

**CLEARING AND GRADING STANDARD NOTES**

1. ALL CLEARING & GRADING CONSTRUCTION MUST BE IN ACCORDANCE WITH CITY OF MERCER ISLAND CLEARING & GRADING CODE; CLEARING & GRADING EROSION CONTROL STANDARD; LAND USE CODE; UNIFORM BUILDING CODE; PERMIT CONDITIONS; AND ALL OTHER APPLICABLE CODES, ORDINANCES, AND STANDARDS. THE DESIGN ELEMENTS WITHIN THESE PLANS HAVE BEEN REVIEWED ACCORDING TO THESE REQUIREMENT. ANY VARIANCE FROM ADOPTED EROSION STANDARDS IS NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE CITY OF MERCER ISLAND PUBLIC WORKS AND COMMUNITY DEVELOPMENT (PCD) PRIOR TO CONSTRUCTION.

IT IS THE SOLE RESPONSIBILITY OF THE APPLICANT AND THE PROFESSIONAL CIVIL ENGINEER TO CORRECT ANY ERROR, OMISSION, OR VARIATION FROM THE ABOVE REQUIREMENTS FOUND IN THESE PLANS. ALL CORRECTIONS WILL BE AT NO ADDITIONAL COST OR LIABILITY TO THE COB. ALL DETAILS FOR STRUCTURAL WALLS, ROCKERIES OVER FOUR FEET IN HEIGHT, GEOGRID REINFORCED ROCKERIES, AND GEOGRID REINFORCED MODULAR BLOCK WALLS MUST BE STAMPED BY A PROFESSIONAL ENGINEER.

2. A COPY OF THE APPROVED PLANS MUST BE ON-SITE DURING CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR OBTAINING ANY OTHER REQUIRED OR RELATED PERMITS PRIOR TO BEGINNING CONSTRUCTION.

3. ALL LOCATIONS OF EXISTING UTILITIES HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD, THEREFORE, BE CONSIDERED ONLY APPROXIMATE AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS AND TO DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN.

4. THE AREA TO BE CLEARED AND GRADED MUST FLAGGED BY THE CONTRACTOR AND APPROVED BY THE CLEARING & GRADING INSPECTOR PRIOR TO BEGINNING ANY WORK ON THE SITE.

5. A REINFORCED SILT FENCE MUST BE INSTALLED AS SHOWN ON THE APPROVED PLANS OR PER THE CLEARING & GRADING INSPECTOR, ALONG SLOPE CONTOURS AND DOWN SLOPE FROM THE BUILDING SITE.

6. A HARD-SURFACE CONSTRUCTION ACCESS PAD IS REQUIRED. THIS PAD MUST REMAIN IN THE PLACE UNTIL PAVING IS INSTALLED.

7. CLEARING WILL BE LIMITED TO THE AREAS WITHIN THE APPROVED DISTURBANCE LIMITS, EXPOSED SOILS MUST BE COVERED AT THE END OF EACH WORKING DAY WHEN WORKING FROM OCTOBER 1ST THROUGH APRIL 30. FROM MAY THROUGH SEPTEMBER 30, EXPOSED SOILS MUST BE COVERED AT THE END OF EACH CONSTRUCTION WEEK AND ALSO AT THE THREAT OF RAIN.

8. ANY EXCAVATED MATERIAL REMOVED FROM THE CONSTRUCTION SITE AND DEPOSITED ON THE PROPERTY WITHIN THE CITY LIMITS MUST BE DONE IN COMPLIANCE WITH VALID CLEARING & GRADING PERMIT. LOCATIONS FOR THE MOBILIZATION AREA AND STOCKPILED MATERIALS MUST APPROVED BY THE CLEARING & GRADING INSPECTOR AT LEAST 24 HOURS IN ADVANCE OF ANY STOCKPIILING.

9. TO REDUCE THE POTENTIAL FOR EROSION OF EXPOSED SOILS, OR WHEN RAINY SEASON CONSTRUCTION IS PERMITTED, THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPs) ARE REQUIRED:  
 \* PRESERVED NATURAL VEGETATION FOR AS LONG AS POSSIBLE OR AS REQUIRED BY THE CLEARING & GRADING INSPECTOR.  
 \* PROTECT EXPOSED SOIL USING PLASTIC (EC-14), EROSION CONTROL BLANKETS, STRAW OR MULCH (COB GUIDE TO MULCH, RATES, AND USE CHART), OR AS DIRECTED BY THE CLEARING & GRADING INSPECTOR.  
 \* INSTALL CATCH BASIN INSERTS AS REQUIRED BY THE CLEARING & GRADING INSPECTOR OR PERMIT CONDITIONS OF APPROVAL.  
 \* INSTALL A TEMPORARY SEDIMENT POND, A SERIES OF SEDIMENTATION TANKS, TEMPORARY FILTER VAULTS, OR OTHER SEDIMENT CONTROL FACILITIES. INSTALLATION OF EXPOSED AGGREGATE SURFACES REQUIRES A SEPARATE EFFLUENT COLLECTION POND ON -SITE.

10. FINAL SITE GRADING MUST DIRECT DRAINAGE AWAY FROM ALL BUILDING STRUCTURES AT MINIMUM 2% SLOPE, PER UNIFORM BUILDING CODE.

11. THE CONTRACTOR MUST MAINTAIN A SWEEPER ON - SITE DURING EARTHWORK AND IMMEDIATELY REMOVE SOIL THAT HAS BEEN TRACKED ONTO PAVED AREAS AS RESULT OF CONSTRUCTION.

12. A PUBLIC INFORMATION SIGN LISTING 24- HOUR EMERGENCY NUMBER FOR THE CITY AND THE CONTRACTOR MAY BE PROVIDED TO THE APPLICANT AT THE TIME THE CLEARING & GRADING PERMIT IS ISSUED. THE APPLICANT MUST POST THE SIGN AT THE PROJECT SITE IN FULL VIEW OF THE PUBLIC AND THE CONTRACTORS, AND IT MUST REMAIN POSTED UNTIL FINAL SIGN -OFF BY THE CLEARING & GRADING INSPECTOR.

13. TURBIDITY MONITORING MAY BE REQUIRED AS A OF CLEARING & GRADING PERMIT APPROVAL. IF REQUIRED, MONITORING MUST BE PERFORMED IN ACCORDANCE WITH THE APPROVED TURBIDITY MONITORING PLAN AND AS DIRECTED BY THE CLEARING & GRADING INSPECTOR. MONITORING MUST DURING SITE (EARTHWORK) CONSTRUCTION UNTIL THE FINAL SIGN - OFF BY THE CLEARING & GRADING INSPECTOR.

14. ANY PROJECT THAT IS SUBJECTED TO RAINY SEASON RESTRICTIONS WILL NOT BE ALLOWED TO PERFORM CLEARING & GRADING ACTIVITIES WITHOUT WRITTEN APPROVAL FROM THE CITY ENGINEER. THE RAINY SEASON EXTENDS FROM NOVEMBER 1ST THROUGH APRIL 30.

**GENERAL NOTES**

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND THE MOST CURRENT COPY OF WSDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, AND THE 2016 EDITION OF THE WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR THE PUGET SOUND BASIN.

2. ALL WORKS WITHIN THE PLAT AND CITY RIGHT OF WAY SHALL BE SUBJECT TO THE INSPECTION OF THE CITY ENGINEER OR DESIGNATED REPRESENTATIVE.

3. PRIOR TO ANY CONSTRUCTION INCLUDING CLEARING/LOGGING OR GRADING. THE SITE CLEARING LIMITS SHALL BE LOCATED AND FIELD IDENTIFIED BY THE PROJECT SURVEYOR OR PROJECT ENGINEER AS REQUIRED BY THESE PLANS. THE PROJECT SURVEYOR'S NAME AND PHONE NUMBER IS TOM 425-298-4412

4. THE DEVELOPER AND CONTRACTOR IS RESPONSIBLE FOR WATER QUALITY AS DETERMINED BY THE MONITORING PROGRAM ESTABLISHED BY THE PROJECT ENGINEER. THE PROJECT ENGINEERS NAME AND NUMBER IS \_\_\_\_\_

5. PRIOR TO ANY SITE WORK, THE CONTRACTOR SHALL CONTACT THE DEPARTMENT OF PUBLIC WORKS TO SCHEDULE A PRECONSTRUCTION CONFERENCE. DUE TO FIELD CHANGES, ENGINEERED AS- BUILT IN ACCORDANCE WITH THE 2010 INTERNATIONAL BUILDING CODE SHALL BE REQUIRED PRIOR TO SITE APPROVAL.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS FOR UTILITY, ROAD, AND RIGHT OF WAY CONSTRUCTION. THE CONTRACTOR FOR THIS PROJECT IS \_\_\_\_\_ CONTACT PERSON \_\_\_\_\_ MOBILE PHONE \_\_\_\_\_ EMERGENCY PHONE \_\_\_\_\_

7. THE TEMPORARY EROSION AND SEDIMENTATION CONTROL (TESC) FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED TESC PLANS PRIOR TO ANY GRADING OR EXTENSIVE LAND CLEARING. THESE FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING IS COMPLETED AND THE POTENTIAL FOR ON SITE EROSION HAS PASSED. SEDIMENT LADEN WATERS SHALL NOT ENTER THE NATURAL DRAINAGE SYSTEM.

8. NON COMPLIANCE WITH REQUIREMENTS FOR EROSION CONTROLS, WATER QUALITY AND CLEARING LIMITS MAY RESULT IN REVOCATION OF PROJECT PERMITS, PLAN APPROVAL AND BOND FORECLOSURES.

9. TRENCH BACKFILL OF NEW UTILITIES AND STORM DRAINAGE FACILITIES SHALL BE COMPACTED TO 95% MAXIMUM DENSITY (MODIFIED PROCTOR) UNDER ROADWAYS AND 90% MAXIMUM DENSITY (MODIFIED PROCTOR) OFF ROADWAYS. COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 2-03.3(14) C- METHOD B AS DEFINED IN THE CURRENT EDITION OF THE APWA/WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.

10. THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. LOCATIONS OF UTILITIES SHOWN ON CONSTRUCTION PLANS ARE BASED ON BEST RECORDS AVAILABLE AND ARE SUBJECT TO VARIATION. FOR ASSISTANCE IN UTILITY LOCATION, CALL 1-800-424-5555.

11. PRIOR TO CONSTRUCTION THE OWNER AND/OR CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE CITY ENGINEER WHEN CONFLICTS EXIST BETWEEN THE PLANS AND FIELD CONDITIONS. CONFLICTS SHALL BE RESOLVED (INCLUDING PLAN AND PROFILE REVISIONS) AND RESUBMITTED FOR APPROVAL PRIOR TO PROCEEDING WITH CONSTRUCTION.

12. THE CONTRACTOR SHALL KEEP TWO SET OF PLANS ON SITE AT ALL TIME FOR RECORDING AS BUILT INFORMATION, ONE SET SHALL BE SUBMITTED TO THE PROJECT ENGINEER, AND ONE SET SHALL BE SUBMITTED TO THE CITY ENGINEER AT COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL ACCEPTANCE OF WORK.

13. A GRADING PERMIT ISSUED PURSUANT TO THE 2010 INTERNATIONAL BUILDING CODE, AND APPROVAL OF THE TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE OBTAINED FROM THE PLANNING DEPARTMENT PRIOR TO ANY ON SITE GRADING WORK NOT EXPRESSLY EXCEPT BY THE 2010 INTERNATIONAL BUILDING CODE.

14. PRIOR TO COMMENCEMENT OF FRAMING, FINAL DRAINAGE INSPECTION AND APPROVAL OF THE ROOF LEADER AND POSITIVE FOOTING SYSTEMS SHALL BE COMPLETED BY THE BUILDING DEPARTMENT. CONTRACTOR NEED TO SCHEDULE THE INSPECTION APPOINTMENT.

FIELD BOOK: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 SURVEY BASE MAP: \_\_\_\_\_  
 DESIGN ENTERED: \_\_\_\_\_  
 DESIGNED: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 SUPERVISOR: \_\_\_\_\_



**TANDEM ENGINEERING CONSULTANT INC**  
**8822 NE 178TH ST**  
**BOTHELL, WA 98011**  
**(206) 795-5674**

**GENERAL NOTES**

**LI & WU RESIDENCE**

**5660 E MERCER WAY**

**MERCER ISLAND, WA 98040**



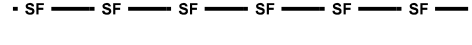

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 OF  
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 SHEETS

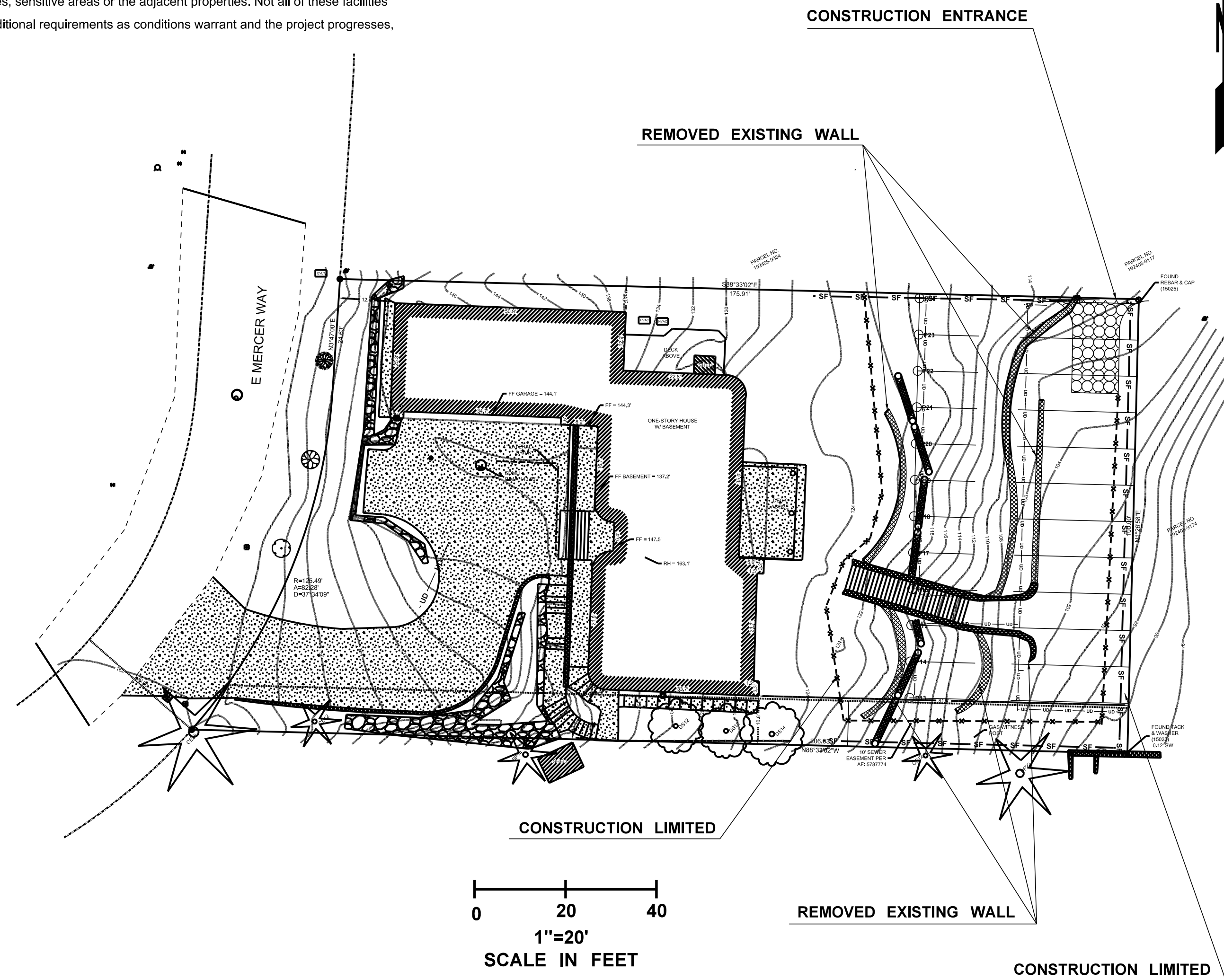
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## GENERAL TESC NOTES

Temporary erosion and sedimentation control facilities (TESC) (including but not limited to temporary construction entrance, catch basin protection, silt fence installation, interceptor ditches, sedimentation ponds and straw bales) must be in place and inspected by the City of Mercer Island prior to demolition, clearing/grading, etc. Spoil piles shall be kept covered. All City streets shall be kept free of mud and construction debris. TESC facilities shall be maintained until final landscaping is completed. No sediment-laden water shall enter Lake Washington, the public storm drain system, water courses, sensitive areas or the adjacent properties. Not all of these facilities may be identified on this plan but may be required during construction. Contractor will adhere to additional requirements as conditions warrant and the project progresses, including cleaning of downstream catch basins and drainage facilities of sediment from this project.

### LEGEND

EXISTING BLOCK WALL	
WATTLES	
SILT FENCE	
CONSTRUCTION LIMIT	



## PLAN NOTES

- Approval of this temporary erosion and sedimentation control (TESC) plan does not constitute an approval of permanent road or drainage design.
- The implementation of these TESC plans and the construction, maintenance, replacement, and upgrading of these TESC facilities is the responsibility of the owner/agent and/or their contractor until all construction is approved.
- The boundaries of the clearing limits shown on this plan shall be clearly flagged by a continuous length of survey tape (or fencing, if required) prior to construction. During the construction period, no disturbance beyond the clearing limits shall be permitted. The clearing limits shall be maintained by the owner/agent and/or their contractor for the duration of construction.
- The TESC facilities shown on this plan must be constructed prior to or in conjunction with all clearing and grading so as to ensure that the transport of sediment to surface waters, drainage systems, and adjacent properties is minimized.
- The TESC facilities shown on this plan are the minimum requirements for anticipated site conditions. During the construction period, these TESC facilities shall be upgraded as needed for unexpected storm events and modified to account for changing site conditions (e.g., additional sump pumps, relocation of ditches, hay bales and silt fences, etc.).
- The TESC facilities shall be inspected daily by the owner/agent and/or their contractor and maintained to ensure continued proper functioning. Written records shall be kept of weekly reviews of the TESC facilities during the wet season (Oct. 1 to April 30) and of monthly reviews during the dry season (May 1 to Sept. 30).
- Any areas of exposed soils, including roadway embankments, that will not be disturbed for two days during the wet season (Oct. 1 to April 30) or seven days during the dry season (May 1 to Sept. 30), shall be immediately stabilized with approved TESC methods (e.g., seeding, mulching, plastic covering, etc.).
- Any area needing TESC measures that do not require immediate attention shall be addressed within fifteen (15) days.
- The TESC facilities on inactive sites shall be inspected and maintained a minimum of once a month or within forty-eight (48) hours following a storm event.
- At no time shall more than one (1) foot of sediment be allowed to accumulate within a catch basin. All catch basins and conveyance lines shall be cleaned prior to final grading and/or paving. The cleaning operation shall not flush sediment-laden water into the downstream system.
- Stabilized construction entrances and roads shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures, such as wash pads and sediment traps, may be required to ensure that all paved areas are kept clean for the duration of the project.
- Any permanent flow control facility used as a temporary settling basin shall be modified with the necessary temporary erosion control measures and shall provide adequate storage capacity.
- Where straw mulch for temporary erosion control is required, it shall be applied at a minimum thickness of 2 to 3 inches.
- Prior to the beginning of the wet season (Oct. 1), all disturbed areas shall be reviewed to identify which ones can be seeded in preparation for the winter rains. Disturbed areas shall be seeded within one week of the beginning of the wet season. The City can require seeding of additional areas in order to protect surface waters, adjacent properties, or drainage facilities.

### Construction Sequence:

- Hold an onsite pre-construction meeting.
- Flag or fence clearing limits.
- Install catch basin protection, if required.
- Grade and install construction entrance(s).
- Install perimeter protection (silt fence, brush barrier, etc.).
- Construct sediment pond(s) and/or trap(s).
- Construct surface water controls (interceptor dikes, pipe slope drains, etc.) simultaneously with clearing and grading for project development.
- Maintain TESC measures in accordance with City standards and manufacturer's recommendations.
- Relocate surface water controls or TESC measures, or install new measures so that as site conditions change, the TESC is always in accordance with the City of Mercer Island Temporary Erosion and Sedimentation Control Requirements.
- Cover all areas that will be un-worked for more than two days during the wet season (Oct. 1 to April 30) or seven days during the dry season (May 1 to Sept. 30) with straw, wood fiber mulch, compost, plastic sheeting, or equivalent.
- Stabilize all areas within seven days of reaching final grade.
- Seed or sod any areas to remain un-worked for more than 30 days.
- Upon completion of the project, stabilize all disturbed areas and remove TESC measures if appropriate.

Reference: King County Surface Water Design Manual Appendix D - 10.3

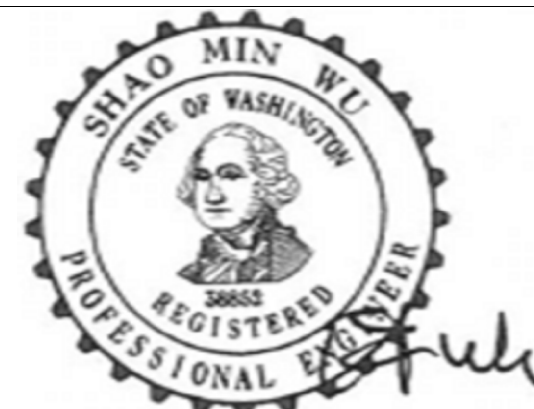
### EXPOSED & STOCKPILES SOIL BMP'S

All exposed and unworked soils shall be stabilized per the following criteria:  
 From October 1 to April 30, no exposed and unworked soils shall remain unstabilized (exposed) for more than two days. Non-erodible, clean, granular base materials shall be applied to stabilize all trafficked areas.  
 From May 1 to September 30, no exposed and unworked soils on slopes shall remain unstabilized (exposed) for more than seven days.  
 Exposed and unworked soils will be stabilized with the application of effective BMPs to prevent erosion throughout the life of the project. The specific BMPs will be used on this project include:

- Preserving natural vegetation
- Sodding
- Topsoil
- Mulching
- Check dam
- Soil binding using polyacrylamide
- Wattles
- Biodegradable erosion control blanket
- Compost blanket
- Stabilized construction entrance
- Plastic covering
- Construction road stabilization
- Seeding and planting
- Dust Control
- Bonded Fiber Matrix
- Mechanically Bonded Fiber Matrix

Seeding and mulching will be used to stabilize soils throughout the project following excavation and grading as well as other disturbed areas. During dry weather construction periods, the contractor will provide project specific dust control measures, as needed. Cut and fill slopes will be stabilized as soon as possible and soil stockpiles will be temporarily covered with plastic sheeting to prevent short-term erosion. All stockpiled soils will be stabilized from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways, and drainage channels.

FIELD BOOK: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 SURVEY BASE MAP: \_\_\_\_\_  
 DESIGN ENTERED: \_\_\_\_\_  
 DESIGNED: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 SUPERVISOR: \_\_\_\_\_



**TANDEM ENGINEERING CONSULTANT INC**  
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 (206) 795-5674

## TESC PLAN

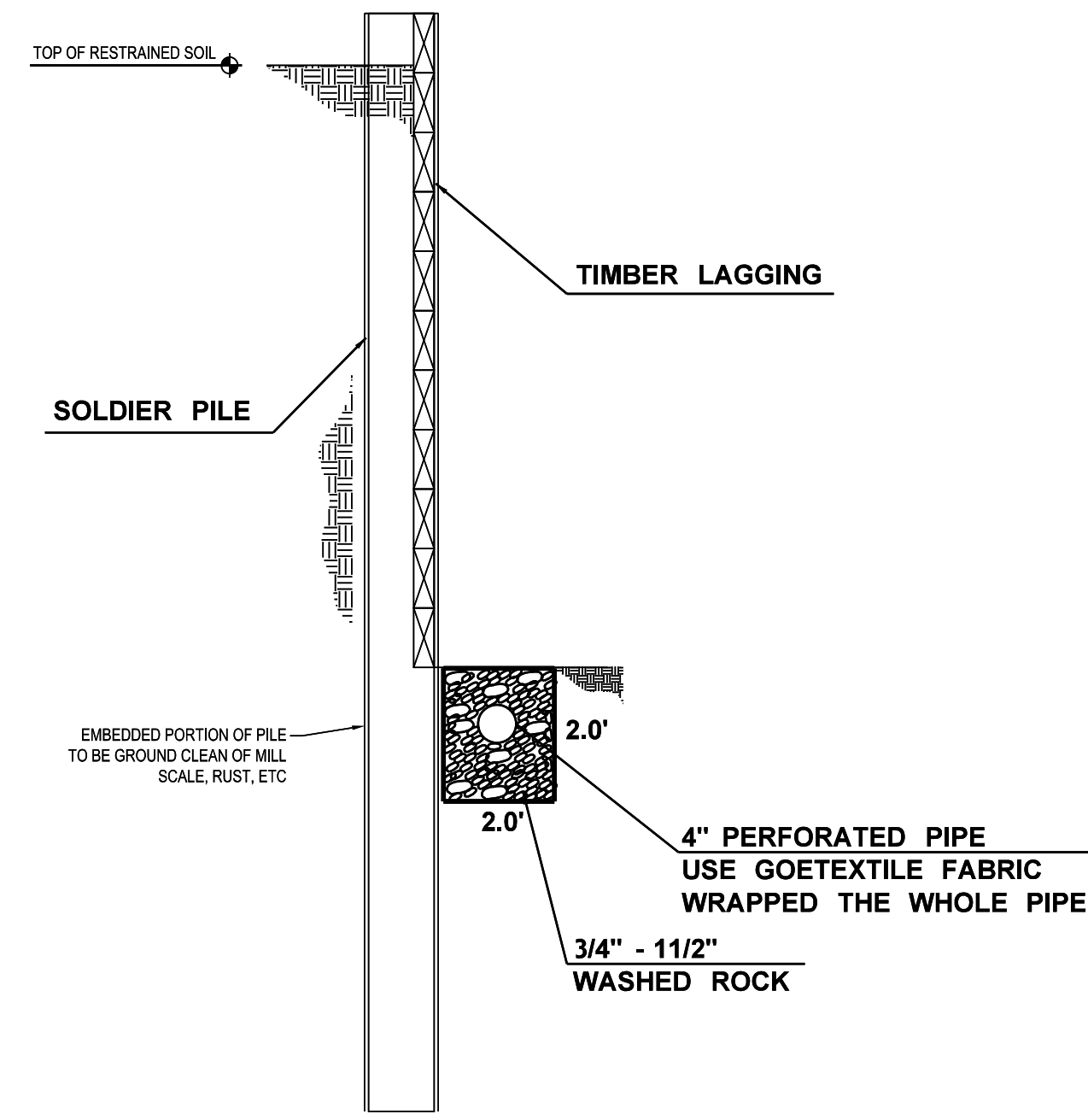
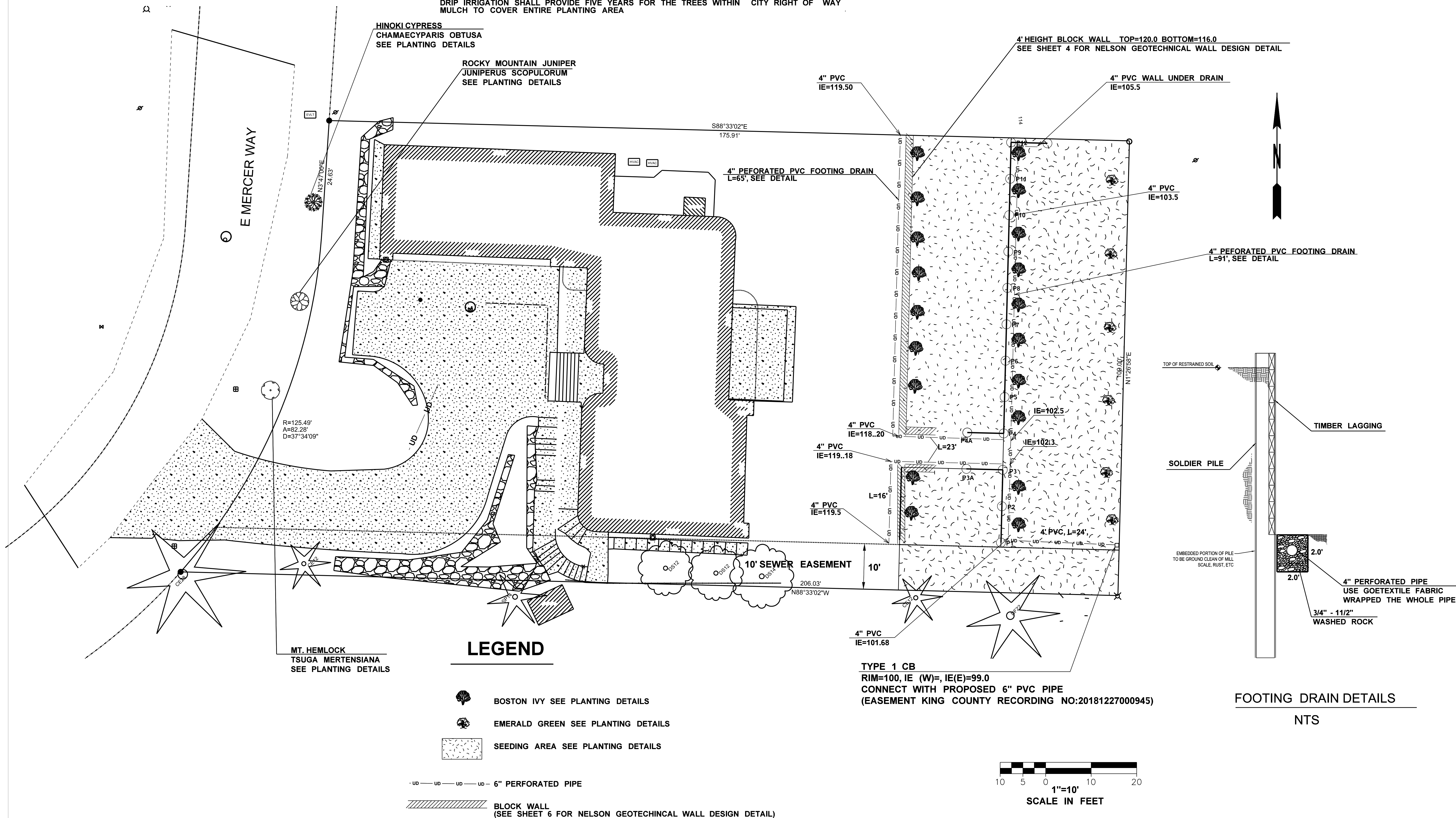
**LI & WU RESIDENCE**  
 5660 E MERCER WAY  
 MERCER ISLAND, WA 98040

SHEET  
**2**  
 OF  
**6**  
 SHEETS

**C-2.00**

**NOTE**

DRIP IRRIGATION SHALL PROVIDE FIVE YEARS FOR THE TREES WITHIN CITY RIGHT OF WAY MULCH TO COVER ENTIRE PLANTING AREA



MT. HEMLOCK  
TSUGA MERTENSIANA  
SEE PLANTING DETAILS

**LEGEND**

- BOSTON IVY SEE PLANTING DETAILS
- EMERALD GREEN SEE PLANTING DETAILS
- SEEDING AREA SEE PLANTING DETAILS

- 6" PERFORATED PIPE
- BLOCK WALL  
(SEE SHEET 6 FOR NELSON GEOTECHNICAL WALL DESIGN DETAIL)

TYPE 1 CB  
RIM=100, IE (W)=, IE(E)=99.0  
CONNECT WITH PROPOSED 6" PVC PIPE  
(EASEMENT KING COUNTY RECORDING NO:20181227000945)

**FOOTING DRAIN DETAILS**  
NTS

FIELD BOOK:	
SURVEYED:	
SURVEY BASE MAP:	
DESIGN ENTERED:	
DESIGNED:	
CHECKED:	
SUPERVISOR:	



**TANDEM ENGINEERING CONSULTANT INC**  
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(206) 795-5674

**DRAINAGE & LANDSCAPE  
& BLOCK WALL PLAN**

**LI & WU RESIDENCE**  
5660 E MERCER WAY  
MERCER ISLAND, WA 98040

SHEET  
**3**  
OF  
**6**  
SHEETS  
**C-3.00**

**SPECIFICATIONS FOR REINFORCED WALL**

General

1. The contractor shall have an approved set of plans and specifications on site at all times during the construction of the wall. The wall layout is the responsibility of the contractor.
2. Nelson Geotechnical Associates (NGA) shall observe and monitor the construction of the wall on a full-time basis.
3. Stratagrid SG500 geogrid or equivalent shall be used for this project. All geogrid and facing materials shall be approved by NGA prior to installation.
4. The contractor may use longer geogrid lengths than the design sections for ease of construction. The geogrid lengths may not be shorter unless approved by NGA.

Subgrade Preparation

1. The ground shall be prepared by removing surficial organics, loose soil and undocumented fill to expose competent native soils as approved by NGA.
2. Existing utilities shall be located and their depths varified in the field. If utility trenches or undocumented fill are encountered within the wall or reinforced fill subgrade, the subgrade shall be prepared as recommended and approved by NGA.
3. A generally level bench with a minimum width equal to the design length of the geogrid is required for placement fo the reinforced fill.
4. The excavation shall be cleaned of all excess material and protected, as necessary, from construction traffic to maintain the integrity of the subgrade.
5. The wall and reinforced fill subgrade should expose competent native soils. Subgrades to be approved by NGA.
6. The base of the excavation should be deep enough to satisfy a minimum embedment of 1.5 feet. The wall shall also be deep enough to satisfy a minimum distance of a 1H:1V inclination between the base of the upper block wall and the base of the lower block wall.
7. The excavation walls shall be sloped back at 1.5H:1V for safety. If this is not feasible, specific recommendations for maintaining excavation stability shall be provided by NGA. All WISHA/OSHA safety requirements shall be observed at all times during construction.

Geogrid Placement

1. The reinforcement shall be rolled out, cut to length, and laid at the proper elevation, location, and orientation. Orientation of the reinforcement is of extreme importance since geogrids vary in strength with roll direction. The contractor shall be responsible for the correct orientation.
2. Geogrid shall be placed at the location and elevations shown on the plans. The geogrid length is measured from the face of the blocks.
3. Prior to placing the fill, the geogrid shall be pulled to remove the slack and stretched by hand until taut and free of wrinkles.

Fill Placement

1. Structural fill, consisting of granular import soils or granular on-site material no greater than 3 inches in size, shall then be placed upon the subgrade and geogrid. If larger rock is used in the fill, additional layers of geogrid may need to be used in the reinforcement. The contractor shall prevent damage to the geogrid by placing the first lift of structural fill with at least a 1-foot thickness. NGA shall approve material placed in the reinforced zone, before placement.
2. Structural fill shall have parameters equal to or better than those stated for the reinforced wall fill below with less then 20 percent passing the number 200 sieve. NGA may allow a higher silt content based on review of the wall design and proposed fill parameters.
3. Soil density tests shall be performed as designated by NGA.
4. Fill soils in the wall area shall be compacted to at least 95 percent of the Maximum Dry Density (MDD) as determined by ASTM D-1557.
5. The soil shall be placed in relatively uniform horizontal lifts not exceeding 10 or 12 inches in thickness. The lift thickness shall not exceed the manufacturer's recommended depth for the compactive device used on the project.

Drainage

1. A specific drainage system is shown on the plans. Alternative drains can be used based on conditions found in the field and the material used within the reinforced zone. Changes to the drainage system should be approved by NGA prior to placement.
2. A drainage blanket 12 inches in width shall be installed directly behind the block facing and shall consist of 2-inch clean crushed rock. All of the drainage materials shall have a fines content no greater than 5 percent passing the number 200 sieve. A 4-inch rigid perforated pipe embedded in a minimum of one foot of pea gravel or washed rock and wrapped with filter fabric shall be installed at the bottom of the drainage layer
3. Surface water shall not be allowed to pond in or near the reinforced fill zone during or after construction.
4. Suitable clean-outs shall be installed every 50 feet for future maintenance.
5. Surface water shall not be allowed to reach the drainage layer.

Design Parameters

Reinforced Wall Fill: 30 degrees, 0 PSF, 120 PCF  
 Retained Backfill: 30 degrees, 0 PSF, 120 PCF  
 Foundation Soil: 30 degrees, 0 PSF, 120 PCF

Seismic

0.2g peak ground acceleration

External Stability of Wall

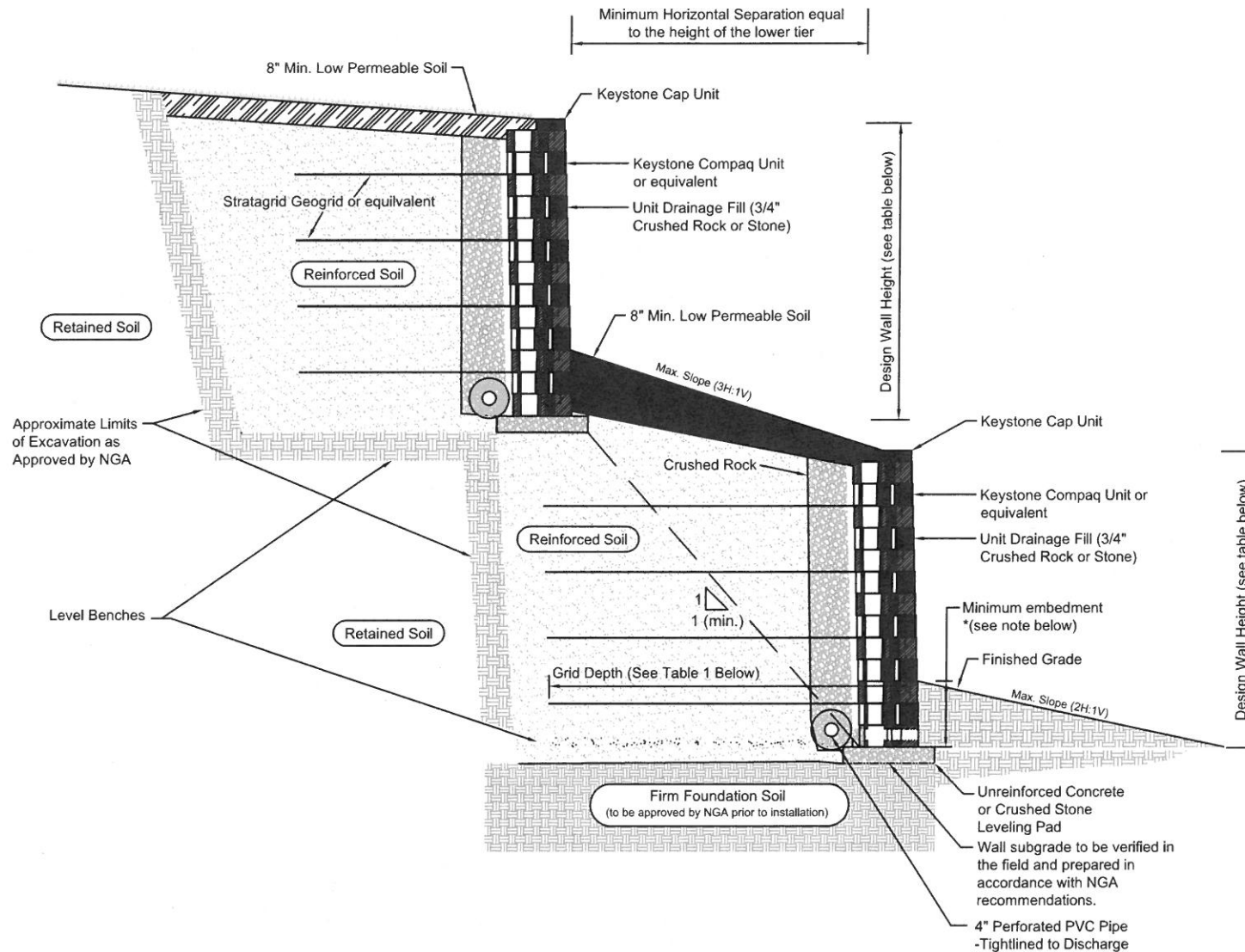
Minimum Factor of Safety against Base Sliding: 1.5  
 Minimum Factor of Safety against Overturning: 2.0  
 Minimum Factor of Safety against Bearing Capacity: 2.0

Internal Stability of Wall

Minimum Factor of Safety on Geogrid Strength: 1.5  
 Minimum Factor of Safety on Geogrid Pullout: 1.5  
 Soil-Geogrid Interaction Coefficient: 1.0  
 Percent Coverage of Geogrid: 100 Percent

Inspection

Wall construction shall be completed under the direction of NGA.



\*Note: Minimum wall embedment shall be 1.5 feet or greater to maintain the 1H:1V separation between the bottom of the upper block wall and back of the lower block walls, as shown above.

**Table 1:**

Wall Height (feet)	Number of Geogrid Layers	Geogrid Length (feet)	Geogrid Height Above Leveling Pad/ Geogrid Type (feet)				
			0.67 SG 500*	2.67 SG 500	4.67 SG 500	6.67 SG 500	8.67 SG 500
4	2	5.0	0.67 SG 500*	2.67 SG 500			
6	3	6.0	0.67 SG 500	2.67 SG 500	4.67 SG 500		
8	4	7.0	0.67 SG 500	2.67 SG 500	4.67 SG 500	6.67 SG 500	
10	5	9.0	0.67 SG 500	2.67 SG 500	4.67 SG 500	6.67 SG 500	8.67 SG 500

\*Stratagrid SG 500 (or equivalent)

No.	Date	Revision	By	CK
1		Original	LSB	KMS

**NELSON GEOTECHNICAL ASSOCIATES, INC.**  
**NGA**  
**GEOTECHNICAL ENGINEERS & GEOLOGISTS**

Snohomish County (425) 337-1669  
 Wenatchee/Chelan (509) 784-2756  
 www.nelsongeotech.com

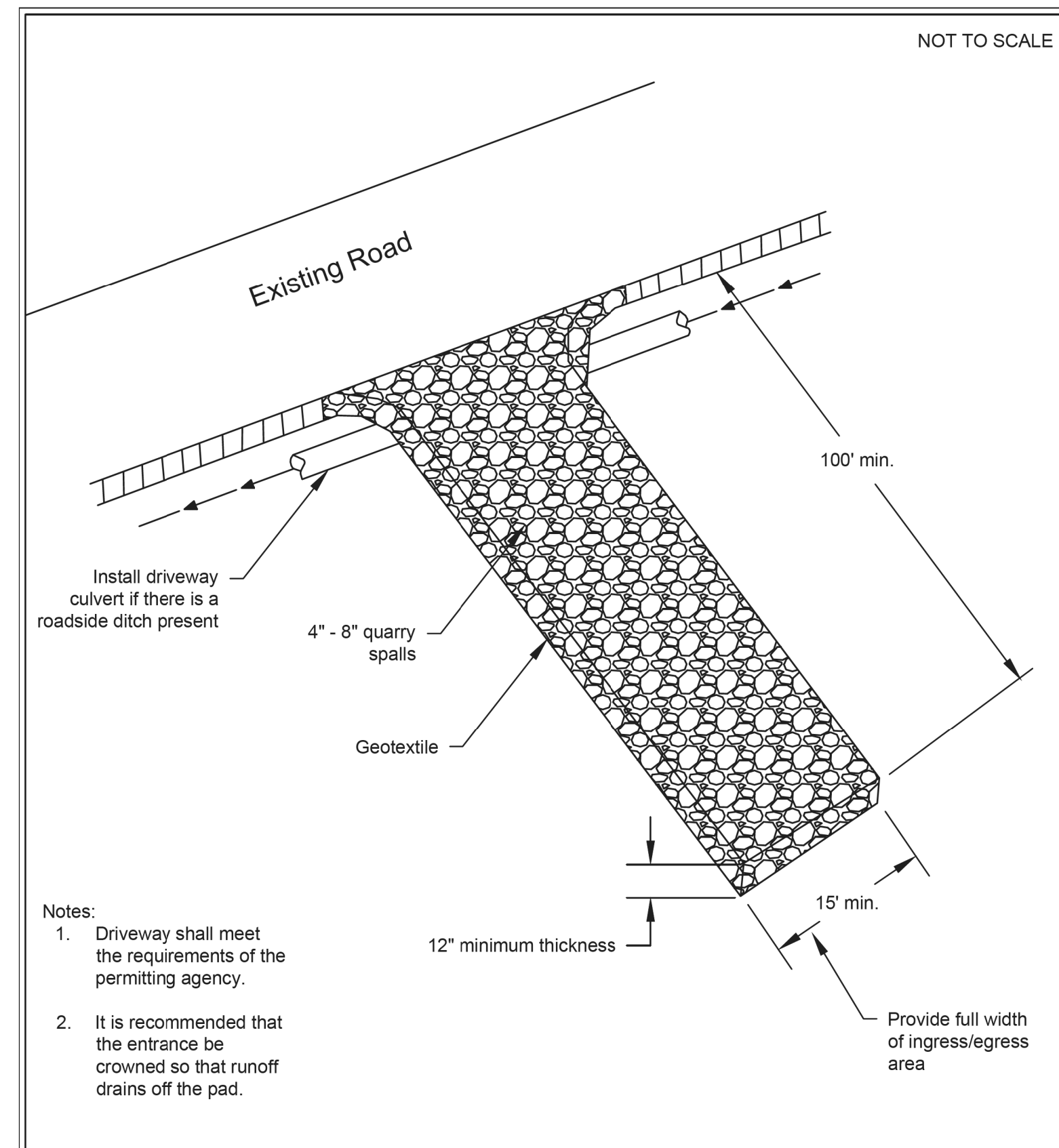
17311-135th Ave. NE, A-500  
 Woodinville, WA 98072  
 (425) 486-1669 / Fax 481-2510

East Mercer Way Retaining Wall Slope Stabilization Geogrid Reinforced Block Wall Detail

Project Number 1024718  
 Figure 9

C-4.00

**Figure II-4.1.1 Stabilized Construction Entrance**

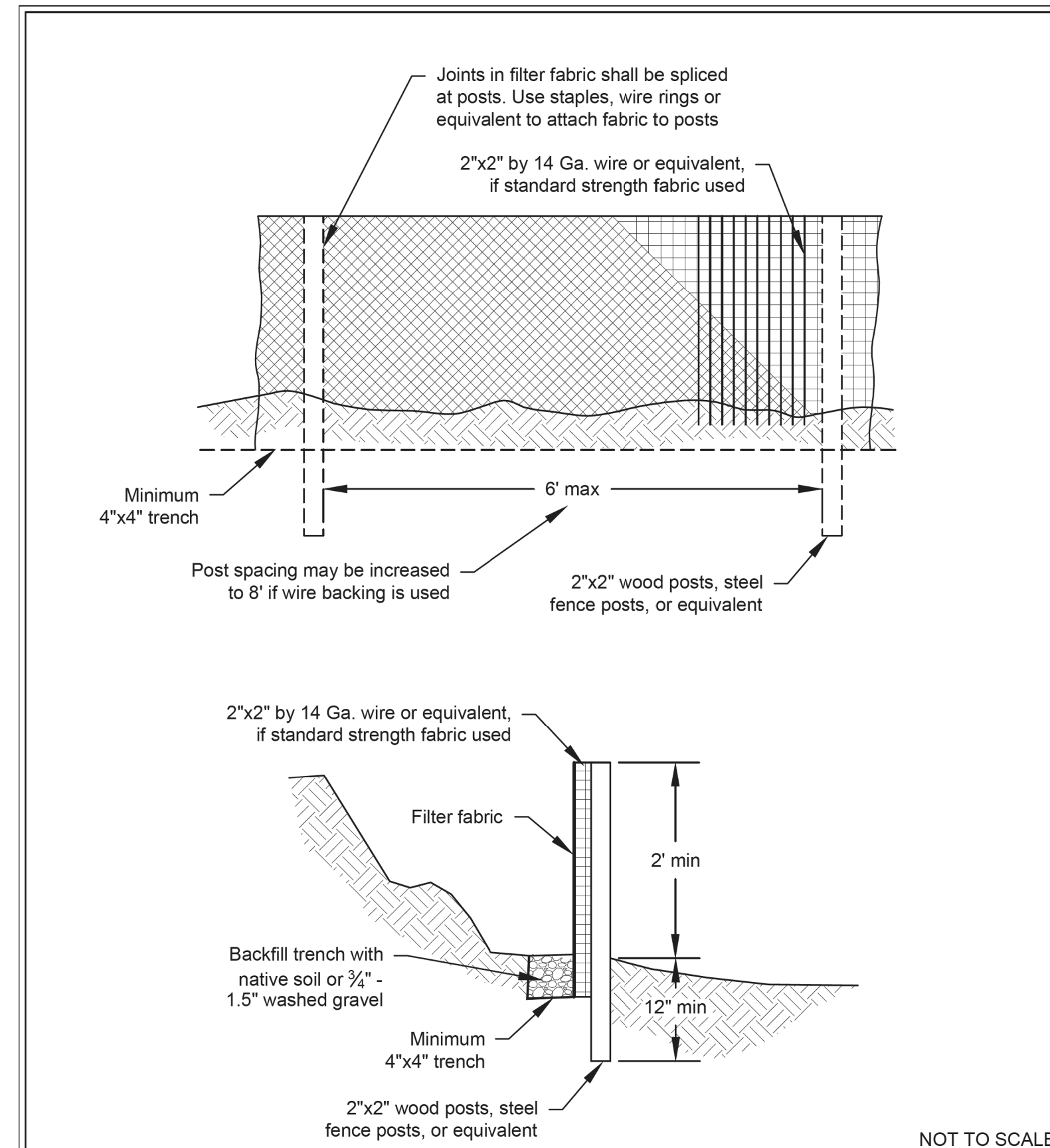


**Figure II-4.1.1  
Stabilized Construction Entrance**

Revised June 2015

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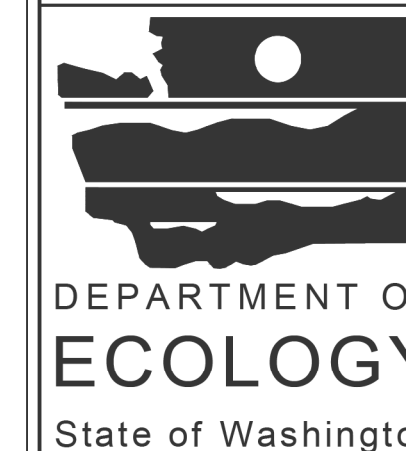
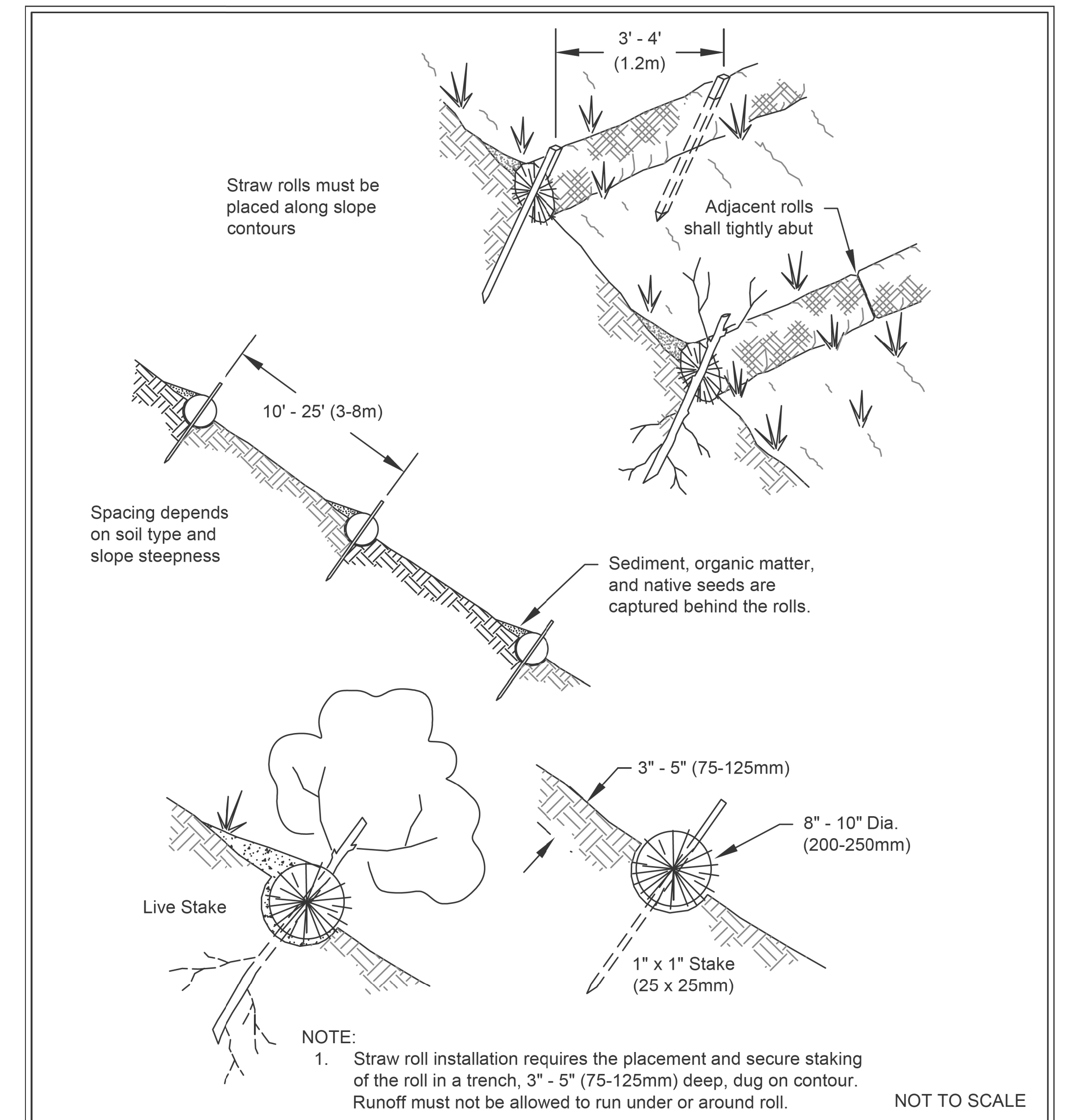
**Figure II-4.2.12 Silt Fence**



**Figure II-4.2.12  
Silt Fence**

Revised October 2014

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**Figure II-4.2.14  
Wattles**

Revised November 2015

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FIELD BOOK:	
SURVEYED:	
SURVEY BASE MAP:	
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SUPERVISOR:	

**TANDEM ENGINEERING CONSULTANT INC**  
8822 NE 178TH ST  
BOTHELL, WA 98011  
(206) 795-5674

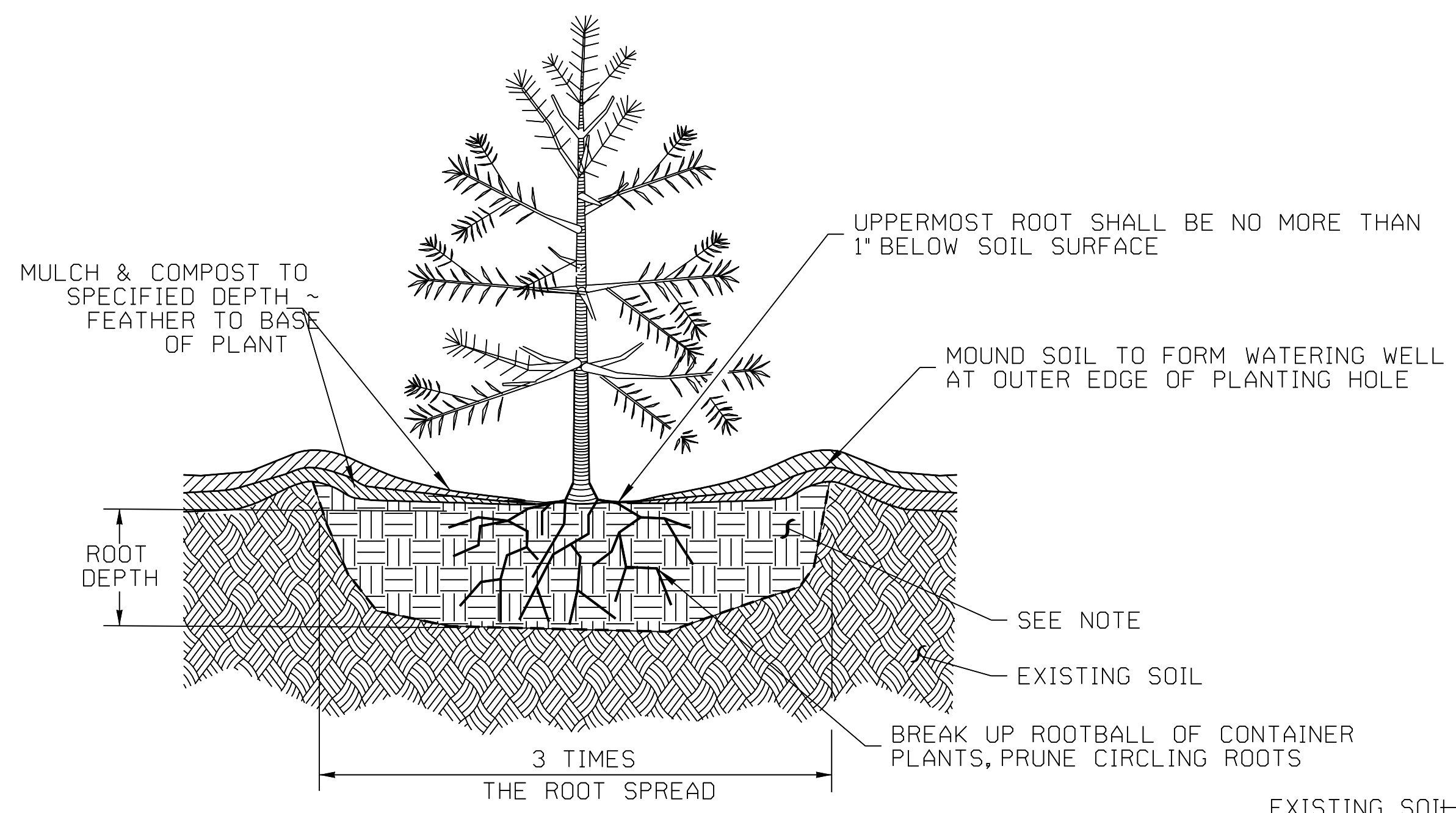
**TESC DETAILS**

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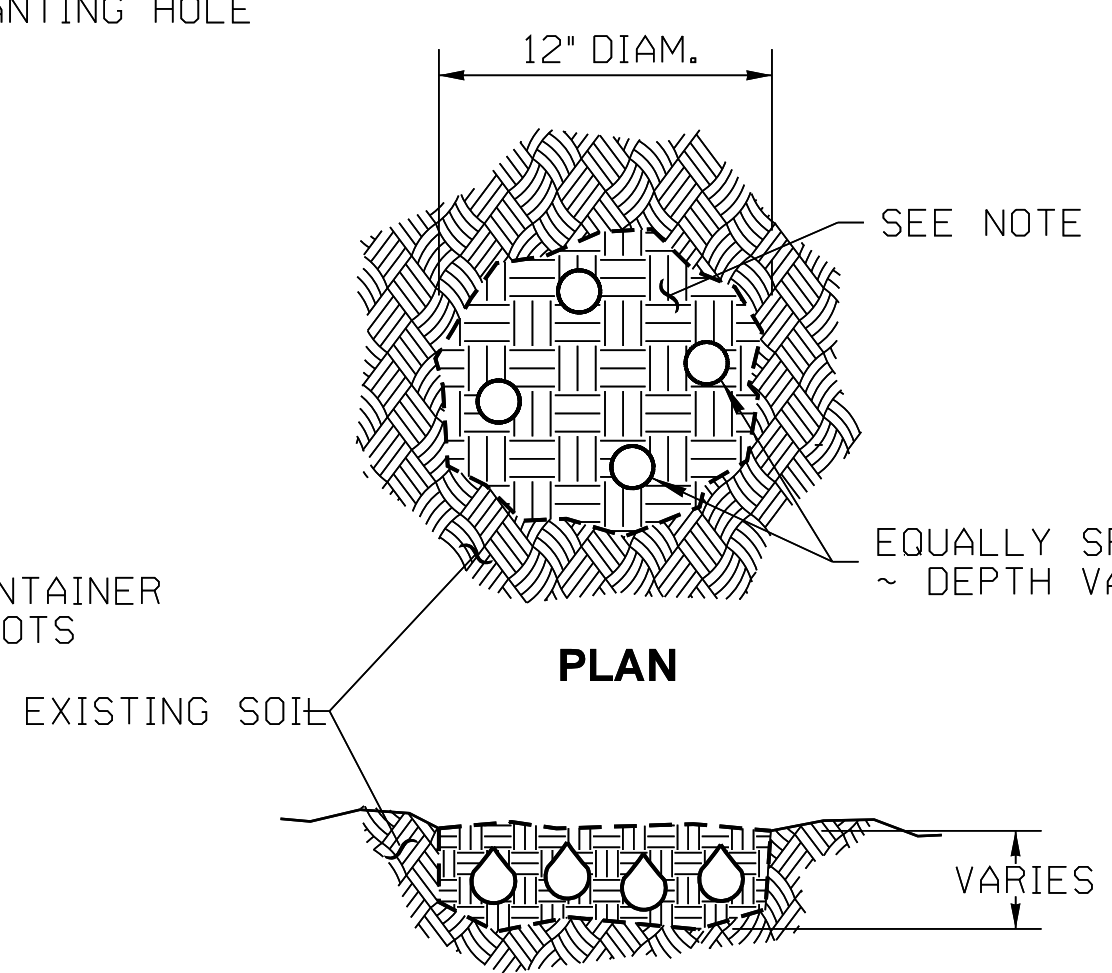
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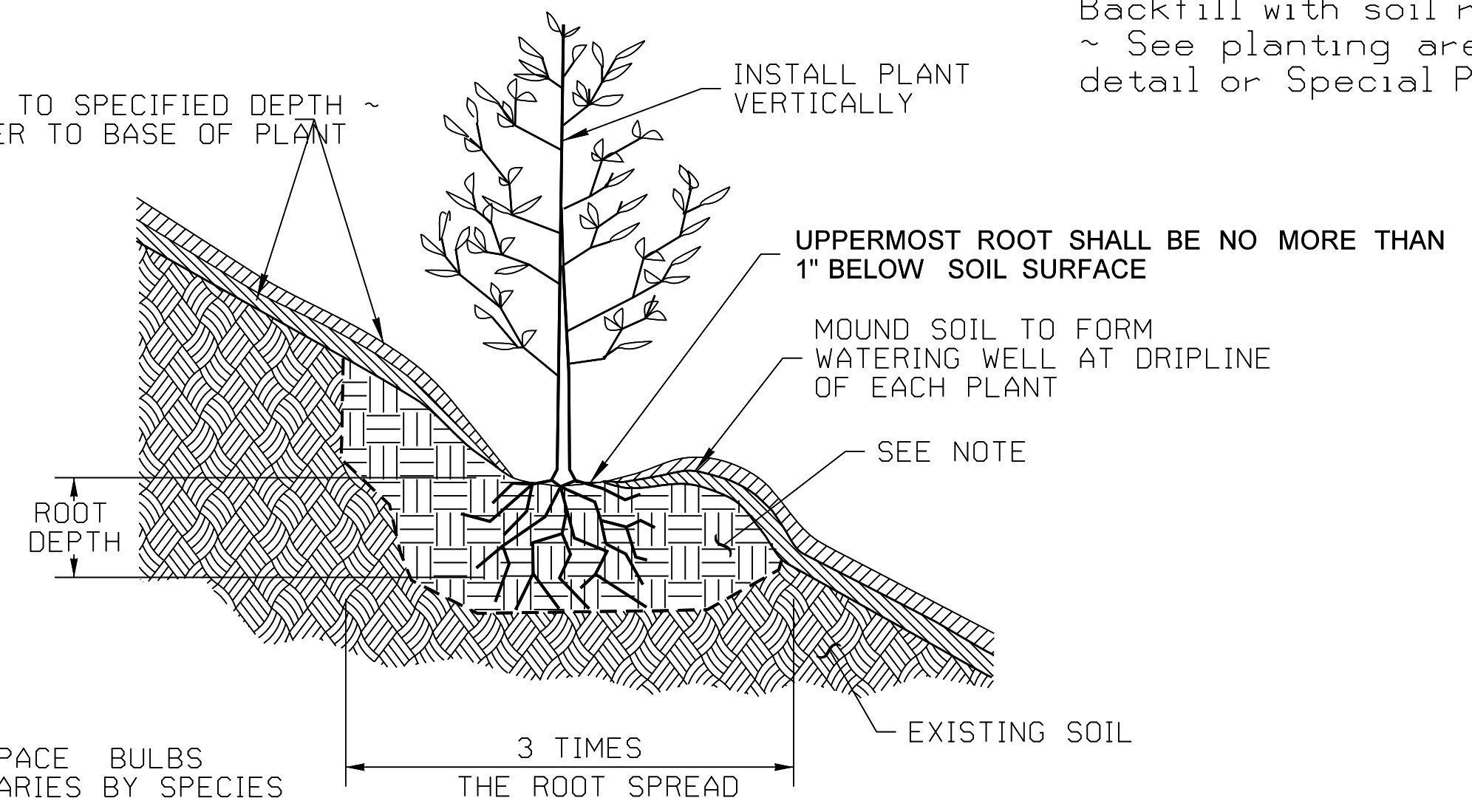
**NOTE**  
 Backfill with soil removed from hole  
 ~ See planting area soil preparation  
 detail or Special Provisions.



**SHRUB, TREE AND GROUND COVER PLANTING DETAIL**

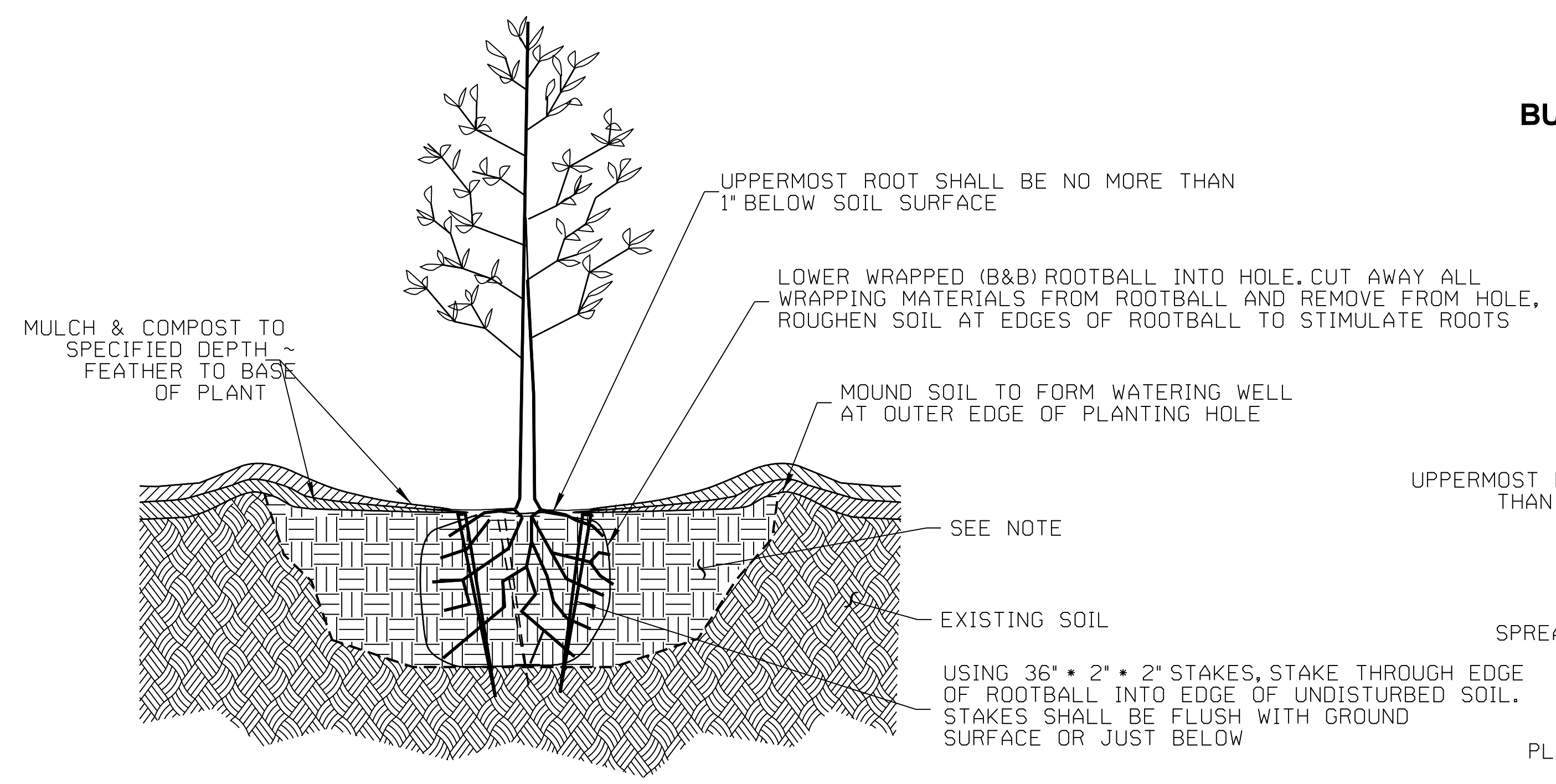


**BULB PLANTING DETAIL**



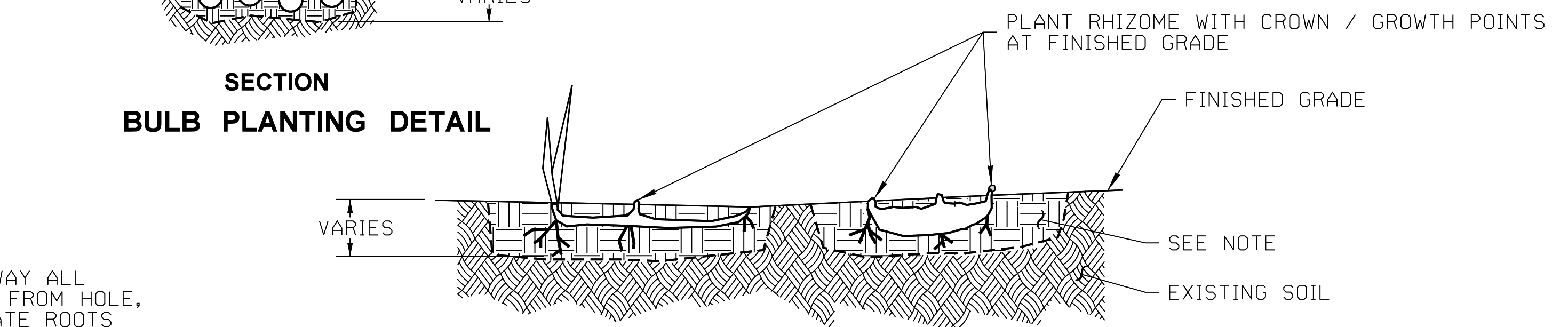
**SLOPE PLANTING DETAIL**

(INCLUDES ALL PLANTS ON SLOPES)

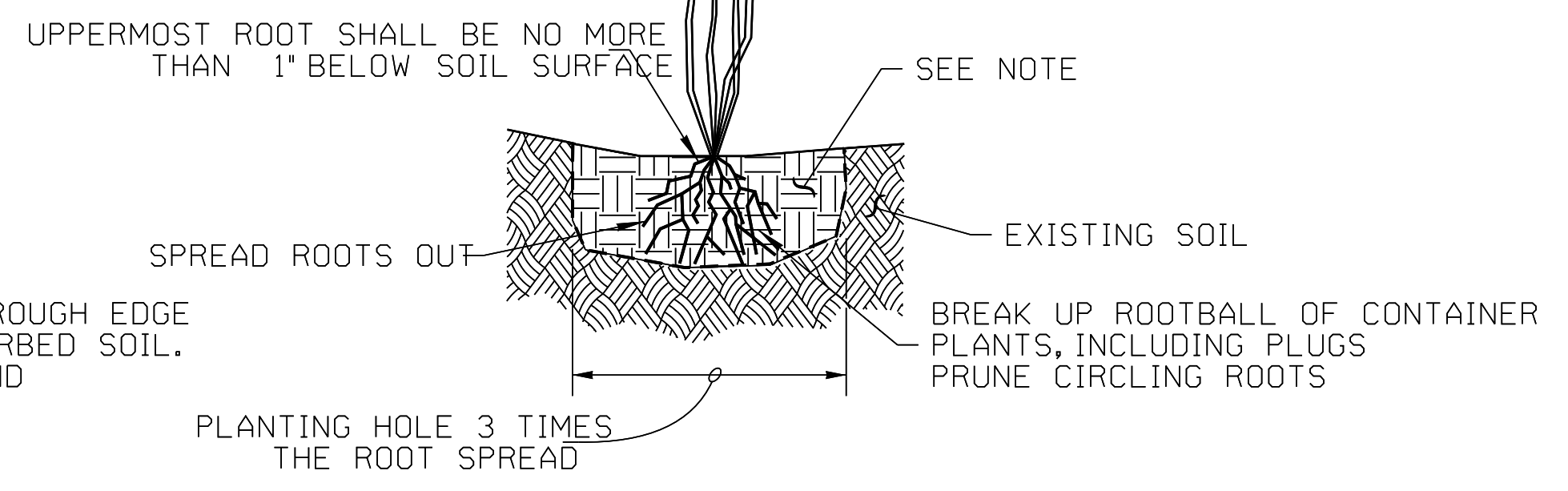


**STREET TREE PLANTING AND STAKING DETAIL**

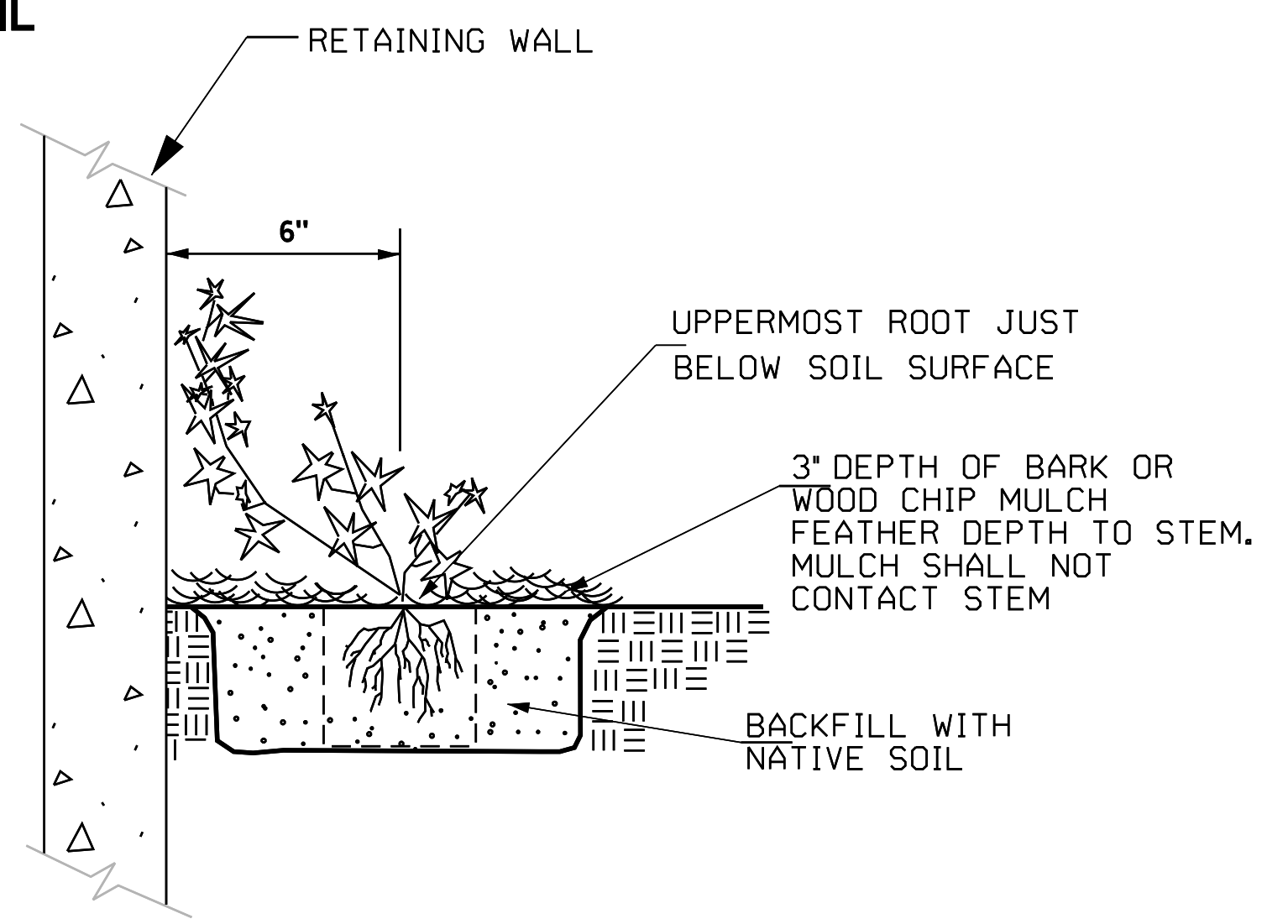
(APPLIES TO CONTAINER, BALL AND BURLAPPED, (B&B) DECIDUOUS AND CONIFERS)



**TUBER OR RHIZOME PLANTING DETAIL**



**EMERGENT PLANTING DETAIL**



**BOSTON IVY PLANTING DETAIL**

NTS

**TREE AND SHRUB PLANTING DETAILS**  
 NTS

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DESIGN ENTERED:	
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SUPERVISOR:	

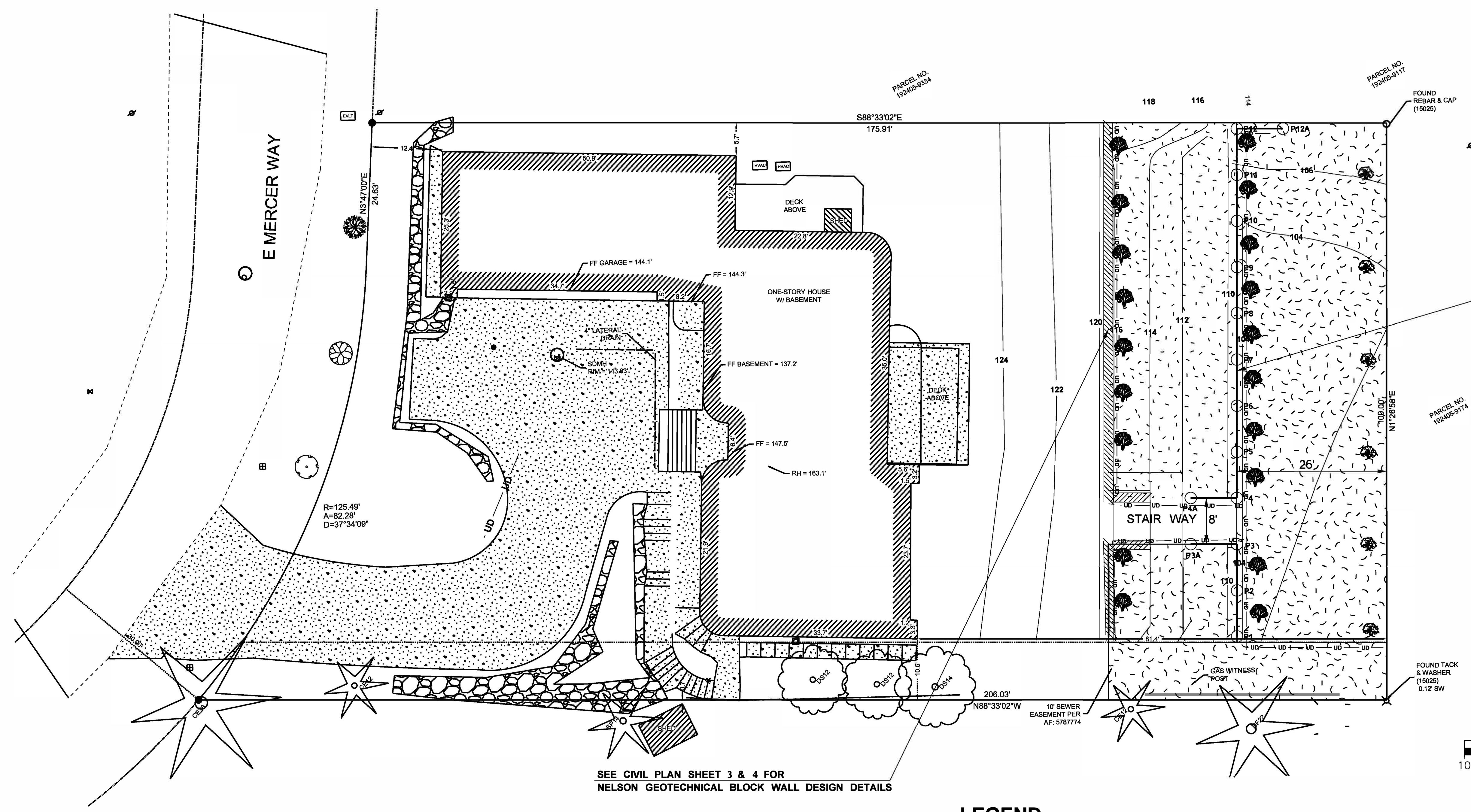
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 8822 NE 178TH ST  
 BOTHELL, WA 98011  
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**PLANTING DETAILS PLAN**

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SHEET  
**6**  
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WALL-1  
SEE S2.0 FOR WALL PROFILE

SEE CIVIL PLAN SHEET 3 & 4 FOR  
NELSON GEOTECHNICAL BLOCK WALL DESIGN DETAILS

**LEGEND**

- 2' PILE DIAMETER @ 8' SPACE
- 10 — PROPOSED CONTOUR LINE
- ▨ BLOCK WALL (SEE NELSON GEOTECHNICAL WALL DESIGN DETAILS)

CALL 2 WORKING  
DAYS BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

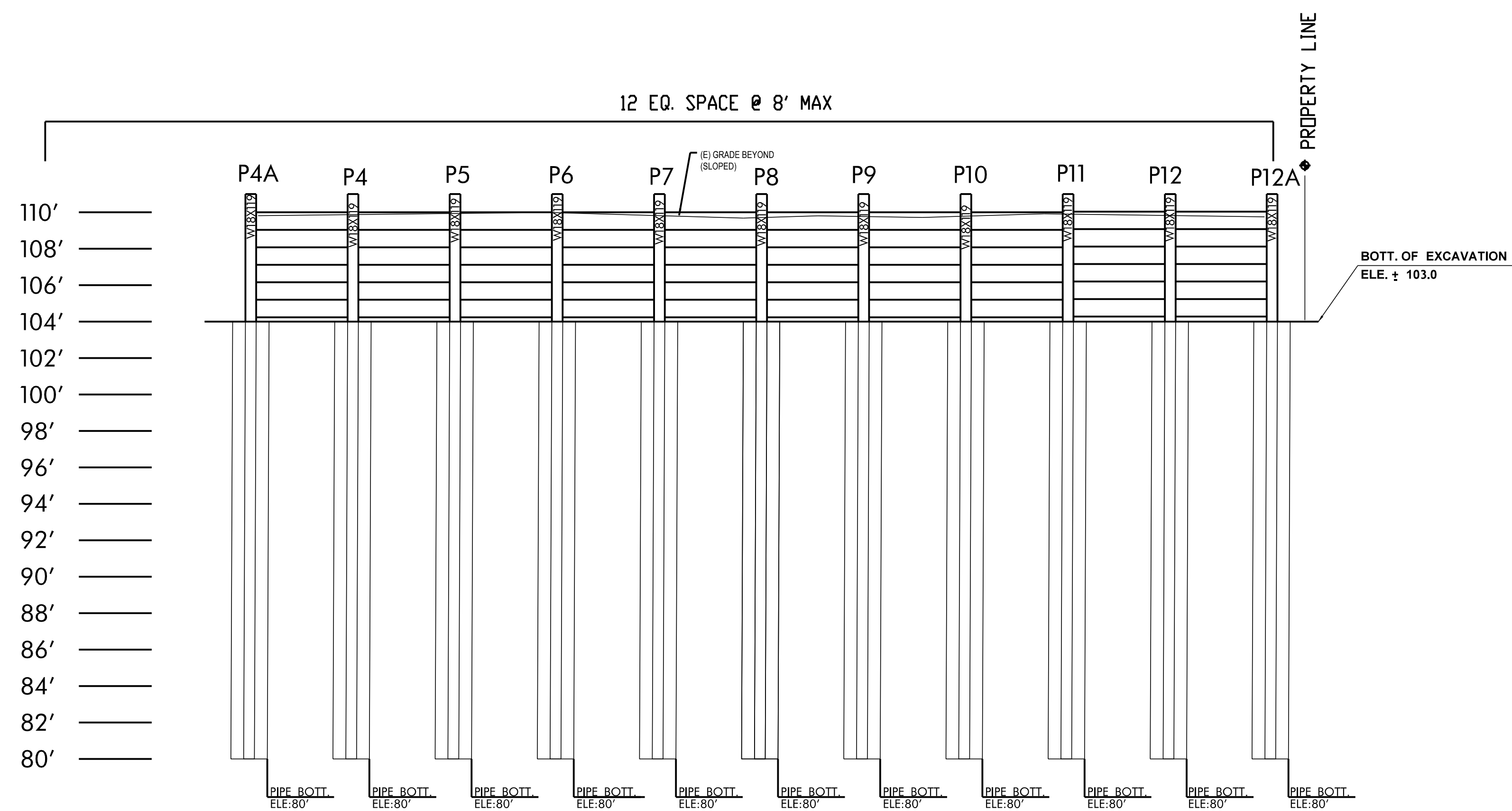
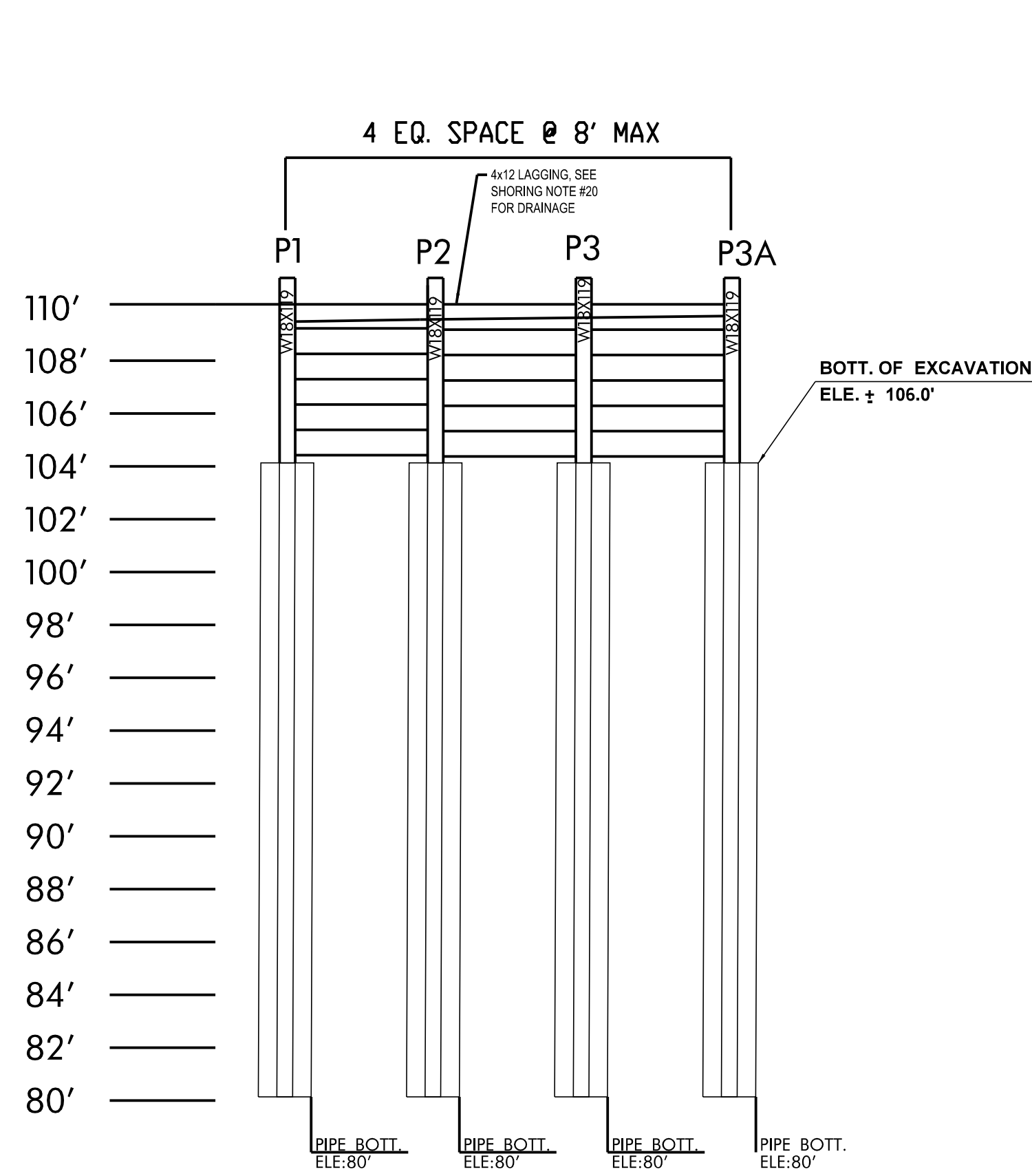
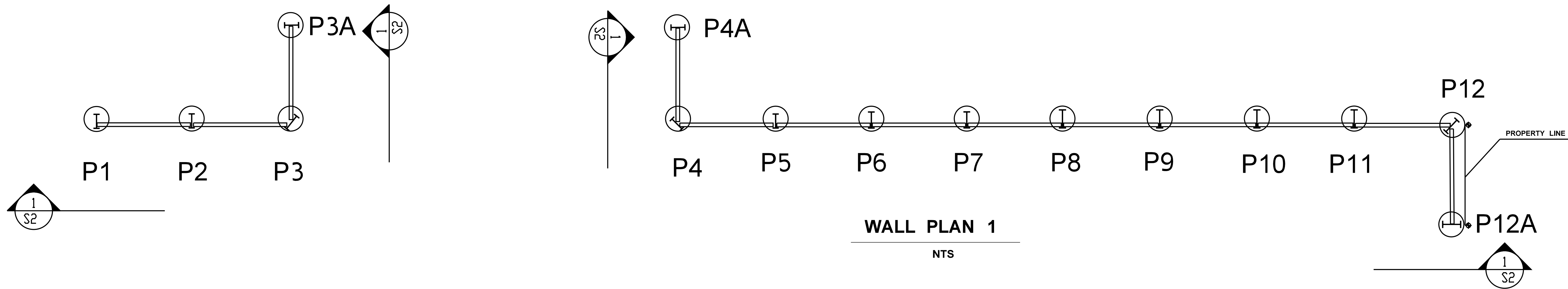
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DESIGNED:				
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SUPERVISOR:				
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PROJECT No. \_\_\_\_\_  
SURVEY No. \_\_\_\_\_  
MAINTENANCE DIVISION No. \_\_\_\_\_



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① **WALL 1 ELEVATION**  
**V 1" = 5'**

CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:				
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	NUM.	REVISION	BY	DATE

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PROJECT No. \_\_\_\_\_

SURVEY No. \_\_\_\_\_

MAINTENANCE DIVISION No. \_\_\_\_\_



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OF  
**4**  
SHEETS

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## BUILDING CODES

- ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THESE DRAWINGS, SPECIFICATIONS, AND THE CODES, RULES AND REGULATIONS OF THE INTERNATIONAL BUILDING CODE (IBC), 2015 EDITION.
- WHERE NOTED IN THE STRUCTURAL NOTES, CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL ALSO CONFORM TO THE FOLLOWING STANDARDS. WHERE THESE STANDARDS CONFLICT WITH THE BUILDING CODE, THE CODE SHALL GOVERN.

### GENERAL

ASCE7 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" AMERICAN SOCIETY OF CIVIL ENGINEERS  
ASCE/SEI 7 - 2010 EDITION

### HOT ROLLED STEEL

AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AMERICAN INSTITUTE OF STEEL CONSTRUCTION ANSI/AISC360 - 2010 EDITION

AISC-303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" AMERICAN INSTITUTE OF STEEL CONSTRUCTION AISC303 - 2010 EDITION

### WOOD

NDS "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" AMERICAN FOREST AND PAPER ASSOCIATION ANSI/AF&PA NDS - 2015 EDITION

## GENERAL NOTES

- THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE DRAWINGS, SPECIFICATIONS, AND THE CODES, RULES AND REGULATIONS OF THE BUILDING CODE AS DEFINED IN THE "BUILDING CODE" SECTION.
- CONSTRUCTION TOLERANCES SHALL CONFORM TO THE BUILDING STANDARDS SPECIFIED IN THE "BUILDING CODE" SECTION.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
- IF ANY ERRORS OR OMISSIONS APPEAR TO EXIST IN THESE DRAWINGS, SPECIFICATIONS, OR OTHER CONTRACT DOCUMENTS; THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER IN WRITING OF SUCH OMISSION OR ERROR BEFORE PROCEEDING WITH THE WORK.
- A PRE CONSTRUCTION MEETING WITH SDOT SHORING REVIEW AND INSPECTION IS REQUIRED PRIOR TO START OF EXCAVATIONS ADJACENT TO THE PUBLIC ROW. THIS MEETING SHOULD BE SEPARATE FROM ANY DPD PRE-CONSTRUCTION MEETING. ATTENDEES SHALL INCLUDE, BUT LIMITED TO, REPRESENTATIVES OF THE OWNER, GENERAL CONTRACTOR, EXCAVATION AND SHORING SUBCONTRACTORS, PROJECT GEOTECHNICAL ENGINEER, PROJECT SURVEYORS, SDOT SHORING AND REVIEW AND INSPECTION PERSONNEL, AND STRUCTURAL ENGINEER.
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO ANY FABRICATION OR CONSTRUCTION FOR ALL STRUCTURAL ITEMS, INCLUDING STRUCTURAL STEEL, MISCELLANEOUS METAL, GROUTS, AND CONCRETES. PROPOSED DEMOLITION AND SHORING SEQUENCE SHALL ALSO BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- PILE PLACEMENT SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER-OF-RECORD. THE GEOTECHNICAL ENGINEER SHALL BE ON SITE DURING LAGGING EXCAVATION. INSPECTION BY AN APPROVED AND QUALIFIED TESTING AGENCY SHALL BE PERFORMED FOR STEEL FABRICATION, ERECTION, AND WELDING.
- THE SHORING CONTRACTOR SHALL DETERMINE AND/OR VERIFY THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRILLING PILE HOLES, AND/OR CUTTING OR DIGGING IN STREETS OR ALLEYS. THE UTILITIES INFORMATION SHOWN ON THE DRAWINGS, IF ANY, MAY NOT BE COMPLETE OR CORRECT.
- SEE GEOTECHNICAL REPORT FOR SPECIFIC INFORMATION AND RECOMMENDATIONS FOR SHORING, SHORING MONITORING, EXCAVATION, LAGGING, AND DRAINAGE BEHIND LAGGING.
- REFERENCE DOCUMENTS: TOPOGRAPHIC AND BOUNDARY SURVEY BY TOPOGRAPHIC SURVEY, DATED 08/29/2017.

## DRILLED SOLDIER PILES

- SHAFTS SHALL BE CONSTRUCTED SO THE CENTER AT THE TOP OF THE SHAFT IS WITHIN +/- 3 INCHES OF THE PLAN LOCATION. SHAFT PLUMBNESS MAY VARY UP TO 1 PERCENT OF THE PILE LENGTH.
- THE STEEL SOLDIER PILES SHALL BE PLACED SO THAT THE CENTERLINE OF THE PILE IS WITHIN +/- 1 INCH OF PLAN LOCATION. THE STEEL SOLDIER PILE SHALL BE PLUMB WITHIN ONE PERCENT. THE TOP ELEVATION OF THE STEEL SOLDIER PILE SHALL BE WITHIN +/- 3 INCHES OF THE PLAN ELEVATION.
- SHAFTS SHALL BE EXCAVATED TO THE REQUIRED DEPTH AS SHOWN ON THE PLANS. THE EXCAVATION SHALL BE COMPLETED IN A CONTINUOUS OPERATION USING EQUIPMENT CAPABLE OF EXCAVATING THROUGH THE TYPE OF MATERIAL EXPECTED TO BE ENCOUNTERED.
- SHORING AND SOIL EXCAVATION SHALL BE DONE SIMULTANEOUSLY. SEE SHORING/DEMOLITION SEQUENCING NOTES ON SH.1 FOR ADDITIONAL INFORMATION.
- IF THE SHAFT EXCAVATION IS STOPPED WITH THE APPROVAL OF THE ENGINEER, THE SHAFT SHALL BE SECURED BY INSTALLATION OF A SAFETY COVER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE SAFETY OF THE SHAFT AND SURROUNDING SOIL AND THE STABILITY OF SIDE WALLS. A TEMPORARY CASING SHOULD BE USED IF NECESSARY TO ENSURE SUCH SAFETY AND STABILITY.
- WHERE CAVING CONDITIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL SELECT A METHOD TO PREVENT GROUND MOVEMENT. THE CONTRACTOR MAY ELECT TO PLACE A TEMPORARY CASING.
- THE CONTRACTOR SHALL USE APPROPRIATE MEANS (SUCH AS A CLEANOUT BUCKET), TO CLEAN THE BOTTOM OF THE EXCAVATION SUCH THAT NO MORE THAN 2 INCHES OF LOOSE OR DISTURBED MATERIAL IS PRESENT.
- UNLESS SHOWN OTHERWISE ON THE PLANS, EXCAVATION OF SHAFTS SHALL NOT COMMENCE UNTIL A MINIMUM OF 12 HOURS AFTER THE CDF FOR THE ADJACENT SHAFTS HAS BEEN PLACED. TEMPORARY CASINGS FOR THE SHAFTS SHALL BE REMOVED. A MINIMUM 5 FOOT HEAD OF CONCRETE MUST BE MAINTAINED TO BALANCE THE SOIL AND WATER PRESSURE AT THE BOTTOM OF THE CASING DURING REMOVAL. THE CASING SHALL BE SMOOTH.
- SHAFT CDF SHALL BE PLACED AS SHOWN ON THE PLANS. SHAFT CDF SHALL BE PLACED IN ONE CONTINUOUS OPERATION TO THE TOP OF THE SHAFT.
- IF WATER IS NOT PRESENT, THE CDF SHALL BE DEPOSITED BY A METHOD WHICH PREVENTS AGGREGATE SEGREGATION.
- IF WATER IS PRESENT, THE CDF SHALL BE DEPOSITED BY TREMIE PLACING METHODS.
- ALL SHORING ELEMENTS IN THE ROW SHALL BE REMOVED TO A DEPTH OF AT LEAST 4 FEET BELOW FINISHED GRADE IN THE ROW ONCE THEY ARE NO LONGER NEEDED FOR CONSTRUCTION (SEE REQUIREMENT AS OUTLINED IN SMC 15.44.170).

## DESIGN CRITERIA

THE FOLLOWING DESIGN CRITERIA BASED ON GEOTECHNICAL REPORT BY NELSON GEOTECHNICAL. DATED 4/30/2018.

ACTIVE 35 PCF  
SEISMIC 8H=48 PSF (H IS THE RETAINING WALL OF 6 FT)  
SURCHARGE 300 PSF (ASSUMED TO CONSIDER SITE SLOPE)  
PASSIVE 350 PSF (SF=1.5) WITH THE TOP 2 FT IGNORED  
DESING SF=1.5

## WOOD

- LUMBER AND MANUFACTURED WOOD PRODUCTS SHALL CONFORM TO THE REQUIREMENTS OF THE BUILDING CODE AND NDS SPECIFICATIONS
- FRAMING LUMBER SHALL BE GRADED AND MARKED IN CONFORMANCE WITH WCLB STANDARD GRADING AND DRESSING RULES FOR WEST COAST LUMBER NO. 16, LATEST EDITION. UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- LUMBER SHALL BE PRESSURE-TREATED DOUGLAS FIR-LARCH WITH GRADES AS FOLLOWS:
  - 4X LAGGING (ROUGH-SAWN);  
NO. 2 TIMBER LAGGING SHALL BE PRESSURE TREATED WITH WATERBORNE PRESERVATIVES IN ACCORDANCE WITH AWPB STANDARD UI, USE CATEGORY 4A.

## STRUCTURAL STEEL, MISC. METAL

- STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE BUILDING CODE AND AISC STANDARDS USING LOADS AS DEFINED IN AISC-360 SECTION B3-3 "DESIGN FOR STRENGTH USING LOAD & RESISTANCE FACTOR DESIGN (LRFD)".
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING, UNLESS OTHERWISE NOTED ON THE STRUCTURAL DRAWINGS:
  - WIDE FLANGE SHAPES ASTM A992, Fy =50 KSI
  - PLATES AND BARS ASTM A36, Fy = 36 KSI
- WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS REQUIREMENTS. ALL WELDS SHALL BE PREQUALIFIED IN ACCORDANCE WITH AWS AND AISC STANDARDS. USE E70XX ELECTRODES, UON.
- ALL WELDS SHALL BE PERFORMED BY WELDERS CERTIFIED IN THE JURISDICTION HAVING AUTHORITY OVER THIS PORTION OF THE WORK.
- WELD LENGTHS CALLED FOR ON THE PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WELD SIZE SHALL BE AISC MINIMUM, UON.

## EXCAVATION, LAGGING, AND BACK FILL

- THE CONTRACTOR SHALL EXCAVATE THE WALL FACE AND INSTALL LAGGING IN SUCH A MANNER AS TO MAINTAIN A SAFE WORK PLACE AND AVOID EXCESSIVE SLOUGHING AND OVERBREAK. AS A MINIMUM, PRIOR TO PLACING THE SUBSEQUENT SET OF TIMBER LAGGING, DO NOT EXCAVATE MORE THAN 4 FEET BELOW THE CURRENT DEPT OF LAGGED WALL FACE. IF FACE STABILITY CONDITIONS REQUIRE, THIS HEIGHT MUST BE REDUCED.
- LAGGING SHALL BE INSTALLED FROM THE TOP OF THE PILE PROCEEDING DOWNWARD. THE TIMBER LAGGING SHALL MAKE DIRECT CONTACT WITH THE SOIL. VOIDS BEHIND THE LAGGING SHALL BE FILLED WITH FREE-DRAINING BACKFILL. LEAVE GAPS (1/4-INCH TYP) BETWEEN LAGGING FOR DRAINAGE. CDF MAY BE USED AS BACKFILL IN LOCALIZED AREAS.
- ALL SLOPES SHALL BE PROTECTED AS REQUIRED BY THE GEOTECHNICAL ENGINEER.

## MONITORING

PER THE REQUIREMENTS OF THE GEOTECHNICAL SPECIAL INSPECTOR, THE SHORING MONITORING PROGRAM SHALL CONSIST OF THE FOLLOWING:

- PRE-CONSTRUCTION SURVEY (VIDEO OR PHOTOGRAPHIC SURVEY) OF ADJACENT STREETS, UTILITIES, AND BUILDINGS, TO BE SUBMITTED IMMEDIATELY TO SDOT AND DPD. OPTICAL SURVEY POINTS SHALL BE INSTALLED ON ALL ADJACENT ROADWAY CENTERLINES WITH SPACING NO GREATER THAN 50 FEET, OR AS RECOMMENDED BY THE ENGINEER.
- OPTICAL SURVEY OF MONITORING POINTS TO BE COMPLETED TWICE WEEKLY DURING CONSTRUCTION, AND TWICE PER MONTH (OR AS DETERMINED BY THE GEOTECHNICAL SPECIAL INSPECTOR WITH THE CONCURRENCE OF SDOT) FOLLOWING COMPLETION OF THE EXCAVATION AND BEFORE THE INTERIOR BUILDING FLOORS REACH THE GROUND SURFACE. MONITORING SHALL INCLUDE VERTICAL AND HORIZONTAL SURVEY MEASUREMENTS TO AN ACCURACY OF 0.01 FEET. BASELINE READINGS OF ALL MONITORING POINTS ARE TO BE TAKEN PRIOR TO THE START OF CONSTRUCTION. ALL RESULTS ARE TO BE SENT TO THE GEOTECHNICAL SPECIAL INSPECTOR WITHIN 24 HOURS AND TO DPD AND SDOT WEEKLY. A LICENSED SURVEYOR (NOT THE CONTRACTOR) SHOULD PERFORM MONITORING AT LEAST ONCE PER WEEK.
- OPTICAL SURVEY POINTS SHOULD BE ESTABLISHED AT THE TOP OF THE SHORING WALLS AROUND THE PERIMETER OF THE EXCAVATION. ESTABLISH MONITORING POINTS ON TOP OF EVERY OTHER PILE. MONITORING POINTS SHOULD BE ESTABLISHED ON EXISTING SETTLEMENT-SENSITIVE STRUCTURES LOCATED CLOSER TO THE EXCAVATION THAN A HORIZONTAL DISTANCE EQUAL TO THE EXCAVATION DEPTH, PRIOR TO DEWATERING, EXCAVATION, AND INSTALLATION OF SHORING SYSTEMS.
- SURVEY FREQUENCY CAN BE DECREASED AFTER THE SHORING SYSTEM HAS BEEN INSTALLED AND EXCAVATION IS COMPLETE IF THE DATE INDICATES LITTLE OR NO ADDITIONAL MOVEMENT. SURVEYING MUST CONTINUE UNTIL THE PERMANENT STRUCTURE (INCLUDING FLOOR SLABS AS BRACES) IS COMPLETE UP TO FINAL AND STREET GRADES. THE SURVEY FREQUENCY QILL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AFTER REVIEW AND APPROVAL BY DPD AND SDOT.
- ADDITIONAL SURVEY POINTS SHOULD BE ESTABLISHED ALONG THE CURBLINE OF THE ADJACENT ROADWAYS, AND SPACED AT 20 FEET HORIZONTALLY. THESE POINTS NEED TO BE MONITORED IF THE SHORING WALL MOVEMENTS REACH 0.5", OR AT SDOT REQUEST.
- THE GEOTECHNICAL ENGINEER SHALL REVIEW SURVEY DATA AND PROVIDE AN EVALUATION OF WALL PERFORMANCE ALONG WITH SURVEY DATA TO DPD AND SDOT ON AT LEAST A WEEKLY BASIS. IMMEDIATELY AND DIRECTLY NOTIFY DPD AND SDOT IF ANY UNUSUAL OR SIGNIFICANTLY INCREASED MOVEMENT OCCURS.
- IMMEDIATELY AND DIRECTLY NOTIFY THE GEOTECHNICAL AND STRUCTURE ENGINEERS, WALL DESIGNER, DPD, AND SDOT IF 0.5 INCHES OF MOVEMENT OCCURS BETWEEN TWO CONSECUTIVE READINGS, AND WHEN TOTAL MOVEMENTS REACH 0.5 INCHES. AT THAT AMOUNT OF MOVEMENT, THE ENGINEERS AND DESIGNERS SHALL DETERMINE THE CAUSE OF DISPLACEMENT AND DEVELOP REMEDIAL MEASURES SUFFICIENT TO LIMIT TOTAL WALL MOVEMENTS TO 1 INCH. ALL EARTHWORK AND CONSTRUCTION ACTIVITIES MUST BE DIRECTED TOWARDS IMMEDIATE IMPLEMENTATION OF REMEDIAL MEASURES NECESSARY TO LIMIT TOTAL WALL MOVEMENTS TO WHAT HAS BEEN DEFINED AS ACCEPTABLE BY THE DESIGN TEAM AND SDOT (AS INDICATED ABOVE).

## CAST-IN-PLACE SHORING CONCRETE

REFERENCE STANDARDS: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", A COPY OF ACE SP-15 "FIELD REFERENCE MANUAL", WHICH INCLUDES ACI 301, SHOULD BE KEPT IN THE CONTRACTOR'S FIELD OFFICE AT ALL TIMES.

CONCRETE: CONFORM TO THE REQUIREMENTS OF CHARTER 19 OF THE INTERNATIONAL BUILDING CODE, 2015 EDITION, AS AMENDED BY THE CITY OF SEATTLE VERIFY CONCRETE STRENGTH WITH STANDARD 28-DAY CYLINDER TESTS. VERIFY GROUT STRENGTHS USING 2-IN CUBE TEST AS INDICTED IN ASTM C109. ATTAIN ULTIMATE COMPRESSIVE BEFORE THE TIEBACKS ARE STRESSED. USE MIXES AS FOLLOWS:

MATERIALS:  
CEMENT ASTM C150  
AGGREGATES ASTM C33  
ADMIXTURES ACI 301, SECT. 22  
WATER ASTM C94

STRUCTURAL CONCRETE STRENGTH FOR SOLDIER PILING  
F'c=4,000 PSI @ 28 DAYS HARDROCK

LEAN CONCRETE SHALL CONFORM TO 2015 IBC (CLSM) CONTROL LOW STRENGTH MATERIAL AS APPROVED BY GEOTECHNICAL ENGINEER, PROVIDE CLSM DESIGN MIX FOR REVIEW AND APPROVAL BY SE OR AND GEOTECHNICAL ENGINEER.

FIELD BOOK: _____				
SURVEYED: _____				
SURVEY BASE MAP: _____				
DESIGN ENTERED: _____				
DESIGNED _____				
CHECKED: _____				
SUPERVISOR: _____				
	NUM.	REVISION	BY	DATE

FED. AID No. \_\_\_\_\_

PROJECT No. \_\_\_\_\_

SURVEY No. \_\_\_\_\_

MAINTENANCE DIVISION No. \_\_\_\_\_



COVER SHEET.

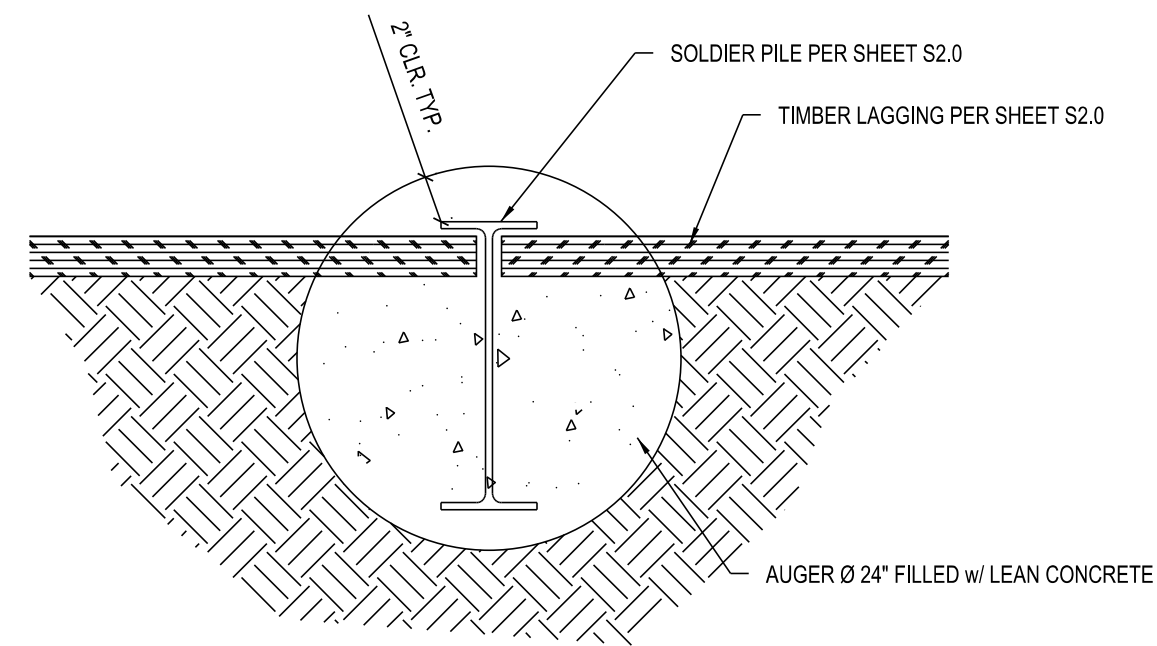
**LI & WU RESIDENCE**

**5660 E MERCER WAY**

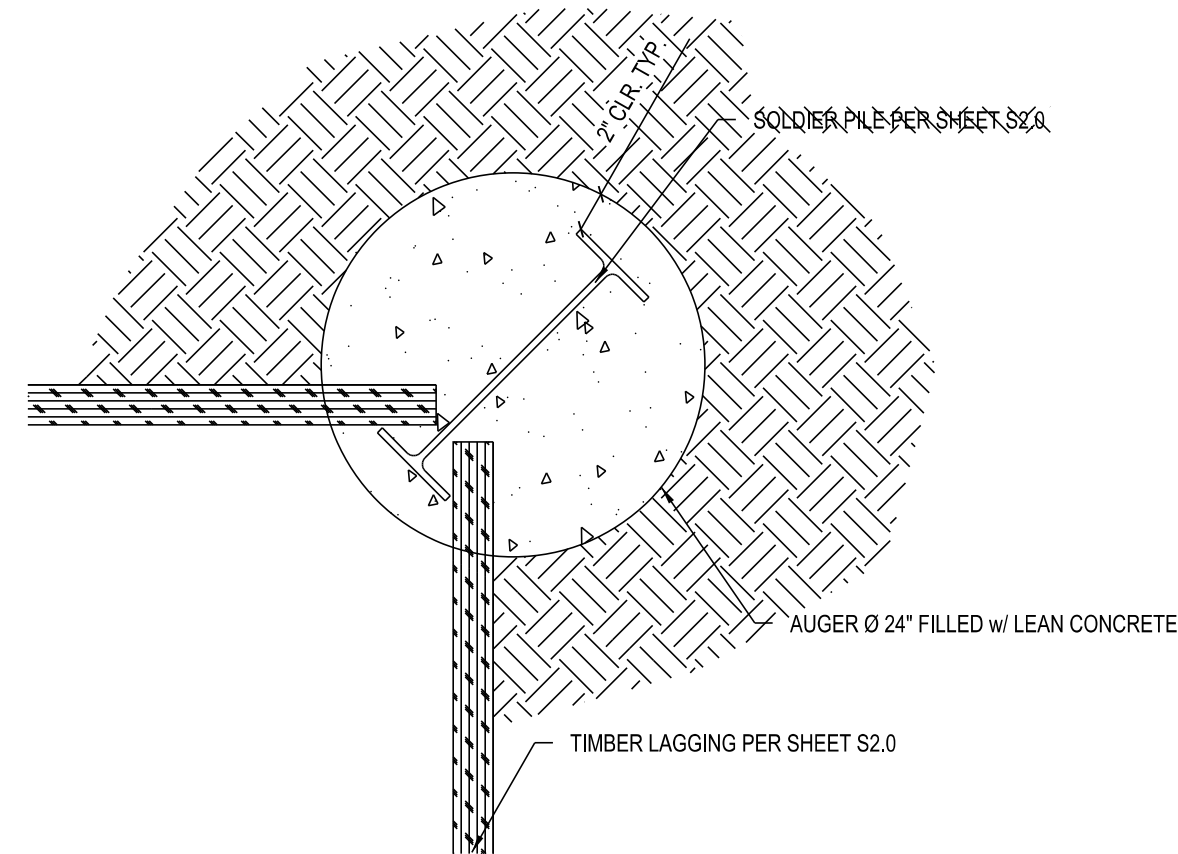
**MERCER ISLAND, WA 98040**

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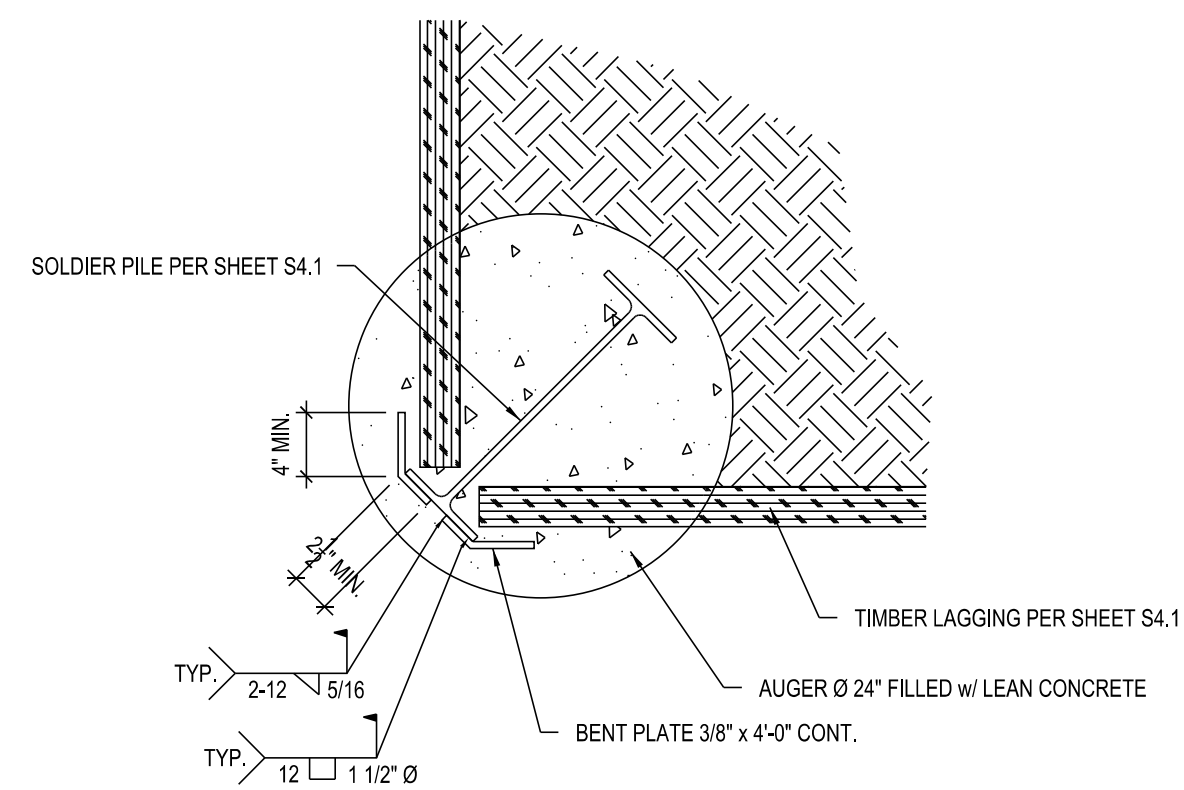
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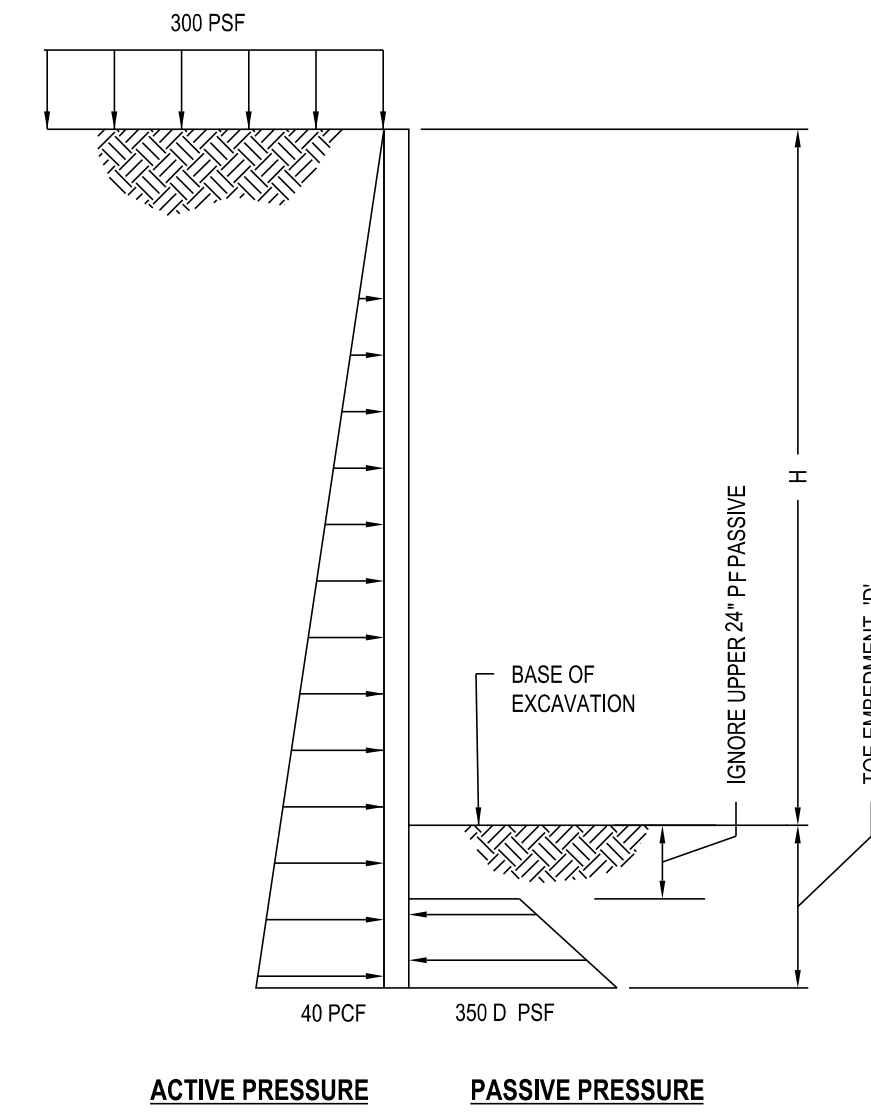
2 PILE SECTION



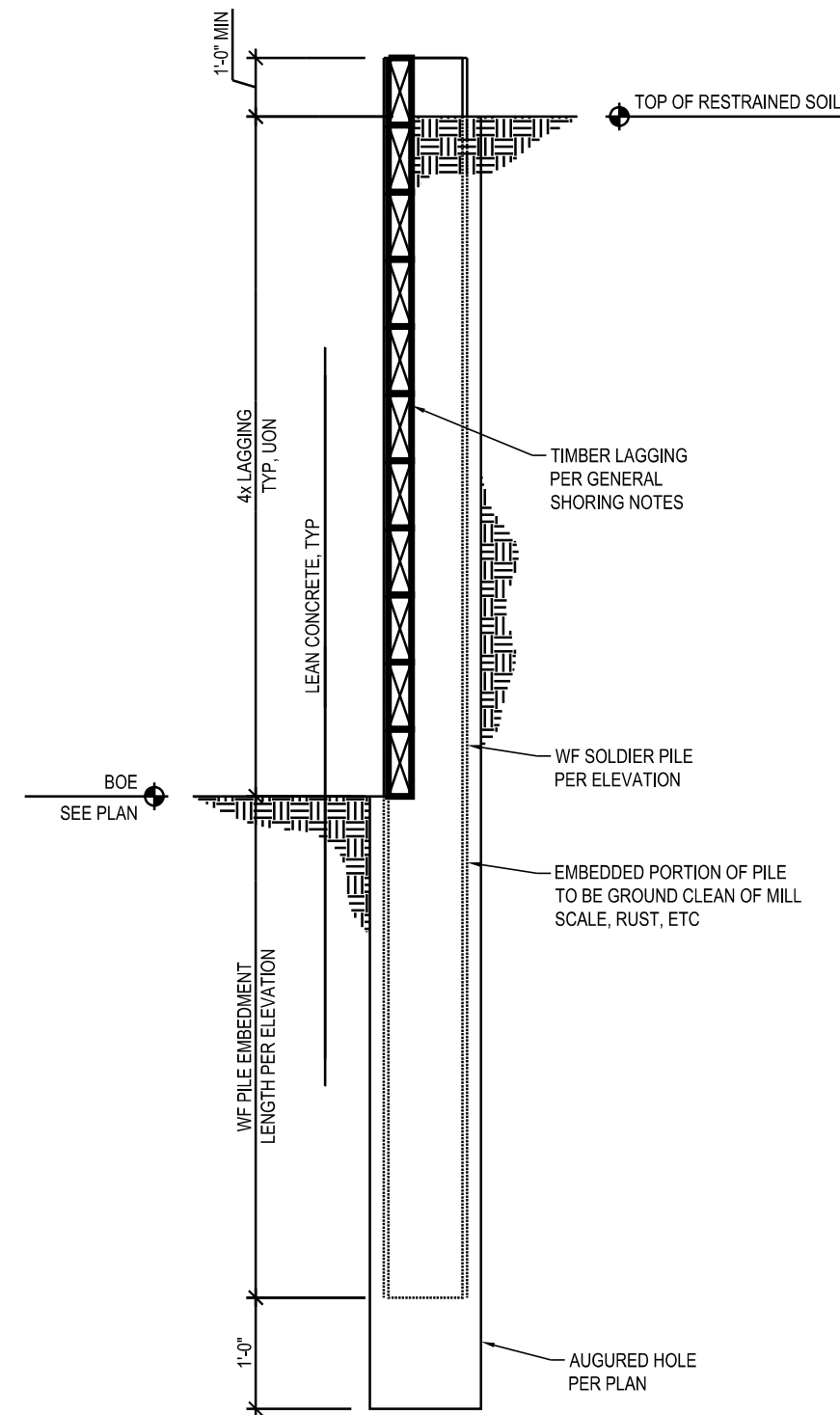
3 PILE SECTION



4 PILE SECTION



1 PILE LOADING DIAGRAM



NOTE:  
SEE SHORING ELEVATIONS FOR TOP OF RESTRAINED SOIL,  
BOTTOM OF EXCAVATION, AND EMBEDMENT LENGTH.

20 TYPICAL SOLDIER PILE SECTION  
3/4"=1'-0"

CALL 2 WORKING  
DAYS BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:				
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SURVEY No. \_\_\_\_\_ %  
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