WITH NORTHWEST LININGS & GEOTEXTILE PRODUCTS, INC., CONSTRUCTION QUALITY CONTROL MANUAL FOR HDPE AND LLDPE CONTAINMENT MEMBRANE FIELD INSTALLATIONS, CONTAINED IN APPENDIX E OF THE LANDFILL CLOSURE PLAN OR APPROVED EQUAL FROM ANOTHER SUPPLIER.
- GEOCOMPOSITE DRAINAGE LAYER: GEOCOMPOSITE DRAINAGE LAYER SHALL BE PLACED DIRECTLY OVER THE GEOMEMBRANE IN ALL AREAS, UNLESS SHOWN OTHERWISE. GEOCOMPOSITE SHALL CONSIST OF GSE FABRINET 200 DOUBLE-SIDED COMPOSITE (6 OZ/YD2) (OR APPROVED EQUIVALENT). GEOCOMPOSITE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. NO EQUIPMENT SHALL BE ALLOWED OVER THE GEOCOMPOSITE OR THE GEOMEMBRANE UNTIL A MINIMUM 12-INCH LAYER OF ON-SITE SAND IS PLACED OVER THE GEOCOMPOSITE. THE 12-INCH SAND LAYER SHALL BE PLACED PER THE GEOMEMBRANE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE SPREAD AND TRACK-WALKED USING A CAT D4 LOW GROUND PRESSURE DOZER (UNLESS APPROVED OTHERWISE BY THE ENGINEER). NO BRAKING OR ABRUPT STOPS SHALL BE PERMITTED BY THE DOZER WHILE OVER THE GEOMEMBRANE.
- SAND CUSHION GEOMEMBRANE SUBGRADE: PLACE OVER COMPACTED LANDFILL A 6-INCH LAYER OF ON-SITE SANDY SOIL AND GRADE AND COMPACT BY TRACK-WALKING WITH DOZER (MINIMUM 4 PASSES) TO PRODUCE A SMOOTH SUBGRADE FOR THE GEOMEMBRANE. VERIFY NO ROCKS OR DEBRIS PROTRUDES THAT CAN DAMAGE THE GEOMEMBRANE. SUBGRADE SHALL BE INSPECTED AND APPROVED BY GEOTECHNICAL ENGINEER AND GEOMEMBRANE MANUFACTURER REPRESENTATIVE BEFORE INSTALLING THE GEOMEMBRANE.
- GAS TRENCH CONSTRUCTION:
  - GRAVEL GAS COLLECTION TRENCH: CONSTRUCT A MINIMUM 12-INCH-WIDE GRAVEL TRENCH FROM JUST UNDER THE GEOMEMBRANE. WRAP GEOMEMBRANE WITH GEO NET AROUND THE OUTSIDE OF THE GRAVEL TRENCH AND EXTEND DOWN MINIMUM OF 12" INTO NATIVE SOIL.
    - GRAVEL SHALL BE "GRAVEL BACKFILL FOR DRAINS" PER STANDARD SPECIFICATIONS, MAXIMUM 1-INCH ROUND ROCK WITH NO MORE THAN 2 PERCENT PASSING NO. 200 SIEVE OR APPROVED EQUAL.
    - GAS COLLECTOR PIPING SHALL BE 2-INCH DIAMETER PVC PERFORATED PIPE SOLVENT WELDED OR APPROVED EQUAL.
    - GAS INSPECTION AND WELL PROTECTION CHAMBERS AS SHOWN ON DRAWINGS SHALL BE MINIMUM 24-INCH INSIDE DIAMETER AND CONSTRUCTED OF HDPE OR APPROVED EQUAL. COVER SHALL BE MINIMUM 18-INCH DIAMETER WITH LOCKING CAPABILITY. SUBMIT SUPPLIER MATERIAL SUBMITTAL FOR APPROVAL TO ENGINEER.
- GAS PROBES SHALL BE LOCATED AT A SPACING OF ABOUT 100 FEET AS SHOWN ON SHEET 4. PROBE SHALL BE SHOWN ON SHEET 8, DETAIL 7 AND BE INSTALLED BY A LICENSED WELL DRILLER AND UNDER THE DIRECTION OF A LICENSED GEOLOGIST.
- STORM PIPING AND STRUCTURES: STORMWATER PIPING SHALL BE N-12 OR APPROVED EQUAL, AND STRUCTURES PER STANDARD SPECIFICATIONS. INSTALL PER STANDARD SPECIFICATIONS AND DETAILS CONTAIN ON THESE DRAWINGS.
- TESOP AND LANDSCAPING: CONSTRUCT AND MAINTAIN AS SPECIFIED AND SHOWN ON THESE DRAWINGS.
- COMPLY WITH SNOHOMISH COUNTY REQUIREMENTS AS PROVIDED ON SHEET 10.



**1 GABION OUTFALL/ENERGY DISSIPATOR DETAIL**  
NTS



**2 PIPE ANCHOR DETAILS**  
NTS

PFN 20 118246LDA

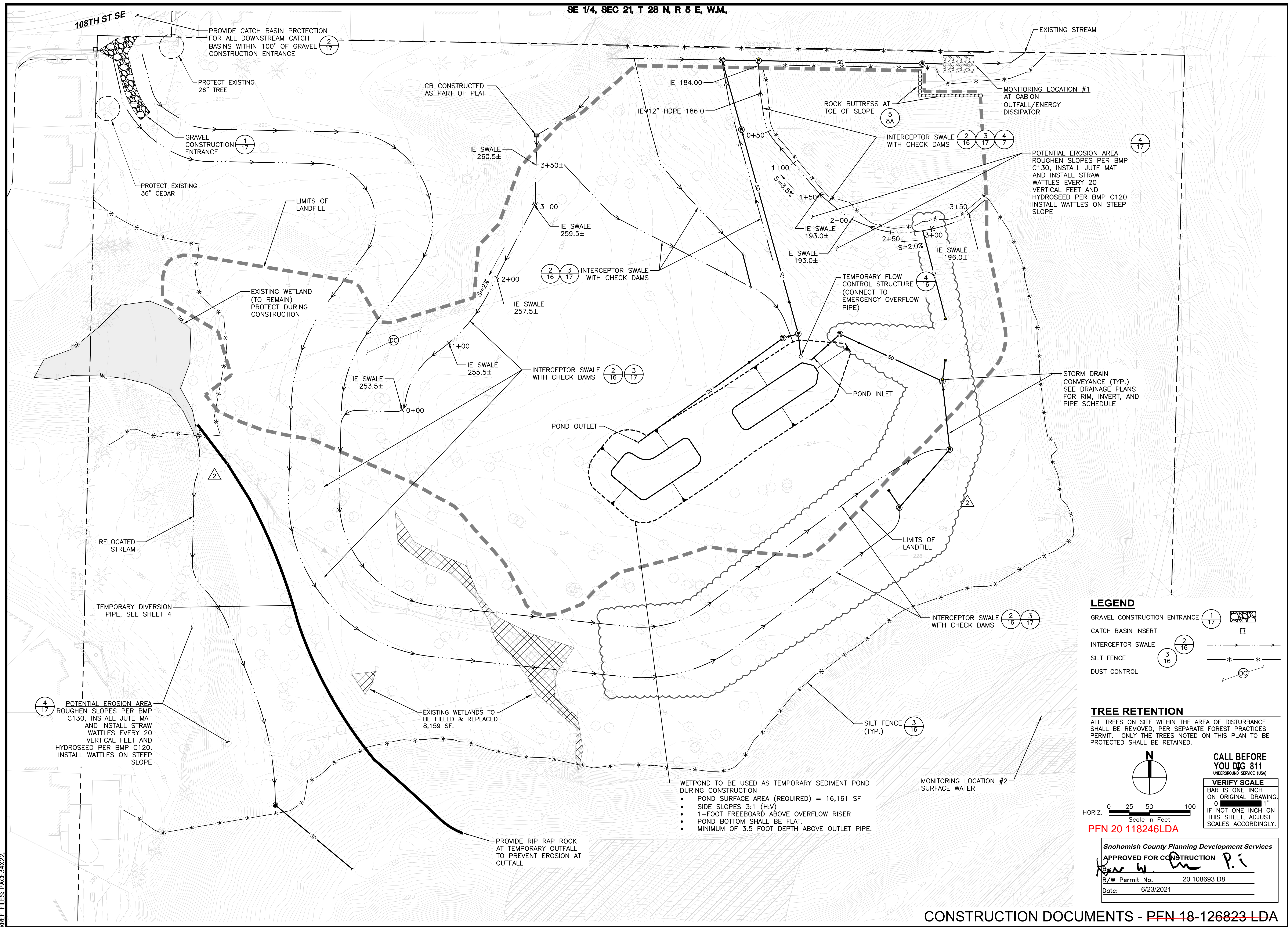
Snohomish County Planning Development Services  
**APPROVED FOR CONSTRUCTION**  
 By: *[Signature]*  
 R/W Permit No. 20 108693 D8  
 Date: 6/23/2021

DATE	
REVISION	
SYN	
<b>GO EAST LANDFILL CLOSURE</b> STORM DETAILS AND SPECIFICATIONS	
SCALE:	DATE: 6/9/2021
DESIGNED BY: MP	CHECKED BY: MP
JOB NUMBER: P09382.00	
DWG NAME: P09382_LF-POND	
SHEET 14	OF 25

FILE NAME: P:\P09382\GO EAST\CAD\FIGURES\SHEETS\LANDFILL\_CLOSURE\2018\P09382\_LF-POND.DWG  
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 XREF FILES: PACE3.XXD

SE 1/4, SEC 21, T 28 N, R 5 E, WM.

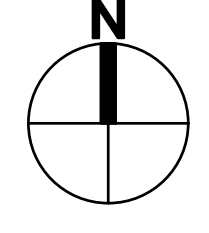


**LEGEND**

- GRAVEL CONSTRUCTION ENTRANCE (1/17)
- CATCH BASIN INSERT
- INTERCEPTOR SWALE (2/16)
- SILT FENCE (3/16)
- DUST CONTROL (DC)

**TREE RETENTION**

ALL TREES ON SITE WITHIN THE AREA OF DISTURBANCE SHALL BE REMOVED, PER SEPARATE FOREST PRACTICES PERMIT. ONLY THE TREES NOTED ON THIS PLAN TO BE PROTECTED SHALL BE RETAINED.



HORIZ. 0 25 50 100  
 Scale In Feet

PFN 20 118246LDA

**CALL BEFORE YOU DIG 811**  
 UNDERGROUND SERVICE (USA)  
**VERIFY SCALE**  
 BAR IS ONE INCH ON ORIGINAL DRAWING.  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

- WETPOND TO BE USED AS TEMPORARY SEDIMENT POND DURING CONSTRUCTION
- POND SURFACE AREA (REQUIRED) = 16,161 SF
  - SIDE SLOPES 3:1 (H:V)
  - 1-FOOT FREEBOARD ABOVE OVERFLOW RISER
  - POND BOTTOM SHALL BE FLAT.
  - MINIMUM OF 3.5 FOOT DEPTH ABOVE OUTLET PIPE.

**Snohomish County Planning Development Services**  
 APPROVED FOR CONSTRUCTION  
*[Signature]*  
 R/W Permit No. 20 108693 D8  
 Date: 6/23/2021

CONSTRUCTION DOCUMENTS - PFN 18-126823-LDA

<p>11255 Kirkland Way, Suite 300        Kirkland, WA 98033        p. 425.827.2014 f. 425.827.9043        Civil   Structural   Planning   Survey        paceengr.com</p>	
<b>GO EAST        LANDFILL CLOSURE</b>	
TEMPORARY EROSION & SEDIMENT CONTROL PLAN	
SCALE: AS NOTED	DATE: 6/9/2021
DESIGNED BY: SC	CHECKED BY: MP
JOB NUMBER: P09382.00	
DWG NAME: P09382_TESC	
SHEET 15 OF 25	

NO.	REVISION	DATE
2	ROAD ALIGNMENT & LOT GRADING	6/9/2021

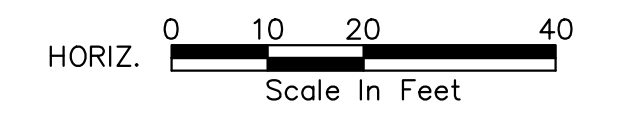
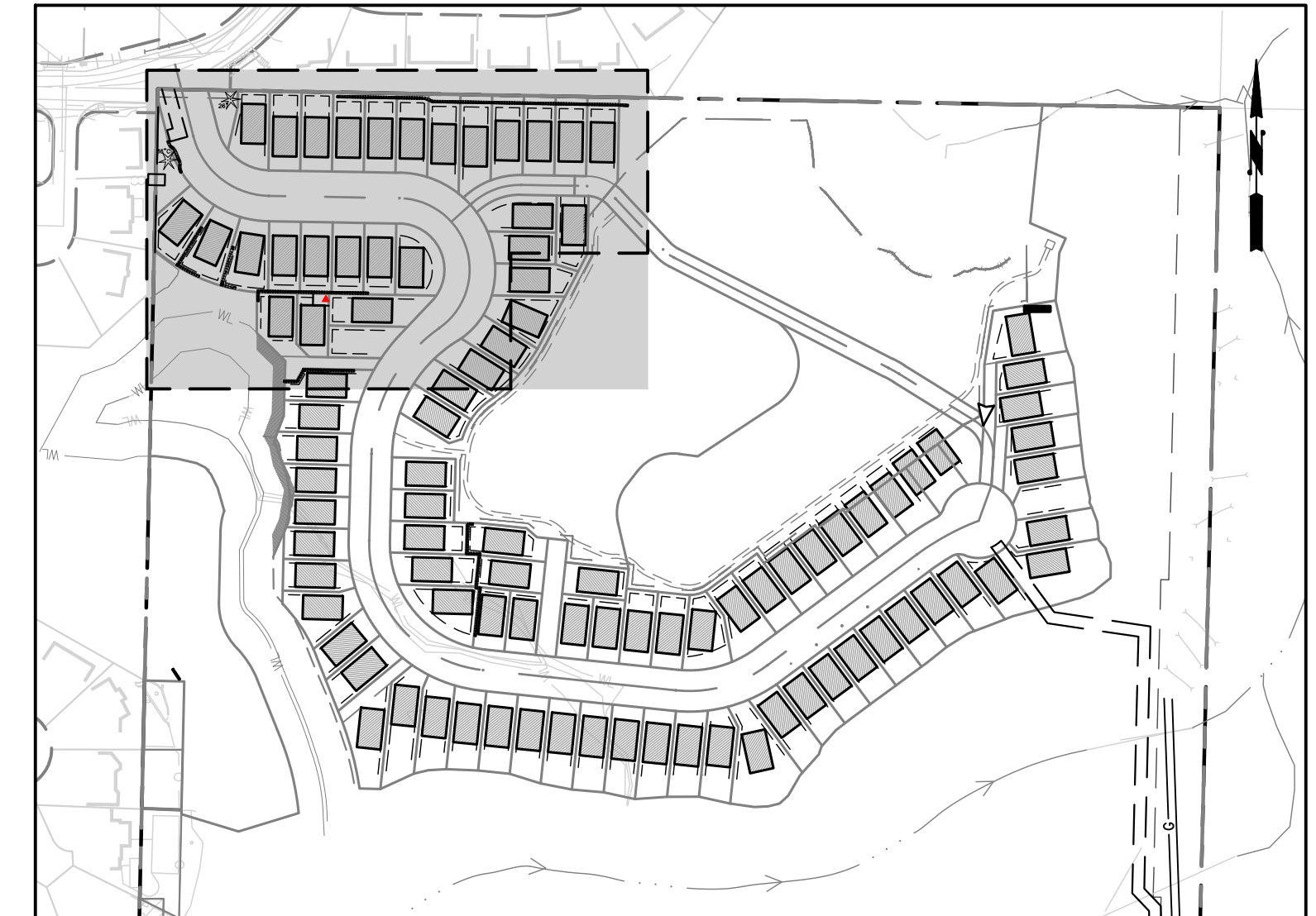
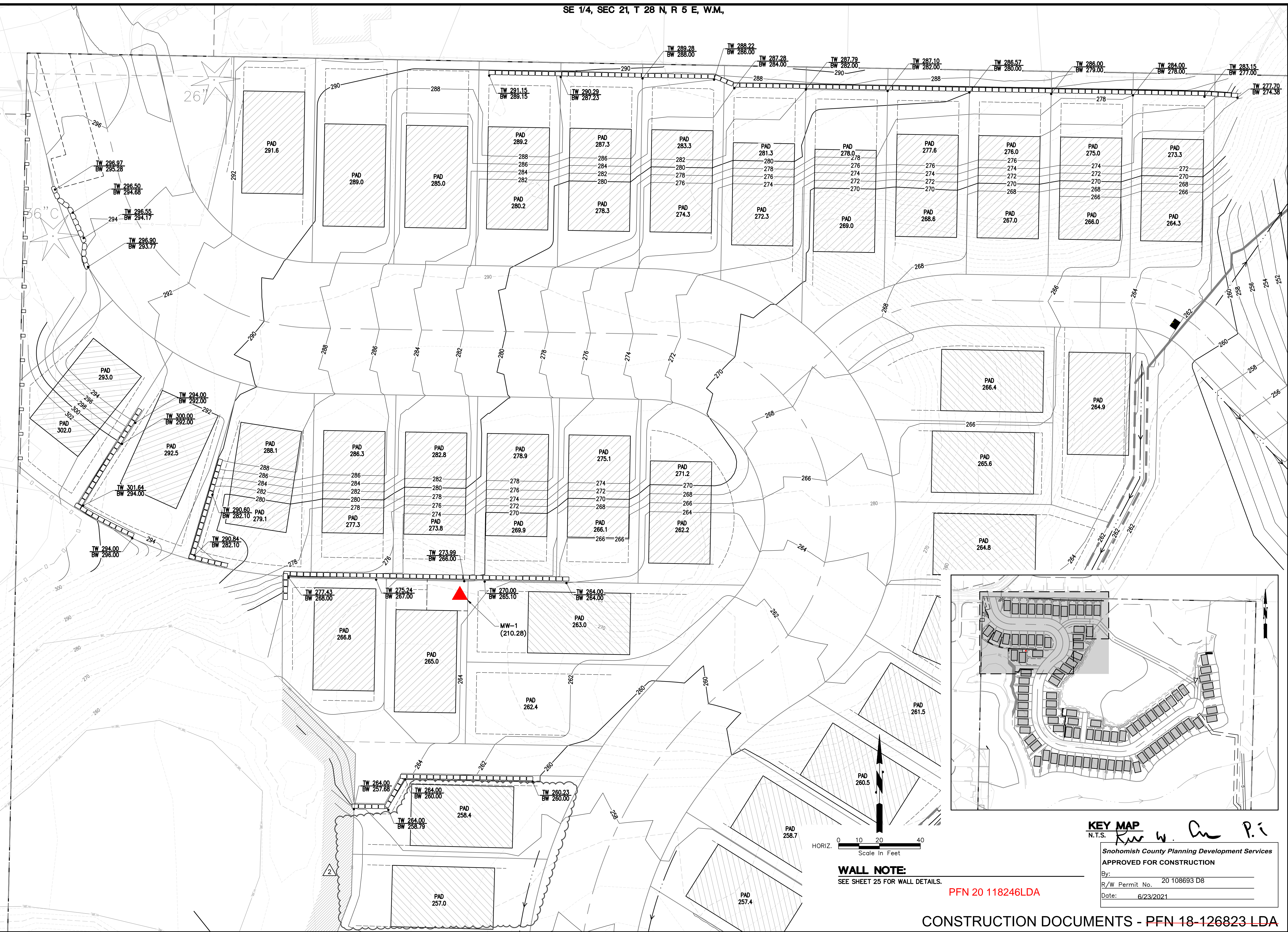






SE 1/4, SEC 21, T 28 N, R 5 E, W.M.

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**WALL NOTE:**  
 SEE SHEET 25 FOR WALL DETAILS.

PFN 20 118246LDA

**KEY MAP**  
 N.T.S. *Rue W. On P.I.*

**Snohomish County Planning Development Services**  
 APPROVED FOR CONSTRUCTION

By: \_\_\_\_\_  
 R/W Permit No. 20 108693 D8  
 Date: 6/23/2021

CONSTRUCTION DOCUMENTS - PFN 18-126823-LDA

DATE	6/9/2021
REVISION	4/21/21
SYN	ROAD ALIGNMENT & LOT GRADING
SYN	LOT & WALL GRADING - FOR WALL HEIGHT REDUCTION

**PACE**  
 An Engineering Services Company  
 11255 Kirkland Way, Suite 300  
 Kirkland, WA 98033  
 p. 425.827.2014 | f. 425.827.5043  
 Civil | Structural | Planning | Survey  
 paceengr.com



**GO EAST**  
**LANDFILL CLOSURE**  
**WALL & GRADING PLAN**

SCALE: 1"=20'  
 DATE: 6/9/2021

DESIGNED BY: SC  
 CHECKED BY: MP

JOB NUMBER: P09382.00  
 DWG NAME: P09382\_GR-WALLS

SHEET **19** OF **25**



108TH ST SE

42ND DRIVE SE

PROPERTY LINE

STREAM 'D'

PROPERTY LINE

WETLAND 'A'

CRITICAL AREA PROTECTION AREA FENCING AND SIGNS INSTALLED WITH FINAL DEVELOPMENT LDA

STREAM ACCESS EASEMENT

APPROXIMATE PROPOSED LANDFILL LIMITS

POTENTIAL PLAY STRUCTURE LOCATION

STORMWATER FACILITY

APPROXIMATE EXISTING LANDFILL LIMITS

EXISTING VEGETATION TO REMAIN

8' WIDE CRUSHED ROCK TRAIL, SEE DETAIL 5, SHEET 21

5' WIDE CRUSHED ROCK TRAIL, SEE DETAIL 5, SHEET 22

INSTALL TIMBER STEPS ON ALL TRAIL GRADES STEEPER THAN 20% SEE DETAIL 6, SHEET 22

5' WIDE ASPHALT PATH, SEE DETAIL 8, SHEET 8

RELOCATED STREAM 'C'

REFER TO TESC PLAN FOR EROSION CONTROL BMPs

SLOPE STABILIZATION PLANTING

CRITICAL AREA PROTECTION AREA FENCING AND SIGNS INSTALLED WITH FINAL DEVELOPMENT LDA

STREAM ACCESS EASEMENT

37.5' STREAM BUFFER PLANTING

25' SLOPE AND STREAM BUFFER AT TOP OF SLOPE

DRAINAGE PIPING TO STREAM 'A', SEE GRADING AND DRAINAGE PLANS

LEGEND

PLANTING	
	STREAM BUFFER PLANTING
	SLOPE STABILIZATION PLANTING

OPEN SPACE SEED MIXES SEE SHEET 21 FOR SEED MIXES	
	EROSION CONTROL MIX 3:1 SLOPES
	TURF LAWN MIX OPEN LAWN AREA
	STORMWATER BASIN MIX STORMWATER FACILITIES

	CRUSHED ROCK TRAIL (8' WIDE & 5' WIDE)
	5' WIDE ASPHALT PATH

Scale In Feet  
0 25 50 100

Snohomish County Planning Development Services  
 APPROVED FOR CONSTRUCTION  
 R/W Permit No. 20 108693 D8  
 Date: 6/23/2021

PFN 20 118246LDA

CONSTRUCTION DOCUMENTS - PFN 18-126823 LDA

GO EAST  
LANDFILL CLOSURE  
LANDSCAPE PLAN

SCALE: AS SHOWN  
 DESIGNED BY: [Signature]  
 JOB NUMBER: P09382.00  
 DWG NAME: P09382\_LANDSCAPE  
 SHEET 21 OF 25

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 Kirkland, WA 98033  
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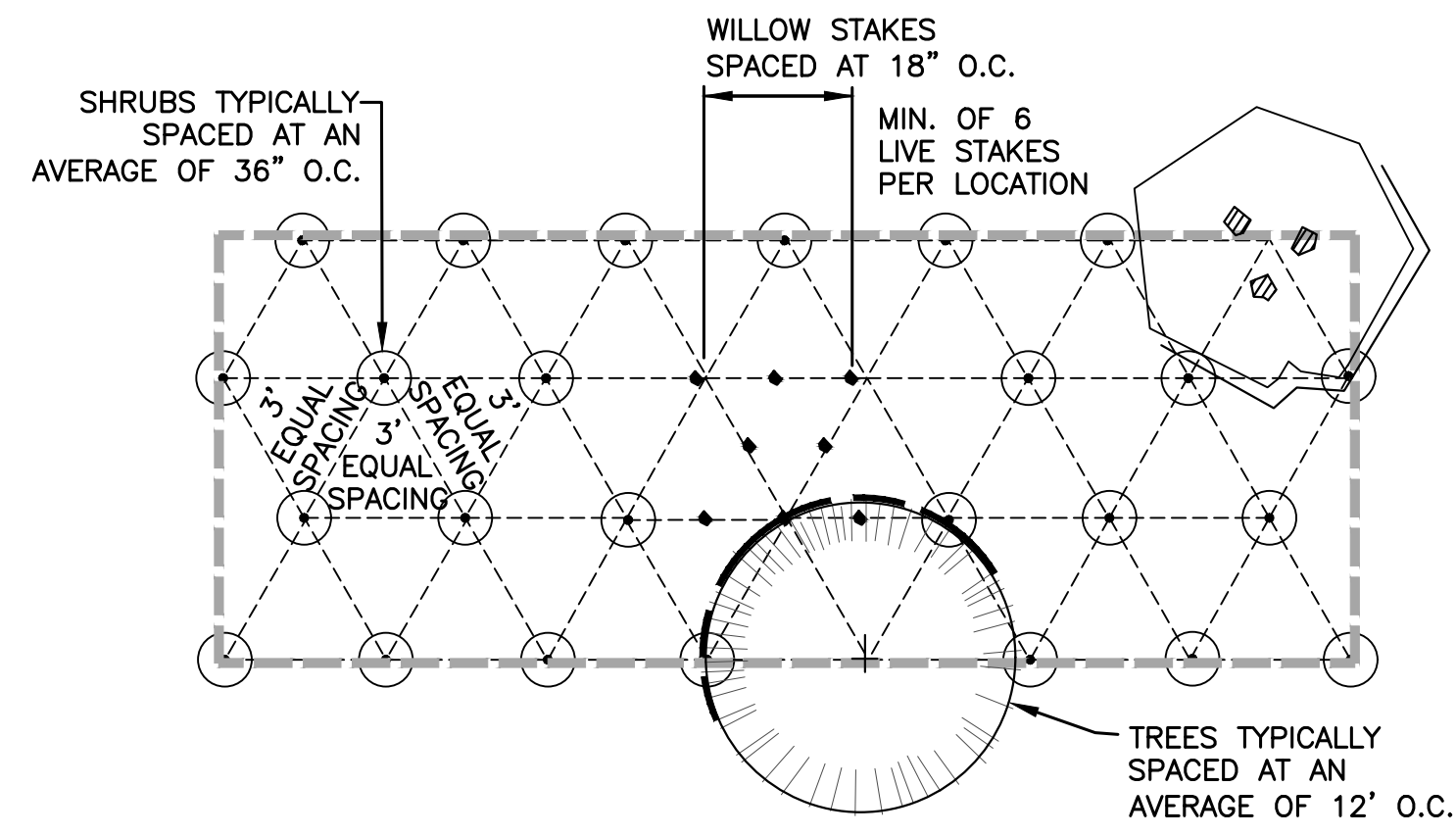
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DATE	REVISION	SYM



**NATIVE PLANTING AT STREAM BUFFER (38,000 SF)**  
108 SHRUBS & 7 TREES PER 1,000 SF

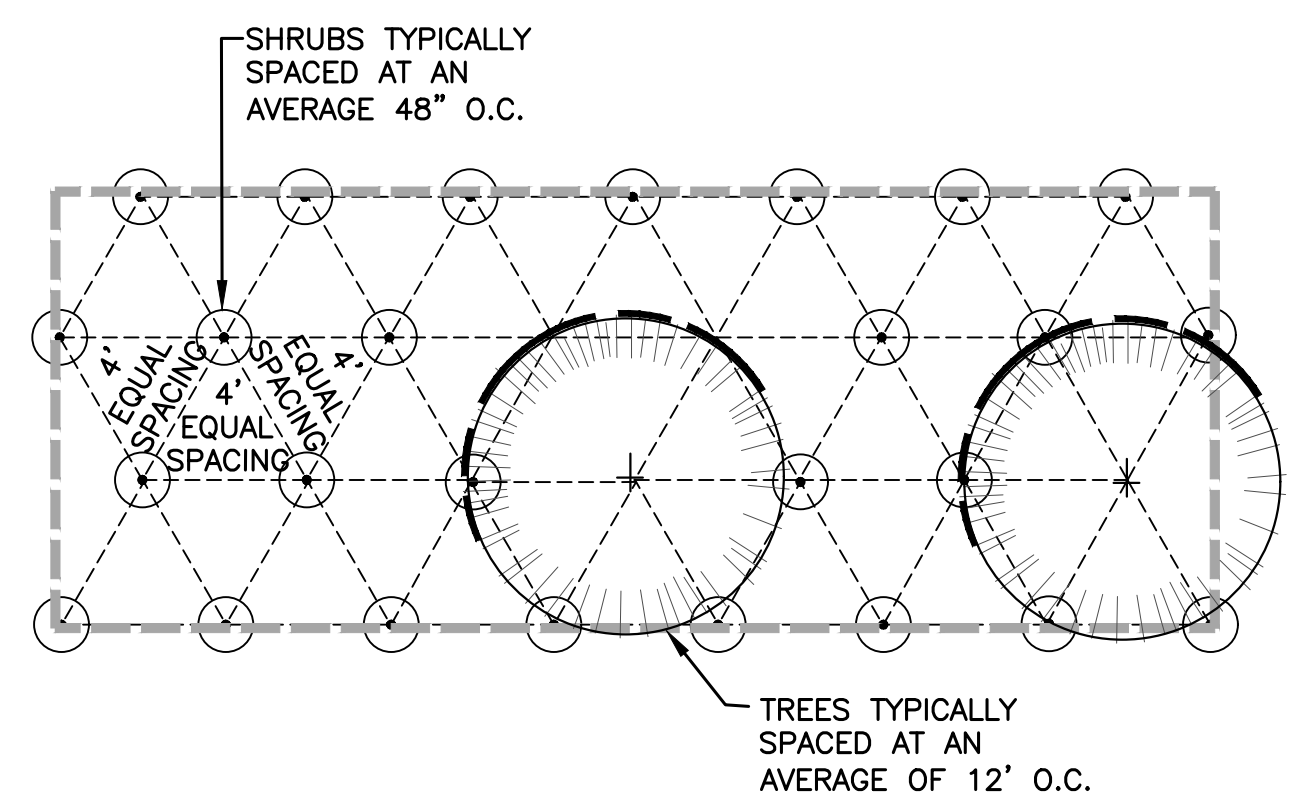
PLANT SCHEDULE				
BOTANICAL NAME / COMMON NAME	SIZE	SPACING	%	QTY
<b>TREES</b>				
ACER MACROPHYLLUM / BIG LEAF MAPLE	1 GAL.	12' O.C.	20	53
FRAXINUS LATIFOLIA / OREGON ASH	1 GAL.	12' O.C.	20	53
PSEUDOTSUGA MENZIESII / DOUG FIR	1 GAL.	12' O.C.	20	53
THUJA PLICATA / WESTERN RED CEDAR	1 GAL.	12' O.C.	20	53
SALIX LASIANDRA / PACIFIC WILLOW	1 GAL.	12' O.C.	20	54
<b>SHRUBS</b>				
CORNUS SERICEA / RED-OSIER DOGWOOD	1 GAL.	36" O.C.	15	616
HOLIDISCUS DISCOLOR / OCEANSPRAY	1 GAL.	36" O.C.	10	410
RUBUS PARVIFLORUS / THIMBLEBERRY	1 GAL.	36" O.C.	15	616
SYMPHORICARPOS ALBUS / SNOWBERRY	1 GAL.	36" O.C.	30	1231
ROSA PISOCARPA / CLUSTERED ROSE	1 GAL.	36" O.C.	30	1231
<b>TOPSOIL AND AMENDMENTS</b>				
FINE COMPOST				
BARK OR WOOD CHIP MULCH				



**1 TYPICAL LAYOUT - BUFFER PLANTING**  
NTS

**NATIVE PLANTING AT SLOPE STABILIZATION (44,500 SF)**  
67 SHRUBS & 7 TREES PER 1,000 SF

PLANT SCHEDULE				
BOTANICAL NAME / COMMON NAME	SIZE	SPACING	%	QTY
<b>TREES</b>				
ACER MACROPHYLLUM / BIG LEAF MAPLE	1 GAL.	12' O.C.	33	103
PSEUDOTSUGA MENZIESII / DOUG FIR	1 GAL.	12' O.C.	33	103
THUJA PLICATA / WESTERN RED CEDAR	1 GAL.	12' O.C.	33	104
<b>SHRUBS</b>				
RIBES SANGUINEUM / RED CURRANT	1 GAL.	48" O.C.	15	447
MYRICA CALIFORNICA / WAX MYRTLE	1 GAL.	48" O.C.	15	447
RUBUS PARVIFLORUS / THIMBLEBERRY	1 GAL.	48" O.C.	15	447
SYMPHORICARPOS ALBUS / SNOWBERRY	1 GAL.	48" O.C.	25	746
SAMBUCUS RACEMOSA / RED ELDERBERRY	1 GAL.	48" O.C.	5	150
ROSA NUTKANANA / NOOTKA ROSE	1 GAL.	48" O.C.	25	746
<b>TOPSOIL AND AMENDMENTS</b>				
FINE COMPOST				
BARK OR WOOD CHIP MULCH				



**2 TYPICAL LAYOUT - SLOPE STABILIZATION**  
NTS

**OPEN SPACE SEED MIXES**

<b>EROSION CONTROL MIX - 3:1 SLOPES</b>		% (BY WEIGHT)
AGROSTIS OREGONENSIS / OREGON BENTGRASS		40
FESTUCA RUBRA / RED FESCUE		40
TRIFOLIUM REPENS / WHITE DUTCH CLOVER		20
<b>TURF LAWN MIX - OPEN LAWN AREA</b>		% (BY WEIGHT)
FESTUCA ARUNDINACEA VAR / DWARF TALL FESCUE		45
LOLIUM PERENNE VAR. BARCLAY / DWARF PERENNIAL RYE		30
FESTUCA RUBRA / RED FESCUE		20
AGROSTIS TENUIS / COLONIAL BENTGRASS		5
<b>STORMWATER BASIN MIX - STORMWATER FACILITY</b>		% (BY WEIGHT)
FESTUCA ARUNDINACEA / TALL FESCUE		60
AGROSTIS PALUSTRIS / SEASIDE BENTGRASS		15
ALEPOCURUS PRATENSIS / MEADOW FOXTAIL		15
TRIFOLIUM HYBRIDUM / RED FESCUE		5
AGROSTIS ALBA / REDTOP BENTGRASS		5

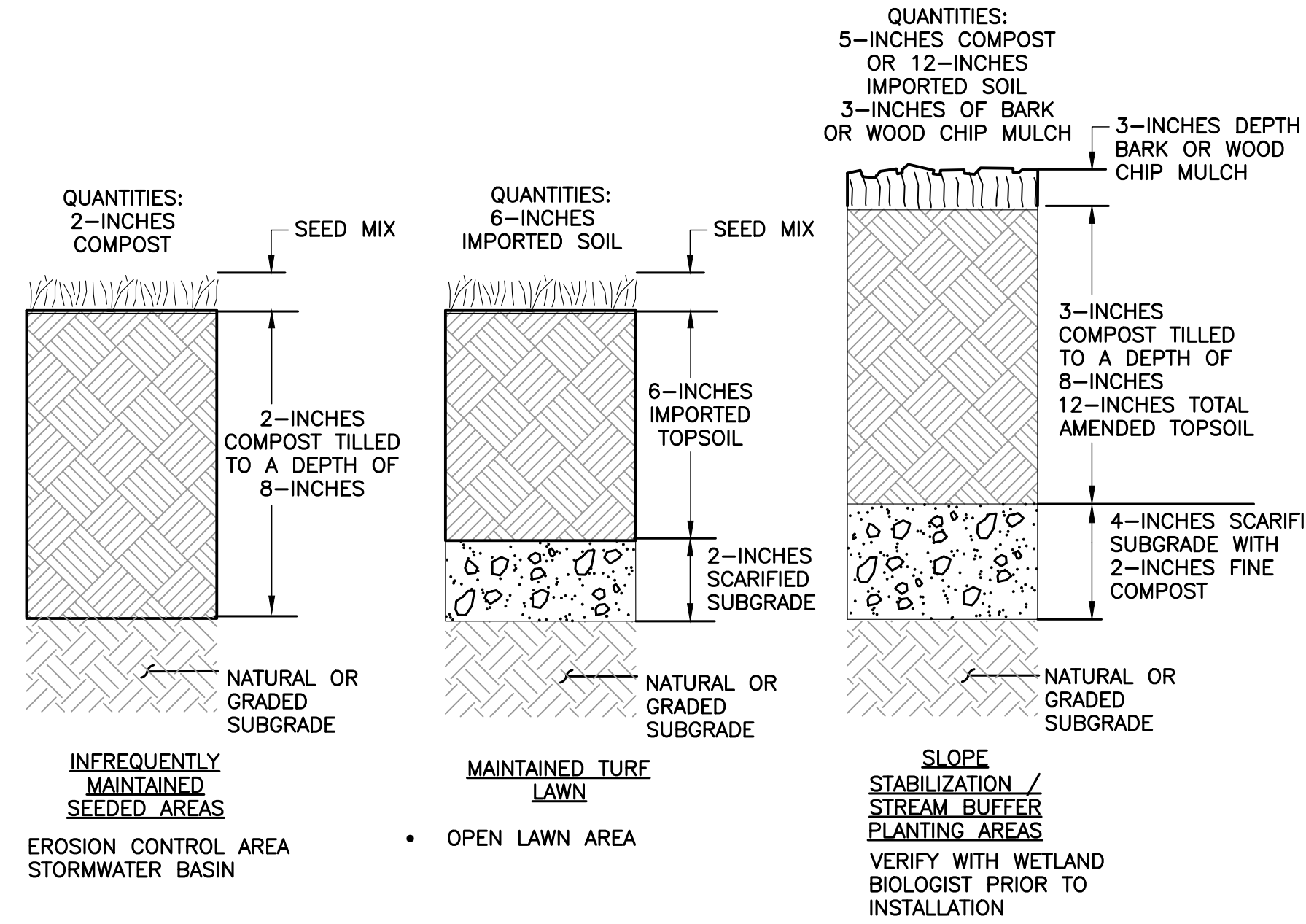
APPLICATION RATE: 120LBS / ACRE

**GENERAL PLANTING NOTES**

- NO IRRIGATION SYSTEM IS PLANNED FOR THIS PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAND WATERING PLANTING DURING PLANT ESTABLISHMENT.
  - REFER TO CIVIL PLAN FOR PROTECTION AROUND EXISTING TREES TO REMAIN. NO TRENCHING SHALL BE INSTALLED WITHIN TREE PROTECTION AREA UNLESS APPROVED BY OWNER'S REPRESENTATIVE.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND HAULING ALL EXTRA DEBRIS AND EXCESS SOIL GENERATED BY THIS PROJECT.
- PLANTING AND FERTILIZING**
- ALL PLANT SIZES NOTED FOR HEIGHT, SPREAD AND CALIPER ARE MINIMUM REQUIREMENTS.
  - ALL PLANTS SHALL CONFORM TO AMERICAN ASSOCIATION OF NURSERYMAN (AAN) GRADES AND STANDARDS AS PUBLISHED IN THE MOST RECENT Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK" MANUAL. TREE CALIPER SHALL BE MEASURED SIX INCHES ABOVE THE ROOT FLARE.

**TOPSOIL, COMPOST AND MULCH**

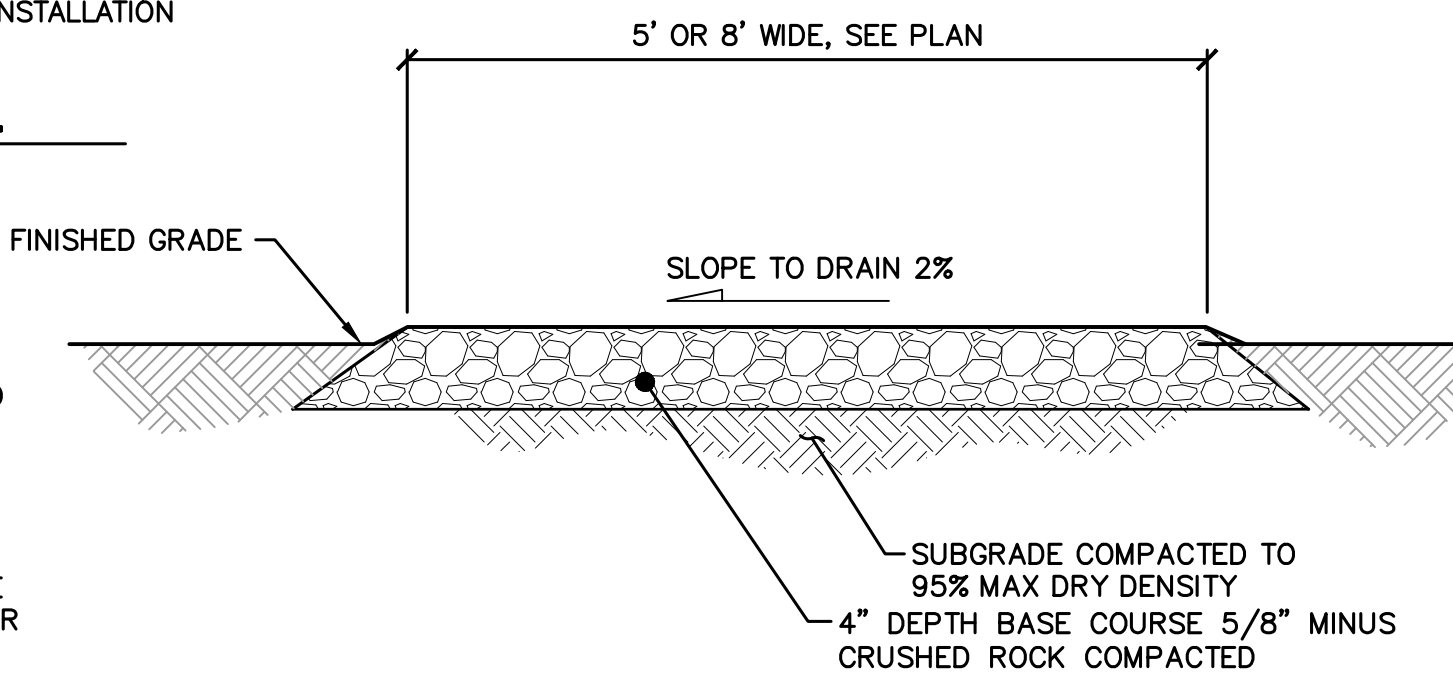
- AMENDED TOPSOIL PER ON-SITE SOIL MANAGEMENT BMP TS.13, ALL SITE SOILS ARE REQUIRED TO BE AMENDED.
- COMPOST SUPPLIED BY CEDAR GROVE, (877) 764-5748, OR APPROVED EQUAL.
- TOPSOIL SHALL BE A 3-WAY (LOAM SOIL, PEAT AND COMPOST) SUPPLIED BY CEDAR GROVE, (877) 764-5748 OR APPROVED EQUAL.
- BARK OR WOOD CHIP MULCH SHALL CONFORM TO WSDOT STD. SPECIFICATION SECTION 9-14.4(3)
- AREAS DISTURBED BY GRADING AND NOT SHOWN AS PLANTING / LAWN AREAS SHALL BE SEEDED.



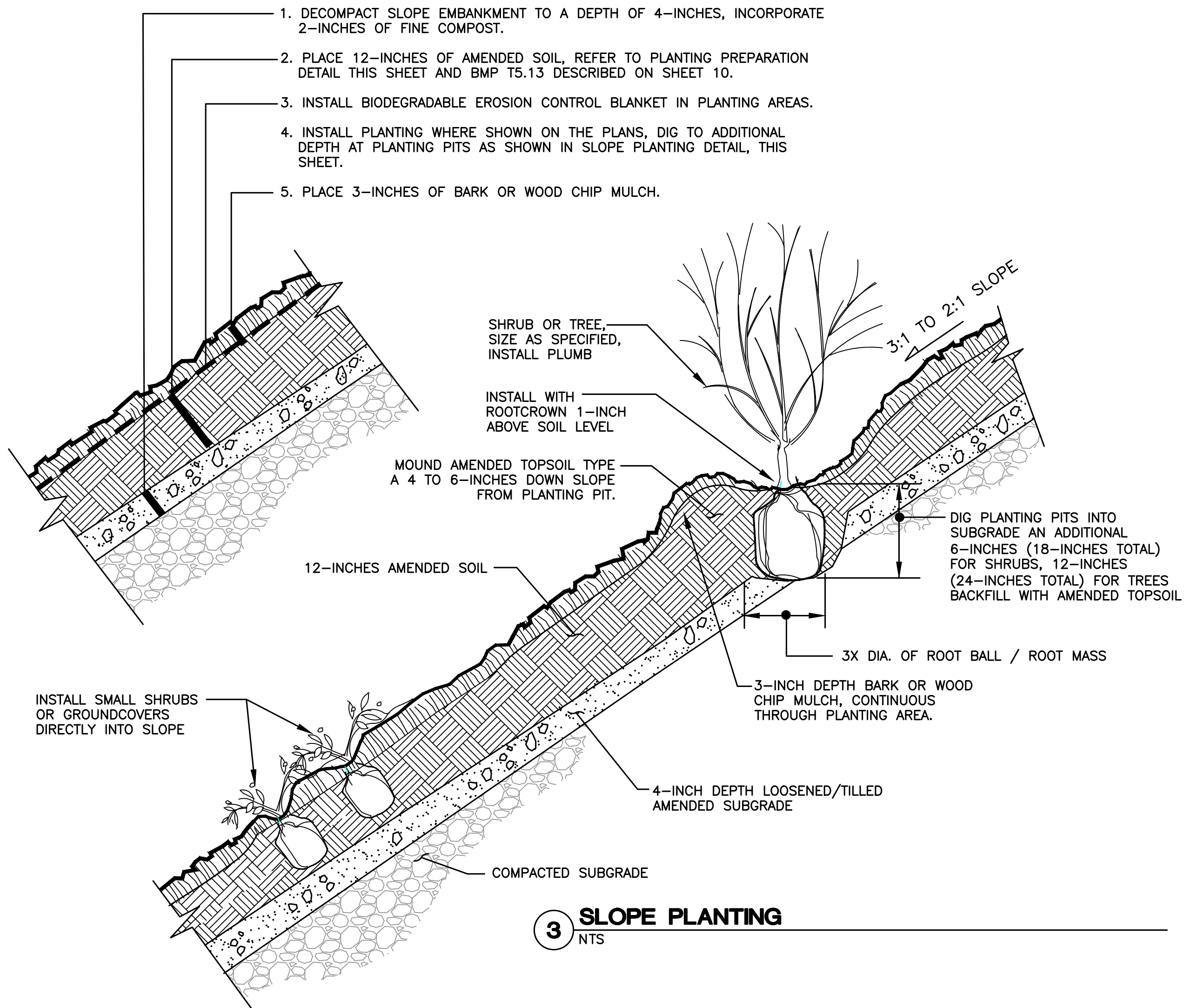
**4 PLANTING PREPARATION DETAIL**  
NTS

**PLANTING PREPARATION NOTES:**

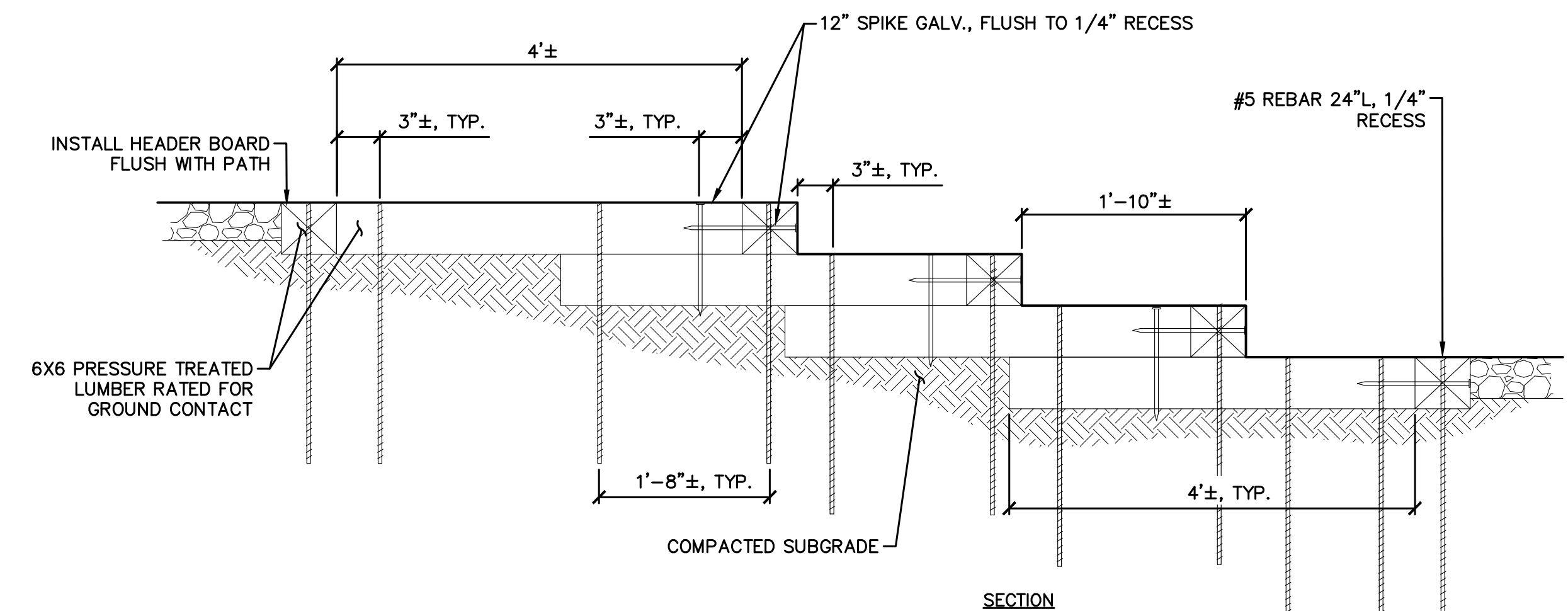
- ALL AMENDED SOIL TO MEET MINIMUM REQUIREMENTS SOIL QUALITY REQUIREMENTS NOTED IN BMP TS.13 - DESIGN REQUIREMENTS, DESCRIBED ON SHEET 10. REQUIREMENTS INCLUDE MINIMUM ORGANIC CONTENT, PH RANGE, COMPOST GUIDELINES AND PLACEMENT REQUIREMENTS. IF THE MINIMUM REQUIREMENTS CANNOT BE MET BY AMENDING EXISTING SOIL, IMPORTED SOIL SHALL BE USED.
- THESE PLANTING PREPARATION NOTES AND DETAILS DO NOT APPLY TO THE STREAM SECTION, REFER TO STREAM DETAILS AND SOIL SPECIFICATIONS FOR THAT PORTION OF WORK.



**5 CRUSHED ROCK PATH**  
NTS



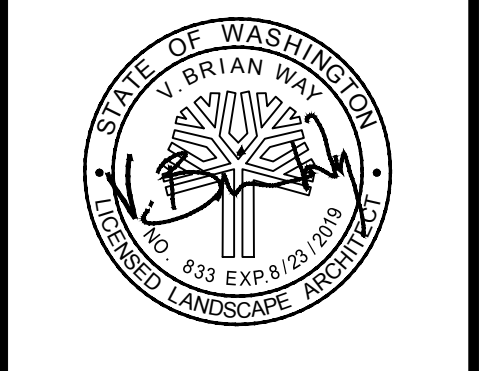
**3 SLOPE PLANTING**  
NTS



**6 TIMBER STEPS**  
NTS

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**PACE**  
An Engineering Services Company  
11255 Kirkland Way, Suite 300  
Kirkland, WA 98033  
p. 425.827.2014 / f. 425.827.9043  
Civil | Structural | Planning | Survey  
paceengr.com



**GO EAST**  
LANDFILL CLOSURE  
LANDSCAPE DETAILS

SCALE:	DATE:
AS SHOWN	6/9/2021
DESIGNED BY:	CHECKED BY:
JOB NUMBER	
P09382.00	
DWG NAME:	
P09382_LANDSCAPE	
SHEET <b>22</b> OF <b>25</b>	

PN 20 118246LDA

**Snohomish County Planning Development Services**

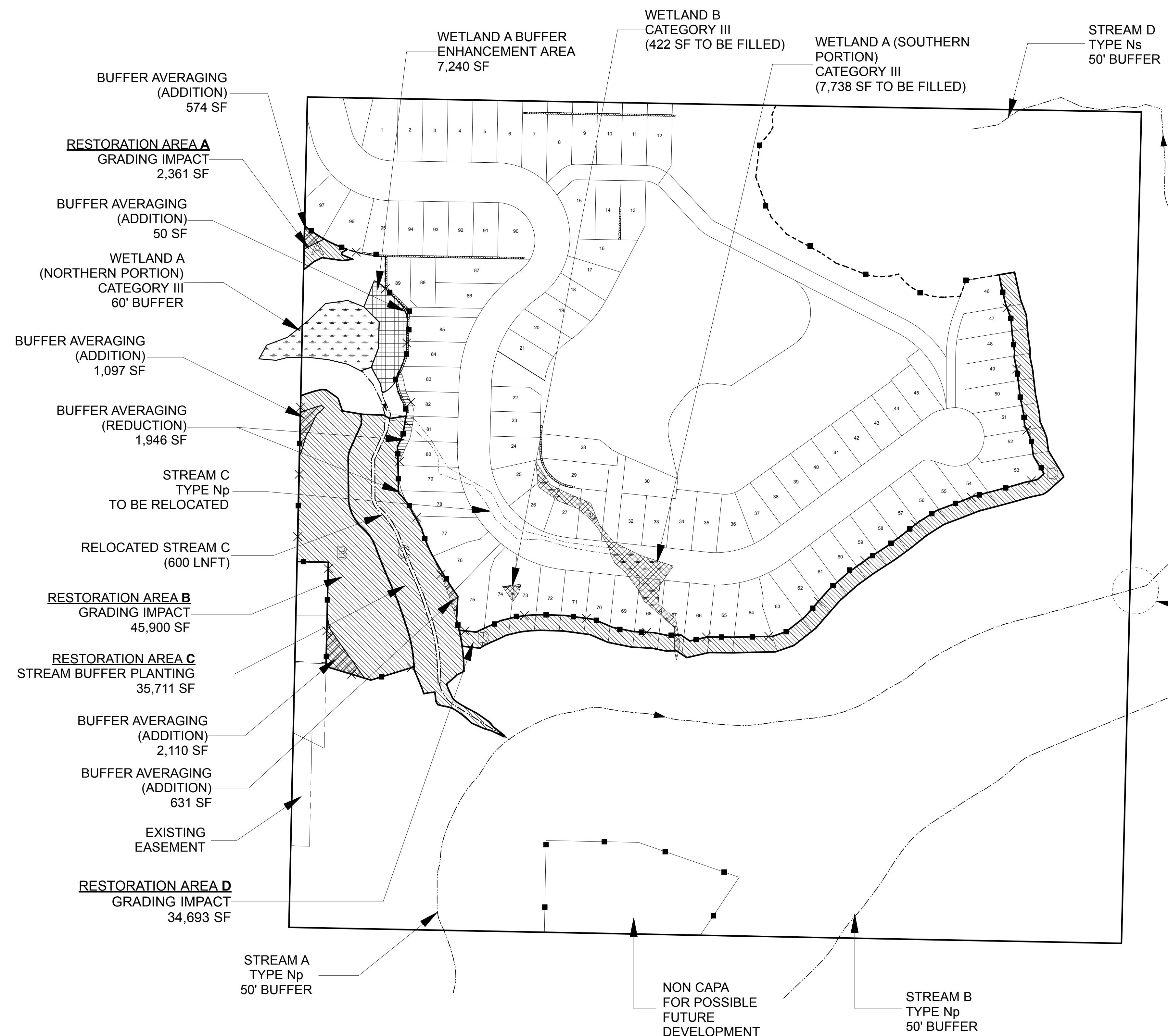
APPROVED FOR CONSTRUCTION

*[Signature]*

R/W Permit No. 20108693 DB

Date: 6/23/2021

# FINAL MITIGATION PLAN - BAKERVIEW PLAT PORTION OF SECTION 21, TOWNSHIP 28N, RANGE 5E, W.M.



**Introduction**

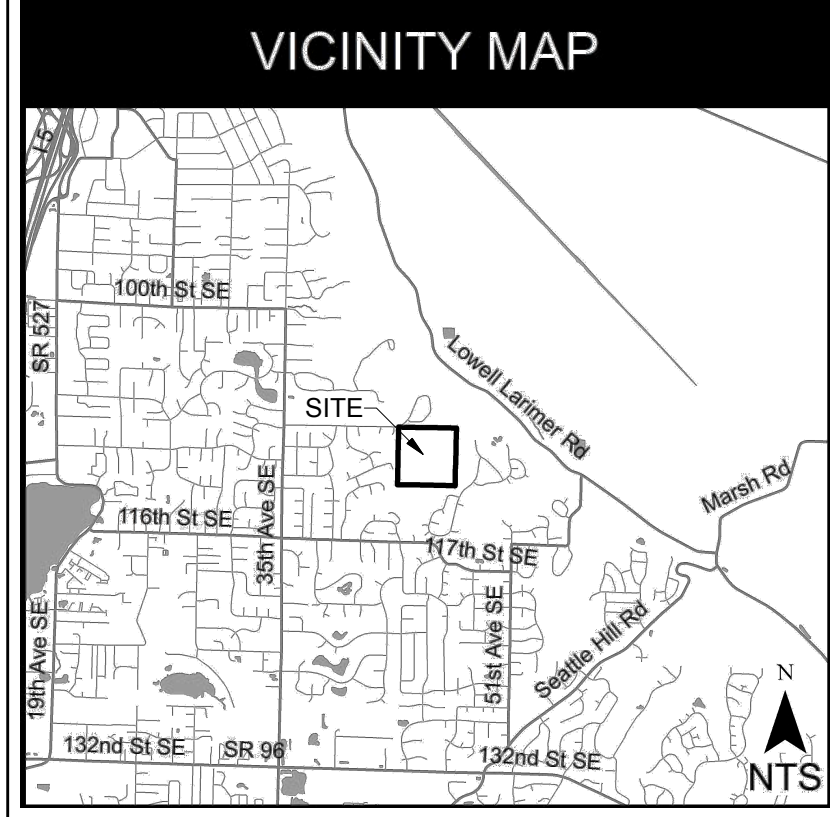
The 41-acre site located at 4330 108th Street SE in Snohomish County, Washington. The property is further located as a portion of Section 21, Township 28N, Range 5E, W.M. On-site critical areas (streams and wetlands) were delineated by Wetland Resources, Inc. on May 4, 2009.

Access to this undeveloped site is from a gravel road that enters the northwest corner via 108th Street SE. From the north this site has a general southeast aspect to a steep ravine that runs along the southern portion of the property.

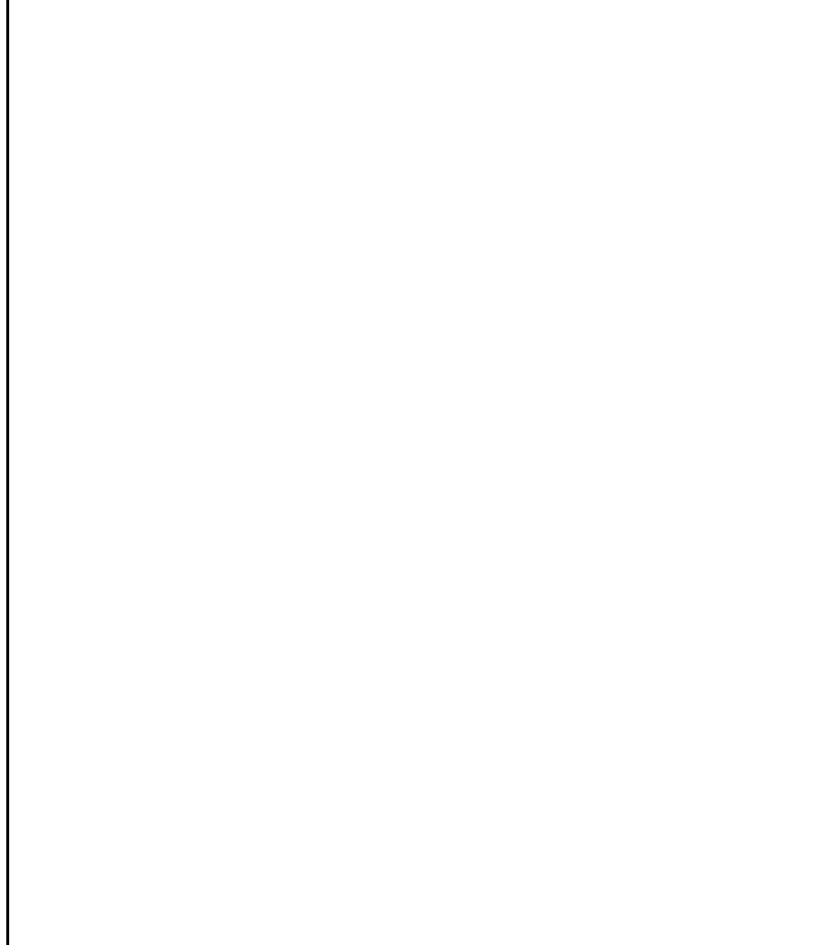
From 1972 to 1983, the subject site was operated as a solid waste landfill, accepting wood, mineral, and concrete solid materials. Large concrete blocks and other evidence of this period are still visible on the site. Since 1983, the property has re-vegetated with vegetation dominated by red alder, black cottonwood, and Himalayan blackberry.

Two Category III wetlands (Wetlands A and B) and an associated Type Np stream (Stream C) are located on the western portion of the site. Stream C flows south where it drains to Stream A (Type Np) located in the ravine. Stream A flows east and is joined by Stream B (Type Np) in the southeast corner of site. From here the stream flows off-site and drains north along the eastern property line.

In Snohomish County, Category III wetlands receive standard 60-foot protective buffers, and Type Np streams receive 50-foot standard buffers.



LEGEND	
	WETLAND
	WETLAND FILL
	BUFFER REDUCTION (AVERAGING)
	BUFFER ADDITION (AVERAGING)
	BUFFER ENHANCEMENT
	BUFFER RESTORATION AREAS
	STREAMS
	CAPA SIGN
	SPLIT RAIL FENCE
	FINAL BUFFER



**Wetland Resources**

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PACE Engineers  
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Kirkland, WA 98033

JOB #14076

SCALE: 1" = 100'

Drawn By: N. WHITING

DATE: MARCH 7, 2017

FINAL MITIGATION PLAN -  
BAKERVIEW PLAT  
SNOHOMISH COUNTY, WASHINGTON

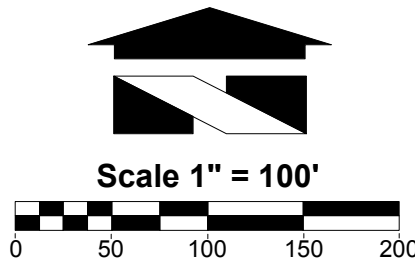
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PFN 20 118246LDA

SNOHOMISH COUNTY  
PLANNING AND DEVELOPMENT SERVICES  
APPROVED FOR CONSTRUCTION

*Randolph R. Sleight* P.E.  
BY: \_\_\_\_\_ DATE: 6/23/2021  
FOR RANDOLPH R. SLEIGHT, P.E., P.L.S.

RW PERMIT NO. 20 108693 D8



# FINAL MITIGATION PLAN - BAKERVIEW PLAT PORTION OF SECTION 21, TOWNSHIP 28N, RANGE 5E, W.M.

## Project Description and Proposed Mitigation Measures

The applicant is proposing a 97-lot single-family residential subdivision on this site. As part of this proposal, the former construction debris landfill on the site will be closed under a separate landfill closure application. That application has already received preliminary approval from the Snohomish Health District. To close the landfill, the site will be graded as discussed in the landfill closure plan (see the project engineer's *Targeted Drainage Plan*, March 2017).

During grading for the landfill closure, Stream C (Type Np), which at some point in the past was re-routed to its current location, will be relocated away from the landfill per Health District requirements. Its new course will flow south along the western portion of the property. These grading activities will also impact the southern portion of Wetland A (7,738 SF) and all of Wetland B (422 SF).

## Stream C Restoration/Relocation

The new stream will have a sinuous channel, will contain appropriate gravel substrate, and will be sized to convey the 100-year storm flow as calculated by the site engineer. To reduce the risk of erosion that could be caused by releasing runoff directly down the steep slope, flow at the south end of the restored stream channel will be either tight-lined down slope, or will drain down a channel with a series of rock check dams as designed by the site engineer. Hydrology from the restored stream will drain to Stream A. All slopes in the stream relocation area will be slightly less than 3:1. Following grading for the relocated stream channel and side slopes, the new stream buffer area will be restored with native trees and shrubs on both sides of the stream.

All in-water work for this stream relocation will occur during the summer, low flow window as prescribed in the Hydraulic Project Approval that will be obtained from the Washington Department of Fish and Wildlife for this project.

As part of the proposed stream channel relocation project, the applicant is also proposing to reduce the standard 50-foot stream buffer by 25% (37.5-foot width) on the eastern side of the new ordinary high water mark. This reduction will be achieved under the provisions of SCC 30.62A.320.1(E), by installing a two-rail fence along the proposed buffer edge and placing the buffer and stream channel in a separate tract. As mentioned above, this buffer will be restored and planted with diverse native species.

## Wetland Mitigation Proposal

The physical constraints of the former construction debris landfill and the Health District's grading requirements will result in adverse impacts to Wetlands A and B on this site. No impacts are proposed to the northern portion of Wetland A (12,653 square feet). However, it is proposed that 7,738 square feet (0.18 acres) of the southern portion of Wetland A and 422 square feet (0.1 acres) of Wetland B be filled.

The primary source of hydrology to the southern part of Wetland A (7,738 SF) is currently from Stream C. By complying with the Health District's requirements to move Steam C, grading will remove that source of hydrology for Wetland A. Moreover, the southern portion of Wetland A is the only reasonable location for the proposed access road through the development. When considering alternatives to avoid this relatively low quality wetland, it appears that the goals for the site would be severely compromised. The impacts are therefore deemed unavoidable. Because the impacts will be permanent, compensatory mitigation shall be provided by purchasing credits at an established Mitigation Bank.

Wetland B (422 SF) is a small Category III wetland located east of the proposed Stream C relocation. It is necessary to impact this wetland to allow for grading of the new stream channel and development. Because impacts to the wetland are permanent, compensatory mitigation shall be provided by purchasing credits at an established Mitigation Bank.

Wetland creation is not proposed on the subject site due to concerns of the Snohomish Health District regarding the proximity of the created wetland (standing water) to the closed landfill. Furthermore, wetland creation on this site would be difficult due to the site topography. Rather than create wetland on the subject property, mitigation for wetland impacts is offered through the purchase of "credits" at an established wetland mitigation bank. This is the Snohomish Basin Mitigation Bank, located at the confluence of the Snoqualmie and Skykomish Rivers, within the Snohomish Basin (WR1A-7). Typically, credit ratios for on-site impacts to Category III wetlands are 1 credit per 1 acre of impacted wetlands. Please refer to the Bank Use Plan for Bakerview Plat (Appendix C) for a full description.

## Buffer Averaging Proposal

The applicant is proposing modest buffer averaging of the proposed buffer associated with Wetland A and Stream C. The total buffer reduction area amounts to approximately 1,946 SF and the total buffer addition area amounts to approximately 4,462 SF, resulting in a 2.3:1 buffer addition to reduction ratio. After buffer averaging, the buffer width will be no less than 50% of the standard width, and total area will be no less than that which would have been required if averaging did not occur. The vegetation composition within both the buffer reduction and addition areas is similar, generally consisting of red alder in the canopy with salmonberry in the understorey. Based on these anticipated conditions, this buffer averaging proposal appears to be allowed pursuant to SCC30.62A.320.1.F.

## Stream Channel Construction

Stream channel construction will follow all specifications of the approved Hydraulic Project Approval (HPA), including timing restrictions and construction methods. The sinuous design will mimic a natural stream channel and help to reduce flow velocities. Approximately 600 linear feet of new stream channel will be created as part of this restoration/relocation project.

In order to accommodate the flow, the banks of the channel will be cut back to 3:1 slopes (average). The proposed channel will be 5 feet wide between the banks, approximately 2 feet at the bottom of the channel, and approximately 1 foot deep. The width and sinuous design will slow flows that are currently conveyed by the existing stream channel, allowing for a more natural flow pattern. The exact channel location will be flagged in the field prior to grading to take advantage of micro-topographic conditions. The newly cut sides of the channel will be lined with jute matting to prevent erosion and increase stability in high flow periods. Jute matting will biodegrade after the restoration area has stabilized.

## Permanent Protection

In Snohomish County, regulated streams, wetlands, and their buffers are designated collectively as Critical Area Protection Areas (CAPAs). Critical Area Protection Areas are subject to the following conditions:

*"Critical Area Protection Area (CAPA) means an area which is to be left permanently undisturbed in a substantially natural state and in which no clearing, grading, filling, building construction or placement, or road construction of any kind is allowed except the following:*

*Crossings for underground utility lines and drainage discharge swales which utilize the shortest alignment possible and for which no alignment that would avoid such a crossing is feasible; Removal of hazardous trees by the property owner; Fences, only if the critical area and its buffer are not detrimentally affected; Other uses and development activity as allowed by chapter 30.62 SCC; and In rural cluster subdivisions approved pursuant to chapter 30.41C SCC, buffer plantings as required by SCC 30.41C.200 and passive recreational uses limited to non-motorized trails, exercise pathways, and wildlife viewing areas."*

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This relocation will increase the length and habitat quality of the stream corridor. The goal of this plan is to create a viable stream channel capable of sustaining the existing flow and to enhance the biotic functions and values associated with the stream.

Generally, construction of the stream will proceed as follows:

Following proper installation and approval of erosion control measures, a track hoe or other appropriate piece of equipment shall be used to grade the channel as described in this plan.

A minimum of six (6) inches of clean, rounded, uniformly-graded gravel with the following size composition shall be placed throughout the entire length of the created stream channel:

- 15 percent of 4.0 to 3.0 inches
- 40 percent of 3.0 to 1.5 inches
- 45 percent of 1.5 to 0.25 inches
- Fines less than 0.25 inches shall not exceed 3.0% of the total volume of the gravel

## Construction Channel Cross-Section Data

### Side Slopes Bottom Width (ft.) Depth (ft.)

3:1 5' 1'

Finally, the new stream buffer shall be restored with the plant species listed in this plan and the CAPA fence and signs shall be installed.

This plan will be submitted to Washington Department of Fish & Wildlife for HPA review. All requirements of the HPA will be followed.

## Clearing/Grading, Timing & TESC

Please refer to the project engineer's plans for detailed information on clearing and grading on this site.

Construction activities within and adjacent to the wetland areas shall be done during the dry season, from approximately June to late September.

Prior to beginning any development or mitigation activities, construction or siltation fencing shall be installed as described in the grading plan construction drawings. A pre-construction meeting between Snohomish County, the consulting wetland professional, contractor and equipment operator(s) will be held prior to any mitigation activities to inspect the location of siltation fencing.

All sedimentation control facilities shall be kept in place and functioning until vegetation is firmly established. Refer to site engineer's TESC plan for all erosion and sedimentation control details.

## Post Mitigation Functions and Values

The project will relocate and restore Stream C so that it no longer flows into the landfill site. The result will be an enhanced stream corridor and improved water quality functions for this stream and downstream systems.

Through proper installation, the proposed restoration plan will convert these pasture and blackberry-dominated areas to a diverse native plant community. Over time, planted and pioneer trees will increase in size to create complex forest community with multiple understorey strata.

The selected trees and shrubs will grow and mature under developed conditions to create valuable habitat for a variety of birds and small mammals that may utilize the area. Native trees provide shade, protection, food, nesting and a variety of other opportunities for wildlife species.

Once established, the native vegetation will have the ability to take in excess hydrology and nutrients from runoff, thereby benefiting hydrologic control and water quality improvement functions on-site and in downstream systems. These are important functions to protect and improve in this developed setting.

Direct loss of wetlands on this site will be mitigated through the purchase of mitigation bank credits. This approach ensures immediate replacement of lost functions, as well as guarantees mitigation success. Please refer to the Bank Use Plan (*Biological Evaluation*, Appendix C) for additional information and justification for mitigation banking.

Through proper implementation, the proposed mitigation measures are expected to adequately replace and improve the critical area functions offered on this site. Overall, the proposed mitigation plan appears to meet the goals and objectives of SCC 30.62A.

## Buffer Restoration Planting Plan

Four separate restoration areas (A, B, C, & D) were created as mitigation for impacts to critical areas and buffers. These steep slope and buffer areas will be impacted by site grading, and will be planted with a diverse mix of native trees, shrubs, and ground cover.

After plant installation, mulch will be applied to all woody plant bases to a depth of 3 inches (see Planting Notes for more detail). Any bareground areas left in the restoration areas will be sown with grass seed as specified below.

## Buffer Restoration Seed Mix

Common Name	Latin Name	lbs/1,000 s.f.
Tall fescue	<i>Festuca arundinacea</i>	0.4
Colonial bentgrass	<i>Agrostis tenuis</i>	0.4
Annual ryegrass	<i>Lolium perenne</i> var. <i>multiflorum</i>	0.5
Red clover	<i>Trifolium repens</i>	0.2

## Restoration Area A

Restoration Area A is located directly north of Wetland A, and is composed of steep slope area to be graded (1,787 SF), and a small portion of buffer addition area (574 SF). Prior to planting, the grading work and soils will be inspected by a consulting biologist to determine correct grading and suitability of the soils for planting. If deemed necessary, a high-nutrient/compost mix will be applied to the restoration area prior to planting.

## Restoration Area A—2,361 SF

Common Name	Latin Name	Size	Spacing	Quantity
Douglas-fir	<i>Pseudotsuga menziesii</i>	1 gallon	10'	10
Big-leaf maple	<i>Acer macrophyllum</i>	1 gallon	10'	15
Snowberry	<i>Symphoricarpos albus</i>	1 gallon	4'	40
Salmonberry	<i>Rubus spectabilis</i>	1 gallon	4'	40
Ocean spray	<i>Holodiscus discolor</i>	1 gallon	4'	40

## Restoration Area B

Restoration Area B is located along the western boundary of the site, along a steep slope area to be graded (42,693 SF), and includes buffer addition areas (3,207 SF). Prior to planting, the grading work and soils will be inspected by a consulting biologist to determine correct grading and suitability of the soils for planting. If deemed necessary, a high-nutrient/compost mix will be applied to the restoration area prior to planting.

## Restoration Area B—45,900 SF

Common Name	Latin Name	Size	Spacing	Quantity
Grand fir	<i>Abies grandis</i>	1 gallon	10'	50
Western red cedar	<i>Thuja plicata</i>	1 gallon	10'	50
Douglas-fir	<i>Pseudotsuga menziesii</i>	1 gallon	10'	100
Big-leaf maple	<i>Acer macrophyllum</i>	1 gallon	10'	100
Shore pine	<i>Pinus contorta</i>	1 gallon	10'	50
Bitter cherry	<i>Prunus emarginata</i>	1 gallon	10'	50
Hazelnut	<i>Corylus cornuta</i>	1 gallon	10'	100
Snowberry	<i>Symphoricarpos albus</i>	1 gallon	4'	400
Wood rose	<i>Rosa Gymnocarpa</i>	1 gallon	4'	400
Salmonberry	<i>Rubus spectabilis</i>	1 gallon	4'	400
Thimbleberry	<i>Rubus parviflorus</i>	1 gallon	4'	400
Red elderberry	<i>Sambucus racemosa</i>	1 gallon	4'	200
Ocean spray	<i>Holodiscus discolor</i>	1 gallon	4'	400
Dwarf Oregon grape	<i>Mahonia nervosa</i>	1 gallon	4'	100

## Restoration Area C

Following the grading work of the channel and side slopes adjacent to Stream C, the disturbed ground will be restored with a diversity of native trees, shrubs and ground cover. The total area to be planted will amount to 35,711 square feet. Prior to planting, the grading work and soils will be inspected by a consulting biologist to determine correct grading of the stream and the suitability of the soils for planting. If deemed necessary, a high-nutrient/compost mix will be applied to the restoration area prior to planting.

## Restoration Area C—35,711 SF

Common Name	Latin Name	Size	Spacing	Quantity
Grand fir	<i>Abies grandis</i>	1 gallon	10'	50
Western red cedar	<i>Thuja plicata</i>	1 gallon	10'	50
Douglas-fir	<i>Pseudotsuga menziesii</i>	1 gallon	10'	100
Big-leaf maple	<i>Acer macrophyllum</i>	1 gallon	10'	100
Cascara	<i>Rhamnus purshiana</i>	1 gallon	10'	50
Hazelnut	<i>Corylus cornuta</i>	1 gallon	10'	100
Snowberry	<i>Symphoricarpos albus</i>	1 gallon	4'	300
Nootka rose	<i>Rosa Nutkana</i>	1 gallon	4'	300
Ocean spray	<i>Holodiscus discolor</i>	1 gallon	4'	200
Salmonberry	<i>Rubus spectabilis</i>	1 gallon	4'	350
Thimbleberry	<i>Rubus parviflorus</i>	1 gallon	4'	100
Red elderberry	<i>Sambucus racemosa</i>	1 gallon	4'	150
Salal	<i>Gaultheria shallon</i>	1 gallon	4'	200
Dwarf Oregon grape	<i>Mahonia nervosa</i>	1 gallon	4'	200

## Restoration Area D

Restoration Area D is located within a 25-foot steep slope setback area, along the southern and eastern boundary of the proposed lots. Prior to planting, the grading work and soils will be inspected by a consulting biologist to determine correct grading and suitability of the soils for planting. If deemed necessary, a high-nutrient/compost mix will be applied to the restoration area prior to planting.

## Restoration Area D—34,693 SF

Common Name	Latin Name	Size	Spacing	Quantity
Grand fir	<i>Abies grandis</i>	1 gallon	10'	50
Douglas-fir	<i>Pseudotsuga menziesii</i>	1 gallon	10'	100
Big-leaf maple	<i>Acer macrophyllum</i>	1 gallon	10'	50
Shore pine	<i>Pinus contorta</i>	1 gallon	10'	50
Bitter cherry	<i>Prunus emarginata</i>	1 gallon	10'	50
Hazelnut	<i>Corylus cornuta</i>	1 gallon	10'	100
Snowberry	<i>Symphoricarpos albus</i>	1 gallon	4'	300
Wood rose	<i>Rosa Gymnocarpa</i>	1 gallon	4'	300
Salmonberry	<i>Rubus spectabilis</i>	1 gallon	4'	300
Thimbleberry	<i>Rubus parviflorus</i>	1 gallon	4'	200
Red elderberry	<i>Sambucus racemosa</i>	1 gallon	4'	200
Ocean spray	<i>Holodiscus discolor</i>	1 gallon	4'	200
Dwarf Oregon grape	<i>Mahonia nervosa</i>	1 gallon	4'	200

## Planting Notes

**Timing:** Plant in the early spring or late fall. Order plants from a reputable nursery. Care and handling of plant materials is extremely important to the overall success of the project. All plant materials recommended in this plan should be available from local and regional sources, depending on seasonal demand. Some limited species substitution may be allowed, only with the agreement of the consulting wetland professional.

**Plant Distribution:** The plants shall be arranged in a pattern with the appropriate numbers, sizes, species, and distribution to achieve the desired vegetation coverage. The actual placement of individual plants shall mimic natural, asymmetric vegetation patterns found on similar undisturbed sites in the area. Spacing of the plantings may be adjusted to maintain existing vegetation with approval from the consulting wetland professional. In the wetland creation area, plant trees and shrubs that have a lower tolerance for water in areas of slightly higher elevation.

**Mulch:** Woodchip mulch shall be placed in 2-foot rings around all installed shrubs and trees. Mulch shall be kept at least 2-inches away from plant stems and trunks.

**Seeding:** After woody plant installation and mulching is complete, bare ground areas within the restoration area will be sowed with grass seed as specified in the planting plan.

**Inspections:** A certified wetland professional shall inspect the plantings described in this plan. Due to the physical condition of the site, unusual or hidden site situations, minor adjustments to the original designs may be required prior to and during planting. These decisions will be made on-site by the County representative and/or the consulting wetland professional.

## Plant Marking:

Lath staking or other marking device, such as brightly colored surveying ribbon, shall be placed on or near each installed tree and shrub to assist in locating the plants during maintenance and monitoring.

## Project Goals, Objectives, and Performance Standards

The following goal, objectives and performance standards will be evaluated to ensure success of the mitigation project.

## Goal:

The goal of this project is to replace and improve functions and values on this site through stream channel relocation and restoration. This will be achieved if the performance standards listed below are achieved.

## Performance Standards:

- 1) The planted areas shall support a minimum 80 percent survival rate of planted species by the end of five years.
- 2) The mitigation areas shall support a minimum 70 percent aerial cover by native woody species by the end of five years.
- 3) The mitigation areas shall contain no more than 10 percent aerial cover of Himalayan blackberry or Scot's broom by the end of five years.

## Pre-Construction Meeting

A pre-installation site meeting shall occur between the consulting biologist, the contractor, and the landscaper prior to construction. Details of, excavating the wetland areas, stock piling the excess gravel road materials, planting the mitigation areas, etc. shall be discussed during this pre-installation site meeting.

## Project Monitoring Program

### Requirements for monitoring project

Annual reports including final report (one report submitted in the fall of each monitored year)

### Purpose for Monitoring

The purpose for monitoring this mitigation project shall be to evaluate its success. Success will be determined if monitoring shows at the end of 5 years that the goals and performance standards stated above are being met. If the project does not meet the definition of success, the County may extend the bonding period. The property owner shall grant access to the mitigation area for inspection and maintenance to the contracted landscaper or wetland specialist and the County biologist during the period of the bond or until the project is evaluated as successful.

## Vegetation and Methodology

During the each inspection, the planted vegetation will be monitored within each mitigation area. Monitoring vegetation involves measuring plant species establishment, survival, vigor, and vitality. The percentages of spatial cover of the dominant species for each of the three plant community layers are estimated in each planting area. Wildlife monitoring is limited to species heard or observed during the site visits. Monitoring of vegetation shall be done annually between August 1 and October 30 (prior to leaf drop), unless otherwise specified.

The following data shall be recorded for each data site:

- Species present
- Aerial cover by native and non-native species
- Quantity of dead plants
- General observations

## Photo points

Permanent photo points will be established within the mitigation areas. Photographs will be taken from these points to visually record condition of the mitigation area. Photos shall be taken annually between August 1 and October 30 (prior to leaf drop), unless otherwise specified.

## Maintenance Measures

The planting areas may require periodic maintenance during the monitoring period. Maintenance may include, but will not be limited to: removal of competing grasses and invasive vegetation (by hand if necessary), irrigation, replacement of plant mortality and/or the replacement of mulch. Aggressive control of invasive grasses may be required in the restoration areas. Chemical control, if necessary, shall be applied by a licensed applicator following all label instructions.

## Performance Bonding

A performance bond shall be provided to Snohomish County for the period of five years from the completion of the project, in the amount of 55% of the estimated cost for plant material and labor. Annual monitoring reports and seasonal maintenance will be required to assure the success of this enhancement plan. Snohomish County shall release this bond at the end of five years, only upon successful determination for all portions of this mitigation project. The following is an estimate of plant materials and labor only. This does not represent a bid to install:

TOTAL QUANTITY OF 1 GALLON PLANTS (at \$12.00) plant	7,295
ESTIMATED COST OF PLANT MATERIAL AND LABOR	\$87,540.00
<b>TOTAL ESTIMATED BOND AMOUNT</b>	<b>\$48,147.00</b>
(55% of Material, Labor, Monitoring, & Maintenance)	


## Use Of This Report

This Final Mitigation Plan is supplied to PACE, LLC, as required by Snohomish County during the permitting process. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

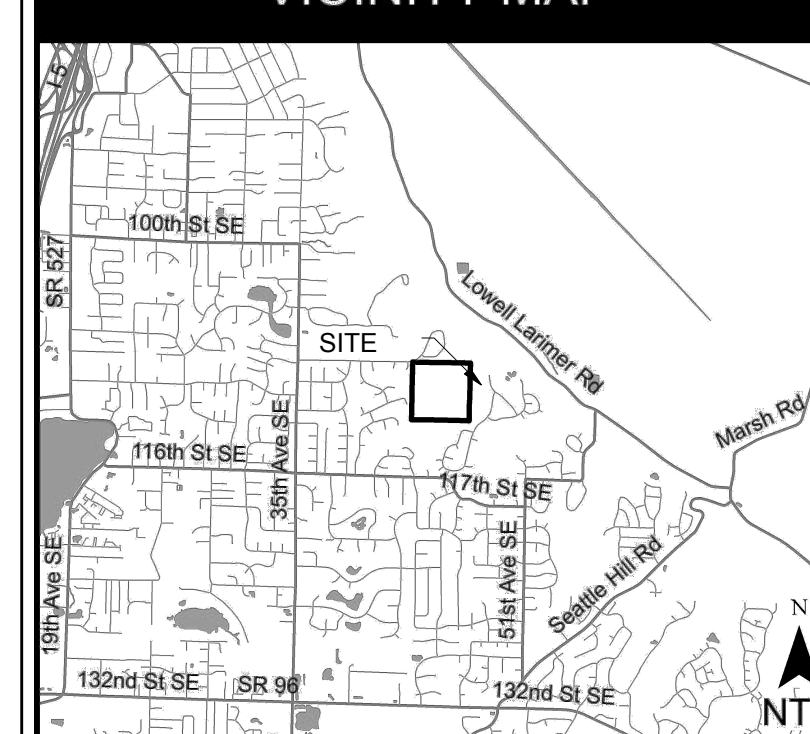
The laws applicable to wetlands are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

The work for this report has conformed to the standard of care employed by wetland ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

**PFN 20 118246LDA**

SNOHOMISH COUNTY PLANNING AND DEVELOPMENT SERVICES APPROVED FOR CONSTRUCTION	
 P.I. FOR RANDOLPH R. SLEIGHT, P.E., P.L.S.	6/23/2021 DATE:
R/W PERMIT NO. 20 108693 D8	

## VICINITY MAP



*Wetland Resources*

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JOB #14076

SCALE: 1" = 100'

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