

**REQUEST FOR AN
INCIDENTAL HARASSMENT AUTHORIZATION
UNDER THE MARINE MAMMAL PROTECTION ACT**

**Port of Friday Harbor: Reconstruction of Docks C, E, and F Project
USACE Reference No. NWS-2012-468**



June 10, 2014

Applicant:

**Gary Alspaugh, Marina Maintenance Manager
Port of Friday Harbor**



Prepared by Permitting Agent:

**Margaret Schwertner
Moffatt & Nichol**





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1. DESCRIPTION OF ACTIVITY

A detailed description of the specific activity or class of activities that can be expected to result in incidental taking of marine mammals.

1.1 APPLICANT INFORMATION

Applicant:	Gary Alspaugh, Port of Friday Harbor		
Mailing address:	Port of Friday Harbor PO Box 889 Friday Harbor, WA 98250		
Work phone: (360) 378-4072	Main Office: (360) 378-2688	Email: garya@portfridayharbor.org	Fax: (360) 378-6114
Permitting Agent:	Margaret Schwertner, Environmental Scientist, Moffatt & Nichol		
Mailing address:	Moffatt & Nichol 600 University Street Seattle, WA 98101		
Work phone: (206) 622-0222	Cell: (206) 818-2600	Email: mschwertner@moffattnichol.com	Fax: (206) 622-4764
Location where proposed work will occur: 204 Front Street North Friday Harbor, San Juan County, WA 98250 Waterbody: Friday Harbor, Puget Sound			
¼ Section:	Section: 12	Township: 35N	Range: 03W
Latitude: 48° 32' 12" N		Longitude: 123° 00' 55"	

1.2 INTRODUCTION

To improve and maintain the existing marina, the Port of Friday Harbor proposes to rehabilitate and repair the Port of Friday Harbor Marina in Friday Harbor, San Juan County, Washington.

The Friday Harbor Marina is an existing public marina (built in the 1960s and 1970s) providing water access to the adjacent Town of Friday Harbor. The marina includes approximately 500 vessel slips, of which up to 150 are available to visiting boaters. The marina is protected by a US Army Corps of Engineers (USACE) maintained floating breakwater to the north. It provides both permanent and temporary vessel moorage for commercial and recreational vessels, a US Customs office, fuel dock, pump-out stations, potable water and shore power, showers, and restrooms and includes over 30 marine related businesses including a sea plane base, charter and passenger vessels, vessel repair, vessel rentals, and a seafood market. The Washington State Ferries (WSF) Friday Harbor Ferry Terminal is located approximately 200 feet (61 meters) east of the marina's fuel dock providing a critical transportation link to other San Juan Islands and mainland locations.

The proposed “Port of Friday Harbor: Reconstruction of Docks C, E and F Project” (referred to herein as the “Project”) will occur in marine waters that support several marine mammal species. The Marine Mammal Protection Act of 1972 (MMPA) prohibits the taking of marine mammals, which is defined as to “harass, hunt, capture or kill, or attempt to harass, hunt, capture or kill,” except under certain situations. Section 101 (a)(5)(D) allows for the issuance of an Incidental Harassment Authorization (IHA), provided an activity results in negligible impacts on marine mammals and would not adversely affect subsistence use of these animals.

The need to replace guide piles at the marina, which will be installed by vibratory driving or drilling, may result in the incidental taking by acoustical harassment (Level B take) of harbor seals protected under the MMPA. Therefore, the Port of Friday Harbor is requesting an IHA from the National Marine Fisheries Service (NMFS) for harbor seals that may occur in the Project Area. The Port has already obtained all necessary federal, state and local permits for the Project, which, along with the abbreviated Biological Evaluation and Marine Mammal Monitoring Plan [MMMP] for the Project, are attached in Appendix A.

Due to in-water work timing restrictions required following coordination with regional NMFS and the U.S. Fish and Wildlife Service (USFWS) offices, which are used to avoid in-water construction when Endangered Species Act (ESA)-listed salmonids are most likely to be present, and those restrictions (Hydraulic Project Approval [HPA]) mandated by the Washington Department of Fish and Wildlife (WDFW), in-water activities are limited to July 16 through February 15 of any given year. Elements for the Project are scheduled to be completed in one of two phases, which take this in-water work window into account:

- **Phase 1 (September 3, 2013 through February 15, 2014)**: Includes the replacement of elements of existing floats in the marina (walers and float utility upgrades) along with the removal and replacement of many of the floats. No pile removal or installation is proposed for Phase 1. Although the in-water work window for the area opens in July, the marina is extremely busy during the summer months. To avoid and minimize impacts to the marina and its users, the proposed project will not begin prior to September 3 of any given year.
- **Phase 2 (September 2, 2014 through February 15, 2015)**: Includes the completion of any outstanding work not completed in Phase 1 along with pile removal and installation.

This IHA Request applies for an IHA for a number of marine mammals during Project pile removal and driving activities. The MMPA (Appendix A) will be adhered to for any other marine mammals not included in this request. Appendix B includes an Amendment to the MMMP to incorporate take monitoring for harbor seals.

1.3 PURPOSE AND NEED

The Port of Friday Harbor needs to repair and replace portions of floats, piles, and walkways in their marina due to the increasing age of the structures. The repair and replacement work is necessary to maintain the existing purpose of the marina, which provides access, permanent and short-term moorage and berthing opportunities, and marina support facilities to commercial and recreational boaters that

live in, or visit the area. Vessel type and traffic is not anticipated to increase after the Project has been completed as most of the replacement elements are basic maintenance and repair. Any modifications to slip size are generally minor.

1.4 EXISTING SITE CONDITIONS

The Project will occur within the Port of Friday Harbor Marina, Friday Harbor, eastern shore of San Juan Island, San Juan County, WA (refer to Figure 1-1, Figure 1-2 and the project drawings in Appendix A). Friday Harbor is approximately 60 nautical miles (111 km) north of Seattle, WA and 28 nautical miles (52 km) southeast of Victoria, BC Canada.

The Town of Friday Harbor is directly adjacent to the marina. Upland or shoreline work is not proposed as part of this Project but in general, the urban shoreline surrounding the marina is relatively hilly to steep characterized by rocky shores and bulkheads. The marina itself is comprised of heavily used docks and floats. To the west of the Project Site is a residential area with mud flats, rocky shores and smaller docks and floats.

Most of the downtown shoreline is public land owned by the Town of Friday Harbor, Port of Friday Harbor, or the Washington State Department of Transportation (WSDOT) for their WSF terminal. The Port also has a management agreement with the Washington State Department of Natural Resources for the tidelands under and around the Port properties.

Figure 1-1: San Juan Island and Town of Friday Harbor

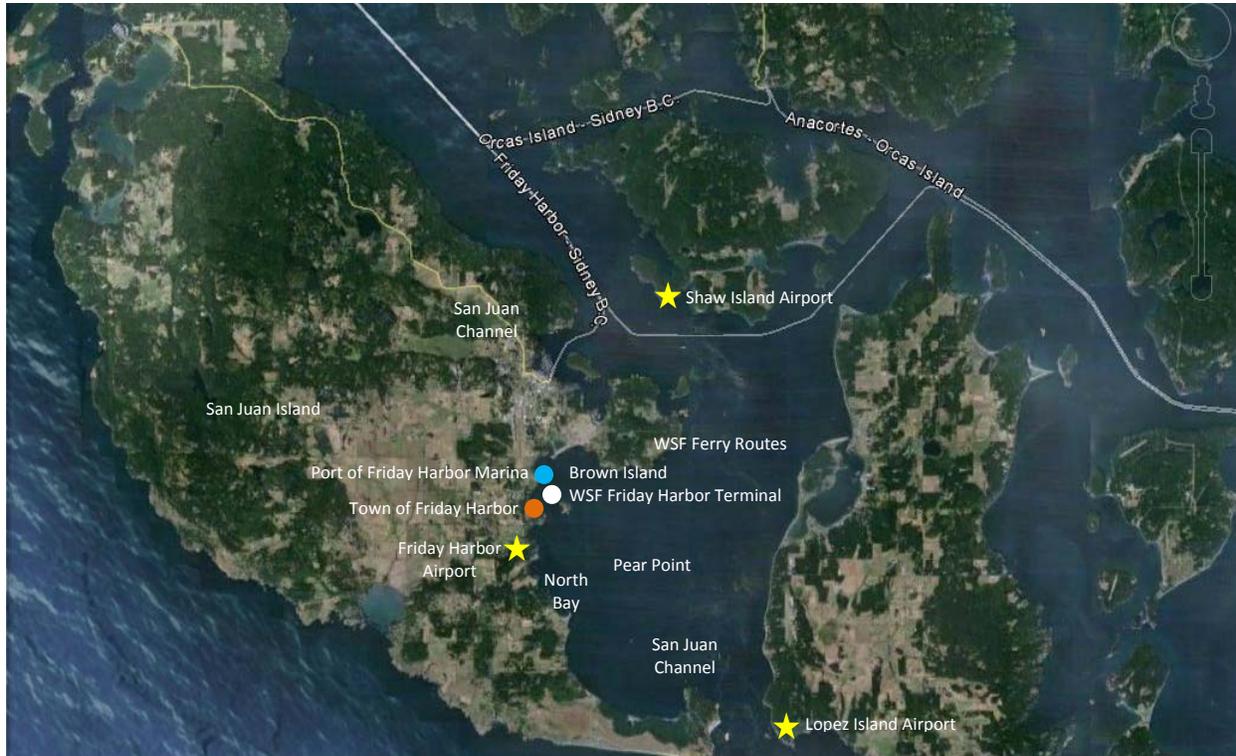
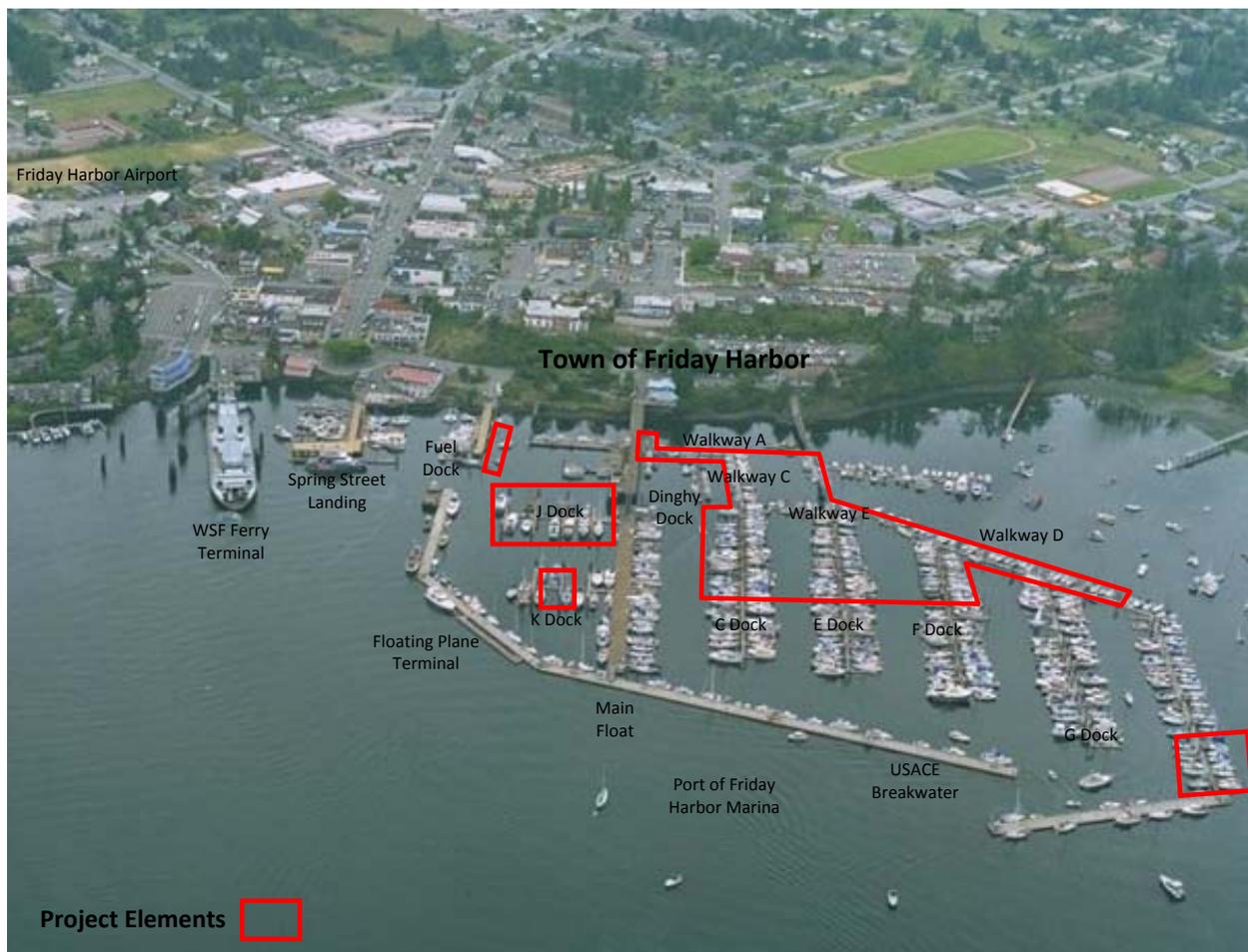




Figure 1-2: Port of Friday Harbor Marina



Aquatic Substrate and Vegetation

A number of macroalgae surveys have been completed within the Port of Friday Harbor Marina over the past several years (the BE in Appendix A contains a number of the more recent eelgrass surveys). In general, the location of the eelgrass (underneath the marina fairways and floats) has not changed.

Small patches of eelgrass (*Zostera marina*) have been observed between the fairways of Docks C, E, and F in water depths between approximately -5 feet and -20 feet MLLW. Other macroalgae has been observed within the marina but not in large quantities or densities. Most other macroalgae species can be observed sporadically on the sea floor, floating in the marina, or on the existing creosote treated timber piles. Floating macroalgae is more common in the San Juan Islands compared to eelgrass (NOAA 2010). Observed macroalgae species have included *Ceramium* sp., *Chondracanthus exasperatus*, *Costaria costata*, *Fucus gardneri*, *Gracilaria* sp., *Gracilariaopsis* sp., *Mazzaella splendens*, *Nereocystis luetkeana*, *Polyneura latissima*, *Porphyra* sp., *Prionitis lanceolata*, *Saccharina latissima*, *Smithora naiadum*, *Sparlingia pertusa* and *Ulva lactuca*. During the most recent eelgrass survey, no other macroalgae was identified (JenJay 2012). The sea floor is composed of mud, silt with some shell hash, which reflects general San Juan sediment characteristics.

Surrounding Land and Water Uses

The public Friday Harbor Marina provides access to the adjacent Town of Friday Harbor and has approximately 500 slips, of which up to 150 are available to visiting boaters. The marina, protected by a US Army Corps of Engineers (USACE) maintained breakwater to the north, provides both permanent and temporary vessel moorage for commercial and recreational vessels, a US Customs office, fuel pump, pump-out stations, potable water and shore power, showers, and restrooms. It includes over 30 marine-related businesses including a sea plane base, charter and passenger vessels, vessel repair, vessel rentals, and a seafood market. Existing structures in the marina include moorage docks, a fuel dock float, three floating breakwaters, seaplane float, walkways to the different docks, dinghy docks, four timber piers, a floating restroom, and affiliated piles and gangways. A WSF Terminal is located on property east of the marina, which provides transportation to other San islands and mainland locations.

The shoreline adjacent to the Project Area is designated as both Urban and Urban Residential 2. Commercial and retail is prevalent directly adjacent to the marina docks and floats and the majority of the shoreline is either armored or paved. Further to the northwest are more gradual mudflats fronting residential homes and smaller docks. The habitat function of both the Urban and Urban 2 adjacent areas are considered low (TOFH 2012).

Water Quality

The marine water surrounding the San Juan Islands are designated as Class AA or Extraordinary Quality (to be appropriate for swimming, fishing, boating and aesthetic enjoyment) and are to meet the criteria outlined in WAC-173-201A-030 (2002).

Water quality within Friday Harbor has been listed on the Washington State Department of Ecology's 303(d) list in past years (up through 2008) for depleted levels of dissolved oxygen. This could be due to the previous sewage treatment plant, which has been upgraded over the years since 2001. Marine water quality problems could also be related to other sources more common of urban settings such as untreated stormwater and non-point pollution from the upland urban and residential environment (residential lawns and paved areas may increase run off containing fertilizers and metals, etc.).

Recent marine water quality data collected by the San Juan County Marine Resources Committee (MRC) and Friends of the San Juans (FOSJ) indicate that the 303(d) listing may no longer be completely appropriate. Monitoring is currently ongoing.

1.5 PROPOSED ACTION

All work proposed for this Project will be completed waterward of the Mean Higher High Water (MHHW) line within the Port of Friday Harbor Marina (refer to Appendix A for a Vicinity Map and Sheet Drawings of the Proposed Project).

The Project includes the following repair, replacement and reconstruction. Most of the work is proposed for Docks C, E, and F with minor work also completed throughout other parts of the marina. The Proposed Action does not change the overall function of the marina. Vessel traffic is not anticipated to increase after the Project has been completed.

Dock C:

- Replace the south portion of the dilapidated treated timber walkway with a new concrete walkway, and 17 dilapidated treated timber finger and main walkway floats (4,873 square feet) with 16 new concrete finger and main walkway floats (5,202 square feet).
- Replace 84 linear feet of dilapidated treated timber walers with 84 linear feet of new ACZA treated timber walers of the same size.



Existing floats and piles on Dock C to be replaced.

Dock E:

- Replace the south portion of the dilapidated treated timber walkway and 18 dilapidated treated timber finger floats (4,782 square feet) with a new concrete walkway and 17 new concrete finger floats (4,421 square feet).
- Replace 84 linear feet of dilapidated treated timber walers with 84 linear feet of new ACZA treated timber walers of the same size.



Existing finger floats and piles on Dock F to be replaced.

Dock F:

- Replace the south portion of the dilapidated treated timber walkway and 15 dilapidated treated timber finger floats (3,978 square feet) with a new concrete walkway and 13 new concrete finger floats (4,015 square feet).
- Replace 86 linear feet of dilapidated treated timber walers with 86 linear feet of new ACZA treated timber walers of the same size.

Dock H:

- Replace the dilapidated concrete walkway and the 6 dilapidated concrete finger floats (1,634 square feet) with a new concrete walkway and 6 new concrete finger floats (1,428 square feet).
- Replace the dilapidated steel bridge (30 feet long, 4 feet wide) that provides access between Dock H and the breakwater. The bridge will be replaced with a grated aluminum/steel ramp-like structure. The dimensions of the



Existing bridge replaced.



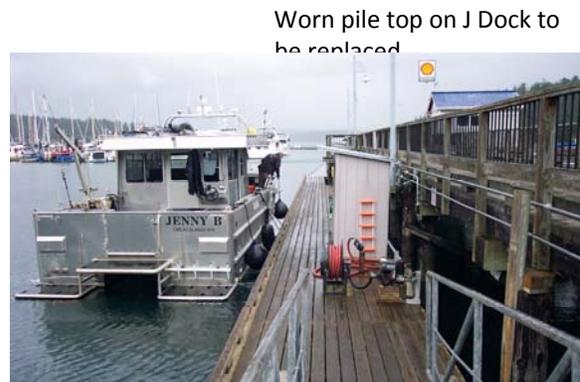
bridge will not change regardless of whether it is refurbished or replaced.

Dock J:

- Repair the top portions (above the MHHW line) of 8 existing treated timber piles and their bracing. This will be completed by cutting the tops of these piles off (all above +12 feet Mean Lower Low Water [MLLW]). Steel pipe extensions will then be bolted on to the piles. Cross bracing (of the same configuration to that of the removed timber bracing) will be reinstalled using welded steel frames.

Fuel Dock:

- Replace the 2 dilapidated treated timber floats on the northwest side of the dock (100 feet long by 8 feet wide and 22 feet long by 4 feet wide for a total of 888 square feet) with 2 new timber floats (timber treated approved for use in marine waters in Washington state) of the same dimensions (888 square feet).



Treated timber float at Fuel Dock to be replaced.

Walkway A:

- Replace eight dilapidated treated timber finger floats (569 square feet) with 8 new grated aluminum finger floats (548 square feet).
- Replace 289 linear feet of dilapidated treated timber walers with 289 linear feet of new ACZA treated timber walers of the same size.

Walkway C:

- Replace 8 dilapidated treated timber finger floats (608 square feet) with eight new grated aluminum finger floats (552 square feet).
- Replace 397 linear feet of dilapidated treated timber walers with 397 linear feet of new ACZA treated timber walers of the same size.



Walkway D:

- Remove 7 concrete finger floats (764 square feet) and replace with 7 new grated aluminum finger floats (465 square feet) in the approximate same location. The new floats (3 feet wide) are slightly narrower than existing (4 feet wide).

Treated timber finger floats to be replaced on Walkway C.
Main float remains as-is.

Walkway E:

- Install 2 new concrete finger floats (320 square feet) of dimensions 35 feet in length and 4 feet in width.

Other Project Elements:

- Remove 95 treated (creosote) timber piles (diameters ranging between 12 and 20 inches) and 3 steel pipe piles (diameters of 12 inches) from the Project area and install 52 steel pipe piles (20 with a diameter of 16 inches, 32 with a diameter of 24 inches). In general, the 24-inch diameter replacement pile are proposed in water depths deeper than -20 ft MLLW, while the 16-inch diameter replacement pile are proposed in water depths shallower than -20 ft MLLW. The -20 ft contour has been highlighted in the attached drawings for reference.
- In addition to the above listed areas, 4 of the 95 treated timber piles to be removed are located on the Dinghy Dock (2 piles to be removed and replaced by 1 pile), Dock K (1 pile to be removed and replaced), and H Dock (1 pile to be removed and replaced).
- Install new electrical service (480 volts) to Docks C, E and F (includes the installation of new power pedestals with low level lighting onto the floats). The electrical distribution system (cabling) will be installed within the internal raceways of the new floats or the walers of the existing floats. Some existing utilities currently located under the walers may need to be moved vertically down along the float to accommodate the new electrical.

Changes in Overwater Cover:

The overall number of slips within the marina will not change substantially, but is reduced. The quantity of available slips will be reduced by about 8 and some of the reconstructed slips will be slightly larger. Up to 5 new electrical transformers will be installed throughout the Project requiring up to 5 concrete or aluminum floatation units measuring up to 4 feet by 5 feet. The final number of these floatation units (up to 6) and their locations will be determined during final design (none will be placed over or within 10 feet of existing eelgrass patches). The total surface area of floats, knees, walers, and electrical transformer units within the marina will remain the same (17,771 square feet), however, about 1,512 square feet of the replacement finger floats will now be aluminum-framed with grated decking.

The National Marine Fisheries Service (NMFS), Puget Sound Washington Regional Office recently requested that grating be incorporated into the replacement floats as part of the Project. The Project Team has incorporated grating into all of the smaller narrower finger floats located in shallower water. Grating was not proposed for the larger floats in deeper water as concrete is much stronger than grated aluminum. If grating was proposed for the longer, wider finger floats, additional piles (about 1 per float)

would need to be installed to protect the structural integrity of the float at the main walkway connections. The total area of overwater cover that will now be grated is 1,512 square feet.

Approximately 135 square feet of existing eelgrass patch is located close to existing floats proposed for replacement. These floats will be replaced in the same footprint with floats of the same size (no increase in eelgrass cover). The Port was originally proposing to replace existing slips with a more efficient slip layout which would also accommodate longer boats and increase Port revenue. However, after discussion with both WDFW and DNR, the Port chose to avoid covering existing eelgrass with new floats as much as possible. To recuperate some of the losses from this less than efficient slip layout, the Port is proposing to install 2 new small finger floats on Walkway E (reduces slip loss from 11 to 7; square footage changes already incorporated into above discussion). Chris Betcher (marine biologist at JenJay) coordinated with both WDFW and DNR, on behalf of the Port, prior to this JARPA submittal to minimize negative impacts on the existing marina eelgrass and to avoid, if at all possible, the need for more complex eelgrass mitigation such as transplanting.

The overall surface area of piles will decrease by 305 square feet (855 square feet to 550 square feet). These area calculations include a 1-foot halo area surrounding each pile to account for shading impacts. Five (5) of the piles to be removed are located within existing eelgrass patches. All five creosote treated piles will be removed and will not be replaced. Most of the larger proposed replacement pile will be installed in water at depths greater than -20 feet MLLW.

1.6 CONSTRUCTION TECHNIQUES

Construction Sequencing and Timing

The start date for the Project is anticipated to be in September of 2013. Inwater construction will be completed in two work phases of approximately 8 months (33 weeks) in duration (estimated using a 5-day work week). The estimated duration includes mobilization and demobilization of equipment, repair, removal, and installation of piles and floats, and minor repair of walers and utilities on existing floats. Moored vessels will be moved to and from different areas within the marina to remain open and operational during this time.

- **Phase 1 (September 3, 2013 through February 15, 2014):** Includes the replacement of elements of existing floats in the marina (walers and float utility upgrades) along with the removal and replacement of many of the floats. No pile removal or installation is proposed for Phase 1.
- **Phase 2 (September 2, 2014 through February 15, 2015):** Includes the completion of any outstanding work not completed in Phase 1 along with pile removal and installation. Pile removal and installation methods will be vibratory unless difficult pile driving conditions are encountered. In this case drilling would be used, along with continued vibratory methods. If drilling is used for this project, all drilling will occur within the driven pile (the pile is first driven as far as it can into the sediment with vibratory methods). Impact pile driving will not be used to install any piles as part of this project.

Site Preparation

The following description applies to sequencing for both seasons of work.

The vessels from each dock to be replaced will be moved to transient moorage prior to demolition and construction. The exact sequence of which dock will be replaced first will be determined closer to the construction start date. Currently it is anticipated that work along Dock F will be completed first, followed by work on Dock E and then Dock C. This sequencing will allow boats to be moved from one dock to another with as little disturbance to marina users as possible. Work on the other docks and walkways will be completed after this. The general sequence of events for each season of work is as follows:

- Mark existing eelgrass patches. This is required for the contractor to comply with the conservation measures described in the Washington State Department of Fish and Wildlife Hydraulic Project Approval (HPA). All macroalgae within the marina has been identified and surveyed.
- Remove and install marina elements requiring replacement. The contractor will most likely coordinate with the Port to complete these elements for different areas of the marina (i.e. work on Dock F will occur first, work on Dock E will occur next, etc.).

Construction Equipment and Materials

Construction materials will include:

- Replacement floats will be concrete (foam floatation elements within concrete casings), or aluminum frame units (foam floatation elements encased in high-density polyethylene [HDPE]).
- Replacement piles will be steel pipe piles.
- Replacement wood walers will be treated with ACZA. No creosote will be installed as part of the marina redevelopment work. Any removed creosote will be handled and hauled offsite to an appropriate upland facility.
- Utility conduit will include HDPE or polyvinyl chloride (PVC) piping and wires.

One to two barges along with barge-based equipment, such as cranes, will be used to support the removal and installation of piles and floats and will be located as close to the proposed activities as possible while minimizing and avoiding adverse impacts to natural resources (i.e. existing eelgrass beds).

Pile Removal

Vibratory extraction will be used to remove existing timber piles. Vibratory hammer extraction is a common method for removing timber piling. A vibratory hammer is a large mechanical device suspended from a crane by a cable. It is attached to a derrick and positioned on the top of a pile. The pile is then unseated from the sediments by engaging the hammer, creating a vibration that loosens the sediments binding the pile, and then slowly lifting up on the hammer with the aid of the crane. Once unseated, the crane will continue to raise the hammer and pull the pile from the sediment.

When the pile is released from the sediment, the vibratory hammer is disengaged and the pile is pulled from the water and placed on a barge for transfer upland. Vibratory removal will take approximately 10 to 15 minutes per pile. The piling will be loaded onto the barge or into a container and disposed of offsite. For 98 piles, total time will be about 24.5 hours or about 3 days (although removal is most likely to be completed sporadically throughout the in-water work period).

Broken and damaged pilings may need to be removed with a clamshell bucket. If not removed, broken pilings and stubs can interfere with the installation of new piling causing construction delays. The size of the clamshell bucket will be as small as possible to reduce turbidity during piling removal. The 5 existing creosote piles to be removed from eelgrass patches will be removed with vibratory extraction. If these five piles break during removal, a clamshell bucket will not be used to remove them (as this will disturb existing eelgrass). Instead, a diver will use small hand-held tools to dig around the base of the pile and cut the pile approximately one-foot below the mudline. The top of the broken pile will then be removed with a grab line. Clamshell removal will be used only if necessary. Direct pull and clamshell removal are not noise sources of concern.

All removed piles and floats will be placed on a barge and transported offsite. Any removed creosote treated wood and/or piles will be disposed of at an appropriate upland facility pursuant to Washington state code and requirements.

Pile Installation

Replacement piles will be driven and/or drilled into the hard sediment.

Vibratory pile driving will be used first whenever possible. Drilling will only be used if the vibratory method cannot install the pile to the appropriate depth. If drilling is used for this project, all drilling will occur within the driven pile (a pile driven as far as it can into the sediment with vibratory methods). Vibratory hammers are commonly used in steel pile installation where sediments allow and involve the same vibratory hammer used in pile extraction. The pile is placed into position using a choker and crane, and then vibrated about 1,200 to 2,400 vibrations per minute (WSF 2012). The vibrations liquefy the sediment surrounding the pile allowing the pile to penetrate to the required seating depth.

Pile drilling will be used only if warranted given hard soil, rock, or bedrock conditions (when the use of a vibratory hammer is not sufficient to install the pile). Impact pile driving and impact proofing will not be used for pile installation on this project.

Drilling would involve placing the pipe pile into the sediment and driving it (vibratory) as far as possible. Once pile advancement stops, an auger would be placed within the pipe pile and used to auger out material from within and below the pile. The removal of any material from within the pipe pile is not anticipated. However, if material within the pile and around the auger must be removed, the material will be contained with tarps or other methods to prevent contact with the beach or waters of the state (this is Condition #26 of the received Hydraulic Project Approval {HPA # 123573-2} for the project, which can be found in Appendix A). The auger will continue to drill into the sediment allowing the pipe pile to advance until the appropriate and required depth has been reached.

Marine mammal monitoring, conducted by certified biologists during project construction, will be required for all vibratory pile driving.

Replacement Floats

Replacement floats will be constructed offsite at an upland float manufacturing site. The float sections will then be transported to the marina via barge (some truck transport from the manufacturing site to a launch facility, most likely located at a port) may also be required.

Other Construction Elements

Minor marina work will be necessary on existing docks that require utility and waler work but this will not include substantial demolition activities. The Contractor completing the utility improvements on the floats will use existing electrical power outlets within the marina.

Work Corridor

The work corridor will be within the existing marina. All Project elements will occur in marine water between -2 feet and -42 feet MLLW within the vessel fairways closest to the docks and walkways to be replaced. Barges and tugs will be required to transport materials to and from the marina but will use the same routes and speeds used by other marina and area vessels.

Staging and Stockpiling Areas

No shoreline or upland staging areas are required for this Project. Shoreline and upland work is not proposed. Any necessary staging will be on the proposed barges with no need for equipment wash outs.

The barge(s) will, themselves, be used for stockpiling materials and equipment.

Running of Equipment During Construction

Equipment will be running intermittently and occur during daytime hours only throughout the proposed construction period. The contractor will be required to comply with all federal, state, and local regulations and permit conditions relating to construction noise to reduce the potential for temporary, disruptive noise impacts associated with construction. The City allows construction activities to occur only on weekdays during daytime hours (7:00 am to 5:00 pm). Permission to work beyond these days and hours must be requested and is granted on a case-by-case basis. While a number of barges and rigs may be at the Project site at any one time (i.e. one rig may be used for vibratory installation, the other may be on-site ready for any necessary drilling), only one pile driving rig is currently planned for operation at any one time. If some type of delay occurred (unlikely) a second rig for vibratory driving could be brought to the site by the contractor. This would only be initiated if a number of unforeseen events put the project at risk of not being completed before the end of the in-water work period on February 15, 2015. As stated, this is not proposed and would add additional cost to the project that the Port wishes to avoid.

Clean-up

All removed piles and floats will be placed on a barge and transported offsite. Any removed creosote treated wood and piles will be disposed of at an appropriate upland facility, which meet the liner and

leachate standards of the Minimum Functional Standards, Chapter 173-304 Washington Administrative Code (WAC).

Patches of eelgrass were observed around existing floats and piles used by boats (density survey completed by JenJay in 2011 and 2012). The shift in finger float location and the activity of pile removal and replacement will remove overwater shading from some of these areas and has been designed to avoid impacting these existing eelgrass beds. Overall, there will be a net reduction in overwater cover/shading with the proposed project and in areas where creosote treated piles or existing floats are removed, natural recolonization of eelgrass and/or macroalgae is anticipated. Therefore additional revegetation efforts are not proposed.

Location of any Spoil Disposal

Dredging and spoil removal and disposal is not proposed as part of this Project. All removed piles and floats will be placed on a barge and transported offsite. Any removed creosote treated wood and piles will be disposed of at an appropriate upland facility, which meet the liner and leachate standards of the Minimum Functional Standards, Chapter 173-304 WAC.

If drilling is required to install pipe piles, all drilling will occur within the pipe pile. The removal of any material from within the pipe pile is not anticipated.

Sound/Noise

In-air

Ambient in-air sound near the Project is estimated conservatively at approximately 50 dBA, based on the population size of Friday Harbor (Federal Transit Authority 2006). It is most likely higher than 50 dBA given the proximity of the Project Site to ongoing town and marina activities, the nearby WSF Terminal, the float planes which arrive and depart in the area (they berth along the marina's breakwater), and the nearby Friday Harbor Airport. The Shaw Island Airport is located across the San Juan Channel on Shaw Island, approximately four miles (6.4 km) east, and the Lopez Airport on Lopez Island, located approximately 4.5 miles (7.2 km) to the southeast. Urban areas can have higher background sound levels, with daytime levels approximating 60 to 65 dBA (Environmental Protection Agency [EPA] 1978) and sounds within the marina probably range anywhere from 50 to 60 dBA during any given day, with a mean of about 55 dBA.

NMFS has established an in-air noise disturbance threshold of 90 dBRMS (unweighted) for harbor seals, and 100 dB RMS (unweighted) for all other pinnipeds.

The installation of steel pipe piles (about 20 with a diameter of 16 inches and 32 with a diameter of 24 inches) is anticipated to take between 13 and 26 full days. This estimate assumes that the contractor will install an average of 2 to 4 piles per day via vibratory driving and/or drilling methods. This is based on geotechnical conditions and the anticipated number of strikes to install a pile, which is determined using a combination of expertise from the Project's team of engineers and geotechnical scientists, and available documentation on similar WSF pile installation projects completed within the San Juans over the last several years (WSF 2014). Pile driving will occur sporadically in Phase 2 (2014-2015) throughout

an estimated 33 week project timeframe. The following noise estimates are based on noise information available for the largest diameter piles (24 inches).

Increases in in-air noise levels from construction activities will be temporary and intermittent occurring over one 33 week construction period. In-air noise emanating from vibratory pile driving activities (the highest anticipated in-air noise levels from construction) will occur during daytime hours and could reach levels around 96.5 dB RMS (mean, unweighted) for the largest 24-inch pile given recent measurements from vibratory pile driving by WSF at Vashon Ferry Terminal (Laughlin 2010a). Assuming 96.5 dB, and using a practical spreading model with a spherical spreading loss from the pile, noise would attenuate to ambient levels at approximately 5,943 feet or 1.1 miles (1,811 meters or 1.8 kilometers) from the Project Site over the 'hard surface' of the water and adjacent town; this is conservative given the adjacent hillside of the town and nearby islands. Noise would attenuate to the 90 dB RMS (unweighted) for harbor seals at about 100 feet (30.5 meters).

In-water

To determine the most substantial in-water noise from the proposed project, a practical spreading model was used (Davidson 2004 and Thomsen et al. 2006 as cited by WSDOT 2012). Background inwater sound levels are estimated conservatively at 120 dB_{RMS} (WSDOT 2013, WSF 2012).

While data on inwater noise from drilling piles is limited, it is generally understood that the resulting inwater noise levels are lower than that of vibratory pile driving a similar sized pile (Caltrans 2009). Although drilling can still result in in-water sound levels exceeding the 120 dB criterion, when drilling occurs within an enclosed area (such as a steel pipe shell), sounds levels are more likely to stay below this threshold. If drilling is used for this project, all drilling will occur within an enclosed area (a pile driven as far as it can into the sediment with vibratory methods). Therefore, sound from vibratory pile driving installation is anticipated to be the highest for the Project. Inwater sound levels anticipated from vibratory pile driving 24-inch steel pipe piles are based in-water measurements at the WSF Friday Harbor Ferry Terminal by WSDOT where vibratory driving of a 24-inch steel pile generated 162 dB RMS measured at 10 meters (Laughlin 2010b). Pile removal activities have been observed to result in sound levels of about 150 dB RMS, lower than that for vibratory driving (Laughlin 2011).

NMFS has established disturbance and injury noise thresholds for marine mammals (Table 1-1). Determining the area(s) exceeding each threshold level (the zone of influence [ZOI]) is necessary to estimate the number of animals for the Level B acoustical harassment take request, and to establish monitoring areas. There is no impact pile driving for this project and therefore, there is no Level A take as the vibratory pile removal and driving source levels do not exceed injury thresholds.

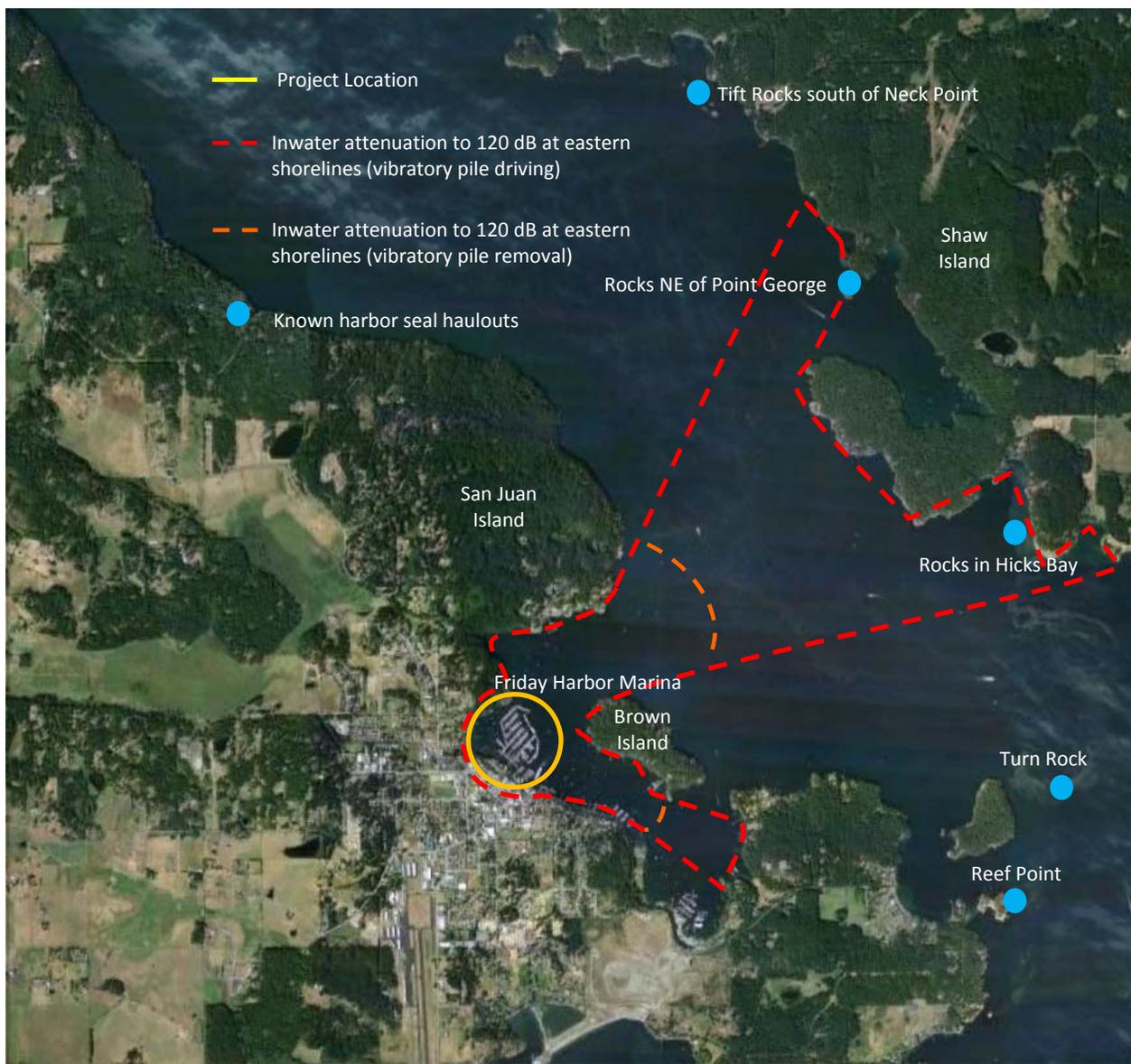
According to the practical spreading model sound levels from vibratory pile driving will attenuate to background levels within 3.9 miles (6.3 km). However, the Friday Harbor Marina is surrounded by a number of geographical boundaries (island shoreline to the west, north and south, Brown and Shaw islands to the east), which limit inwater sound impacts to about 3 miles (5 km) from the noise source (Figure 1-3). Sound levels from vibratory pile removal will attenuate to background levels within 0.6 miles (1.0 km).

NMFS and USFWS calculators and models were used to obtain the distances to noise thresholds for cetaceans and pinnipeds (Table 1-1).

Table 1-1: Vibratory Pile Removal and Driving Sound Exposure Distances and Areas (In-water) for Cetaceans and Pinnipeds

Species	In-water Threshold for Vibratory Pile Driving	Distance to Threshold for 24-inch piles	Area to Threshold for 24-inch piles
Cetaceans and Pinnipeds	120 dB _{RMS} (disturbance)	3 mi (5 km)	2.8 mi ² (6.7 km ²)
Cetaceans and Pinnipeds	120 dB _{RMS} (disturbance)	0.6 mi (1.0 km)	0.71 mi ² (1.83 km ²)

Figure 1-3: Vibratory Pile Removal and Driving Zones of Influence (ZOIs)



2. DATES AND DURATION, GEOGRAPHIC REGION

The date(s) and duration of such activity and the specific geographical region where it will occur.

2.1 DATES AND DURATION

As mentioned previously, inwater construction will be completed in two work phases of approximately 8 months (33 weeks each) in duration (estimated using a 5-day work week), which take into account the mandated in-water work window:

- **Phase 1 (September 3, 2013 through February 15, 2014):** Includes the replacement of elements of existing floats in the marina (walers and float utility upgrades) along with the removal and replacement of many of the floats. No pile removal or installation is proposed for Phase 1.
- **Phase 2 (September 2, 2014 through February 15, 2015):** Includes the completion of any outstanding work not completed in Phase 1 along with pile removal and installation.

All pile removal and driving will be completed within this 33 week period. Vibratory pile driving is the proposed method for pile installation. However, given the hard sediment conditions in the marina drilling may also be required to install piles. This is based on Moffatt & Nichol engineering expertise and a geotechnical study completed in the area (GeoEngineers 2010):

“Offshore subsurface conditions generally consist of very soft silt and clay overlying stiff to hard silt and clay. Several logs indicate that the stiff to hard silt and clay becomes soft with depth. In some areas the boring logs indicate very soft silt and clay overlies medium dense to very dense sand and gravel. Rock is identified in some borings and nearsurface outcrops in the northerly portion of the marina.

Based on our [GeoEngineers] interpretation it is possible that rock could be encountered in the proposed improvement areas at shallow depth below the mudline...”

Originally, impact driving was proposed for piles that could not be installed with a vibratory hammer. However, given that the Project is located within an area that would require extensive marbled murrelet monitoring (a substantial expense to a small Port), drilling is the selected method for installation if vibratory pile installation methods are not adequate.

Pile removal for 98 piles is anticipated to take a total of 24.5 hours (10 to 15 minutes a pile) or about 3 days (although removal is most likely to be completed sporadically throughout the in-water work period). The piles will not all be removed at once and noise from removal operations will be intermittent and sporadic over the 33 week time period.

Vibratory pile driving of the steel piles will take approximately 20 to 60 minutes of actual driving per pile (WSDOT 2013), with two to four piles installed per day. Pile driving could take anywhere between 13 and 26 days depending on how many piles can be installed per day.

2.2 GEOGRAPHIC REGION



The Project will occur within the Port of Friday Harbor Marina, Friday Harbor, eastern shore of San Juan Island, San Juan County, WA. Friday Harbor is approximately 60 nautical miles (111 km) north of Seattle, WA and 28 nautical miles (52 km) southeast of Victoria, BC Canada. The Town of Friday Harbor is located directly adjacent to the marina.

3. SPECIES AND NUMBER OF MARINE MAMMALS

Section 3.0 has been combined with Section 4.0 for ease of writing and reading due to the number of marine mammals discussed. Much of the information for this IHA was shared with the Port of Friday Harbor by the WSDOT WSF, who completed a similar request for NMFS last year (WSF 2014).

Section 3.0 requires a discussion of the species and numbers of marine mammals in the area.

The species and numbers of marine mammals likely to be found within the activity area.

Section 4.0 requires a discussion of the status and distribution of the stock(s) and specifically:

A description of the status, distribution, and seasonal distribution (when applicable) of the affected species or stocks of marine mammals likely to be affected by such activities.

3.1 SPECIES PRESENT

Eleven species of marine mammals are found in the San Juan Islands region (Table 3-1). The proposed project will implement a MMMP to protect these species, which include a number of ESA-listed whales and pinnipeds. As outlined in the attached MMMP, pile driving will cease when marine mammals enter the defined ZOI. It is anticipated that for 4 species of these marine mammals, ceasing pile driving operations during their duration within the identified zone boundaries will be an effective conservation measure (the attached Marine Mammal Monitoring Plan was reviewed and approved by J. Moribe of NMFS as part of the US Army Corps of Engineers permitting process [USACE 2013, see Appendix A]).

In the case of 7 species of pinnipeds and smaller cetaceans, this conservation measure may not work effectively for the applicant (the Port of Friday Harbor) and could jeopardize completion of the Project. Specifically, harbor seals are common within the area. One older and partially blind harbor seal tends to remain within the marina (on or near the marina floats) throughout much of the year. She often avoids the busier WSF terminal, especially when ferries berth. However, there is some concern that she may not move out of the marina during the fall and winter. If this occurs during pile driving, completion of pile installation may be difficult to nearly impossible. This would result in adverse impacts to continued service to boaters of the marina and could result in substantial economic hardship for the Port.

This IHA request is specific to more commonly observed pinnipeds and smaller cetaceans known to forage and haulout around Friday Harbor. For the larger cetaceans, the current mitigation measure of “stop work” as described in the attached MMMP will be adhered to.

Table 3-1: All Marine Mammals Potentially Present within the Action Area

Species	ESA Status	MMPA Status
Humpback Whale (<i>Megaptera novaeangliae</i>)	Endangered	Depleted
Southern Resident Killer Whale (<i>Orcinus orca</i>)	Endangered	Depleted
Transient Killer Whale (<i>Orcinus orca</i>)	Not Listed	Non-depleted
Eastern Distinct Population Segment (DPS) Steller Sea Lion (<i>Eumetopias jubatus</i>)	Delisted	Depleted
Harbor Seal (<i>Phoca vitulina richardsi</i>)	Not listed	Non-depleted
California Sea Lion (<i>Zalophus californianus</i>)	Not listed	Non-depleted
Northern Elephant Seal (<i>Mirounga angustirostris</i>)	Not listed	Non-depleted
Dall's Porpoise (<i>Eumetopias jubatus</i>)	Not listed	Non-depleted
Harbor Porpoise (<i>Phocoena phocoena</i>)	Not listed	Non-depleted
Pacific White-sided Dolphin (<i>Lagenorhynchus obliquidens</i>)	Not listed	Non-depleted
Gray Whale (<i>Eschrichtius robustus</i>)	Not listed	Unclassified
Minke Whale (<i>Balaenoptera acutorostra</i>)	Not listed	Non-depleted

 Requesting Level B Acoustical Harassment Takes

3.2 PINNIPEDS

Pinnipeds that occur in the inland waters of Washington include:

- Harbor seal (*Phoca vitulina richardsi*)
- California sea lion (*Zalophus californianus*)
- Northern elephant seal (*Mirounga angustirostris*)
- Steller sea lion (*Eumetopias jubatus*).

Harbor seals are the most common and the only pinniped that breeds in the San Juan Islands year-round (Calambokidis and Baird 1994).

3.2.1 HARBOR SEAL

Harbor seals are members of the seal family (*Phocidae*). For management purposes, differences in mean pupping date (Temte 1986), movement patterns (Brown 1988), pollutant loads (Calambokidis et al. 1985), and fishery interactions have led to the recognition of three separate harbor seal stocks along the west coast of the continental U.S. (Boveng 1988). The three distinct stocks are:

- Inland waters of Washington (including Hood Canal, Puget Sound, Georgia Basin and the Strait of Juan de Fuca out to Cape Flattery)

- Outer coast of Oregon and Washington
- California

For the San Juan Island region, pups are born from June through August (Jeffries et al. 2000). Recent WDFW observations show that harbor seal pupping seasons in San Juan Island and Georgia Basin extend from June 1 to October 1 (WSF 2012). After October 1, pups within the inland waters are weaned.

Pinnipeds communicate both on land and underwater and studies indicate that pinnipeds are sensitive to a broader range of sound frequencies in water than in air (Southall et al. 2007). Hearing capabilities for harbor seals in-water are 25 to 30 dB better than in-air (Kastak and Schusterman 1998).

Numbers

Harbor seals are the most numerous of the pinnipeds within the project area and the only one that breeds in the inland marine waters of Washington (Calambokidis and Baird 1994). In 1999, the total mean count of harbor seals was 9,550 (Jeffries et al. 2003) within Washington's inland marine waters, the total population being estimated at about 14,600 animals. The WA population increased at a rate of about 10% per year between 1991 and 1996 (Jeffries et al. 1997) and is thought to be stable (Jeffries et al. 2003). The Marine Mammal Stranding Network estimates that approximately 4,000 seals are present in the San Juan Islands (San Juan Island Update 2011). In January of 2014, the U.S. Navy completed and published a marine mammal density study for their Pacific Ocean fleet. They used much of the above existing data and incorporated two different correction factors to account for haul-out-behaviour. With the factors applied, the density of the total number of harbor seals for the San Juan Islands was calculated at 3.1799 seals/km² (U.S. Navy 2014).

Status

Harbor seals are not considered to be depleted under the MMPA or listed as threatened or endangered under the ESA. There is no current estimate of minimum abundance and a potential biological removal (PBR) cannot be calculated for this stock. The previous estimate of PBR was 771 (Carretta et al. 2009). Human-caused mortality relative to PBR is unknown, but it is considered to be small relative to the stock size. The Washington Inland Waters stock of harbor seals is not classified as a strategic stock. The stock is also considered within its Optimum Sustainable Population level (Jeffries et al. 2003).

Distribution

Harbor seals are the most numerous marine mammal within the Strait of Juan de Fuca, Puget Sound and Georgia Basin. They are non-migratory and their movements are associated with conditions such as tides, weather, season, food availability, and reproduction (Scheffer and Slipp 1944; Fisher 1952; Bigg 1981). They are not known to make long migrations, although some long-distance movements of tagged animals in Alaska (174 km) and along the U.S. west coast (up to 550 km) have been recorded (Pitcher and McAllister 1981; Brown and Mate 1983).

Harbor seals haul out on rocks, reefs, beaches, and drifting glacial ice and feed in marine, estuarine, and occasionally fresh waters. The nearest known haulout sites to the Friday Harbor Marina are the

intertidal rocks NE of Point George and the rocks in Hicks Bay, both on Shaw Island approximately 2.9 miles NE of the marina (4.7 km). A third haulout is located out of the ZOI but still nearby at Tift Rocks, also located on Shaw Island about 3 miles (4.8 km) NE of the marina. The number of harbor seals using nearby haulouts is less than 100 per haulout (WDFW 2000). The level of use of this haulout during the fall and winter is unknown, but is expected to be much less as air temperatures become colder than water temperatures resulting in seals using the haulouts less (Huber, personal communications, 2010, as cited by WSF 2012).

3.2.2 CALIFORNIA SEA LION

The US stock for the California sea lion (*Zalophus californianus*) ranges from Mexico to Canada and includes the Washington stock of these animals.

Numbers

The US stock was estimated at 238,000 in a 2010 Stock Assessment Report and could be at carrying capacity (Carretta et al. 2007a). Between 3,000 to 5,000 animals are estimated to move into Washington and British Columbia waters during the fall of each year and remain where they remain until late spring when most return to breeding rookeries in California and Mexico (Jeffries et al. 2000). Peak counts of over 1,000 animals have been gathered for Puget Sound (Jeffries et al. 2000). The U.S. Navy 2014 density estimate is 0.676 sea lions/km² (U.S. Navy 2014).

Status

California sea lions are not listed as endangered or threatened under the ESA or as depleted under the MMPA. Nor are they considered a strategic stock under the MMPA, as total human-caused mortality, although unknown, is likely to be well less than the PBR (8,511) (Carretta et al. 2007b).

Distribution

California sea lions breed on islands off Baja Mexico and southern California with primarily males migrating north to feed in the northern waters (Everitt et al. 1980). Females tend to remain in waters closer to their breeding rookeries.

In Washington, California sea lions use haulout sites within all inland water regions (Jeffries et al. 2000). The nearest documented California sea lion haulout sites to Friday Harbor are intertidal rocks and reef areas around Trial Island and Race Rocks near Victoria, B.C., both at least 15 miles (24 km) west of the project site. The number of animals using these haulouts is less than 100 per haulout (WDFW 2000). Small numbers of sea lions also occasionally use navigation buoys in inland waters, including the San Juan Islands (WDFW 2000).

3.2.3 NORTHERN ELEPHANT SEAL

Northern elephant seals (*Mirounga angustirostris*) in the region of activity are considered part of the California breeding stock (Carretta et al. 2007a), which pup off islands off of California and Mexico from December through March (Stewart and Huber 1993; Carretta et al. 2007a).

Numbers

Based on 2005 California pup counts, the population of the eastern North Pacific stock has been estimated at 124,000 and populations appear to be stable (Carretta et al. 2007b). Population counts for inland Washington waters are not available due to the infrequency of sightings and the low numbers encountered (J. Calambokidis, personal communications, 2008 as cited by WSF 2012). Current estimates suggest less than 100 individuals use the area annually (S. Jeffries, personal communications, 2008a as cited by WSF 2012). The recent U.S. Navy 2014 density estimate, which includes all of this existing information, is 0.0063 seals/km² (U.S. Navy 2014).

Status

Northern elephant seals are not listed as endangered or threatened under the ESA or as depleted under the MMPA. Annual human caused mortality is 60 animals, much less than the PBR for this stock of 4,382 (NMFS 2011).

Distribution

Breeding rookeries are located on beaches and islands in California and Mexico (Jeffries et al. 2000). In the past, individuals moved north and were present in Washington waters on a seasonal basis. A few individuals are now found in Washington inland waters year round.

WDFW has identified a few haulout sites in inland Washington waters including the beaches at Protection Island (46 km south Friday Harbor) and at Smith/Minor Islands (27 km south of Friday Harbor (WDFW 2000). Typically these sites have only 2 to 10 adult males and females. A single individual has been observed hauled out at American Camp on San Juan Island (NPS 2012), and at Shaw Island County Park on Shaw Island (Miller 2012 as cited by WSF 2012).

3.2.4 STELLER SEA LION

Sub-adult or adult individuals of the eastern stock of Steller sea lions (*Eumetopias jubatus*) may be found in Washington's inland waters (Pitcher et al. 2007). Breeding rookeries are all located along the California, Oregon, British Columbia, and southeast Alaska coasts, but not along the Washington coast or within inland Washington waters (Angliss and Outlaw 2007).

Numbers

The eastern stock is estimated at about 48,519 to 54,989 individuals based on 2002 through 2005 pup counts (Angliss and Outlaw 2007). Washington's estimate including the outer coast is 651 individuals (non-pups only) (Pitcher et al. 2007). Recent estimates are that 1,000 to 2,000 individuals enter the Strait of Juan de Fuca during the fall and winter months (S. Jeffries, personal communications, 2008b as cited by WSF 2012). The recent U.S. Navy 2014 density estimate, which includes all of this existing information, is 0.935 sea lions/km² (U.S. Navy 2014).

Status

The eastern DPS stock of Steller sea lions was delisted from the ESA on November 4, 2013 and is listed as depleted under the MMPA. The stock is classified as strategic and the PBR is 2,378 animals (NMFS 2010).

Distribution

Adult Steller sea lions congregate at rookeries in Oregon, California, and British Columbia for pupping and breeding from late May to early June (Gisiner 1985). Rookeries are usually located on remote island beaches where access by humans and other mammalian predators is difficult (WDFW 1993).

For Washington inland waters, the number of haulout sites has increased. Haulouts in the San Juan Islands include Green Point on Speiden Island (8 miles or 13 km northwest of Friday Harbor), North Peapod Rock (14 miles or 23 km northeast of Friday Harbor), Bird Rocks (12 miles or 19 km southeast of Friday Harbor) and Whale Rock (7 miles or 11 km south of Friday Harbor) (NMFS 2014).

3.3 CETACEANS

Smaller cetaceans that occur in the inland waters of Washington include:

- Harbor porpoise (*Phocoena phocoena*)
- Dall's porpoise (*Phocoenoides dalli*)
- Pacific White-sided Dolphin (*Lagenorhynchus obliquidens*)

Of these three species, harbor and Dall's porpoise are the most abundant and each number in the several thousands (Calambokidis and Baird 1994). Other species, such as the larger whales, are less numerous, but appear to be increasing.

3.3.1 HARBOR PORPOISE

There are two stocks of harbor porpoise (*Phocoena phocoena*) in the area. The Washington Inland Waters Stock occurs in waters east of Cape Flattery (Strait of Juan de Fuca, San Juan Island Region, and Puget Sound). Harbor porpoise have been spotted in deep water, but prefer to remain in shallower shelf waters (less than 150 meters) where they are most often observed in small groups of one to eight animals (Baird 2003).

There is little information available regarding food habits of the harbor porpoise in inland Washington waters (Hall 2004). Based on the results from Walker et al. (1998) and Hall (2004), harbor porpoise in British Columbia and Washington are opportunistic feeders, with prey species varying on seasonal abundance. They also likely alter their spatial and temporal distributions accordingly.

Numbers

The Washington Inland Waters Stock average population is 10,682 and based on 2002 and 2003 aerial surveys conducted in the Strait of Juan de Fuca, San Juan Islands, Gulf Islands, and Strait of Georgia (Carretta et al. 2007b). Estimates of harbor porpoise for the Strait of Juan de Fuca and the San Juan

Islands in 1991 were approximately 3,300 animals (Calambokidis et al. 1993). Puget Sound populations appear to be rebounding from declines in the 1990's with increased sightings in the central and southern Puget Sound (Carretta et al. 2007b, WSF 2012). The recent U.S. Navy 2014 density estimate, which includes all of this existing information, is 2.1 animals/km² (U.S. Navy 2014).

Status

The harbor porpoise is not listed under the ESA and is classified as non-depleted under the MMPA. The PBR for this stock is 63 harbor porpoise per year (NMFS 2011).

Distribution

Harbor porpoise are common in the Strait of Juan de Fuca and south into Admiralty Inlet, especially during the winter. They occur year-round and breed in the waters around the San Juan Archipelago and north into Canadian waters (Calambokidis and Baird 1994).

3.3.2 DALL'S PORPOISE

The segment of the Dall's porpoise (*Phocoenoides dalli*) population within Washington's inland waters was last assessed in 1996 by aerial surveys (Calambokidis et al. 1997). During a ship line-transect survey conducted in 2005, Dall's porpoise was the most abundant cetacean species off the Oregon and Washington coast (Forney 2007). Dall's porpoise are migratory and appear to have predictable seasonal movements driven by oceanographic conditions (Green et al. 1992, 1993). They prefer deeper waters being commonly observed in shelf and offshore waters (Reeves et al. 2002, Carretta et al. 2007b).

Their feeding strategies are likely dependent on prey species occurrence and distribution (Miller 1988) feeding on schooling fishes and cephalopods.

Numbers

The California, Oregon, and Washington stock mean abundance estimate of Dall's porpoise based on 2001 and 2005 ship surveys is 57,549 (Barlow 2003; Forney 2007). Within the inland waters of Washington and British Columbia, this species is most abundant in the Strait of Juan de Fuca east to the San Juan Islands. In 1994, Calambokidis and Baird (1994) estimated the Juan de Fuca population at 3,015 animals and the San Juan Island population at about 133 animals. In 1997, Calambokidis et al. estimated that 900 animals annually inhabited Washington's inland waters. The recent U.S. Navy 2014 density estimate, which includes all of this existing information, is 0.39 animals/km² (U.S. Navy 2014).

Status

Dall's porpoise are not listed under the ESA and is classified as non-depleted under the MMPA. The PBR for this stock is 257 porpoise per year (NMFS 2011).

Distribution

Dall's porpoise are migratory and appear to have predictable seasonal movements driven by oceanographic conditions (Green et al. 1992, 1993). Despite their migrations, Dall's porpoise occur in all

areas of inland Washington at all times of year (J. Calambokidis, personal communications, 2006 as cited by WSF 2012), but with different distributions throughout Puget Sound from winter to summer.

3.3.3 PACIFIC WHITE-SIDED DOLPHIN

Pacific white-sided dolphins (*Lagenorhynchus obliquidens*) are divided into northern and southern stocks within: 1) waters off California, Oregon, and Washington; and 2) Alaskan waters (Carretta et al. 2007b). These dolphins are occasionally seen in the northernmost part of the Strait of Georgia and in western Strait of Juan de Fuca, but are generally only rare visitors to this area (Calambokidis and Baird 1994).

Numbers

The California, Oregon, and Washington stock is estimated at 25,233 animals based on two recent ship surveys (Forney 2007). Surveys in Oregon and Washington coastal waters resulted in an estimated abundance of 7,645 animals (Forney 2007). There are no population estimates for Washington's inland waters. During aerial surveys of Washington inland waters conducted under WDFW's PSAMP program between 1992 and 2008, only a single group of three Pacific white-sided dolphins was observed (summer 1995 in the Strait of Juan de Fuca), although Osborne et al. (1988) states they are regularly reported in the Strait of Juan de Fuca and Haro Strait. There are few records for Puget Sound. The recent U.S. Navy 2014 density estimate, which includes all of this existing information, is 0.00248 animals/km² (U.S. Navy 2014).

Status

Pacific white-sided dolphins are not listed under the ESA and are classified as non-depleted under the MMPA. The PBR for this stock is 193 dolphins per year (NMFS 2011).

Distribution

Sighting patterns from aerial and shipboard surveys conducted in California, Oregon, and Washington at different times of the year (Green et al. 1992, 1993; Barlow 1995; Forney et al. 1995) suggest seasonal north-south movements, with animals found primarily off California during the colder water months and shifting northward into Oregon and Washington as water temperatures increase in late spring and summer (Green et al. 1992). Pacific white-sided dolphins have been reported to be regular summer and fall inhabitants of the Strait of Juan de Fuca and San Juan Islands (specifically Haro Strait) (Osborne et al. 1988), but are quite rare in Puget Sound. The Pacific white-sided dolphin is primarily a pelagic species that feeds along the continental slope or the shelf edge (Green et al. 1993; Calambokidis et al. 2004a).

4. STATUS AND DISTRIBUTION OF AFFECTED SPECIES OR STOCKS

This section has been combined with Section 3.0 for ease of writing and reading. Each requested topic (status, distribution, and seasonally distribution) has been clearly marked as a subheading in Section 3.0 for ease of finding relevant information.

5. TYPE OF INCIDENTAL TAKE AUTHORIZATION REQUESTED

The MMPA defines “harassment” as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment] (50 C.F.R, Part 216, Subpart A, Section 216.3-Definitions).

Level A is the more severe form of harassment because it may result in injury or death, whereas Level B only results in disturbance without the potential for injury.

5.1 INCIDENTAL TAKE AUTHORIZATION REQUEST

Under Section 101 (a)(5)(D) of the MMPA, the Port of Friday Harbor requests an IHA from September 1, 2014 through February 15, 2015 for Level B incidental take (behavioral harassment) of the marine mammals described within this application for the Friday Harbor Reconstruction of Docks C, E and F Project. Specifically, the requested authorization is for incidental harassment of any pinnipeds or small cetacean that might enter the 120 dB ZOI during active vibratory hammer activity. The scheduled pile-driving activities discussed in this application will occur between September 1, 2014 and February 15, 2015.

5.2 METHOD OF INCIDENTAL TAKING

The method of incidental take is Level B acoustical harassment of any non-listed marine mammal occurring within the 120 dB isopleth during vibratory pile removal or driving.

6. NUMBER OF MARINE MAMMALS THAT MAY BE AFFECTED

By age, sex, and reproductive condition (if possible), the number of marine mammals (by species) that may be taken by each type of taking identified in [Section 5], and the number of times such takings by each type of taking are likely to occur.

This section summarizes potential incidental take, by Level B acoustical harassment, of the following marine mammals during construction activities from the Port's Project: Eastern DPS Steller sea lion, harbor seal, California sea lion, Northern elephant seal, Dall's porpoise, harbor porpoise, and the Pacific white-sided dolphin.

6.1 ESTIMATED DURATION OF PILE DRIVING

As mentioned previously in Section 2.0, a likely scenario for Phase II of the Friday Harbor Marina Project assumes that it may take about 3 days to remove piles and between 13 and 26 days to install piles. The maximum total number of hours of pile removal activity is about 24.5 hours, and pile-driving activity is about 52 hours (averaging about 2.9 to 5.9 hours of active pile removal/driving for each construction day). The actual number of hours for the Project is expected to be less.

6.2 ESTIMATED ZONES OF INFLUENCE

Distances to the various NMFS thresholds for Level B (harassment) take for vibratory pile removal and driving were estimated and presented in the previous sections. The ZOIs for Friday Harbor are shown in Figure 1-3. These area will be monitored during construction to estimate actual harassment take of marine mammals.

Airborne noises can affect pinnipeds, especially resting seals hauled out on rocks, sand spits, or marina floats. The airborne 90 dB Level B threshold for hauled out harbor seals was estimated at 121 feet (37 meters).

6.3 ESTIMATED INCIDENTAL TAKES

Incidental take for each species is calculated by estimating the likelihood of a marine mammal being present within a ZOIs during active pile driving. Expected presence is determined by past observations and general abundance near Friday Harbor during the construction window. Typically, potential take is estimated by multiplying the area of the ZOI by the local animal density. This provides an estimate of the number of animals that might occupy the ZOI at any given moment. The recent U.S. Navy 2014 density estimates were used to calculate the take for the two ZOIs as shown in Table 6-1.

A take of "zero" animals was calculated for the Northern elephant seal, the Pacific white-sided dolphin, the humpback whale, the gray whale, the killer whale (both transient and resident) and the minke whale. Takes are not requested for these species.

Table 6-1: Take Estimates

Species	Density* (animals/ km ²)	Vibratory Pile Removal		Vibratory Pile Installation		Total
		ZOI Area (km ²)	No. Animals/ ZOI)	ZOI Area (km ²)	No. Animals/ ZOI)	
Eastern DPS Steller Sea Lion	0.9350	1.83	2	6.66	156	162
Harbor Seal	3.1799	1.83	6	6.66	546	593
California Sea Lion	0.6760	1.83	1	6.66	130	133
Dall's Porpoise	0.3900	1.83	1	6.66	78	81
Harbor Porpoise	2.1123	1.83	4	6.66	364	376

* Densities from U.S. Navy 2014 Report

6.3.1 Harbor Seal

The harbor seal is the most numerous marine mammal in the vicinity of Friday Harbor, occurring year-round. The nearest known haulout sites to the Friday Harbor Marina are the intertidal rocks NE of Point George and the rocks in Hicks Bay, both on Shaw Island approximately 2.9 miles NE of the marina (4.7 km). A third haulout is located out of the ZOI but still nearby at Tift Rocks, also located on Shaw Island about 3 miles (4.8 km) NE of the marina (Figure 1-3).

With relatively stable WA populations (Jeffries et al. 2003, NOAA 2011), data showing haulout use is less than 100 seals each (WDFW 2000) is anticipated to remain relatively accurate. Further, while the level of use of this haulout during the fall and winter is unknown, it is expected to be much less as air temperatures become colder than water temperatures resulting in seals using the haulouts less (Huber, personal communications, 2010, as cited by WSF 2012).

Recently, the WSF completed a pile replacement project at the Friday Harbor Ferry Terminal adjacent to the Port of Friday Harbor Marina. A request for 200 harbor seals over a ten day period for take by Level B harassment was submitted to NMFS (WSF 2014). One hundred seventy-seven harbor seals were taken during the course of the Friday Harbor WSF project.

Take Calculation:

Exposure estimate = (n * ZOI) * days of activity, where:

n = U.S. Navy density estimate for species

ZOI = sound threshold zone of influence area; the area encompassed by all locations where the SPLs equal or exceed the threshold being evaluated

n * ZOI = an estimate of the abundance of animals that could be present in the area for exposure, and is rounded to the nearest whole number before multiplying by days of total activity.

*Exposure estimate for vibratory pile removal = 6 * 3 days = 18*

*Exposure estimate for vibratory pile driving = 156 * 26 days = 546*

Total exposure estimate = (estimate for pile removal + estimate for pile driving) + one additional animal for every day of activity to account for the known older seal that is usually observed in the Port's marina = 18 + 546 + (29*1) = 593

Therefore, The Port of Friday Harbor is requesting authorization for Level B acoustical harassment of 593 harbor seals for the Friday Harbor project. It is assumed that this number will include multiple harassments of the same individual(s).

6.3.2 California Sea Lion

California sea lions are year-round residents of the San Juan Islands. Peak abundances are in the late fall and winter, which is when the proposed activities will take place. The nearest documented California sea lion haulout sites to Friday Harbor terminals are the intertidal rocks and reef areas around Trial Island and Race Rocks near Victoria, B.C. (about 15 miles or 24 km west of Friday Harbor). There are no documented haulout sites within any of the estimated ZOI although small numbers of sea lions may occasionally use navigation buoys in the San Juan Islands (WDFW 2000). The number of California sea lions using these haulouts is less than 100 per haulout (WDFW 2000).

There are no density estimates of California sea lions for the inland waters of Washington. The movement of California sea lions through the ZOI in the fall and winter is expected, but the total number of California sea lions that will enter Level B ZOI is estimated to be low. A 2013 WSF project at the Friday Harbor Ferry terminal requested a take of 50 California sea lions over 5 days of pile removal/driving activities at the terminal using an estimate within the ZOI of 5 animals (WSF 2012). A total of 3 California sea lions were reported (WSF 2014). Only 3 animals were recorded for the WSF project.

Take Calculation:

Exposure estimate = (n * ZOI) * days of activity

*Exposure estimate for vibratory pile removal = 2 * 3 days = 6*

*Exposure estimate for vibratory pile driving = 6 * 26 days = 156*

Total exposure estimate = estimate for pile removal + estimate for pile driving = 6 + 156 = 162

Therefore, the Port requests authorization for Level B acoustical harassment of 162 California sea lions for the project and it is assumed that this number will include multiple harassments of the same individual(s).

6.3.4 Steller Sea Lion

Haulouts in the San Juan Islands include Green Point on Speiden Island (8 miles or 13 km northwest of Friday Harbor), North Peapod Rock (14 miles or 23 km northeast of Friday Harbor), Bird Rocks (12 miles or 19 km southeast of Friday Harbor) and Whale Rock (7 miles or 11 km south of Friday Harbor) (NMFS 2014). There are no documented Steller sea lion haulouts within the project's ZOI.

For the WSF Friday Harbor Ferry Terminal Project, the WSF assumed that up to 5 Steller sea lions may be present in the ZOI (WSF 2012). No Stellers were observed during pile removal/driving activities (WSF 2014).

Take Calculation:

Exposure estimate = (n * ZOI) * days of activity

*Exposure estimate for vibratory pile removal = 1 * 3 days = 3*

*Exposure estimate for vibratory pile driving = 5 * 26 days = 130*

Total exposure estimate = estimate for pile removal + estimate for pile driving = 3 + 130 = 133

Therefore, the Port requests authorization for Level B acoustical harassment of 133 Steller sea lions for the project and it is assumed that this number will include multiple harassments of the same individual(s).

6.3.5 Harbor Porpoise

Harbor porpoise are present in the San Juan Islands year around, though peaks occur in the winter, when the proposed pile removal/driving activities are planned to take place (fall/winter).

Winter counts by WSF suggest that harbor porpoise are more present to the north and south west of the ZOI. The 2013 WSF project at the Friday Harbor Ferry Terminal requested a take of 100 animals over 5 days of pile removal/driving activities at the terminal using an estimate within the ZOI of 10 animals (WSF 2012). A total of 3 harbor porpoise were reported (WSF 2014).

Take Calculation:

Exposure estimate = (n * ZOI) * days of activity

*Exposure estimate for vibratory pile removal = 4 * 3 days = 12*

*Exposure estimate for vibratory pile driving = 14 * 26 days = 364*

Total exposure estimate = estimate for pile removal + estimate for pile driving = 12 + 364 = 376

Therefore, the Port requests authorization for Level B acoustical harassment of 376 harbor porpoise for the project and it is assumed that this number will include multiple harassments of the same individual(s).

6.3.6 Dall's Porpoise

The segment of the Dall's porpoise (*Phocoenoides dalli*) population within Washington's inland waters was last assessed in 1996 by aerial surveys (Calambokidis et al. 1997). During a ship line-transect survey conducted in 2005, Dall's porpoise was the most abundant cetacean species off the Oregon and Washington coast (Forney 2007). Dall's porpoise are migratory and appear to have predictable seasonal movements driven by oceanographic conditions (Green et al. 1992, 1993).

Their feeding strategies are likely dependent on prey species occurrence and distribution (Miller 1988, feeding on schooling fishes and cephalopods. Dall's porpoise prefer deeper waters being commonly observed in shelf and offshore waters (Reeves et al. 2002, Caretta et al. 2007b).

Given the Dall's porpoise preference for waters further north of the ZOI (WSF 2012), it is unlikely that they will occur frequently within the ZOI during project activities. No animals were recorded for the WSF project.

Take Calculation:

Exposure estimate = (n * ZOI) * days of activity

*Exposure estimate for vibratory pile removal = 1 * 3 days = 6*

*Exposure estimate for vibratory pile driving = 6 * 26 days = 156*

Total exposure estimate = estimate for pile removal + estimate for pile driving) = 6 + 156 = 162

Therefore, the Port requests authorization for Level B acoustical harassment of 126 Dall's porpoise for the project and it is assumed that this number will include multiple harassments of the same individual(s).

6.3.7 Total Number of Takes for Which Authorization is Requested

The total number of takes for which for Level B acoustical harassment take authorization is requested is presented in Table 6-1.

7. ANTICIPATED IMPACT ON SPECIES OR STOCKS

The anticipated impact of the activity upon the species or stock of marine mammals.

The Port of Friday Harbor is proposing to replace piles at their marina using a vibratory hammer (could use drilling but conservatively assuming vibratory to understand greatest impact to species) over a maximum of 76.5 hours spread over 13 to 26 days during the fall and winter of 2014/2015 (up to 24.5 hours for pile removal and up to 52 hours for pile driving). These activities generate sounds that exceed thresholds considered disturbing (Level B) to local marine mammals.

The Port of Friday Harbor is requesting authorization for Level B acoustical harassment take of the marine mammals listed in **Error! Reference source not found.**. These numbers in relation to the overall stock size and the effect that Level B acoustical harassment could have to individual recruitment or survival for harbor seals are discussed in further detail below.

7.1 HARBOR SEAL

The harbor seal population in the inland Washington waters is stable at approximately 14,612 individuals and is considered within its Optimum Sustainable Population level (Jeffries et al. 2003). An estimated 4,000 individuals are present in the San Juan Islands (Whale Museum 2012a). The estimate assumes multiple take of a few individuals (not single takes of 564 individuals). The requested number of takes represents about 14 percent of the San Juan population, but only 3.9 percent of the stock (14,612) as a whole. Further, local seals are accustomed to disturbance by local recreation activities (small and large vessels move throughout the area including large WSF ferries and many smaller recreational vessels). Thus, the small number of incidental takes of harbor seals by Level B acoustical harassment to this large, stable population is not expected to impact recruitment or survival and therefore, will have a negligible impact on the stock.

7.2 CALIFORNIA SEA LION

No California sea lion haulouts are present within the ZOI, so incidental takes will only occur to individuals transiting the 120 dB Level B acoustical harassment ZOI and will be for a short duration. Incidental takes are only expected to result in short-term changes in behavior. These takes would be unlikely to have any impact on stock recruitment or survival.

7.3 STELLER SEA LION

This requests incidental taking by Level B acoustical harassment of up to 301 takes. These takes would be unlikely to have any impact on stock recruitment or survival.

7.4 HARBOR PORPOISE

Harbor porpoise are relatively common in the San Juan Islands. This application requests incidental taking by Level B acoustical harassment of up to 677 harbor porpoise. This number is anticipated to represent multiple takes of a smaller number of individuals, which would be a smaller fraction of the harbor porpoise population estimate for the Washington Inland Waters stock. Incidental takes are only

expected to result in short-term changes in behavior. These takes would be unlikely to have any impact on stock recruitment or survival.

7.5 DALL'S PORPOISE

The California, Oregon, and Washington stock of Dall's porpoise is estimated at 57,549 individuals (Barlow 2003; Forney 2007). This application requests incidental taking by Level B acoustical harassment of up to 126 Dall's porpoise. Incidental takes are only expected to result in short-term changes in behavior. These incidental takes would be unlikely to have any impact on stock recruitment or survival.

8. ANTICIPATED IMPACT ON SUBSISTENCE

The anticipated impact of the activity on the availability of the species or stocks of marine mammals for subsistence uses.

8.1 SUBSISTENCE HARVESTS BY NORTHWEST TREATY INDIAN TRIBES

Pacific Northwest Native American tribes were known to hunt several species of marine mammals including pinnipeds and whales (WSF 2014). More recently, several Pacific Northwest Native American tribes have promulgated tribal regulations allowing tribal members to exercise treaty rights for subsistence harvest of harbor seals and California sea lions (Carretta et al. 2007). The directed take of marine mammals for ceremonial and/or subsistence purposes was enjoined by the Ninth Circuit Court of Appeals in rulings against the Makah in 2002, 2003, and 2004 (NMFS 2007). Currently, there are no authorized ceremonial and/or subsistence hunts for marine mammals in Puget Sound or the San Juan Islands (WSF 2012) with the possible exception of some coastal tribes who may allow a small number of directed take for subsistence purposes.

8.1.1 Harbor Seals and California Sea Lions

The U.S. Pacific Marine Mammal Stock Assessments for 2006 reports that there have been few takes of harbor seals from directed tribal subsistence hunts (Carretta et al. 2007a). They state that a few seals may have been taken in directed hunts because tribal fishers are able to use seals caught incidental to fishing operations in the northern Washington marine set gillnet and Washington Puget Sound Region treaty salmon gillnet fisheries for their subsistence needs.

Current estimates of annual subsistence take for California sea lions are zero to two animals per year (NMFS 2011).

No impacts on the availability of the species or stocks to the Pacific Northwest treaty tribes are expected as a result of the proposed project.

9. ANTICIPATED IMPACT ON HABITAT

The anticipated impact of the activity upon the habitat of the marine mammal populations, and the likelihood of restoration of the affected habitat.

9.1 INTRODUCTION

The proposed project involves the construction activities necessary to replace existing marina infrastructure within the Port of Friday Harbor Marina. This will primarily include the removal and installation of piles and floats. The Proposed Action does not change the overall function of the marina. Vessel traffic is not anticipated to increase after the Project has been completed.

General direct effects could include:

- Water quality impairment caused by increased water turbidity from disturbing sediment during pile removal or from construction debris or pollutants (i.e. miscellaneous construction debris and spills or leaks of hazardous materials from construction equipment could decrease water quality in the marina). Reduced water quality can result in species mortality, sublethal effects (i.e. stress, gill damage to fish, and increased susceptibility to disease) and negative behavioral responses (substantial disruptions to feeding and migration).
- Noise from inwater construction activities and equipment (specifically vibratory pile driving of steel pipe piles) could increase inwater sound to levels that could disturb marine species.
- Disturbance or loss of benthic organisms from the removal and disturbance of sediment from pile removal and installation or prop wash from construction barges.
- Disturbance or loss of macroalgae from the removal and disturbance of sediment from pile removal and installation or prop wash from construction barges.
- Avoidance of the area may occur throughout construction for a number of aquatic species.

These effects will be limited to the existing marina and immediately adjacent area as identified in the Action Area for the Project. They are anticipated to be temporary and localized in nature and are minimized as outlined within the conservation measures described in Section 11.

As the Project is maintaining an existing dock facility within an existing marina, with in-kind replacement of structures in or near the same footprint, adverse long-term impacts to fish, marine mammals and birds are not anticipated.

General indirect effects could include:

- Repopulation of the newly installed inwater surfaces (from replaced piles and floats) by more sedentary species (benthic prey species such as microorganisms, worms and crustaceans or macroalgae) will occur.

- Changes in distribution of the flora and fauna as a result in the changes in overwater shading from the proposed action.
 - The overall surface area of the floats (including transformer floats), knees, and walers within the marina will remain the same (17,771 square feet).
 - About 1,512 square feet of the replacement finger floats will be aluminum-framed with grated decking.
 - The overall surface area of piles will decrease by 305 square feet. Five of the piles to be removed are located within existing eelgrass patches. All five creosote treated piles will be removed and will not be replaced.
 - An overall reduction in artificial light and glare on marine surface waters is anticipated to improve wildlife habitat after the completion of this Project.
- The removal of 95 creosote treated timber piles and a number of treated timber float and finger structures is anticipated to improve fish and wildlife habitat by removing a possible source of water quality contamination. All removed timber piles and floats will be replaced with concrete, aluminum and / or steel materials.

9.2 IN-AIR NOISE DISTURBANCE TO HAULOUTS

In-air noise from vibratory pile driving is estimated to reach the behavioral threshold at about 121 feet (37 meters) for harbor seals and 40 feet (12 meters) for other pinnipeds. No haulout sites are within the in-air disturbance threshold distances. Therefore, no disturbance to hauled-out harbor seals is expected, but terrestrial noise-disturbance may disturb seals while surfacing when swimming within the threshold distances. In-air noise from non-pile driving construction activities is not expected to cause in-air disturbance to harbor seals, because the marina is subject to similar existing levels of in-air noise from ferry, boat, road, and other noise sources.

9.3 UNDERWATER NOISE DISTURBANCE

NMFS is currently using an underwater noise disturbance threshold of 120 dBRMS for pinnipeds and cetaceans for continuous noise sources. The distance to the Level B acoustical harassment thresholds is described in Section 2.

There are several short-term and long-term effects from noise exposure that may occur to marine mammals including impaired foraging efficiency and its potential effects on movements of prey, as well as harmful physiological conditions, energetic expenditures, and temporary or permanent hearing threshold shifts due to chronic stress from noise (Southall et al. 2007). The majority of the research on underwater noise impacts is on whales associated with vessel and navy sonar disturbances and does not often address impacts from pile driving. The NMFS (2008) states that the threshold levels at which anthropogenic noise becomes harmful to killer whales are poorly understood. Because whale and pinniped occurrence is for the most part transient near Friday Harbor, and underwater noise impacts are localized and of short duration, any impact on individual harbor seals will be limited.

9.4 WATER AND SEDIMENT QUALITY

Short-term water turbidity is associated with most in-water work, including removing and installing piles. The Port of Friday Harbor will comply with state water quality standards during in-water construction activities. WSF and others (Roni and Weitkamp 1996) have observed “little or no effect on dissolved oxygen, water temperature, and salinity”, and turbidity (measured in nephelometric turbidity units [NTU]) at all water depths nearest construction activities. Typically, turbidity was less than 1 NTU higher than that observed from sampling stations farther from the construction area. At the Friday Harbor Ferry Terminal, WSF has observed localized turbidity levels (from three timber pile removal events) of generally less than 0.5 NTU higher than background levels and never exceeded 1 NTU (WSF 2014).

In general, turbidity associated with pile installation is localized to about a 25-foot radius around the pile (Everitt et al. 1980). Harbor seals transiting the marina area are used to ongoing vessel traffic (the Marina is adjacent to the WSF Ferry Terminal) and can avoid the localized areas of turbidity. Therefore, the impact from increased turbidity levels is expected to be discountable to harbor seals. Removal of the 95 creosote-treated timber piles at Friday Harbor (does not include the removal of 3 steel piles) will also remove creosote from the marine environment. This will result in the potential, temporary and localized sediment re-suspension of some of the contaminants associated with creosote, such as polycyclic aromatic hydrocarbons. However, the actual removal of the creosote-treated wood piles from the marine environment will result in a long-term improvement in water and sediment quality.

9.5 PASSAGE OBSTRUCTIONS

Pile removal and installation operations at Friday Harbor will not obstruct movements of harbor seals or other marine mammals. The operations will occur within about 800 feet (244 meters) of the shoreline leaving miles/kilometers of the harbor for marine mammals to pass. Further, a construction barge will be used to remove and install the pilings. Vessels associated with construction barges are extremely slow moving (below 10 knots in open waters), can be easily detected by marine mammals, and are very unlikely to pose a strike hazard to any marine mammals in the area.

9.6 CONCLUSIONS REGARDING IMPACTS ON HABITAT

The most likely effects on harbor seal habitat for the proposed project are temporary, short duration underwater noise, and water quality effects. The direct loss of habitat available to seals during construction due to noise or water quality impacts and construction activity is expected to be minimal. All marine mammal species using habitat near the marina are primarily transiting through the area.

For the most part, any adverse effects on prey species during project construction will be short-term. Given the large numbers of fish and other prey species in the San Juan Islands, the short-term nature of effects on fish species, and the mitigation measures (using vibratory hammer and BMPs (operating outside the fish window) to protect salmonids during construction, the proposed project is not expected to have measurable effects on the distribution or abundance of potential marine mammal prey species.



Long-term water quality improvements will result with the replacement of creosote-treated timber piles with steel pilings. Because many of the marine mammal species potentially present are at the top of the food chain and have a long life expectancy, bioaccumulation of toxins is of concern.

Passage is not expected to be obstructed as a result of the Project. Any temporary obstruction due to barge placement will be limited in duration and traveling barges are too slow to strike harbor seals or other marine mammals.

10. ANTICIPATED IMPACT OF LOSS OR MODIFICATION OF HABITAT

The anticipated impact of the loss or modification of the habitat on the marine mammal populations involved.

The Project will occur within the Friday Harbor Marina and is not expected to result in a substantial permanent loss or modification of habitat for harbor seals or their food sources. The most likely effects on habitat for the Project are temporary, short duration underwater noise, prey (fish) disturbance, and minor water turbidity. The direct loss of habitat during construction due to noise or water quality impacts and construction activity is expected to be minimal.

11. CONSERVATION AND MITIGATION MEASURES

The availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, their habitat, and on their availability for subsistence uses, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Port of Friday Harbor in-water construction activities are subject to federal, state, and local permit regulations.

Implementation of the following conservation measures are proposed to avoid and minimize the potential for adverse effects on protected species:

- The Project has been designed to occur within the existing marina footprint surrounded by a USACE breakwater.
- The overall number of slips within the marina will not change substantially, but is reduced. The total surface area of floats, knees, walers, and electrical transformer units within the marina will remain the same (17,771 square feet).
- NMFS, Puget Sound Washington Regional Office recently requested that grating be incorporated into the replacement floats as part of the Project. The Project Team has incorporated grating into all of the smaller narrower finger floats located in shallower water. The total area of overwater cover that will now be grated is 1,512 square feet.
- Approximately 135 square feet of existing eelgrass patch is located close to existing floats proposed for replacement. These floats will be replaced in the same footprint with floats of the same size (no increase in eelgrass cover).
- The overall surface area of piles will decrease by 305 square feet. Five of the piles to be removed are located within existing eelgrass patches. All five creosote treated piles will be removed and will not be replaced. Most of the larger proposed replacement pile will be installed in water at depths greater than -20 feet MLLW.
- An overall reduction in artificial light and glare on marine surface waters is anticipated after the completion of this Project. Existing lights (used for night lighting) are attached to the top of poles at the marina. The lights shine over the floats and into the surrounding water. New lighted power posts (much shorter than the existing light poles) will be installed on the floats. Low LED lights from these new power posts will be directed onto the floats, not the water, therefore reducing existing glare and improving energy efficiencies within the marina.
- Ninety-five (95) treated creosote piles will be removed from the marine environment.
- Timing restrictions will be adhered to during in-water construction to avoid in-water work when ESA-listed salmonids are most likely to be present. The combined work window for in-water work for Friday Harbor is July 16 through February 15. Actual construction activities are planned

to take place after September 1 of both 2013 and 2014. All pile removal and driving will be conducted between September 1, 2014 and February 15, 2015.

- Replacement floats will be constructed offsite at an upland float manufacturing site. The float sections will then be transported to the marina by barge.
- Floatation for the structure shall be fully enclosed and contained to prevent the breakup or loss of the floatation material into the water.
- Replacement piles will be installed with vibratory pile driving whenever possible. Impact driving will not be used. This will minimize the potential for disturbance and injury on aquatic wildlife. Instead pile drilling will be used only if warranted given hard soil, rock, or bedrock conditions (when the use of a vibratory hammer is not sufficient to install the pile).
- Marine mammal monitoring is required for vibratory pile driving. A MMMP is included in Appendix A and updated in Appendix B).
- The contractor will be advised that eelgrass beds are protected under both state and Federal laws and will adhere to the following restrictions during construction:
 - Barge anchors and spuds shall not be deployed and shall not spud down in eelgrass and kelp.
 - Anchors shall be set and retrieved vertically; anchor tension shall be maintained such that anchor cables do not drag into the eelgrass beds.
 - Eelgrass and kelp shall not be adversely impacted due to any project activities (e.g., barge shall not ground, anchors and spuds shall not be deployed, equipment shall not operate, and other project activities shall not occur in eelgrass and kelp).
 - Construction barge/boat movements shall not shade any portion of the eelgrass habitat for a continuous period longer than four days between March 21 and September 21. Any portion of the eelgrass habitat that is shaded for four consecutive days shall receive, at a minimum, three consecutive days of uninterrupted natural light.
 - Minimal propulsion power shall be used when maneuvering barges between 0 feet MLLW and -20 feet MLLW for the protection of eelgrass habitat.
 - If at any time, as a result of project activities, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), immediate notification shall be made to the Washington Department of Ecology and the Washington State Department of Fish and Wildlife.
- Under no circumstances shall creosote treated piling or lumber be used for project construction.
- Water quality impacts from in-water work are anticipated to be temporary and localized (some turbidity during pile removal and installation in the immediate area of the construction).

Compliance with the Washington State Department of Ecology's water quality conditions is required.

- Debris or waste from construction will not be permitted to run into marine waters. Containment booms and absorbent sausage booms (or other oil absorbent fabric) shall be placed around the perimeter of the work area to capture wood debris, oil, and other materials released into marine waters as a result of construction activities. Any debris in the containment boom shall be removed by the end of the workday or when the boom is removed, whichever occurs first. All accumulated debris shall be collected and disposed upland at an approved disposal site.
- The contractor will be required to implement spill response procedures during construction and follow a Spill Prevention Plan. If the contractor observes any kind of sheen or other indication of contaminants in the water, they will immediately stop construction and notify the appropriate agency to determine appropriate action.
- All removed piles and floats will be placed on a barge and transported offsite. Any removed creosote treated wood and piles will be disposed of at an appropriate upland facility, which meet the liner and leachate standards of the Minimum Functional Standards, Chapter 173-304 WAC.

12. ARCTIC SUBSISTENCE USES, PLAN OF COOPERATION

Where the proposed activity would take place in or near a traditional Arctic subsistence hunting area and/or may affect the availability of a species or stock of marine mammal for Arctic subsistence uses, the applicant must submit either a plan of cooperation or information that identifies what measures have been taken and/or will be taken to minimize any adverse effects on the availability of marine mammals for subsistence uses. A plan must include the following:

- I. A statement that the applicant has notified and provided the affected subsistence community with a draft plan of cooperation;*
- II. A schedule for meeting with the affected subsistence communities to discuss proposed activities and to resolve potential conflicts regarding any aspects of either the operation or the plan of cooperation;*
- III. A description of what measures the applicant has taken an/or will take to ensure that proposed activities will not interfere with subsistence whaling or sealing; and*
- IV. What plans the applicant has to continue to meet with the affected communities, both prior to and while conducting activity, to resolve conflicts and to notify the communities of any changes in the operation.*

This section is not applicable. The proposed activities will take place in Washington State, specifically the San Juan Islands/Georgia Basin. No activities will take place in or near a traditional Arctic subsistence hunting area.

13. MONITORING AND REPORTING PLAN

The suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species, the level of taking or impacts on populations of marine mammals that are expected to be present while conducting activities and suggested means of minimizing burdens by coordinating such reporting requirements with other schemes already applicable to persons conducting such activity. Monitoring plans should include a description of the survey techniques that would be used to determine the movement and activity of marine mammals near the activity site(s) including migration and other habitat uses, such as feeding.

13.1 MONITORING PLAN

The Port of Friday Harbor has developed a Marine Mammal Monitoring Plan (MMMP) (Appendix A), which has been amended for take assessment of the identified marine mammals (Appendix B).

In the Northwest, if volunteers are used for marine mammal monitoring NMFS requires training or a show of experience for marine mammal identification. While volunteers were originally proposed for use for this project, the Port has currently selected a contractor who has already hired a sub-consultant firm to complete the marine mammal monitoring for the project. This firm is required to show the Port that their biologists have experience and expertise in marine mammal monitoring. The currently selected firm is coordinating directly with the regional NMFS office (Lynne Barre and Teresa Mongillo).

13.2 REPORTING PLAN

The Port of Friday Harbor will provide NMFS with a draft monitoring report within 90 days of the conclusion of monitoring. This report will detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed.

If comments are received from the Regional Administrator on the draft report, a final report will be submitted to NMFS within 30 days thereafter. If no comments are received from NMFS, the draft report will be considered to be the final report.

14. COORDINATING RESEARCH TO REDUCE AND EVALUATE INCIDENTAL TAKE

Suggested means of learning of, encouraging, and coordinating research opportunities, plans, and activities relating to reducing such incidental taking and evaluating its effects.

Underwater noise generated by vibratory pile driving during the Friday Harbor Marina Project is the primary issue of concern relative to local harbor seals.

The Port of Friday Harbor does plan to work with and coordinate with a local marine mammal biological firm in the area (JenJay, Inc.) to complete monitoring during construction. In addition they are considering using trained volunteers from the local community for some of the monitoring activities.

15. REFERENCES CITED

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APPENDIX A – PORT OF FRIDAY HARBOR PERMITS

Current state and federal permits and environmental review documentation completed and obtained for the Project includes:

1. U.S. Army Corps Permit No. NWS-2012-468 (dated April 29, 2013) and JARPA Drawings (dated March 2013).
2. Washington State Department of Fish and Wildlife (WDFW) Hydraulic Project Approval (HPA) Revision (email dated April 4, 2013) and HPA-123573-2 (dated May 6, 2013).
3. Abbreviated Biological Evaluation (BE) for Informal ESA Consultation (dated October 30, 2012). Includes the revised Marine Mammal Monitoring Plan (MMMP) dated 2013.
4. Findings of Fact, Conclusions of Law and Decision. Shoreline Substantial Development Permit Application No. 90 and SEPA Checklist No. 278. Adopted on September 1, 2011.
5. Revised Joint Aquatic Resources Permit Application (JARPA) dated May 2012. Note that overwater cover calculations and some float replacement descriptions may differ from final received permits. For overwater cover values, refer to the attached email dated April 4, 2013.

**U.S. Army Corps Permit No. NWS-2012-468 (dated April 29, 2013) and JARPA
Drawings (dated March 2013).**



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

APR 29 2013

Regulatory Branch

Mr. Bob Freeauf, Marina Facility Manager
Port of Friday Harbor
Post Office Box 889
Friday Harbor, Washington 98250

Reference: NWS-2012-468
Friday Harbor, Port of

Dear Mr. Freeauf:

We have reviewed your application to repair and make minor modifications to a marina in Friday Harbor at San Juan Island, San Juan County, Washington. Based on the information you provided to us, Nationwide Permit (NWP) 28, *Modifications of Existing Marinas* (Federal Register February 21, 2012, Vol. 77, No. 34), authorizes your proposal as depicted on the enclosed drawings dated March 2013.

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *NWP 28, Terms and Conditions* and the following special conditions:

a. You must implement and abide by the Endangered Species Act (ESA) requirements and/or agreements set forth in the *Abbreviated Biological Evaluation for Informal ESA Consultation*, dated October 30, 2012, the email addendum dated March 14, 2013, and the Marine Mammal Monitoring Plan dated March 2013, in their entirety. The National Marine Fisheries Service (NMFS) concurred with a finding of "may affect, not likely to adversely affect" based on these documents on April 12, 2013 (NMFS Reference Number NWR-2013-9503). The U.S. Fish and Wildlife Service (USFWS) concurred with a finding of "may affect, not likely to adversely affect" based on the biological evaluation on April 19, 2013 (USFWS Reference Number 01EWF00-2013-I-0091). Both agencies will be informed of this permit issuance. Failure to comply with the commitments made in this document constitutes non-compliance with the ESA and your U.S. Army Corps of Engineers permit. The USFWS/NMFS is the appropriate authority to determine compliance with ESA.

b. In order to meet the requirements of the Endangered Species Act and for the protection of Puget Sound Chinook, steelhead, and bull trout, you may conduct the authorized activities from July 16 through February 15 in any year this permit is valid. You shall not conduct work authorized by this permit from February 16 through July 15 in any year this permit is valid.

We have reviewed your project pursuant to the requirements of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act and the National Historic Preservation Act. We have determined this project complies with the requirements of these laws provided you comply with all of the permit general and special conditions.

The authorized work complies with the Washington State Department of Ecology's (Ecology) Water Quality Certification and the Coastal Zone Management Act requirements for this NWP. No further coordination with Ecology is required.

Friday Harbor is a water of the United States. If you believe this is inaccurate, you may request a preliminary or approved jurisdictional determination (JD). If one is requested, please be aware that we may require the submittal of additional information to complete the JD and work authorized in this letter may not occur until the JD has been completed.

Our verification of this NWP authorization is valid until March 18, 2017, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date and you have commenced or are under contract to commence this activity before March 18, 2017, you will have until March 18, 2018, to complete the activity under the enclosed terms and conditions of this NWP. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 10 of the Rivers and Harbors Act. You must also obtain all State and local permits that apply to this project.

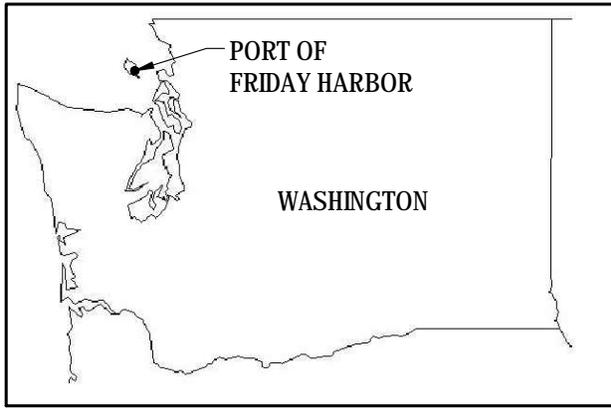
Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit* form. Thank you for your cooperation during the permitting process. We are interested in your experience with our Regulatory Program and encourage you to complete a customer service survey form. This form and information about our program is available on our website at www.nws.usace.army.mil select "Regulatory Branch, Permit Information" and then "Contact Us." A copy of this letter without enclosures will be furnished to Ms. Margaret Schwertner, Moffatt and Nichol, 600 University Street, Suite 610, Seattle, Washington 98101. If you have any questions, please contact me at susan.m.powell@usace.army.mil or at (206) 764-5527.

Sincerely,

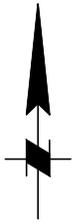


Susan Powell, Project Manager
Regulatory Branch

Enclosures

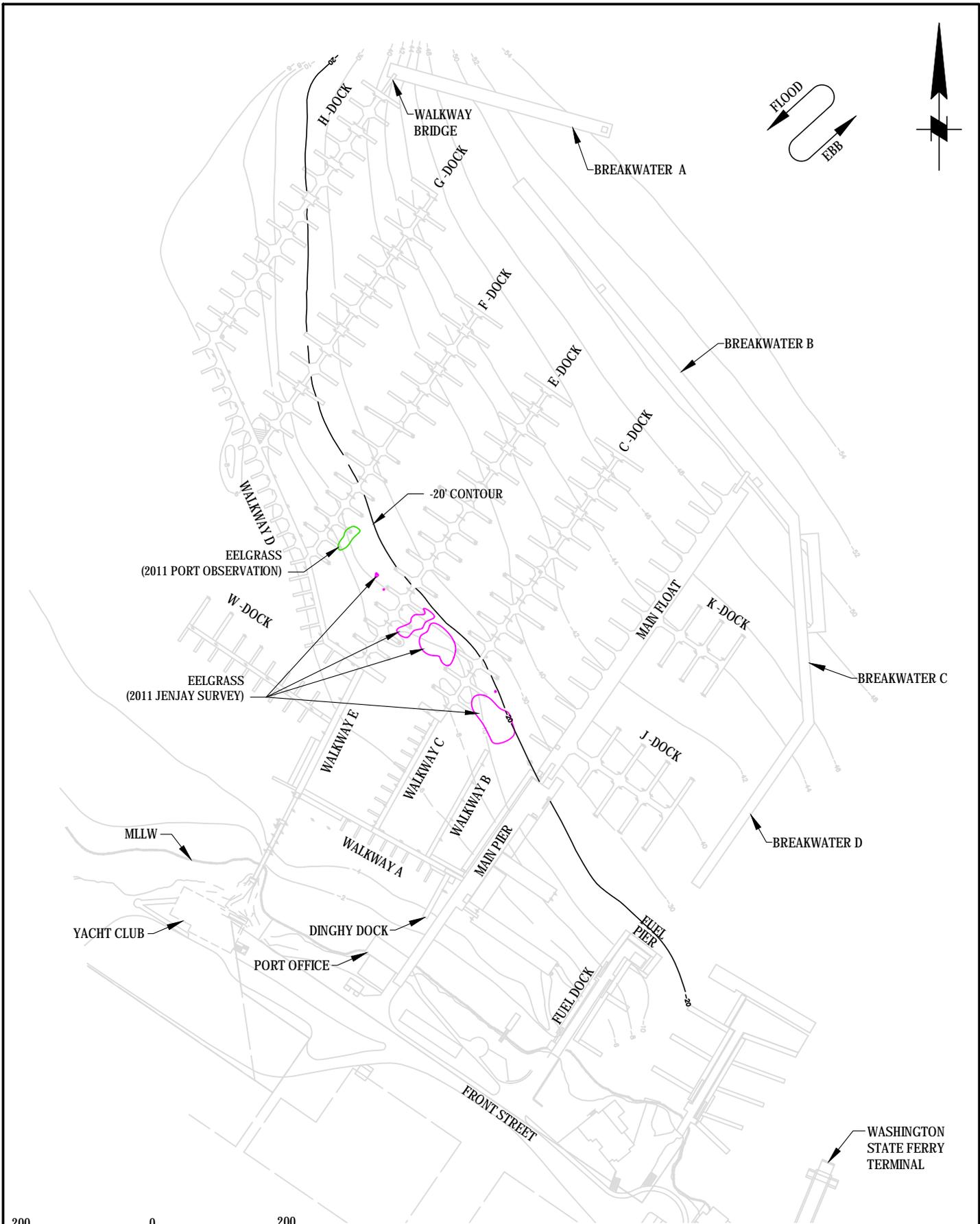


VICINITY MAP
NO SCALE



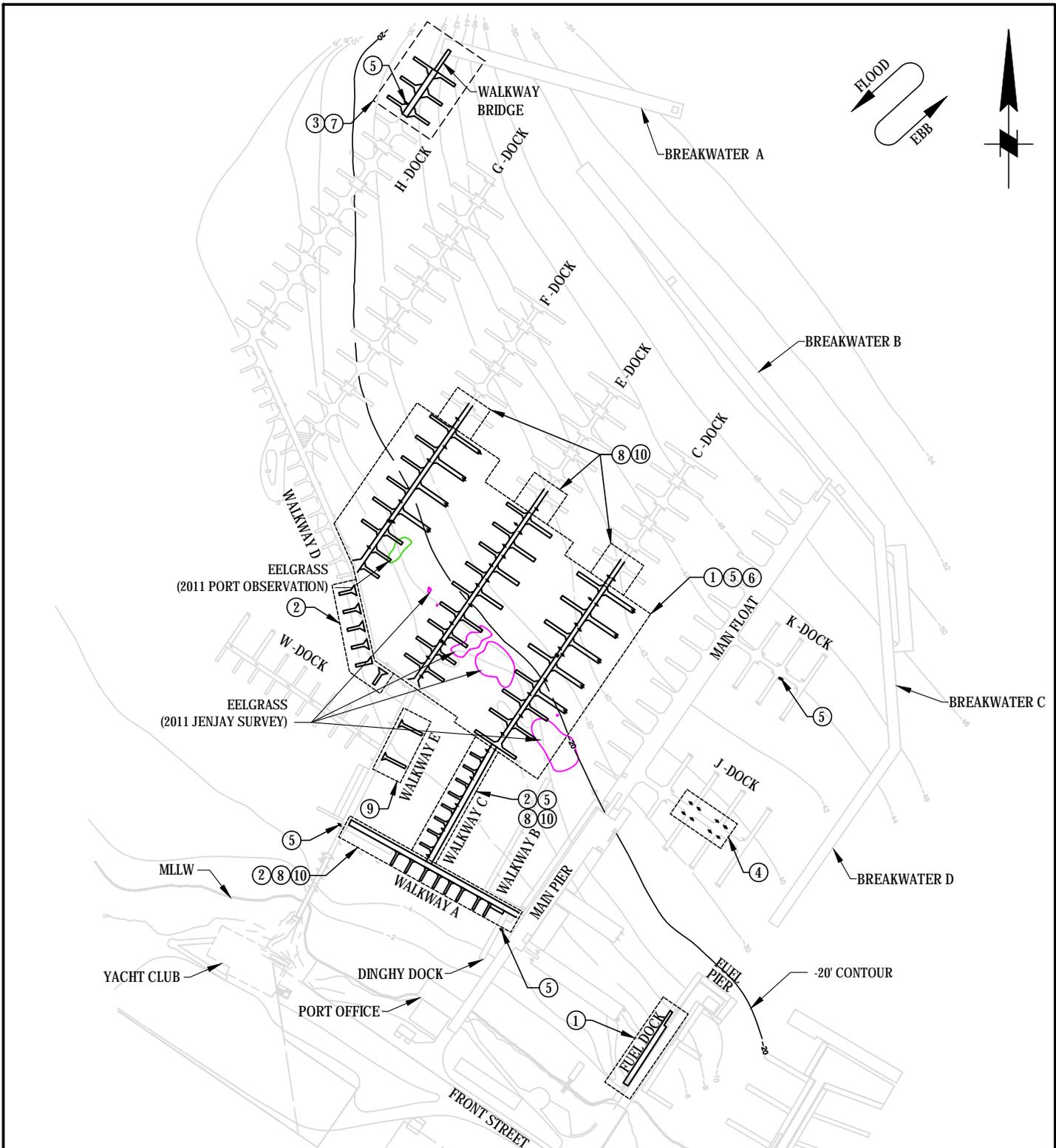
LOCATION MAP
NO SCALE

<p>PURPOSE: FLOAT, DOCK & PILE REPAIR</p> <p>DATUM: MLLW = 0.0'</p> <p>ADJACENT PROPERTY OWNERS: SEE JARPA</p>	<p>APPLICANT: PORT OF FRIDAY HARBOR</p> <p>LOCATION ADDRESS: PORT OF FRIDAY HARBOR 204 FRONT STREET N. FRIDAY HARBOR, WA 98250</p>	<p>PROPOSED: DOCKS C, E, & F RECONSTRUCTION PROJECT</p> <p>IN: FRIDAY HARBOR SEC: 12 T: 35 N R: 03 W COUNTY: SAN JUAN STATE: WA SHEET: 1 OF 5 DATE: MARCH 2013</p>
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EXISTING SITE PLAN

<p>PURPOSE: FLOAT, DOCK & PILE REPAIR</p> <p>DATUM: MLLW = 0.0'</p> <p>ADJACENT PROPERTY OWNERS: SEE JARPA</p>	<p>APPLICANT: PORT OF FRIDAY HARBOR</p> <p>LOCATION ADDRESS: PORT OF FRIDAY HARBOR 204 FRONT STREET N. FRIDAY HARBOR, WA 98250</p>	<p>PROPOSED: DOCKS C, E, & F RECONSTRUCTION PROJECT</p> <p>IN: FRIDAY HARBOR SEC: 12 T: 35 N R: 03 W COUNTY: SAN JUAN STATE: WA SHEET: 2 OF 5 DATE: MARCH 2013</p>
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PROPOSED SITE PLAN

LEGEND:

- ① REPLACE TIMBER FLOATS WITH CONCRETE FLOATS.
- ② REPLACE FINGER FLOATS WITH GRATED AL FLOATS.
- ③ REPLACE CONCRETE FLOAT WITH CONCRETE FLOAT.
- ④ REPAIR TOP OF DAMAGED PILING AND ASSOCIATED CROSS BRACING.
- ⑤ REPLACE TIMBER PILING WITH STEEL PIPE PILING.

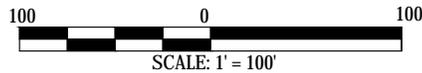
- ⑥ INSTALL ELECTRICAL SERVICE INCLUDING POWER POSTS.
- ⑦ REPLACE DAMAGED WALKWAY BRIDGE WITH SIMILAR SYSTEM.
- ⑧ REPLACE WALERS.
- ⑨ INSTALL NEW CONCRETE FINGER FLOATS.
- ⑩ RELOCATE UTILITIES WHERE WALERS ARE REPLACED AND WHERE ELECTRICAL LINES DISPLACE UTILITIES.

<p>PURPOSE: FLOAT, DOCK & PILE REPAIR</p> <p>DATUM: MLLW = 0.0'</p> <p>ADJACENT PROPERTY OWNERS: SEE JARPA</p>	<p>APPLICANT: PORT OF FRIDAY HARBOR</p> <p>LOCATION ADDRESS: PORT OF FRIDAY HARBOR 204 FRONT STREET N. FRIDAY HARBOR, WA 98250</p>	<p>PROPOSED: DOCKS C, E, & F RECONSTRUCTION PROJECT</p> <p>IN: FRIDAY HARBOR SEC: 12 T: 35 N R: 03 W COUNTY: SAN JUAN STATE: WA SHEET: 3 OF 5 DATE: MARCH 2013</p>
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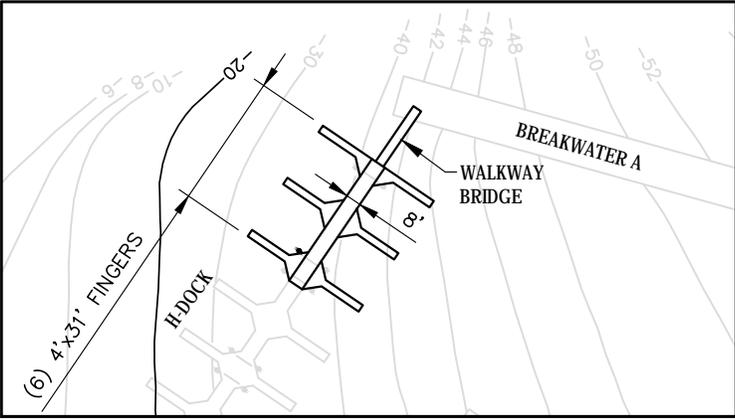


NOTE: PILE SIZE IS NOT TO SCALE

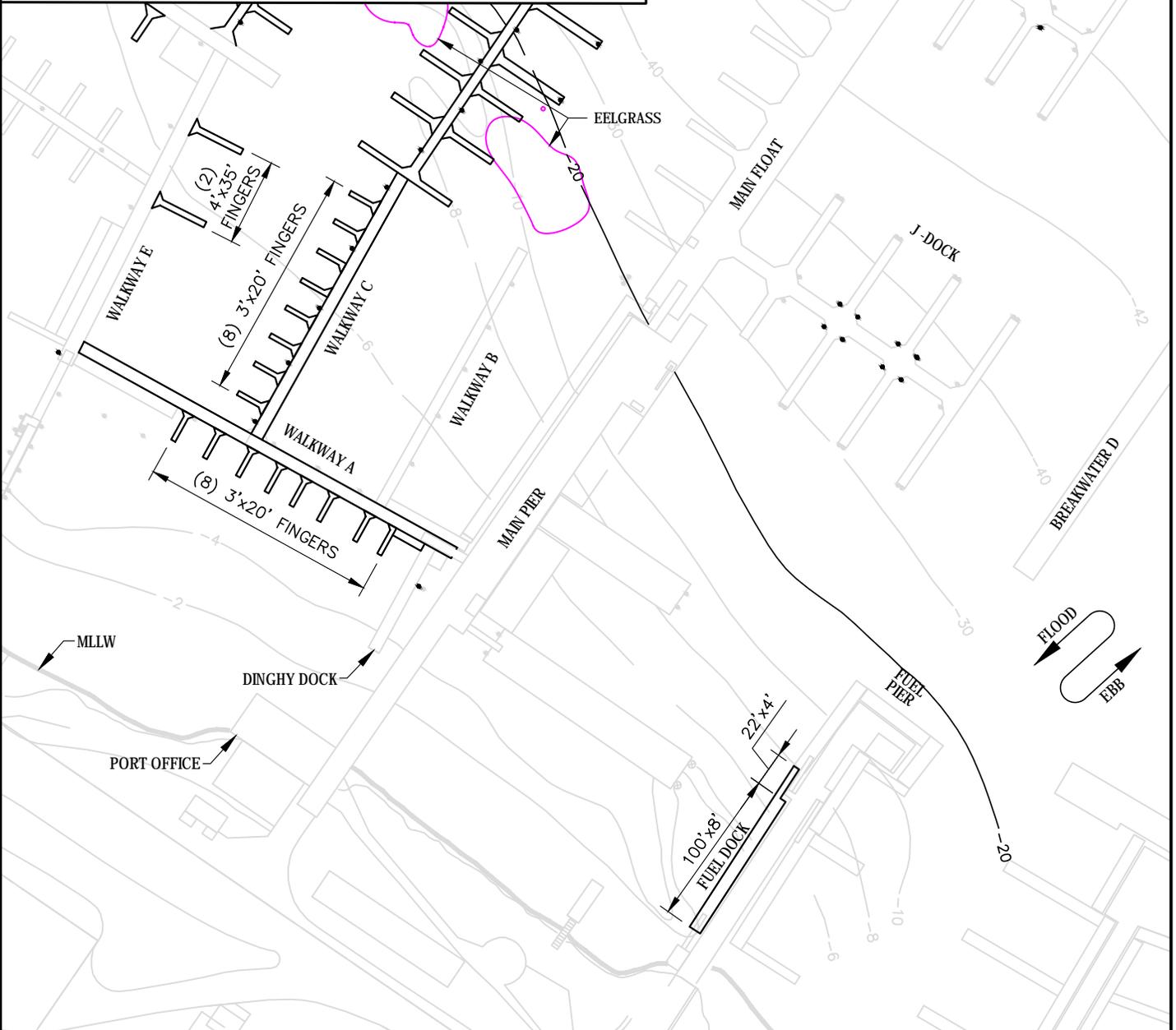
DOCKS C, E, F, & WALKWAY D



PURPOSE: FLOAT, DOCK & PILE REPAIR	APPLICANT: PORT OF FRIDAY HARBOR	PROPOSED: DOCKS C, E, & F RECONSTRUCTION PROJECT	
DATUM: MLLW = 0.0'	LOCATION ADDRESS:	IN: FRIDAY HARBOR	R: 03 W
ADJACENT PROPERTY OWNERS: SEE JARPA	PORT OF FRIDAY HARBOR 204 FRONT STREET N. FRIDAY HARBOR, WA 98250	SEC: 12 T: 35 N	STATE: WA
		SHEET: 4 OF 5	DATE: MARCH 2013

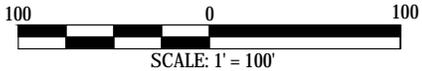


H-DOCK



NOTE: PILE SIZE IS NOT TO SCALE

WALKWAY A, C, E, J-DOCK, K-DOCK & FUEL DOCK



<p>PURPOSE: FLOAT, DOCK & PILE REPAIR</p> <p>DATUM: MLLW = 0.0'</p> <p>ADJACENT PROPERTY OWNERS: SEE JARPA</p>	<p>APPLICANT: PORT OF FRIDAY HARBOR</p> <p>LOCATION ADDRESS: PORT OF FRIDAY HARBOR 204 FRONT STREET N. FRIDAY HARBOR, WA 98250</p>	<p>PROPOSED: DOCKS C, E, & F RECONSTRUCTION PROJECT</p> <p>IN: FRIDAY HARBOR SEC: 12 T: 35 N R: 03 W COUNTY: SAN JUAN STATE: WA SHEET: 5 OF 5 DATE: MARCH 2013</p>
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Washington State Department of Fish and Wildlife (WDFW) Hydraulic Project Approval (HPA) Revision (email dated April 4, 2013) and HPA-123573-2 (dated May 6, 2013).

Schwertner, Margaret

From: Schwertner, Margaret
Sent: Thursday, April 04, 2013 2:20 PM
To: 'hpaapplications@dfw.wa.gov'
Cc: Arber, Laura (DFW) (Laura.Arber@dfw.wa.gov)
Subject: POFH Docks C,E, F Reconstruction - Request for Revision to HPA 123573-1
Attachments: NWS-2012-0468 Revised Sheets.pdf; 123573-1.pdf

To: WDFW,

The above referenced project received an HPA 123573-1 (attached) from WDFW on June 25, 2012. Since that time, the Project Team (Moffatt & Nichol for the Port of Friday Harbor) has identified the need for modifications to the approved marina project (see the attached revised drawings and below summary). At this time we request a revised HPA, if at all possible. Please do not hesitate to contact me with any questions, concerns or requirements for additional information.

Summary of Changes from Project Approved in HPA 123573-1:

- Existing overwater cover proposed for replacement is actually smaller than originally calculated. Existing cover was originally based on Port as-built CAD drawings and further recent field investigations have now confirmed the revised existing overwater cover area. The corrections included updating float knee areas to actual dimensions measured in the field and including previously missed overwater areas along the walkways (accounted for miscalculation of about 344 sf).
- Changes due to improved design information or requested by the Port of Friday Harbor on Walkways D and E (net change of about 261 sf):
 - Instead of removing 7 finger floats and replacing with 3 on Walkway D, replace all 7 finger floats.
 - Instead of installing 3 new floats on Walkway E, install only 2 new finger floats.
 - The original proposed installation of 6 transformer floats (96 sf), necessary to carry power out in the marina, has now been changed to 5 slightly larger transformer floats after further design (199 sf).
- Grating was required by NMFS for the replacement finger floats. The Project Team has incorporated grated decking into all of the smaller narrower finger floats located in shallower water (see Sheet 3). Grating was not proposed for the larger floats in deeper water as concrete is stronger than aluminum. If grating was proposed for the longer, wider finger floats, additional piles would need to be installed at each and every finger to resist the berthing loads of larger vessels. The concrete design will also protect the structural integrity of the floats at the main walkway connections providing many more years of minimal float maintenance. After coordination with NMFS, the Port of Friday Harbor is now incorporating grated decking into the shallower proposed replacement floats (approximately 1,512 sf of the replacement floats).
- To accommodate the above changes a few other finger float modifications were proposed. This has resulted in the following FINAL and CORRECTED overwater cover areas:
 - a. Previous existing overwater cover was 18,115 sf and the previous proposed overwater square cover was 17,510 sf.
 - b. Corrected existing overwater cover is 17,771 sf and corrected proposed overwater square cover was 17,771sf.
 - c. 1,512 sf of the replacement finger floats will now be aluminum-framed with grated decking.

If you have any further questions, please do not hesitate to contact me.

Regards,



HYDRAULIC PROJECT APPROVAL

RCW 77.55.021 - See appeal process at end of HPA

North Puget Sound
16018 Mill Creek Boulevard
Mill Creek, WA 98012-1296
(425) 775-1311

Issue Date: May 06, 2013

Control Number: 123573-2

Project Expiration Date: June 24, 2017

FPA/Public Notice #: N/A

<u>PERMITTEE</u>	<u>AUTHORIZED AGENT OR CONTRACTOR</u>
Port of Friday Harbor ATTENTION: Bob Freeauf PO Box 889 Friday Harbor, WA 98250 360-378-2688 Fax: 360-378-6114	Moffat & Nichol ATTENTION: Margaret Schwertner 600 University St Ste 610 Seattle, WA 98101 206-622-0222 Fax: 206-622-4764

Project Name: Reconstruction of Docks C, E, and F

Project Description: Repair, replacement and reconstruction for Docks C, E, F, H, J, Fuel Dock, Walkways A, C and D, pile replacement, and new electrical system

PROVISIONS

NOTE: At the request of Margaret Schwertner with Moffat & Nichol, on April 4, 2013, this Hydraulic Project Approval (HPA), which now supersedes all previous HPAs for this project, is a provision change of the original HPA issued June 25, 2012. See Provision 2, 7, 15 and 17.

1. **TIMING LIMITATIONS:** The project may begin June 15 and shall be completed by June 24, 2017, provided work below the ordinary high water line shall not occur from March 15 through June 14 of any year for the protection of migrating juvenile salmonids. An exception exists for delivery of pre-constructed float delivery and installation.
2. **APPROVED PLANS:** Work shall be accomplished per revised plans and specifications approved by the Washington Department of Fish and Wildlife entitled PORT OF FRIDAY HARBOR RECONSTRUCTION OF DOCKS C, E, & F, dated March 2013, and attached E-mail entitled, 'RE: 'POFH DOCKS C, E, F RECONSTRUCTION - REQUEST FOR REVISION', received on (April 4, 2013), except as modified by this Hydraulic Project Approval. A copy of these plans shall be available on site during construction.
3. **NOTIFICATION REQUIREMENT:** The permittee or contractor shall notify the Area Habitat Biologist (AHB) listed below by phone (425)379-2306, or email (Laura.Arber@dfw.wa.gov) of the project start date. Notification shall be received by the AHB prior to the start of construction activities. The notification shall include the control number for this HPA, applicants name, project location, and the starting date for work.
4. **PHOTOGRAPHS:** A minimum of 8 photographs portraying the newly reconstructed docks from all sides shall be provided to the habitat biologist listed below, within 14 days of project completion.
5. All trash and unauthorized fill, including concrete blocks or pieces, bricks, asphalt, metal, treated wood, glass, floating debris, and paper, below the ordinary high water line (OHWL) in and around the applicant's project area shall be removed and deposited at an approved upland disposal site.
6. This approval is for repair/replacement of the existing structure only and shall not result in

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Control Number: 123573-2

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FPA/Public Notice #: N/A

expansion of the structure.

MARINA RECONSTRUCTION

7. Project activities shall include pile repair/replacement, float and walkway replacement, overwater coverage upgrades, and steel bridge replacement as illustrated in your revised plans dated March 2013, except as modified by this Hydraulic Project Approval.

8. During project construction, containment booms and absorbent sausage booms (or other oil-absorbent fabric) shall be placed around the perimeter of the work area to capture wood debris, oil, and other materials released into marine waters as a result of construction activities. All accumulated debris shall be collected and disposed upland at an approved disposal site.

9. The 95 existing creosote treated timber pilings shall be removed and disposed of upland such that they do not enter waters of the state. In the event that the piles cannot be completely removed then the remainder of the pile shall be removed with a clamshell bucket, chain, or similar means, or cut off 2 ft below the mudline. A clamshell bucket shall not be used on piles located in eelgrass that break off, but instead shall use a diver and small hand-held tools to cut the pile approximately 1-foot below the mudline.

10. As specified in the application, the 52 new pilings shall be steel.

11. The use of both a vibratory and impact hammer is authorized under this HPA. If bedrock is encountered, drilling is permitted under this HPA. Drilling shall be done in the dry as much as possible, except for piles located at subtidal depths.

12. Sound attenuation methods are required for the driving or proofing of steel piles with an impact hammer below the ordinary high water line. For impact driving of steel piles that exceed the following criteria, a bubble curtain or other WDFW approved sound attenuation device shall be used. The specific criteria include sound pressure levels of:

- a. Greater than or equal to 206 dB (one microPascal squared per second) peak,
- b. Greater than or equal to 187 dB (one microPascal squared per second) accumulated sound exposure level (SEL) for fish greater than or equal to 2 grams, and
- c. Greater than or equal to 183 dB (one microPascal squared per second) (SEL) for fish less than 2 grams.

The bubble curtain shall be installed and properly functioning around the pile during all driving operations. The bubble curtain shall distribute air bubbles around 100 percent of the perimeter of the piling over the full length of the pile in the water column.

13. As specified in the application, the five piles located within existing eelgrass patches shall be removed and not replaced.

14. The existing floats shall not be re-located within waters of the state without written authorization from WDFW. They shall be removed and disposed of upland such that they do not re-enter such waters.

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15. The new moorage floats shall be installed in the configuration illustrated in your revised project plans dated March 2013.
16. The float centerlines shall be re-established during the construction phase using the same methodology employed to establish the centerline during the vegetation survey to ensure protection of eelgrass habitat.
17. As illustrated in your plans, the smaller narrower finger floats located in shallow water shall be grated (approximately 1,512 sf). The light permeable grating shall have, at a minimum, 60% open space. Floatation shall be located under the solid decked area only. The grated area shall not be used for storage purposes.
18. As illustrated in the revised application, replacement of floats located over existing eelgrass beds shall not result in an increase in overwater coverage. Replacement of other proposed floats shall be designed and constructed to provide, at a minimum, a ten-foot buffer between the floats and eelgrass habitat.
19. Under no circumstances shall creosote treated piling or lumber be used for project construction.
20. Skirting or other structures shall not be constructed around piers, docks, or floats.
21. The floats and associated moorings shall have been designed and shall have been located to avoid shading of eelgrass (*Zostera* spp).
22. No portion of the dock or float system shall ground. Float stops shall be installed where necessary to maintain at all times a minimum space of one (1) foot between the bottom of the dock or float and the beach grade by use of float stops attached to the pilings or other WDFW approved method.
23. Floatation for the structure shall be fully enclosed and contained to prevent the breakup or loss of the floatation material into the water.
24. All treated wood, piling, and lumber to be used for the project shall meet or exceed the standards established in 'Best Management Practices For the Use of Treated Wood in Aquatic and Other Sensitive Environments' developed by the Western Wood Preservers Institute (<http://www.wwpinstitute.org/>), revised November 2011, and any current amendments.
25. Structures built of treated wood shall incorporate features, such as steel, plastic or rubber collars, fendering or other systems to prevent or minimize the abrasion of the treated wood by floats, ramps or vessels. Under no circumstances shall rubber tires be used for the fender system.
26. Sawdust, drillings, and trimmings from treated wood shall be contained with tarps or other impervious materials and prevented from contact with the beach, bed or waters of the state.



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27. All piling, lumber, and other materials treated with preservatives shall be sufficiently cured to minimize leaching into the water or bed.

BARGE OPERATIONS

28. Construction barge/boat movements shall not shade any portion of the eelgrass habitat for a continuous period longer than 4 days between March 21 and September 21. Any portion of the eelgrass habitat that is shaded for 4 consecutive days shall receive, at a minimum, 3 consecutive days of uninterrupted natural light.

29. If eelgrass or kelp is present, vessel operation shall be restricted to tidal elevations adequate to prevent propeller related damage to vegetation.

30. Barges shall not ground between MLLW and the -20.0 tide elevation (MLLW = 0.00) for the protection of eelgrass habitat.

31. Minimal propulsion power shall be used when maneuvering barges between MLLW and the -20.0 tide elevation (MLLW = 0.00) for the protection of eelgrass habitat.

32. Barge anchors and spuds shall not be deployed and shall not spud down in eelgrass and kelp.

33. Barge anchors and spuds shall not be placed between MLLW and the -20.0 tide elevation (MLLW = 0.00) for the protection of eelgrass habitat.

34. Anchors shall be set and retrieved vertically; anchor tension shall be maintained such that anchor cables do not drag.

35. Eelgrass and kelp shall not be adversely impacted due to any project activities (e.g., barge shall not ground, anchors and spuds shall not be deployed, equipment shall not operate, and other project activities shall not occur in eelgrass and kelp).

WATER QUALITY PROVISIONS

36. Project activities shall be conducted to minimize siltation of the beach area and bed.

37. If at any time, as a result of project activities, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), immediate notification shall be made to the Washington Department of Ecology at 1-800-258-5990, and to the Area Habitat Biologist listed below.

38. All debris or deleterious material resulting from construction shall be removed from the beach area and bed and prevented from entering waters of the state.

39. No petroleum products or other deleterious materials shall enter surface waters.



HYDRAULIC PROJECT APPROVAL

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40. Wood treated with preservatives, trash, waste, or other deleterious materials shall not be burned below the ordinary high water line. Limited burning of untreated wood or similar material may be allowed at or above the mean higher high water line.

41. Project activities shall not degrade water quality to the detriment of fish life.

PROJECT LOCATIONS

Location #1 Friday Harbor Marina

WORK START: June 15, 2013				WORK END: June 24, 2017		
WRIA: 02.9070		Waterbody: Wria 02 Marine		Tributary to: Puget Sound		
1/4 SEC: All	Section: 12	Township: 35 N	Range: 03 W	Latitude: N 48.536667	Longitude: W 123.01528	County: San Juan
Location #1 Driving Directions						
San Juan Island, Friday Harbor						

APPLY TO ALL HYDRAULIC PROJECT APPROVALS

This Hydraulic Project Approval pertains only to those requirements of the Washington State Hydraulic Code, specifically Chapter 77.55 RCW (formerly RCW 77.20). Additional authorization from other public agencies may be necessary for this project. The person(s) to whom this Hydraulic Project Approval is issued is responsible for applying for and obtaining any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.

This Hydraulic Project Approval shall be available on the job site at all times and all its provisions followed by the person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work.

This Hydraulic Project Approval does not authorize trespass.

The person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work may be held liable for any loss or damage to fish life or fish habitat that results from failure to comply with the provisions of this Hydraulic Project Approval.

Failure to comply with the provisions of this Hydraulic Project Approval could result in a civil penalty of up to one hundred dollars per day and/or a gross misdemeanor charge, possibly punishable by fine and/or imprisonment.

All Hydraulic Project Approvals issued under RCW 77.55.021 are subject to additional restrictions, conditions, or revocation if the Department of Fish and Wildlife determines that changed conditions require such action. The person(s) to whom this Hydraulic Project Approval is issued has the right to appeal those decisions. Procedures for filing appeals are listed below.

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MINOR MODIFICATIONS TO THIS HPA: You may request approval of minor modifications to the required work timing or to the plans and specifications approved in this HPA. A minor modification to the required work timing means up to a one-week deviation from the timing window in the HPA when there are no spawning or incubating fish present within the vicinity of the project. You may request subsequent minor modifications to the required work timing. A minor modification of the plans and specifications means any changes in the materials, characteristics or construction of your project that does not alter the project's impact to fish life or habitat and does not require a change in the provisions of the HPA to mitigate the impacts of the modification. Minor modifications do not require you to pay additional application fees or be issued a new HPA. To request a minor modification to your HPA, submit a written request that clearly indicates you are requesting a minor modification to an existing HPA. Include the HPA number and a description of the requested change and send by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234, or by email to HPAapplications@dfw.wa.gov. Do not include payment with your request. You should allow up to 45 days for the department to process your request.

MAJOR MODIFICATIONS TO THIS HPA: You may request approval of major modifications to any aspect of your HPA. Any approved change other than a minor modification to your HPA will require issuance of a new HPA. If you paid an application fee for your original HPA you must include payment of \$150 with your written request or request billing to an account previously established with the department. If you did not pay an application fee for the original HPA, no fee is required for a change to it. To request a major modification to your HPA, submit a written request that clearly indicates you are requesting a major modification to an existing HPA. Include the HPA number, check number or billing account number, and a description of the requested change. Send your written request and payment, if applicable, by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234. If you are charging the fee to a billing account number or you are not subject to the fee, you may email your request to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.

APPEALS INFORMATION

If you wish to appeal the issuance, denial, conditioning, or modification of a Hydraulic Project Approval (HPA), Washington Department of Fish and Wildlife (WDFW) recommends that you first contact the department employee who issued or denied the HPA to discuss your concerns. Such a discussion may resolve your concerns without the need for further appeal action. If you proceed with an appeal, you may request an informal or formal appeal. WDFW encourages you to take advantage of the informal appeal process before initiating a formal appeal. The informal appeal process includes a review by department management of the HPA or denial and often resolves issues faster and with less legal complexity than the formal appeal process. If the informal appeal process does not resolve your concerns, you may advance your appeal to the formal process. You may contact the HPA Appeals Coordinator at (360) 902-2534 for more information.

A. INFORMAL APPEALS: WAC 220-110-340 is the rule describing how to request an informal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete informal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request an informal appeal of that action. You must send your request to WDFW by mail to the Washington Department of Fish and Wildlife HPA Appeals Coordinator, 600 Capitol Way North, Olympia, Washington 98501-1091; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. WDFW must receive your request within 30 days from the date you receive notice of the decision. If you agree, and you applied for the HPA, resolution of the appeal may be facilitated through an informal conference with the WDFW employee responsible for the decision and a supervisor. If a resolution is not reached through the informal conference, or you are not the person who applied for the HPA, the HPA Appeals Coordinator or designee will conduct an informal hearing and recommend a decision to the Director or designee. If you are not satisfied with the results of the informal appeal, you may file a request for a formal appeal.

B. FORMAL APPEALS: WAC 220-110-350 is the rule describing how to request a formal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete formal appeal procedures. The following information summarizes that rule.



HYDRAULIC PROJECT APPROVAL

RCW 77.55.021 - See appeal process at end of HPA

North Puget Sound
16018 Mill Creek Boulevard
Mill Creek, WA 98012-1296
(425) 775-1311

Issue Date: May 06, 2013

Control Number: 123573-2

Project Expiration Date: June 24, 2017

FPA/Public Notice #: N/A

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request a formal appeal of that action. You must send your request for a formal appeal to the clerk of the Pollution Control Hearings Boards and serve a copy on WDFW within 30 days from the date you receive notice of the decision. You may serve WDFW by mail to the Washington Department of Fish and Wildlife HPA Appeals Coordinator, 600 Capitol Way North, Olympia, Washington 98501-1091; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, you may request a formal appeal within 30 days from the date you receive the Director's or designee's written decision in response to the informal appeal.

C. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS: If there is no timely request for an appeal, the WDFW action shall be final and unappealable.

ENFORCEMENT: Sergeant Mullins (33) P2

Habitat Biologist
Laura Arber

425-379-2306

for Director
WDFW

CC:

Abbreviated Biological Evaluation (BE) for Informal ESA Consultation (dated October 30, 2012). Includes the revised Marine Mammal Monitoring Plan (MMMP) dated 2013.

**ABBREVIATED BIOLOGICAL EVALUATION
FOR INFORMAL ESA CONSULTATION**

**For Impacts to Aquatic and Terrestrial Listed Species and Designated / Proposed Critical Habitat from
The Port of Friday Harbor: Reconstruction of Docks C, E, and F Project
USACE Reference No. NWS-2012-468
October 30, 2012**



**Applicant: Port of Friday Harbor
Contact: Bob Freeauf, Marina Facility Manager**



**Prepared by:
Margaret Schwertner
Moffatt & Nichol**



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1. GENERAL INFORMATION

Applicant: Gary Alspaugh, Port of Friday Harbor (November 2012 onwards)
Bob Freeauf, Port of Friday Harbor (retiring in November 2012)

Mailing address: Port of Friday Harbor
PO Box 889
Friday Harbor, WA 98250

Work phone:	Main Office:	Email:	Fax:
(360) 378-4072	(360) 378-2688 (360) 378-2688	garya@portoffridayharbor.org bobf@portfridayharbor.org	(360) 378-6114 (360) 378-6114

Authorized Agent: Margaret Schwertner, Environmental Scientist, Moffatt & Nichol

Mailing address: Moffatt & Nichol
600 University Street
Seattle, WA 98101

Work phone:	Cell:	Email:	Fax:
(206) 622-0222	(206) 818-2600	mschwertner@moffattnichol.com	(206) 622-4764

Location where proposed work will occur:

Address (street address, city, county):

204 Front Street North
Friday Harbor, San Juan County, WA 98250

Waterbody: Friday Harbor, Puget Sound

¼ Section:	Section: 12	Township: 35N	Range: 03W
------------	-------------	---------------	------------

Latitude: 48° 32' 12" N	Longitude: 123° 00' 55"
-------------------------	-------------------------

2. DESCRIPTION OF WORK

2.1 INTRODUCTION

The Port of Friday Harbor proposes to rehabilitate and repair the Port of Friday Harbor Marina in Friday Harbor, San Juan County, Washington.

The Friday Harbor marina is an existing public marina (built in the 1960s and 1970s) providing water access to the adjacent Town of Friday Harbor. The marina includes approximately 500 vessel slips, of which up to 150 are available to visiting boaters. The marina is protected by a US Army Corps of Engineers (USACE) maintained floating breakwater to the north. It provides both permanent and temporary vessel moorage for commercial and recreational vessels, a US Customs office, fuel pump, pump-out stations, potable water and shore power, showers, and restrooms and includes over 30 marine related businesses including a sea plane base, charter and passenger vessels, vessel repair, vessel rentals, and a seafood market. The Washington State Ferries (WSF) Friday Harbor Ferry Terminal is located approximately 200 feet east of the marina's fuel dock. The WSF ferry terminal provides a critical transportation link to other San Juan Islands and mainland locations.

The Port of Friday Harbor needs to repair and replace portions of floats, piles, and walkways in their marina due to the increasing age of the structures. The Port proposes to complete applications necessary for the environmental review and permitting phase for the Reconstruction of Docks C, E and F Project (the "Project") by the end of 2012. The Project is scheduled to begin in 2013 (once all approvals and permits have been obtained) and is scheduled to be completed by February 2014. Inwater work will adhere to all permit and approved inwater work restrictions and conditions.

The Proposed Action does not change the overall function of the marina. Vessel traffic is not anticipated to increase after the project has been completed.

This Abbreviated Biological Evaluation (BE), along with the project drawings in Appendix A and critical habitat forms in Appendix B, responds to US Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) Endangered Species Act (ESA) listings and evaluates the potential effects of the project. An Essential Fish Habitat (EFH) Assessment is included in Section 7 of this BE. The BE is based on the following:

- Completed Macroalgae Surveys:
 - Walkway E and Float F Baseline Eelgrass Survey completed by JenJay, Inc. dated June 6, 2012 (Appendix D).
 - Marina Baseline Eelgrass Survey completed by Jenjay, Inc. dated September 30, 2011 (Appendix D).
 - Preliminary Eelgrass and Macroalgae Presence Survey completed by Grette Associates dated July 21, 2010 (Appendix D).

- Preliminary Eelgrass and Macroalgae Survey completed by Jenjay, Inc. dated February 23, 2007.
- Washington State Hydraulic Project Approval (HPA) dated June 25, 2012.
- Marine Mammal Monitoring Plan completed by Jenjay, Inc. dated August, 2012 (Appendix E).
- Geotechnical Report for the Port of Friday Harbor completed by Geotechnical Engineering services dated October 15, 2010.
- Coordination and discussions between JenJay, Inc. and both with the Department of Natural Resources and the Washington State Department of Fish and Wildlife during 2011 to avoid impacts to existing eelgrass patches (this is discussed further in the following sections of the BE).

2.2 EXISTING SITE CONDITIONS

The Project will occur within the Port of Friday Harbor Marina, Friday Harbor, eastern shore of San Juan Island, San Juan County, WA (refer to Appendix A: Sheet 1, Figure 2-1 and Figure 2-2). Friday Harbor is approximately 60 nautical miles north of Seattle, WA and 28 nautical miles southeast of Victoria, BC Canada. The Town of Friday Harbor is located directly adjacent to the marina.

Figure 2-1: San Juan Island and Town of Friday Harbor

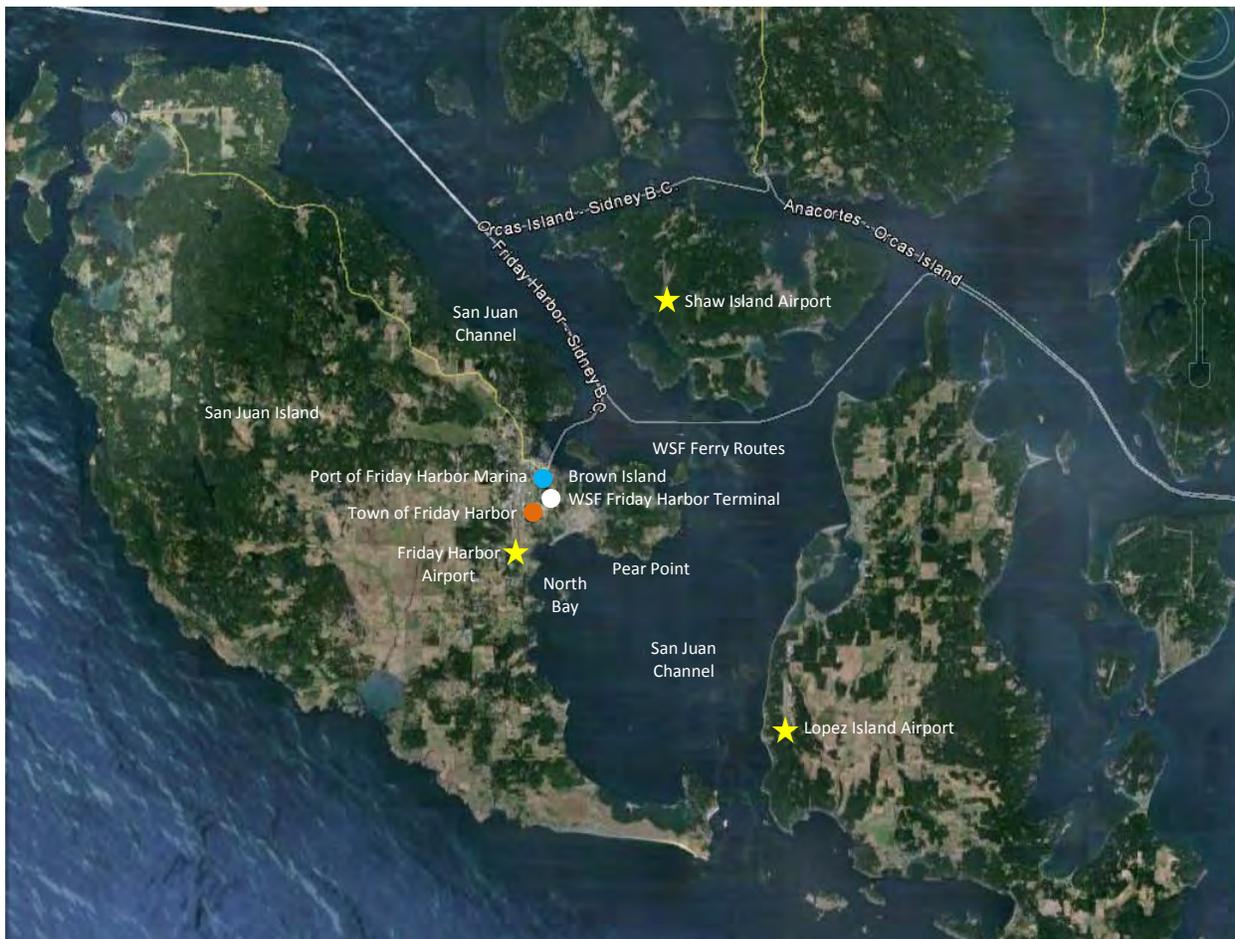
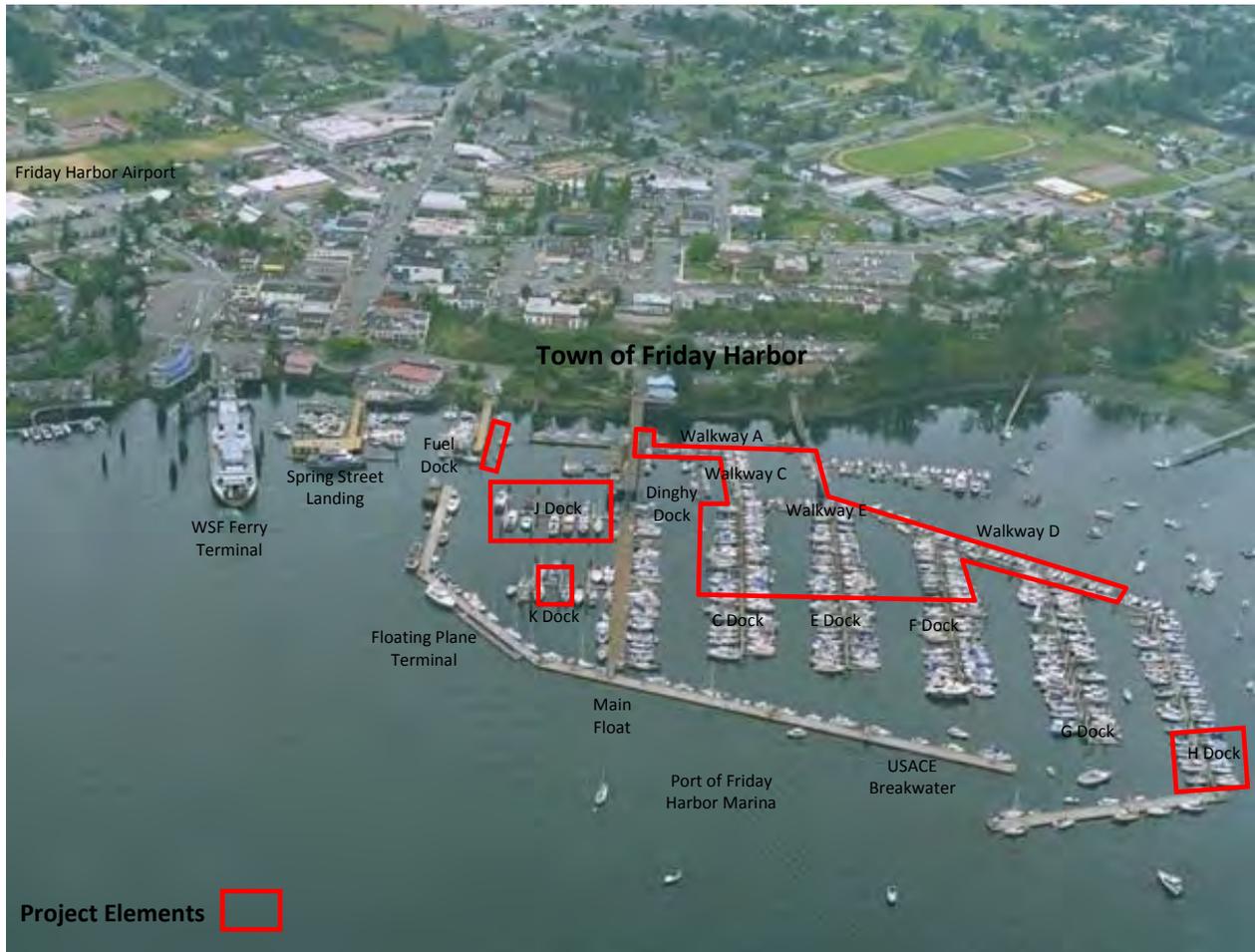


Figure 2-2: Port of Friday Harbor Marina



Most of the downtown shoreline is public land owned by the Town of Friday Harbor, Port of Friday Harbor, or the State Department of Transportation. The Port also has a management agreement with the Department of Natural Resources for the tidelands under and around the Port properties.

2.3 PROPOSED ACTION

All work proposed for this Project will be completed waterward of the Mean Higher High Water (MHHW) line within the Port of Friday Harbor Marina (refer to Appendix A: Sheet 1 for a vicinity map). No shoreline or upland work is proposed.

The Project includes the following repair, replacement and reconstruction. Most of the work is proposed for Docks C, E, and F with minor work also completed throughout other parts of the marina. The Proposed Action does not change the overall function of the marina. Vessel traffic is not anticipated to increase after the project has been completed.

Dock C:

- Replace the south portion of the dilapidated treated timber walkway with a new concrete walkway, and 17 dilapidated treated timber finger and main walkway floats (4,873 square feet) with 16 new concrete finger and main walkway floats (5,202 square feet).
- Replace 84 linear feet of dilapidated treated timber walers with 84 linear feet of new ammoniacal copper zinc arsenate (ACZA) treated timber walers of the same size.



Existing floats and piles on Dock C to be replaced.

Dock E:

- Replace the south portion of the dilapidated treated timber walkway and 18 dilapidated treated timber finger floats (4,782 square feet) with a new concrete walkway and 17 new concrete finger floats (4,421 square feet).
- Replace 84 linear feet of dilapidated treated timber walers with 84 linear feet of new ACZA treated timber walers of the same size.



Existing finger floats and piles on Dock E to be replaced.

Dock F:

- Replace the south portion of the dilapidated treated timber walkway and 15 dilapidated treated timber finger floats (3,978 square feet) with a new concrete walkway and 13 new concrete finger floats (4,015 square feet).
- Replace 86 linear feet of dilapidated treated timber walers with 86 linear feet of new ACZA treated timber walers of the same size.

Dock H:

- Replace the dilapidated concrete walkway and the six dilapidated concrete finger floats (1,634 square feet) with a new concrete walkway and 6 new concrete finger floats (1,428 square feet).
- Replace or refurbish the dilapidated steel bridge (30 feet long, four feet wide) that provides access between Dock H and Breakwater. If the bridge needs



Existing bridge at end of Dock H to be replaced.

to be replaced, it will be replaced with a grated aluminum ramp-like structure. The dimensions of the bridge will not change regardless of whether it is refurbished or replaced.

Dock J:

- Repair the top portions (above the MHHW line) of 8 existing treated timber piles and their bracing. This will be completed by cutting the tops of these piles off (all above +12 feet Mean Lower Low Water [MLLW]). Steel pipe extensions will then be bolted on to the piles. Cross bracing (of the same configuration to that of the removed timber bracing) will be reinstalled using welded steel frames.



Worn pile top on J Dock to be replaced.

Fuel Dock:

- Replace the two dilapidated treated timber floats on the northwest side of the dock (100 feet long by 8 feet wide and 22 feet long by four feet wide for a total of 888 square feet) with two new concrete floats of the same dimensions (888 square feet).



Treated timber float at Fuel Dock to be replaced.

Walkway A:

- Replace eight dilapidated treated timber finger floats (569 square feet) with 8 new concrete or aluminum finger floats (548 square feet).
- Replace 289 linear feet of dilapidated treated timber walers with 289 linear feet of new ACZA treated timber walers of the same size.



Treated timber finger floats to be replaced on Walkway C. Main float remains as-is.

Walkway C:

- Replace eight dilapidated treated timber finger floats (608 square feet) with eight new concrete or aluminum finger floats (552 square feet).
- Replace 397 linear feet of dilapidated treated timber walers with 397 linear feet of new ACZA treated timber walers of the same size.

Walkway D:

- Remove seven concrete finger floats (784 square feet) and replace with three new concrete or aluminum finger floats (456 square feet).

Walkway E:

- Install three new concrete or aluminum finger floats (360 square feet).

Other Project Elements:

- Remove 95 treated (creosote) timber piles and three steel pipe piles (all with diameters ranging between 12 and 20 inches) from the Project area and install 52 steel pipe piles (20 piles with a diameter of 16 inches, 32 piles with a diameter of 24 inches). In general, the 24-inch diameter replacement pile are proposed in water depths deeper than -20 ft MLLW, while the 16-inch diameter replacement pile are proposed in water depths shallower than -20 ft MLLW. The -20 foot contour has been highlighted in the attached drawings for reference.

In addition to the above listed areas, four of the 95 treated timber piles to be removed are located on the Dinghy Dock (two piles to be removed and replaced by one pile), Dock K (one pile to be removed and replaced), and H Dock (one pile to be removed and replaced).

- Install new electrical service (480 volts) to Docks C, E and F (includes the installation of new power pedestals with low level lighting onto the floats). The electrical distribution system (cabling) will be installed within the internal raceways of the new floats or the walers of the existing floats. Some existing utilities currently located under the walers may need to be moved vertically down along the float to accommodate the new electrical.

Changes in Overwater Cover:

The overall number of slips within the marina will not change substantially, but is reduced. The quantity of available slips will be reduced by seven and some of the reconstructed slips will be slightly larger. The surface area of floats, knees, walers within the marina will decrease by 605 square feet (from 18,115 square feet to 17,510 square feet). Up to six new electrical transformers will be installed throughout the project requiring up to six concrete or aluminum floatation units measuring up to four-feet by four-feet. Therefore, the minimum net reduction in overwater cover is 509 square feet. The final number of these floatation units (up to six) and their locations will be determined during final design (none will be placed over or within 10 feet of existing eelgrass patches).

Approximately 135 square feet of existing eelgrass patch is located close to existing floats proposed for replacement. These floats will be replaced in the same footprint with floats of the same size (no increase in eelgrass cover). The Port was originally proposing to replace existing slips with a more efficient slip layout which would also accommodate longer boats and increase Port revenue. However, after discussion with both the Washington State Department of Fish and Wildlife (WDFW) and the department of Natural Resources (DNR), the Port chose to avoid covering existing eelgrass with new floats as much as possible. To recuperate some of the losses from this less than efficient slip layout, the Port is proposing to install three new small finger floats on Walkway E (reduces slip loss from 11 to seven; square footage changes already incorporated into above discussion). Chris Betcher (marine biologist at JenJay, Inc.) coordinated with both WDFW and DNR, on behalf of the Port, prior to the

JARPA submittal to minimize the potential for negative impacts on the existing marina eelgrass and to avoid, if at all possible, the need for more complex eelgrass mitigation such as transplanting.

The overall surface area of piles will decrease by 305 square feet (855 square feet to 550 square feet). These area calculations include a one-foot halo area surrounding each pile to account for shading impacts. Five of the piles to be removed are located within existing eelgrass patches. All five creosote treated piles will be removed and will not be replaced. Most of the larger proposed replacement pile will be installed in water at depths greater than -20 feet MLLW.

2.4 CONSTRUCTION TECHNIQUES

2.4.1 Construction Sequencing and Timing

The start date for the project is anticipated to be in early summer of 2013 depending on project scheduling and permit conditions. Inwater construction will be completed in one continuous work phase of approximately 8 months (33 weeks) in duration (estimated using a 5-day work week). The estimated duration includes mobilization and demobilization of equipment, repair, removal, and installation of piles and floats, and minor repair of walers and utilities on existing floats. Moored vessels will be moved to and from different areas within the marina to remain open and operational during this time.

All pile driving will be vibratory if at all possible. Given the hard sediment conditions in the marina drilling may also be required to install piles. This is based on Moffatt & Nichol engineering expertise and a WSF study completed at the Friday Harbor Ferry terminal (Laughlin 2005). Originally, impact driving was proposed for pile installation. However, given that the project is located within an area that would require extensive marbled murrelet monitoring (a substantial expense to a small Port), drilling is the selected method for installation (also more expensive than impact driving piles but with less cost risk affiliated than that of monitoring for marbled murrelets).

2.4.2 Site Preparation

The vessels from each dock to be replaced will be moved to transient moorage prior to demolition and construction. The exact sequence of which dock will be replaced first will be determined closer to the construction start date. Currently it is anticipated that work along Dock F will be completed first, followed by work on Dock E and then Dock C. This sequencing will allow boats to be moved from one dock to another with as little disturbance to marina users as possible. Work on the other docks and walkways will be completed after this. The general sequence of elements to be completed for each dock and walkway is as follows:

- Mark existing eelgrass patches. This is required for the contractor to comply with the conservation measures described in Section 6. All macroalgae within the marina has been identified and surveyed.
- Remove and install existing floats, walkways, piles, utilities. The contractor will most likely coordinate with the Port to complete these elements for different areas of the marina (i.e. work on Dock F will occur first, work on Dock E will occur next, etc.).

- Connect pipes and finalize utility installation.

2.4.3 Construction Equipment and Materials

One to two barges along with barge-based equipment, such as cranes, will be used to support the removal and installation of piles and floats and will be located as close to the actual proposed activities as possible while minimizing and avoiding negative impacts to natural resources (i.e. existing eelgrass beds). Vibratory extraction will be used to remove existing timber piles. Broken and damaged pilings may need to be removed with a clamshell bucket. If not removed, broken pilings and stubs can interfere with the installation of new piling causing construction delays. The size of the clamshell bucket will be as small as possible to reduce turbidity during piling removal. The five existing creosote piles to be removed from eelgrass patches will be removed with vibratory extraction. If these five piles break during removal, a clamshell bucket will not be used to remove them (as this will disturb existing eelgrass). Instead, a diver will use small hand-held tools to dig around the base of the pile and cut the pile approximately one-foot below the mudline. The top of the broken pile will then be removed with a grab line.

All removed piles and floats will be placed on a barge and transported offsite. Any removed creosote treated wood and / or piles will be disposed of at an appropriate upland facility.

Replacement piles will be driven and / or drilled into the hard sediment. Vibratory pile driving will be used whenever possible. Pile drilling will be used only if warranted given hard soil, rock, or bedrock conditions (when the use of a vibratory hammer is not sufficient to install the pile). Impact pile driving and impact proofing will not be used for pile installation on this project.

Marine mammal monitoring is anticipated for vibratory pile driving and a Marine Mammal Monitoring Plan (MMMP) is included in this BE (Appendix E). The appropriate biological monitoring will be conducted by certified biologists during project construction.

Replacement floats will be constructed offsite at an upland float manufacturing site. The float sections will then be transported to the marina via barge (some truck transport from the manufacturing site to a launch facility, most likely located at a port) may also be required.

Minor marina work will be necessary on existing docks that require utility and waler work but this will not include substantial demolition activities. The Contractor completing the utility improvements on the floats will use existing electrical power outlets within the marina.

Construction Materials will include:

- Replacement floats will be concrete (foam floatation elements within concrete casings) or aluminum frame units (foam floatation elements encased in high-density polyethylene [HDPE]).
- Replacement piles will be steel pipe piles.
- Replacement wood walers will be treated with ACZA. No creosote will be installed as part of the marina redevelopment work. Any removed creosote will be handled and hauled offsite to an appropriate upland facility.

- Utility conduit will include HDPE or polyvinyl chloride (PVC) piping and wires.

2.4.4 Work Corridor

The work corridor will be within the existing marina. All Project elements will occur in marine water between -2 feet and -42 feet MLLW within the vessel fairways closest to the docks and walkways to be replaced. Barges and tugs will be required to transport materials to and from the marina but will use the same routes and speeds used by other marina and area vessels.

2.4.5 Staging Areas and Equipment Washouts

No shoreline or upland staging areas are required for this Project. Shoreline and upland work is not proposed. Any necessary staging will be on the proposed barges with no need for equipment wash outs.

2.4.6 Stockpiling Areas

The barge(s) will, themselves, be used for stockpiling materials and equipment.

2.4.7 Running of Equipment During Construction

Equipment will be running intermittently and occur during daytime hours throughout the proposed construction period. The contractor will be required to comply with all federal, state, and local regulations and permit conditions relating to construction noise to reduce the potential for temporary, disruptive noise impacts associated with construction.

2.4.8 Soil Stabilization Needs / Techniques

Upland or shoreline work is not proposed as part of this Project, nor is dredging, filling or grading work. However, pursuant to the San Juan County Slope Map dated June 2009, no unstable bluffs or hazardous slopes are located along the marina's adjacent shoreline. The only project element that will involve any type of sediment work is the replacement of existing dilapidated piles with new steel pipe piles within the marina and this element will not require stabilization. Offshore subsurface sediment conditions within the marina generally consist of very soft silt and clay overlying stiff to hard silt and clay (GES 2010). This hard silt and clay may become soft at depth and in some areas there is very soft silt and clay over dense sand and gravel. Some rock could also be present.

2.4.9 Clean-up and Revegetation

All removed piles and floats will be placed on a barge and transported offsite. Any removed creosote treated wood and piles will be disposed of at an appropriate upland facility, which meet the liner and leachate standards of the Minimum Functional Standards, Chapter 173-304 Washington Administrative Code (WAC).

Patches of eelgrass were observed around existing floats and piles used by boats (density survey completed by JenJay in 2011 and 2012). The shift in finger float location and the activity of pile removal and replacement will remove overwater shading from some of these areas and has been designed to avoid impacting these existing eelgrass beds. Overall, there will be a net reduction in overwater cover / shading with the proposed project and in areas where creosote treated piles or

existing floats are removed, natural recolonization of eelgrass and / or macroalgae is anticipated. Therefore additional revegetation efforts are not proposed.

2.4.10 Storm Water Controls and Management

This Project will not generate substantial water runoff, including that of stormwater, as no upland or shoreline work is proposed.

2.4.11 Source Location of Any Fill Used

No dredging, filling, or grading work is proposed as part of this Project. The only project element that will involve any type of sediment work is the replacement of existing dilapidated piles with new steel pipe piles within the marina.

2.4.12 Location of any Spoil Disposal

As stated previously, dredging and spoil removal and disposal is not proposed as part of this Project. All removed piles and floats will be placed on a barge and transported offsite. Any removed creosote treated wood and piles will be disposed of at an appropriate upland facility, which meet the liner and leachate standards of the Minimum Functional Standards, Chapter 173-304 WAC.

If drilling is required to install pipe piles, all drilling will occur within the pipe pile. The removal of any material from within the pipe pile is not anticipated.

2.4.13 Sound / Noise

Ambient in-air sound near the project site is estimated conservatively at approximately 50 dBA, based on the population size of Friday Harbor (Federal Transit Authority 2006). It is most likely higher than 50 dBA given the proximity of the project site to ongoing town and marina activities, the nearby WSF Terminal, the float planes which arrive and depart in the area (they berth along the marina's breakwater), and the nearby Friday Harbor Airport. The Shaw Island Airport is located across the San Juan Channel on Shaw Island (approximately four miles east) and the Lopez Airport on Lopez Island (located approximately 4.5 miles to the southeast). Urban areas can have higher background sound levels, with daytime levels approximating 60 to 65 dBA (Environmental Protection Agency [EPA] 1978) and sounds within the marina probably range anywhere from 50 to 60 dBA during any given day.

The installation of up to 52 steel pipe piles (20 with a diameter of 16 inches, 32 with a diameter of 24 inches) is anticipated to take between 13 and 26 full days (assumes that the contractor will install an average of 2 to 4 piles per day via vibratory driving and/or drilling methods). Pile driving will occur sporadically throughout the estimated 33 week project timeframe. The following noise estimates are based on noise information available for the largest diameter steel pipe piles (24 inches).

Increases in in-air noise levels from construction activities will be temporary and intermittent occurring over one 33 week construction period. In-air noise emanating from vibratory pile driving activities (the highest anticipated in-air noise levels from construction) will occur during daytime hours and could reach levels around 80 dBA RMS or 97 dB RMS (unweighted) for the largest 24-inch pile (Laughlin

2010a). Assuming the highest source of in-air noise from vibratory hammer pile driving (98dB), noise would attenuate to ambient levels at approximately 1,581 feet or 0.3 miles from the project site over the ‘hard surface’ of the water and adjacent town; this is conservative given the adjacent hillside of the town and nearby islands.

To determine the most substantial inwater noise from the proposed project, a practical spreading model was used (Davidson 2004 and Thomsen et al. 2006 as cited by WSDOT 2012). Background inwater sound levels are estimated conservatively at 120 dB_{RMS} (WSDOT 2012), although background levels of 131 dB_{PEAK} to 136 dB_{PEAK} have been recorded in Friday Harbor (Laughlin 2005). While data on inwater noise from drilling piles is limited, it is generally understood that the resulting inwater noise levels are lower than that of vibratory pile driving a similar sized pile (Caltrans 2009). Drilling does not produce the peak impulse sound sources like pile driving. Rather, it is more similar to dredging and geotechnical drilling (both commonly conducted within marine water bodies). Inwater noise from drilling has been recorded to be similar or up to 20 dB lower than that for pile driving activities (Richardson et al. 1995, Au and Green 2000, McCauley et al. 2003). If drilling is used for this project, all drilling will occur within an enclosed area (a pile driven as far as it can into the sediment with vibratory methods). Therefore, sound from vibratory pile driving is anticipated to be the highest for the project. Inwater sound levels anticipated from vibratory pile driving 24-inch steel pipe piles are based in-water measurements at the WSF Friday Harbor Ferry Terminal by WSDOT where vibratory driving of a 24-inch steel pile generated 162 dB RMS measured at 10 meters (Laughlin 2010b).

According to the practical spreading model sound levels from vibratory pile driving will attenuate to background levels within 3.9 miles. However, the Friday Harbor marina is surrounded by a number of geographical boundaries (island shoreline to the west, north and south, Brown and Shaw islands to the east), which limit inwater sound impacts to about 3 miles from the noise source (Figure 2-3).

NMFS and USFWS calculators and models were used to obtain the distances to noise thresholds for cetaceans and pinnipeds (Table 2-1).

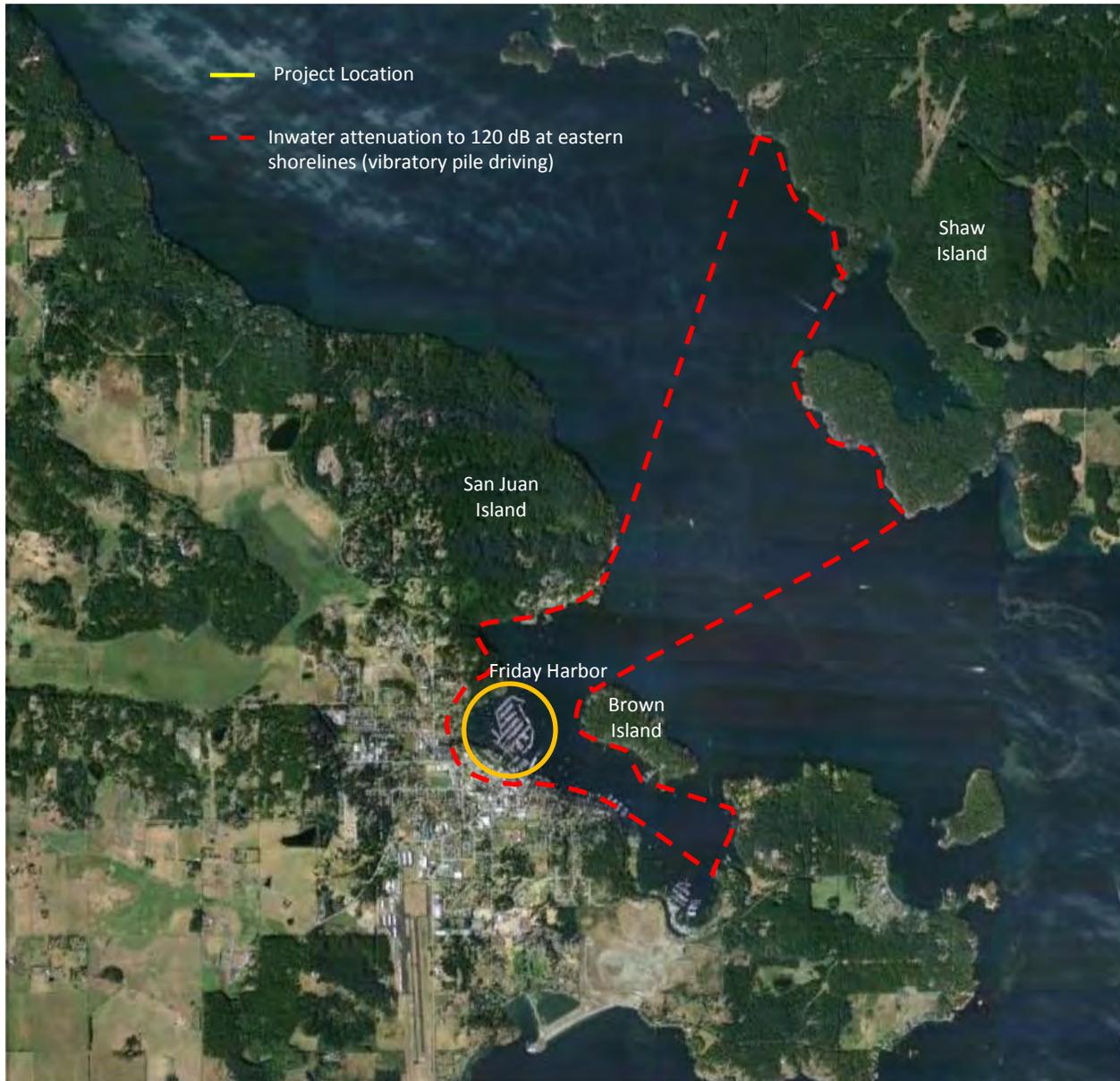
Table 2-1: Vibratory Pile Driving Sound Exposure Distances (Inwater) for Cetaceans and Pinnipeds

Species	Threshold for vibratory pile driving	Distance to Threshold for 24-inch piles (miles)
Cetaceans and Pinnipeds	120 dB _{RMS} (disturbance)	3.9, reduced to 3 given geological boundaries
Cetaceans	120 dB _{RMS} (disturbance)	3.9, reduced to 3 given geological boundaries

2.6 ACTION AREA

This Action Area was defined to address the boundary of construction activities and the potential environmental effects resulting from the Proposed Action. The Action Area includes the near shore area within Friday Harbor marina and up to a radius or three miles to accommodate consideration for inwater noise effects (Figure 2-3).

Figure 2-3: Action Area



3. SPECIES INFORMATION

Federally listed endangered and threatened species and their critical habitat that could occur in the Action Area during construction are presented in Table 3-1. Critical habitat for Southern Resident killer whale and Puget Sound Chinook salmon is designated and occurs within the action area. Critical habitat for Steller sea lion, bull trout, marbled murrelet, eulachon and green sturgeon is designated but does not occur in the action area.

The species identified in this BE were accessed through a search of the NOAA and USFWS websites on May 4, 2012. These lists indicated the potential presence of species and critical habitat(s) to the Action Area. Follow up discussions with Susan Powell and Marcy Reed of USACE were also conducted in spring of 2012.

Table 3-1: Listed Species Potentially Present within the Action Area

Species	Jurisdictional Agency	Federal Status	Critical Habitat Designated
Marbled murrelet (<i>Brachyramphus marmoratus</i>)	USFWS	Threatened	Yes
Bull Trout, coastal-Puget Sound (<i>Salvelinus confluentus</i>)	USFWS	Threatened	Yes
Humpback Whale (<i>Megaptera novaeangliae</i>)	NMFS	Endangered	–
Southern Resident Killer Whale (<i>Orcinus orca</i>)	NMFS	Endangered	Yes
Eastern Distinct Population Segment (DPS) Steller Sea Lion (<i>Eumetopias jubatus</i>)	NMFS	Threatened	Yes
Puget Sound ESU Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	NMFS	Threatened	Yes
Puget Sound DPS Steelhead (<i>Oncorhynchus mykiss</i>)	NMFS	Threatened	Proposed
Bocaccio (<i>Sebastes paucispinis</i>)	NMFS	Endangered	–
Canary Rockfish (<i>Sebastes pinniger</i>)	NMFS	Threatened	–
Yelloweye Rockfish (<i>Sebastes ruberrimus</i>)	NMFS	Threatened	–
Southern DPS Eulachon / Columbia River Smelt (<i>Thaleichthys pacificus</i>)	NMFS	Threatened	Yes
Southern DPS North American Green Sturgeon (<i>Acipenser medirostris</i>)	NMFS	Threatened	Yes

4. EXISTING ENVIRONMENTAL CONDITIONS

4.1 SHORELINE RIPARIAN VEGETATION AND HABITAT FEATURES

The Project will be completed in the Port of Friday Harbor Marina, Friday Harbor, on the eastern shore of San Juan Island, San Juan County (refer to Appendix A, Sheet 1 for a vicinity map). Friday Harbor is approximately 60 nautical miles north of Seattle, WA and 28 nautical miles southeast of Victoria, BC

Canada. The Town of Friday Harbor is directly adjacent to the marina. Upland or shoreline work is not proposed as part of this Project but in general, the urban shoreline surrounding the marina is relatively hilly to steep characterized by rocky shores and bulkheads. The marina itself is comprised of heavily used docks and floats. To the west of the project boundary is a more residential area with mud flats, rocky shores and smaller docks and floats.

4.2 AQUATIC SUBSTRATE AND VEGETATION

A number of macroalgae surveys have been completed within the Port of Friday Harbor marina over the past several years. In general, the location of the eelgrass (underneath the marina fairways and floats) has not changed:

- Walkway E and Float F Baseline Eelgrass Survey completed by JenJay, Inc. dated Jun. 6, 2012 (Appendix D).
- Marina Baseline Eelgrass Survey completed by Jenjay, Inc. dated Sep. 30, 2011 (Appendix D).
- Preliminary Eelgrass and Macroalgae Survey completed by Grette Associates dated Jul. 21, 2010 (Appendix D).
- Preliminary Eelgrass and Macroalgae Survey completed by Jenjay, Inc. dated Feb. 23, 2007 (available on request).

Small patches of eelgrass (*Zostera marina*) have been observed between the fairways of Docks C, E, and F in water depths between approximately -5 feet and -20 feet MLLW (Appendix A, Sheets 2 and 3). Other macroalgae has been observed within the marina but not in large quantities or densities. Most other macroalgae species can be observed sporadically on the sea floor, floating in the marina, or on the existing creosote treated timber piles. Floating macroalgae is more common in the San Juan Islands compared to eelgrass (NOAA 2010). Observed macroalgae species have included *Ceramium* sp., *Chondracanthus exasperatus*, *Costaria costata*, *Fucus gardneri*, *Gracilaria* sp., *Gracilariaopsis* sp., *Mazzaella splendens*, *Nereocystis luetkeana*, *Polyneura latissima*, *Porphyra* sp., *Prionitis lanceolata*, *Saccharina latissima*, *Smithora naiadum*, *Sparlingia pertusa* and *Ulva lactuca*. In general, macroalgal cover ranges between one percent and 40 percent and decreases with depth, with shallow areas dominated by dense *U. lactuca* and *S. latissima*. During the most recent eelgrass survey, no other macroalgae was identified (JenJay 2012). The sea floor is composed of mud, silt with some shell hash, which reflects general San Juan sediment characteristics.

4.3 SURROUNDING LAND AND WATER USES

The public Friday Harbor marina provides access to the adjacent Town of Friday Harbor and has approximately 500 slips, of which up to 150 are available to visiting boaters. The marina, protected by a US Army Corps of Engineers (USACE) maintained breakwater to the north, provides both permanent and temporary vessel moorage for commercial and recreational vessels, a US Customs office, fuel pump, pump-out stations, potable water and shore power, showers, and restrooms. It includes over 30 marine-related businesses including a sea plane base, charter and passenger vessels, vessel repair, vessel

rentals, and a seafood market. Existing structures in the marina include moorage docks, a fuel dock float, three floating breakwaters, seaplane float, walkways to the different docks, dinghy docks, four timber piers, a floating restroom on Walkway E, and affiliated piles and gangways. A Washington State Ferry (WSF) Terminal is located on property east of the marina. The WSF Ferry Terminal provides transportation to other San islands and mainland locations.

4.4 LEVEL OF DEVELOPMENT

The shoreline adjacent to the Project Area is designated as both Urban and Urban Residential 2. Commercial and retail is prevalent directly adjacent to the marina docks and floats and the majority of the shoreline is either armored or paved. Further to the northwest are more gradual mudflats fronting residential homes and smaller docks. The habitat function of both the Urban and Urban 2 adjacent areas are considered low (TOFH 2012).

4.5 WATER QUALITY

The marine water surrounding the San Juan Islands are designated as Class AA or Extraordinary Quality (to be appropriate for swimming, fishing, boating and aesthetic enjoyment) and are to meet the criteria outlined in WAC-173-201A-030 (2002).

Water quality within Friday Harbor has been listed on the Washington State Department of Ecology's 303(d) list in past years (up through 2008) for depleted levels of dissolved oxygen. This could be due to the previous sewage treatment plant, which has been upgraded over the years since 2001. Marine water quality problems could also be related to other sources more common of urban settings such as untreated stormwater and non-point pollution from the upland urban and residential environment (residential lawns and paved areas may increase run off containing fertilizers and metals, etc.).

Recent marine water quality data collected by the San Juan County Marine Resources Committee (MRC) and Friends of the San Juans (FOSJ) indicate that the 303(d) listing may no longer be completely appropriate. Monitoring is currently ongoing.

4.6 DISTANCE TO NEAREST MARBLED MURRELET NESTING AND FORAGING AREAS

No documented marbled murrelet occupancy sites have been identified within one mile of the project site (WDFW 2011).

4.7 DISTANCE TO NEAREST BULL TROUT SPAWNING / FORAGING / OVERWINTERING AREAS

There are no bull trout spawning streams located within San Juan County. Skagit River bull trout have been identified along the shoreline of Whidbey Island however they rarely travel in open water (Kraemer 1994). Therefore the closest bull trout spawning, foraging and overwintering areas are well over 10 miles away and the Project is not adjacent to bull trout migratory waters.

4.8 CRITICAL HABITAT FOR BULL TROUT OR PACIFIC SALMON

The Project is not located within critical habitat for bull trout. Unit 2 (Puget Sound) does not include the San Juan Islands within its boundaries (50 CFR Part 17, 75 FR 52630).

The Project is located within critical habitat for Puget Sound ESU Chinook salmon as it is located within:

5) Nearshore marine areas free of obstruction with water quality and quantity conditions and forage including aquatic invertebrates and fishes supporting growth and maturation; and natural cover, such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders and side channels.

6) Offshore areas with water quality conditions and forage including aquatic invertebrates and fishes, supporting growth and maturation.

An assessment of potential impacts to critical habitat has been completed (Appendix B) and is summarized here.

Inwater work could disturb fish near piles and food and shelter could be affected by temporary construction activities affiliated with the proposed project (temporary and localized sediment disturbance and water turbidity during pile removal and installation). However, the proposed project is designed to avoid and minimize negative impacts to existing eelgrass beds over both the short term and long-term. The project will also remove creosote treated piles from the environment and will reduce overall cover within the marina. Inwater work windows will minimize the potential of impacts to individual fish and the use of vibratory pile driving and / or drilling methods will reduce negative inwater noise impacts. The project will not result in any long-term negative impacts to fish or habitat and will, over the long-term improve habitat conditions (less overwater cover, less cover over eelgrass, less creosote-treated timber in the water). The proposed project **may affect**, but is **not likely to adversely affect** critical habitat for Puget Sound ESU Chinook salmon.

4.9 CRITICAL HABITAT FOR OTHER IDENTIFIED SPECIES

4.9.1 Critical Habitat for the Southern Resident Killer Whale

The Project is located within critical habitat for the Southern Resident killer whale (Area 1: Summer Core Area) (50 CFR Part 226, 71 FR 69054). Critical habitat PCEs include:

- 1) Water quality to support growth and development.
- 2) Prey species of sufficient quantity, quality, and availability to support individual growth, reproduction, and development, as well as overall population growth.
- 3) Passage conditions to allow for migration, resting, and foraging.

An assessment of potential impacts to critical habitat to the Southern Resident Killer Whale has been completed (Appendix B) and is summarized here.

The project area does contain at least one PCE (relatively good water quality to support growth and development, although the marina's water quality may be less pristine than that of the rest of the island given runoff from an urban shoreline and substantial vessel and plane use of the marina). Short-term

and localized turbidity could result from the removal and installation of piles within the marina. However, these impacts are minor and are not anticipated to impact water quality within the Action Area.

The Project Area is not conducive to the two remaining PCEs (prey and safe passage). As mentioned previously, the existing marina is located in a relatively urban environment. Boat traffic, floats, piers and piles (treated timber, steel and concrete) are located in the project area next to a ferry terminal and the Town of Friday Harbor. Prey species of sufficient quantity, quality and availability are unlikely within the marina and Southern Resident killer whales are not likely to forage in this area. Boat and vessel traffic within the area, including the ferries that move out of the marina and into the San Juan Channel, are not conducive to migration or foraging habitat. Resident killer whales predominantly travel along the west side of San Juan Island (Haro Strait) and forage along the southwest portion of the island instead (NOAA 2011).

Sound from vibratory pile driving activities, that exceeds 120 dB RMS, could travel into the San Juan Channel outside the marina and any whales travelling through this area could be affected (i.e. behavioral changes). However, these impacts are temporary and the proposed project incorporates marine mammal monitoring to minimize any adverse effects on whales that pass through the Action Area (refer to Appendix E). Additionally, inwater construction is limited to inwater work windows when salmonids are least likely present in the area.

Therefore, the proposed project **may affect**, but is **not likely to adversely affect** critical habitat for the Southern Resident killer whale.

4.10 FORAGE FISH SPAWNING AREAS

Three species of forage fish that could be present within the Action Area include Pacific herring (*Clupea harengus*), surf smelt (*Hypomesus pretiosus*) and sand lance (*Ammodytes hexapterus*). However, documented surf smelt and sand lance spawning areas are not located adjacent to the marina (the nearest being in North Bay around the peninsula to the south of the marina; approximately five miles by water) (WDFW 2011). One potential surf smelt and sand lance spawning area has been identified next to the marina but spawning forage fish have not been documented at the site (WDFW 2011).

Surveyed eelgrass in the marina is patchy (Jenjay 2012, 2011, Grette 2010, Jenjay 2007). Forage fish could be present within the marina as they move to other areas but more pristine habitat is available outside of the marina.

4.11 PROPOSED MITIGATION

Mitigation is not proposed for this project as the Port of Friday has worked extensively to avoid and minimize all potential adverse impacts from the proposed Project (refer to Section 6 of this BE for a list of the proposed Conservation Measures for the project).

5. EFFECTS ANALYSIS

The proposed project involves the construction activities necessary to replace existing marina infrastructure within the Port of Friday Harbor Marina. This will primarily include the removal and installation of piles and floats. The Proposed Action does not change the overall function of the marina. Vessel traffic is not anticipated to increase after the project has been completed.

General direct effects could include:

- Water quality impairment caused by increased water turbidity from disturbing sediment during pile removal or from construction debris or pollutants (i.e. miscellaneous construction debris and spills or leaks of hazardous materials from construction equipment could decrease water quality in the marina). Reduced water quality can result in species mortality, sublethal effects (i.e. stress, gill damage to fish, and increased susceptibility to disease) and negative behavioral responses (substantial disruptions to feeding and migration).
- Noise from inwater construction activities and equipment (specifically vibratory pile driving of steel pipe piles) could increase inwater sound to levels that could disturb marine species.
- Disturbance or loss of benthic organisms from the removal and disturbance of sediment from pile removal and installation or prop wash from construction barges.
- Disturbance or loss of macroalgae from the removal and disturbance of sediment from pile removal and installation or prop wash from construction barges.
- Avoidance of the area may occur throughout construction for a number of aquatic species.

These effects will be limited to the existing marina and immediately adjacent area as identified in the Action Area for the project. They are anticipated to be temporary and localized in nature and are minimized as outlined within the conservation measures described in Section 6.

As the project is maintaining an existing dock facility within an existing marina, with in-kind replacement of structures in or near the same footprint, negative long-term impacts to fish and marine mammals and birds are not anticipated.

General indirect effects could include:

- Repopulation of the newly installed inwater surfaces (from replaced piles and floats) by more sedentary species (benthic prey species such as microorganisms, worms and crustaceans or macroalgae) will occur.
- Changes in distribution of the flora and fauna as a result in the changes in overwater shading from the proposed action.
 - The overall surface area of the floats (including transformer floats), knees, and walers within the marina will be reduced by about 509 square feet. It is likely that we will see natural recolonization of eelgrass and / or macroalgae in areas where shading is reduced.

- The overall surface area of piles will decrease by 305 square feet. These area calculations include a one-foot halo area surrounding each pile to account for shading impacts. Five of the piles to be removed are located within existing eelgrass patches. All five creosote treated piles will be removed and will not be replaced.
- An overall reduction in artificial light and glare on marine surface waters is anticipated to improve wildlife habitat after the completion of this Project.
- The removal of 95 creosote treated timber piles and a number of treated timber float and finger structures is anticipated to improve fish and wildlife habitat by removing a possible source of water quality contamination. All removed timber piles and floats will be replaced with concrete, aluminum and / or steel materials.

These impacts on possibly present ESA-listed species in the Action Area are discussed in more detail within the following Effects Sections for each specific species of concern.

5.1 MARBLED MURRELET

The marbled murrelet is a near-shore marine bird often observed within 1.5 miles of shore (Marshall 1988) foraging along river mouths and nesting inland in old growth forests. They are very mobile and their distribution is often linked to the proximity to mature forests, and kelp abundance (USFWS 1997). Primary causes of the species' decline include direct mortality from oil spills and gill-net fishing by-catch, and loss of nesting habitat (61 FR 26256). During the breeding season, they range from the Alaskan Aleutian Islands to central California (Nelson et al. 2006). Most of the population occurs between south-central Alaska and southern British Columbia. Thompson (1997) observed murrelets to be more numerous along Washington's northern coast than along the southern coast, which correlated well with the proximity to old growth forest, rocky shoreline, and kelp abundance.

Washington contains about 48% of the suitable habitat within the Washington, Oregon, California three-state area and that of Conservation Zone 1, which includes Puget Sound and the San Juan Islands, contains the largest amount of suitable habitat (McShane et al. 2004). The largest population of murrelets within the 3-state area is located off the coast of Conservation Zone 1 (Martin et al. 2007). In Puget Sound, nesting is rare (USFWS 2004) and limited to older growth forests more common to some of the large river valleys on the mainland. No documented marbled murrelet occupancy sites have been identified within one mile of the project site (WDFW 2011) and there is no suitable marbled murrelet nesting habitat in the Action Area. Marbled murrelets winter throughout the Puget Sound and forage year-round in waters less than 90 feet deep but deeper than 30 feet, although they are rare during summer months. They feed on fish and invertebrates, including sand lance, Pacific herring, northern anchovy, smelt, euphausiids, etc., many of which may be present in the Action Area. While definitely present within Conservation Zone 1, marbled murrelet distribution within northern Puget Sound, the San Juan Islands, and the Olympic Peninsula is clumped and variable (USFWS 2004). Marbled murrelets have been observed (infrequently) in San Juan County (observed on the west side of the island) but are

not known to be common visitors of the Friday Harbor marina area (B. Freehauf personal communication, August 7, 2012; K. Middleton, personal communication, August 13, 2012).

Noise from pile removal and installation has the potential to cause injury and behavioral disturbance for marbled murrelets. The USFWS, Federal Highway Administration (FHWA) and Washington State Department of Transportation (WSDOT) have established an in-air disturbance guidance value of 92 dBA and (FHWA et al. 2012) for marbled murrelet. In-air noise from vibratory pile driving could reach levels of 98 dBA. However, attenuation to levels below 92 dBA would result within 100 feet, well within the downtown and marina area of Friday Harbor. Although not usually observed within Friday Harbor proper, any murrelets in the area during construction could readily avoid the area while foraging and find prey species elsewhere. Given the busy marina area, lack of observed murrelets within Friday Harbor, the short duration for pile driving (between about 13 and 26 days), and the availability of more pristine habitat with the surrounding area, the project will not negatively impact marbled murrelets. Consultation with Karen Myers of USFWS via email clarified that for a project of this size, duration and method (no impact driving), a monitoring plan for murrelets is not generally requested for vibratory pile driving activities (USFWS 2012).

Therefore, this project **may affect** but is **not likely to adversely affect** the marbled murrelet.

Critical Habitat

Designated critical habitat for the marbled murrelet is not present within the Action Area (50 CFR Part 17, 61 FR 26256). The Proposed Action will have **no effect** on critical habitat for marbled murrelet.

5.2 BULL TROUT

As stated in Section 4.8, there are no bull trout spawning streams located within San Juan County. Skagit River bull trout have been identified along the shoreline of Whidbey Island however they rarely travel in open water (Kraemer 1994), preferring the shallower nearshore. The closest bull trout spawning, foraging and overwintering areas are well over 10 miles away and the Project is not adjacent to bull trout migratory waters.

There is a chance that sub-adult bull trout could be migrating or foraging within the Action Area but it is unlikely. Given the rarity of bull trout moving through the Action Area during the proposed project, and that vibratory pile driving will only take up to about 26 days, pile removal and installation will not produce sound pressures capable of killing bull trout or their prey species (given the Port's decision to not use impact driving), inwater work windows will limit inwater work to winter months when bull trout are less common, it is unlikely that direct negative effects will occur. Any bull trout that were within the Action Area would most likely avoid construction activities within the marina. Long-term negative impacts to bull trout are not expected either as all of the proposed work will result in less artificial habitat cover and less creosote in the aquatic environment.

Therefore, this project **may affect** but is **not likely to adversely affect** the bull trout.

Critical Habitat

Designated critical habitat for bull trout is not present within the Action Area. Unit 2 (Puget Sound) does not include the San Juan Islands within its boundaries (50 CFR Part 17, 75 FR 52630). The Proposed Action will have **no effect** on critical habitat for bull trout.

5.3 HUMBACK WHALE

Puget Sound lies within a migratory pathway for humpback whales (*Megaptera novaeangliae*) as they move between the summer feeding areas in Alaska and one of the wintering areas in Mexico. Humpback whale sightings were rare in Puget Sound through the late 1990s to early 2000s (Falcone et al. 2005). However, in 2003 and 2004, thirteen individuals were sighted in the inland waters of Washington, mostly during the fall (Falcone et al. 2005). This recent trend continues. Since the beginning of June, 2012, humpback whales have been observed most likely foraging offshore in the Strait of Juan de Fuca near to the west side of Whidbey Island (Orca Network 2012). Humpbacks have been observed offshore from the south tip of San Juan Island, but not within the San Juan Channel or within the Action Area over the past several years (Orca Network 2012), most likely preferring to feed in offshore waters.

Noise from pile removal and installation has the potential to cause behavioral disturbance to humpback whales. Although any Humpbacks in the area during construction could readily avoid the area while migrating or foraging, inwater sounds could still travel up to three miles across the San Juan Channel before they attenuate below the 120 dB_{RMS} behavioral threshold currently in place for the species (refer to Figure 2-3 and Table 2-1 to see the estimated distances to threshold boundaries). To avoid acoustic effects on Humpback whales, a MMMP has been developed for the project (Appendix E). Marine mammal observers will be monitoring shutdown and buffer zones for the presence of any marine mammals, and will alert contractor work crews when to begin or stop work due to presence of aquatic mammals in or near the shutdown and buffer zones, reducing the potential for acoustic harassment.

Given the rarity of this species moving through the Action Area during the proposed project, the fact that pile driving will only take up to about 26 days, ambient noise within Friday Harbor can be quite high given sea plane and ferry sounds, and the proposed MMMP will be adhered to, it is unlikely that direct negative effects will occur. Long-term negative impacts to Humpback whales are not expected either as all of the proposed work will result in less creosote in the aquatic environment and will not change the existing vessel or seaplane traffic within the marina.

Therefore, this project **may affect** but is **not likely to adversely affect** the humpback whale.

5.4 SOUTHERN RESIDENT KILLER WHALE

The Southern Resident killer whale stock currently stands at 87 individuals (CWR 2012). They will often appear seasonally, from May to September in Puget Sound around the San Juan Islands (NMFS 2008, Hauser 2006). They tend to move further into Puget Sound in early autumn (NMFS 2008). This is probably associated with the runs of adult salmon returning to spawning rivers. The whales can predominantly be observed during the summer in the Salish Sea, especially Haro Strait on the west side of San Juan Island (CWR 2012) and sometimes around the southwest portion of the island (Orca

Network 2012, NOAA 2011). Killer whales have also been observed occasionally within the San Juan Channel, which runs through the Action Area but most of the recoded sightings reference transient killer whales (CWR 2012).

Resident whales are vulnerable to reduced food resources (decline in Puget Sound Chinook), environmental contaminants, oil spills, disease and affects from vessels and sounds (NMFS 2005a).

Noise from pile removal and installation has the potential to cause behavioral disturbance to the Southern Resident killer whale. Although any whales in the area during construction could readily avoid the area while migrating or foraging, inwater sounds could still travel up to three miles across the San Juan Channel before they attenuate below the 120 dB_{RMS} behavioral threshold currently in place for the species (refer to Figure 2-3 and Table 2-1 to see the estimated distances to threshold boundaries). To avoid acoustic effects on Southern Resident killer whales, a MMMP has been developed for the project (Appendix E). Marine mammal observers will be monitoring shutdown and buffer zones for the presence of any marine mammals, and will alert contractor work crews when to begin or stop work due to presence of aquatic mammals in or near the shutdown and buffer zones, reducing the potential for acoustic harassment.

Given the species is less commonly sited on the east side of the San Juan Island, the salmon inwater work window is being adhered to for the Project which will minimize impacts to those animals following migrating salmon, the fact that pile driving will only take up to approximately 26 days, ambient noise within Friday Harbor can be quite high given sea plane and ferry sounds, and the proposed MMMP will be adhered to, it is unlikely that direct negative effects will occur. Long-term negative impacts to Southern Resident killer whales are not expected either as all of the proposed work will result in less creosote in the aquatic environment and will not change the existing vessel or seaplane traffic within the marina.

Therefore, this project **may affect** but is **not likely to adversely affect** the Southern Resident killer whale.

Critical Habitat

As discussed in Section 4.9.1, the proposed project **may affect**, but is **not likely to adversely affect** critical habitat for the Southern Resident killer whale.

5.5 EASTERN DPS STELLER SEA LION (*EUMETOPIAS JUBATUS*)

The Eastern Distinct Population Segment (DPS) Steller Sea Lion (*Eumetopias jubatus*) are known to migrate into Puget Sound and have been observed within the San Juan Islands, rock outcroppings along the Strait of Juan de Fuca, near Everett, in Seattle's Shilshole Bay and off the Ballard Locks, and occasionally in south Puget Sound (NMFS 1992). Although animals of all ages have been observed in the Washington population, no breeding rookeries have been identified in Puget Sound. In Washington, Steller sea lions use haulout sites primarily along the outer coast from the Columbia River to Cape Flattery, and along the Strait of Juan de Fuca (Jeffries et al. 2000). They also use buoys, rafts and floats. Peak numbers of Steller sea lions in Washington occur in the fall and winter. The primary Steller sea lion

prey in Washington appears to be cod and Pollock, rockfish, herring, and smelt that are abundant at various areas along the Washington coast (Fiscus and Baines 1966). They are opportunistic feeders and will also prey on cephalopods. Foraging takes place primarily in nearshore and continental shelf waters

Steller sea lions are not likely to be found in the vicinity of the proposed project site. If they were in the area, it is likely that they would be offshore in Cattle Pass or Straits of Juan de Fuca. Even if Steller sea lions were feeding in Action Area, they would likely move from the region.

Inwater noise from pile removal and installation has the potential to cause behavioral disturbance to the Steller sea lion. Although any pinnipeds in the area during construction could readily avoid the area while foraging, inwater sounds from vibratory pile driving could still travel up to three miles across the San Juan Channel before they attenuate below the 120 dB_{RMS} behavioral threshold currently in place for the species and this activity (refer to Figure 2-3 and Table 2-1 to see the estimated distances to threshold boundaries). To avoid acoustic effects on the Steller sea lion, a MMMP has been developed for the project. Marine mammal observers will be monitoring shutdown and buffer zones for the presence of any marine mammals, and will alert contractor work crews when to begin or stop work due to presence of aquatic mammals in or near the shutdown and buffer zones, reducing the potential for acoustic harassment.

NMFS has established an in-air noise disturbance threshold of 100 dB RMS (unweighted) for sea lions. Increases in in-air noise levels from vibratory pile driving will be temporary and intermittent and could reach levels around 80 dBA RMS or 97 dB RMS at 50 feet (unweighted) for the largest 24-inch pile (Laughlin 2010a). The closest documented Steller sea lion haul out site to the Friday Harbor terminal is Whale Rock (7 miles southeast). Therefore, in-air disturbance would be limited to those animals moving through the immediate marina area.

Given the species is rare, the fact that pile driving will only take up to about 26 days, ambient noise within Friday Harbor can be quite high given sea plane and ferry sounds, and the proposed MMMP will be adhered to, it is unlikely that direct negative effects will occur. Long-term negative impacts to Eastern DPS Steller sea lion are not expected either as all of the proposed work will not change the existing vessel or seaplane traffic within the marina.

Therefore, this project **may affect** but is **not likely to adversely affect** the Eastern DPS Steller sea lion.

Critical Habitat

Critical habitat has been designated for Steller sea lions (58 FR 45269) but none exists in Washington. Therefore, the Proposed Action will have **no effect** on critical habitat for the Eastern DPS Steller sea lion.

5.6 PUGET SOUND CHINOOK SALMON

The Puget Sound Chinook salmon ESU includes all naturally spawned populations from all rivers and streams flowing into Puget Sound. Summer / fall-run Chinook are more abundant in Puget Sound than spring-run Chinook and migrate through from August through early October (Wydoski and Whitney 1979). Juvenile Chinook consume insects, amphipods and other crustacean larval forms

and small fish including sand lance larvae (NMFS 1998). They eat more larval and juvenile fish, such as anchovy, smelt, herring and stickleback as they grow and occupy nearshore habitats and pocket estuaries from April through September in Skagit County (Beamer et al. 2005). Current research in San Juan County shows similar results for the island nearshore except for the fact that juveniles have been observed to move away from the nearshore during July (Wyllie-Echeverria and Barsh 2006). As juvenile Chinook grow, they move away from the nearshore beaches into the channels (Fresh 1979). The San Juan Islands are located in deep open water and are an important migration pathway for many adult salmon.

There are currently no spawning streams in San Juan County used by Chinook salmon; coho salmon have been observed in San Juan Valley Creek on San Juan Island (WDFW 2007). Puget Sound Chinook could be in the Action Area during summer months as they migrate through the San Juan Islands on route to their natal streams via the Straits of Juan de Fuca and Straits of Georgia (WDFW and WWTIT 1994). Juvenile Chinook salmon have been found to be most abundant in the San Juan Islands from May to August, overlapping the seasonal peak abundance of juvenile smelt and other forage fish (San Juan MRC 2007).

Juvenile or adult Chinook salmon could be migrating or foraging within the Action Area. To further avoid the risk of negative impacts from inwater noise affecting Chinook salmon, the salmon work window for Tidal Reference Area 10 (July 16 through March 1) is being adhered to for this project. Additionally pile driving will only take up to about 26 days. Given the short duration of this activity, pile removal and installation will not produce sound pressures capable of killing bull trout or their prey species (given the Port's decision to not use impact driving), and the adherence to the proposed inwater work window, it is unlikely that direct negative effects to Puget Sound Chinook will occur. Any salmon in the Action Area will most likely avoid construction activities within the marina. Long-term negative impacts to Puget Sound Chinook are not expected either as all of the proposed work will result in less artificial habitat cover and less creosote in the aquatic environment.

Therefore, this project **may affect** but is **not likely to adversely affect** the Puget Sound Chinook salmon.

Critical Habitat

As discussed in Section 5.8, the proposed project **may affect**, but is **not likely to adversely affect** critical habitat for Puget Sound ESU Chinook salmon.

5.7 PUGET SOUND DPS STEELHEAD

There are no Puget Sound DPS steelhead trout spawning streams in San Juan County, the nearest natal river being the Skagit (Herrera and TWC 2011, WDFW 2007, Wyllie-Echeverria and Barsh 2006). Although not reported within the San Juan Islands specifically, they could be present migrating or foraging in the Action Area during summer or winter months.

Puget Sound DPS steelhead trout could be migrating or foraging within the Action Area. To further avoid the risk of negative impacts from inwater noise affecting anadromous trout, the salmon work window for Tidal Reference Area 10 (July 16 through March 1) is being adhered to for this project. Additionally

pile driving will only take up to approximately 26 days. Given the short duration of this activity, pile removal and installation will not produce sound pressures capable of killing bull trout or their prey species (given the Port's decision to not use impact driving), and the adherence to the proposed inwater work window, it is unlikely that direct negative effects to Puget Sound DPS steelhead trout will occur. Any steelhead in the Action Area will most likely avoid construction activities within the marina. Long-term negative impacts to Puget Sound DPS steelhead trout are not expected either as all of the proposed work will result in less artificial habitat cover and less creosote in the aquatic environment.

Therefore, this project **may affect** but is **not likely to adversely affect** the Puget Sound DPS steelhead trout.

5.8 ROCKFISH

Three species of rockfish have been listed by NMFS under the ESA as of April 28, 2010, the Bocaccio (*S. paucispinis*), Canary (*S. pinniger*), and Yelloweye (*S. ruberrimus*) rockfish. They are all deep water fish that can be found throughout the Puget Sound.

Adult rockfish tend to congregate more often in deep water, greater than 150 feet deep, and rocky reef areas primarily within the North Puget Sound, the strait of Jan de Fuca and the outer coast (Drake et al. 2010). Juvenile rockfish are often pelagic. Drifting kelp mats as well as rocky reefs and macroalgae and eelgrass can all serve as shelter for juvenile rockfishes however, in studies in Puget Sound only quillback, copper and splitnose rockfishes were found in drifting kelp mats (Buckley 1997).

Adult rockfish are less likely as the depth of water within the breakwater runs up to approximately 55 feet and muddy bottom habitat within the busily used Friday Harbor marina is less pristine than adjacent rocky areas. Juveniles could be present but again, the marina provides less pristine habitat than adjacent areas.

Limited information is available on the presence of these rockfish on the east side of San Juan Island. Observations of bocaccio in North Puget Sound and the Strait of Georgia are rare; they are more commonly observed in South Puget Sound (Herrera and TWC 2011; 74 FR 18521). Canary and yelloweye rockfish have been observed in San Juan County and the adults are generally associated with hard bottom areas and along rocky shelves and pinnacles while juveniles and larvae are associated with shallower surface waters (Drake et al. 2010). Canary or Yelloweye rockfish are more likely to be present within the Action Area.

Rockfish in the San Juans are vulnerable to development activities that affect the macroalgae in the nearshore area (Herrera and TWC 2011) given the dependence of larvae on these types of habitat. Development that alters substrate conditions or water quality can affect the availability of suitable habitat and associated prey species.

Juvenile or adult Canary or Yelloweye rockfish could be moving through or located within the Action Area. To further avoid the risk of negative impacts from inwater noise affecting small or large rockfish,

pile driving will be conducted with vibratory methods. Pile driving is anticipated to take approximately 26 days. Given the short duration of this activity, pile removal and installation will not produce sound pressures capable of killing fish or their prey species (given the Port's decision to not use impact driving), and the adherence to the proposed minimization measures, it is unlikely that direct negative effects to eulachon will occur. Long-term negative impacts are not expected either as all of the proposed work will result in less artificial habitat cover and less creosote in the aquatic environment.

Therefore, this project **may affect** but is **not likely to adversely affect** the Bocaccio, Canary and Yelloweye rockfish.

5.9 SOUTHERN DPS EULACHON / COLUMBIA RIVER SMELT (THALEICHTHYS PACIFICUS)

Eulachon are deep water anadromous fish, which use the nearshore when they migrate to freshwater spawning streams (late winter through early summer). Eulachon typically spend three to five years in saltwater before returning to fresh water to spawn from late winter through early summer. Most spawning eulachon originate in the Columbia River Basin. Juvenile eulachon move from shallow estuary nearshore areas to deeper areas (15 meters or 49 feet) as they mature. Although eulachon migrate along the coast, little is known about their use of the nearshore area. Eulachon adults feed on zooplankton, while larvae and juveniles also eat phytoplankton (WDFW and ODFW 2001). Adults and juveniles commonly forage at moderate depths (66 to 292 ft) in nearshore marine waters (Hay and McCarter 2000).

Foraging eulachon could be moving through or located within the Action Area. To further avoid the risk of negative impacts from inwater noise affecting these fish, pile driving will be conducted with vibratory methods. Pile driving is anticipated to take approximately 26 days. Given the short duration of this activity, pile removal and installation will not produce sound pressures capable of killing bull trout or their prey species (given the Port's decision to not use impact driving), and the adherence to the proposed minimization measures, it is unlikely that direct negative effects to eulachon will occur. Long-term negative impacts are not expected either as all of the proposed work will result in less artificial habitat cover and less creosote in the aquatic environment.

Therefore, this project **may affect** but is **not likely to adversely affect** the Southern DPS Eulachon / Columbia River Smelt.

Critical Habitat

Designated critical habitat for the Southern DPS Eulachon / Columbia River Smelt is not present within the Action Area (50 CFR Part 226, 76 FR 65324). The Proposed Action will have **no effect** on critical habitat for Southern DPS Eulachon / Columbia River Smelt.

5.10 SOUTHERN DPS NORTH AMERICAN GREEN STURGEON (ACIPENSER MEDIROSTRIS)

Southern DPS of green sturgeon are widely distributed, anadromous, marine-oriented sturgeon found in nearshore waters from California to Canada. They spawn in the Sacramento, Klamath, and Rogue rivers in the spring in deep pools or holes (NMFS 2005b). Southern DPS green sturgeon are anadromous bottom dwellers and most commonly occur along the continental shelf and nearshore marine areas to 197 feet (EPIC, CBD and WK 2001). They are most often observed in the seawater and mixing zones of bays and estuaries, where they feed. Southern DPS green sturgeon are highly migratory moving along the coast in search of food. Adults move from the ocean to estuaries and the lower reaches of rivers between late winter and early summer to spawn. Spawning occurs between March and July at which time the adults move back out to ocean waters. Less is known about larval sturgeon movements while coastal migration is common for juveniles. Green sturgeon are rare in Puget Sound (NMFS 2011), and are unlikely to be found within the Action Area.

If green sturgeon were to move through the Action Area, negative impacts will not be substantial. To further avoid the risk of negative impacts from inwater noise affecting these fish, pile driving will be conducted with vibratory methods. Pile driving is anticipated to take approximately 26 days. Given the short duration of this activity, pile removal and installation will not produce sound pressures capable of killing bull trout or their prey species (given the Port’s decision to not use impact driving), and the adherence to the proposed minimization measures, it is unlikely that direct negative effects to eulachon will occur. Long-term negative impacts are not expected either as all of the proposed work will result in less artificial habitat cover and less creosote in the aquatic environment.

Therefore, this project **may affect** but is **not likely to adversely affect** the Southern DPS North American green sturgeon.

Critical Habitat

Designated critical habitat for the Southern DPS North American green sturgeon is not present within the Action Area (50 CFR Part 226, 74 FR 52300). The Proposed Action will have **no effect** on critical habitat for Southern DPS North American green sturgeon.

5.11 EFFECTS DETERMINATION SUMMARY

Table 5-1 summarizes the effects determinations for the Proposed Action.

Table 5-1: Effects Determination Summary

Species	Status	Effects Determination	
		Species	Critical Habitat
Marbled murrelet (<i>Brachyramphus marmoratus</i>)	Threatened	NLTA	NE
Bull Trout (<i>Salvelinus confluentus</i>)	Threatened	NLTA	NE
Humpback Whale (<i>Megaptera novaeangliae</i>)	Endangered	NLTA	-
Southern Resident Killer Whale (<i>Orcinus orca</i>)	Endangered	NLTA	NLTA

Species	Status	Effects Determination	
		Species	Critical Habitat
Eastern DPS Steller Sea Lion (<i>Eumetopias jubatus</i>)	Threatened	NLTA	NE
Puget Sound ESU Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	Threatened	NLTA	NLTA
Puget Sound DPS Steelhead (<i>Oncorhynchus mykiss</i>)	Threatened	NLTA	-
Bocaccio (<i>Sebastes paucispinis</i>)	Endangered	NE	-
Canary Rockfish (<i>Sebastes pinniger</i>)	Threatened	NLTA	-
Yelloweye Rockfish (<i>Sebastes ruberrimus</i>)	Threatened	NLTA	-
Southern DPS Eulachon / Columbia River Smelt (<i>Thaleichthys pacificus</i>)	Threatened	NLTA	NE
Southern DPS North American Green Sturgeon (<i>Acipenser medirostris</i>)	Threatened	NLTA	NE

No Effect (NE)

Not Likely to Affect (NLTA)

* The Action Area is not located within designated critical habitat.

- Critical habitat not designated.

6. CONSERVATION MEASURES

Implementation of the following conservation measures are proposed to avoid and minimize the potential for adverse effects from the Action on ESA-listed species.

Long-term design conservation measures include the following:

- The Proposed Action has been designed to occur within the existing marina footprint surrounded by a USACE breakwater.
 - The overall number of slips within the marina will not change substantially. The quantity of available slips will be reduced by seven with some of the reconstructed slips for longer boats.
 - The overall surface area of the floats (including transformer floats), knees, and walers within the marina will be reduced by a minimum of 509 square feet. It is likely that eelgrass and other macroalgae will recolonize the bottom substrate in areas where shading is reduced.
- An overall reduction in artificial light and glare on marine surface waters is anticipated after the completion of this Project. Existing lights (used for night lighting) are attached to the top of poles at the marina. The lights shine over the floats and into the surrounding water. New lighted power posts (much shorter than the existing light poles) will be installed on the floats. Low LED lights from these new power posts will be directed onto the floats, not the water, therefore reducing existing glare and improving energy efficiencies within the marina.

- Ninety-five (95) treated creosote piles will be removed from the marine environment. Vibratory extraction will be used to remove existing timber piles (and the three steel piles proposed for removal). Broken and damaged pilings may need to be removed with a clamshell bucket. The size of the clamshell bucket will be as small as possible to reduce turbidity during piling removal. The three existing creosote piles to be removed from eelgrass patches will also be removed with vibratory extraction. If these three piles break during removal, a clamshell bucket will not be used to remove them (as this will disturb existing eelgrass). Instead, a diver will use small hand-held tools to dig around the base of the pile and cut the pile approximately one-foot below the mudline. The top portion of the broken pile will then be removed with a grab line.
- Patches of eelgrass were observed around existing floats used by boats (density surveys completed by JenJay in 2011 and 2012). The shift in finger float location and the activity of pile removal and replacement will remove overwater shading from some areas. Overall, there will be a net reduction in overwater cover / shading as part of this Project and it is likely that we will see natural recolonization of eelgrass and / or macroalgae in areas where shading is reduced.

In 2011 planning and design of the proposed replacement slip alignment was conducted to avoid and minimize impacts to eelgrass within the marina. Chris Betcher (marine biologist at JenJay, Inc.) coordinated with both WDFW and DNR in 2011 to minimize negative impacts on the marina eelgrass and to avoid, if at all possible, the need for eelgrass mitigation and transplanting. Chris, along with his associate Dr. Leo Bodensteiner, met with Laura Arber, Doug Thompson and Brian Williams of WDFW on December 15, 2011 to further discuss eelgrass minimization and mitigation alternatives. They were able to coordinate on a path forward where all of the proposed replacement slips were designed to meet the following avoidance criteria:

- Replacement of floats located over existing eelgrass beds will not result in an increase in cover. The floats will be replaced in-kind with floats of the same size and within the same footprint. (It should be noted that three existing piles located within the eelgrass patches will be removed and will not be replaced.)
- Replacement of other proposed floats (as described above) will incorporate a 10-foot lateral clearance to all existing eelgrass beds.

A Hydraulic Project Approval (HPA) was issued for the project on June 25, 2012 (Control Number 123573-1) and is included in Appendix C. All of the conditions identified in the HPA, some of them are included here, will also be adhered to.

Short-term (construction) conservation measures will include the following:

- Replacement floats will be constructed offsite at an upland float manufacturing site. The float sections will then be transported to the marina by barge.
- Floatation for the structure shall be fully enclosed and contained to prevent the breakup or loss of the floatation material into the water.

- Replacement piles will be driven and / or drilled into the hard sediment. Vibratory pile driving will be used whenever possible. Impact driving will not be used to avoid and minimize the potential for disturbance and injury on aquatic wildlife. Instead pile drilling will be used only if warranted given hard soil, rock, or bedrock conditions (when the use of a vibratory hammer is not sufficient to install the pile).
- Marine mammal monitoring is an anticipated requirement for vibratory pile driving. A Marine Mammal Monitoring Plan has been prepared for the project (Appendix E). The appropriate biological monitoring will be conducted by certified biologists during project construction.
- The contractor will be advised that eelgrass beds are protected under both state and Federal laws and will adhere to the following restrictions during construction:
 - Barge anchors and spuds shall not be deployed and shall not spud down in eelgrass and kelp.
 - Anchors shall be set and retrieved vertically; anchor tension shall be maintained such that anchor cables do not drag into the eelgrass beds.
 - Eelgrass and kelp shall not be adversely impacted due to any project activities (e.g., barge shall not ground, anchors and spuds shall not be deployed, equipment shall not operate, and other project activities shall not occur in eelgrass and kelp).
 - Construction barge / boat movements shall not shade any portion of the eelgrass habitat for a continuous period longer than four days between March 21 and September 21. Any portion of the eelgrass habitat that is shaded for four consecutive days shall receive, at a minimum, three consecutive days of uninterrupted natural light.
 - Minimal propulsion power shall be used when maneuvering barges between 0 feet MLLW and -20 feet MLLW for the protection of eelgrass habitat.
 - If at any time, as a result of project activities, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), immediate notification shall be made to the Washington Department of Ecology and the Washington State Department of Fish and Wildlife.
- Under no circumstances shall creosote treated piling or lumber be used for project construction.
- Water quality impacts from in-water work are anticipated to be temporary and localized (some turbidity during pile removal and installation in the immediate area of the construction). Compliance with Ecology's water quality conditions will be required.
- Debris or waste from construction will not be permitted to run into marine waters. Containment booms and absorbent sausage booms (or other oil absorbent fabric) shall be placed around the perimeter of the work area to capture wood debris, oil, and other materials released into marine waters as a result of construction activities. Any debris in the containment boom shall be

removed by the end of the workday or when the boom is removed, whichever occurs first. All accumulated debris shall be collected and disposed upland at an approved disposal site.

- The contractor will be required to implement spill response procedures during construction and follow a Spill Prevention Plan. If the contractor observes any kind of sheen or other indication of contaminants in the water, they will immediately stop construction and notify the appropriate agency to determine appropriate action.
- All removed piles and floats will be placed on a barge and transported offsite. Any removed creosote treated wood and piles will be disposed of at an appropriate upland facility, which meet the liner and leachate standards of the Minimum Functional Standards, Chapter 173-304 WAC.

8. ESSENTIAL FISH HABITAT ANALYSIS

In accordance with the requirements of 305(b) of the Magnuson-Stevens Fishery Conservation Act (MSFCMA), the potential impacts of the Proposed Action (as described in the above sections of this BE) on Essential Fish Habitat (EFH) have been assessed. EFH is defined by the MSFCMA in 50 CFR 600.905-930 as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.”

8.1 DESCRIPTION OF THE PROPOSED ACTION

Refer to Section 2.3 of the BE.

8.2 ADDRESSES EFH FOR APPROPRIATE FISHERIES MANAGEMENT PLANS (FMPS)

For the Puget Sound region, there are three FMP’s covering groundfish, coastal pelagic species and Pacific salmon. The following species were identified as possible species in the Action Area (Table 8-1), based on information from the NMFS (2012).

Table 8-1: Species with Designated EFH in Action Area

Common Name	Eggs	Larvae	Juvenile	Adult	Spawning
Groundfish					
Spiny Dogfish	X		X	X	X
Big skate	X		X	X	X
Black Rockfish			X	X	
California skate				X	
Canary Rockfish			X		
Copper Rockfish			X	X	
China Rockfish			X	X	
Curlfin sole				X	
Tiger Rockfish			X	X	
Yelloweye Rockfish				X	
Yellowtail Rockfish			X	X	
Kelp greenling	X	X	X	X	X
Quillback Rockfish			X	X	

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ABBREVIATED BIOLOGICAL EVALUATION

Common Name	Eggs	Larvae	Juvenile	Adult	Spawning
Arrowtooth flounder			X	X	X
Lingcod	X	X	X	X	X
Longnose skate	X			X	
Cabezon	X		X	X	X
Pacific cod	X	X	X	X	X
Pacific Whiting (hake)			X	X	
Pacific sanddab	X	X	X	X	
Ratfish	X			X	
Butter sole			X	X	X
Dover sole			X	X	X
English sole	X	X	X	X	X
Flathead sole			X	X	X
Rex Sole			X	X	X
Rock sole			X	X	X
Sablefish					
Sand sole			X	X	X
Starry flounder	X	X	X	X	X
<i>Pacific Salmon</i>					
Chinook salmon			X	X	
Coho Salmon			X	X	
Pink salmon			X	X	
<i>Coastal Pelagic</i>					
Northern Anchovy	X	X	X	X	X
Pacific (Chub) Mackerel				X	

7.3 EFFECTS OF THE PROPOSED ACTION

Groundfish EFH: Potential effects on Groundfish EFH are the same as those described in Section 6. Specifically, short term impacts from construction could disrupt bottom sediments and their prey species (i.e. during pile extraction and installation), increase turbidity in the water column, and reduce water quality if construction related spills or debris enter the water. However, this impact will be temporary and localized in nature. Over the long-term, the proposed project will result in some improvements to the project site (i.e. reduced creosote in the environment, a slight reduction in over water cover, especially over existing eelgrass patches).

Coastal Pelagic EFH: Potential effects on Groundfish EFH are the same as those described in Section 6. Specifically, short term impacts from construction could disrupt bottom sediments and their prey species (i.e. during pile extraction and installation), increase turbidity in the water column, and reduce water quality if construction related spills or debris enter the water. However, this impact will be temporary and localized in nature. Over the long-term, the proposed project will result in some improvements to the project site (i.e. reduced creosote in the environment, a slight reduction in over water cover, especially over existing eelgrass patches).

Salmon EFH: Potential effects on Groundfish EFH are the same as those described in Section 6. Specifically, short term impacts from construction could disrupt bottom sediments and their prey species (i.e. during pile extraction and installation), increase turbidity in the water column, and reduce water quality if construction related spills or debris enter the water. However, this impact will be temporary and localized in nature. Over the long-term, the proposed project will result in some improvements to the project site (i.e. reduced creosote in the environment, a slight reduction in over water cover, especially over existing eelgrass patches).

7.4 PROPOSED CONSERVATION MEASURES

Proposed conservation measures are the same as those described in Section 6 of the BE.

7.5 CONCLUSIONS

Groundfish EFH: While short-term impacts may occur, overall the Project would **not adversely affect** groundfish EFH.

Coastal Pelagic EFH: While short-term impacts may occur, overall the Project would **not adversely affect** coastal pelagic EFH.

Salmonid EFH: While short-term impacts may occur, overall the Project would **not adversely affect** salmonid EFH.

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APPENDIX A – PROJECT DRAWING SHEETS

Project Drawings were amended in March 2013.

APPENDIX B – CTICIAL HABITAT FORMS

**ASSESSMENT OF IMPACTS TO CRITICAL HABITAT
FOR ESUs of Pacific Salmon and Steelhead in Washington
Designated December 28, 1993 and September 2, 2005**

The Port of Friday Harbor: Reconstruction of Docks C, E, and F Project

USACE Permit No. NWS-2012-468

October 30, 2012

**Salmon and Steelhead Critical Habitat - Primary Constituent Elements
From 50 CFR Part 226 70 FR 52664-5**

Select all critical habitat ESUs in the action area:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Puget Sound Chinook | <input type="checkbox"/> Ozette Lake sockeye |
| <input type="checkbox"/> Lower Columbia River (LCR) Chinook | <input type="checkbox"/> SR sockeye |
| <input type="checkbox"/> Upper Willamette River (UWR) Chinook | <input type="checkbox"/> UCR steelhead |
| <input type="checkbox"/> Upper Columbia River (UCR) spring Chinook | <input type="checkbox"/> Mid Columbia River (MCR) steelhead |
| <input type="checkbox"/> Snake River (SR) fall Chinook | <input type="checkbox"/> LCR |
| <input type="checkbox"/> steelhead SR spring-summer Chinook | <input type="checkbox"/> UWR |
| <input checked="" type="checkbox"/> steelhead Hood Canal summer chum | <input type="checkbox"/> SR steelhead |
| <input type="checkbox"/> Columbia River chum | |

The primary constituent elements determined essential to the conservation of Pacific salmon and steelhead are:

(1) Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development.

Existing Conditions: **The project is located within marine waters.**

Effects to PCE: **There are no anticipated effects to the PCE.**

(2) Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.

Existing Conditions: **The project is located within marine waters and there are currently no salmon or steelhead spawning streams located within San Juan County. There are no suitable freshwater rearing sites located within the project area.**

Effects to PCE: **There are no anticipated effects to the PCE.**

(3) Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.

Existing Conditions: The project is located within marine waters and there are no suitable freshwater migration corridors located within the project area.

Effects to PCE: There are no anticipated effects to the PCE.

(4) Estuarine areas free of obstruction with water quality, water quantity and salinity conditions supporting juvenile and adult physiological transitions between fresh-and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels, and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.

Existing Conditions: The project is located within marine waters and there are no suitable estuarine areas located within the project area.

Effects to PCE: There are no anticipated effects to the PCE.

(5) Nearshore marine areas free of obstruction with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels.

Existing Conditions: The project is located within a nearshore marine area. However the marina is not completely free of water quality or foraging concerns. The existing marina includes treated timber, steel and concrete piles, floats and piers and is used for vessel moorage year round for up to 500 vessels. All cover within the project area is artificially provided by the marina's floats and docks.

Offshore subsurface sediment conditions within the marina generally consist of very soft silt and clay overlying stiff to hard silt and clay (GES 2010). This hard silt and clay may become soft at depth and in some areas there is very soft silt and clay over dense sand and gravel. Some rock could also be present. Shellfish hash has also been observed (Grette 2010).

Existing vegetation in the marina includes patchy eelgrass and sporadic macroalgae vegetation, which could be used for foraging salmon and steelhead juvenile fish but more pristine foraging areas are located outside of the urban corridor. Documented surf smelt and sand lance spawning areas are not located adjacent to the marina (the nearest being in North Bay around the peninsula to the south of the marina) (WDFW 2012). Forage fish could be present within the marina as they move to more pristine areas.

Effects to PCE:

Inwater work could disturb fish near piles and food and shelter could be affected by temporary construction activities affiliated with the proposed project (temporary and localized sediment disturbance and water turbidity during pile removal and installation). However, the proposed project is designed to avoid and minimize negative impacts to existing eelgrass beds over both the short term and long-term. The project will also remove creosote treated piles from the environment and will reduce overall cover within the marina. Inwater work windows will minimize the potential of impacts to individual fish and the use of vibratory pile driving and/or drilling methods will reduce negative inwater noise impacts. The project will not result in any long-term negative impacts to fish and will, over the long-term improve habitat conditions (less overwater cover, less cover over eelgrass, less creosote-treated timber in the water).

(6) Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation.

Existing Conditions:

The project itself is not located within offshore marine waters but inwater noise from vibratory pile driving or pile drilling could carry into the deeper San Juan Channel.

Effects to PCE:

Fish and prey species in the deeper waters of the San Juan Channel could avoid the area during vibratory pile driving activities. However, the proposed project is designed to avoid and minimize inwater noise, the effects of which will be short in duration. Inwater work windows will minimize the potential of impacts to individual fish and the use of vibratory pile driving and/or drilling methods (compared to impact driving) will reduce negative inwater noise impacts. The project will not result in any long-term negative impacts to fish or habitat.

Determination of Effect: If critical habitat for the ESU does not occur in the action area, no determination of effect is required for that ESU.

	NE ¹	NLAA ²	LAA ³
Puget Sound	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chinook: LCR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chinook	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UWR Chinook	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UCR spring Chinook	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SR fall Chinook	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SR spring-summer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chinook Hood Canal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
summer chum Columbia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
River chum Ozette Lake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sockeye	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SR sockeye	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UCR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
steelhead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MCR			
steelhead			
UWR			
steelhead SR			
steelhead			

¹ NE is no effect.
² NLAA is may affect, not likely to adversely affect.
³ LAA is may affect, likely to adversely affect.

Conservation Measures: Conservation measures are identified in Section 6 of the BE.

ASSESSMENT OF IMPACTS TO CRITICAL HABITAT FOR SOUTHERN RESIDENT KILLER WHALES

The Port of Friday Harbor: Reconstruction of Docks C, E, and F Project

USACE Permit No. NWS-2012-468

October 30, 2012

Killer Whale Critical Habitat - Primary Constituent Elements From 50 CFR Part 226

The primary constituent elements (PCE) determined essential to the conservation of southern resident killer whales (*Orcinus orca*) are:

(1) Water quality to support growth and development;

Existing Conditions:

The marine water surrounding the San Juan Islands are designated as Class AA or Extraordinary Quality (to be appropriate for swimming, fishing, boating and aesthetic enjoyment) and are to meet the criteria outlined in WAC-173-201A-030 (2002). Water quality within Friday Harbor has been listed on the Washington State Department of Ecology's 303(d) list in past years (up through 2008) for depleted levels of dissolved oxygen. This could be due to the previous sewage treatment plant, which has been upgraded over the years since 2001. Marine water quality problems could also be related to other sources more common of urban settings such as untreated stormwater and non-point pollution from the upland urban and residential environment (residential lawns and paved areas may increase run off containing fertilizers and metals, etc.). Recent marine water quality data collected by the San Juan County Marine Resources Committee (MRC) and Friends of the San Juans (FOSJ) indicate that the 303(d) listing may no longer be completely appropriate. Monitoring is currently ongoing.

Effects to PCE:

Short-term and localized turbidity could result from the removal and installation of piles within the marina. However, these impacts are minor and are not anticipated to impact water quality within the marina. There are no anticipated effects to the PCE.

(2) Prey species of sufficient quantity, quality, and availability to support individual growth, reproduction, and development as well as overall population growth;

Existing Conditions:

The existing marina is located in a relatively urban environment. Boat traffic, floats, piers and piles (treated timber, steel and concrete) are located in the project area next to a ferry terminal and the Town of Friday Harbor. Existing foraging and habitat for prey species is less than pristine compared to other nearby areas and it is unlikely that prey species of sufficient quantity, quality and availability are located within the marina.

Effects to PCE:

There are no anticipated effects to the PCE.

(3) Passage conditions to allow for migration, resting, and foraging.
NMFS is gathering data to assist it in evaluating sound as a potential PCE.

Existing Conditions: The existing marina is located in a relatively urban environment. Boat traffic, floats, piers and piles (treated timber, steel and concrete) are located in the project area next to a ferry terminal and the Town of Friday Harbor.

Boat and vessel traffic within the area, including the ferries that move out of the marina and into the San Juan Channel, are not conducive to migration or foraging habitat. Resident whales predominantly travel along the west side of San Juan Island (Haro Strait) and forage along the southwest portion of the island instead (NOAA 2011).

Noise from pile removal and installation has the potential to cause behavioral disturbance to the Southern Resident killer whale. Although any whales in the area during construction could readily avoid the area while migrating or foraging, inwater sounds could still travel up to three miles across the San Juan Channel before they attenuate below the 120 dBRMS behavioral threshold currently in place for the species.). To avoid acoustic effects on Southern Resident killer whales, a MMMP has been developed for the project.

Effects to PCE: There are no anticipated effects to the PCE.

Determination of Effect: The proposed project is not likely to adversely affect critical habitat for the Southern Resident killer whale.

Conservation Measures: Conservation measures are identified in Section 6 of the BE.

APPENDIX C – HYDRAULIC PROJECT APPROVAL

HPA was amended on May 6, 2013

APPENDIX D – BASELINE EELGRASS SURVEYS



JEN-JAY, INC.

Eelgrass Macro Algae Habitat Survey
Port of Friday Harbor
"E" Walkway
6 June 2012

LOCATION: Friday Harbor, San Juan Island, San Juan County.

PURPOSE: To survey the area of a proposed alteration to existing float as a baseline to potential impacts to eelgrass in the area.

TIME: 8:30 to 10:00 a.m.

DEPTH CALCULATIONS: Measurements were made with a submersible electronic computer with the accuracy of +/- two feet. Corrections were made using the Port Townsend tide tables, corrected to the Friday Harbor, San Juan Island tide station #1162 with 0'=MLLW.

SURVEY PATTERN: A transect line was ran under the existing float of "E" walkway for 200'. Five additional lines were ran parallel to the first at 15' northwest of the first line, and 15', 30', 55' and 70' southeast of the first line. All lines had 20' transect spacing.

SUBSTRATE: Mud throughout the survey area.

VEGETATION: No attached macro algae throughout the survey area. Heavy layer of drift *Ulva* observed throughout survey.

VISIBILITY: 10'±.

VERTEBRATE and INVERTABRATE SPECIES: None with numbers enough to be significant.

Any questions regarding this survey should be addressed to:

Chris Betcher
JEN-JAY, INC.

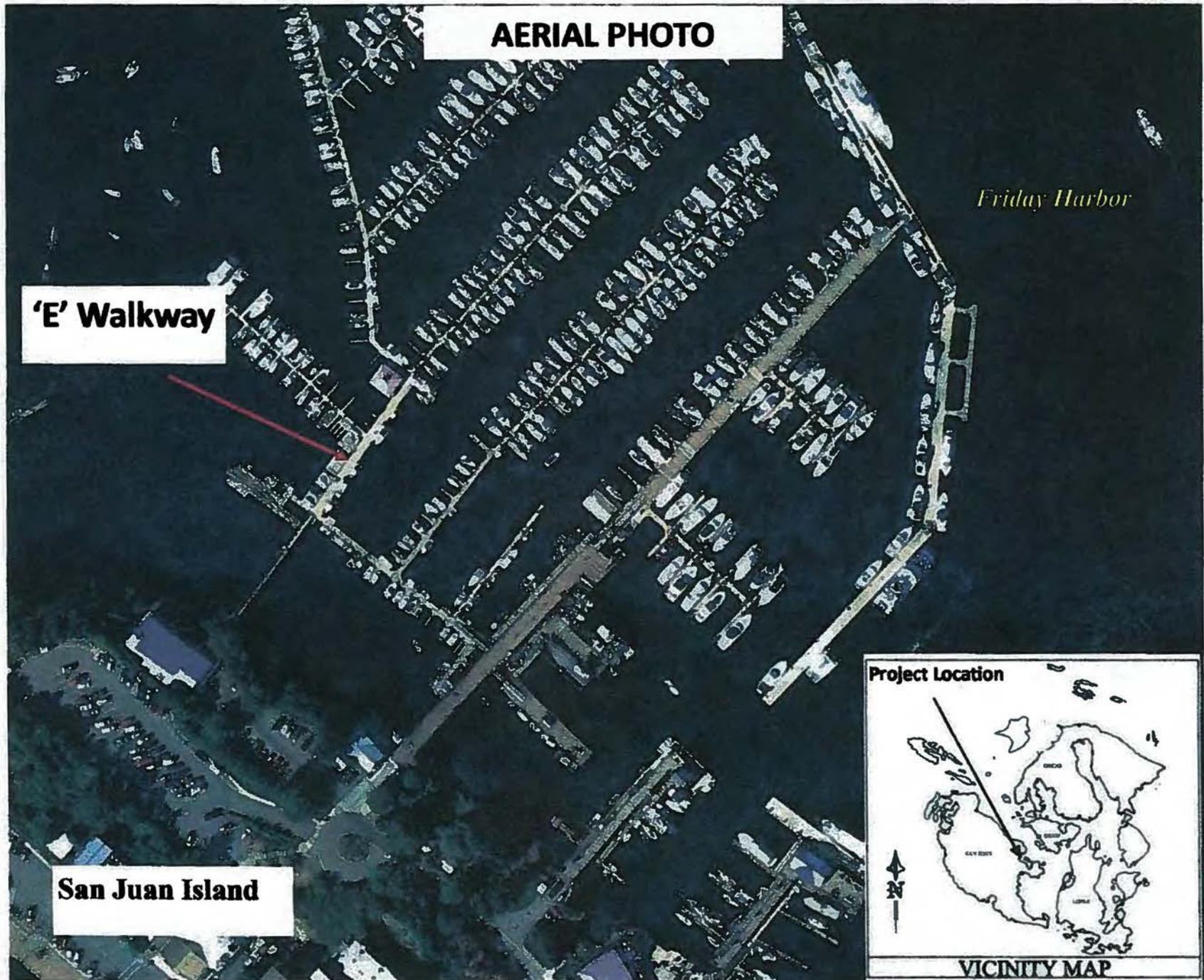
P.O. Box 278, Deer Harbor, WA 98243-0278

Ph: (360) 376-4664

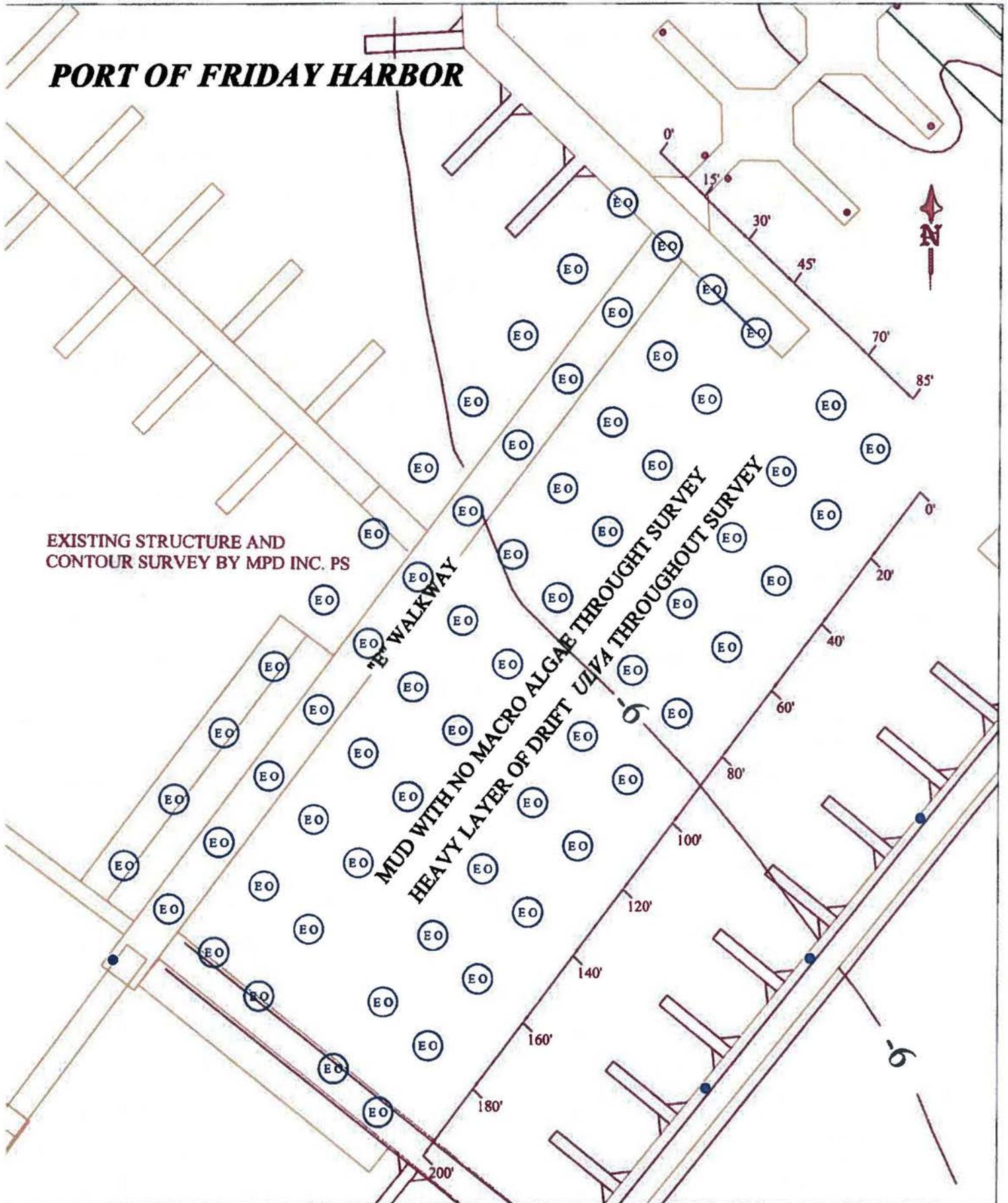
Fax: (360) 376-6446

Boat: (360) 317-5373

Email: jenjay@rockisland.com



PORT OF FRIDAY HARBOR



SCALE: 1" = 30'

E WALKWAY EELGRASS BASELINE SURVEY
FOR: PORT OF FRIDAY HARBOR
BY: JEN-JAY INC.
DATE: JUNE 6, 2012

NOT CONSTRUCTION DRAWINGS
DEPTH CONTOURS ARE APPROXIMATE



JEN-JAY, INC.

Baseline Eelgrass Survey
Port of Friday Harbor
"F" Float
6 June 2012

LOCATION: Friday Harbor, San Juan Island, San Juan County.

PURPOSE: To survey the area of proposed alteration to existing float as a baseline to potential impacts to eelgrass in the area.

TIME: 10:30 a.m. to 1:30 p.m.

DEPTH CALCULATIONS: Measurements were made with a submersible electronic computer with the accuracy of +/- two feet. Corrections were made using the Port Townsend tide tables, corrected to the Friday Harbor, San Juan Island tide station #1162 with 0'=MLLW.

METHODS: The survey was conducted in consultation with Washington Department of Fish and Wildlife area habitat biologist.

EELGRASS: *Zostera marina* was quantified as shown on attached drawing.

SURVEY PATTERN: Survey to characterize eelgrass found in the 2006 Jen-Jay, Inc. survey. Transect lines were spaced 25' apart until eelgrass was observed. Through the eelgrass transect lines were spaced 5' apart. Past the eelgrass one more line was ran 15' away to ensure eelgrass wasn't missed. Transect lines were at 0', 25', 30', 35', 40', 45', 50', 55', 60', 65' and 80'. Counts were made with a 3' X 5' rectangle through the first 2 transect areas to show a representative sampling of the eelgrass. Throughout the remaining area of eelgrass the bed was delineated.

SUBSTRATE and VEGETATION: Mud substrate with no macro algae throughout the survey area. Eelgrass as delineated on the attached drawing. Counts are representative sampling of eelgrass bed.

VISIBILITY: 10'±.

Any questions regarding this survey should be addressed to:

Chris Betcher
JEN-JAY, INC.

P.O. Box 278, Deer Harbor, WA 98243-0278

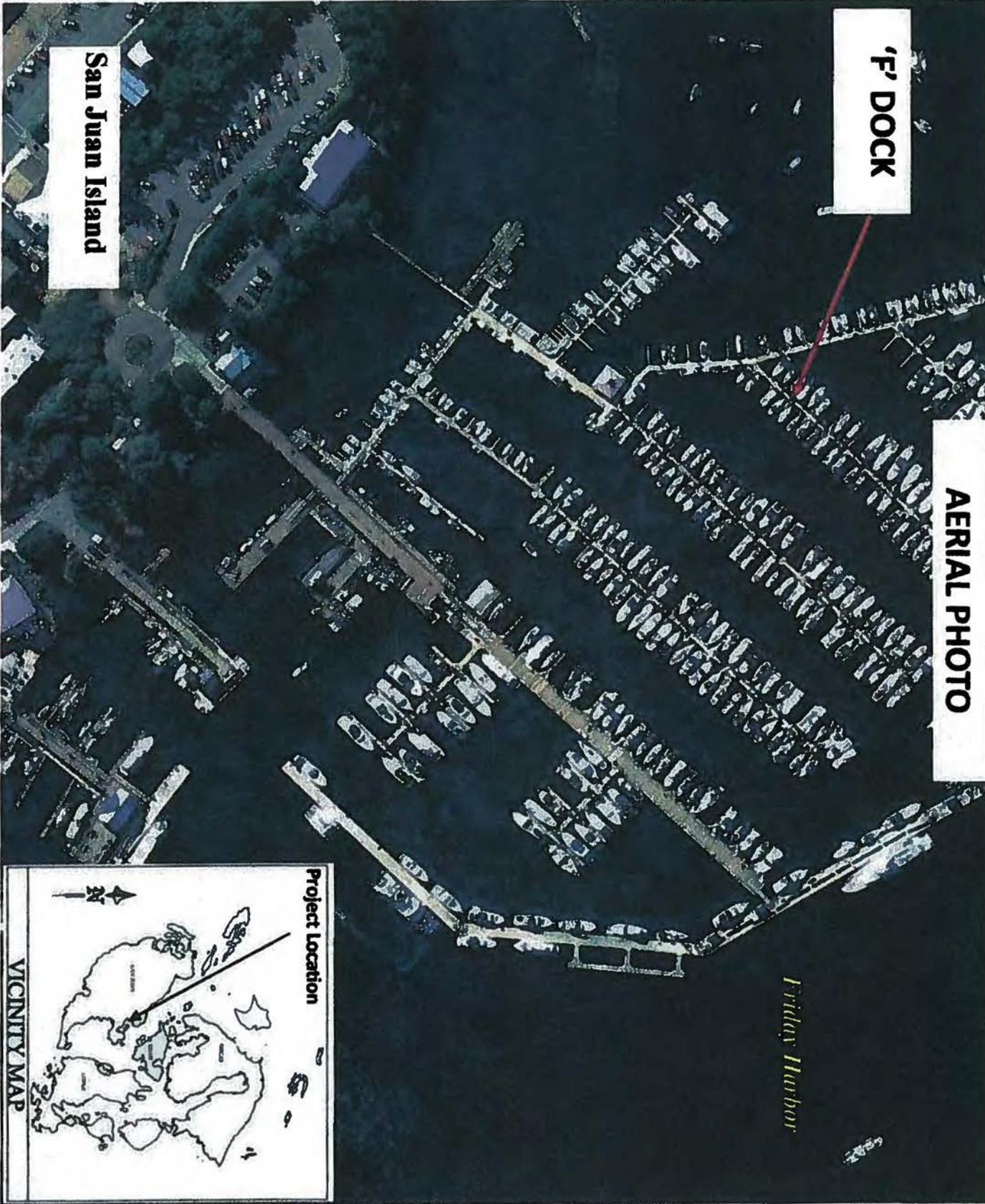
Ph: (360) 376-4664 Fax: (360) 376-6446 Boat: (360) 317-5373 Email: jenjay@rockisland.com

AERIAL PHOTO

'F' DOCK

Friday Harbor

San Juan Island



PORT OF FRIDAY HARBOR

KEY

- = EELGRASS BED
- = Transects with eelgrass estimates;
L=low density
M=medium density
H=high density
O=No eelgrass
- #' = Contour lines corrected to 0'=0 MLLW by



EXISTING DOCK SYSTEM

"F" FLOAT

LINE DELINEATING EDGE OF EELGRASS BED

numbers indicate actual shoot counts in 3' x 5' (1.39 sq. meter) area

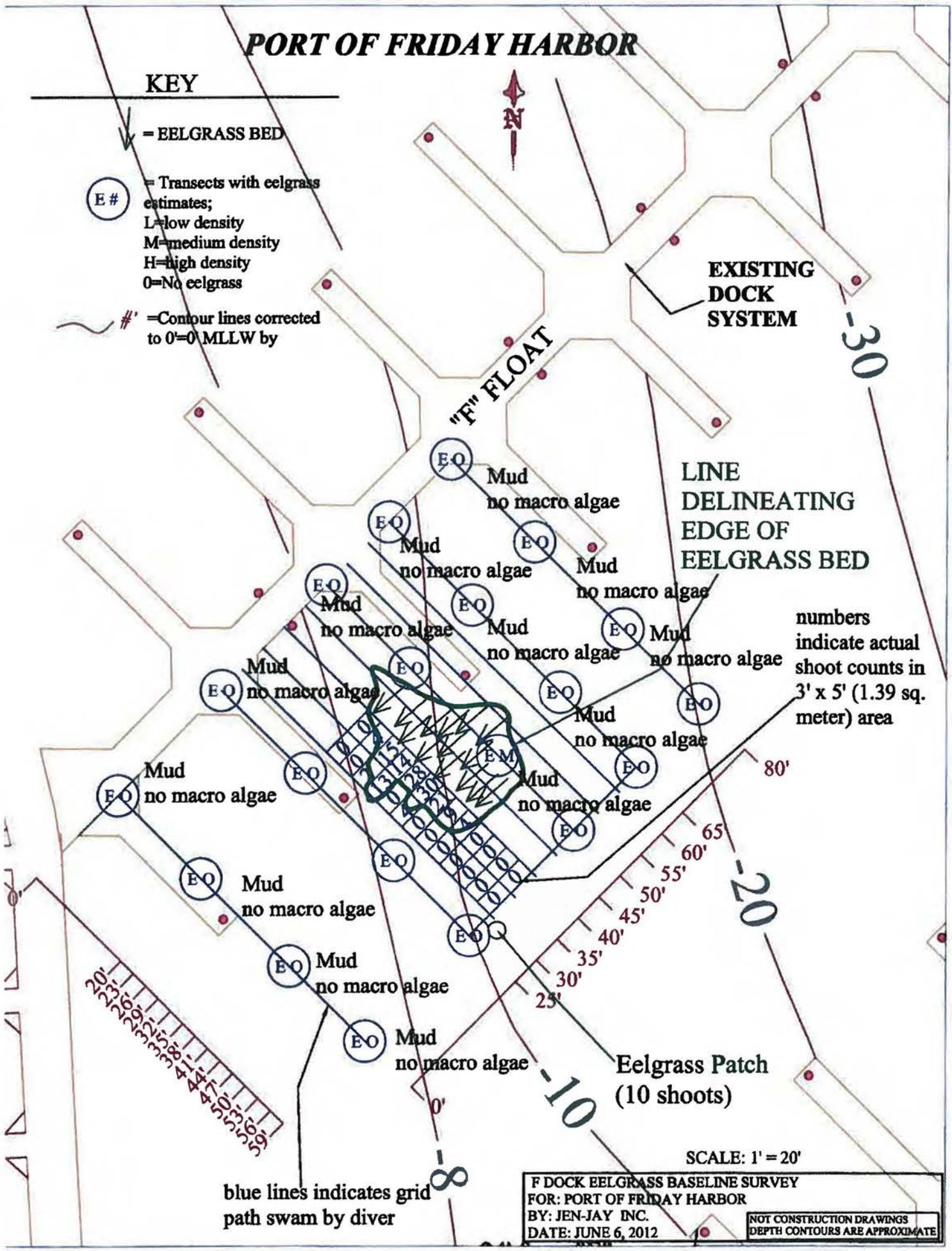
Eelgrass Patch (10 shoots)

SCALE: 1' = 20'

F DOCK EELGRASS BASELINE SURVEY
 FOR: PORT OF FRIDAY HARBOR
 BY: JEN-JAY INC.
 DATE: JUNE 6, 2012

NOT CONSTRUCTION DRAWINGS
 DEPTH CONTOURS ARE APPROXIMATE

blue lines indicates grid path swam by diver





JEN-JAY, INC.

Baseline Eelgrass Survey
Port of Friday Harbor
30 September 2011

LOCATION: Friday Harbor, San Juan Island, San Juan County.

PURPOSE: To survey the area of a proposed alteration to existing floats as a baseline to potential impacts to eelgrass in the area.

METHODS: The survey was conducted utilizing the Advanced Survey Guidelines from Washington Department of Fish and Wildlife in consultation with WDFW area habitat biologist. Counts were conducted using 1/4 square meter quadrats (1/2 meter X 1/2 meter).

EELGRASS: *Zostera marina* was quantified as shown on attached data page and attached drawing.

SURVEY PATTERN: Four survey sites were located and identified as 1) West side of "E" float; 2) East side of "E" float; 3) East side of "C" float; and 4) Northeast of pump out float.

- 1) West side of "E" float: Three patches of eelgrass were identified and characterized. One patch of 14 shoots was located 7' from proposed finger float. A second and third patch of 26 shoots and 36" diameter, respectively, was identified more than 10' from proposed finger float.
- 2) East side of "E" float: A centerline was ran along a proposed finger float that would potentially impact existing eelgrass as identified by Grette and Associates in their preliminary survey conducted 7 and 8 July 2010. Four additional lines were ran 10' and 25' to either side of the centerline. Thirty-five counts were taken along the centerline and the 10' line to the south of the centerline in 1/4 square meter quadrats. The remaining 3 transect lines laid out were used to identify edges of eelgrass bed.
- 3) East side of "C" float: A centerline was ran along a proposed finger float that would potentially impact existing eelgrass as identified by Grette and Associates in their preliminary survey conducted 7 and 8 July 2010. Four additional lines were ran 10' and 25' to either side of the centerline. Thirty-seven counts were taken along the centerline and the 10' line to the south of the centerline in 1/4 square meter quadrats. The remaining 3 transect lines laid out were used to identify edges of eelgrass bed.
- 4) Northeast of pump out float: A centerline was ran extending out from, and in line with, the pump out float that would serve as a control site with eelgrass as identified by Grette and Associates in their preliminary survey conducted 7 and 8 July 2010. Four additional lines were ran 10' and 25' to either side of the centerline. Thirty-three counts were taken along the centerline and the 10' and 25' lines to the northwest of the centerline in 1/4 square meter quadrats. The remaining 2 transect lines laid out were used to identify edges of eelgrass bed.

VISIBILITY: 15'±.

Any questions regarding this survey should be addressed to:

Chris Betcher
JEN-JAY, INC.

P.O. Box 278, Deer Harbor, WA 98243-0278

Ph: (360) 376-4664 Fax: (360) 376-6446 Boat: (360) 317-5373 Email: jenjay@rockisland.com

Treatment site east side "E" dock			Treatment site east side of "C" dock			Control site		
Transect centerline			Transect centerline			Transect centerline		
	#	Distance from walkway		#	Distance from walkway		#	Distance from face of pumpout float
1	1	24'	1	1	24'	1	2	18'
2	1	27'	2	4	27'	2	3	21'
3	4	30'	3	10	30'	3	9	24'
4	3	33'	4	0	33'	4	0	27'
5	3	36'	5	4	36'	5	6	30'
6	9	39'	6	2	39'	6	5	33'
7	7	42'	7	0	42'	7	3	36'
8	12	45'	8	3	45'	8	8	39'
9	9	54'	9	0	48'	9	2	42'
10	8	57'	10	12	51'	10	3	45'
11	5	60'	11	0	54'	11	1	48'
12	2	63'	12	0	57'	12	6	51'
13	4	66'	13	7	60'	13	9	54'
14	9	69'	14	4	63'	14	4	57'
15	3	72'	15	0	66'	15	2	60'
16	5	75'	16	0	69'	16	3	63'
17	7	78'	17	19	72'	17	3	66'
18	2	81'	18	1	75'	Transect 10' north of centerline		
								Distance from face of pumpout float
19	3	84'	19	2	78'			
20	3	87'	20	1	81'	18	4	27'
21	4	90'	21	2	84'	19	5	30'
22	3	93'	22	4	87'	20	8	33'
23	8	96'	23	2	90'	21	9	36'
24	3	99'	24	6	93'	22	10	39'
Transect 10' W of centerline			Transect 10' west of centerline			23	4	42'
		Distance from walkway			Distance from walkway	24	8	45'
25	5	78'	25	3	60'	25	8	48'
26	8	81'	26	4	63'	26	9	51'
27	6	84'	27	12	66'	27	10	54'
28	2	87'	28	4	69'	28	16	57'
29	4	90'	29	2	72'	29	13	60'
30	4	93'	30	3	75'	30	3	63'
31	6	96'	31	3	78'	31	2	66'
32	3	99'	32	0	81'	Transect 25' north of centerline		
								Distance from face of pumpout float
33	2	102'	33	12	84'			
34	4	105'	34	3	87'	32	4	36'
35	3	108'	35	1	90'	33	7	39'
			36	5	93'			
			37	4	96'			
4.714	Mean		4.429	Mean		5.727	Mean	
7.092	Variance		18.174	Variance		13.392	Variance	

TECHNICAL MEMORANDUM

To: Mike Hemphill, P.E.
Moffatt & Nichol
600 University Street, Suite 610
Seattle, WA 101

July 21, 2010

From: Grette Associates, LLC
2102 North 30th Street, Suite A
Tacoma, WA 98403

File No.: 323.002

Re: Friday Harbor Marina Preliminary Eelgrass and Macroalgae Survey Results

Introduction

Grette Associates is under contract with Moffatt & Nichol to conduct a preliminary eelgrass (*Zostera marina*) and macroalgae survey within a portion of the Port of Friday Harbor Marina in Friday Harbor, San Juan Island, Washington (Figure 1, vicinity map). A total of 14 transects covered parts of the intertidal, shallow subtidal and subtidal environment of the project area (Figure 2). This technical memorandum reports the results of the preliminary eelgrass and macroalgae survey conducted by Grette Associates, LLC on July 7 and 8, 2010.

Methods

The survey was conducted following the Eelgrass/Macroalgae Habitat Interim Survey Guidelines protocol outlined by the Washington Department of Fish and Wildlife (WDFW, revised 06/16/2008). Twelve Southwest-to-Northeast transects (Transects 1-12) were established in the vicinity of and parallel to piers "F", "E" and "C" (Figure 2), and two additional transects (Transects 13 and 14) ran South-to-North underneath and outside of Walkway D to obtain additional baseline information in this location. For Transects 1-12, divers swam a transect tape parallel to the outermost pile line and beneath the slip line for each of the three fairways: F-E, E-C, and C-M. At Walkway D, transects were arranged parallel to the floating walkway, one beneath the slip line and a second outside of the southwest edge of the floating docks (Figure 2).

Along each transect, divers recorded eelgrass presence and approximate patch size, macroalgal species presence and percent cover, and substrate characteristics (data sheet copies are included in the Appendix). If no change in substrate type or eelgrass presence was noted, data were taken by default approximately every 40 ft along the tape. Surveys were conducted at tidal heights of -1.3 ft to +6.3 ft Mean Lower Low Water (MLLW).

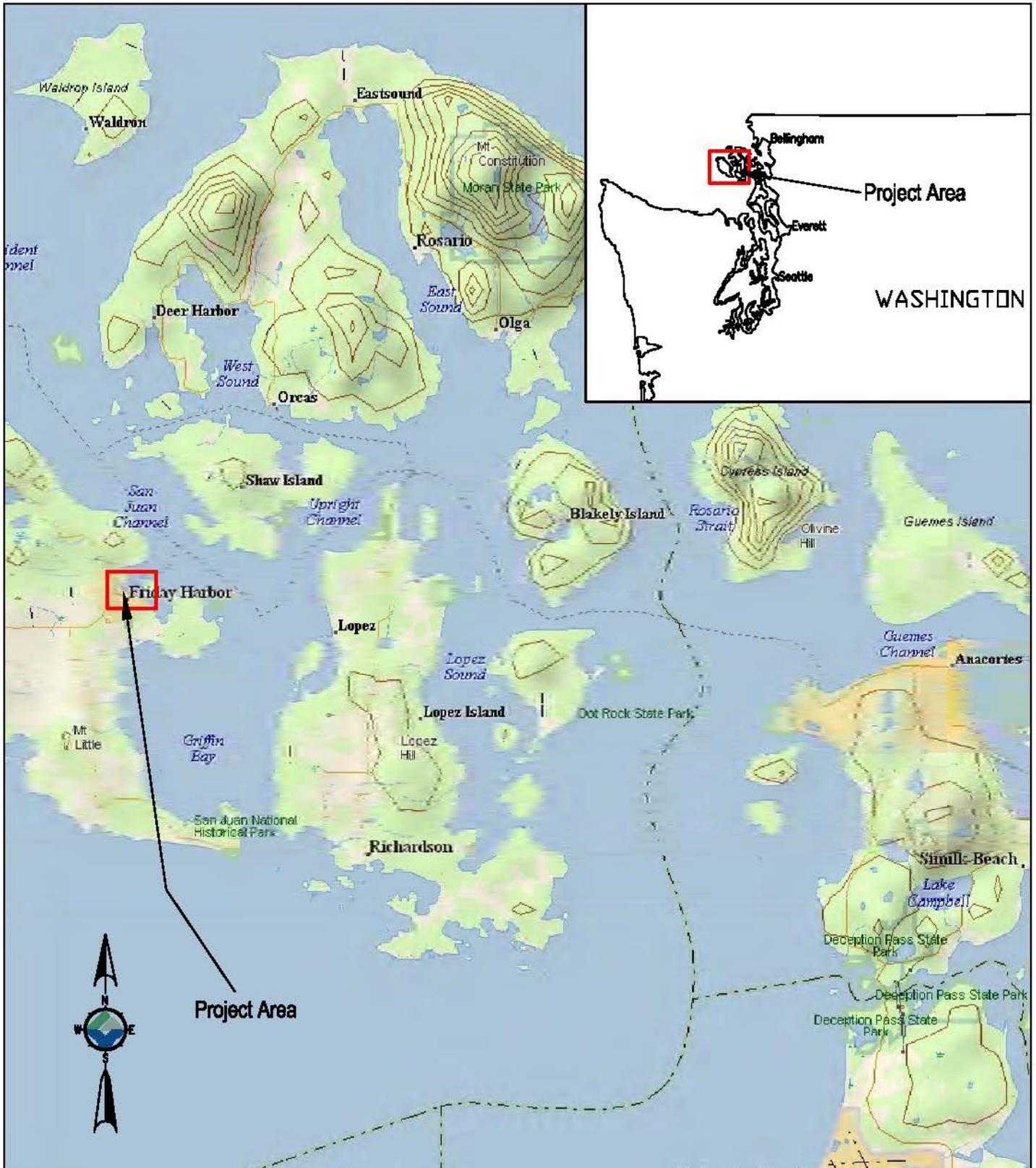
It should be noted that the survey transects were identified on the datasheets using letters (i.e. Transect A, B, C, etc.). However, to avoid confusion with the names of the piers (Piers D, E, F and C), the transects were renamed numerically in this technical memorandum such that Transect A corresponds to Transect 1, Transect B corresponds to Transect 2, and so on (see Appendix).

Results

Zostera marina was present in discrete patches in fairways F-E, E-C and C-M, approximately between the -6 ft and -20 ft MLLW contours (Figure 2). Two large patches were observed, one each in fairway E-C and fairway C-M, and four smaller patches were located in fairway F-E. No eelgrass was observed along the transects parallel to Walkway D (Figure 2).

Within the surveyed area, macroalgal species observed included: *Ceramium* sp., *Chondracanthus exasperatus*, *Costaria costata*, *Fucus gardneri*, *Gracilaria* sp., *Gracilariaopsis* sp., *Mazzaella splendens*, *Nereocystis luetkeana*, *Polyneura latissima*, *Porphyra* sp., *Prionitis lanceolata*, *Saccharina latissima*, *Smithora naiadum*, *Sparlingia pertusa* and *Ulva lactuca*. Macroalgal cover generally decreased with depth, with shallow areas dominated by dense *U. lactuca* and *S. latissima*.

The maximum water depth within the Project Area is -42 ft MLLW. Visibility ranged from approximately 10-15 feet during the two-day survey. The sediment within the Project Area is composed primarily of mud, silt, and shell hash.



OFFICE: TACOMA PM: SM

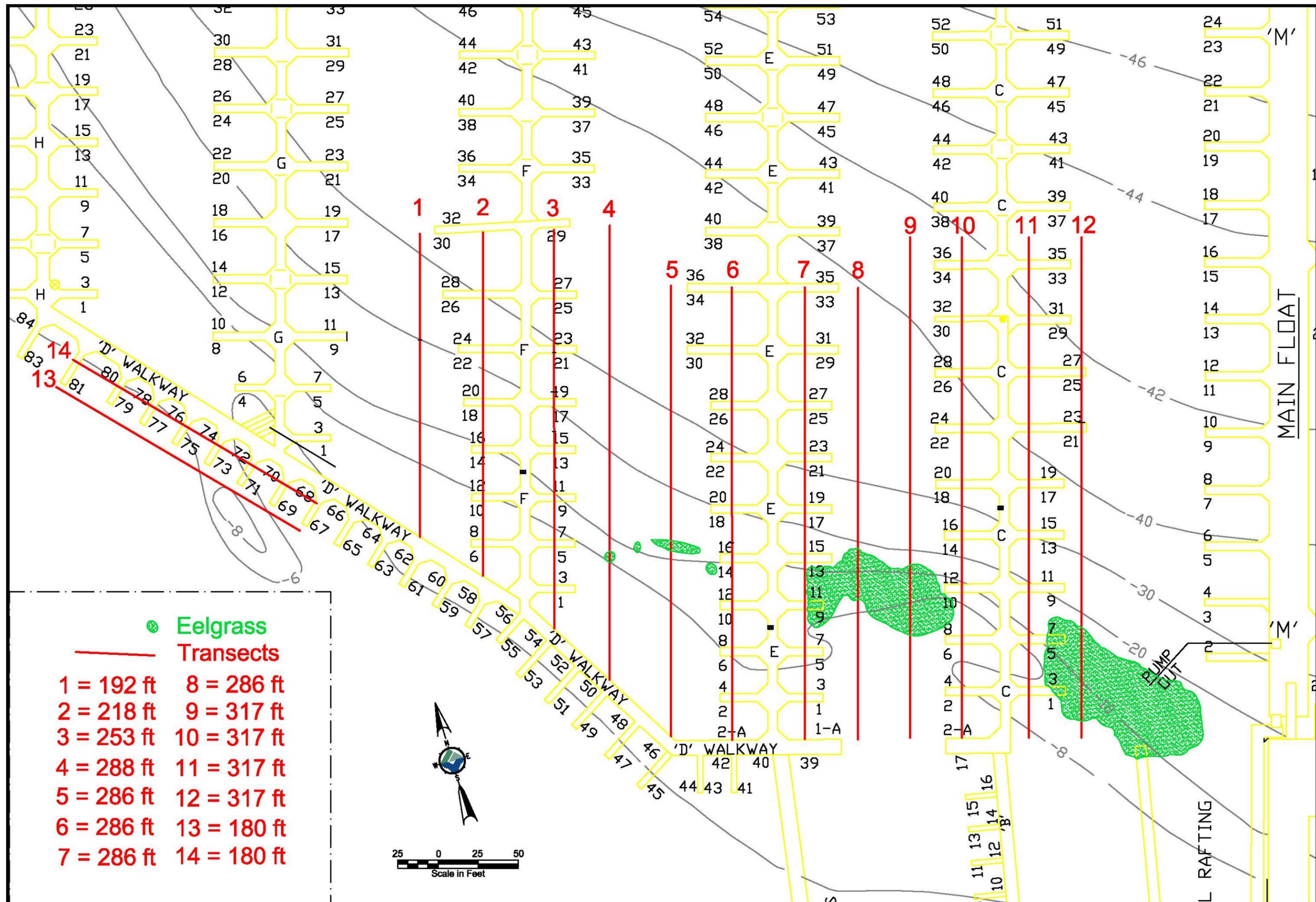
Client: Moffatt & Nichol
 600 University Street, Suite 610
 Seattle, WA 98101

**Port of Friday Harbor Marina
 Preliminary Eelgrass and
 Macroalgae Survey**

Grette Associates LLC
 ENVIRONMENTAL CONSULTANTS
 2102 North 30th Street, Suite A
 TACOMA, WA 98408
 (253) 873-6300
 gretteassociates.com

**SHEET: 1 OF 2
 DATE: 07/21/10
 REV:
 CREATED BY: SM**

Vicinity Map



- Eelgrass
 - Transects
- | | |
|------------|-------------|
| 1 = 192 ft | 8 = 286 ft |
| 2 = 218 ft | 9 = 317 ft |
| 3 = 253 ft | 10 = 317 ft |
| 4 = 288 ft | 11 = 317 ft |
| 5 = 286 ft | 12 = 317 ft |
| 6 = 286 ft | 13 = 180 ft |
| 7 = 286 ft | 14 = 180 ft |





Grette Associates LLC
ENVIRONMENTAL CONSULTANTS
2102 North 30th Street, Suite A
TACOMA, WA 98409
(253) 579-9000
gretteassociates.com

PROJECT No. 323.002
07/21/2010

Port of Friday Harbor Marina
Preliminary Eelgrass and Macroalgae
Survey

SITE ADDRESS: 204 Front Street N
Friday Harbor, WA 98250

CLIENT: **Moffatt & Nichol**

Port of Friday Harbor Marina
Site Plan
Eelgrass patches

SHEET 2 OF 2

FRIDAY HARBOR MARINA PRELIMINARY EELGRASS AND MACROALGAE SURVEY

APPENDIX



Please note: This appendix includes Xeroxed copies of transect data compiled during the July 7 and 8, 2010 underwater survey. These sheets distinguish the 14 transects by letter (A-M) instead of number (1-14) as referenced in this report. Therefore, Transect A should be Transect 1, etc...

Location: Friday Harbor
Preliminary Eelgrass and Macroalgae Survey

Date: 7-7-10 Time: 1230 Weather: Sunny
 Observer: MH Tide: +3.1' Datasheet: of

shoreline
↓

Transect	Distance	Gauge Depth	Eelgrass Patch Size	Macroalgae	Substrate	
B	230	8	—	Ulva, LAM	Silt, mud	
	210	8	—	Ulva		
	196	9	—	^{Cera} Ulva, LAM		
	176	11	—	Ulva		
	166	11	—	Ulva, Cera		
	146	14	—	LAM		
	126	18	—	Ulva		mud
	106	23	—	LAM		
	86	27	—	GRAC, Ulva GRAC		Shell Silt, mud
	66	31	—	GRAC, Ulva		Shell, mud
	46	34	—	Ulva, GRAC		
	26	37	—	LAM, Ulva GRAC		
	06	39	—	GRAC, FUCUS, SPAR		
	0					

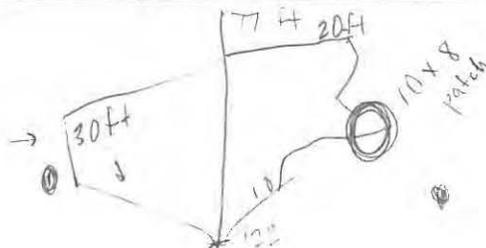
NOTES: U. Shrim A

Location: Friday Harbor
Preliminary Eelgrass and Macroalgae Survey

Date: 7/7 Time: 13:00 / 16:23 Weather: 89° F
 Observer: MBV Tide: +3.7' / +6.1' Datasheet: of

Transect	Distance	Gauge Depth	Eelgrass Patch		Macroalgae	Substrate	% cover
			Size	ff			
C	250 shallow	8	X		Laurencia ulva	rock	100%
	210	10	X		" "	↓	100%
	160	16	X		ceramium	↓	
	120	27	✓		lam, gracilaria sp, ceramium	↓	
	80	30	X		gracilaria sp, ceramium	↓	%
	40	34	X		" "	↓	100%
	0	36	X		" "	↓	100%
H	280 deep	43	X		gracilaria	silt	30%
	240	42	X		ceramium, sargassum	↓	20%
	200	42	X		costaria, grac	↓	2%
	160	36	X		porphyra, grac	↓	5%
	122	24		eelgrass	ceramium, lam	↓	60%
	77	11		eelgrass	smithorn	↓	100%
	70	10	X		neoreocystis ulva	↓	100%
	40	10	X		ulva, grac	↓	100%
	0		X				
						shore	

NOTES:



Location: Friday Harbor
Preliminary Eelgrass and Macroalgae Survey

Date: 4-7-10 Time: 13:30/14:50 Weather: Sunny
 Observer: MH Tide: +4.2' / +6.2' Datasheet: of

Transect	Distance	Gauge	Eelgrass Patch	Macroalgae	Substrate	
		Depth	Size			
D	0	8	—	UVA	silt, mud	
	20	9	—	UVA		
	40	10	—	UVA		
	60	12	—	ULVA		
	75	18	3x2ft patch @ 77ft	UVA		
	80	20	—	UVA		
	100	24	—	GRAC, UVA		
	120	28	—	GRAC, ULVA		mud
	140	37	—	LAM, GRAC, UVA MAZZ		mud
	160	36	—	LAM, CERA, UVA GRAC		mud, shell
	180	37	—	GRAC, ULVA		mud
	200	37	—	GRAC, ULVA CERA, LAM		
	220	38	—	LAM, GRAC UVA, CERA		mud, shell
240	39	—	GRAC, LAM	mud		
260	42	—	LAM, GRAC	mud		

NOTES: 65% overall macro cover

Location: Friday Harbor
Preliminary Eelgrass and Macroalgae Survey

Date: #/7/10 Time: 15:20 Weather: Sunny
 Observer: MH Tide: +5.7' Datasheet: of

Transect	Distance	Gauge Depth	Eelgrass Patch		Macroalgae	Substrate
			Size			
F	280	42	—		GRAC	Silt
	260	42	—		GRAC, ULVA	Silt
	240	42	—		GRAC, LAM	}
	220	40	—		CERA, GRAC, LAM	
	200	38	—		ULVA, LAM, CERA, GRAC	}
	130	35	—			
	160	32	—			
	140	28	—		LAM, CERA	Silt
	120	20	—		GRAC	Silt/shell
	107	19	2x2' patch 15ft long by 2'		LAM, ULVA	Silt
	100	14	—		LAM	}
	80	13	—		LAM	
	60	12	—		ULVA, CERA	}
	40	11	—		ULVA	
	20	11	—		ULVA	}
	0	10	—		ULVA	

NOTES: Approx 40% macro cover

Location: Friday Harbor
Preliminary Eelgrass and Macroalgae Survey

Date: 7/8 Time: 0845 Weather: sunny
 Observer: MBV Tide: -1.3' Datasheet: of

Transect	Distance	Gauge	Eelgrass Patch	Macroalgae	Substrate
		Depth	Size		
I	265 deep	37	X	green macroalgae	rock
	220	26	X	porphyra green	rock
	180	34	- X		
	140	27	X	green	
	100	17	starts e 10	intertidal + eelgrass	
	73	eelgrass	ends	depth	✓
	@ 91	eelgrass	pres other side as toward	under	73
	73	5-1	X	algae	↓
	40	4 ft	X	algae green	↓
	0	4 ft	X	algae	↓

NOTES: LOOK ON BACK FOR MAP

Location: Friday Harbor
Preliminary Eelgrass and Macroalgae Survey

 Date: 7-8-10 Time: 9:45 Weather: Sunny
 Observer: SM Tide: -1.0' Datasheet: of

Transect	Distance	Gauge Depth	Eelgrass Patch		Macroalgae	Substrate
			Size			
K-2	0	5'	—		ulva 100%	silt
	30	10'	see map		ulva 100% grac.	silt
	67	14'	end eelgrass		lam, ulva, grac 10%	silt
	92	21'	—		lam, grac 20%	silt
	115	35'	—		grac, lam, ulva 20% polyn, cocc 10%	silt, shell
end	250	38'	—		polyn, grac, lam cerm. 10%	silt, shell

red rock

NOTES:
 eelgrass starts @ 30' ft. adjacent to piling @ slips 1/2 @ 147, 3' x 6' concrete? block

APPENDIX E – MARINE MAMMAL MONITORING PLAN

2013

Prepared for:

Port of Friday Harbor

Prepared by:

JenJay Inc.

P.O. Box 278

Deer Harbor, WA 98243-0278

Ph: 360.376.4664

jenjay@rockisland.com



MARINE MAMMAL MONITORING PLAN

This report, as an appendix to the Port of Friday Harbor Biological Evaluation USACE Permit No. NWS-2012-468 contains noise impact assessment for marine mammals that may be found within the project area while pile driving using a vibratory hammer.

1.0 INTRODUCTION

The purpose of this monitoring plan is to provide a protocol for marine mammal monitoring during proposed pile driving activities for the dock reconstruction project at the Friday Harbor Marina (Port of Friday Harbor) located in Friday Harbor, San Juan Island, WA. This plan was developed to support the Biological Evaluation (BE) (USACE Reference No. NWS-2012-468) document prepared by Moffat & Nichol for ESA permitting and is specific to project scope and location. Additionally, this monitoring plan has been developed in consultation with National Marine Fisheries Services (NMFS) North West Region.

Marine mammal monitoring will be conducted before, during, and after vibratory pile driving activities, within areas estimated to be encompassed by underwater injury or behavioral disturbance thresholds. The proposed project will repair and replace portions of floats, piles and walkways which will include the use of vibratory hammer equipment. A total of 52 steel pile (20 pile @ 16" and 32 pile @ 24") will be installed. Pile driving activities are estimated to take place in one season for an estimated 25 days.

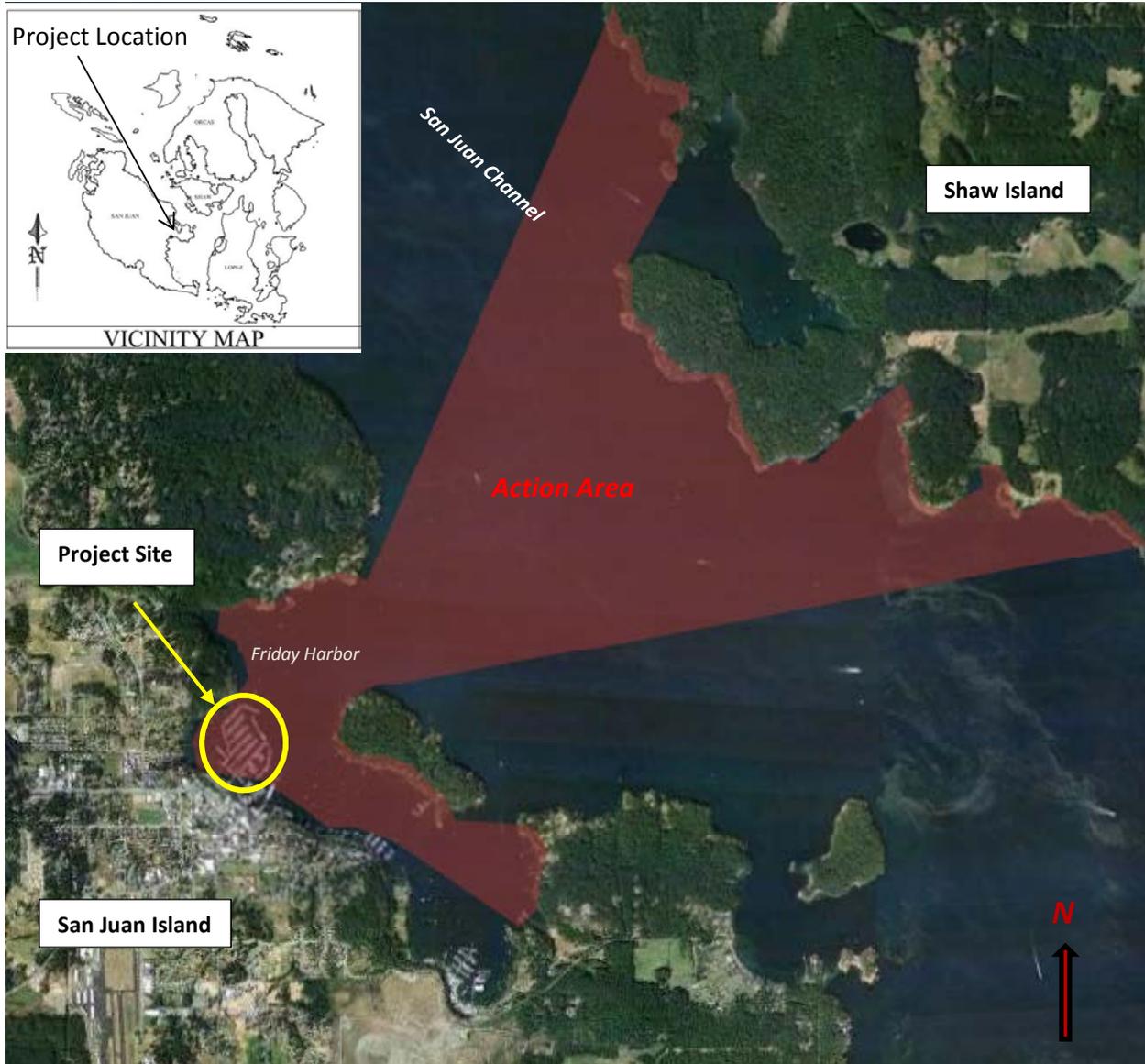
This plan addresses potential sound disturbances caused to listed ESA marine mammals that may occur within the project action area; specifically Cetacean and Pinniped species including Humpback Whale (*Megaptera novaeangliae*), Southern Resident Killer Whale (*Orcas Ornica*), and Stellar Sea Lion (*Eumetopias jubatus*). If marine mammals are preying on fishes in the area, they may change their feeding pattern temporarily during construction activities and are expected to return to normal use patterns after pile driving activities cease.

2.0 ACTION AREA

The action area includes "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action" (50 CFR§402.02). The action area is defined by the outermost extent of all of the zones of effect combined. The outer limits of the action area may be defined by the zone of effect identified for on type of project effect that extends farther than any other, or the limits of the action area may be defined by a combination of multiple zones of effect (WSDOT, 2012).

Construction at the Friday Harbor Marina will generate both airborne and underwater sound from vibratory pile driving. As mentioned in the BE, the action area includes both the near shore area in Friday Harbor for in-air noise and a radius up to three miles for in-water noise effects. It was determined that underwater sound from vibratory pile driving was the stressor identified to have the furthest geographic distribution to be distinguishable above ambient conditions. The theoretical distance over which attenuation of in-water noise from vibratory pile driving for Cetacean and Pinniped species disturbance threshold of 120 dB_{rms} is reached in approximately 25 miles using a practical spreading model (as noted in the BE). Sound generated from vibratory pile driving would intersect land masses (e.g., Shaw Island) prior to attenuating to measured background levels, within three miles. The proximity of adjacent shorelines around Friday Harbor and along Brown Island limits the distance over which most of the noise may be transmitted. As such, the geographic boundary of the Action Area was defined by the line-of-sight intersection of land and water as shown in Figure 1. Marine Mammals will be monitored within the project action area.

See Figure 1. Project Action Area



3.0 MONITORING TECHNIQUES

The Port of Friday Harbor is proposing to utilize employees to serve as marine mammal observers (MMOs). This plan proposes a training session prior to implementing monitoring for all Port of Friday Harbor employees that will be monitoring for the estimated 25 days of pile driving to take place. The training session will be provided by a NMFS approved biologist or NMFS staff.

Bases on the project scope, this plan proposes having a monitor coordinator that is responsible for but not limited to: coordinating and scheduling with the different parties involved including; the Port of Friday Harbor, qualified observers, subcontractors, and NMFS contact. Additionally, the monitoring

coordinator will provide data sheets, communicate with the pile driver contractor directly or through a land-based monitor that is in direct communication with pile driver contractor.

3.1 OBSERVER QUALIFICATIONS

This plan proposes having primary and secondary MMOs. The primary MMO will meet the minimum requirements set by NMFS which include the following:

- Visual acuity in both eyes (correction is permissible) sufficient to discern moving targets at the water's surface with ability to estimate target size and distance. Use of binoculars or spotting scope may be necessary to correctly identify the target.
- Advanced education in biological science, wildlife management, mammalogy or related fields (Bachelor's degree or higher is preferred).
- Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).
- Experience or training in the field identification of marine mammals (cetaceans and pinnipeds).
- Sufficient training, orientation or experience with vessel operation and pile driving operations to provide for personal safety during observations.
- Writing skills sufficient to prepare a report of observations. Reports should include such information as the number, type, and location of marine mammals observed; the behavior of marine mammals in the area of potential sound effects during construction; dates and times when observations and in-water construction activities were conducted; dates and times when in-water construction activities were suspended because of marine mammals, etc.
- Ability to communicate orally, by radio or in person, with project personnel to provide real time information on marine mammals observed in the area, as needed.

Secondary MMOs will have attended a training session prior to implementing the monitoring plan. One primary MMO will be based at monitoring locations either on land or vessel. Primary MMOs will assist secondary MMOs in confirming mammal sightings and ensuring protocol is properly implemented. Primary and Secondary MMOs will be positioned at the best vantage point(s) practicable (e.g. from a small vessel, or any other suitable location) to monitor for marine mammals and implement shutdown/delay procedures when applicable by calling for the shutdown to the construction contractor. Observers will have no other construction related tasks and will not act as boat operator.

3.2 DATA COLLECTION

Observers will use a Marine Mammal Sighting Form (Sheet 1) which will be completed by each observer for each survey day. This form will include the following information.

- Date and time that pile driving starts and ends
- Weather and water conditions
- Marine Mammal Species
- Marine Mammal behavior patterns observed
- Estimated distances of marine mammals
 - From observer location
 - From pile driving activity location
- Locations of all marine mammal observations

3.3 EQUIPMENT

The following equipment will be required to conduct marine mammal monitoring:

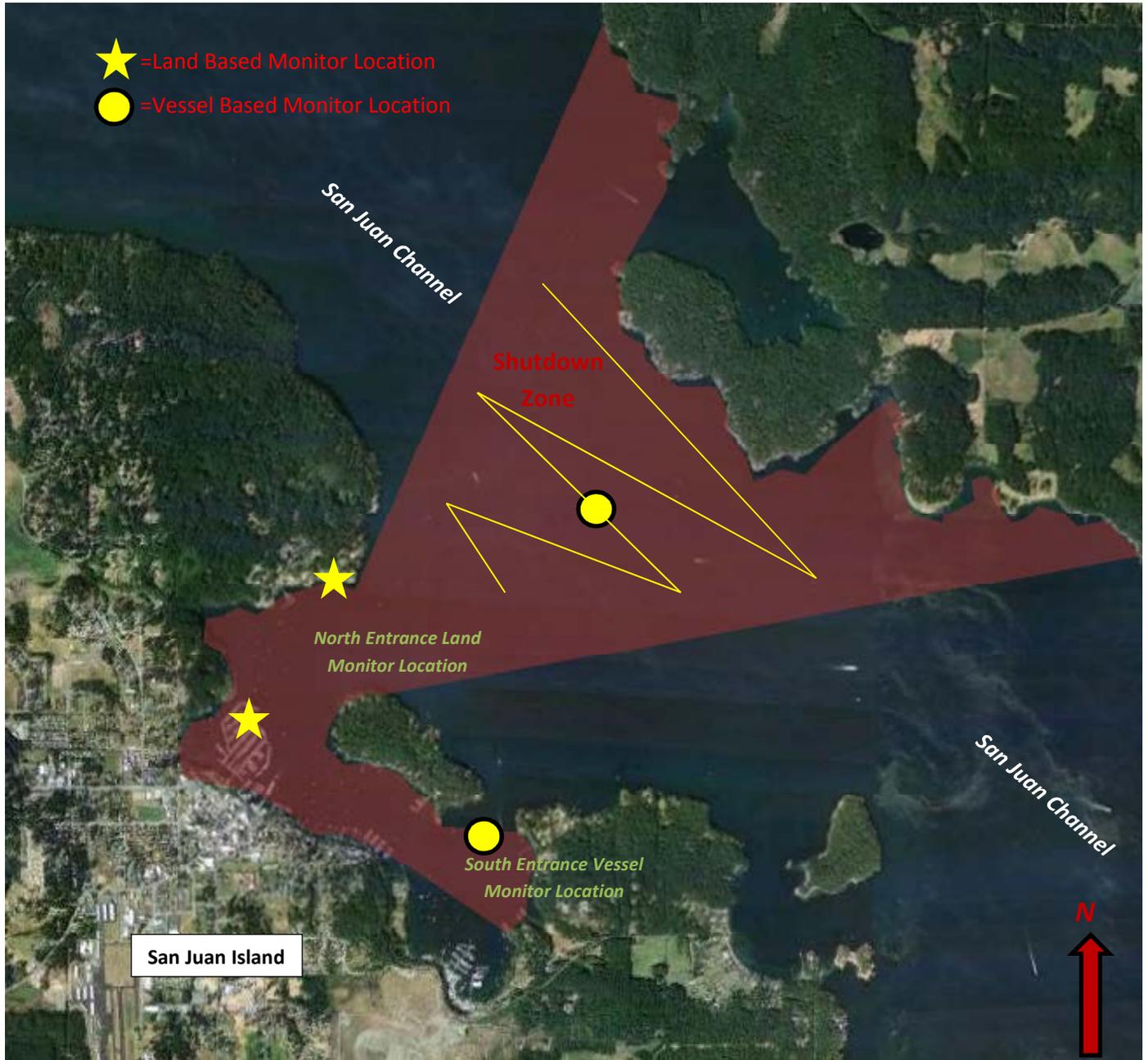
- Communications: Portable Radios, cell phones, and/or VHF radio.
- Watch
- Binoculars
- Monitoring Plan
- Notebook with pre-standardized monitoring Marine Mammal Observation Record forms
- Marine Mammal Identification guides
- Clipboard
- Pen/Pencil

3.4 OBSERVER MONITORING LOCATIONS AND TECHNIQUES

Location Description

In order to effectively monitor the action area, marine mammal observers will be positioned at the best practicable vantage point(s), taking into consideration security, safety, and spatial constraints from near shore Friday Harbor waterfront activity (i.e. state ferry terminal, multiple public/private marinas and associated vessel traffic). Marine Mammals are able to enter into Friday Harbor from two locations; the north location-northeast of the project site and the south location-south east of the project site. The north location entrance into Friday Harbor is ± 600 meter across, between the north end of Brown Island and San Juan Island. The south location entrance is ± 200 meters across, between the south end of Brown Island and San Juan Island. The shutdown zone for marine mammals will include both the inner and outer harbor, and the three mile area extending into the San Juan Channel; with the furthest distance being three miles before intersecting landmass (Shaw Island).

Figure 2. Marine Mammal Monitor Locations



Visual Survey Protocol- Pre-Activity Monitoring

Prior to starting vibratory pile driving activities, monitoring of the shutdown zone will occur for 20 minutes or until clear of marine mammals from monitoring locations (land/vessels) to ensure no marine mammals are present. The following survey methods will be implemented prior to commencing pile driving in-water activity.

- Observers will survey the shutdown zone by visually scanning from vessels and sweeping through the shutdown zone area.
- If marine mammal(s) are present within or approaching the shutdown zone prior to pile driving activity, monitoring will continue and in-water pile driving activities will be delayed until the animal(s) leave the shutdown zone voluntarily and have been visually confirmed traveling away from and beyond the shutdown zone.
- If marine mammal(s) are not detected within the shutdown zone (i.e., the area is determined clear of marine mammals), the observers will notify the construction contractor that pile driving activities may begin.
- Land and Vessels will be in position at entrance locations and in the channel, as indicated in Figure 2, prior to commencing pile driving activity.
- Marine Mammal Observation Record forms (Sheet 1) will be used to document observations.
- Vessels engaged in monitoring will maintain speeds equal to or less than 10 knots.
- Observers will have experience in marine mammal identification; and will visually scan with binoculars and the naked eye to search continuously for marine mammals.
- In situations of reduced visibility due to weather conditions such as fog, heavy chop, heavy wind/rain or a combination thereof, which may impair observer's abilities to monitor effectively; pile driving activity will not be initiated until visibility improves.

Visual Survey Protocol- During Activity Monitoring

During vibratory pile driving activity, the shutdown zone will be monitored the entire time pile driving equipment is in use. The following survey methods will be implemented during pile driving in-water activity.

- Observers will be stationed in vessels and on land; as indicated in Figure 2. A minimum of two observers per vessel (one primary MMO/plus one or more secondary MMO) will visually scan from opposite sides of the vessel. The vessel operator does not monitor.
- The vessel will continuously transect the entrance location, at a steady speed, not exceeding 10 knots, while safely operating around other potential vessel traffic.
- If marine mammal(s) are present within and approaching the shutdown zone during pile driving activity, the construction contractor will be notified to halt pile driving activities.
- Once pile driving activities have been shut down; pile activity will be delayed until animal(s) voluntarily leave the shutdown zone voluntarily and have been visually confirmed traveling away from and beyond the shutdown zone.

- When the shutdown zone is determined to be clear of marine mammal(s), observers will notify the construction contractor pile driving activity can re-commence;
- Marine Mammal Observation Record forms (Sheet 1) will be used to document observations.
- In situations of reduced visibility due to weather conditions such as fog, heavy chop, heavy wind/rain or a combination thereof, which may impair observer's abilities to monitor effectively; pile driving activity will not be initiated until visibility improves.

Visual Survey Protocol- Post-Activity Monitoring

Monitoring of the shutdown zone will continue for 20 minutes after in-water pile driving activities have been completed or until area is clear of marine mammals. Observers will record marine mammal observations, reporting any unusual behavior of marine mammals.

4.0 Monitoring Reports and Communication

The assigned monitoring coordinator will be responsible in keeping NMFS informed of monitoring activities and notifying for necessary modifications to the monitoring protocol.

Monitoring reports will be submitted to NMFS within 90 calendar days of project completion. Reports will include marine mammal observations pre-activity, during-activity, and post-activity from vibratory pile driving construction. A comprehensive report will include information from completed Sheet 1: Marine Mammal Observation Record Forms.

Primary point of contact at the NMFS:

Joel Moribe (NMFS) phone: (206) 526-4359; Email: joel.moribe@noaa.gov

Primary points of contact for Port of Friday Harbor:

Gary Alspaugh phone: (360) 378-4072; Email: garya@portfridayharbor.org

REFERENCES

Biological Assessment Preparation for Transportation Projects - Advanced Training Manual - Version 02-2011. [http://www.wsdot.wa.gov/NR/rdonlyres/3531970F-2F38-4819-AFDB-AD7FBBE15A53/0/BA_ManualChapter8.pdf], accessed August 2012.

National Marine Fisheries Northwest Region Office Marine Mammal ESA Section 7 Consultation Tools. [http://www.nwr.noaa.gov/protected_species/marine_mammals/cetaceans_whales_dolphins_porpoise/toothed_whales/killer_whales/southern_resident_killer_whale/section_7_consultations/marine_mammal_esa_section_7_consultation_tools.html] , accessed March 2013.

**Findings of Fact, Conclusions of Law and Decision. Shoreline Substantial
Development Permit Application No. 90 and SEPA Checklist No. 278. Adopted on
September 1, 2011.**



TOWN OF FRIDAY HARBOR
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Council of the Town of Friday Harbor

In the Application of:)	APPLICATION FOR:
)	
Port of Friday Harbor)	Shoreline Substantial Development Permit
Marilyn O’Conner, Director)	Application No. 90 and
P O Box 889)	SEPA Checklist No. 278
Friday Harbor, WA 98250)	
)	The proposed project includes repairs,
)	replacements, and reconstruction of the Friday
)	Harbor marina.
)	
)	

FINDINGS OF FACT, CONCLUSIONS OF LAW AND DECISION

After a hearing on the merits and deliberation by the Council of the Town of Friday Harbor (Council) on June 16, 2011, attended by the Port of Friday Harbor (“Applicant”) and members of the public, the Council makes the following findings of facts and conclusions of law for Shoreline Substantial Development Permit Application No. 90 and State Environmental Protection Act (SEPA) No. 278 (“Application”), proposing a project that includes repairs, replacements, and reconstruction of the Friday Harbor marina in which most of the work proposed is for docks C, E, and F with minor work also completed throughout other parts of the marina.

A. FINDINGS OF FACT

Pursuant to Friday Harbor Municipal Code (FHMC) Chapters 18.04, 18.08, 19.04, 20.20, and pursuant to the Town of Friday Harbor’s Shoreline Master Program and the State Shoreline Management Act of 1971, of the Friday Harbor Town Council makes the following findings of fact:

1. **Application.** On April 25, 2011, the Applicant submitted to the Town Land Use Administrator a paid Application for Shoreline Substantial Development Permit No. 90 (SSDP No. 90) pursuant to Friday Harbor Municipal Code (FHMC) Chapter 19 and a paid SEPA Checklist No. 278 pursuant to FHMC Chapter 18.
2. **Subject Property.** The subject property is located within the Town of Friday Harbor, on Tax Parcel No. 351353003, and has an upland address of 200/204 Front Street. The parcel is located within the shoreline as defined by FHMC Chapter 19 - Shoreline Master Program of the Town of Friday Harbor, and identified as the Friday Harbor marina.
3. **Proposal.** The Applicant applied for a project consisting of repairs, replacements, and reconstruction of the Friday Harbor marina in which most of the work is proposed for docks C, E, and F with minor work also completed throughout other parts of the marina, described as follows:

Dock C:

- Replace the south portion of the dilapidated treated timber walkway with a new concrete walkway, and 17 dilapidated treated timber finger floats (4,873 square feet) with 15 new



concrete finger floats (5,398 square feet). The square footage includes the main walkway.

- Replace 84 linear feet of dilapidated treated timber walers with 84 linear feet of new ACZA treated timber walers of the same size.

Dock E:

- Replace the south portion of the dilapidated treated timber walkway with a new concrete walkway, and 18 dilapidated treated timber finger floats (4,782 square feet) with 16 new concrete finger floats (4,622 square feet). The square footage includes the main walkway.
- Replace 84 linear feet of dilapidated treated timber walers with 84 linear feet of new ACZA treated timber walers of the same size.

Dock F:

- Replace the south portion of the dilapidated treated timber walkway with a new concrete walkway, and 15 dilapidated treated timber finger floats (3,978 square feet) with 13 new concrete finger floats (4,177 square feet). The square footage includes the main walkway.
- Replace 86 linear feet of dilapidated treated timber walers with 86 linear feet of new ACZA treated timber walers of the same size.

Dock H:

- Replace the dilapidated concrete walkway with a new concrete walkway, and the 6 dilapidated concrete finger floats (1,634 square feet) with 6 new concrete finger floats (1,428 square feet). The square footage includes the main walkway.
- Replace or refurbish the dilapidated steel bridge (30 feet long 4 feet wide) that provides access between Dock H and Breakwater. The dimensions of the bridge will not change.

Dock J:

- Repair the top portions of 8 existing treated timber piles. Any repair work will be completed above the water surface.

Fuel Dock:

- Replace the 2 dilapidated treated timber floats on the northwest side of the dock (100 feet long x 8 feet wide and 22 feet long x 4 feet wide) with 2 new concrete floats of the same dimensions (888 square feet).

Walkway A:

- Replace 8 dilapidated treated timber finger floats (569 square feet) with 8 new concrete finger floats (548 square feet).
- Replace 289 linear feet of dilapidated treated timber walers with 289 linear feet of new ACZA treated timber walers of the same size.

Walkway C:

- Replace 8 dilapidated treated timber finger floats (608 square feet) with 8 new concrete finger floats (552 square feet).
- Replace 397 linear feet of dilapidated treated timber walers with 397 linear feet of new ACZA treated timber walers of the same size.

Walkway D:

- Remove 7 concrete finger floats (784 square feet) and replace with 3 new concrete finger floats (536 square feet).

Other Project Elements:

- Remove 95 treated (creosote) timber piles and 3 steel pipe piles (all with diameters of between 12 and 20 inches) from the Project area and install 65 steel pipe piles (27 with a diameter of 16 inches, 38 with a diameter of 24 inches). In addition to the above listed areas (Docks C, E, F, Walkways C and E), four of the 95 treated timber piles to be removed are located on the Dinghy Dock (2 piles to be removed and replaced by 1 pile),

Dock K (1 pile to be removed and replaced), and H Dock (1 pile to be removed and replaced).

- Install new electrical service (480 volts) to Docks C, E and F (includes the installation of new lighted power posts onto the floats). The electrical system (cabling) will be installed beneath the existing walers of the floats. Some existing utilities currently located under the walers may need to be moved vertically down along the float to accommodate the new electrical.
 - Overall surface area of floats, knees, and walers within the marina will not change substantially. A slight reduction in overwater cover from 18,759 square feet to 18,713 square feet (reduction of 46 square feet) will result.
 - The overall number of slips within the marina will not change substantially. The quantity of available slips will be reduced by 11 and some of reconstructed slips will be slightly larger.
4. **Town Council.** On June 16, 2011, the Council of the Town of Friday Harbor heard and deliberated on this proposal, and directed Town Staff to prepare the necessary Findings of Fact, Conclusions of Law, and Decision.
 5. **Notice of Application & Completeness.** The Town of Friday Harbor deemed this Application complete and a Notice of Shoreline Substantial Development Permit Application & Notice of Completeness was issued to the newspaper of record and published as required on May 4th and May 11th, 2011. The required 30 day public comment period ended on June 2, 2011. No written, hand delivered, or mailed comments were received. This notice was also posted in two prominent public locations as well as posted on the subject property.
 6. **Environmental Compliance.** The Town of Friday Harbor, as lead agency, determined that this proposal did not have a probable significant adverse impact on the environment, and did not require an Environmental Impact Statement under RCW 43.21C.030(2)(c). This decision was made after review of the SEPA Checklist and other information on file. This Determination of Non-Significance (DNS) was issued under WAC 197-11-340 and published on May 4th and May 11th, 2011, as required. There were no appeals received from the Department of Ecology on this proposal. This notice was also posted in two prominent public locations as well as posted on the subject property.
 7. **Public Participation.** On June 16th, 2011, the Council for the Town of Friday Harbor held a public hearing and deliberated on this proposal. The required public hearing notice ("Notice") for June 16th, 2011 was published in the newspaper of record on June 8th & June 15th, 2011. As required by law, the Notice was mailed to all property owners of record within 300 feet of the Subject Property, posted in two prominent public locations, and posted on the Subject Property. Testimony was received in support for the proposal from the Applicant.
 8. **Permit Requirement.** Except as exempt, no substantial development shall be undertaken on the local shoreline until a permit for such development has been approved in accordance with Friday Harbor Municipal Code (FHMC) Chapter 19 - Shoreline Master Plan. All work undertaken pursuant to a substantial development permit shall proceed in compliance with the permit and with applicable local and state regulations. This proposal is not exempt.
 9. **Shoreline Classification and Master Program Findings.**
 1. This master program shall apply to every person, individual, firm, partnership, association, corporation, local or state governmental agency, public or municipal corporation, or other nonfederal entity which develops, owns, leases or administers lands, shorelands or waters which fall under jurisdiction of the Act.
 2. To assure protection of the unique character of Friday Harbor, as recognized and described in the town's comprehensive plan, while providing for uses of the local shoreline which do not needlessly diminish the quality of the shoreline environment, and to assure the optimum opportunity for participation by local residents in the decision-making processes which may affect that unique character.

10. Town Council findings of fact for FHMC 19.04 Aquatic Environment:

The aquatic environment is designed to protect the quality and quantity of surface water, to preserve water areas for water-dependent uses such as navigation and appropriate recreation, and to preserve natural features and resources of the harbor from unnecessary degradation.

Designation Criteria. Areas designated aquatic shall include all water bodies under jurisdiction of the Act and within the boundaries or under the jurisdiction of the town of Friday Harbor, including the water surface and underlying lands, seaward from the OHWM.

Management Policies.

1. Development in the aquatic environment should be compatible with the adjacent upland environment designation; provided that in the event aquatic development is adjacent to two upland environments the most restrictive shall apply unless the shoreline administrator determines that application of the less restrictive would not compromise the public interest.
2. The natural circulation and volume of water should be maintained to the greatest extent possible.
3. Activities and uses which will degrade the ecological or aesthetic values of the area should be prohibited.
4. Developments and activities using aquatic areas should be located and designed to minimize interference with navigation, minimize adverse visual impacts, allow for passage of fish and other aquatic animals, and minimize adverse effects on water quality, geohydraulic shoreline processes, and biological resources.

Environmental Protection.

1. All uses and developments within the local shoreline shall be located, designed and constructed to avoid disturbance of and detrimental effects on aquatic habitats, water circulation and erosion-accretion processes.

Additional Town Council findings of fact.

1. An email dated June 16, 2011 from Rene Beliveau, San Juan County Community Development and Planning Director, was presented during the public hearing of said date found that the Town of Friday Harbor should be the lead agency for the SEPA review and that a separate additional permit was not required from the County.
2. All associated permits for this proposal must commence within two years of issuance and be completed within five years or the permits become null and void.

B. CONCLUSIONS.

Pursuant to FHMC Chapter 19.04 and other relevant laws, the Council of the Town of Friday Harbor concludes that the facts and findings show that sufficient provisions have been made, and makes the following conclusions of law:

1. As set forth above, the Council finds and concludes that granting application SSDP No. 90 and SEPA Checklist No. 278 would be consistent with the Town's Shoreline Master Program.
2. Accordingly, the Council finds and concludes that the public use and interest, and the purposes and goals of the Shoreline Master Program, will be served by granting Applicant's proposal.

C. DECISION

For the reasons set forth above, the Council hereby APPROVES SSDP No. 90 and SEPA Checklist No. 278, for the proposed repairs, replacements, and reconstruction of the Friday Harbor marina as described here within.

This decision shall be effective upon its execution by the Council of the Town of Friday Harbor. Pursuant to RCW 90.58.180, the Applicant shall have 21 days to appeal the Council's Decision, after which time the Decision shall become final and not subject to appeal.

ADOPTED this 1st day of September, 2011.

TOWN COUNCIL OF FRIDAY HARBOR

By: 

Councilmember Steve Hushebeck

By: ABSENT

Councilmember Noel Monin

By: 

Councilmember Anna Maria de Freitas

By: 

Councilmember Felix Menjivar

By: 

Councilmember Barbara Starr



TOWN OF FRIDAY HARBOR
Post Office Box 219 • Friday Harbor, Washington 98250
(360) 378-2810 • FAX: (360) 378-5339 • www.fridayharbor.org

**PERMIT FOR SHORELINE MANAGEMENT
SUBSTANTIAL DEVELOPMENT, CONDITIONAL USE, OR VARIANCE**

Application: No. 90
Administering Agency: TOWN OF FRIDAY HARBOR
Date received: April 25, 2011
Approved: YES
Date: September 1, 2011

Type of Action(s)

- Substantial Development Permit**
 Conditional Use Permit
 Variance Permit

Pursuant to Chapter 90.58 RCW, a permit is hereby granted to:

Applicant/Contact: Port of Friday Harbor, Marilyn O'Conner, Director
Mailing Address: P O Box 889, Friday Harbor, WA 98250

To undertake the following development:

The project includes repairs, replacements, and reconstruction of the Friday Harbor Marina. Most of the work is proposed for Docks C, E, and F with minor work also completed throughout other parts of the marina. No shoreline or upland work will be conducted.

Upon the following property:

The Subject Property is identified as tax parcel number 351353003 and has an upland address of 200/204 Front Street N., Friday Harbor, WA 98250.

The Subject Property is within Friday Harbor and/or its associated wetlands. The project will be within the shorelines of state-wide significance as defined in RCW 90.58.030. The project is located within an "Aquatic Environment" designation in the Shoreline Designated Environments Map defined in Article V of Friday Harbor Municipal Code (FHMC), Section 19.04.260.

The following master program provisions that are most applicable to this development:

Town of Friday Harbor - State Environmental Policy Act FHMC 18.04, & 18.08, and Town of Friday Harbor - Shoreline Master Plan FHMC 19.04, & FHMC 20.20.

Development pursuant to this permit shall be undertaken pursuant to the following terms and conditions:

- a. The master program shall apply to every person, individual, firm, partnership, associations, corporation, local or state government agency, public or municipal corporation, or other nonfederal entity with develops, owns, leases or administers lands, shorelands or waters which fall under the jurisdiction of the Act.

b. To assure protection of the unique character of Friday Harbor, as recognized and described in the town's comprehensive plan, while providing for uses of the local shoreline which do not needlessly diminish the quality of the shoreline environment, and to assure the optimum opportunity for participation by local residents in the decision-making processes which may affect that unique character.

c. The master program designates this project as "Aquatic Environment" which states that all development should be regulated in a manner designed to minimize interference with navigation, minimize adverse visual impacts, allow for passage of fish and other aquatic animals, and minimize adverse effects on water quality, geohydraulic shoreline processes, and biological resources.

d. Development in the aquatic environment should be compatible with the adjacent upland environment designation; provided that in the event aquatic development is adjacent to two upland environments the most restrictive shall apply unless the shoreline administrator determines that application of the less restrictive would not compromise the public interest.

e. The natural circulation and volume of water should be maintained to the greatest extent possible.

f. Activities and uses which degrade the ecological or aesthetic values of the area should be prohibited.

g. Developments and activities using aquatic areas should be located and designed to minimize interference with navigation, minimize adverse visual impacts, allow for passage of fish and other aquatic animals, and minimize adverse effects on water quality, geohydraulic shoreline processes, and biological resources.

h. All uses and developments within the local shoreline shall be located, designed and constructed to avoid disturbance of and detrimental effects on aquatic habitats, water circulation and erosion-accretion processes.

j. The release of oil, chemicals and other hazardous materials into the water is prohibited.

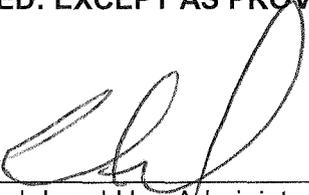
If any construction that extends outside of the scope of this permit shall become null and void.

All associated permits for this proposal must commence within two years of issuance and be completed within five years or the permits become null and void.

This permit is granted pursuant to the Shoreline Management Act of 1971 and nothing in this permit shall excuse the applicant from compliance with any other federal, state, or local statues, ordinances or regulations applicable to this project, but not inconsistent with the Shoreline Management Act of RCW 90.58.

This permit may be rescinded pursuant to RCW 90.58.140(8) in the event the permittee fails to comply with the terms or conditions thereof.

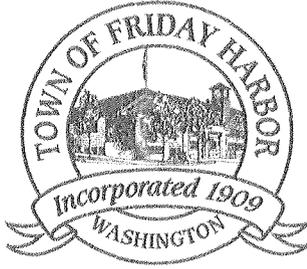
CONSTRUCTION PURSUANT TO THIS PERMIT WILL NOT BEGIN OR IS NOT AUTHORIZED UNTIL TWENTY-ONE (21) DAYS FROM THE DATE OF FILING AS DEFINED IN RCW 90.58.140(6) AND WAC 173-27-130, OR UNTIL ALL REVIEW PROCEEDINGS INITIATED WITHIN TWENTY ONE (21) DAYS FROM THE DATE OF SUCH FILING HAVE TERMINATED: EXCEPT AS PROVIDED IN RCW 90.58.140(5).



Mike Bertrand, Land Use Administrator

9-8-11

Date



TOWN OF FRIDAY HARBOR
Post Office Box 219 • Friday Harbor, Washington 98250
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NOTICE OF APPLICATION & COMPLETENESS
and
NOTICE OF DETERMINATION OF NONSIGNIFICANCE

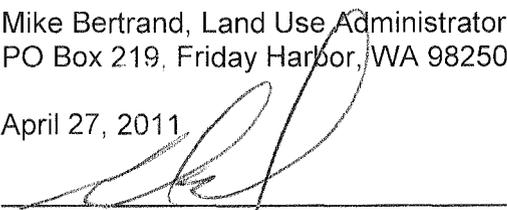
The Town of Friday Harbor has deemed the following Shoreline Substantial Development Permit Application (SSDP#90) and SEPA Checklist application (SEPA#278) complete. The applications, received by the Port of Friday Harbor, propose to: 1.) Repair and replace portions of floats, piles, and walkways in it's marina due to increasing age of docks C, E and F; also including minor work throughout other parts of the marina. Inwater work will adhere to all permit and approved inwater work restriction and conditions. The property is identified as tax parcel #351353003, San Juan County, Friday Harbor, WA 98250.

30 DAY PUBLIC COMMENT PERIOD: May 4th to June 2nd, 2011. Please hand mail or deliver specific written comments on this proposal to: Land Use Administrator, Mike Bertrand, Town of Friday Harbor Community Development Department, 60 Second Street, or PO Box 219, Friday Harbor, WA 98250 no later than 4:30 PM June 2, 2011. If you have questions on this proposal or if you would like to review the documents, contact 360-378-2810 between 8:00 AM and 4:30 PM, Monday through Friday.

The Town of Friday Harbor as lead agency for this proposal has determined that this proposal does not have a probable significant adverse impact on the environment. An Environmental Impact Statement is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed Environmental Checklist and other information on file with the lead agency. This information is available to the public on request. This Determination of Non-Significance is issued under WAC 197-11-340. Appeals may be made to the Department of Ecology and other agencies with jurisdiction. This 14 day appeal period ends May 16th, 2011.

RESPONSIBLE OFFICIAL: Mike Bertrand, Land Use Administrator
PO Box 219, Friday Harbor, WA 98250

DATE: April 27, 2011

SIGNATURE: 
Mike Bertrand, Land Use Administrator



**Revised Joint Aquatic Resources Permit Application (JARPA) dated May 2012.
Note that overwater cover calculations and some float replacement descriptions
may differ from final received permits. For overwater cover values, refer to the
attached email dated April 4, 2013.**



2010

WASHINGTON STATE Joint Aquatic Resources Permit Application (JARPA) Form¹

USE BLACK OR BLUE INK TO ENTER ANSWERS IN WHITE SPACES BELOW.



US Army Corps
of Engineers®
Seattle District

AGENCY USE ONLY

Date received: _____

Agency reference #: _____

Tax Parcel #(s): _____

Part 1—Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [help] ²
Port of Friday Harbor: Reconstruction of Docks C, E and F

Part 2—Applicant

The person or organization responsible for the project. [\[help\]](#)

2a. Name (Last, First, Middle) and Organization (if applicable)			
Bob Freeauf, Marina Facility Manager			
2b. Mailing Address (Street or PO Box)			
Port of Friday Harbor PO Box 889			
2c. City, State, Zip			
Friday Harbor, WA 98250			
2d. Phone (1)	2e. Phone (2)	2f. Fax	2g. E-mail
(360) 378-4072	(360) 378-2688	(360) 378-6114	bobf@portfridayharbor.org

Part 3—Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b. of this application.) [\[help\]](#)

3a. Name (Last, First, Middle) and Organization (if applicable)
Margaret Schwertner Moffatt & Nichol

¹ Additional forms may be required for the following permits:

- If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (206) 764-3495.
- If your project might affect species listed under the Endangered Species Act, you will need to fill out a Specific Project Information Form (SPIF) or prepare a Biological Evaluation. Forms can be found at http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=mainpage_ESA
- If you are applying for an Aquatic Resources Use Authorization you will need to fill out and submit an Application for Authorization to Use State-Owned Aquatic Lands form to DNR, which can be found at http://www.dnr.wa.gov/Publications/aqr_use_auth_app.doc
- Not all cities and counties accept the JARPA for their local Shoreline permits. If you think you will need a Shoreline permit, contact the appropriate city or county government to make sure they will accept the JARPA.

² To access an online JARPA form with [help] screens, go to http://www.epermitting.wa.gov/site/alias__resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx. For other help, contact the Governor's Office of Regulatory Assistance at 1-800-917-0043 or help@ora.wa.gov.

3b. Mailing Address (Street or PO Box)			
600 University Street, Suite 610			
3c. City, State, Zip			
Seattle, WA 98101			
3d. Phone (1)	3e. Phone (2)	3f. Fax	3g. E-mail
(206) 622-0222	()	(206) 622-4764	mschwertner@moffattnichol.com

Part 4–Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. [\[help\]](#)

Same as applicant. (Skip to Part 5.)

Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)

(Note: Project includes maintenance and repair and some reconfiguration of some finger floats. The Port currently has a Port Management Agreement (PMA) with DNR that allows this type of work.)

There are multiple property owners. Complete the section below and fill out [JARPA Attachment A](#) for each additional property owner.

4a. Name (Last, First, Middle) and Organization (if applicable)			
Department of Natural Resources (DNR)			
4b. Mailing Address (Street or PO Box)			
1111 Washington Street SE PO Box 47027			
4c. City, State, Zip			
Olympia, WA 98504-7027			
4d. Phone (1)	4e. Phone (2)	4f. Fax	4g. E-mail
(360) 902-1100	()	(360) 902-1786	ard@dnr.wa.gov

Part 5–Project Location(s)

Identifying information about the property or properties where the project will occur. [\[help\]](#)

There are multiple project locations (e.g., linear projects). Complete the section below and use [JARPA Attachment B](#) for each additional project location.

5a. Indicate the type of ownership of the property. (Check all that apply.) [help]
<input checked="" type="checkbox"/> State Owned Aquatic Land (If yes or maybe, contact the Department of Natural Resources (DNR) at (360) 902-1100)
<input type="checkbox"/> Federal
<input type="checkbox"/> Other publicly owned (state, county, city, special districts like schools, ports, etc.)
<input type="checkbox"/> Tribal
<input type="checkbox"/> Private
5b. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) [help]
Port of Friday Harbor 204 Front Street North

5c. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [\[help\]](#)

Friday Harbor, WA 98250

5d. County [\[help\]](#)

San Juan

5e. Provide the section, township, and range for the project location. [\[help\]](#)

¼ Section	Section	Township	Range
	12	35N	03W

5f. Provide the latitude and longitude of the project location. [\[help\]](#)

- Example: 47.03922 N lat. / -122.89142 W long. (NAD 83)

Lat: 48° 32' 12"N, Long: 123° 00' 55"W

5g. List the tax parcel number(s) for the project location. [\[help\]](#)

- The local county assessor's office can provide this information.

See response to Question 5h. Parcel numbers for shoreline properties surrounding the marina north of Spring are listed.

5h. Contact information for all adjoining property owners. (If you need more space, use [JARPA Attachment C.](#)) [\[help\]](#)

Name	Mailing Address	Tax Parcel (if known)
University of Washington	Jeanette Henderson Real Estate Box 359446 Seattle, WA 98195	350123001000
Charles and Florence Settles Donna Collins; Successor Trustee of the Settles Revocable Trust	1208 W Circulo Del Norte Green Valley, AZ 85614	351150009000 351190307000
Michael and Lois Trickey	16572 35th Ave. NE Seattle, WA 98155	351155022000
DN Pilot LLC	PO Box 300579 Denver, CO 80203	351155021000 351155020000 351155021000
Janet Swanson et al.	PO Box 2734 Friday Harbor, WA 98250	351155019000 351155020000
David and Patricia Roven Giuliani	1960 82nd Ave. SE Mercer Island, WA 98040	351155017000 351155019000 351155015000
Pilot Enterprise LLC	110 W Bertrand Ave. Saint Mary's, KS 66536	351155014000
Albert Jones; as Trustees Girdwood, Jones & Co	244 California St, Ste 510 San Francisco, CA 94111	351155013000
Gene Gearhart and Susea MCGearhart	PO Box 1189 Friday Harbor, WA 98250	351155012000
Joan Castaneda; as Trustee	PO Box 3162 Friday Harbor, WA 98250	351155023000
Nourdine Jensen LLC and Jeri Jensen Ahrenius	19 Best Place Friday Harbor, WA 98250	351150005000 351150006000
A Park At The Harbor Condo. Owner's Assoc. George and Pauline Mulligan	PO Box 1931 Friday Harbor, WA 98250	351149107000
Port of Friday Harbor	PO Box 889 Friday Harbor, WA 98250	351150004000 351353001000 351355001000 351350502000
Beatrice Boyce Carpenter	16312 131ST AVE SE Renton, WA 98058	351150003000 351150001000
San Juan Island Grange #966	PO Box 1186 Olympia, WA 98507	351350801000

American Legion Hackett-Larson Post	PO Box 163 Friday Harbor, WA 98250	351350503000
Whale Museum	PO Box 945 Friday Harbor, WA 98250	351350504000
Mjwking LLC	PO Box 948 Friday Harbor, WA 98250	351350404000
Tukang Enterprises LLC	PO Box 2346 Friday Harbor, WA 98250	351350403000
San Juan Lodge #175 F and AM Hrycak Corp/Kathie R	PO Box 880 Friday Harbor, WA 98250	351350402000
Mager Properties LLC	PO Box 2763 Friday Harbor, WA 98250	351350401000
King Family Investments LLC	PO Box 777 Friday Harbor, WA 98250	351350407000
Donald and Susan Gonzales	3455 W Mercer Way Mercer Island, WA 98040	351350406000
Western Natural Foods Inc	17015 26th Ave. NE Seattle, WA 98155	351354001000
State of Washington State Lands Division	PO Box 47061 Olympia WA 98504	351354002000
Cannery Landing LLC Lucia Sargeson	5201 Maritime Court Anacortes, WA 98221	351391101000

5i. List all wetlands on or adjacent to the project location. [\[help\]](#)

N/A

5j. List all waterbodies (other than wetlands) on or adjacent to the project location. [\[help\]](#)

Friday Harbor Marina, San Juan Islands, Puget Sound

5k. Is any part of the project area within a 100-year flood plain? [\[help\]](#)

Yes No Don't know

5l. Briefly describe the vegetation and habitat conditions on the property. [\[help\]](#)

The Project will be completed in the Port of Friday Harbor Marina, Friday Harbor, on the eastern shore of San Juan Island, San Juan County (refer to Sheet 1 for a vicinity map). Friday Harbor is approximately 60 nautical miles north of Seattle, WA and 28 nautical miles southeast of Victoria, BC Canada. The Town of Friday Harbor is directly adjacent to the marina. A recent eelgrass density survey (JenJay 2011) found eelgrass (*Zostera marina*) within the marina between the fairways of Docks C, E, and F in water depths between approximately -5 and -20 feet MLLW (see Sheets 2 and 3).

5m. Describe how the property is currently used. [\[help\]](#)

The Friday Harbor marina is a public marina providing access to the adjacent Town of Friday Harbor. The marina includes approximately 500 vessel slips, of which up to 150 are available to visiting boaters. The marina is protected by a US Army Corps of Engineers (USACE) maintained breakwater to the north. The marina provides both permanent and temporary vessel moorage for commercial and recreational vessels, a US Customs office, fuel pump, pump-out stations, potable water and shore power, showers, and restrooms. The marina includes over 30 marine related businesses including a sea plane base, charter and passenger vessels, vessel repair, vessel rentals, and a seafood market.

5n. Describe how the adjacent properties are currently used. [\[help\]](#)

Most of the downtown shoreline is public land owned by the Town of Friday Harbor, Port of Friday Harbor, or the State Department of Transportation. The Port also has a Port Management Agreement (PMA) with the Department of Natural Resources (DNR) for the tidelands under and around the Port properties. A Washington State Ferry (WSF) Terminal is located on property east of the marina. The WSF Ferry Terminal provides transportation to other San islands and mainland locations.

5o. Describe the structures (above and below ground) on the property, including their purpose(s). [\[help\]](#)

Existing structures in the marina include moorage docks, a fuel dock float, three floating breakwaters, seaplane float, walkways to the different docks, dinghy docks, four timber piers, a floating restroom on Walkway E, and affiliated piles and gangways.

5p. Provide driving directions from the closest highway to the project location, and attach a map. [\[help\]](#)

The Port of Friday Harbor marina is adjacent to downtown Friday Harbor. Access to Friday Harbor is available by boat or plane. The marina provides moorage for both passenger vessels and sea planes. The WSF Terminal is located adjacent to the marina. From downtown Friday Harbor, the marina can be accessed by Front Street.

Part 6–Project Description

6a. Summarize the overall project. You can provide more detail in 6d. [\[help\]](#)

All work proposed for this Project will be completed waterward of the Mean Higher High Water (MHHW) line within the Port of Friday Harbor Marina. No shoreline or upland work is proposed.

The Project includes the following repair, replacement and reconstruction as described below. Most of the work is proposed for Docks C, E, and F with minor work also completed throughout other parts of the marina.

Dock C:

- Replace the south portion of the dilapidated treated timber walkway with a new concrete walkway, and 17 dilapidated treated timber finger and main walkway floats (4,873 square feet) with 16 new concrete finger and main walkway floats (5,202 square feet).
- Replace 84 linear feet of dilapidated treated timber walers with 84 linear feet of new ACZA treated timber walers of the same size.

Dock E:

- Replace the south portion of the dilapidated treated timber walkway and 18 dilapidated treated timber finger floats (4,782 square feet) with a new concrete walkway and 17 new concrete finger floats (4,421 square feet).
- Replace 84 linear feet of dilapidated treated timber walers with 84 linear feet of new ACZA treated timber walers of the same size.

Dock F:

- Replace the south portion of the dilapidated treated timber walkway and 15 dilapidated treated timber finger floats (3,978 square feet) with a new concrete walkway and 13 new concrete finger floats (4,015 square feet).
- Replace 86 linear feet of dilapidated treated timber walers with 86 linear feet of new ACZA treated timber walers of the same size.

Dock H:

- Replace the dilapidated concrete walkway and the 6 dilapidated concrete finger floats (1,634 square feet) with a new concrete walkway and 6 new concrete finger floats (1,428 square feet).
- Replace or refurbish the dilapidated steel bridge (30 feet long 4 feet wide) that provides access between Dock H and Breakwater. If the bridge needs to be replaced, it will be replaced with a grated aluminum ramp-like structure. The dimensions of the bridge will not change regardless of whether it is refurbished or replaced.

Dock J:

- Repair the top portions (above the MHHW line) of 8 existing treated timber piles and their bracing. This will be completed by cutting the tops of these piles off (all above +12 feet MLLW). Steel pipe extensions will then be bolted on to the piles. Cross bracing (of the same configuration to that of the removed timber bracing) will be reinstalled using welded steel frames.

Fuel Dock:

- Replace the 2 dilapidated treated timber floats on the northwest side of the dock (100 feet long x 8 feet wide and 22 feet long x 4 feet wide for a total of 888 square feet) with 2 new concrete floats of the same dimensions (888 square feet).

Walkway A:

- Replace 8 dilapidated treated timber finger floats (569 square feet) with 8 new concrete or aluminum finger floats (548 square feet).
- Replace 289 linear feet of dilapidated treated timber walers with 289 linear feet of new ACZA treated timber walers of the same size.

Walkway C:

- Replace 8 dilapidated treated timber finger floats (608 square feet) with 8 new concrete or aluminum finger floats (552 square feet).
- Replace 397 linear feet of dilapidated treated timber walers with 397 linear feet of new ACZA treated timber walers of the same size.

Walkway D:

- Remove 7 concrete finger floats (784 square feet) and replace with 3 new concrete or aluminum finger floats (456 square feet).

Walkway E:

- Install 3 new concrete or aluminum finger floats (360 square feet).

Other Project Elements:

- Remove 95 treated (creosote) timber piles and 3 steel pipe piles (all with diameters ranging between 12 and 20 inches) from the Project area and install 52 steel pipe piles (20 with a diameter of 16 inches, 32 with a diameter of 24 inches). In general, the 24-inch diameter replacement pile are proposed in water depths deeper than -20 ft MLLW, while the 16-inch diameter replacement pile are proposed in water depths shallower than -20 ft MLLW. The -20 ft contour has been highlighted in the attached drawings for reference.

In addition to the above listed areas, 4 of the 95 treated timber piles to be removed are located on the Dinghy Dock (2 piles to be removed and replaced by 1 pile), Dock K (1 pile to be removed and replaced), and H Dock (1 pile to be removed and replaced).

- Install new electrical service (480 volts) to Docks C, E and F (includes the installation of new power pedestals with low level lighting onto the floats). The electrical distribution system (cabling) will be installed within the internal raceways of the new floats or the walers of the existing floats. Some existing utilities currently located under the walers may need to be moved vertically down along the float to accommodate the new electrical.

Changes in Overwater Cover:

- The overall number of slips within the marina will not change substantially, but is reduced. The quantity of available slips will be reduced by 7 and some of the reconstructed slips will be slightly larger. The surface area of floats, knees, walers within the marina will decrease by 605 square feet (from 18,115 square feet to 17,510 square feet). Up to 6 new electrical transformers will be installed throughout the project requiring up to 6 concrete or aluminum floatation units measuring up to 4 feet by 4 feet. Therefore, the minimum net reduction in overwater cover is 509 square feet. The final number of these floatation units (up to 6) and their locations will be determined during final design (none will be placed over or within 10 feet of existing eelgrass patches).

Approximately 135 square feet of existing eelgrass patch is located close to existing floats proposed for replacement. These floats will be replaced in the same footprint with floats of the same size (no increase in eelgrass cover). The Port was originally proposing to replace existing slips with a more efficient slip layout which would also accommodate longer boats and increase Port revenue. However, after discussion with both WDFW and DNR, the Port chose to avoid covering existing eelgrass with new floats as much as possible. To recuperate some of the losses from this less than efficient slip layout, the Port is proposing to install 3 new small finger floats on Walkway E (reduces slip loss from 11 to 7; square footage changes already incorporated into above discussion). Chris Betcher (marine biologist at JenJay) coordinated with both WDFW and DNR, on behalf of the Port, prior to this JARPA submittal to minimize negative impacts on the existing marina eelgrass and to avoid, if at all possible, the need for more complex eelgrass mitigation such as transplanting.

The overall surface area of piles will decrease by 305 square feet (855 square feet to 550 square feet). These area calculations include a 1-foot halo area surrounding each pile to account for shading impacts. Five (5) of the piles to be removed are located within existing eelgrass patches. All five creosote treated piles will be removed and will

not be replaced. Most of the larger proposed replacement pile will be installed in water at depths greater than -20 feet MLLW.

6b. Indicate the project category. (Check all that apply) [\[help\]](#)

- Commercial Residential Institutional Transportation Recreational
 Maintenance Environmental Enhancement

6c. Indicate the major elements of your project. (Check all that apply) [\[help\]](#)

<input type="checkbox"/> Aquaculture	<input type="checkbox"/> Culvert	<input checked="" type="checkbox"/> Float	<input type="checkbox"/> Road
<input type="checkbox"/> Bank Stabilization	<input type="checkbox"/> Dam / Weir	<input type="checkbox"/> Geotechnical Survey	<input type="checkbox"/> Scientific Measurement Device
<input type="checkbox"/> Boat House	<input type="checkbox"/> Dike / Levee / Jetty	<input type="checkbox"/> Land Clearing	<input type="checkbox"/> Stairs
<input type="checkbox"/> Boat Launch	<input type="checkbox"/> Ditch	<input checked="" type="checkbox"/> Marina / Moorage	<input type="checkbox"/> Stormwater facility
<input type="checkbox"/> Boat Lift	<input type="checkbox"/> Dock / Pier	<input type="checkbox"/> Mining	<input type="checkbox"/> Swimming Pool
<input type="checkbox"/> Bridge	<input type="checkbox"/> Dredging	<input type="checkbox"/> Outfall Structure	<input type="checkbox"/> Utility Line
<input type="checkbox"/> Bulkhead	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Piling	
<input type="checkbox"/> Buoy	<input type="checkbox"/> Ferry Terminal	<input type="checkbox"/> Retaining Wall (upland)	
<input type="checkbox"/> Channel Modification	<input type="checkbox"/> Fishway		

Other:

6d. Describe how you plan to construct each project element checked in 6c. Include specific construction methods and equipment to be used. [\[help\]](#)

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year flood plain.

No shoreline or upland staging areas are required for this Project. Shoreline and upland work is not proposed. All Project elements will occur in marine water deeper than -2 MLLW. Inwater work will be conducted during appropriate in-water work windows to avoid infringements upon wildlife behaviors and systems.

One to two barges along with barge-based equipment, such as cranes, will be used to support the removal and installation of piles and floats and will be located as close to the actual proposed activities as possible while minimizing and avoiding negative impacts to natural resources (i.e. existing eelgrass beds). Vibratory extraction will be used to remove existing timber piles. Broken and damaged pilings may need to be removed with a clamshell bucket. If not removed, broken pilings and stubs can interfere with the installation of new piling causing construction delays. The size of the clamshell bucket will be as small as possible to reduce turbidity during piling removal. The 5 existing creosote piles to be removed from eelgrass patches will also be removed with vibratory extraction. If these 5 piles break during removal, a clamshell bucket will not be used to remove them (as this will disturb existing eelgrass). Instead, a diver will use small hand-held tools to dig around the base of the pile and cut the pile approximately 1 foot below the mudline. The top portion of the broken pile will then be removed with a grab line.

All removed piles and floats will be placed on a barge and transported offsite. Any removed creosote treated wood and/or piles will be disposed of at an appropriate upland facility.

Replacement piles will be driven and/or drilled into the hard sediment. Vibratory pile driving will be used when possible. Impact driving and/or pile drilling will be used only if warranted given hard soil, rock, or bedrock conditions (when the use of a vibratory hammer is not sufficient to install the pile). Bubble curtains and a wood block of at least 6 inches in width (placed between the impact driver and the pile) will be used for all impact driving activities.

Marine mammal monitoring is an anticipated requirement for vibratory pile driving and Marbled Murrelet monitoring is also anticipated for any impact driving or pile proofing. A Marine Mammal Monitoring Plan and a Marbled Murrelet Monitoring Plan will be included in the Biological Evaluation for the Project (to be forwarded to your attention following the submittal of this JARPA). Depending on the type of pile installation method required, the appropriate biological monitoring will be conducted by certified biologists during project construction.

Replacement floats will be constructed offsite at an upland float manufacturing site. The float sections will then be

transported to the marina via barge (some truck transport from the manufacturing site to a launch facility, most likely located at a port) may also be required.

Minor marina work will be necessary on existing docks that require utility and waler work but this will not include substantial demolition activities. The Contractor completing the utility improvements on the floats will use existing electrical power outlets within the marina.

6e. What are the start and end dates for project construction? (month/year) [\[help\]](#)

- If the project will be constructed in phases or stages, use [JARPA Attachment D](#) to list the start and end dates of each phase or stage.

Start date: late summer 2013

End date: spring 2014

See JARPA Attachment D

A start date for the inwater project elements is anticipated above but may change depending on project scheduling and permit conditions. Regardless of the actual start date, construction will be completed in one continuous work phase of approximately 8 months (33 weeks) in duration (estimated using a 5-day work week). The estimated duration includes mobilization and demobilization of equipment, repair, removal, and installation of piles and floats, and minor repair of walers and utilities on existing floats.

6f. Describe the purpose of the project and why you want or need to perform it. [\[help\]](#)

The Port of Friday Harbor needs to repair and replace portions of floats, piles, and walkways in their marina due to the increasing age of the structures.

The Port proposes to complete applications necessary for the environmental review and permitting phase for the Reconstruction of Docks C, E and F Project (the "Project") by the end of 2012. The Project is scheduled to begin in 2013 (once all approvals and permits have been obtained) and be completed by 2014. Inwater work will adhere to all permit and approved inwater work restrictions and conditions.

6g. Fair market value of the project, including materials, labor, machine rentals, etc. [\[help\]](#)

Design and Permitting \$300,000

Construction (including mobilization, demobilization, labor, materials, equipment rentals, etc.) \$5,000,000

6h. Will any portion of the project receive federal funding? [\[help\]](#)

- **If yes**, list each agency providing funds.

Yes No Don't know

Part 7–Wetlands: Impacts and Mitigation

- Check here if there are wetlands or wetland buffers on or adjacent to the project area.
(If there are none, skip to Part 8.) [\[help\]](#)

7a. Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [\[help\]](#)

Not applicable

7b. Will the project impact wetlands? [\[help\]](#)

Yes No Don't know

7c. Will the project impact wetland buffers? [\[help\]](#)

Yes No Don't know

7d. Has a wetland delineation report been prepared? [\[help\]](#)

- **If yes**, submit the report, including data sheets, with the JARPA package.

Yes No

7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [\[help\]](#)

- If yes, submit the wetland rating forms and figures with the JARPA package.

Yes No Don't know

7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [\[help\]](#)

- If yes, submit the plan with the JARPA package and answer 7g.
- If No, or Not applicable, explain below why a mitigation plan should not be required.

Yes No Not applicable

7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [\[help\]](#)

7h. Use the table below to list the type and rating of each wetland impacted; the extent and duration of the impact; and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a similar table, you can state (below) where we can find this information in the plan. [\[help\]](#)

Activity (fill, drain, excavate, flood, etc.)	Wetland Name ¹	Wetland type and rating category ²	Impact area (sq. ft. or Acres)	Duration of impact ³	Proposed mitigation type ⁴	Wetland mitigation area (sq. ft. or acres)

¹ If no official name for the wetland exists, create a unique name (such as "Wetland 1"). The name should be consistent with other project documents, such as a wetland delineation report.

² Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.

³ Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.

⁴ Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B)

Page number(s) for similar information in the mitigation plan, if available: _____

7i. For all filling activities identified in 7h., describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland. [\[help\]](#)

7j. For all excavating activities identified in 7h., describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [\[help\]](#)

Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, "waterbodies" refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [\[help\]](#)

Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [\[help\]](#)

Not applicable

The Project is designed to avoid and minimize adverse impacts to the environment as a whole:

- The overall surface area of the floats (including transformer floats), knees, and walers within the marina will be reduced by a minimum of 41 square feet. It is likely that eelgrass and other macroalgae will

recolonize the bottom substrate in areas where shading is reduced.

- Ninety-five (95) treated creosote piles will be removed from the marine environment. Vibratory extraction will be used to remove existing timber piles (and the 3 steel piles proposed for removal). Broken and damaged pilings may need to be removed with a clamshell bucket. The size of the clamshell bucket will be as small as possible to reduce turbidity during piling removal. The 3 existing creosote piles to be removed from eelgrass patches will also be removed with vibratory extraction. If these 3 piles break during removal, a clamshell bucket will not be used to remove them (as this will disturb existing eelgrass). Instead, a diver will use small hand-held tools to dig around the base of the pile and cut the pile approximately 1 foot below the mudline. The top portion of the broken pile will then be removed with a grab line.
- The overall number of slips within the marina will not change substantially. The quantity of available slips will be reduced by 11 with some of the reconstructed slips for longer boats.
- An overall reduction in light and glare on marine surface waters is anticipated after the completion of this Project. Existing lights (used for night lighting) are attached to the top of poles at the marina. The lights shine over the floats and into the surrounding water. New lighted power posts (much shorter than the existing light poles) will be installed on the floats. Low LED lights from these new power posts will be directed onto the floats, not the water, therefore reducing existing glare and improving energy efficiencies within the marina.
- Patches of eelgrass were observed around existing floats used by boats (density survey completed by JenJay in 2011). The shift in finger float location and the activity of pile removal and replacement will remove overwater shading from some areas. Overall, there will be a net reduction in overwater cover/shading as part of this Project and it is likely that we will see natural recolonization of eelgrass and/or macroalgae in areas where shading is reduced.

Many months went in to the planning of the proposed replacement slip alignment to avoid and minimize impacts to eelgrass within the marina. Chris Betcher (marine biologist at JenJay) coordinated with both WDFW and DNR prior to this JARPA submittal to minimize negative impacts on the marina eelgrass and to avoid, if at all possible, the need for eelgrass transplanting. Chris, along with his associate Dr. Leo Bodensteiner, met with Laura Arber, Doug Thompson and Brian Williams of WDFW on December 15, 2011 to discuss eelgrass minimization and mitigation alternatives. They were able to coordinate on a path forward where all of the proposed replacement slips were designed to meet the following avoidance criteria:

- Replacement of floats located over existing eelgrass beds will not result in an increase in cover. The floats will be replaced with floats of the same size and within the same footprint. (It should be noted that 3 existing piles located within the eelgrass patches will be removed and will not be replaced.)
- Replacement of other proposed floats (as described above) will incorporate a 10-foot lateral clearance of all existing eelgrass beds.

Chris also coordinated with Don Olmstead of DNR and agreed to provide DNR with a copy of the proposed eelgrass avoidance criteria described above.

Construction will be required to meet all permit conditions. The following measures are proposed to minimize impacts during construction:

- None of the proposed work will begin prior to completing all of the necessary environmental review and public notice requirements or prior to receiving all necessary local, state, and federal permits and/or approvals for the entire Project.
- Work will only be permitted for certain times of the year to minimize any possible impacts to migrating juvenile salmonids and their habitat or bull trout. In-water work (work below the MHHW line) will most likely not be allowed to occur between February 16 and July 15 and of any given year.
- In general, water quality impacts from in-water work will be limited to temporary localized conditions of turbidity in the immediate area of the construction within the marina (low turbidity during pile removal and installation). Compliance with Ecology's water quality conditions will be required.
- The contractor will be required to use Best Management Practices (BMPs) during construction. For example, implementation of spill response procedures during construction will be required.
- No discharge of debris or waste materials to surface water will occur as part of this Project. Whenever activities will generate debris, tarps or other containment material shall be used to prevent debris from entering the

water. If tarps cannot be used (because of the location or type of structure) a containment boom will be placed around the work area to capture debris. Any debris in the containment boom shall be removed by the end of the workday or when the boom is removed, whichever occurs first. Captured material shall be disposed of in an appropriate upland disposal site.

- All removed piles and floats will be placed on a barge and transported offsite. Any removed creosote treated wood and piles will be disposed of at an appropriate upland facility, which meet the liner and leachate standards of the Minimum Functional Standards, Chapter 173-304 WAC.
- An oil containment boom surrounding the work area will be used during piling removal. The boom will also serve to collect any floating debris. Oil absorbent materials shall be employed if visible product is observed. The boom shall remain in place until all oily material and floating debris has been collected and sheens have dissipated.
- Replacement floats will be constructed offsite at an upland float manufacturing site. The float sections will then be transported to the marina by barge.
- Replacement piles will be driven and/or drilled into the hard sediment. Vibratory pile driving will be used when possible. Impact driving and/or pile drilling will be used only if warranted given hard soil, rock, or bedrock conditions (when the use of a vibratory hammer is not sufficient to install the pile). Bubble curtains and a wood block of at least 6 inches in width (placed between the impact driver and the pile) will be used for all impact driving activities.
- Marine mammal monitoring is an anticipated requirement for vibratory pile driving and Marbled Murrelet monitoring is also anticipated for any impact driving or pile proofing. A Marine Mammal Monitoring Plan and a Marbled Murrelet Monitoring Plan will be included in the Biological Evaluation for the Project (to be forwarded to your attention following the submittal of this JARPA). Depending on the type of pile installation method required, the appropriate biological monitoring will be conducted by certified biologists during project construction.
- The contractor will be advised that eelgrass beds are protected under both state and Federal laws and will adhere to the following restrictions during construction:
 - The contractor will not place derrick spuds or anchors in the areas designated with eelgrass.
 - The contractor will not conduct activities that may cause scouring of sediments within the eelgrass beds or result in sediments transferring out of or into the eelgrass bed.

8b. Will your project impact a waterbody or the area around a waterbody? [\[help\]](#)

Yes No

As the project is maintenance of an existing dock facility within an existing marina, with in-kind replacement of structures in or near the same footprint, negative long-term impacts to fish, aquatic life, recreation, transportation, navigational commerce, water quality, and aesthetics are not anticipated.

Long-term positive impacts from the project include:

- The overall surface area of the floats (including transformer floats), knees, and walers within the marina will be reduced by a minimum of 509 square feet. It is likely that we will see natural recolonization of eelgrass and/or macroalgae in areas where shading is reduced.
- The removal of 95 creosote treated timber piles and a number of treated timber float and finger structures will improve fish and wildlife habitat through removing a possible source of water quality contamination. All removed timber piles and floats will be replaced with concrete, aluminum and/or steel materials.
- The overall surface area of piles will decrease by 305 square feet. These area calculations include a 1-foot halo area surrounding each pile to account for shading impacts. Five (5) of the piles to be removed are located within existing eelgrass patches. All five creosote treated piles will be removed and will not be replaced.
- An overall reduction in light and glare on marine surface waters is anticipated after the completion of this Project.
- Patches of eelgrass were observed around existing floats and piles used by boats (density survey completed by JenJay in 2011). The shift in finger float location and the activity of pile removal and replacement will remove overwater shading from some areas. Overall, there will be a net reduction in overwater cover/shading and it is

likely that we will see natural recolonization of eelgrass and/or macroalgae in areas where shading is reduced.

Construction activities related to repairing and replacing dock facilities may result in temporary impacts to fish and aquatic life in and around the marina, however all inwater construction will be timed to occur during inwater work windows for the area to avoid and minimize impacts to endangered and threatened species. Short term impacts could include noise, water turbidity and suspension of sediments from pile removal and installation. BMPs will be implemented to reduce these potential impacts.

Sound from Inwater Construction: Field studies on noise disturbance during construction generally focus on pile driving, the loudest of the proposed activities for this project. Installation of steel piles with an impact hammer can produce intense sound pressure waves that can injure and kill fish and disturb and injure marine mammals. As mentioned, all pile driving will be conducted during applicable in-water work windows. The short-term inwater effects of pile-driving noise on salmonids and other fish species will be greatly reduced by performing pile driving during the applicable federal and state in-water work windows and by employing a wood block and bubble curtain to attenuate peak sounds from pile installation.

In air noise from impact driving may cause some birds that forage near the project area to temporarily forage elsewhere. However, due to the short duration of the pile driving activities and long term use of the site, pile driving and any in air noise associated with the project is not anticipated to have long term negative impacts on birds or other species in the area.

Marine mammal monitoring is an anticipated requirement for vibratory pile driving and Marbled Murrelet monitoring is also anticipated for any impact driving or pile proofing. A Marine Mammal Monitoring Plan and a Marbled Murrelet Monitoring Plan will be included in the Biological Evaluation for the Project (to be forwarded to your attention following the submittal of this JARPA). Depending on the type of pile installation method required, the appropriate biological monitoring will be conducted by certified biologists during project construction.

The marina is located within downtown Friday Harbor next to the Washington State Ferry Terminal. Species using this area are already habituated to ambient noise levels higher than the rest of the island.

Turbidity and Suspended Sediment: The project might cause increases in turbidity and suspended sediment from pile driving and removal. Little data exists regarding sediment plumes and turbidity caused pile removal and installation but the Environmental Protection Agency (EPA) indicates that turbidity is localized around piling to about a 25 foot radius. Potential impacts for fish may include a reduction in feeding success, direct mortality, gill damage, stress, behavioral responses, etc. However, these impacts are expected to be negligible as increases in turbidity and suspended sediments will be temporary and limited in extent.

8c. Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies? [\[help\]](#)

- **If yes**, submit the plan with the JARPA package and answer 8d.
- **If No, or Not applicable**, explain below why a mitigation plan should not be required.

Yes No Not applicable

A specific mitigation plan was not prepared for this Project involving the repair, maintenance and replacement or dilapidated marina floats, fingers and piles. The potential for substantial adverse impacts to the environment have been avoided and minimized (see responses to Question 8b).

- Patches of eelgrass were observed around existing floats used by boats (density survey completed by JenJay in 2011). The shift in finger float location and the activity of pile removal and replacement will remove overwater shading from some areas. Overall, there will be a net reduction in overwater cover/shading and it is likely that we will see natural recolonization of eelgrass and/or macroalgae in areas where shading is reduced. Chris Betcher coordinated with both WDFW and DNR prior to this JARPA submittal to minimize negative impacts on the marina eelgrass and to avoid the need for eelgrass transplanting. They were able to identify a path forward where all of the proposed replacement slips were designed to meet the following avoidance criteria:
 - Replacement of floats located around existing eelgrass beds will not result in an increase in cover. The floats will be replaced with floats of the same size and within the same footprint. (It should be noted that 3 existing piles located within the eelgrass patches will be removed and will not be replaced.)
 - Replacement of other proposed floats (as described above) will incorporate a 10-foot lateral clearance of all

8g. For all excavating or dredging activities identified in 8e., describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [\[help\]](#)

No dredging, filling, or grading work is proposed as part of this Project.

Part 9—Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

9a. If you have already worked with any government agencies on this project, list them below. [\[help\]](#)

Agency Name	Contact Name	Phone	Most Recent Date of Contact
Town of Friday Harbor	Mike Bertrand	(360) 378-2810 ext. 231	April 13, 2011 Meeting
WDFW	Laura Arbor	(425) 379-2306	December 15, 2012 Meeting
WDFW	Doug Thompson	(360) 466-4345	December 15, 2012 Meeting
WDFW	Brian Williams	(360) 466-4345	December 15, 2012 Meeting
DNR	Don Olmstead	(360) 902-1071	Phone call in December, 2012

9b. Are any of the wetlands or waterbodies identified in Part 7 or Part 8 on the Washington Department of Ecology's 303(d) List? [\[help\]](#)

- If **yes**, list the parameter(s) below.
- If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: <http://www.ecy.wa.gov/programs/wq/303d/>.

Yes No

San Juan Channel, Dissolved Oxygen

9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [\[help\]](#)

- Go to <http://cfpub.epa.gov/surf/locate/index.cfm> to help identify the HUC.

17110003, San Juan Islands Watershed

9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [\[help\]](#)

- Go to <http://www.ecy.wa.gov/services/gis/maps/wria/wria.htm> to find the WRIA #.

WRIA 2

9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [\[help\]](#)

- Go to <http://www.ecy.wa.gov/programs/wq/swqs/criteria.html> for the standards.

Yes No Not applicable

9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [\[help\]](#)

- If you don't know, contact the local planning department.
- For more information, go to: http://www.ecy.wa.gov/programs/sea/sma/laws_rules/173-26/211_designations.html.

Rural Urban Natural Aquatic Conservancy Other _____

9g. What is the Washington Department of Natural Resources Water Type? [\[help\]](#)

- Go to http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp_watertyping.aspx for the Forest Practices Water Typing System.

Shoreline Fish Non-Fish Perennial Non-Fish Seasonal

<p>9h. Will this project be designed to meet the Washington Department of Ecology’s most current stormwater manual? [help]</p> <ul style="list-style-type: none"> • If no, provide the name of the manual your project is designed to meet.
<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Name of manual:</p>
<p>9i. If you know what the property was used for in the past, describe below. [help]</p>
<p>The Town of Friday Harbor was incorporated in 1909 and supported farming and fishing industries. The Port of Friday Harbor was incorporated in 1950. Moorage at the time was focused on accommodating fishing boats. The existing main pier was originally constructed in 1973.</p> <p>In 1984, the existing breakwater was constructed by the US Army Corps of Engineers. Around the same time, the Port also completed the existing marina to accommodate more boats.</p>
<p>9j. Has a cultural resource (archaeological) survey been performed on the project area? [help]</p> <ul style="list-style-type: none"> • If yes, attach it to your JARPA package.
<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>9k. Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [help]</p>
<p>A number of threatened or endangered species have been observed near the Port of Friday Harbor Marina and could occur within the Project site during construction. A more detailed list of these species will be provided in the Biological Evaluation (BE) for the Project. Species could include (but are not limited to):</p> <ul style="list-style-type: none"> • Puget Sound chinook salmon (<i>Oncorhynchus tshawytscha</i>) (Threatened) • Killer whale (Southern Resident Orca) (<i>Orcinus orca</i>) (Endangered) – No known sitings in the marina but have been seen in the San Juan Channel a mile east of the marina) • Coastal-Puget Sound Bull Trout (<i>Salvelinus confluentus</i>) (Threatened) • Canary Rockfish (<i>Sebastes pinniger</i>) (Threatened) • Yelloweye Rockfish (<i>Sebastes ruberrimus</i>) (Threatened) <p>Other species that are less likely to occur in the area, include:</p> <ul style="list-style-type: none"> • Murrelet, marbled (<i>Brachyramphus marmoratus</i>) (Threatened) • Sea-lion, Steller western pop. (<i>Eumetopias jubatus</i>) (Endangered) • Humpback Whale (<i>Megaptera noveanglia</i>) (Endangered) • Leatherback turtle (<i>Dermochelys coriacea</i>) (Threatened) • Loggerhead sea turtle (<i>Caretta caretta</i>) (Threatened) • Green sea turtle (<i>Chelonia mydas</i>) (Threatened) • Olive Ridley sea turtle (<i>Lepidochelys olivacea</i>) (Threatened) • Bocaccio (<i>Sebastes paucispinis</i>) (Endangered) – Rare observations in San Juan County.
<p>9l. Name each species or habitat on the Washington Department of Fish and Wildlife’s Priority Habitats and Species List that might be affected by the proposed work. [help]</p>
<p>Estuarine Zone – Small patches of eelgrass (<i>Zostera marina</i>) observed within marina</p> <p>Bald Eagle Shoreline Buffer Zone</p>

Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at <http://apps.ecy.wa.gov/opas/>.

- Governor's Office of Regulatory Assistance at (800) 917-0043 or help@ora.wa.gov.
- For a list of agency addresses to send your application, click on the "where to send your completed JARPA" at <http://www.epermitting.wa.gov>.

<p>10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [help]</p> <ul style="list-style-type: none"> • For more information about SEPA, go to www.ecy.wa.gov/programs/sea/sepa/e-review.html. <p><input checked="" type="checkbox"/> A copy of the SEPA determination or letter of exemption is included with this application.</p> <p><input type="checkbox"/> A SEPA determination is pending with__ (lead agency). The expected decision date is__.</p> <p><input type="checkbox"/> I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [help]</p> <p><input type="checkbox"/> This project is exempt (choose type of exemption below).</p> <p style="padding-left: 20px;"><input type="checkbox"/> Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt? _____</p> <p style="padding-left: 20px;"><input type="checkbox"/> Other: _____</p> <p><input type="checkbox"/> SEPA is pre-empted by federal law.</p>
<p>10b. Indicate the permits you are applying for. (Check all that apply.) [help]</p>
LOCAL GOVERNMENT
<p>Local Government Shoreline permits:</p> <p><input checked="" type="checkbox"/> Substantial Development <input type="checkbox"/> Conditional Use <input type="checkbox"/> Variance</p> <p><input type="checkbox"/> Shoreline Exemption Type (explain): _____</p>
<p>Other city/county permits:</p> <p><input type="checkbox"/> Floodplain Development Permit <input type="checkbox"/> Critical Areas Ordinance</p>
STATE GOVERNMENT
<p>Washington Department of Fish and Wildlife:</p> <p><input checked="" type="checkbox"/> Hydraulic Project Approval (HPA) <input type="checkbox"/> Fish Habitat Enhancement Exemption</p>
<p>Washington Department of Ecology:</p> <p><input checked="" type="checkbox"/> Section 401 Water Quality Certification</p>
<p>Washington Department of Natural Resources:</p> <p><input type="checkbox"/> Aquatic Resources Use Authorization</p>
FEDERAL GOVERNMENT
<p>United States Department of the Army permits (U.S. Army Corps of Engineers):</p> <p><input type="checkbox"/> Section 404 (discharges into waters of the U.S.) <input checked="" type="checkbox"/> Section 10 (work in navigable waters)</p>
<p>United States Coast Guard permits:</p> <p><input type="checkbox"/> General Bridge Act Permit <input type="checkbox"/> Private Aids to Navigation (for non-bridge projects)</p>

Part 11—Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [\[help\]](#)

11a. Applicant Signature (required) [\[help\]](#)

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize the agent named in Part 3 of this application to act on my behalf in matters related to this application. JB (Initial)

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. JB (Initial)

Bob Freeauf

Bob Freeauf

Applicant Printed Name

Bob Freeauf

Applicant Signature

5/3/2012

Date

11b. Authorized Agent Signature [\[help\]](#)

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Margaret Schwertner

Margaret Schwertner

Authorized Agent Printed Name

Margaret Schwertner

Authorized Agent Signature

5/9/2012

Date

11c. Property Owner Signature (if not applicant). [\[help\]](#)

Not required if project is on existing rights-of-way or easements.

(Note: Signature not required as the Port has a PMA with DNR).

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

Property Owner Printed Name

Property Owner Signature

Date

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.

If you require this document in another format, contact The Governor's Office of Regulatory Assistance (ORA). People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341.
ORA publication number: ENV-019-09



**APPENDIX B – AMENDMENT TO THE MARINE MAMMAL
MONITORING PLAN TO ACCOMMODATE IHA REQUEST
FOR MONITORING TAKE**



Marine Mammal Monitoring Plan Amendment

July 1, 2013

In accordance with the July 1, 2013, Friday Harbor Marina Reconstruction Project Incidental Harassment Authorization Request, marine mammal monitoring will be implemented during this project.

Monitoring to Estimate Take Levels

The Port of Friday Harbor proposes the following amendment to the existing Marine Mammal Monitoring Plan (JenJay 2013) in order to estimate project Level B acoustical harassment take levels in the ZOIs:

- To verify the required monitoring distance, the vibratory Level B acoustical harassment ZOI will be determined by using a range finder or hand-held global positioning system device.
- The vibratory Level B acoustical harassment ZOI will be monitored for the presence of marine mammals 20 minutes before, during, and 30 minutes after any pile removal or driving activity.
- Monitoring will be continuous unless the contractor takes a significant break-then the 20 minutes before, during, and 30 minutes monitoring sequence will begin again.
- If marine mammals are observed, their location within the ZOI, and their reaction (if any) to pile-driving activities will be documented.