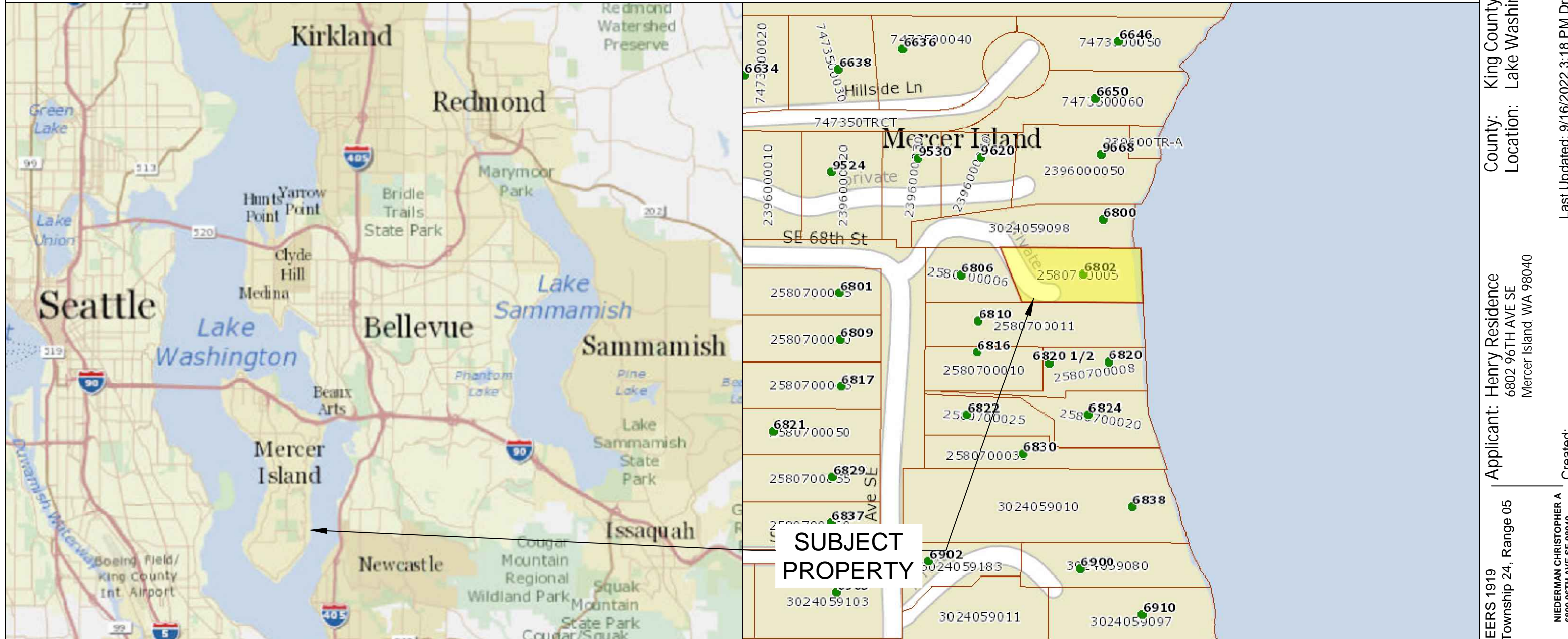


# SITE PLAN

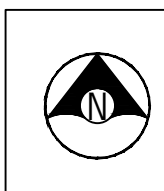


Pin: 258070-0005

Legal Description: FLOODS LAKE SIDE TRS DIV #3 LOT B MERCER ISLAND SHORT PLAT HOLYOKE AF #7507230710 SD PLAT DAF LOT 1 BLK 1 FLOODS LAKE SIDE TRS DIV #3 TGW SH LDS ADJ

Plat Block: 1  
Plat Lot: 1

PARCEL LAT: 47.54198 LONG: -122.21001	DOCK LAT: 47.541889 LONG: -122.209674
---	---



Seaborn Pile Driving  
1080 W Ewing St  
Seattle, WA 98119  
  
Office: 206-236-1700 ext. 3  
www.seabornpiledriving.com

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Applicant: Henry Residence 6802 96TH AVE SE Mercer Island, WA 98040	County: King County Location: Lake Washington	Last Updated: 9/16/2022 3:18 PM Dray
Datum: CORPS OF ENGINEERS 1919 NE Quarter Of Section 30, Township 24, Range 05	Adjacent Owners: STIVERS, JEAN GILLILAND-TTEE 6810 96TH AVE SE 98040	Created: NIEDERMAN CHRISTOPHER A 6800 96TH AVE SE 98040

# GENERAL NOTES:

MATERIALS SPEC LIST:

**Decking Material:** FRPP - Fiberglass reinforced polypropylene

Light permeable percentage:

- \* Surface - 43%
- \* 18" Dock Height - 61%

**Sewer:**

- \* All sewer is field verified by probing the lake bed manually during the allowed work windows for the area.

**Piles:**

- \* All new piles are epoxy coated steel piles \*size varies, see plan set
- \* Piles are driven using the vibro method

CODE REFERENCES: Mercer Island

**We are applying for the permit to be reviewed under the:**

**“Alternative Development Standards” per MIMC 19.13050(F)(3).**

The code official shall approve moorage facilities not in compliance with the development standards in subsection (F)(1) or (F)(2) of this section subject to both U.S. Army Corps of Engineers and Washington Department of Fish and Wildlife approval to an alternate project design. The following requirements and all other applicable provisions in this chapter shall be met:

i. The dock must be no larger than authorized through state and federal approval; Ch. 19.13 Shoreline Master Program | Mercer Island City Code Page 30 of 34 The Mercer Island City Code is current through Ordinance 20C-13, passed June 16, 2020.

The dock is no longer than authorized.

ii. The maximum width must comply with the width of moorage facilities standards specified in standards specified in subsection D of this section (Table D);

The maximum width is within compliance.

iii. The minimum water depth must be no shallower than authorized through state and federal approval;

The minimum water depth is within compliance.

iv. The applicant must demonstrate to the code official's satisfaction that the proposed project will not create a net loss in ecological function of the shorelands; and

The No Net Loss report is attached.

v. The applicant must provide the city with documentation of approval of the moorage facilities by both the U.S. Army Corps of Engineers and the Washington Department of Fish and Wildlife.

The plan set is is review by CORPS and WDFW.

Mitigation" Disturbance of bank vegetation shall be limited to the minimum amount necessary to accomplish the project. Disturbed bank vegetation shall be replaced with native, locally adapted herbaceous and/or woody vegetation. Herbaceous plantings shall occur within 48 hours of the completion of construction. Woody vegetation components shall be planted in the fall or early winter, whichever occurs first. The applicant shall take appropriate measures to ensure revegetation success;

Last permit issued for property: Permit # 0408-290 Sep 29, 2004

Dock established/constructed: 5/1/1967



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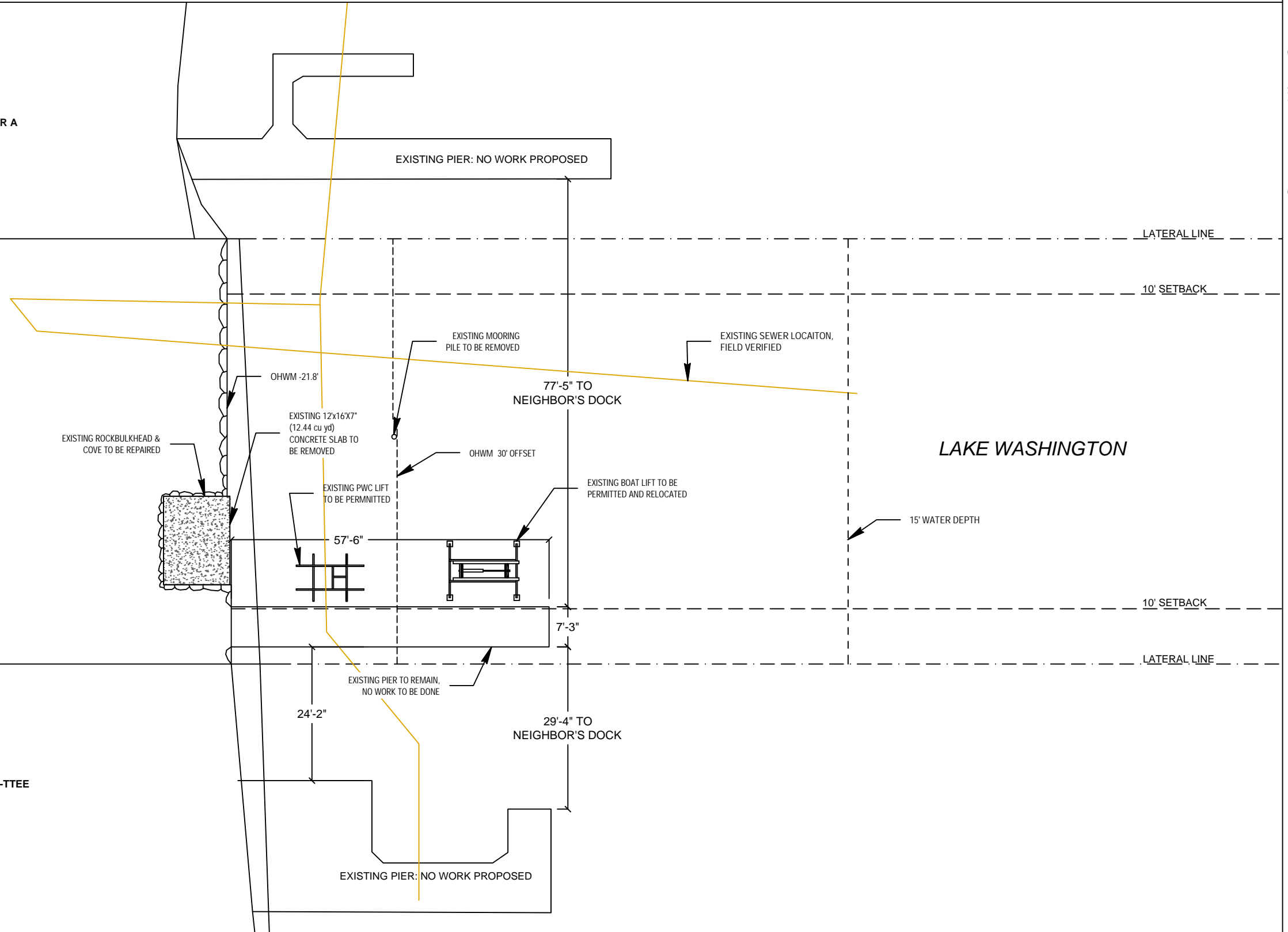
# EXISTING CONDITIONS

**\*\*CLEAN UP LAKE AROUND PROJECT\*\***

NIEDERMAN CHRISTOPHER A  
6800 96TH AVE SE 98040

**SUBJECT PROPERTY:**  
Henry Residence  
6802 96th Ave SE 98040  
Parcel #: 258070-0005

STIVERS JEAN GILLILAND-TTEE  
6810 96TH AVE SE 98040



SCALE: 1" = 20'-0"  
0' 5' 10' 20'



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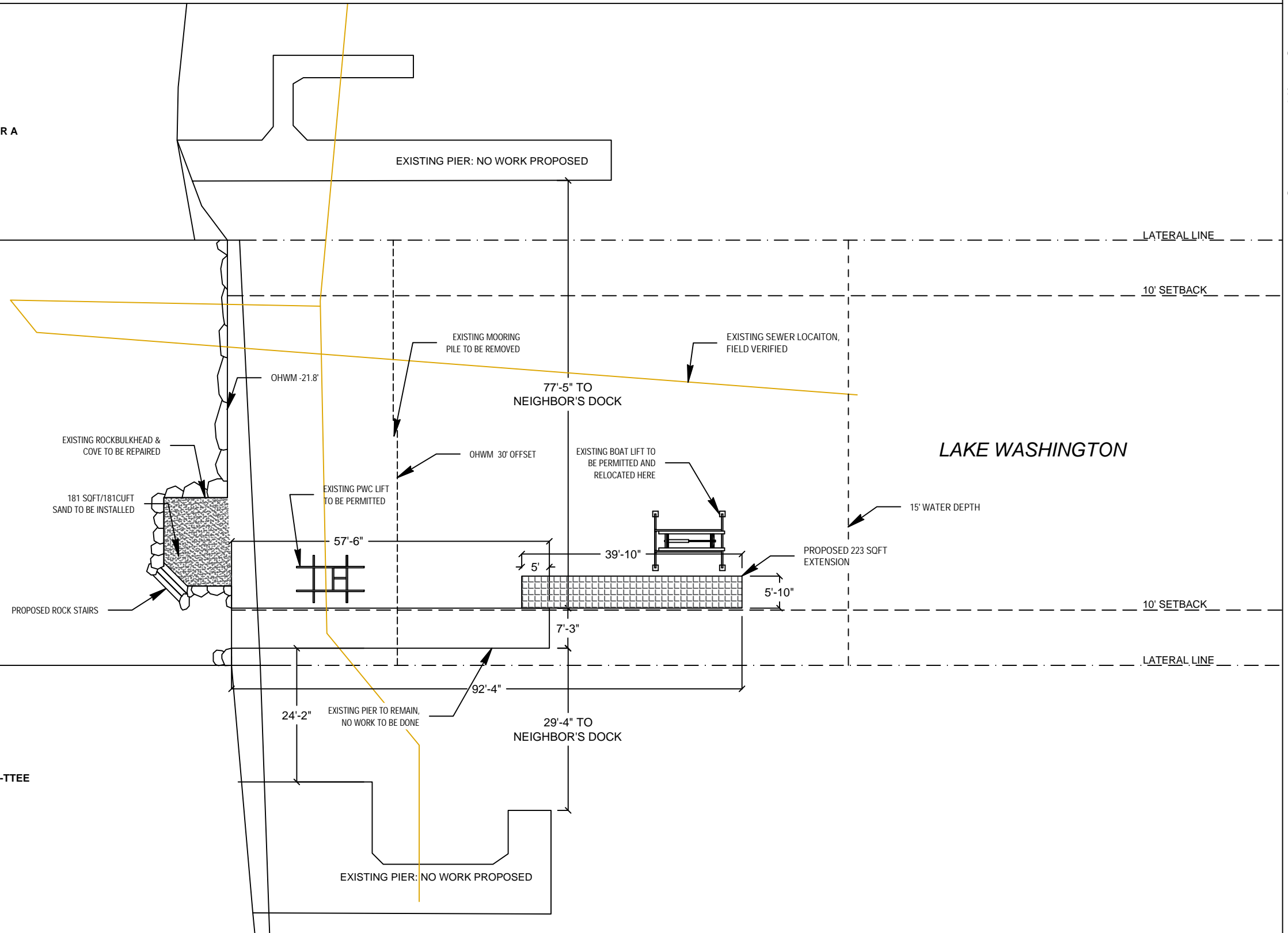
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# PIER DETAILS - EXISTING/PROPOSED PLAN VIEW

## LEGEND

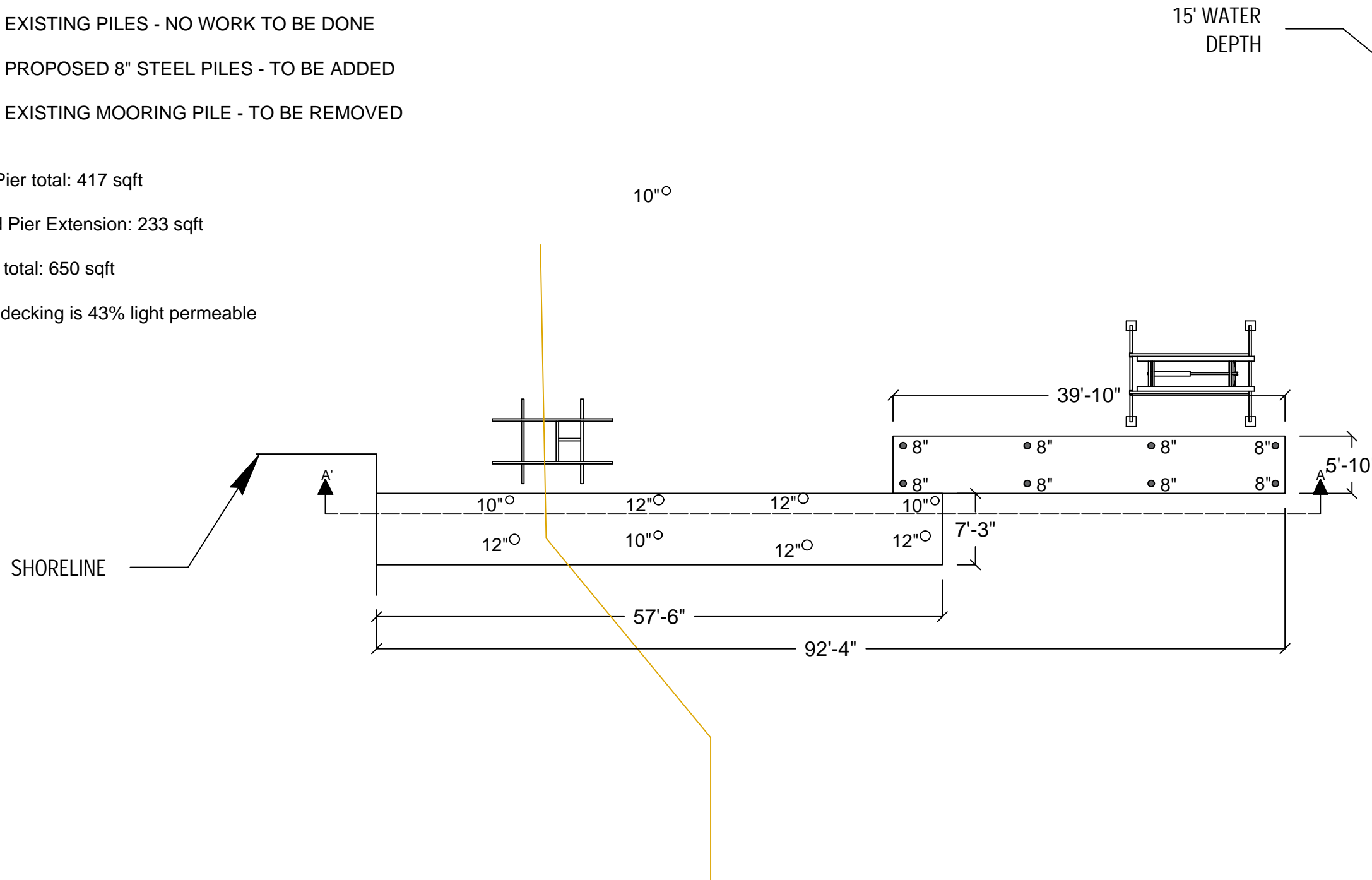
- (8) EXISTING PILES - NO WORK TO BE DONE
- (8) PROPOSED 8" STEEL PILES - TO BE ADDED
- (1) EXISTING MOORING PILE - TO BE REMOVED

Existing Pier total: 417 sqft

Proposed Pier Extension: 233 sqft

New Pier total: 650 sqft

\*\*Grated decking is 43% light permeable



PLAN VIEW



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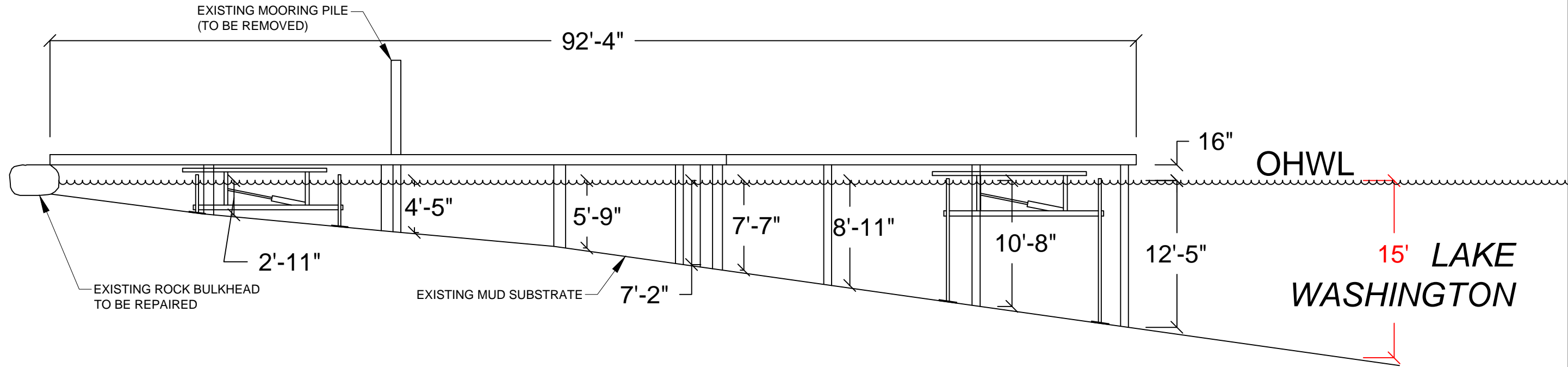
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# PIER DETAILS EXISTING/PROPOSED - SECTION VIEW



SECTION VIEW: A'-A'



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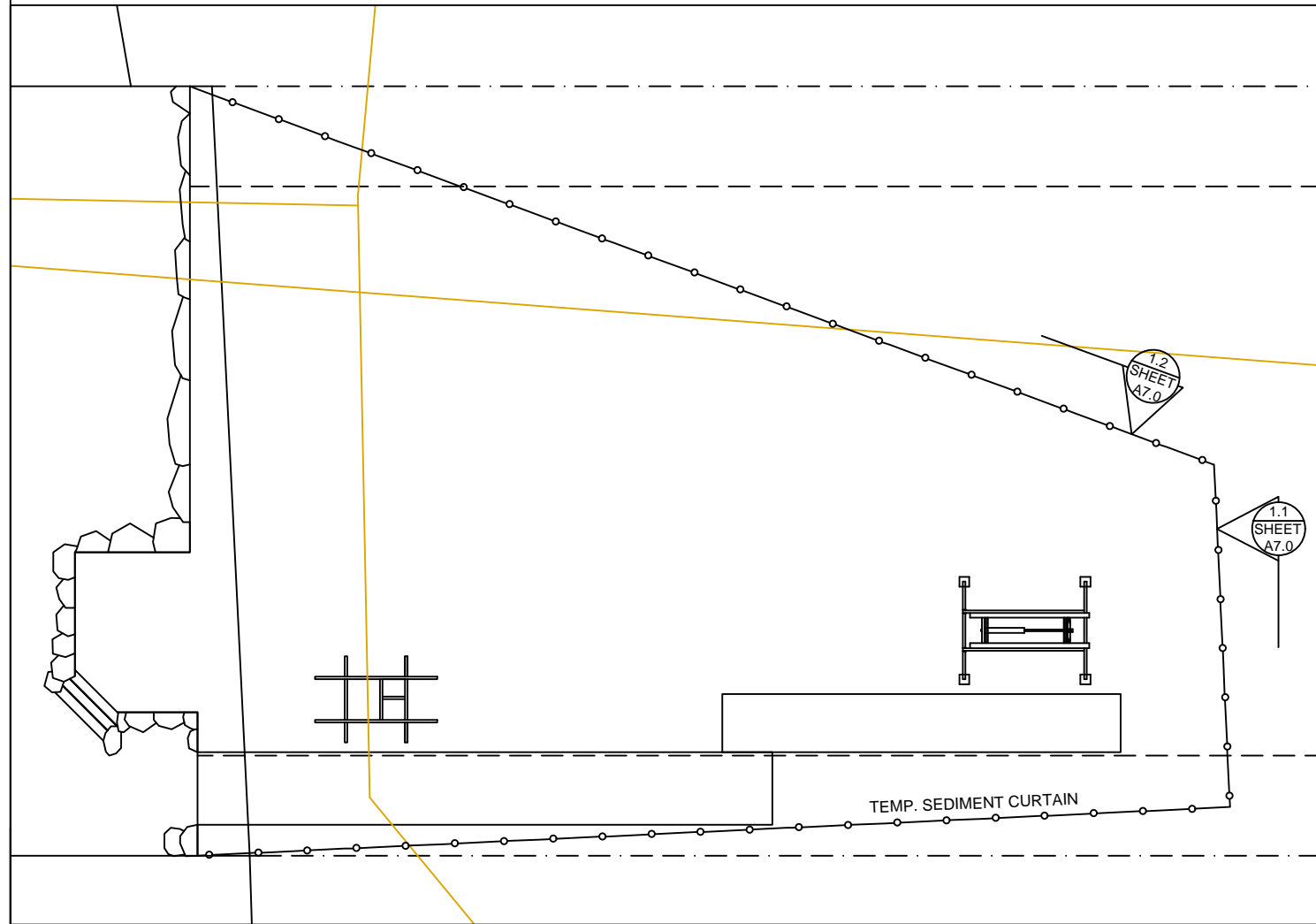
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# BMP INFORMATION

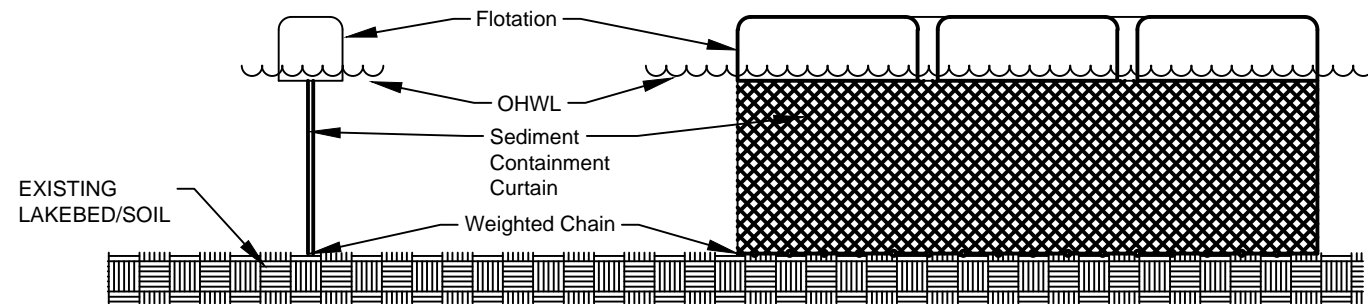


## BMP NOTES:

- A. Constant vigilance shall be kept for the presence of protected fish species during all aspects of the proposed action, particularly during in-water activities such as vessel movement, deployment of anchors & spuds, pile driving, dredging, and placement of gravels and other fill.
1. The project manager shall designate an appropriate number of competent observers to survey the project site and adjacent areas for protected species, including the presence of fish as conditions allow.
  2. Visual surveys shall be made prior to the start of work each day, and prior to resumption of work following any break of more than an hour. Periodic additional visual surveys throughout the work day are strongly recommended.
  3. All in-water work shall be done during the in-water work window for the waterbody. Where there is a difference between the USCOE and WDFW work windows, the overlap of the two shall apply.
  4. All pile driving and extraction shall be postponed or halted when obvious aggregations or schooling of fish are observed within 50 yards of that work, and shall only begin/resume after the animals have voluntarily departed the area.
  5. When piloting vessels, vessel operators shall operate at speeds and power settings to avoid grounding vessels, and minimize substrate scour and mobilization of bottom sediments.
- B. No contamination of the marine environment shall result from project-related activities.
1. Appropriate materials to contain and clean potential spills shall be stored and readily available at the work site and/or aboard project-related vessels.
  2. The project manager and heavy equipment operators shall perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations shall be postponed or halted should a leak be detected, and shall not proceed until the leak is repaired and the equipment is cleaned.
  3. To the greatest extent practicable, utilize biodegradable oils for equipment that would be operated in or near water.
  4. Fueling of land-based vehicles and equipment shall take place at least 50 feet away from the water, preferably over an impervious surface. Fueling of vessels shall be done at approved fueling facilities.
  5. Turbidity and siltation from project-related work shall be minimized and contained through the appropriate use of erosion control practices, effective silt containment devices, and the curtailment of work during adverse weather and tidal/flow conditions.
  6. All wastes shall be collected and contained for proper disposal at approved upland disposal sites appropriate for the material(s).
  7. When removing piles and other similarly treated wood, containment curtain must fully enclose the work area. Wood debris, oils, and any other materials released into lake waters must be collected, removed, and properly disposed of at approved disposal sites.
  8. All in- and over-water wood cutting would be limited to the minimum required to remove the subject wood component, and all cutting work should be enclosed within floating containment curtain.
  9. When removing piles, no actions shall be taken that would cause adhering sediments to return to lake waters.
  10. Above-water containment shall be installed around removed piles to prevent sediment laden waters from returning to lake waters.
  11. Construction staging (including stocking of materials, etc.) will occur on the supply barge.
  12. All Exposed wood to be used on the project will be treated with a cheminite treatment.

DETAIL 1.1

DETAIL 1.2



DETAIL 1.1 & 1.2



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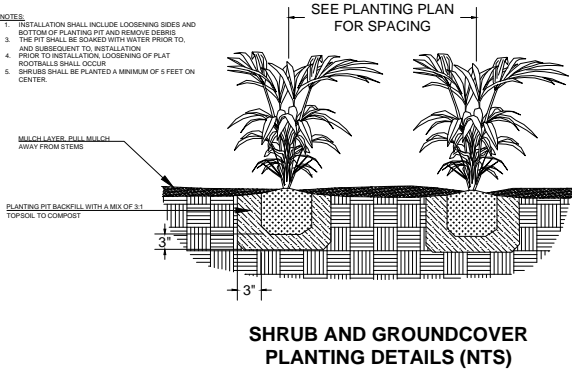
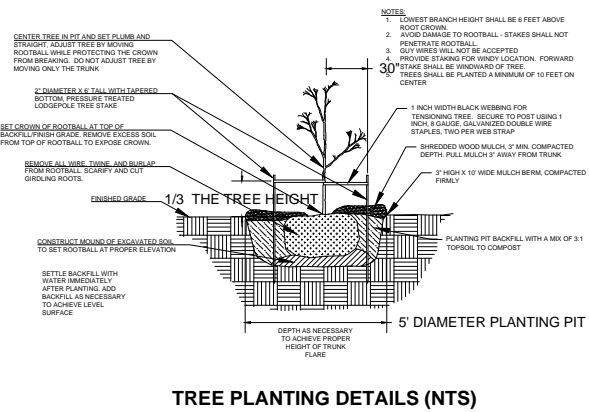
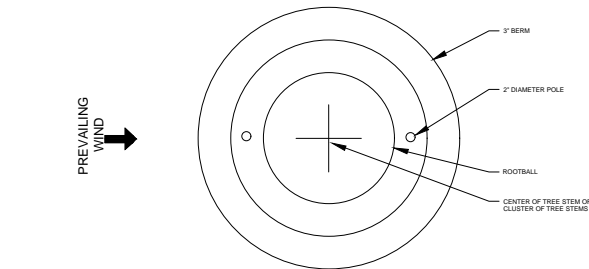
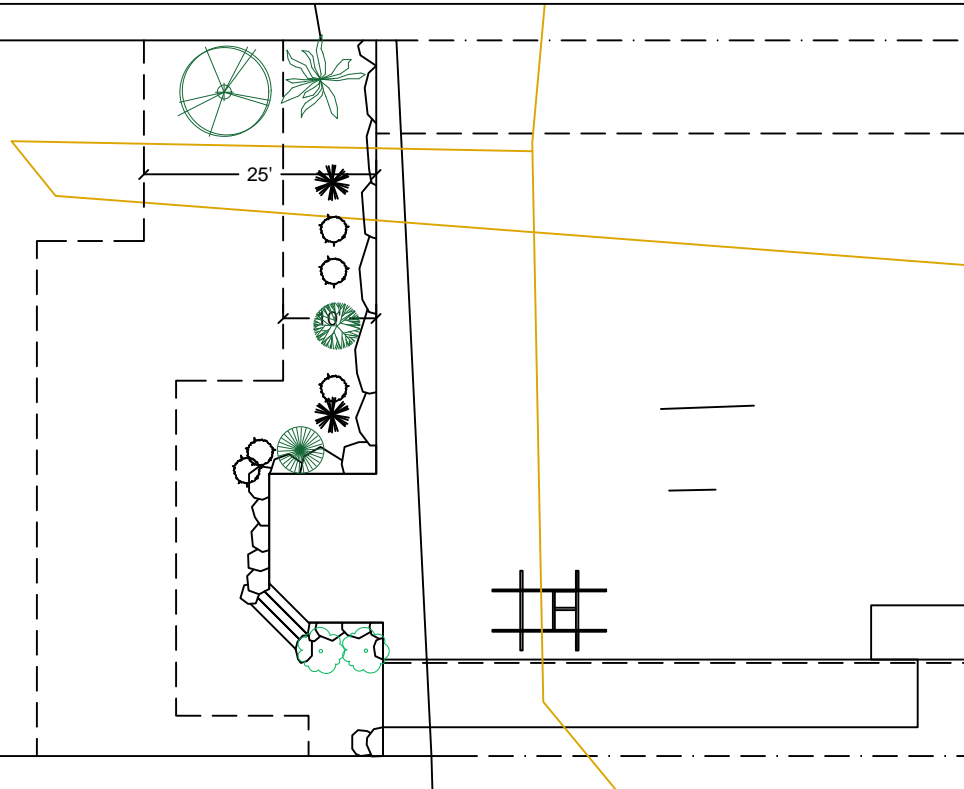
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# MITIGATION PLAN



**Notes:**

1. Shrubs are show, and shall be planted, at least five feet on center. Trees are show, and shall be planted, at least ten feet to center.
2. The property owner will implement and abide by the shoreline planting plan. The plants shall be installed before or concurrent with the work authorized by this permit. A report, as-built drawing and photographs demonstrating the plants have been installed or a report on the status of project construction will be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch, within 12 months from the date of permit issuance. This reporting requirement may be met by completing and submitting a U.S. Army Corps of Engineers approved Report for Mitigation Work Completion form.
3. The property owner will maintain and monitor the survival of installed shoreline plantings for five years after the U.S. Army Corps of Engineers accepts the as-built report. Installed plants shall achieve 100% survival during monitoring Years 1 and 2. Installed plants shall achieve at least 80% survival during monitoring Years 3, 4 and 5. Percent survival is based on the total number of plants installed in accordance with the approved riparian planting plan. Individual plants that die will be replaced with native riparian species in order to meet the survival performance standards.
4. The property owner will provide annual monitoring reports for five years (Monitoring Years 1-5). Each annual monitoring report will include written and photographic documentation on plant mortality and replanting efforts and will document whether the performance standards are being met. Photos will be taken from established points and used repeatedly for each monitoring year. In addition to photos at designated points, photo documentation will include a panoramic view of the entire planting area. Submitted photos will be formatted on standard 8 1/2 x 11" paper, dated with the date the photo was taken, and clearly labeled with the direction from which the photo was taken. The photo location points will be identified on an appropriate drawing. Annual shoreline planting monitoring reports will be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch, by November 31 of each monitoring year. This reporting requirement may be met by completing and submitting a U.S. Army Corps of Engineers approved Mitigation Planting Monitoring Report form.

## PROPOSED PLANTING SPECIES/QUANTITIES

SYMBOL	LATIN NAME	COMMON NAME	QTY	SIZE
	Pinus contorta v contorta	Shore pine	1	3 ft
	Alnus Rubra	Red Alder	1	3 ft
	Philadelphus lewisii	Mock Orange	1	1 Gallon
	Acer Circinatum	Vine Maple	1	1 Gallon
	Rubus Parviflorus	Thimbleberry	2	1 Gallon

PLANTS: Shrubs to be installed 5ft on center and trees to be installed 10ft on center. All proposed existing plants for credit have been established for 5 years or more on the property.



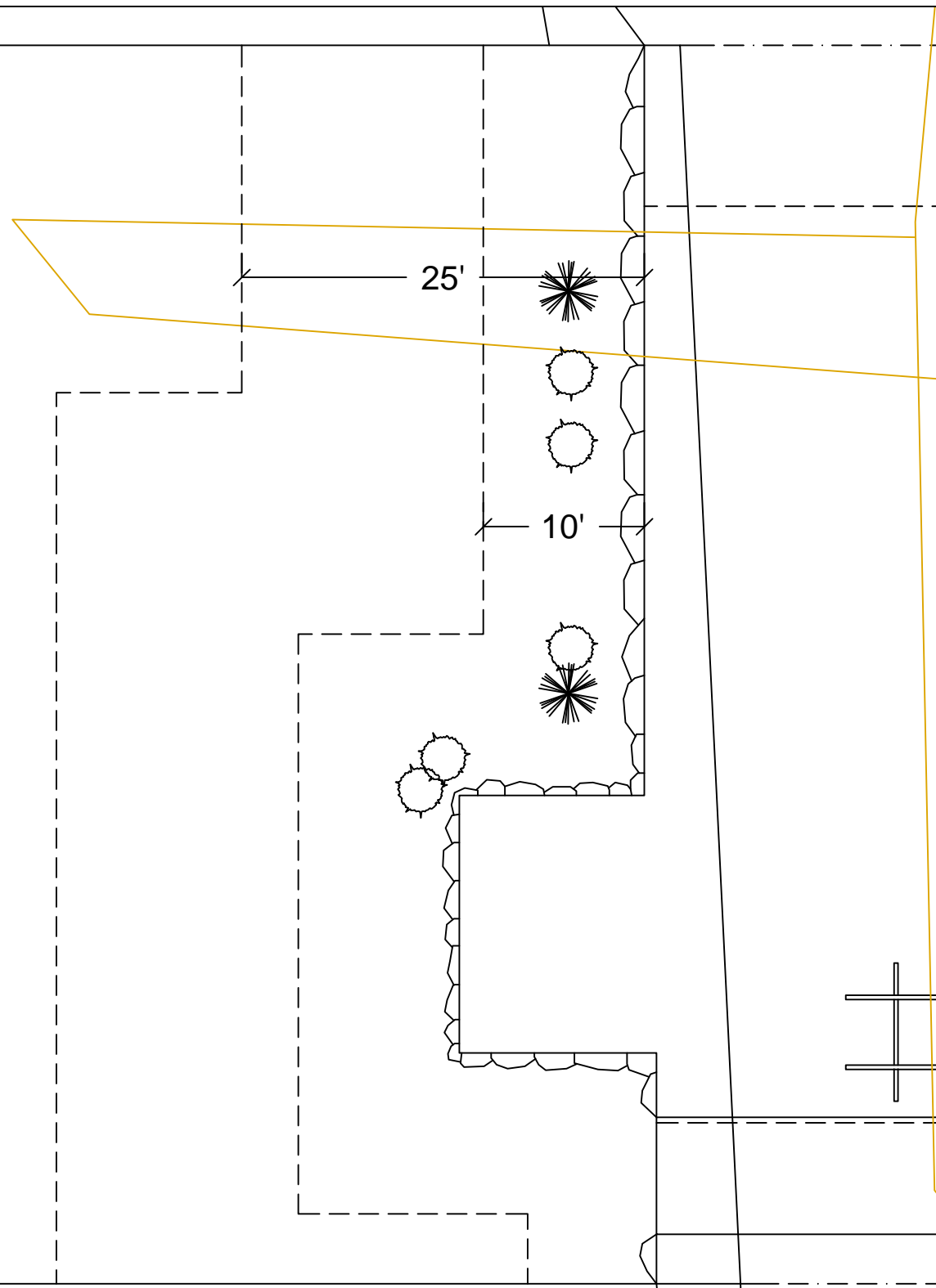
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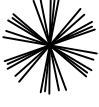
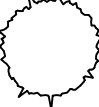
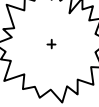
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# EXISTING PLANT PLAN



## EXISTING PLANTING SPECIES/QUANTITIES

SYMBOL	SCIENTIFIC NAME	COMMON NAME	QTY	SIZE
	Cichorium Intybus	Common Chicory	2	~3ft
	Hemerocallis Fulva	Orange Daylily	4	~2ft
	Festuca Glauca	Blue Fescue	N/A	~ 1ft

PLAN VIEW

EXISTING PLANTS TABLE



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# GENERAL ENGINEERING NOTES:

## GENERAL

- ALL CONSTRUCTION SHALL CONFORM TO THESE PLANS.
- CONTRACTOR SHALL VERIFY ALL LEVELS, DIMENSIONS, AND EXISTING CONDITIONS IN THE FIELD BEFORE PROCEEDING. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR FIELD CHANGES PRIOR TO INSTALLATION OR FABRICATION. IN CASE OF DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS, THE CONTRACTOR SHALL OBTAIN DIRECTION FROM THE ENGINEER BEFORE PROCEEDING. DIMENSIONS NOTED AS PLUS OR MINUS ( $\pm$ ) OR REF INDICATE UNVERIFIED DIMENSIONS AND ARE APPROXIMATE. NOTIFY ENGINEER IMMEDIATELY OF CONFLICTS OR EXCESSIVE VARIATIONS FROM INDICATED DIMENSIONS, NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS – DO NOT SCALE DRAWINGS. DIMENSIONS OF EXISTING CONDITIONS ARE BASED ON RECORD DRAWINGS AND ARE TO BE FIELD-VERIFIED BY THE CONTRACTOR.
- CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS AND EXISTING MEMBERS, AS REQUIRED, AND IN A MANNER SUITABLE TO WORK SEQUENCE. TEMPORARY SHORING AND BRACING SHALL NOT BE REMOVED UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS AND MATERIALS HAVE ACHIEVED DESIGN STRENGTH.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES REQUIRED TO PERFORM THE WORK.
- ALL MATERIALS SHALL BE NEW, UNO.
- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE DRAWINGS, NOTES, AND MANUFACTURER RECOMMENDATIONS. IF THERE ARE ANY CONFLICTS BETWEEN THESE DOCUMENTS, THE ENGINEER SHALL BE CONTACTED FOR DIRECTION.
- THE CONTRACTOR SHALL CAREFULLY DECONSTRUCT EXISTING ELEMENTS AS NECESSARY TO ACCESS THE WORK AREAS. SUCH DECONSTRUCTION MAY INCLUDE, INTERIOR AND EXTERIOR FINISHES. ALL DECONSTRUCTION ELEMENTS SHALL BE RECONSTRUCTED TO MATCH THE ORIGINAL APPEARANCE AND MEET THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE.
- ALL MOORAGE COVERS AND LIFTS SHALL BE FREESTANDING AND SHALL NOT BE ATTACHED TO THE DOCK, UNLESS NOTED OTHERWISE.

## CODES AND STANDARDS

- ALL METHODS AND MATERIALS SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE, 2018 EDITION.
- AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
- WOOD WORK SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION (NDS) 2018 EDITION.
- AMERICAN SOCIETY FOR TESTING AND MATERIALS, CURRENT EDITION

## DESIGN CRITERIA

WIND DESIGN: WIND LOAD IS BASED ON ASCE 7 CHAPTER 29 WITH THE FOLLOWING FACTORS

EXPOSURE CATEGORY = D RISK CATEGORY = II  
 $V_{35} = 98\text{MPH}$  WIND IMPORTANCE FACTOR,  $I_w = 1.0$

DESIGN VESSEL IS 30' LONG WITH AVERAGE FREEBOARD OF 11'-6"  
 DESIGN VESSEL IS 60' LONG WITH AVERAGE FREEBOARD OF 14'

WAVE LOADS:  $P = 328\text{ LBS}$

LIVE LOADS: LIVE LOAD = 40 PSF  
 SNOW LOAD = 25 PSF

SEISMIC LOADS: DOCK PILING  $R = 2.0$   
 SEISMIC IMPORTANCE = 1.0  
 $SD_1 = 0.595g$

## STRUCTURAL STEEL

- ALL MISCELLANEOUS STEEL SHAPES AND PLATES, EXCEPT AS NOTED BELOW, SHALL CONFORM TO ASTM 36.
- ALL WF SHAPES SHALL CONFORM TO ASTM A992,  $F_y = 50\text{ KSI}$
- ALL PILES SHALL CONFORM TO ASTM A252 GRADE 3,  $F_y = 45\text{ KSI}$
- ALL BOLTS SHALL BE ASTM A307, UNO.
- ALL NUTS SHALL BE ASTM A563, UNO.
- ALL WASHERS SHALL BE ASTM F436, UNO.
- ALL THREADED RODS SHALL CONFORM TO ASTM F1554, GRADE 36.
- ALL STEEL MEMBERS AND FASTENERS THAT ARE NOT EPOXY COATED SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 AS APPLICABLE.

## WELDING

- ALL WELDING SHALL BE PERFORMED BY WELDERS QUALIFIED FOR THE WELD AND POSITION SHOWN IN ACCORDANCE WITH AWS AND HAVING CURRENT CERTIFICATION FROM WABO.
- ALL WELDS SHALL BE PERFORMED WITH PROCEDURES PREQUALIFIED OR QUALIFIED IN ACCORDANCE WITH AWS D1.1.
- THE WELDS SHOWN ARE FOR THE FINAL CONNECTIONS, FIELD WELD SYMBOLS ARE SHOWN WHERE FIELD WELDS ARE REQUIRED BY THE STRUCTURAL DESIGN. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING IF A WELD SHOULD BE SHOP OR FIELD WELDED IN ORDER TO FACILITATE THE STRUCTURAL STEEL ERECTION.
- WELDING ELECTRODES SHALL BE 70 KSI STRENGTH AND SHALL BE "LOW-HYDROGEN ELECTRODES."

## WOOD

- EACH PIECE OF LUMBER SHALL BEAR A STAMP INDICATING A GRADE MARK OF THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB), WESTERN WOOD PRODUCTS ASSOCIATION (WWPA), OR OTHER AGENCY ACCREDITED BY THE AMERICAN STANDARD COMMITTEE (ALSC).
- DIMENSION LUMBER SHALL BE P.T. DOUG-FIR NO 2 OR BETTER, UNLESS NOTED OTHERWISE.
- STRUCTURAL GLUED LAMINATED TIMBER SHALL BE ALASKAN CEDAR AC.AC 20F-V12.
- WOOD SHALL BE SEASONED DRY WITH A MAXIMUM MOISTURE CONTENT OF 19%.
- PRESERVATIVE TREATED WOOD SHALL CONFORM TO THE AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) UC4A. ALL WOOD SHALL BEAR A TREATMENT IDENTIFICATION MARK BY THE CERTIFYING AGENCY.
- ALL BOLT HOLES IN WOOD MEMBERS SHALL BE A MINIMUM OF 1/32" TO MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER. PROVIDE PLATE WASHERS WHERE NUTS, BEAR ON WOOD. CUT WASHERS SHALL MEASURE 2 1/4"  $\phi$  x 3/16" THICK.

## GRATING

- DECK GRATING SHALL BE SUNWALK 90 SERIES OR APPROVED EQUAL.

## ABBREVIATIONS

@	AT
AWS	AMERICAN WELDING SOCIETY
CL	CENTER LINE
CLR	CLEAR
COL	COLUMN
CONT.	CONTINUOUS
DF	DOUG FIR
EA	EACH
EX OR (E)	EXISTING
GLB	GLULAM BEAM
LLH	LONG LEG HORIZONTAL
MIN	MINIMUM
MNFR	MANUFACTURER
OC	ON CENTER
OPP	OPPOSITE
PL	PLATE
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
P.T.	PRESERVATIVE TREATED
SF	SQUARE FOOT
REF	REFERENCE
SIM	SIMILAR
SS	STAINLESS STEEL
t	THICK
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD
WABO	WASHINGTON ASSOCIATION OF BUILDING OFFICIALS
WF	WIDE FLANGE
W/	WITH

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 Location: Lake Washington

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 NE Quarter Of Section 30, Township 24, Range 05

Adjacent Owners:  
 STIVERS, JEAN GILLILAND-TTEE  
 6810 96TH AVE SE 98040

NIEDERMAN CHRISTOPHER A  
 6800 96TH AVE SE 98040

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Seaborn Pile Driving  
 1080 W Ewing St  
 Seattle, WA 98119

Office: 206-236-1700 ext. 3  
[www.seabornpiledriving.com](http://www.seabornpiledriving.com)

Scope of Work: We propose to drive (8) new steel piles, remove (1) existing mooring pile, construct a 233 SQFT extension, repair 74 LnFt of existing bulkhead, remove 12.44 cu yd concrete slabs, install a new cove with stairs, and permit (2) existing boat lifts.

**SHEET**  
**10.0**

### 5.9 Pile Embedment

IBC Section 1807.3.2.1 - Nonconstrained at Ground Surface

b	0.7 ft	pile diameter	
h	14.0 ft	distance from ground surface to load application	
n	4	number of piles	
P	3,446 lbf	applied lateral force	5.2.6 Load Combinations for Allowable Stress Design
P/n	<b>861.6 lbf</b>	applied lateral force per pile	
LB	100 psf/ft	allowable lateral bearing	(4) Table 1806.2
d <sub>e</sub>	13.8	embedment depth estimate for iteration	
S <sub>1</sub>	<b>460.0 psf</b>	=LB*d <sub>e</sub> /3	(4) {18-1}
A	<b>6.6 ft</b>	=2.34*P/n/(S <sub>1</sub> *b)	(4) {18-1}
d	<b>13.8 ft</b>	=0.5*A(1+(4.36*h/A) <sup>0.5</sup> ), required pile embedment depth to resist lateral loads	(4) {18-1}

**TABLE 1806.2  
PRESUMPTIVE LOAD-BEARING VALUES**

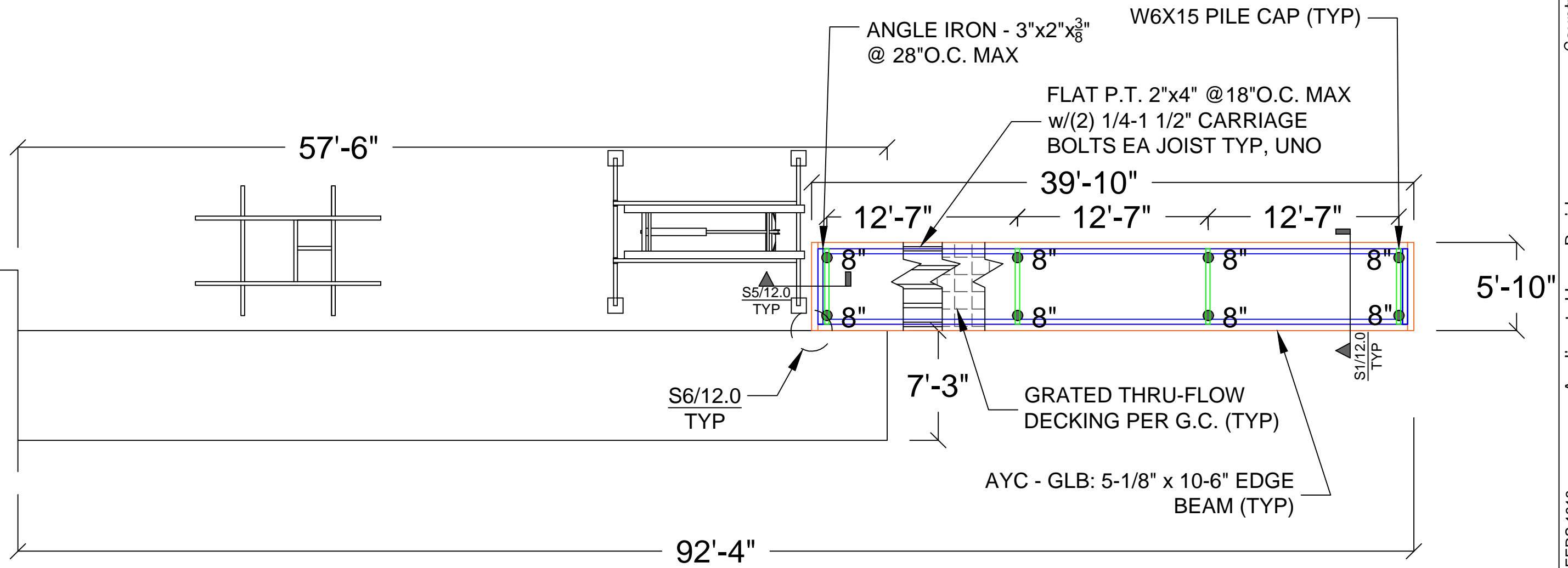
CLASS OF MATERIALS	VERTICAL FOUNDATION PRESSURE (psf)	LATERAL BEARING PRESSURE (psf/ft below natural grade)	LATERAL SLIDING RESISTANCE	
			Coefficient of friction <sup>a</sup>	Cohesion (psf) <sup>b</sup>
1. Crystalline bedrock	12,000	1,200	0.70	—
2. Sedimentary and foliated rock	4,000	400	0.35	—
3. Sandy gravel and gravel (GW and GP)	3,000	200	0.35	—
4. Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000	150	0.25	—
5. Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)	1,500	100	—	130

For SI: 1 pound per square foot = 0.0479kPa, 1 pound per square foot per foot = 0.157 kPa/m.

a. Coefficient to be multiplied by the dead load.

b. Cohesion value to be multiplied by the contact area, as limited by Section 1806.3.2.

# FRAMING PLAN



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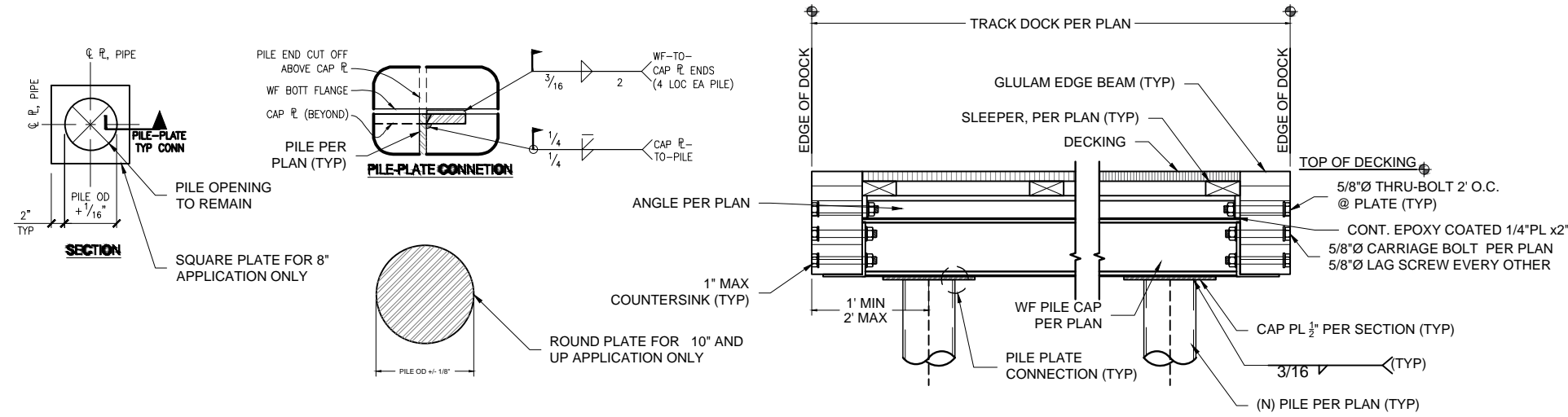
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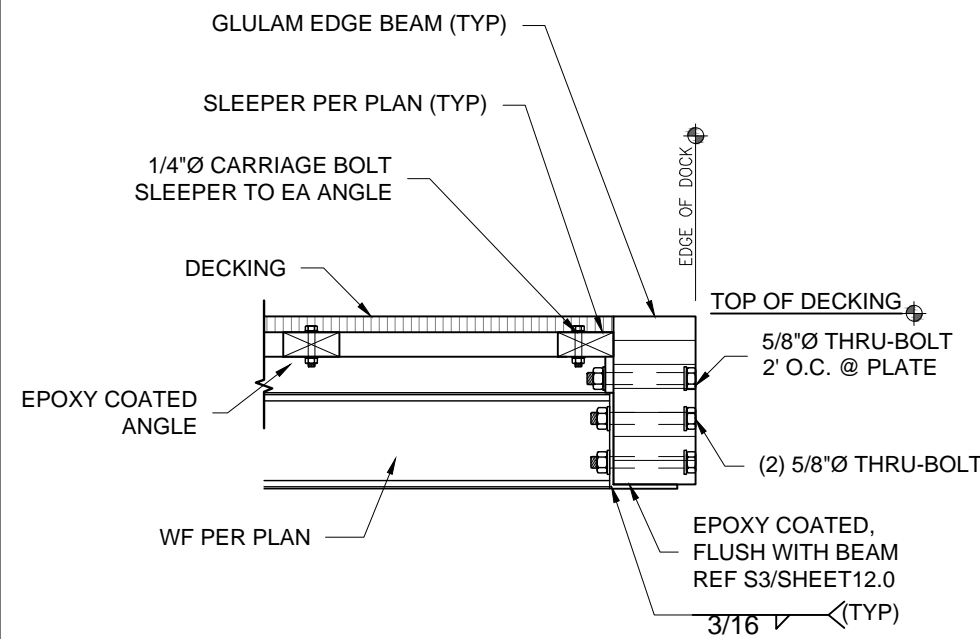
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**11.0**

# DETAILS - TRACK

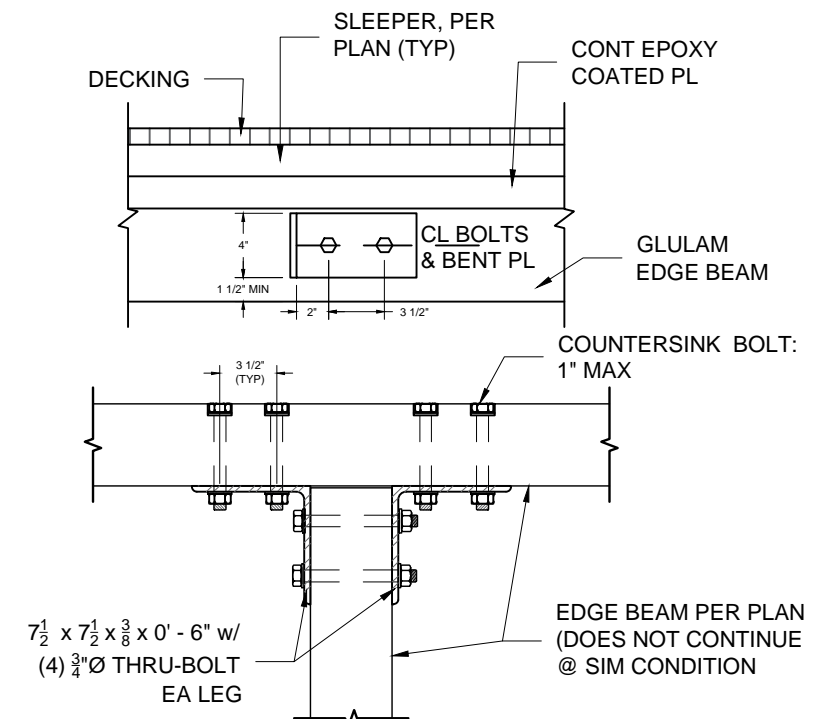


**S1** DOCK SECTION w/PILES - TYP  
SCALE: 1" = 1'

**S3** DETAIL NOT IN USE



**S5** EDGE SECTION (STEEL TRACK) - TYP  
SCALE: 1" = 1'



**S6** BEAM TO BEAM - TYP  
SCALE: 1" = 1'

**S4** DETAIL NOT IN USE



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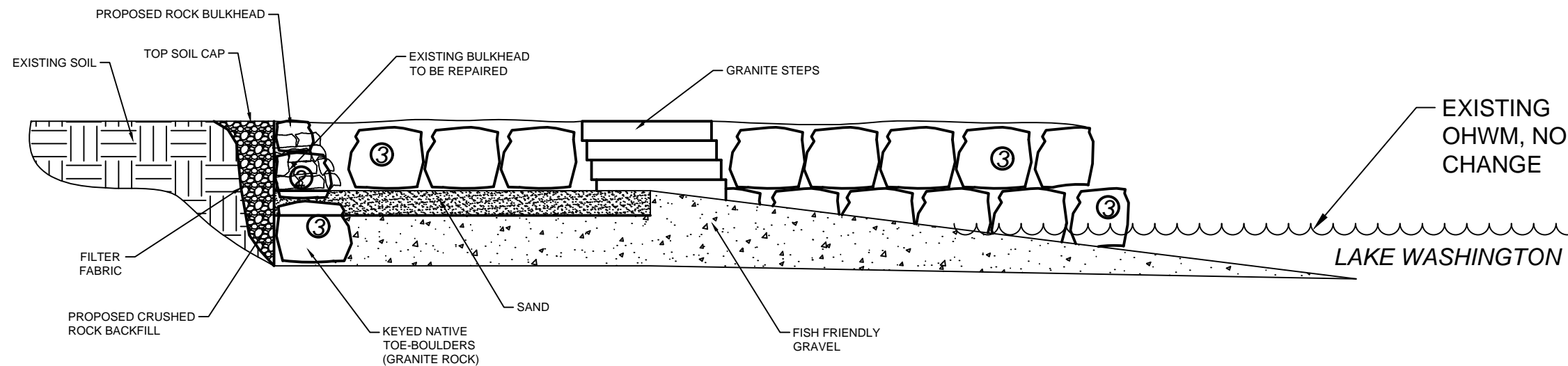
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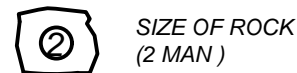


# DETAILS- COVE

## COVE AND BEACH SECTION VIEW



### LEGEND



S1 BULKHEAD W/ COVE AND STEPS  
SCALE: 1/4" = 1'



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**SHEET**  
**14.0**

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