

# **Ecological No Net Loss Assessment Report**

Prepared for

**David Hill**

**3619 Evergreen Point Road**

**Medina, WA 98039**

Prepared by



Northwest Environmental Consulting, LLC

3639 Palatine Avenue North

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206-234-2520

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## Purpose

The purpose of this report is to fulfill the requirements of City of Medina Municipal Code (MICC) 20.66.010 General Shoreline Regulations by assessing overall project impacts and proposed mitigation to determine if the project meets the “No Net Loss” of shoreline ecological functions analysis.

No Net Loss is defined as “a balancing of unavoidable shoreline ecological function losses with replacement for those losses so that further reduction to shoreline ecological functions of ecosystem-wide processes may be prevented.”

Permits are being applied for a pier reconfiguration, expansion and new boat lifts (see Appendix A – Sheet 3.0).

## Location

The subject property is located at 3619 Evergreen Point Road in the City of Medina, Washington (see Appendix A – Sheet A1.0). The parcel is on the waterfront of Lake Washington, that contains several endangered fish species listed under the Endangered Species Act and Washington State designated priority fish species.

## Project Description

The proposed work includes removing the existing dock and constructing a new pier with new jet-ski lifts and a boat lift. The work will be completed by removing the existing dock and lifts. The new dock will be constructed by driving 6 10-inch and 16 8-inch epoxy coated steel piles and then construct the dock on top of the pilings. The new dock will use ThruFlow grated decking. A new grated platform lift will be placed waterward of the Jet-ski lifts. See sheets 2 of 9 to 8 of 9.

During construction, a floating boom will surround the work barge and work area.

A shoreline planting plan will be installed that includes 2 native trees and 3 native shrubs. See Sheet 9 of 9.

Project drawings are included in Attachment A.

## Approach

Northwest Environmental Consulting LLC (NVEC) biologist Brad Thiele conducted a site visit on December 9, 2022 to evaluate conditions on site and adjacent to the site. NVEC also consulted the following sources for information on potential critical fish and wildlife habitat along this shoreline:

- Washington Department of Fish and Wildlife (WDFW): Priority Habitats and Species online database (<http://apps.wdfw.wa.gov/phsontheweb/>)
- WDFW SalmonScape online database of fish distribution and ESA listing units (<https://apps.wdfw.wa.gov/salmonscape/>)

## Site Description

The subject property is a shoreline tract in a residential neighborhood. It has shoreline on its western boundary with residential properties to the north and south.

The only existing structures on the property are the house and dock (Photos 1 through 6). The subject property yard is maintained with lawn to the sand and gravel beach. Ornamental shrubs are present along the property lines down to the beach.

The shoreline is not bulkheaded. The substrate of the lake is sand and gravel. No significant aquatic vegetation was observed at the time of the site visit.

The property to the north and south has similar configurations with various landscaping and beach or low rock bulkheads.

## Species Use

WDFW's PHS mapping and SalmonScape mapping tools show the following salmonid species using Lake Washington for migration and/or rearing: residential coastal cutthroat (*Oncorhynchus clarkii*), winter steelhead (*O. mykiss*), Dolly Varden/bull trout (*Salvelinus malma*), sockeye salmon (*O. nerka*), fall Chinook (*O. tshawytscha*), coho salmon (*O. kisutch*), and kokanee (*O. nerka*). The SalmonScape database maps the site as accessible to the Endangered Species Units (ESU) of Threatened Chinook and steelhead. Juveniles may rear in the waters near the project when traveling from spawning sites on other lake tributaries to the lake's outlet at the Hiram M. Chittenden Locks. The project site is accessible to any fish migrating or rearing in the lake. Sockeye spawning has not been mapped along the shoreline at the site.

The closest mapped priority habitat is the biodiversity area and corridor at Fairweather Nature Preserve, approximately 2,000 feet southeast of the project area. No priority habitats are directly associated with the subject property for terrestrial species.

No other priority habitats are directly associated with or mapped within 1,500 feet of the project site for aquatic or terrestrial species.

## Project Impacts and Conservation Measures

### **Direct Impacts:**

**Sediments:** Sediment disturbance may occur below the OHWM and along the shoreline of Lake Washington during pile driving and removal. Additionally, the tug and barge propwash may disturb sediments temporarily when making trips to/from the site.

Sediments have been shown to be minimally disturbed during pile driving activities and the coarse sediments (sand and gravel) are not a source of turbidity. The project will meet state water quality standards.

Placing the new moorage more than 30 feet from the shoreline in water deeper than 8 feet will reduce propwash in the nearshore environment during docking and castoff. Jet skis can operate in shallower water and do not produce as much propwash as multi-passenger boats.

**Shoreline:** Planting native vegetation will increase the habitat functions of the shoreline by creating shade along the shoreline that will be an improvement from the existing baseline habitat conditions at the project site. The plantings will provide overhanging cover for fish,

structural diversity for birds and wildlife, detritus for aquatic invertebrates and long-term recruitment of woody material and other allochthonous food sources. The proposed planting plan is included (see Appendix A - Sheet 9 of 9).

**Lakebed:** The work will remove 12 12-inch timber piles and drive 16 8-inch and 6 10-inch steel epoxy coated piles. The removal and installation of piles will result in a restoration of 0.6 square foot of lakebed.

**Noise:** Construction equipment will create noise audible to neighbors and in-water. Noise disturbance will be short-term and should have minimal effects on fish and wildlife in the area. Work will be completed during the in-water work window when juvenile fish are not expected to be present.

**Potential spills:** Short-term risks include the potential for petroleum spills that can occur with any equipment operation. The risk of impact to the aquatic environment is reduced because a crew competent using spill containment measures will be on site and employ these measures should a spill occur.

**Indirect Impacts:**

**Shading:** The project results in an increase in overwater coverage. The existing dock is 379 square feet. The new dock will be 741 square feet with an additional 210 square feet for the platform lift and 19 square feet for a walkway on the new Jet-ski lift. All New decking will be decked using grated decking.

Grated decking allows more light to penetrate the waters below a dock, which can increase productivity in the waters, and reduce the full shade favored by salmonid predators. Salmonid predators are known to use hard shadowing under solid-decked docks to ambush juvenile salmonids. Reducing these hard shadows limits their ability to effectively hunt salmonids. Overwater structures may also increase outmigration times of juvenile salmonids. Juvenile salmonids have been shown to hesitate before passing under structures. Grated decking may reduce this behavioral effect. ThruFlow grated decking has measured performance at 43 percent light penetration (ThruFlow, 2021). Thus, the increase in lighting under the pier is effectively 57% of the area of a solid decked structure. A summary of how this will affect this project's shading is shown below:

	Existing	Proposed grated	Conversion	Effective coverage	Reduction in effective coverage
Solid decking removed (SF)	379	0	0.57	0	0
New Platform Lift and Jet-ski lift (SF)	0	229	0.57	128	101
New dock (SF)	0	741	0.57	422	319
Change (SF)	-379	970		550	420

Grating the deck surfaces will result in effective shading that is a reduction of 550 square feet over using solid decking. With the removal of existing overwater coverage and new grated

decking, the project results in an increase of effective overwater coverage of 171 square feet over the existing condition.

The new configuration will remove about 60 square feet of overwater coverage within 30 feet of shore where the water is the shallowest.

**Recreational Boating:** The project supports continued recreational boating, which has been identified as a limiting factor for salmonid populations in Lake Washington. The pier will not introduce additional boating to Lake Washington, as the owners could still access the lake from a public boat launch or private moorage facility.

***Other Conservation measures:***

**Work window:** The work will be completed during the prescribed in-water work window for this area of Lake Washington (July 16 to March 15). Operating within this time frame helps protect Chinook salmon, steelhead, bull trout and other salmonid fish species by doing work when juvenile fish are not expected to be present.

**Best Management Practices:** Applicable BMPs will be used, such as a floating boom around the in-water work area, to contain any floating debris that may escape during construction. The barge will have a perimeter containment sock to absorb oil and grease that might inadvertently wash from the barge during construction.

Hazardous material containment materials such as spill absorbent pads and trained personnel will be required onsite during any phase of construction where machinery is in operation near surface waters.

**In-lieu Fee:** The shoreline on the subject property will be planted with native, overhanging vegetation and additional mitigation planting is not possible. The project also requires approval from the National Marine Fisheries Service (NMFS). NMFS has developed a calculator to determine appropriate mitigation costs for proposed in-water structures in Lake Washington. This calculator has established a fund that owners can pay into if they are not willing or cannot find mitigation to offset impacts from the project. The owner is not able to complete the required mitigation at the subject property and the property owners will pay into the in-lieu fee program to mitigate project impacts. An in-lieu fee program is defined as follows:

“A program involving the restoration, establishment, enhancement, and/or preservation of aquatic resources through funds paid to a governmental or non-profit natural resources management entity to satisfy compensatory mitigation requirements... Similar to a mitigation bank, an in-lieu fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor.” (Fed. Reg. 40 CFR Part 230)

The fee has been determined using the Restoration And Permitting (RAP) Calculator for Lake Washington and will be paid to King County Water & Land Resources Division. The RAP fee has been used to remove 350 piles from the mouth of the Cedar River to date.

## **Conclusion**

Juvenile Chinook salmon, and other salmonids, rear and migrate along the Lake Washington shoreline.

There will be temporary impacts from noise and disturbed sediments during construction. The project will add 591 square feet of overwater coverage to the lake. Shading of the lake surface results in lower productivity in the water column, the hard shadowing provides ambush opportunities for predatory fish feeding on juvenile salmonids, and overwater coverage may cause outmigrating salmonids to hesitate to cross under the dock prolonging outmigration times.

However, removing all solid decking and replacing with grated decking reduces these impacts. Using grated decking minimizes the effective overwater coverage to 171 square feet over the existing dock configuration. The new configuration also places moorage in the deepest water possible reducing impacts from castoff and docking from propwash. The new configuration reduces overwater coverage by 60 square feet within 30 feet of shore.

A shoreline planting plan will be implemented that will add two native trees and three native shrubs that will improve natural shading, allochthonous food sources and will eventually be a source of woody materials and will improve shoreline conditions at the site in the long-term.

The owner has also opted to pay into the In Lieu Fee program that will be used for conservation projects that benefit salmon in King County.

The project will minimize construction effects on the environment by following the prescribed fish window and using applicable BMPs to prevent construction spills and floating debris from escaping the area. The construction crew will retrieve all dropped items from the bottom and dispose of them properly.

This project has been designed to meet current dock replacement standards and will use Best Management Practices to reduce project impacts. The conservation measures are designed to improve ecological functions or prevent further degradation of habitat **and will result in No Net Loss of ecological functions** at the site.

## Document Preparers

Brad Thiele

Biologist

29 years of experience

Northwest Environmental Consulting, LLC. (NVEC)

The conclusions and findings in this report are based on field observations and measurements and represent our best professional judgment and to some extent rely on other professional service firms and available site information. Within the limitations of project scope, budget, and seasonal variations, we believe the information provided herein is accurate and true to the best of our knowledge. Northwest Environmental Consulting does not warrant any assumptions or conclusions not expressly made in this report, or based on information or analyses other than what is included herein.

## REFERENCES

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ThruFlow. 2020. Legacy Series. Online. Accessed August 2020 at <https://thruflow.com/products/legacy/>.

US Army Corps of Engineers (USACE). 2004. Final Biological Evaluation, Regional General Permit: Construction of New or Expansion of Existing Residential Overwater Structures and Driving of Moorage Piling. Lake Washington, Lake Sammamish, the Sammamish River and Lake Union, Including the Lake Washington Ship Canal, in the State of Washington.

Washington Department of Fish and Wildlife (WDFW). 2023. Priority Habitats and Species. Online database. Accessed January 2023 at <http://apps.wdfw.wa.gov/phsontheweb/>

WDFW. 2023. SalmonScape. Online database. Accessed January 2023 at <http://apps.wdfw.wa.gov/salmonscape/>

# **Appendix A: Project Drawings**

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# PROJECT INFORMATION

**APPLICANT:**  
DAVID HILL

**DRAWINGS BY:**  
ECCO DESIGN INC.  
203 N 36TH ST SUITE 201  
SEATTLE, WA 98103  
206-706-3937

**SITE ADDRESS:**  
3619 EVERGREEN POINT RD  
MEDINA, WA 98039

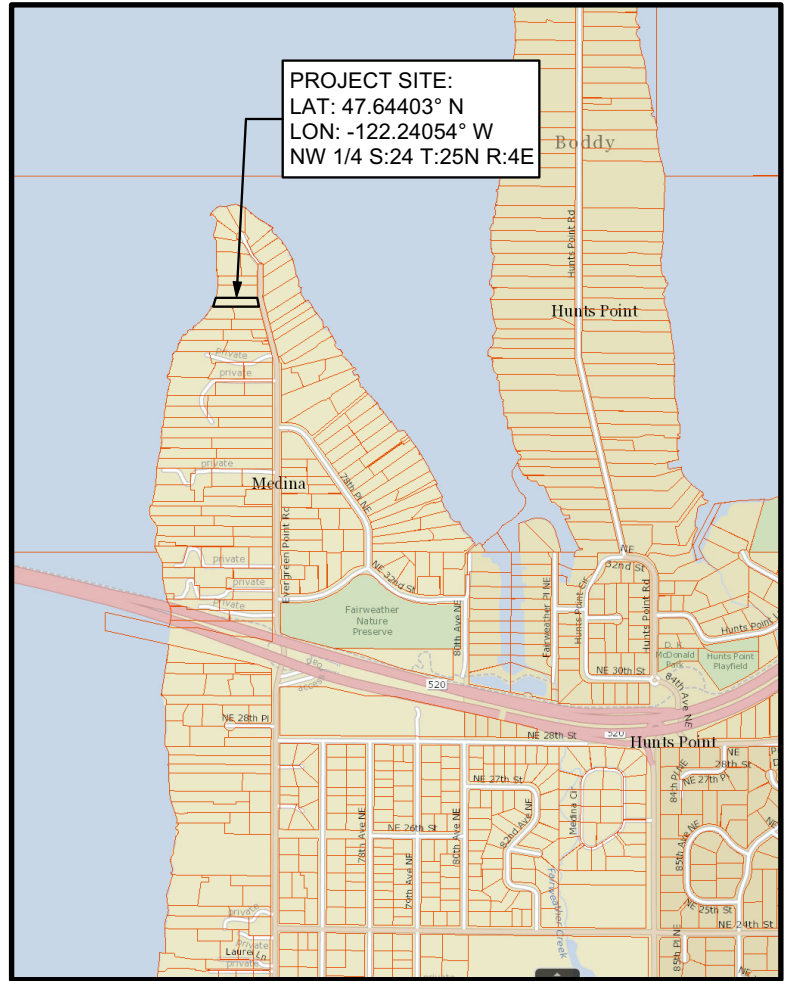
**PARCEL NUMBER:**  
242504-9155

**BODY OF WATER:**  
LAKE WASHINGTON

**LEGAL DESCRIPTION:**  
N 60 FT OF FOLG-BEG AT 1/16 COR OF SEC ON  
S LN OF GL 5 TH N 14-39-28 W 310.05 FT TO  
TRUE BEG TH N 14-39-28 W 155.02 FT TH N  
89-58-39 W 310 FT M/L TO SHORE LN OF LAKE  
WASHINGTON TH SWLY ALG SD SHORE LN TO  
PT N 89-58-39 W FR TRUE BEG TH S 89-58-39 E  
420 FT M/L TO TRUE BEG & SH LDS ADJ LESS  
CO RD

**PROJECT DESCRIPTION:**  
REMOVE AN EXISTING PIER AND TWO JET-SKI  
LIFTS. CONSTRUCT A NEW PIER. INSTALL A  
BOAT LIFT, A PLATFORM LIFT (210 SQ. FT.), AND  
A DOUBLE JET-SKI LIFT. PLANT NATIVE  
VEGETATION PER THE PLANTING PLAN.

# VICINITY MAP



## REFERENCE:

**DATUM:** C.O.E. Locks Datum

## ADJACENT PROPERTY OWNERS:

1. RMMTM Corp
2. Stein Kruse

**APPLICANT:** David Hill

**LOCATION:** 3619 Evergreen Point Rd  
Medina, WA 98039

**LAT/LONG:** 47.64403°/-122.24054°

## PROPOSED PROJECT:

Pier & Lifts

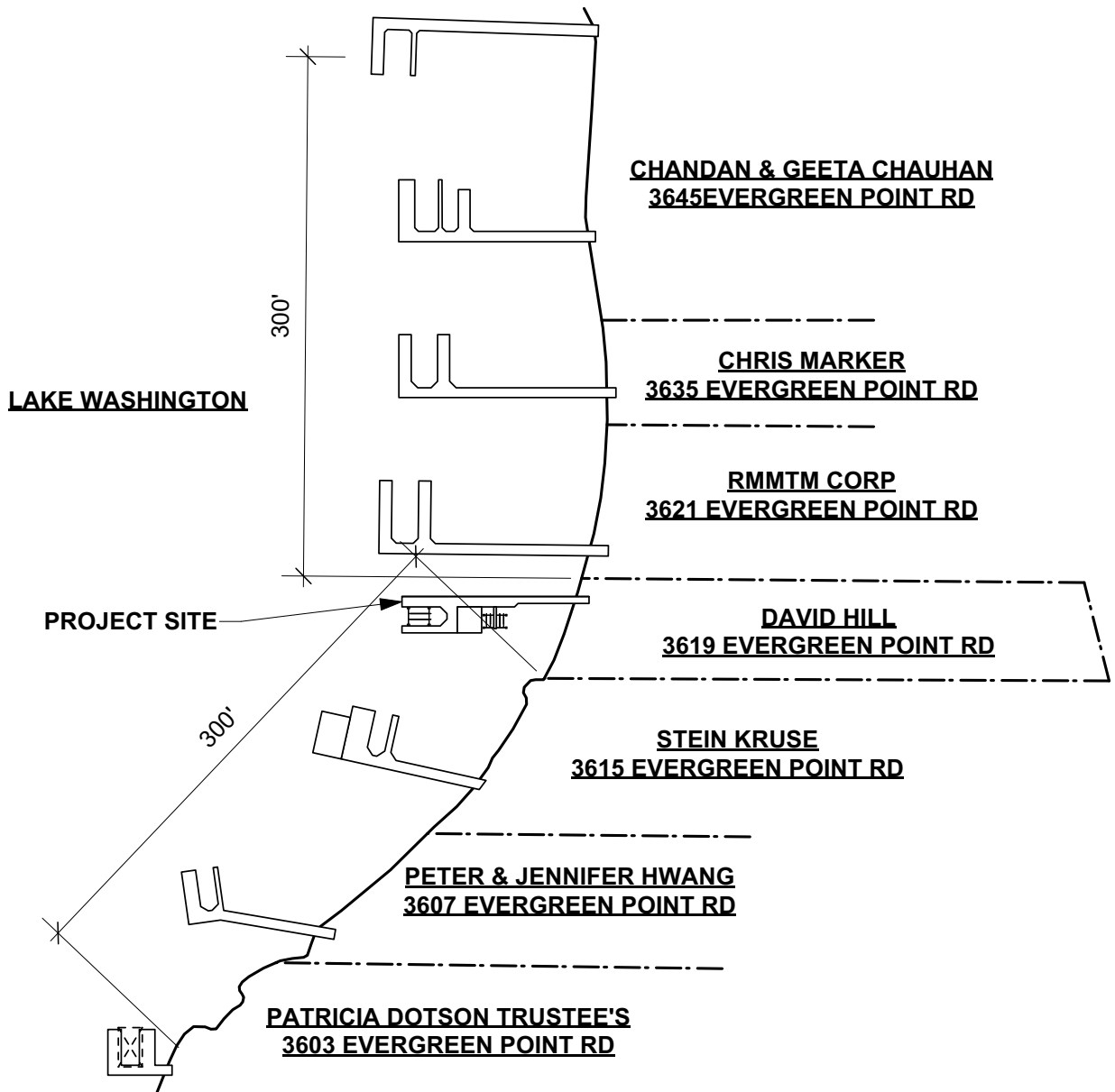
**IN:** Lake Washington

**NEAR/AT:** Medina

**COUNTY:** King **STATE:** WA

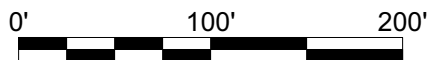
**SHEET** 1 of 9

**DATE:** December 20, 2022



**VICINITY MAP**

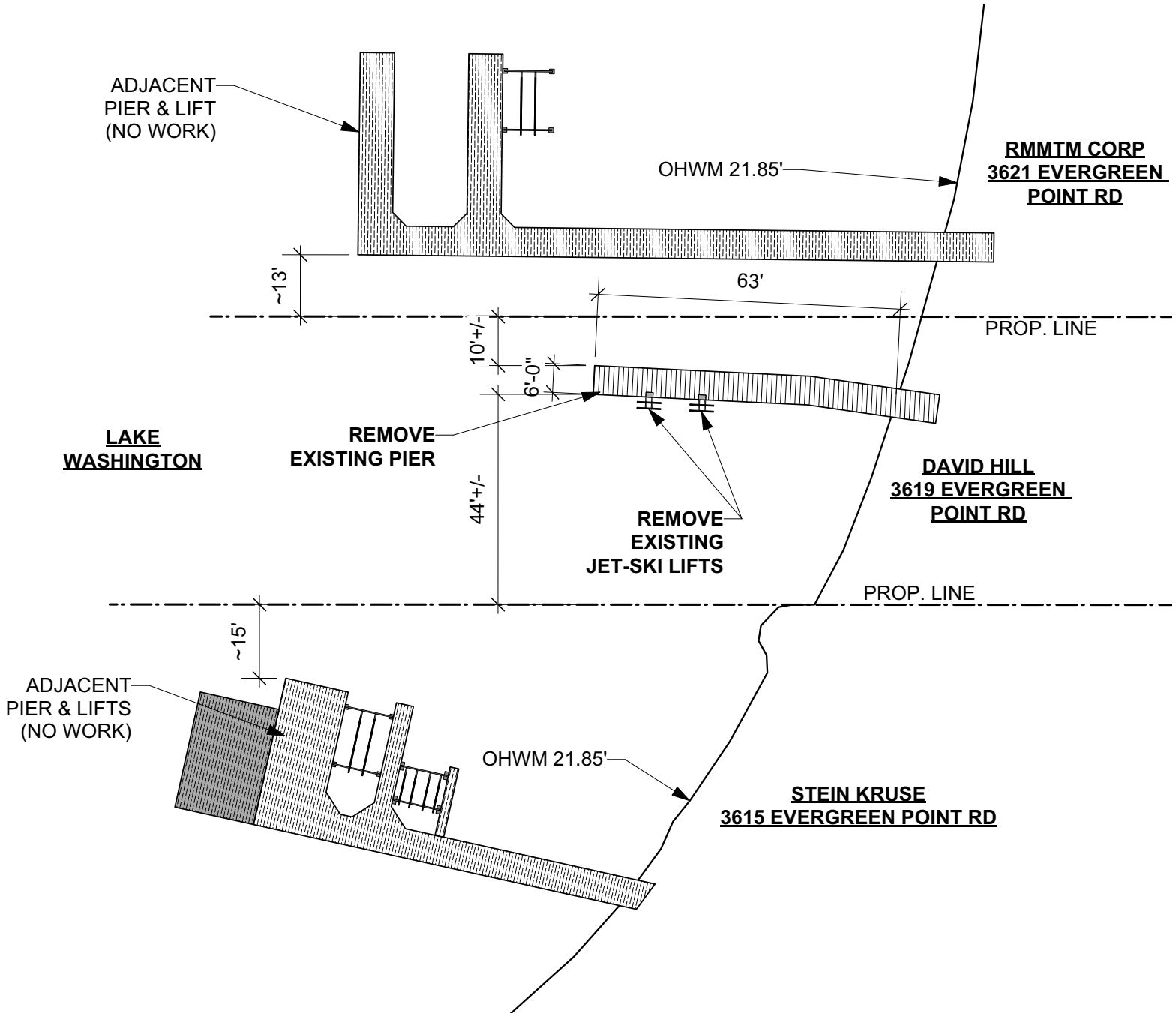
SCALE 1" = 100'-0"



**Reference:**  
**Applicant:** David Hill

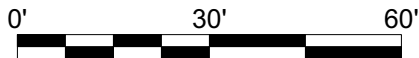
**Proposed:** Pier & Lifts  
**Location:** Medina, WA

PLEASE NOTE THAT THE SHORELINE CONFIGURATION AND PROPERTY LINE LOCATIONS ARE APPROXIMATE ONLY. PROPERTY LINES AND SHORELINE ARE BASED ON KING COUNTY GIS.



# EXISTING SITE PLAN

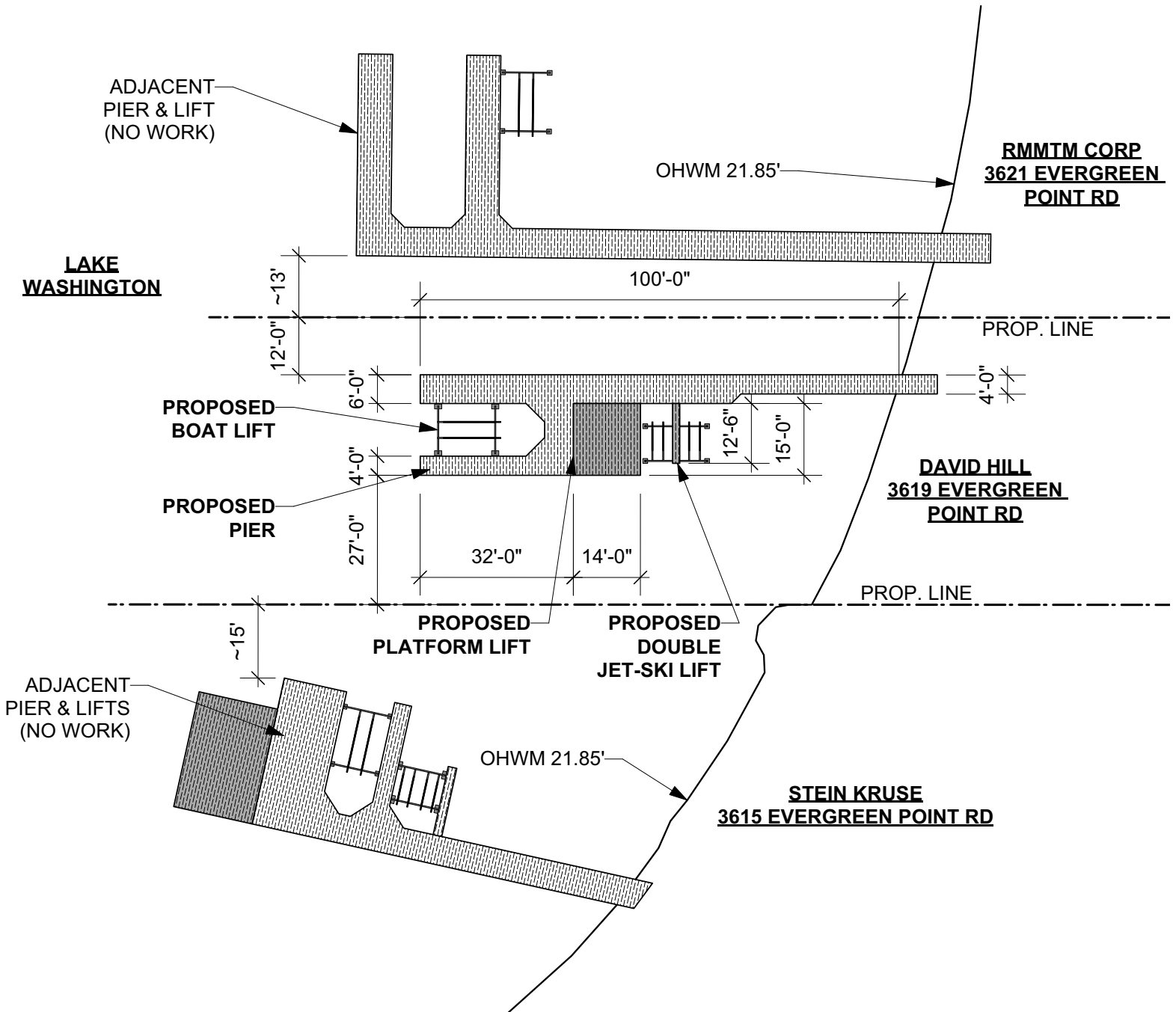
SCALE 1" = 30'-0"



Reference:  
Applicant: David Hill

Proposed: Pier & Lifts  
Location: Medina, WA

PLEASE NOTE THAT THE SHORELINE CONFIGURATION AND PROPERTY LINE LOCATIONS ARE APPROXIMATE ONLY. PROPERTY LINES AND SHORELINE ARE BASED ON KING COUNTY GIS.



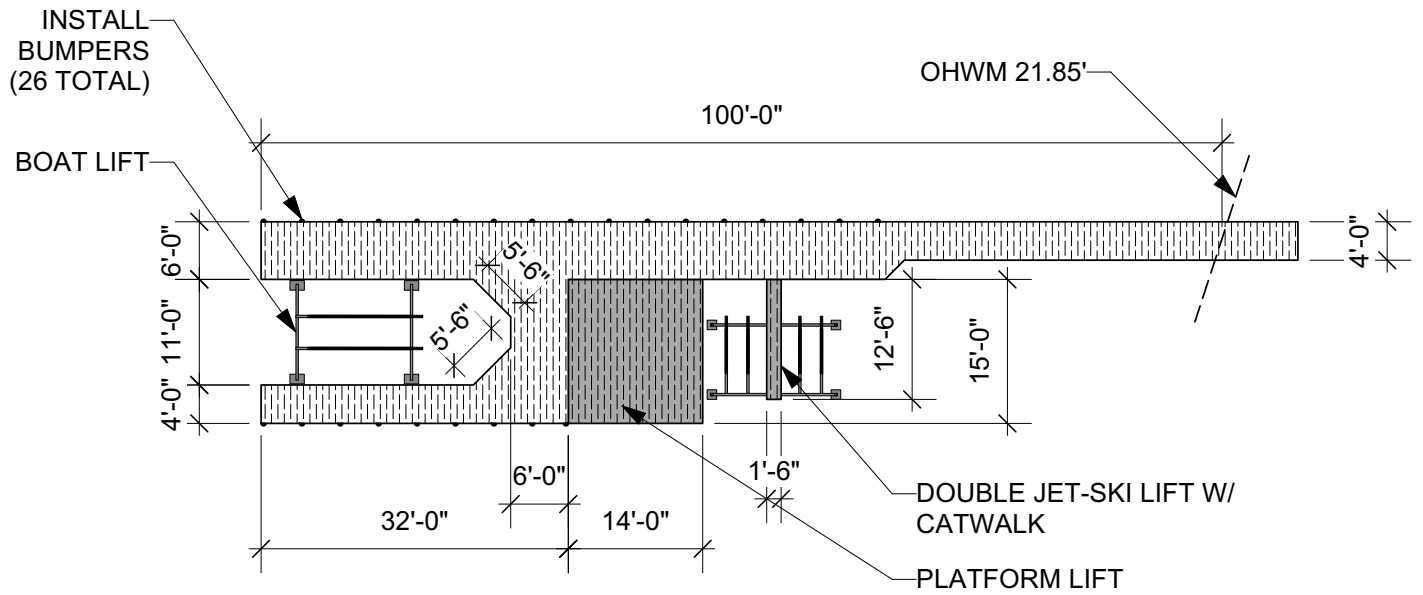
# PROPOSED SITE PLAN

SCALE 1" = 30'-0"



Reference:  
Applicant: David Hill

Proposed: Pier & Lifts  
Location: Medina, WA



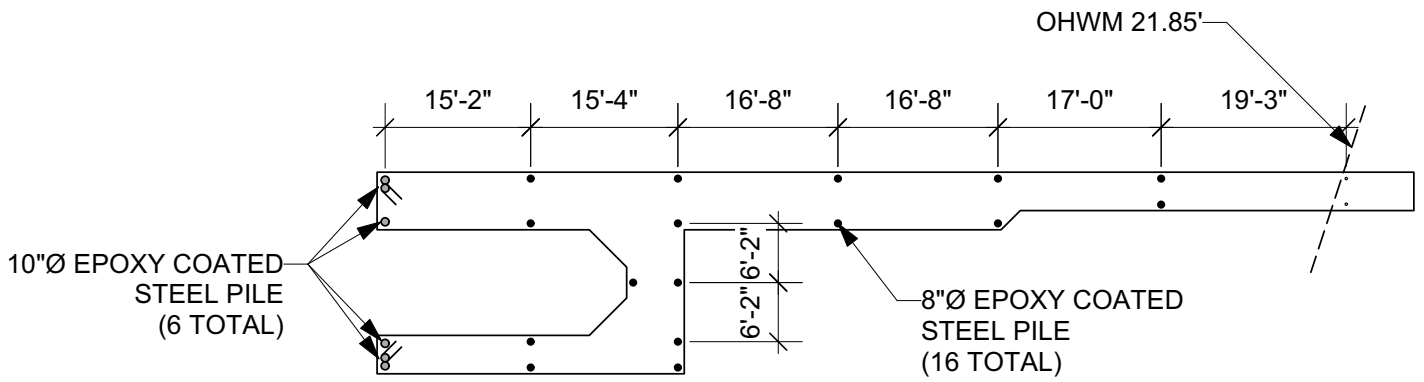
# **PROPOSED PIER PLAN**

SCALE 1" = 20'-0"



**Reference:**  
**Applicant:** David Hill

**Proposed:** Pier & Lifts  
**Location:** Medina, WA



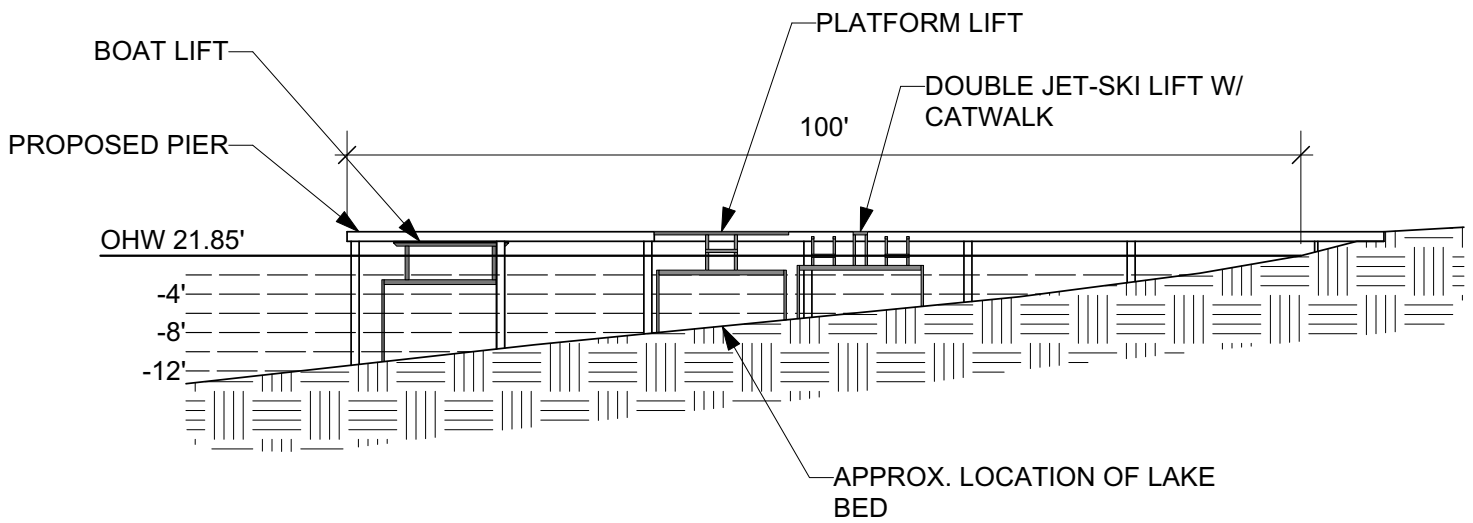
# **PROPOSED PILE PLAN**

SCALE 1" = 20'-0"



**Reference:**  
**Applicant:** David Hill

**Proposed:** Pier & Lifts  
**Location:** Medina, WA



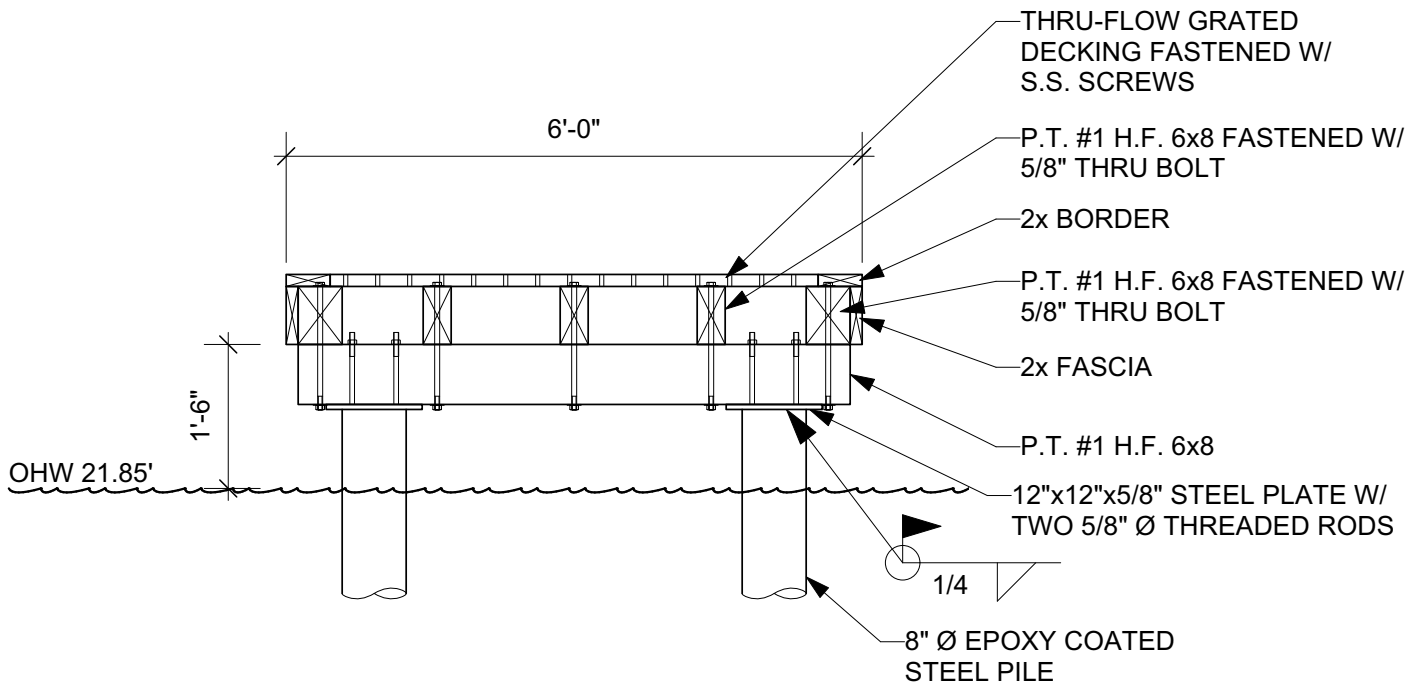
# ELEVATION

SCALE 1" = 20'-0"



**Reference:**  
**Applicant:** David Hill

**Proposed:** Pier & Lifts  
**Location:** Medina, WA



# **PIER WALKWAY SECTION A** **(PROPOSED)**

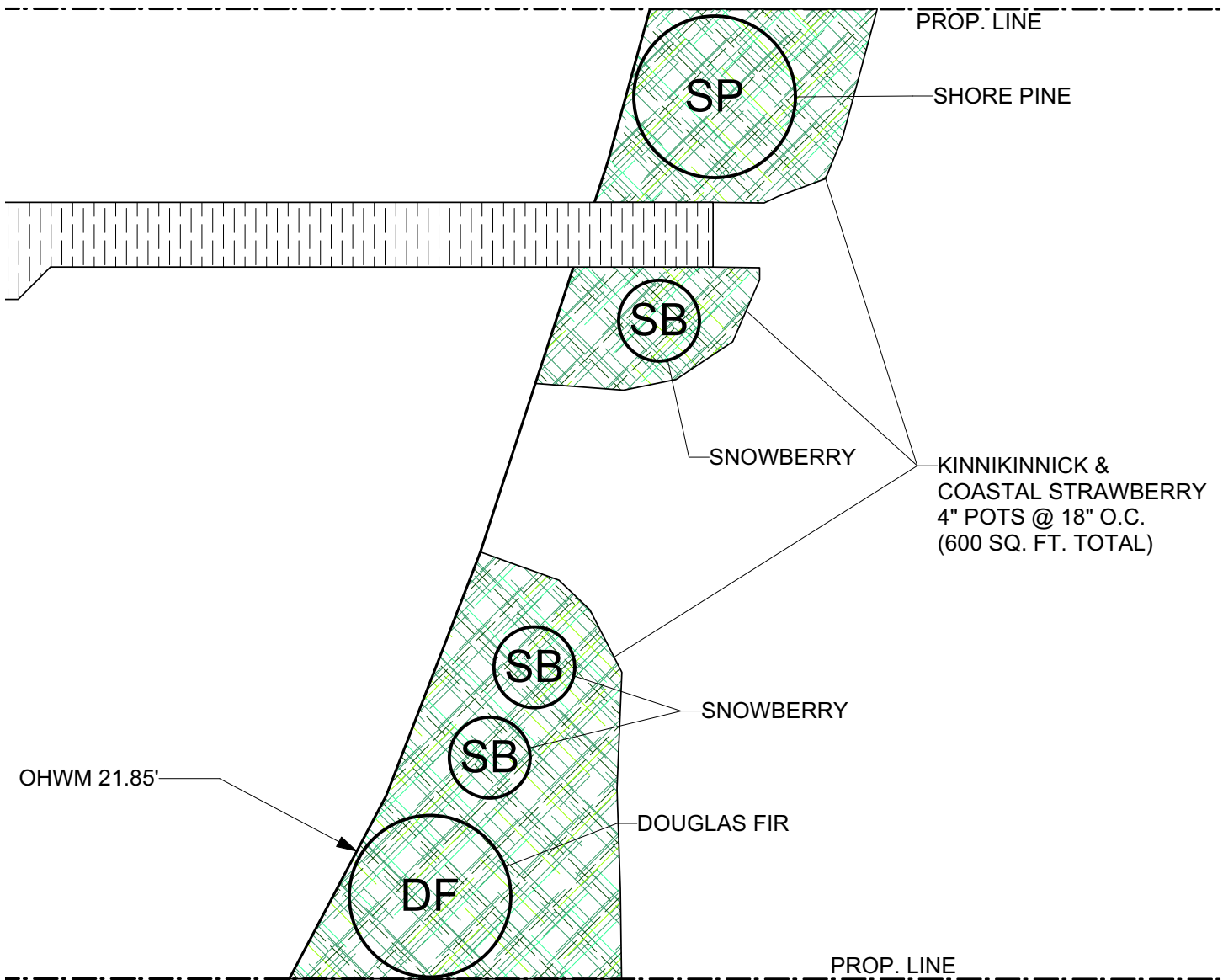
SCALE 1/2" = 1'-0"



**Reference:**  
**Applicant:** David Hill

**Proposed:** Pier & Lifts  
**Location:** Medina, WA





# PLANTING PLAN

SCALE 1" = 10'-0"



**Reference:**  
**Applicant:** David Hill

**Proposed:** Pier & Lifts  
**Location:** Medina, WA

# **Appendix B: Site Photographs**

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Photo 1 - Existing dock looking waterward.



Photo 2 - Existing dock looking landward.



Photo 3 - Existing shoreline conditions north of the dock at the site.



Photo 4 - Existing shoreline conditions south of the dock at the site.



Photo 5 - Shoreline conditions north of the site.



Photo 6 - Shoreline conditions south of the site.