Port of Kalama – Marina Renovations
Shoreline Substantial Development Permit Application
August 18, 2016

The City of Kalama has adopted the Cowlitz County Shorelines Management Master Program (1977), which was used to describe project effects on the shoreline.

Need for the Project

The proposed project is necessary to address matters of maintenance, improving habitat functions, public facility use, and overall aesthetics. A condition assessment was performed in June of 2015 by PND Engineers, Inc. that identified potential safety concerns, non-compliance with current ADA standards, worn or rotted members, and it outlined an overall maintenance plan.

Maintenance: The existing floating docks (with the exception of the mooring houses) have exceeded their typical useful design life, with extensive portions of timber walers showing severe decay and deterioration. Surface cracks and spalling on the concrete deck surfaces are exhibiting signs of corrosion on the reinforcing steel within the float units. The covered mooring houses have held up longer, due to the protection afforded the roof structures, and can be maintained with current efforts. However, the uncovered portions are significantly deteriorated, requiring replacement. A new visitors' dock along the east edge of the marina basin will be constructed to meet the demand for temporary moorage space.

The electrical service provided to the floats is no longer code-compliant, posing a safety hazard as well as providing inadequate service for the current users. The water system and other utilities are a consistent maintenance issue.

Habitat Function: Replacing the solid concrete floats with new grated deck surfaces will improve aquatic habitat by reducing shaded areas that may be used by predatory fish to ambush juvenile salmon. Replacing the concrete deck and fuel float access gangway with a new grated gangway will also reduce shading. Nine of the existing anchor piles are creosote treated timber piles, which will be removed and replaced with new steel pipe piles. The new visitor float and gangway will have grated deck surfaces, which will improve aquatic habitat by reducing shaded areas.

Use and Aesthetics: The proposed improvements are necessary to make the marina and upland areas more user-friendly and inviting by providing additional visitor moorage space for short-term users, improved access to the floats, ADA compliance, and a more pleasant atmosphere.

Proposed Project

The proposed project is necessary to address matters of maintenance, improving habitat functions, public facility use, and overall aesthetics. The marina was constructed in the 1970s and requires normal repair, maintenance, and improvements. This project will replace the marginal float, transient moorage float, boat ramp float, fuel dock, and access floats. Repairs

will be made to the existing floating moorage houses, and a new visitors' dock along the east edge of the marina basin will be constructed.

A condition assessment was performed in June of 2015 by PND Engineers, Inc. that identified potential safety concerns, non-compliance with current ADA standards, worn or rotted members, and it outlined an overall maintenance plan.

The marina was constructed in the 1970s and requires normal repair and maintenance. The Port's marina renovation project consists of elements that are confined largely to repair and maintenance of the Port's marine structures, proposed new construction, and expanding existing structures. This project will replace the marginal float, transient moorage float, boat ramp float, fuel dock, and access floats; repairs will be made to the existing floating moorage houses; and a new visitors' dock along the east edge of the marina basin will be constructed. Work associated with each of these features is described in detail below.

Replace the marginal float, transient moorage float, boat ramp float, fuel dock, and access floats. Details are as follows:

- Replace existing modular concrete floats with new aluminum frame floats with grated deck surface. These include the marginal floats, transient moorage floats, boat ramp floats and fuel dock access floats.
- Replace fuel dock float with a new monolithic concrete float unit.
- Install upgraded utilities along the marginal float and provide improved electrical, lighting, potable water, and fire suppression systems to the marginal and transient floats.
- Upgrade electrical service to 30 ampere and 50 ampere power pedestals and dock lighting.
- Install new potable water service and pedestals with freeze protection.
- Install new fire suppression system consisting of dry fire line with upland fire department connections and standpipes along the floats for fire department use.
- Reinstall sewer pump-out equipment on widened section of marginal float.
- Re-establish fuel dispenser and service lines to new fuel float.
- Re-use existing steel-pipe anchor piles.
- Remove creosote timber piles and replace with new steel piles. Some of the steel pipe piles will be reused in-place, while others will need to be extracted and reinstalled at new locations.
- Replace existing steel gangway on the marginal float located at the south end of marina with a new ADA compliant, aluminum thru-truss gangway with grated deck and new upland concrete abutment.
- Replace concrete abutments for boat ramp float and fuel dock access float in-kind.
- Replace existing fuel dock access gangway with new aluminum thru-truss gangway with grated deck.

Repair the existing floating moorage houses. Details are as follows:

- Repair existing float structures, including replacing damaged or deteriorated walers and thru-rods, repair or replace pile hoops, repair damaged concrete surfaces, and other miscellaneous repairs.

- Repair timber roof structure framing as needed.
- Upgrade electrical service to 30 ampere and 50 ampere power pedestals and dock lighting.
- Install new potable water service and pedestals with freeze protection.
- Install new fire suppression system consisting of dry fire line with upland fire department connections and standpipes along the floats for fire department use.

Add a new visitors' dock along the east edge of the marina basin. Details are as follows:

- Install new aluminum-frame floats with grated deck surface for a continuous length of side-tie moorage for short-term visitors' vessels.
- Install new steel pipe piles to anchor the floats horizontally, while allowing vertical movement of the floats through all water levels.
- Install new ADA-compliant aluminum thru-truss gangway with fully grated deck and new upland concrete abutment.
- Install new 30 and 50 ampere electrical service power pedestals and dock lighting.
- Install new potable water service and pedestals with freeze protection.
- Install new fire suppression system consisting of dry fire line with upland fire department connections and standpipes along the floats for fire department use.

Construction Sequencing

Work is proposed to begin in late 2016/early 2017. Repairing the existing slips and constructing the visitors' dock will begin as funding becomes available; it is anticipated to be completed by 2022. Pile driving will be performed using the vibratory method. Underwater noise from vibratory pile driving has not been proven to cause injury to aquatic organisms, and the noise will be mostly contained within the marina. Therefore, all proposed work could take place any time of the year after permits are received.

Pile Driving and Removal

Nine, creosote-treated timber piles that are below OHW will be replaced with nine hollow steel piles, and some of the steel piles will be re-used. A total of 36 steel piles will be installed below OHW for this project.

A barge-mounted crane will be used to remove and install steel piles with a vibratory hammer. The barge-mounted crane will also be used to install the prefabricated floats and gangways. A storage barge and small tender boat will likely be used to support the crane barge during construction.

The total time estimated to remove and install piles for dock replacement is four weeks, and the visitors' dock will take one week. It will take approximately 30 minutes to install each pile.

Other Activities
Other activities associated with this project include material staging, material storage, and disposal areas, as well as the presence of work vessels used in construction and delivery. Materials will be stored onsite either on the work barge or in adjacent upland parking area. There will also be roof repairs to covered structures, utility upgrades, and lighting will be installed at the new visitors' dock.

Impact Avoidance and Minimization Measures
The project has been designed to avoid and minimize impacts to habitats and species that may potentially occur in the vicinity of the project area. Several design features are proposed in order to avoid and minimize adverse impacts to the aquatic environment as listed below:

1. Gangways will be constructed of grated material to allow for light penetration into the water.
2. New floats will feature partially grated ADA-compliant grated decking to allow for light penetration to the water.
3. New floats will be located at elevations sufficient to eliminate float and vessel grounding after dredging is completed.
4. The new fuel dock will have a monolithic concrete deck surface, and pumps will be equipped with spill-detection monitors with an automatic cut-off switch to help protect the water from inadvertent fuel spills.

In addition to the benefits described above, in order to further avoid and minimize adverse impacts to the aquatic environment, typical construction BMPs for working over, in, and near water will be applied, including the following measures:

Construction Avoidance and Minimization Measures:

1. New floats will be primarily be manufactured offsite, delivered, splashed, floated, and assembled final in place.
2. All manmade construction debris will be collected and not allowed to enter waters of the state/US.
3. Methods for containing debris during overwater demolition work may include use of tarps or shrouds. Other methods may be identified by the City, Engineer, or contractor.
4. Land-based equipment will not be operated on the substrate below the waterline.
5. Project construction will be completed in compliance with Washington State Water Quality Standards WAC 173-201A.
6. Contractor will use vegetable-oil based hydraulic fluid for equipment working over or in the water.
7. Contractor will check equipment for leaks and other problems that could result in discharge of petroleum-based products, hydraulic fluid, or other material to the waterway.
8. Contractors conducting in-water and overwater work, including demolition, will be familiar with BMP implementation and permit conditions typical of working in the aquatic environment.
9. The contractor will have a spill containment kit, including oil-absorbent materials, onsite to be used in the event of a spill or if any oil product is observed in the water.

10. Piles will be removed using vibratory extraction to greatest extent possible. Piles which cannot be extracted will be cut below the mudline.
11. Piles will be removed slowly so as to minimize sediment disturbance and turbidity in the water column.
12. Where possible, extraction equipment will be kept out of the water to avoid "pinching" the pile below the waterline to minimize creosote release during extraction.
13. New pile will be installed using a vibratory hammer only. Proofing with an impact hammer will not be necessary.

The City of Kalama has adopted the *1977 Cowlitz County Shorelines Management Master Program.* The narrative below discusses how the proposed small vessel barge dock complies with the county's *Shorelines Management Master Program*. Please refer to the application drawings, biological evaluation, mitigation plan, and critical areas assessment for details on construction, operations, existing conditions, and effects of the project.

The project is located at 110 West Marine Drive, Kalama, Washington. Cowlitz County Shorelines Management Master Program (SMMP) designates the subject property as an "urban" environment, and RCW 90.58.030 defines the Columbia River as a "shoreline of statewide significance". Below are the SMMP goals and policies applicable to the project, followed by the applicable regulations. Responses to the SMMP criteria are in *italics* following each criterion, demonstrating the project's consistency with the SMMP goals, policies, and regulations.

Shoreline Substantial Development Permit
Master Program Goals and Policies

SMMP OVERALL GOALS

The project proposal is consistent with the SMMP local overall goals, which are:

1) *Assure healthy, orderly, economic growth in the shorelines of the County.*
   This project helps orderly economic growth by repairing and expanding facilities within the existing marina footprint that will attract more boaters.

2) *Maintain a high quality environment along the shorelines of Cowlitz County.*
   The project will maintain a high quality environment by avoiding and minimizing impacts from construction and by designing the project to incorporate the following minimization measures: replaces solid decking on floats with grated decking, installs fully grated gangways, incorporates a spill-containment system on the new fuel dock, and uses grating on new floats and gangways.

3) *Establish criteria for safe, orderly residential growth within the shorelines of Cowlitz County.*
   Not applicable.

4) *Preserve and protect those fragile and natural resources and culturally significant features along the shorelines of Cowlitz County.*
   This project avoids and minimizes impacts to natural resources while still allowing use of Port property. This project will be within an existing marina and will not impact terrestrial habitat, banks, or substrate; therefore, cultural features will not be disturbed.

5) *Provide safe and reasonable access for the public in the shorelines of Cowlitz County.*
   The project will increase public safety and providing increased access to the marina. Existing steps to the marina will be removed, and existing gangways within the marina that are not ADA-compliant will be replaced with ADA-compliant gangways. The proposed visitors' dock will allow increased use of the marina by providing additional short-term moorage for visitors'. During peak public use of the marina, there is very little temporary moorage, which discourages marina use.

6) *Preserve the rights of private ownership and property uses of the shorelines of Cowlitz County.*
   This is a public project that does not impact privately owned property.

APPLICABLE SPECIFIC GOALS AND POLICIES FOR AREAS

Areas considered by the master program include circulation, conservation, economic development, historical/cultural, recreation, residential, public access, and other general shoreline uses. Only the areas that apply to this project are addressed below (conservation, economic development, historical/cultural, recreation, public access, and other general shoreline uses). Circulation and residential topics do not apply.

Conservation

Goal: "*To encourage best management practices for the continued sustained yield or replenishable resources of the shorelines and preserve, protect, and restore those unique and non-renewable resources.*"

Objectives:

1) *Preserve the scenic and aesthetic qualities of shorelines and vistas.*
   This project will remain within the confines of the existing marina. Existing floats and gangways have reached the end of their usefulness and have become worn or rotted, so this project preserves existing scenic and aesthetic qualities of the shoreline and vistas.

2) *Contribute (as far as the state of the art allows) to a maximum utilization of the resources without harming other natural systems or the quality of life.*
   This project is consistent with this goal and its objectives by avoiding impacts and minimizing unavoidable impacts to aquatic and terrestrial habitats. The proposed project will not harm to the natural environment.

3) *Restore damaged features of ecosystems to a higher quality than may currently exist.*
   Beneficial effects of this project include replacing 8,025 square feet of floats that have solid decking with floats that have grated decking, installing fully grated gangways, and installing the new visitors' dock with grating to reduce in-water shading, which benefits fish that prey on juvenile salmon and steelhead. In addition, nine creosote-treated piles will be replaced, and the proposed fuel dock will have a spill-containment system that the existing dock does not have.

4) *Preserve unique and non-renewable resources.*
   The site does not contain any unique or non-renewable resources. The project is consistent with this objective.

5) *Consider the total upstream and downstream effect of proposed developments to ensure that no degradation will occur to the shoreline area.*
   Engineers have designed the project to have no significant effect on river hydraulics or the shoreline.

Economic Development

Goal*: To encourage the establishment and development of industrial and commercial activities in Cowlitz County on shorelines that require the land-water interface for productive efforts.*

This project is not industrial or commercial; however, it encourages economic growth by maintaining a safe and aesthetically pleasing marina that can provide modern moorage with up-to-date utilities, increases public access by providing ADA-compliant access, and increases temporary moorage that is currently lacking in this marina. By providing better accommodations, public access, and additional temporary moorage, the marina can draw more people to use the marina and increase the economic activity for nearby businesses.

Objective*: "Those economic developments proposed on the shorelines must effectively operate without reducing the environmental quality of the surrounding and adjacent shoreline area, or the quality of life of county residents.*

Policies 1 through 4, 6, and 7 under this objective do not apply to this project. Policy 5 is addressed below.

5. Ports and Water-Related Industry

Items a) through f) and h) do not apply to this project.

g) Because a large impact cannot be avoided due to ports and port-related uses, preference will be given to development and redevelopment of existing port areas.

This location is currently within the existing marina at the Port of Kalama, so this requirement is met.

Historical/Cultural

Goal: "Protect, preserve, and restore those historical, cultural, educational, and scientific sites in the shorelines of Cowlitz County for the general public."

The project site has already been developed, and there are no new uses proposed. In addition, no excavation is proposed. Therefore, no historical, cultural, educational, or scientific sites are unlikely to be disturbed by this project. The proposed project meets this goal.

Recreation

Goal: To assure that recreational opportunities, adequate to satisfy the diversity of demands from the region's population, are provided.

Objectives:

1) *Those recreational pursuits should be encouraged in a manner such that the balance of the natural system is not adversely affected.*

   This project will remain within the confines of the existing marina. Existing floats and gangways have reached the end of their usefulness and have become worn or rotted, so this

project preserves existing scenic and aesthetic qualities of the shoreline and vistas. This project is consistent with this goal and its objectives by avoiding and minimizing unavoidable impacts to aquatic and terrestrial habitats. Engineers have designed the project to have no significant effect on river hydraulics or the shoreline. No degradation of the bank or shoreline areas will occur.

Beneficial effects of this project include replacing 8,025 square feet of floats that have solid decking with floats that have grated decking, installing fully grated gangways, and installing the new visitors' dock with grating to reduce in-water shading, which benefits fish that prey on juvenile salmon and steelhead. In addition, nine creosote-treated piles will be replaced, and the proposed fuel dock will have a spill-containment system that the existing dock does not have.

2) *A variety of recreational uses should be encouraged in order to meet the demands of the region without infringing on the rights to privacy and property of individuals*.
This project will remain within the confines of the existing marina and will expand its use by adding a visitors' dock. There will be no impacts to private property or individual privacy rights.

3) *Recreational and other uses should be compatible when proposed for the same or adjacent area of shoreline.*
This project will remain within the confines of the existing marina and no different uses are proposed.

4) *To encourage private enterprise and/or state and local government cooperation/coordination in the acquisition of additional shoreline property for public recreation uses.*
This objective does not apply, because it does not require property acquisition.

Policies:
General Recreation Uses
Items a through k address proposals for siting new development and do not apply to altering existing facilities.

Marinas
Items a, d, f, and g address proposals for siting new development and do not apply to altering existing facilities.

b. Marinas should be designed in a manner that will reduce damage to fish and shellfish resources and be aesthetically compatible with adjacent areas.
This project is consistent with this policy by avoiding and minimizing unavoidable impacts to aquatic and terrestrial habitats. Engineers have designed the project to have no significant effect on river hydraulics or the shoreline. No degradation of the bank or shoreline areas will occur. Beneficial effects of this project include replacing solid decking on 8,025 square feet of existing floats with grated decking, installing fully grated gangways, and installing the new visitors' dock with grating to reduce in-water shading

that could benefit fish that prey on juvenile salmon and steelhead. In addition, the proposed fuel dock will have a leak-detection and automatic shutoff system that the existing dock does not have. Existing floats and gangways have reached the end of their usefulness and have become worn or rotted, so this project preserves existing scenic and aesthetic qualities of the shoreline and vistas.

Piling installation will be performed using a vibratory method that avoids using an impact pile-driving method that creates more underwater noise. This avoids causing injury to small fish.

c. *Special attention would be given to the design and development of operational procedures for fuel handling and storage in order to minimize accidental spillage and provide satisfactory means for handling those spills that do occur.*
There are existing operational procedures for the fuel dock. The proposed fuel dock will have a leak-detection and automatic shutoff system that the existing dock does not have.

e. *The Washington State Department of Fisheries has prepared guidelines concerning the construction of marinas. These guidelines should be consulted in planning for marinas.*
The WDFW Area Habitat Biologist attended the pre-application meeting and made suggestions regarding the project design and construction.

Public Access

Goal: To assure the safe and reasonable access, for the public, to public property in the shorelines of Cowlitz County.

Objectives:

1. *To retain existing public access and develop additional access where such will not endanger life or property nor interfere with the rights inherent with private property.*
Existing public access will be expanded and public safety will be improved by the proposed ADA-compliant gangways and new visitors' dock. There is no private property in the vicinity.

2. *Such access should not have an adverse effect on unique or fragile natural features, nor alter ecological systems of the area.*
Expanded public access will not have impacts on terrestrial or aquatic environment. This project is consistent with this objective by avoiding and minimizing unavoidable impacts to aquatic and terrestrial habitats. Engineers have designed the project to have no significant effect on river hydraulics or the shoreline. No degradation of the bank or shoreline areas will occur. Beneficial effect of this project is to replace solid decking on 8,025 square feet of existing floats with grated decking, installing fully grated gangways, and installing the new visitors' dock with grating to reduce in-water shading that could benefit fish that prey on juvenile salmon and steelhead. In addition, the proposed fuel

dock will have a spill-containment system that the existing dock does not have. Existing floats and gangways have reached the end of their usefulness and have become worn or rotted, so this project preserves existing scenic and aesthetic qualities of the shoreline and vistas.

3. *Future roads, when built paralleling shorelines, shall provide multiple-point access to the shoreline wherever possible to ease concentration.*
   No roads are proposed for this project, so this objective does not apply.

Other General Shoreline Uses

Goal*: Development within the shorelines of Cowlitz County must be for the betterment of the lifestyle of the citizens of Cowlitz County, and so located as to prevent ecological debilitation from occurring.*

Policies 1, 2, 3, 5, and 6 are not proposed by this project and will not be addressed in this narrative: dredging, landfill, shoreline protection works, restoration, and solid waste disposal.

4. Piers

a) The use of floating docks should be encouraged in those areas where scenic values are high and where conflicts with recreational boaters and fishermen will not be created.
The proposed structures will be very similar to existing structures, and the new visitors' float will be similar to existing structures. There will be no conflicts with recreational boaters and fishermen.

b) Open-pile piers should be encouraged where shore trolling is important, where there is significant littoral drift, and where scenic values will not be impaired.
The marina is physically separated from areas of shore trolling, significant littoral drift, and the scenic values of the river.

c) Priority should be given to the use of community piers and docks in all new major waterfront developments. In general, encouragement should be given to the cooperative use of piers and docks.
Marinas are community facilities, so this project is consistent with this policy.

d) In providing for boat docking facilities in the master program, local governments should consider the capacity of the shoreline sites to absorb the impact of waste disharges from boats, including gas and oil spillage.
The project proposes relatively minor increases in short-term use by expanding the visitors' moorage and does not increase permanent moorage or add an additional boat ramp; therefore, waste discharges are not expected to increase significantly. The proposed fuel dock will have a spill containment system that the current fuel dock does not have, which will reduce the potential for gas and oil spillage.

e) The risk and potential damage of contaminants must be determined for piers, and the ability of the shoreline area to recover from such spills must be known. Where appropriate, contamination prevention and abatement measures will be required as part of any proposal to erect a pier.

The proposed fuel dock will have a spill containment system that the current fuel dock does not have, which will reduce gas and oil spillage above the level that currently exists.

APPLICABLE SMMP USE ACTIVITY REGULATIONS

The following use activity regulations are applicable to the proposed project: Construction and Operations Regulations, Marinas, Ports and Water-Related Industries, Recreation, and Utilities).

Construction and Operations Regulations

The following regulations cover the construction practices that must be observed for substantial developments.

1) *No construction equipment shall enter any shoreline body of water, except as authorized under the terms of a substantial development permit.*
   Portions of the project require a work barge and boats to deliver floating docks; however, land-based construction equipment will enter the water.

2) *Vegetation along the water shall be left in its natural condition unless the substantial development permit allows otherwise.*
   There is little or no existing native vegetation beneath the area proposed for the gangways.

3) *During construction, care will be taken to assure that waste material and foreign matter are not allowed to enter the water.*
   This regulation will be followed.

4) *All fuel and chemicals shall be kept, stored, handled, and used in a fashion which assures that there will be no opportunity for entry of such fuel and chemicals into the water.*
   This regulation will be followed.

5) *Protection from siltation and erosion shall be provided for on all earthworks projects.*
   This project does not propose earthworks.

6) *Land being prepared for development shall have an adequate drainage system to prevent runoff from entering waterbodies.*
   There is no proposed upland development.

7) *Side casting of excess road-building material into streams will not be permitted.*
   This project does not propose road building.

8) *All construction debris such as fuel and oil containers and barrels and other miscellaneous litter shall be removed from the shoreline area. No equipment shall be abandoned within the shoreline area.*
   This regulation will be followed.

9) *State and federal water quality standards for both interstate and intrastate waters already are established. These shorelines regulations need only allude to these and other regulations*

already in effect. Any activities within the shorelines must, as a minimum, meet all these other regulations.
All terms and conditions of every state, local, and federal permit will be followed to protect water quality.

Marinas

The following regulations are listed for the Urban District.

1) *Regulations under rural district Nos. 2 and 3 shall apply*.

Rural District No.2:
Any person proposing to undertake a marina development, construction, expansion, and/or alteration, or any phase thereof which constitutes a complete project, shall apply for a permit.
This is an application for a shorelines permit.

Rural District No.3:
A permit for marina development, construction, expansion, and/or alteration, or any phase thereof which constitutes a complete project, may be granted subject to the following regulations: (Regulations b, c, and e do not apply)

a) *The latest revision "Criteria Governing the Design of …Marinas…for Protection of Fish and Shellfish Resources" adopted by the Washington State Department of Fisheries in 1971, which criteria are incorporated herein by reference, and are to be adjusted to local tidal levels.*
This project does not expand the marina area, so this regulation does not apply.

d) *Development of marinas shall comply with state and local health agencies regulations.*
There are no known health department concerns. The Port does not allow moored boats to be lived in (live-aboards).

f) *Special attention shall be given to the design development of operational procedures for fuel handling and storage in order to minimize accidental spillage and provide satisfactory means for handling those spills that do occur.*
This project is consistent with this regulation by avoiding and minimizing unavoidable impacts to aquatic habitat. The proposed fuel system, including tanks, fuel lines, and fuel dispensers will have leak detection capabilities. The marina meets Ecology's spill response requirements.

Ports and Water-Related Industries

The following regulations are listed for the Urban District.

1) *Port facilities and water-related industries shall be permitted on urban shorelines.*
This project occurs within the Urban District.

2) *Any person proposing a development, expansion, or alteration, or any phase thereof which constitutes a complete project, of a port facility or water-related industry, shall apply for a permit.*
The applicant is applying a shoreline permit.

3) *A permit for a port facility or water-related industry, or any expansion or alteration thereof which constitutes a complete project, may be granted a permit subject to compliance with local ordinances and the following regulations:*

   a) *Demonstration of compliance with the regulations specified on any federal and state permits required for such facilities and operations, by presentation of an application for each permit or other means satisfactory to the administrator.*
   Copies of applications for other permits will be provided as part of the application package.

   b) *Compliance with other applicable use regulations in this program is required.*
   The project will comply with all applicable use regulations.

Use Regulations 4 and 5 do not apply to this project because the project does not propose log storage.

Utilities

The following regulations are listed for the Urban District.

1) *Regulations Nos. 2 and 3 under the conservancy district shall apply to urban shorelines.*

   Conservancy District Regulation 2: Any person proposing to install or construct a utility system shall apply for a permit.
   A utility system already exists; the project proposes to obtain a permit to upgrade the electrical service to meet current electrical codes and to meet user demand.

   Conservancy District Regulation 3: A permit shall be granted subject to the following regulations:

   a) *All such utility systems shall be underground unless such undergrounding would not be feasible.*
   The above-water service currently exists and will be upgraded. Underground utilities are not feasible for a marina.

   b) *Where such utility systems occupy shoreline areas, clearing necessary for installation or maintenance shall be kept to the minimum width necessary to prevent interference by trees and other vegetation with the proposed transmission facilities.*
   There are no proposed changes to the current utility corridor.

c) *Upon completion of installation of such utility systems or of any maintenance project which disrupts the environment, the disturbed area shall be regraded to compatibility with the natural terrain and replanted to prevent erosion and provide an attractive, harmonious vegetation cover.*
The proposed maintenance and upgrade will not disrupt the environment.

2) *Utility hookup linkages to shoreline-use activities shall be underground where feasible.*
There are no proposed changes to the current utility corridor; underground utilities are not feasible for a marina.

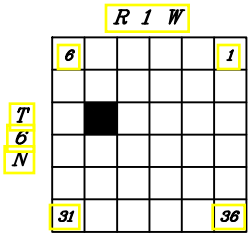
46.0077° Latitude
-122.8479° Longitude

LOCATION MAP

WATER LEVEL INFORMATION	
MHHW	+4.0'
OHW	+3.5'
MHW	+3.5'
MLW	+0.3'
MLLW	+0.0'

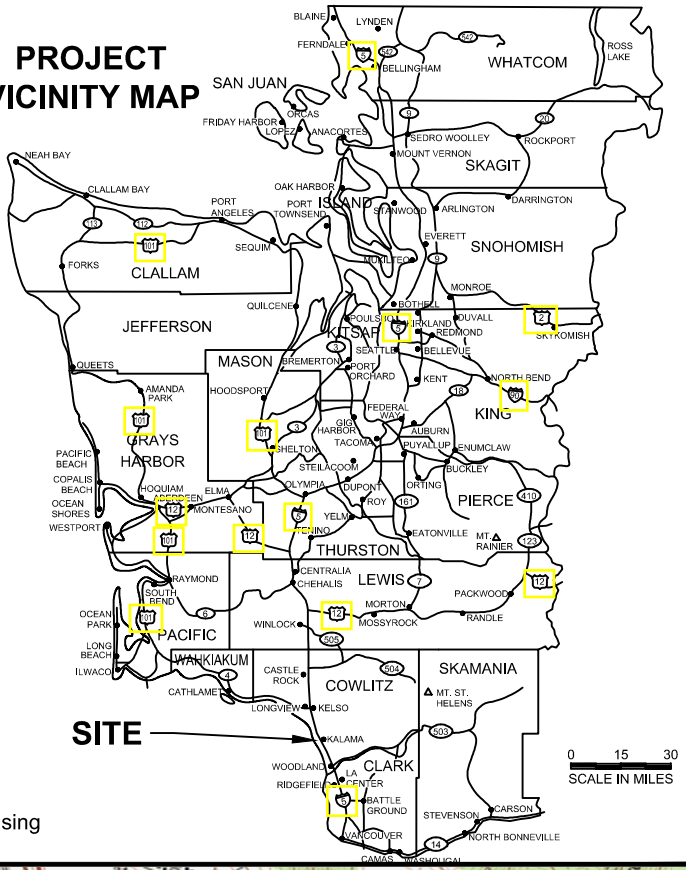
LAT: 46° 00' 26.90"N

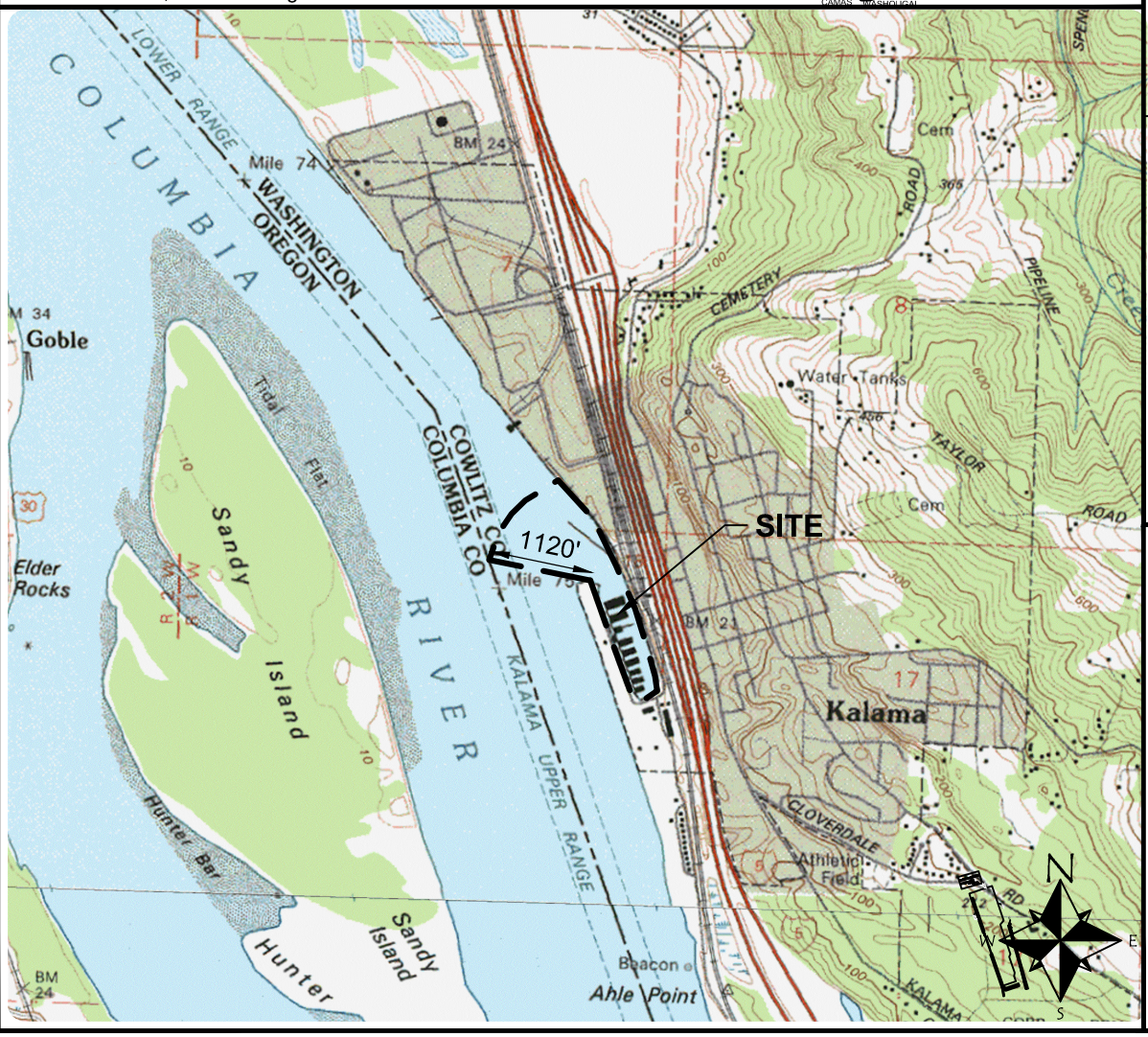
LONG: 122° 50' 52.58"W



NOTE:
USGS topographic quadrangle map reproduced using MAPTECH Inc., Terrain Navigator Pro software.

PROJECT VICINITY MAP





PROPOSED: Overwater Area Increase
IN Comlumbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 1 **OF** 17
DATE: 8/23/16

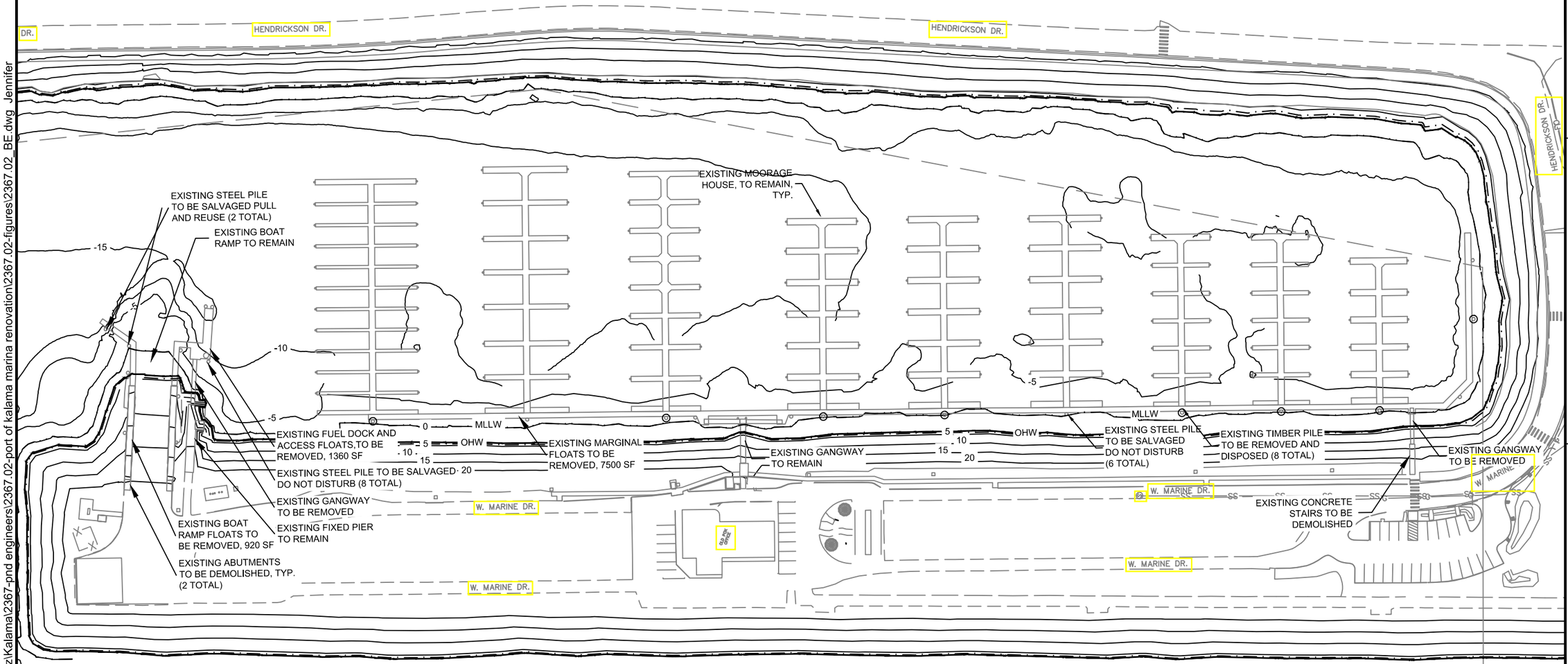
Vicinity Map & Action Area
APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS:
110 West Marine Drive
Kalama, WA 98625

PURPOSE:
Marina Restoration

DATUM: NGVD29
ADJACENT PROPERTY OWNERS:

SCALE IN FEET
0 2000 4000

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Ecological Land Services



LEGEND

◎	TIMBER PILE
○	STEEL PILE

NOTE(S):

1. Base map from PND Engineers, Inc.

Existing Conditions & Demolition Plan

APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS: 110 West Marine Drive Kalama, WA 98625

PURPOSE: Marina Restoration

DATUM: NAVD 29-47
ADJACENT PROPERTY OWNERS:

PROPOSED: Overwater Area Increase

IN Columbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 2 **OF** 17
DATE: 8/23/16

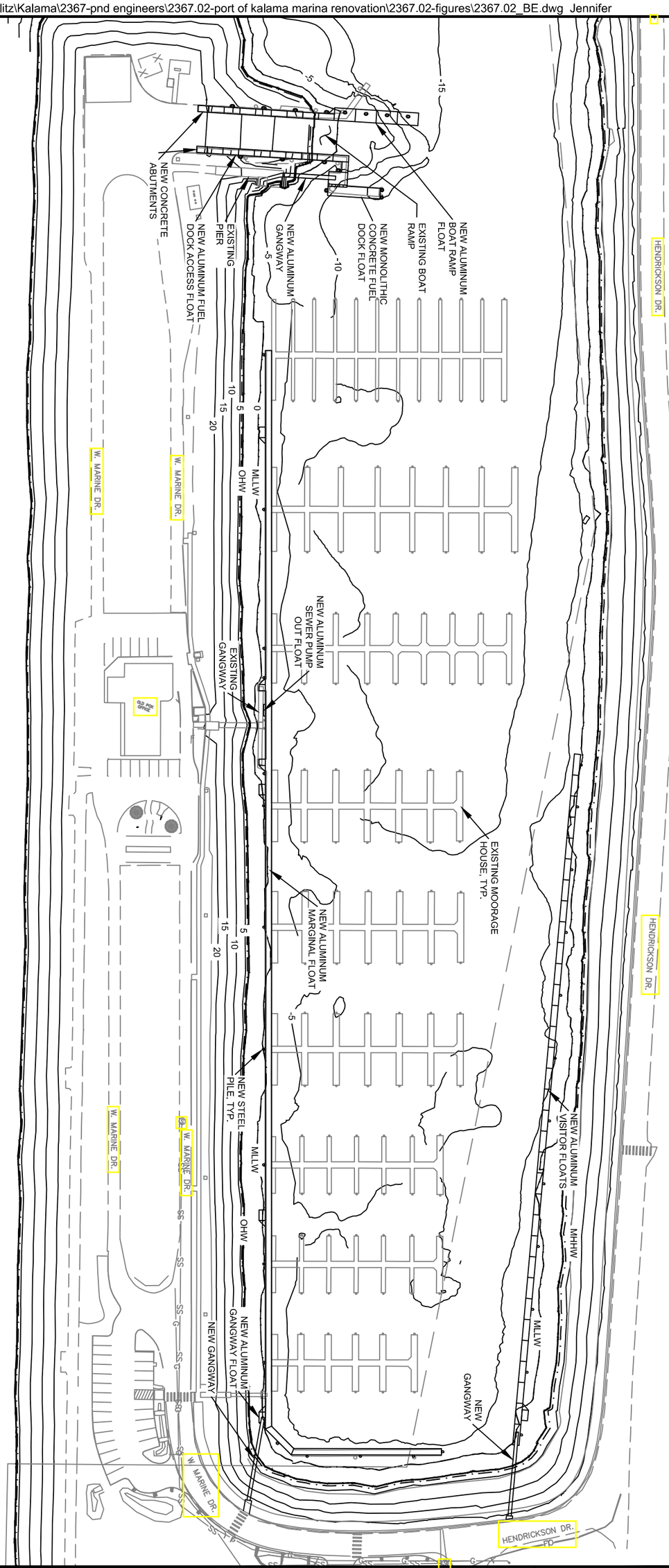
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

SCALE IN FEET
0
100
200

Ecological Land Services

NOTE(S):

1. Base map from PND Engineers, Inc.



N
W
E
S

0 100 200

SCALE IN FEET

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

PURPOSE: Marina Restoration

DATUM: NAVD 29-47

ADJACENT PROPERTY OWNERS:

Overall Site Plan

APPLICANT: PND Engineers

PROJECT NAME: Port of Kalama Marina Renovation

REFERENCE #:

SITE LOCATION ADDRESS: 110 West Marine Drive, Kalama, WA 98625

PROPOSED: Overwater Area Increase

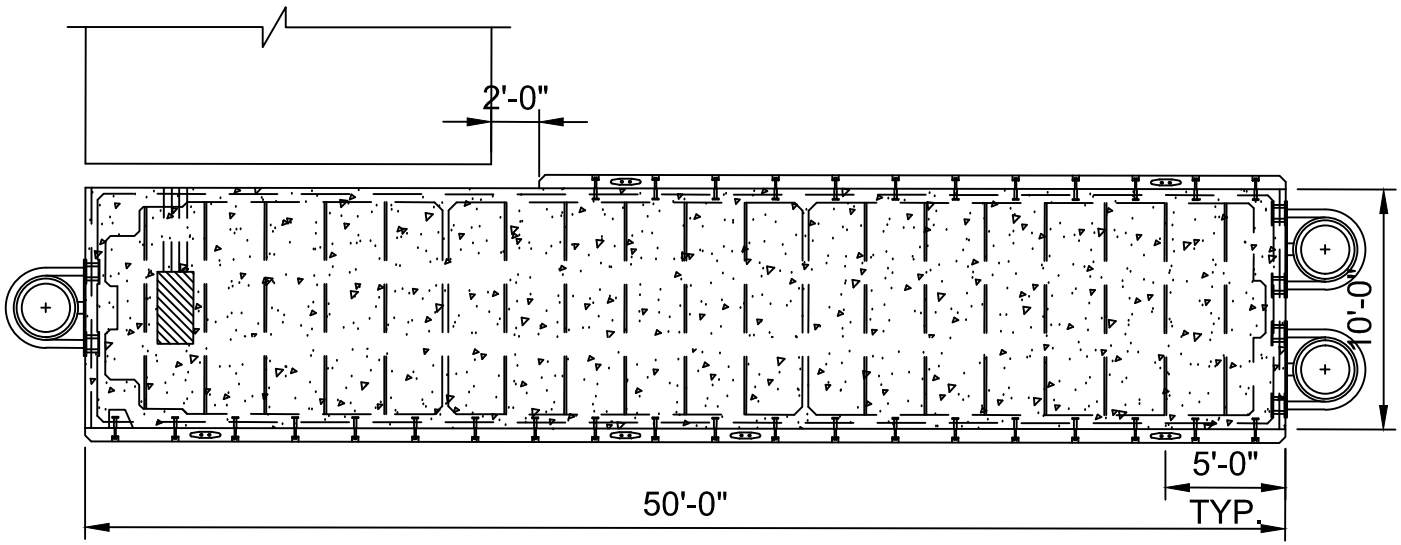
IN Comlumbia River

NEAR:

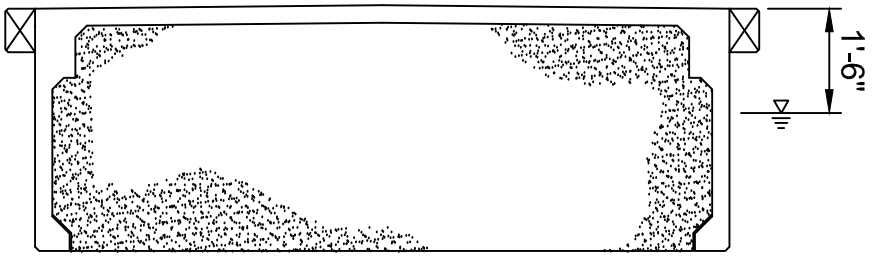
COUNTY: Cowlitz **STATE:** WA

SHEET 3 **OF** 17

DATE: 8/23/16



FLOAT PLAN



FLOAT SECTION

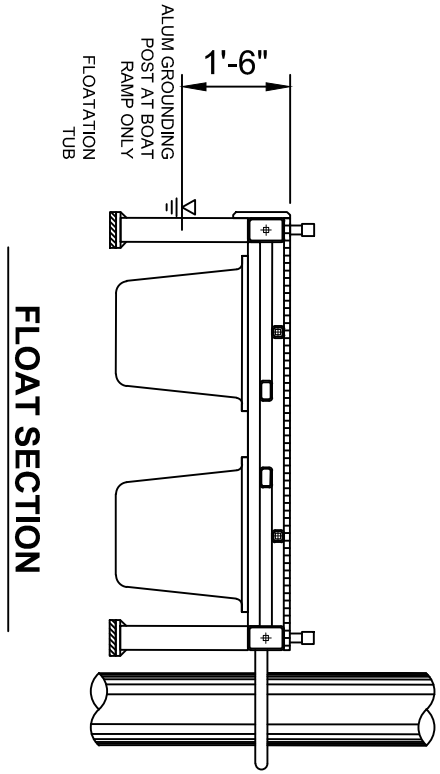
NOT TO SCALE

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

PURPOSE: Marina Restoration	Proposed Monolithic Concrete Float Detail	**PROPOSED:** Overwater Area Increase
	APPLICANT: PND Engineers	
	PROJECT NAME: Port of Kalama Marina Renovation	**IN** Comlumbia River
DATUM: N/A	**REFERENCE #:**	**NEAR:**
ADJACENT PROPERTY OWNERS:	**SITE LOCATION ADDRESS:** 110 West Marine Drive Kalama, WA 98625	**COUNTY:** Cowlitz **STATE:** WA
		SHEET 4 **OF** 17
		DATE: 8/23/16

NOTE(S):

1. Base map from PND Engineers, Inc.



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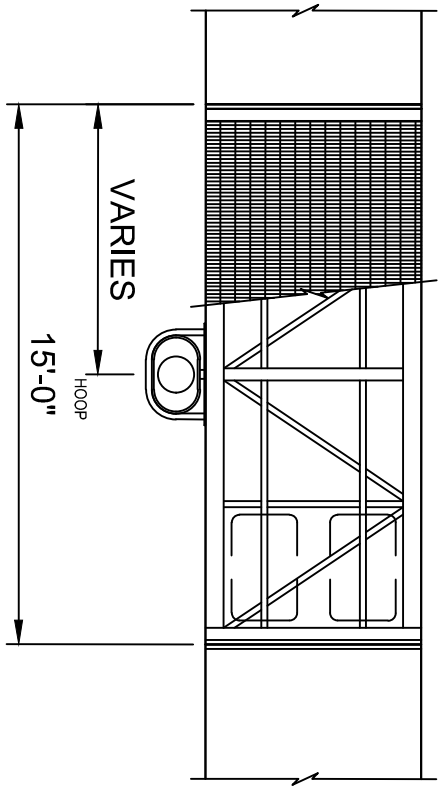
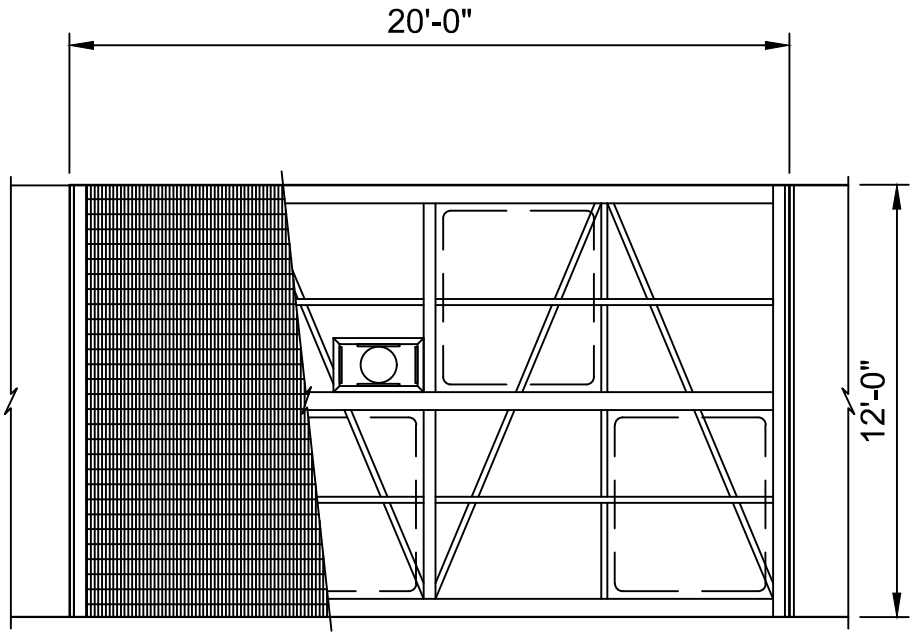
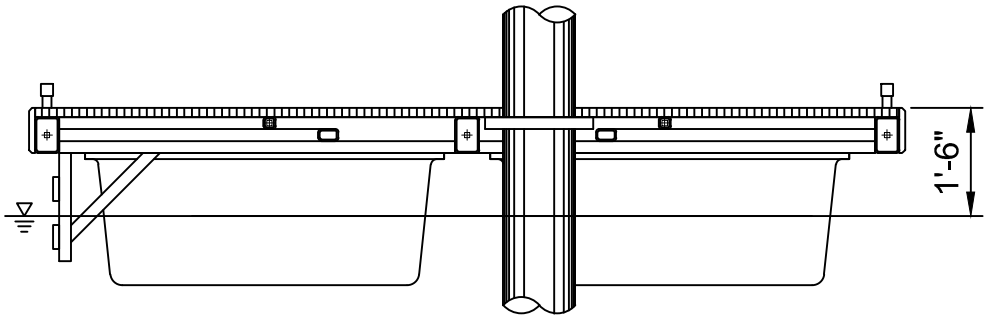


FLOAT PLAN

NOT TO SCALE Ecological Land Services 1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371	**PURPOSE:** Marina Restoration **DATUM:** N/A **ADJACENT PROPERTY OWNERS:**	Aluminum Float With External Pile Hoop **APPLICANT:** PND Engineers **PROJECT NAME:** Port of Kalama Marina Renovation **REFERENCE #:** **SITE LOCATION ADDRESS:** 110 West Marine Drive Kalama, WA 98625	**PROPOSED:** Overwater Area Increase **IN** Comlumbia River **NEAR:** **COUNTY:** Cowlitz **STATE:** WA **SHEET** 5 **OF** 17 **DATE:** 8/23/16



FLOAT PLAN



FLOAT SECTION

NOTE(S):

1. Base map from PND Engineers, Inc.

NOT TO SCALE	**PURPOSE:** Marina Restoration **DATUM:** N/A **ADJACENT PROPERTY OWNERS:**	Aluminum Float With Internal Pile Hoop **APPLICANT:** PND Engineers **PROJECT NAME:** Port of Kalama Marina Renovation **REFERENCE #:** **SITE LOCATION ADDRESS:** 110 West Marine Drive Kalama, WA 98625	**PROPOSED:** Overwater Area Increase **IN** Comlumbia River **NEAR:** **COUNTY:** Cowlitz **STATE:** WA **SHEET** 6 **OF** 17 **DATE:** 8/23/16

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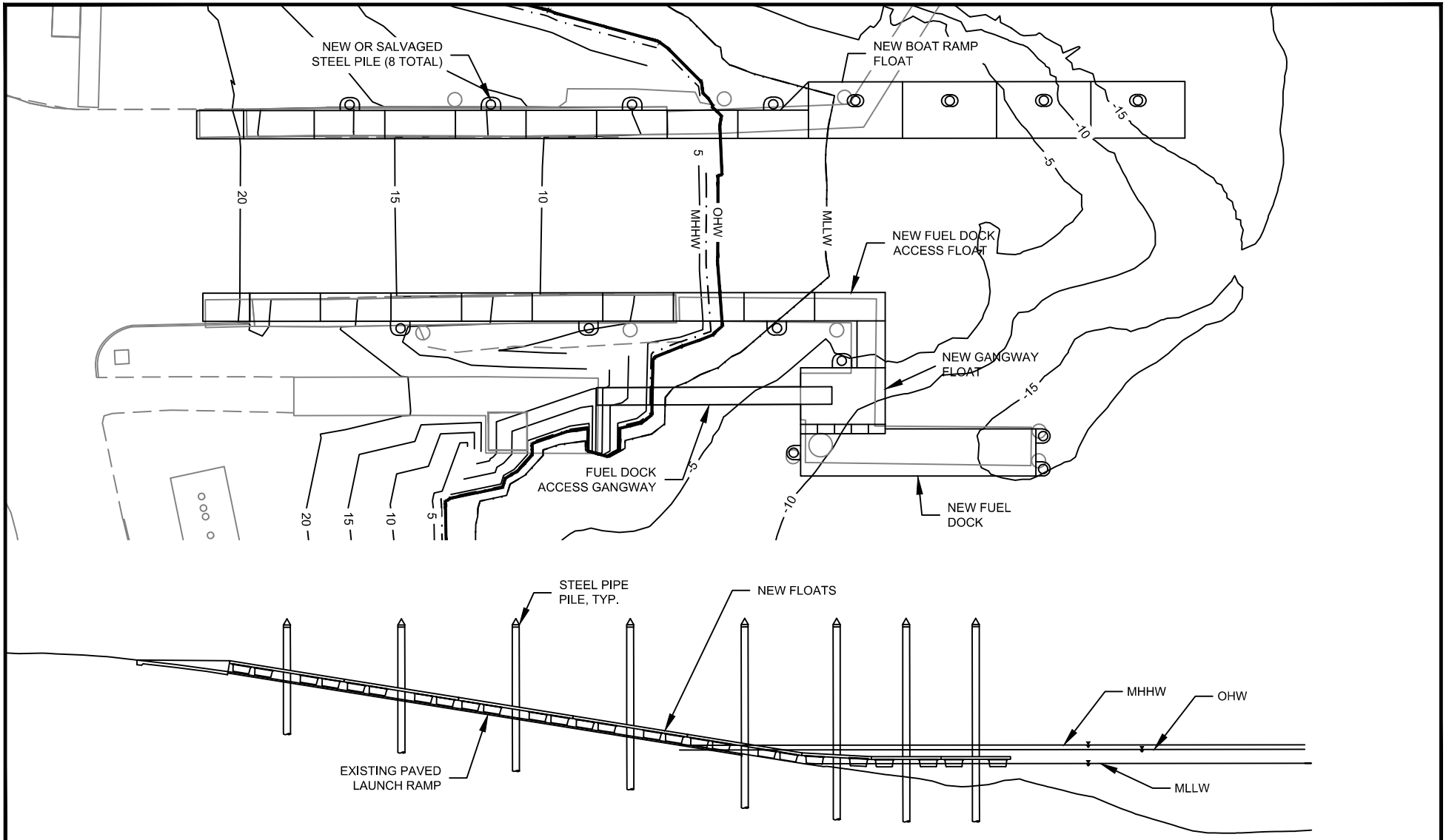
Longview, WA 98632
Phone: (360) 578-1371



NOT TO SCALE

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

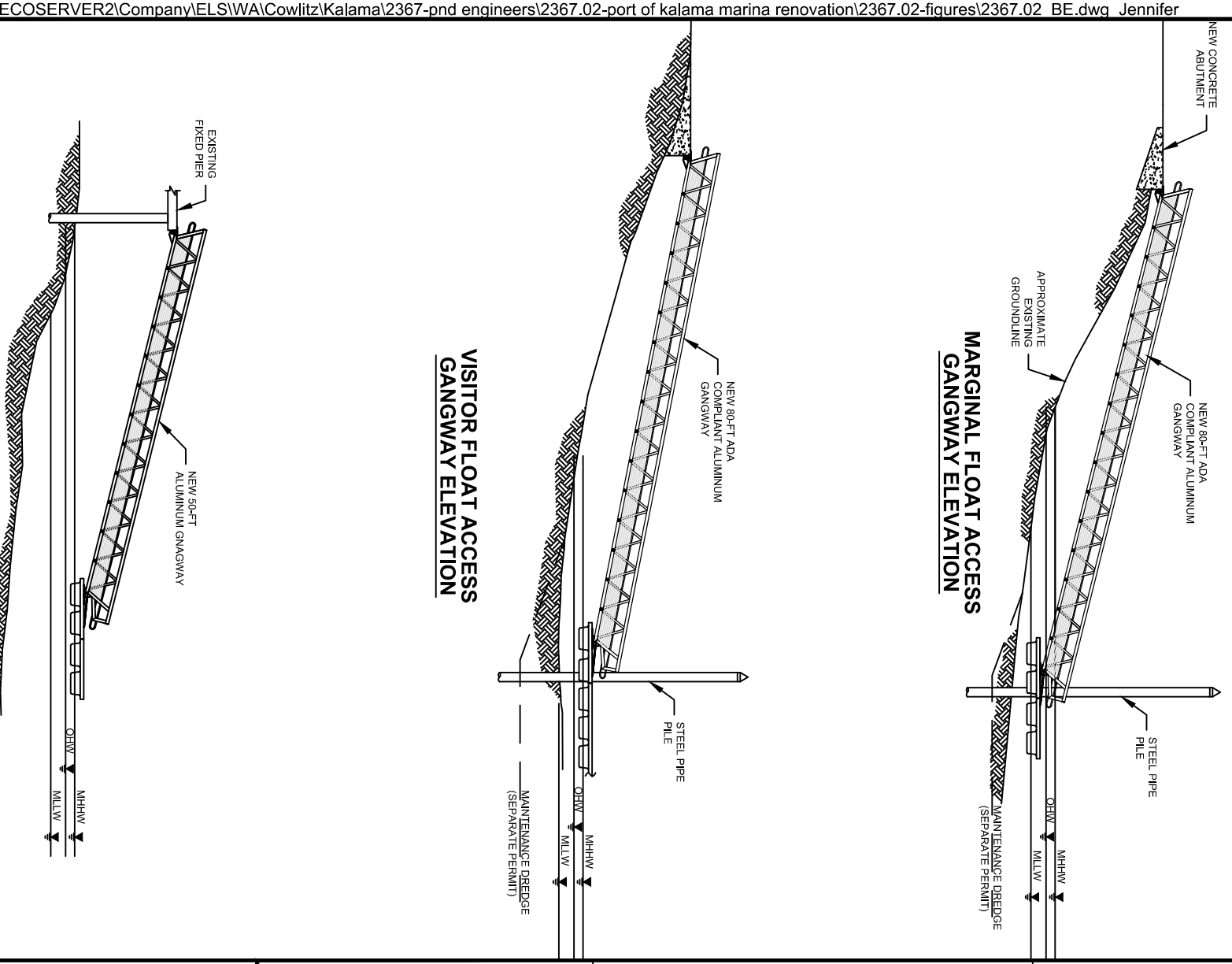
PURPOSE:
Marina Restoration

DATUM: NAVD 29-47
ADJACENT PROPERTY OWNERS:

Boat Ramp Float Plan & Elevation
APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS:
110 West Marine Drive
Kalama, WA 98625

PROPOSED: Overwater Area Increase

IN Comlumbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 7 **OF** 17
DATE: 8/23/16



NOTE(S):

1. Base map from PND Engineers, Inc.

NOT TO SCALE

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

PURPOSE:
Marina Restoration

DATUM: N/A
ADJACENT PROPERTY OWNERS:

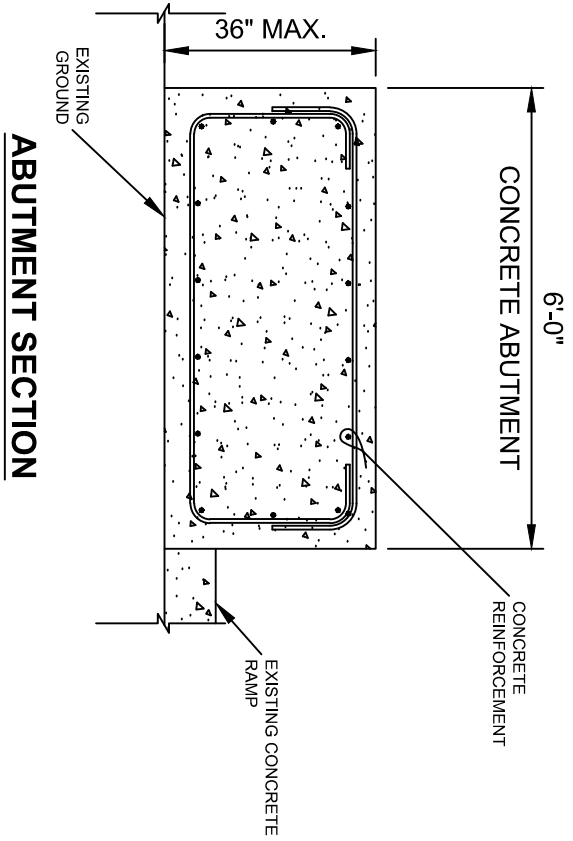
Proposed Gangway Elevations
APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS:
110 West Marine Drive
Kalama, WA 98625

PROPOSED: Overwater Area Increase

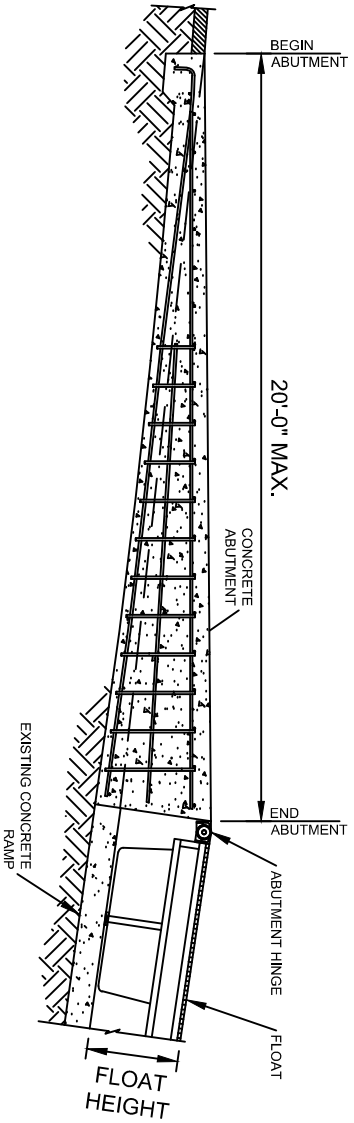
IN Comlumbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 8 **OF** 17
DATE: 8/23/16

NOTE(S):

1. Base map from PND Engineers, Inc.

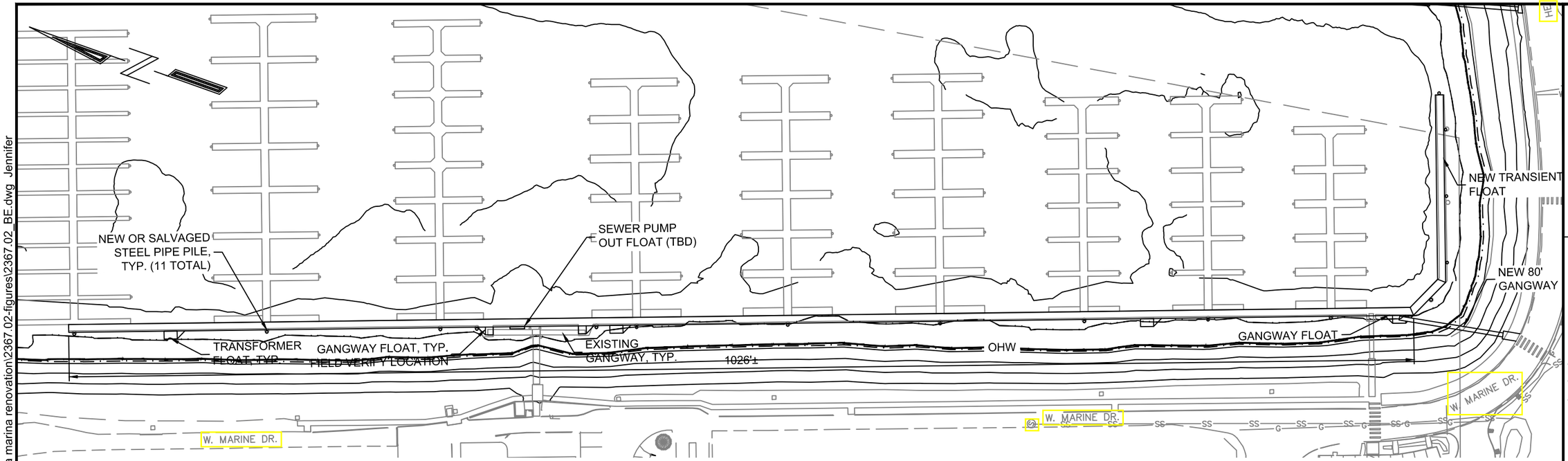


ABUTMENT SECTION



ABUTMENT PROFILE

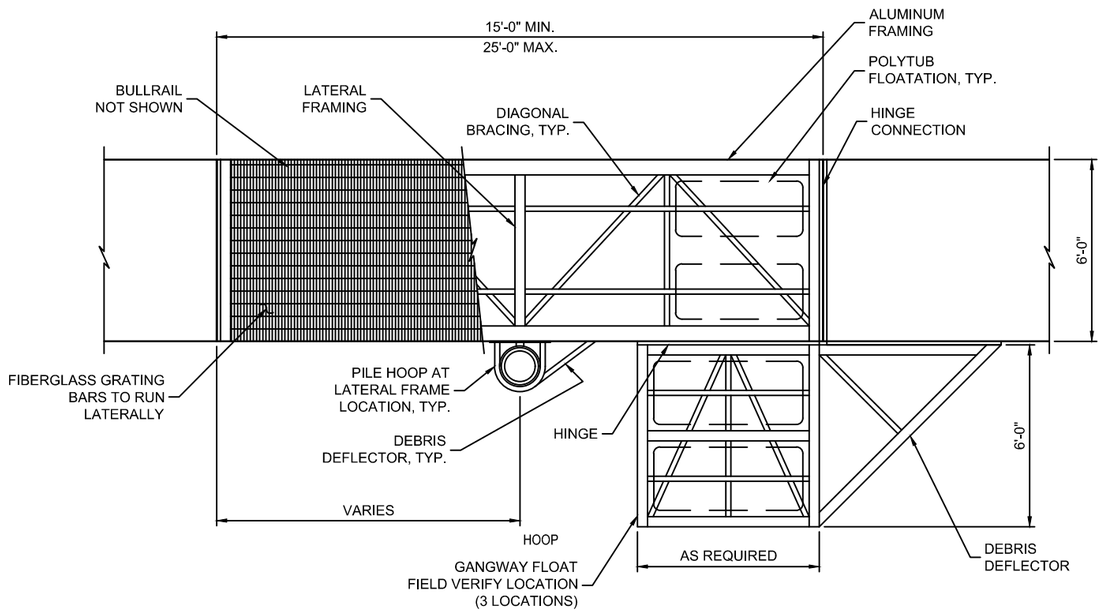
Ecological Land Services 1157 3rd Ave., Suite 220A Longview, WA 98632 Phone: (360) 578-1371 NOT TO SCALE	**PURPOSE:** Marina Restoration **DATUM:** N/A **ADJACENT PROPERTY OWNERS:**	Typical Float Abutment Profile & Section **APPLICANT:** PND Engineers **PROJECT NAME:** Port of Kalama Marina Renovation **REFERENCE #:** **SITE LOCATION ADDRESS:** 110 West Marine Drive Kalama, WA 98625	**PROPOSED:** Overwater Area Increase **IN** Comlumbia River **NEAR:** **COUNTY:** Cowlitz **STATE:** WA **SHEET** 9 **OF** 17 **DATE:** 8/23/16



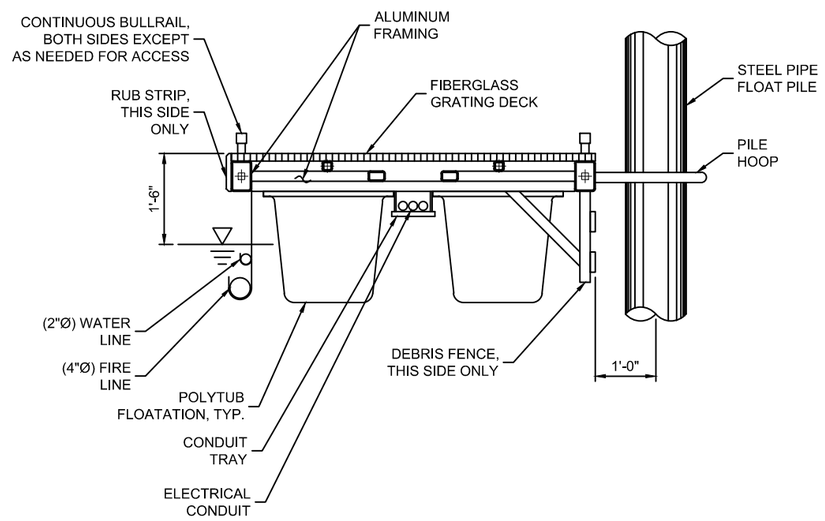
PLAN - 1"=80'

NOTE(S):

1. Base Plan from PND Engineers, INC.



FLOAT PLAN - 1"=60'



FLOAT SECTION - 1"=30'

PROPOSED: Overwater Area Increase

IN Columbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 10 **OF** 17
DATE: 8/23/16

Marginal Float

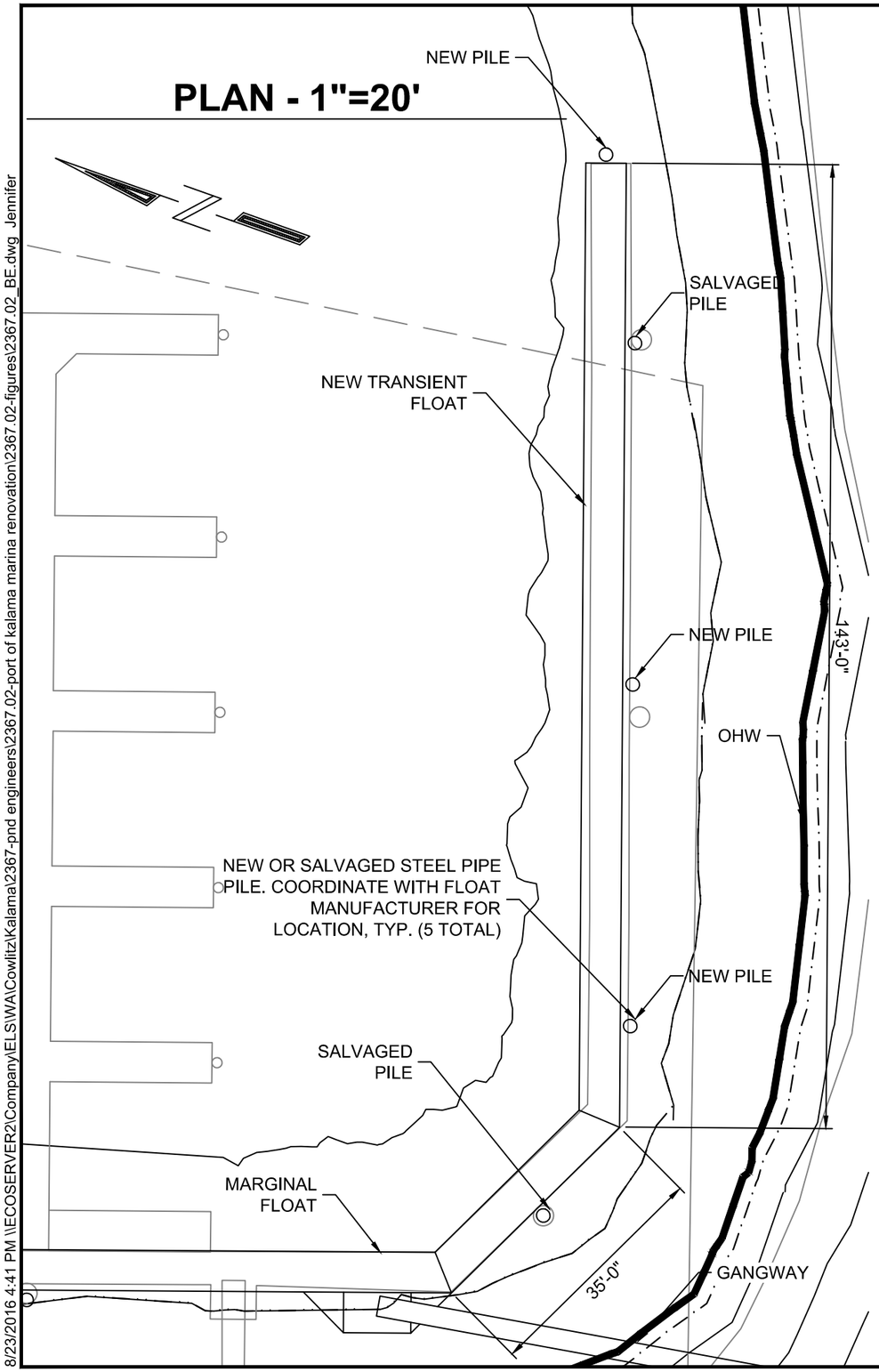
APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS:
110 West Marine Drive
Kalama, WA 98625

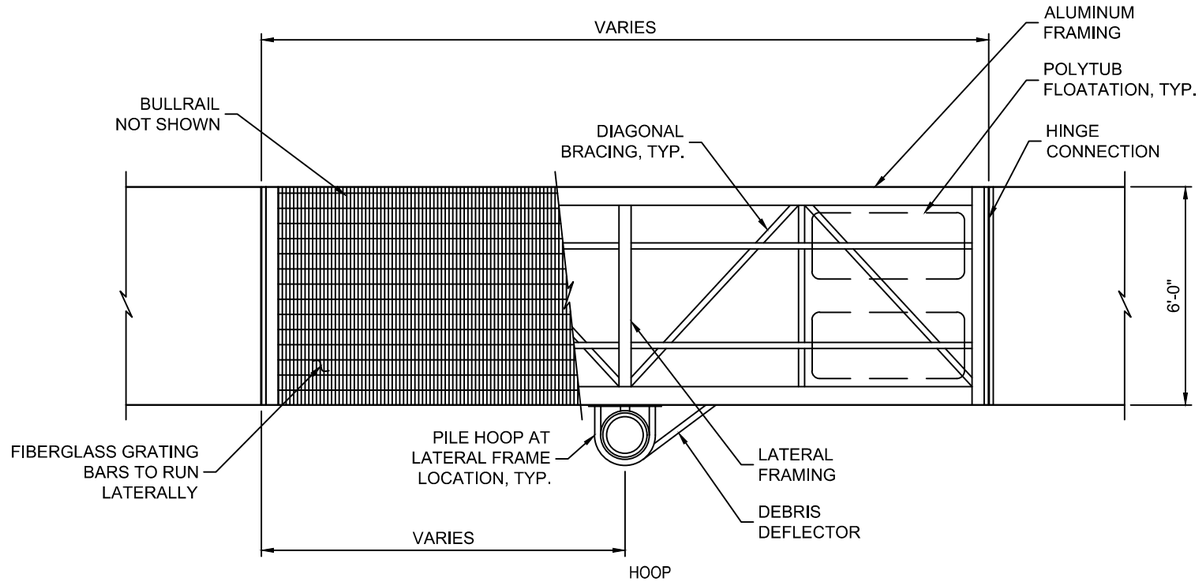
PURPOSE:
Marina Restoration

DATUM: NAVD 29-47
ADJACENT PROPERTY OWNERS:

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

Ecological Land Services

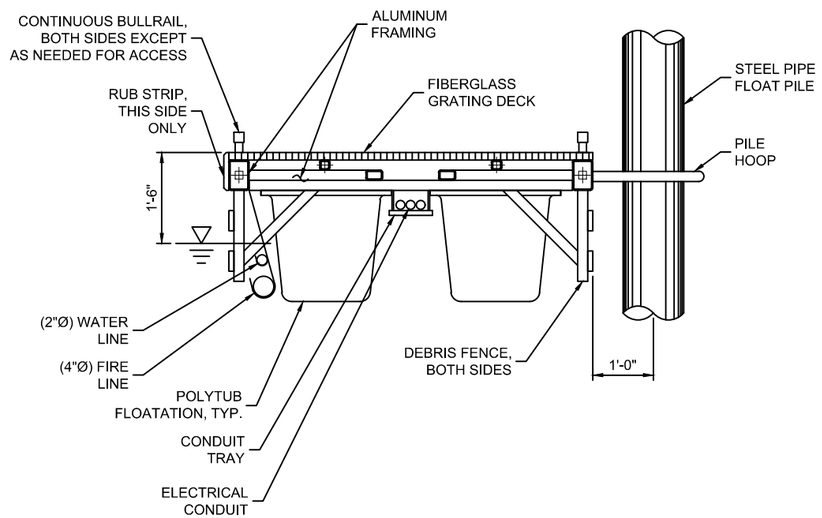




FLOAT PLAN - 1"=50'

NOTE(S):

1. Base Plan from PND Engineers, INC.



FLOAT SECTION - 1"=30'

PROPOSED: Overwater Area Increase

IN Columbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 11 **OF** 17
DATE: 8/23/16

Transient Moorage

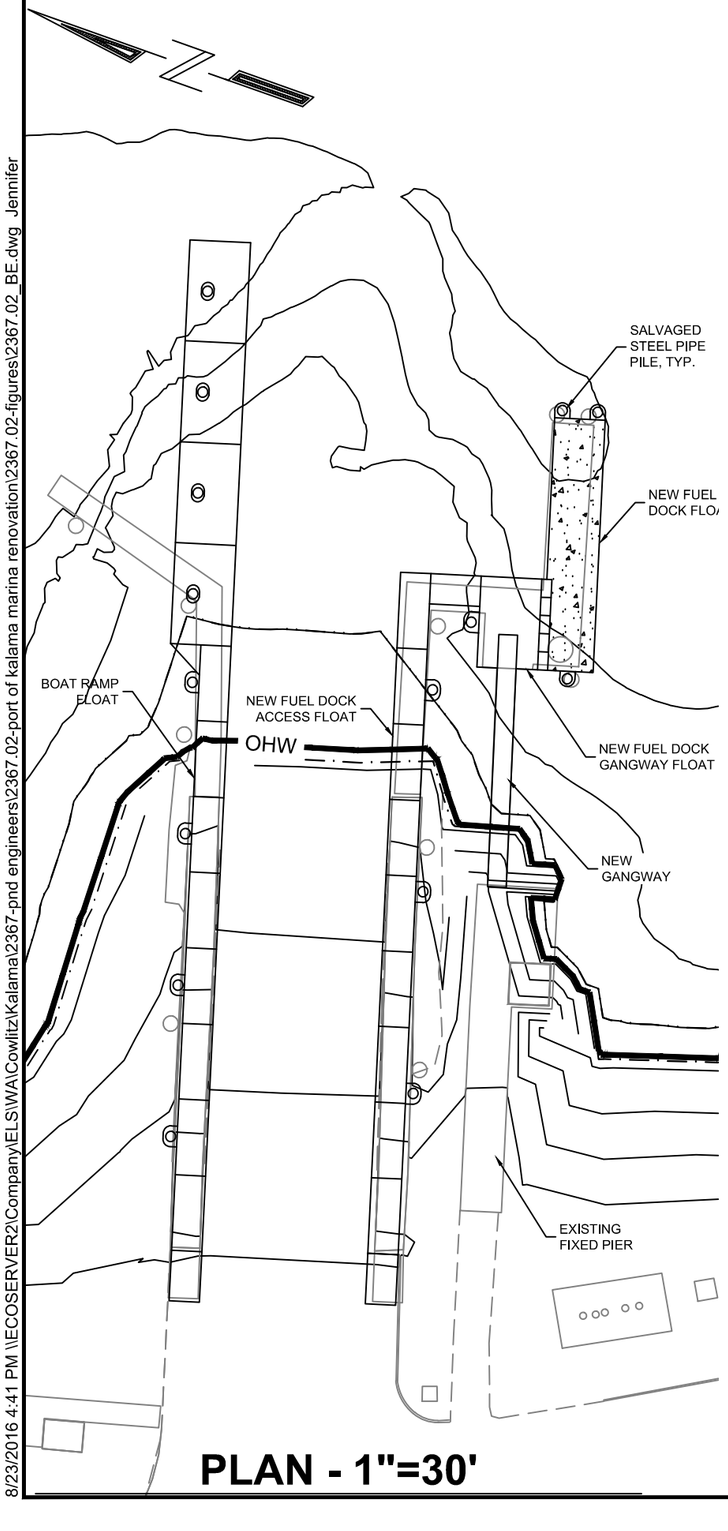
APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS: 110 West Marine Drive Kalama, WA 98625

PURPOSE: Marina Restoration

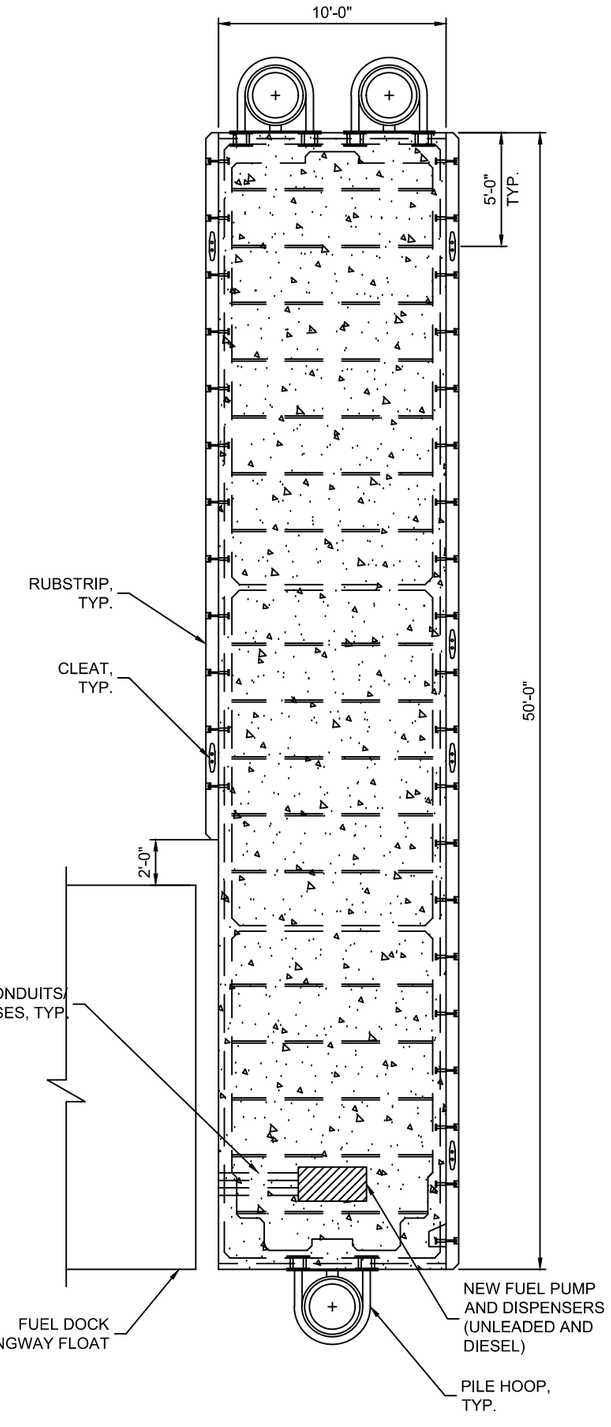
DATUM: NAVD 29-47
ADJACENT PROPERTY OWNERS:

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

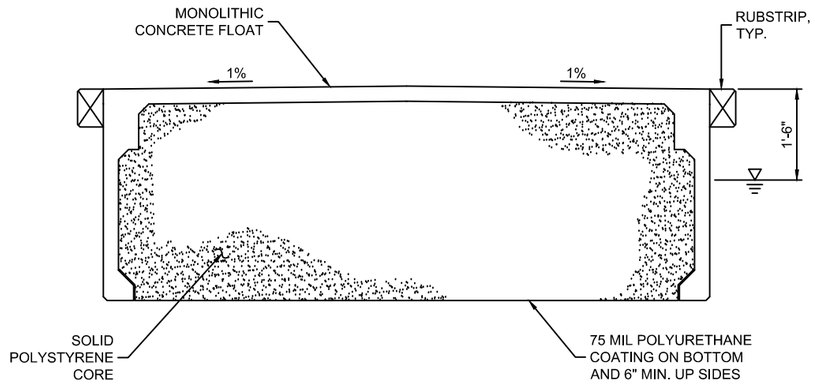
Ecological Land Services



PLAN - 1"=30'



FLOAT PLAN - 1"=80'



FLOAT SECTION - 1"=30'

NOTE(S):

1. Base Plan from PND Engineers, INC.

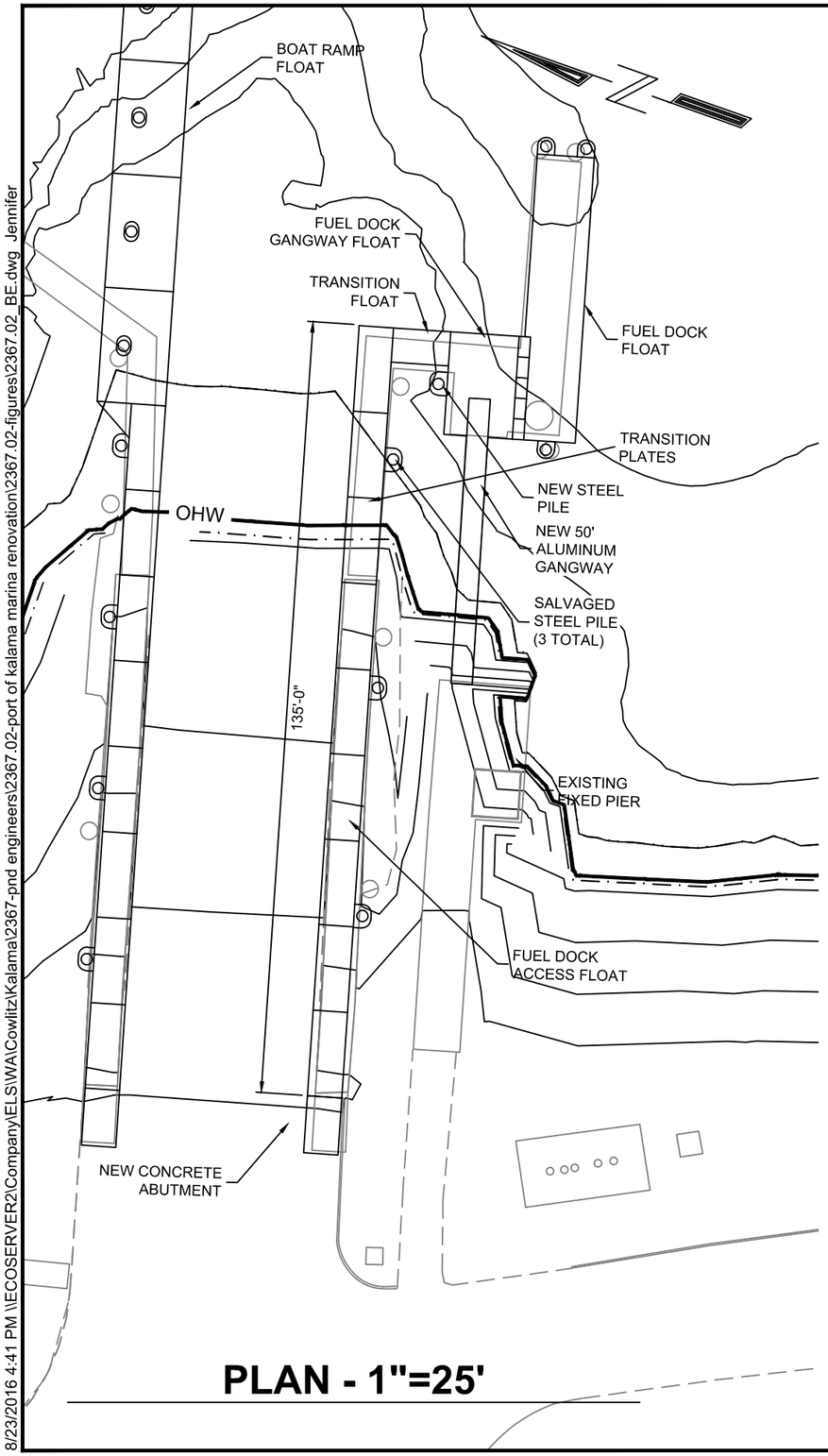
PROPOSED: Overwater Area Increase
IN Columbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 12 **OF** 17
DATE: 8/23/16

Fuel Dock Float
APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS: 110 West Marine Drive, Kalama, WA 98625

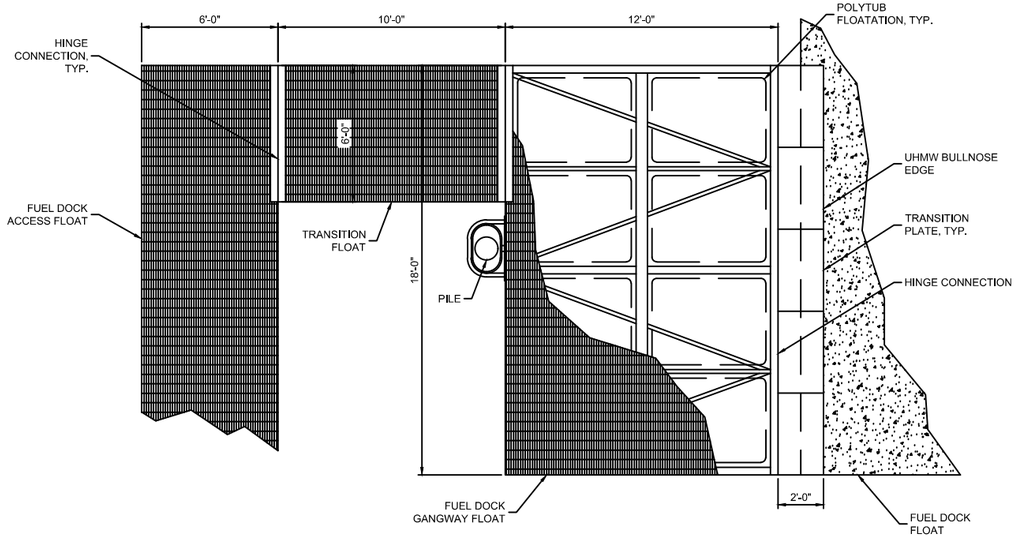
PURPOSE: Marina Restoration
DATUM: NAVD 29-47
ADJACENT PROPERTY OWNERS:

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

Ecological Land Services



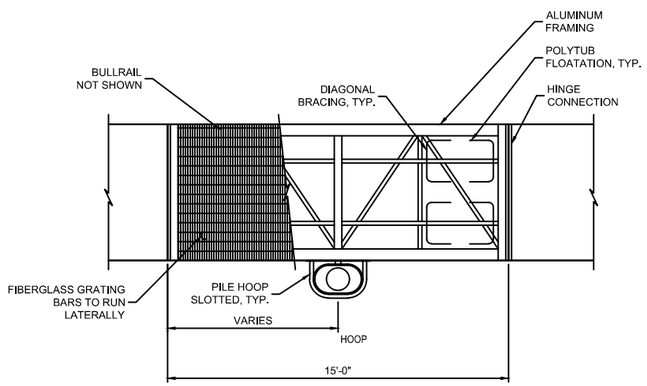
PLAN - 1"=25'



PLAN - 1"=80'

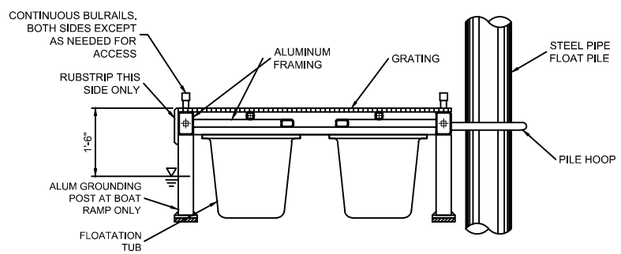
NOTE(S):

1. Base Plan from PND Engineers, INC.



FUEL DOCK ACCESS FLOAT PLAN - 1"=80'

TRANSITION FLOAT SIMILAR



FUEL DOCK ACCESS FLOAT SECTION - 1"=40'

TRANSITION FLOAT SIMILAR

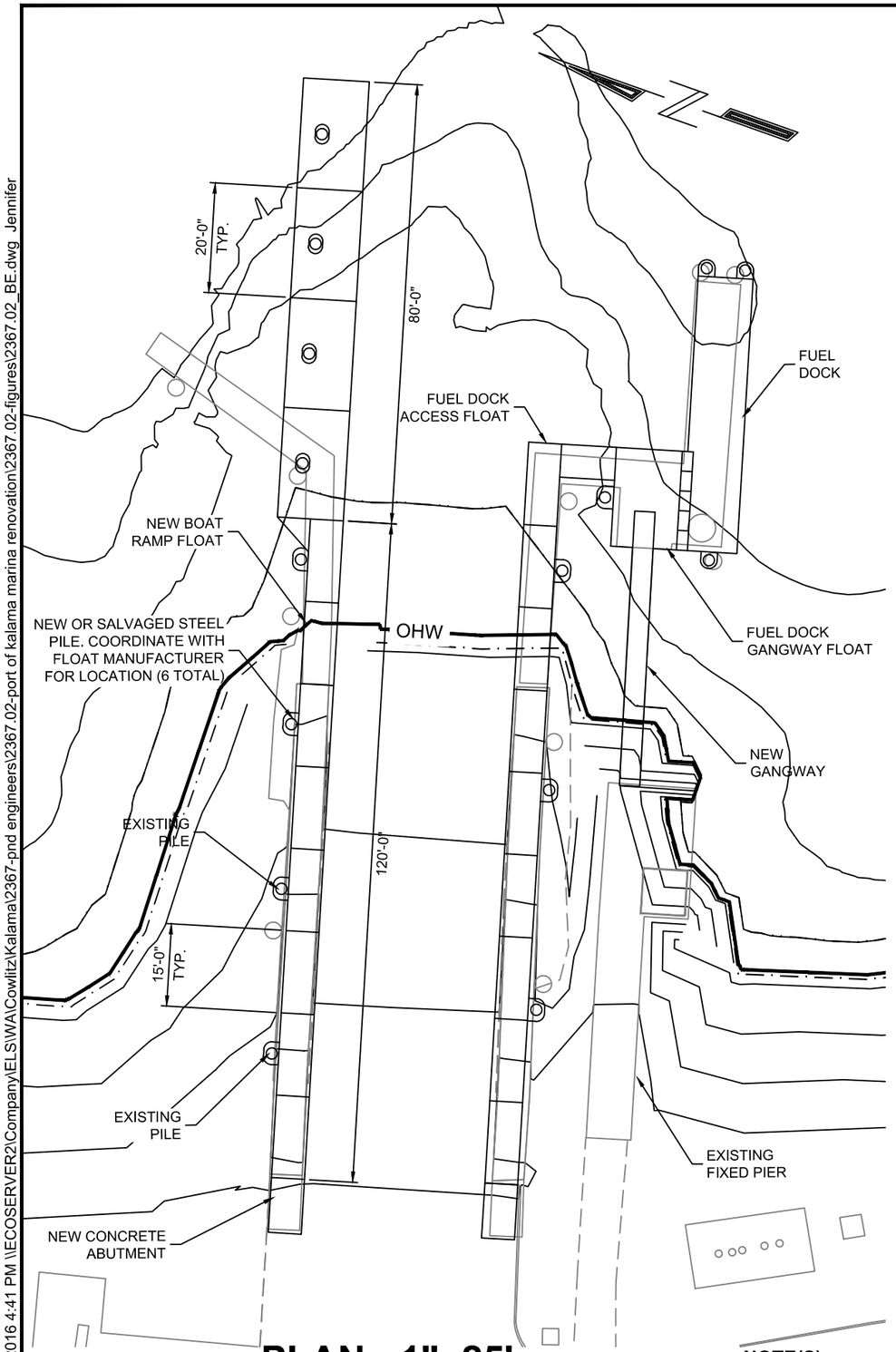
PROPOSED: Overwater Area Increase
IN Columbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 13 **OF** 17
DATE: 8/23/16

Fuel Dock Access Float and Gangway Float
APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS: 110 West Marine Drive Kalama, WA 98625

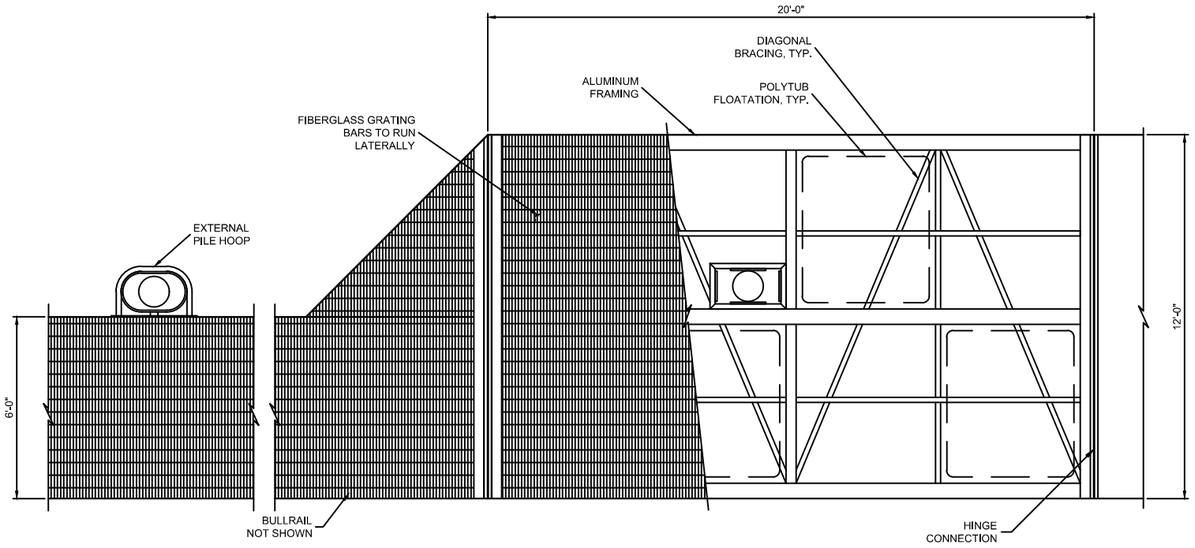
PURPOSE: Marina Restoration
DATUM: NAVD 29-47
ADJACENT PROPERTY OWNERS:

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

Ecological Land Services

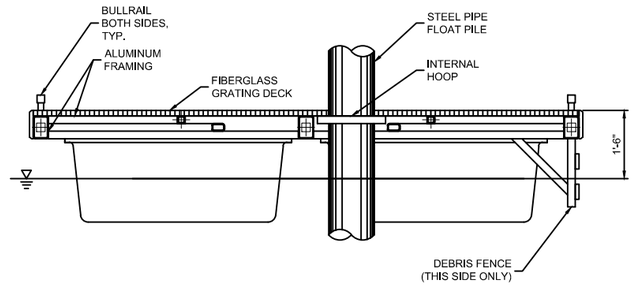


PLAN - 1"=25'

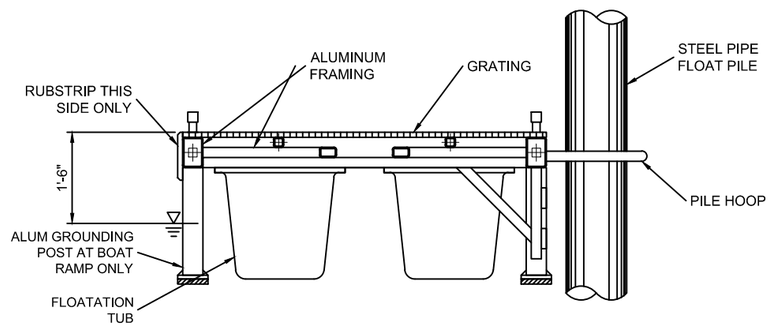


FLOAT PLAN - 1"=60'

END FLOAT SHOWN



6 FOOT WIDE FLOAT SECTION - 1"=40'



12 FOOT WIDE FLOAT SECTION - 1"=30'

NOTE(S):

1. Base Plan from PND Engineers, INC.

PROPOSED: Overwater Area Increase

IN Comlumbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 14 **OF** 17
DATE: 8/23/16

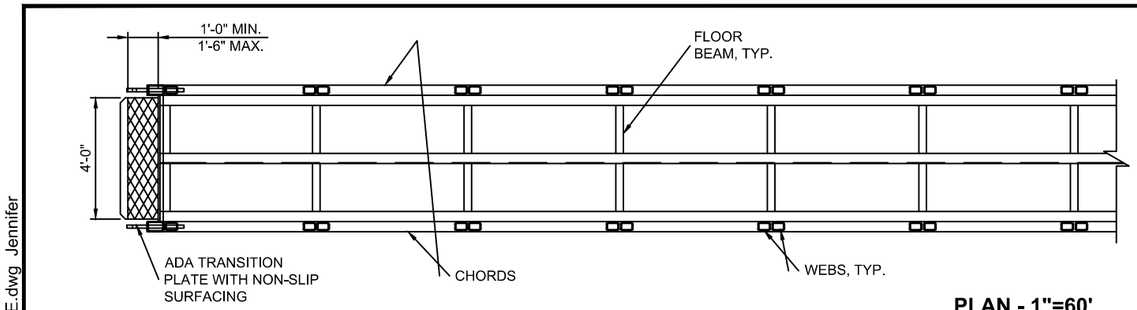
Boat Ramp Float

APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS: 110 West Marine Drive Kalama, WA 98625

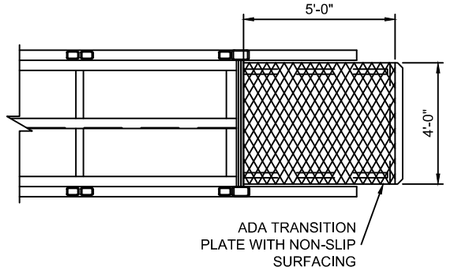
PURPOSE: Marina Restoration
DATUM: NAVD 29-47
ADJACENT PROPERTY OWNERS:

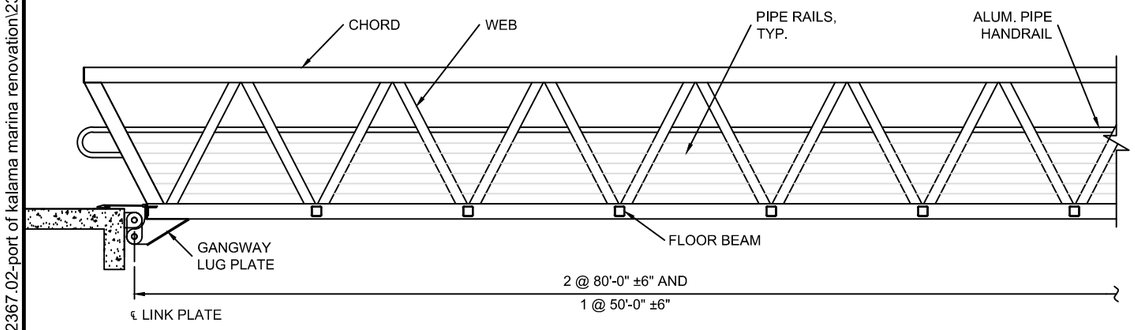
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

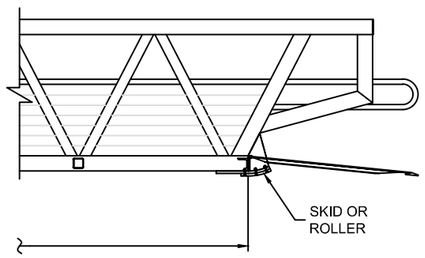
Ecological Land Services



PLAN - 1"=60'
(AT FLOOR FRAMING)

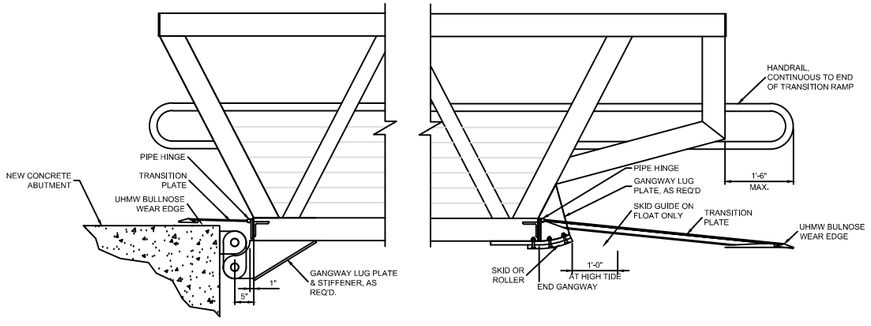






ELEVATION
ALUMINUM GANGWAY - 1"=60'

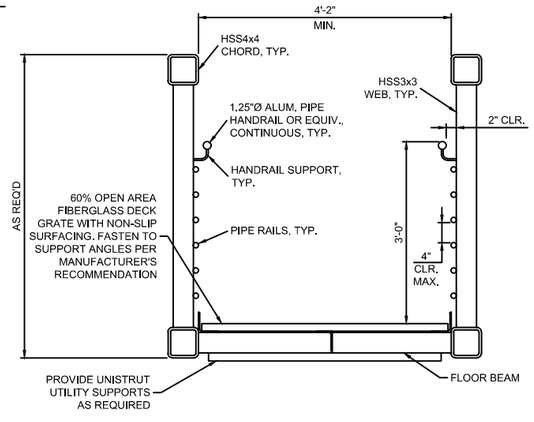
BOARDWALK END



BOARDWALK END - 1"=40'

FLOAT END - 1"=40'

FLOAT END



TYPICAL SECTION - 1"=30'

NOTE:
Base Plan from PND Engineers, INC.
WELD ALL JOINTS WITH MINIMUM 5/16" FILLET
WELD ALL AROUND OR EQUIVALENT BEVEL WELD.

GANGWAY PERFORMANCE CRITERIA
Gangway is design build by vendor to meet performance criteria requirements. Submit shop drawings and calculations for approval.

SUPPLIED DETAILS
Details shown are for reference only. Gangway manufacturer may submit different details for attaching gangway at hanger end, bearing end (skid shoe or roller), transition plates, etc. Submit alternative details with calculations for approval.

APPLICABLE CODES
All local codes plus the Applicable Codes and Standards.

DESIGN CRITERIA
Dead Loads - 80' Gangway (8,000 lb max. self weight)
50' Gangway (5,000 lb max. self weight)
Live Load - Uniform 100 psf
Wind Load - 85 mph

MATERIALS AND CONSTRUCTION

All material and construction shall conform to the following:

STRUCTURAL STEEL
ASTM A36 galvanized

ALUMINUM
Aluminum for gangway shall conform to 6061-T6 unless otherwise noted. Aluminum pipe for rails shall be 6063-T6. Modification to the gangway as detailed shall conform to the latest revisions of the Aluminum Design Manual and all applicable standards as set forth by the Aluminum Association. Edges shall be cut true, smooth and free of burrs. Flame cutting is not permitted. Holes for bolts shall be drilled or punched. Corner edges shall be ground smooth. Weld spatter and flash marks shall be removed and ground smooth. Mill stamps and markings shall be removed from all exposed surfaces. No finish is required on aluminum surfaces.

ALUMINUM WELDING
Per AWS D1.2. All welders shall be qualified per AWS for the type of welding anticipated.

BOLTS
All bolts shall be ASTM A325, hot-dip galvanized unless otherwise noted. Washers shall be used under both head and nut of all bolts.

GALVANIZING
All steel and hardware shall be hot-dipped galvanized per ASTM A123 or A153 after fabrication unless otherwise noted.

DISSIMILAR ISOLATION
Isolation washers & bushings shall be used between dissimilar metals.

DECK
Deck grating shall be light transmitting fiberglass deck grating. Attach to floor supports using Manufacturer supplied hold-downs and connectors per Manufacturer's recommendations.

NON-SLIP SURFACING
All walking surfaces shall have a non-slip surface meeting ADA requirements. Submit sample for approval.

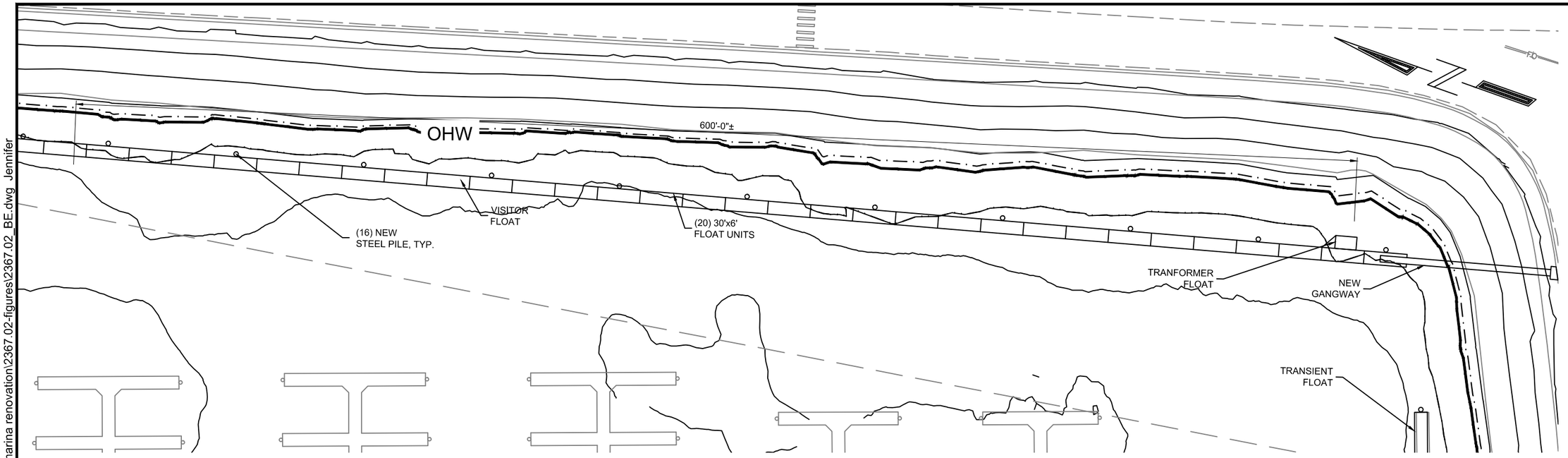
PROPOSED: Overwater Area Increase
IN Columbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 15 **OF** 17
DATE: 8/23/16

New Aluminum Gangways
APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS:
110 West Marine Drive
Kalama, WA 98625

PURPOSE: Marina Restoration
DATUM: N/A
ADJACENT PROPERTY OWNERS:

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

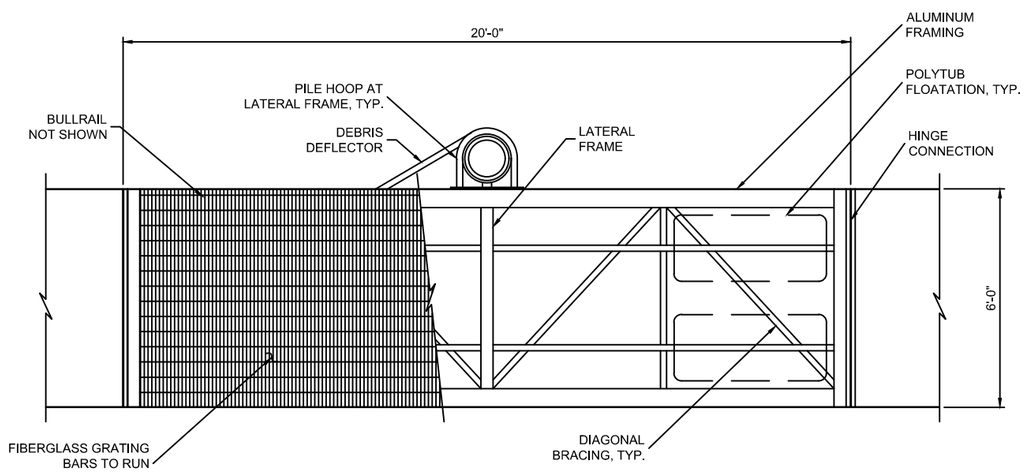
Ecological Land Services



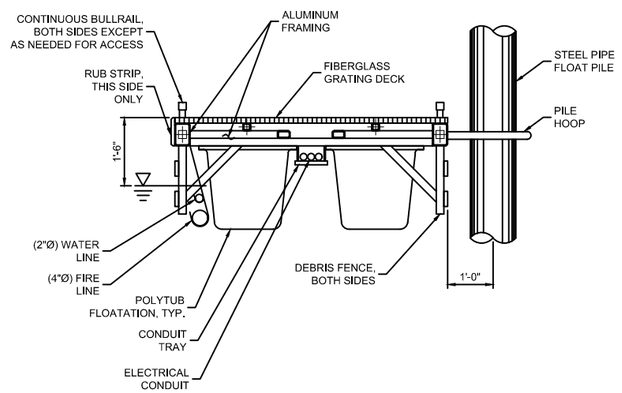
PLAN - 1"=50'

NOTE(S):

1. Base Plan from PND Engineers, INC.



FLOAT PLAN - 1"=50'



FLOAT SECTION - 1"=40'

PROPOSED: Overwater Area Increase

IN Columbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 16 **OF** 17
DATE: 8/23/16

Visitor Float

APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS: 110 West Marine Drive Kalama, WA 98625

PURPOSE: Marina Restoration

DATUM: NAVD 29-47
ADJACENT PROPERTY OWNERS:

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371

Ecological Land Services

PILE SCHEDULE

LOCATION	PILE ID	DIA (IN)	T (IN)	TOP EL	TIP EL
MARGINAL FLOATS	MF 1	12.75	0.50	+30'	TBD
	MF 2	12.75	0.50	+30'	TBD
	MF 3	12.75	0.50	+30'	TBD
	MF 4	12.75	0.50	+30'	TBD
	MF 5	12.75	0.50	+30'	TBD
	MF 6	12.75	0.50	+30'	TBD
	MF 7	12.75	0.50	+30'	TBD
	MF 8	12.75	0.50	+30'	TBD
	MF 9	12.75	0.50	+30'	TBD
	MF 10	12.75	0.50	+30'	TBD
	MF 11	12.75	0.50	+30'	TBD
TRANSIENT FLOATS	TF 1	12.75	0.50	+30'	TBD
	TF 2	12.75	0.50	+30'	TBD
	TF 3	12.75	0.50	+30'	TBD
	TF 4	12.75	0.50	+30'	TBD
	TF 5	12.75	0.50	+30'	TBD
BOAT RAMP FLOATS	BR 1	12.75	0.50	+30'	TBD
	BR 2	12.75	0.50	+30'	TBD
	BR 3	12.75	0.50	+30'	TBD
	BR 4	12.75	0.50	+30'	TBD
	BR 5	12.75	0.50	+30'	TBD
	BR 6	12.75	0.50	+30'	TBD
	BR 7	12.75	0.50	+30'	TBD
	BR 8	12.75	0.50	+30'	TBD
FUEL DOCK FLOAT	FD 1	12.75	0.50	+30'	TBD
	FD 2	12.75	0.50	+30'	TBD
	FD 3	12.75	0.50	+30'	TBD
ACCESS FLOAT	FDA 1	12.75	0.50	+30'	TBD
	FDA 2	12.75	0.50	+30'	TBD
	FDA 3	12.75	0.50	+30'	TBD
	FDA 4	12.75	0.50	+30'	TBD
VISITOR FLOATS	VF 1	12.75	0.50	+30'	TBD
	VF 2	12.75	0.50	+30'	TBD
	VF 3	12.75	0.50	+30'	TBD
	VF 4	12.75	0.50	+30'	TBD
	VF 5	12.75	0.50	+30'	TBD
	VF 6	12.75	0.50	+30'	TBD
	VF 7	12.75	0.50	+30'	TBD
	VF 8	12.75	0.50	+30'	TBD
	VF 9	12.75	0.50	+30'	TBD
	VF 10	12.75	0.50	+30'	TBD
	VF 11	12.75	0.50	+30'	TBD
	VF 12	12.75	0.50	+30'	TBD

TO BE DEVELOPED

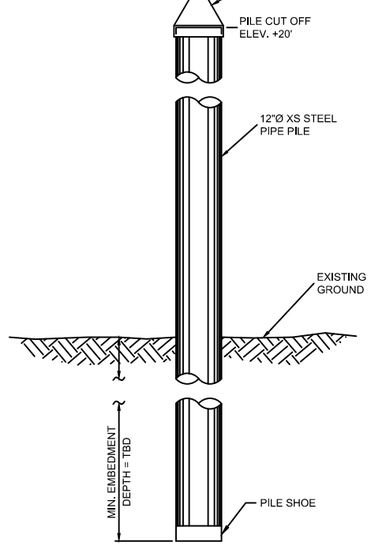
SECTION

TO BE DEVELOPED

PILE SPLICE

TO BE DEVELOPED

PROFILE



PILE SECTION - 1"=60'

NOTE(S):

1. Base Plan from PND Engineers, INC.

Pile Schedule and Details

APPLICANT: PND Engineers
PROJECT NAME: Port of Kalama Marina Renovation
REFERENCE #:
SITE LOCATION ADDRESS: 110 West Marine Drive Kalama, WA 98625

PURPOSE: Marina Restoration

DATUM: NAVD 29-47
ADJACENT PROPERTY OWNERS:

PROPOSED: Overwater Area Increase
IN Columbia River
NEAR:
COUNTY: Cowlitz **STATE:** WA
SHEET 17 **OF** 17
DATE: 8/23/16

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