



DEPARTMENT OF THE NAVY  
NAVAL BASE KITSAP  
120 SOUTH DEWEY ST  
BREMERTON, WA 98314-5020

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Ms. Rebekah Padgett  
Washington Department of Ecology  
3190 160<sup>th</sup> Avenue SE  
Bellevue, WA 98008

SUBJECT: FEDERAL CONSISTENCY DETERMINATION FOR THE LAND-WATER  
INTERFACE AT NAVAL BASE KITSAP BANGOR

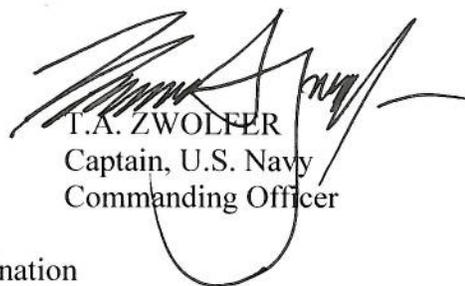
Dear Ms. Padgett:

In accordance with the Coastal Zone Management Act (CZMA), Naval Base Kitsap is submitting the attached Federal Consistency Determination for a proposed action to construct a Land-Water Interface (LWI) at Naval Base Kitsap Bangor, Silverdale, WA. The proposed action would enhance security at the perimeter of the Waterfront Restricted Area (WRA) by constructing physical barriers through shallow waters and onto the immediate upland areas at the northern and southern extent of the WRA.

Pursuant to Section 307 of the CZMA, the Navy has determined that implementing the LWI project would be consistent to the maximum extent practicable with Washington's Coastal Zone Management Program.

If you require further information or have any questions, please contact Dr. Robert Senner at (360) 396-0029 or robin.senner@navy.mil.

Sincerely,



T.A. ZWOLFER  
Captain, U.S. Navy  
Commanding Officer

Enclosure: 1. Federal Consistency Determination



# **COASTAL ZONE MANAGEMENT ACT** **FEDERAL CONSISTENCY DETERMINATION**

## **Land-Water Interface (LWI)**



## **NAVAL BASE KITSAP BANGOR** **SILVERDALE, WA**

**May 2016**

Prepared By:

Naval Facilities Engineering Command Northwest  
1101 Tautog Circle  
Silverdale, WA 98315



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**LIST OF ACRONYMS AND ABBREVIATIONS**

CFR	Code of Federal Regulations
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FLUPSY	floating upweller system
LWI	Land-Water Interface
MHHW	mean higher high water
MLLW	mean lower low water
NAVBASE	Naval Base
Navy	U.S. Department of the Navy
PSB	port security barrier
RCW	Revised Code of Washington
SMP	Shoreline Master Program
USEPA	U.S. Environmental Protection Agency
WDOE	Washington Department of Ecology
WRA	Waterfront Restricted Area

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1 **1.0 INTRODUCTION**

2 The U.S. Department of the Navy (Navy) proposes to complete the perimeter of the Waterfront  
3 Restricted Area (WRA) at the Naval Base (NAVBASE) Kitsap Bangor waterfront, Silverdale, in  
4 Hood Canal, by constructing a land-water interface (LWI) connecting the existing on-water Port  
5 Security Barrier (PSB) system to the existing on-land Waterfront Security Enclave. This  
6 document provides the State of Washington with the Navy’s Federal Consistency Determination  
7 under Coastal Zone Management Act (CZMA) Section 307(c)(1) and Title 15 of the Code of  
8 Federal Regulations (CFR), Part 930, sub-part C (15 CFR 930 C). NAVBASE Kitsap Bangor is,  
9 by law and Washington State policy, not part of the coastal zone. In accordance with  
10 Washington’s Coastal Zone Management Program (Washington Department of Ecology  
11 [WDOE] 2001):

12 “The Coastal Zone Management Act specifically excludes from the coastal zone, those  
13 lands that are, by law, subject solely to the discretion of, or held in trust by, the federal  
14 government. The CZMA’s regulations provide that states must exclude from their coastal  
15 zone designations the lands that the federal government owns, leases, holds in trust, or  
16 otherwise has sole discretion to determine their use. These “excluded federal lands”  
17 within the boundaries of Washington’s coastal zone are:

- 18 • Military reservations and other defense installations (e.g., Fort Lewis,  
19 Bangor Naval Submarine Station, Naval Air Station Whidbey Island)…”

20 Since both in-water and land-based construction and operation of the proposed action could have  
21 effects on resources within the coastal zone (outside of the base boundaries), this Consistency  
22 Determination evaluates the potential effects of all project components.

23 **2.0 SUMMARY DETERMINATION**

24 Pursuant to Section 307 of the CZMA, 16 United States Code § 1456, as amended, and its  
25 implementing regulations (15 CFR 930), this is a Federal Consistency Determination for  
26 constructing a LWI on NAVBASE Kitsap Bangor. The Navy has evaluated the proposed action  
27 and has found that it is consistent to the maximum extent practicable with the Enforceable  
28 Policies of the Washington State Coastal Zone Management Program (CZMP). The proposed  
29 action occurs within the existing Hood Canal Naval Restricted Area No. 1 as defined in 33 CFR  
30 334.1220. NAVBASE Kitsap Bangor is a restricted naval facility located on the east shore of  
31 Hood Canal, in Kitsap County, Washington (Figures 1 and 2). The proposed action includes  
32 mitigation to compensate for impacts to aquatic resources. The Navy’s compensatory mitigation  
33 is the payment of fees to the proposed Hood Canal Coordinating Council In-Lieu Fee program.  
34 The Navy will also provide treaty mitigation for impacts to tribal treaty resources.

35 The Navy’s review is provided below.

1 **3.0 PROPOSED FEDERAL AGENCY ACTION**

2 The Navy proposes to construct and operate the LWI at the north and south seaward ends of the  
3 existing Waterfront Security Enclave at the NAVBASE Kitsap Bangor waterfront (Figure 3).  
4 The proposed action consists of in-water and land-based construction and operations. The Navy  
5 would construct two concrete abutments at the shore bluff to which the LWI structures would  
6 attach; each abutment would also include a stairway, an observation post, and a lighting tower.  
7 The new and relocated PSB pontoons would shade approximately 2,730 square feet of nearshore  
8 habitat. The new stairways and observation posts would cover approximately 2,340 square feet  
9 of upper intertidal habitat. Up to 65 permanent hollow steel piles would be needed to construct  
10 the abutments, stairways, and observation posts. A third, existing observation post on Marginal  
11 Wharf would be demolished and replaced without in-water work. Some project elements would  
12 affect the surrounding upland landscape.

13 Construction is planned to start in 2016. The in-water and terrestrial construction would occur  
14 over approximately 2 years. In-water work would be subject to timing and seasonal restrictions.

15 **3.1 PSB INSTALLATION**

16 The Navy proposes to modify the existing PSB system to extend across the intertidal zone to  
17 attach to concrete abutments that would be built at the shoreline (Figure 4). For the north LWI,  
18 approximately 1,200 feet of the existing PSB system would be relocated and 100 feet of new  
19 PSB would be added (Figure 5). Four existing buoys and associated anchors (Figure 6) would be  
20 relocated. The mooring system for two of the four relocated buoys would be reduced from three  
21 anchor legs to two anchor legs, each with one clump anchor and one 10-ton anchor. For the  
22 south LWI, approximately 1,200 feet of the existing PSB system would be relocated and 200 feet  
23 of new PSB would be added (Figure 7). Three existing buoys and associated anchors would be  
24 relocated. One of these would have its anchor legs reduced from three to two, each with one  
25 clump anchor and one 10 ton anchor. One new buoy would be installed with two mooring legs  
26 (each with one clump anchor and one 10-ton anchor). Existing PSBs that are still serviceable  
27 would be configured into the new PSB alignment. When PSBs would be removed, they would  
28 be disassembled and recycled as scrap metal.

29 Each PSB unit would be 50 feet long and would support an 8-foot high fence on a metal frame  
30 (Figure 8). Each unit would be supported on three pontoons: a center pontoon 18 feet long, and  
31 two end pontoons each 6 feet long. The pontoons would be 42 inches in diameter. A metal  
32 grating (guard panel) 42 inches high would be suspended below the metal frame, between the  
33 pontoons. Because the height of this guard panel would be the same as the diameter of the  
34 pontoons, it would extend into the water the same distance as the pontoons (less than 1 foot).  
35 Openings to allow vessel passage through the barrier system would be created by disconnecting  
36 adjacent PSB units and towing the barrier out of the way.

37 On an average low tide, approximately 11 PSB units including 33 pontoons (north and south  
38 LWI combined) would “ground out” in the intertidal zone. Over the long term, which would  
39 include extreme low tides, approximately 18 PSB units including 54 pontoons would ground out  
40 in the intertidal zone. Five of these PSB units would ground out at the north LWI and 13 would  
41 ground out at the south LWI. To minimize the resulting disturbance of the intertidal zone, each

1 center pontoon would be fitted with three “feet” and the outer pontoons would be fitted with two  
2 “feet” that would prevent an entire pontoon from contacting the sediment surface (Figure 8).  
3 These feet would be 12 by 24 inches in size and constructed of high-density polyethylene, a  
4 durable, inert plastic often used for water mains and sewer systems. Considering a total of 126  
5 such feet (18 intertidal PSBs with 7 feet each), and that these feet would not always ground out  
6 at the same location, it is estimated that approximately 2,520 square feet of the intertidal zone  
7 would be disturbed over the long term (700 square feet at the north LWI, and 1,820 square feet at  
8 the south LWI). In addition, one buoy at the south LWI would ground out on an average low  
9 tide. Over the long term, including extreme low tides, three buoys (one at the north LWI and  
10 two at the south LWI) would ground out at low tide. These buoys are 30 inches in diameter.  
11 Over the long term, grounding out by these buoys would disturb approximately 74 square feet of  
12 seafloor.

13 The Navy has implemented design measures to minimize and avoid impacts to aquatic resources.  
14 Much of the overwater area is in the deep water environment, where little or no functional loss  
15 would occur as a result of the overwater structure. Substantial effort was made to minimize and  
16 avoid impacts that occur in the nearshore and shallow marine environment, particularly where  
17 marine vegetation such as eelgrass and macroalgae occur. In addition to design measures,  
18 measures to minimize and avoid construction impacts to aquatic resources are also included  
19 (Sections 5.1 and 5.2 below).

### 20 **3.2 ABUTMENT AND UPLAND CONSTRUCTION**

21 The north abutment would be approximately 40 feet high and 72 feet long. It would extend from  
22 an approximate elevation of 13 feet above mean lower low water (MLLW) to the top of the slope  
23 at elevation 50 feet. The south abutment would be approximately 20 feet high and 72 feet long.  
24 This abutment would extend from an elevation of approximately 11 feet above MLLW to the top  
25 of the slope at elevation 24 feet. The upper limit of the intertidal zone is considered to be mean  
26 higher high water (MHHW), approximately 11 feet above MLLW at NAVBASE Kitsap Bangor.

27 The north abutment would be supported on 15 36-inch steel piles and the south abutment would  
28 be supported on 16 36-inch steel piles. All piles would be driven on land by vibratory and  
29 impact methods. Each abutment would include a stairway on one end, from the top of the  
30 abutment to the LWI deck and base of the bluff, and on the other end an observation post  
31 installed adjacent to the abutment at the base of the cliff. At each abutment the stairs would be  
32 attached to the abutment wall and supported on five 24-inch steel piles driven to grade plus 6-  
33 2-foot concrete pads. Each observation post would be approximately 25 by 45 feet, supported on  
34 12 30-inch steel piles, and include a second stairway to the base of the bluff. The piles for the  
35 stairways and observation posts would be driven at low tide (“in the dry”) using a crane mounted  
36 on top of the bluff. Pile driving for the abutments and observation posts would take a maximum  
37 of 30 work days. One 30-foot tall, on-land lighting tower would be installed on each abutment  
38 by bolting them to concrete foundations. These towers would be located within the extension of  
39 the Waterfront Security Enclave; no additional ground would be disturbed for the towers.

40 The abutment stair landings and observation posts would extend below MHHW; the area below  
41 MHHW occupied by these new structures would be approximately 142 square feet for both the  
42 north and south LWIs. The total area excavated below MHHW during abutment construction

1 would be approximately 15,600 square feet. The total volume of material below MHHW for  
2 abutment construction would be approximately 2,889 cubic yards and the fill volume would be  
3 2,911 cubic yards. Riprap placed below MHHW would cover approximately 4,100 square feet,  
4 with a volume of 303 cubic yards. Construction of the abutment and observation post at the  
5 south LWI would require removal of a portion of the existing creosote timber seawall. Similar to  
6 stairway and observation post piles, abutment, stair, and observation post work would also be  
7 conducted at low tide in the dry. Beach contours would be returned to pre-construction  
8 conditions following construction, except for the areas occupied by the new structures. The  
9 areas where riprap is placed will be covered in a sandy beach material. All bluff slopes disturbed  
10 by construction of the abutment would be stabilized using riprap. The riprap would be placed  
11 below the abutment walls to elevations just below MHHW. A temporary sheet pile cofferdam  
12 would be constructed to create a dry area to install piles for the abutment. The lengths of the  
13 proposed coffer dams are 140 feet for the north abutment, 160 feet for the north stairs, 190 feet  
14 for the south abutment, and 160 feet long for the south stairs. The observation posts would be  
15 provided with a potable water line, and with a wastewater line connecting to the base sanitary  
16 sewer system. These lines would be attached to the walkways/trestles leading to the observation  
17 posts.

18 A third observation post 600 square feet (56 square meters) in area would be installed on the  
19 deck of Marginal Wharf, at the seaward apex of the wharf (Figure 3) and would include removal  
20 of an existing observation post. This new observation post would be similar in configuration but  
21 smaller than the two shoreline observation posts (Figure 4). The post would be constructed of  
22 reinforced concrete. There would be no in-water construction; no part of this observation post  
23 would extend into the water, and no new over-water area would be created. Communication  
24 cables would be installed from an existing hub under an existing roadway to access the wharf,  
25 using standard construction methods that would include patching of the roadway after  
26 construction.

27 Construction of the abutments would disturb a total of approximately 47,000 square feet of  
28 upland area and would require excavation of approximately 6,245 cubic yards of soil and fill of  
29 6,966 cubic yards including the concrete. The south abutment would include a gravel path to  
30 Sealion Road. The staging area for both LWI construction sites would be a 5.4-acre site near the  
31 intersection of Archerfish and Seawolf Roads (Figure 3). This site has been used for staging  
32 other construction projects and is highly disturbed.

### 33 3.3 CONSTRUCTION SCHEDULE

34 Upland construction would take approximately 540 days; equipment would include backhoes,  
35 bulldozers, loaders, graders, trucks, and a crane/pile driver. Overall project construction would  
36 begin in August 2016 and end in August 2018. All in-water work would take place in one in-  
37 water work season, August 1, 2016, to January 15, 2017. Materials and equipment for the in-  
38 water work would be brought in by barge, while materials and equipment for abutment  
39 construction would be brought in by truck. The number of construction workers is estimated at  
40 100. Best management practices and impact reduction measures that would be implemented to  
41 avoid or minimize potential environmental impacts associated with the proposed action are  
42 discussed in Section 5.1 below.

1 **4.0 PURPOSE AND NEED**

2 The Navy proposes to complete the perimeter of the WRA at NAVBASE Kitsap Bangor by  
3 constructing and operating physical barriers through shallow waters and onto the immediate  
4 upland areas at the northern and southern extents of the WRA. The purpose of the LWI is to  
5 comply with Department of Defense directives to protect OHIO Class ballistic missile  
6 submarines from increased and evolving threats and to prevent the seizure, damage, or  
7 destruction of military assets. The need for the LWI is to enhance security at the WRA and  
8 comply with security requirements.

9 **5.0 COASTAL RESOURCE IMPACTS**

10 This section describes the LWI's impacts to coastal resources outside the boundaries of  
11 NAVBASE Kitsap Bangor and associated Naval Restricted Areas (Figure 2), which are excluded  
12 from the coastal zone (WDOE 2001).

13 Because species occurring at NAVBASE Kitsap Bangor include migratory and other highly  
14 mobile species, impacts occurring within the boundaries of NAVBASE Kitsap Bangor could  
15 affect species occurring outside those boundaries at times and therefore within the coastal zone.  
16 Construction impacts on biological resources would include minor turbidity from PSB mooring  
17 anchor removal and placement and boat movement. Limiting abutment work below MHHW to  
18 the in-water work season of July 15 to January 15 would minimize potential impacts on  
19 Endangered Species Act (ESA)-listed salmonids. Construction of the LWI would require no in-  
20 water pile driving, thus avoiding resulting underwater noise impacts to marine biota. Marine  
21 mammals (pinnipeds) and marbled murrelets could be exposed to airborne noise from driving of  
22 the abutment piles. However, airborne pile driving noise is not expected to result in behavioral  
23 disturbance of pinnipeds or marbled murrelets, and would have no measurable impacts on ESA-  
24 listed fish.

25 Since no public recreational uses occur at the LWI project sites, construction would have no  
26 direct impact to recreational uses or access in the surrounding community. However, nearby  
27 recreational and residential areas may experience elevated noise levels during construction.  
28 State standards would not be exceeded. Pile-driving would occur during limited daylight hours  
29 only. The Navy would notify the public prior to construction. Operations of the LWI would be  
30 consistent with current operations at the Bangor waterfront, and would not have a direct impact  
31 to adjacent land uses or recreation in the communities of Vinland and Silverdale, the closest off-  
32 base residential areas to the proposed LWI structures

33 In order to maintain adequate levels of safety for vessel navigation during in-water construction  
34 activities, a Notice to Mariners would be issued to minimize navigational hazards outside the  
35 existing floating security fence. In addition, barge trips through the Hood Canal Bridge would be  
36 scheduled to avoid peak commuting hours. Additional openings of the Hood Canal Bridge for  
37 barge traffic would result in delays of 30 minutes per month on average on SR-104 during the  
38 single in-water construction season (August 1, 2016 through January 15, 2017). Construction-  
39 related road traffic would have minor impacts (a few seconds or less) on several intersections on  
40 the base during both the a.m. and p.m. peak hour. Additional traffic volumes from construction

1 traffic may create longer wait times to enter the base, particularly during the a.m. peak hour, as  
2 vehicles queue up to pass through the security checkpoint.

3 Construction activities are expected to last approximately 2 years, including one in-water work  
4 season. During this period, heavy equipment (pile-drivers, tugs, skiffs, generators) would  
5 generate emissions. Additional emissions would occur from deliveries of materials by tug and  
6 barge, onshore delivery vehicles, and construction worker vehicles (approximately 100  
7 construction workers are expected at times). Best Available Control Technology, as required by  
8 Puget Sound Clean Air Agency Regulation I, would be implemented to reduce fugitive  
9 (including visible) emissions. The proposed action is located within an attainment area for all  
10 criteria pollutants under the Clean Air Act; therefore, General Conformity would not be  
11 applicable. Construction and operations would not have a significant impact to the air quality of  
12 adjacent properties in the Kitsap County coastal zone.

### 13 **5.1 CURRENT PRACTICES AND BEST MANAGEMENT PRACTICES**

14 Several measures have been identified to avoid, reduce, and mitigate the effects of the projects  
15 on sediments, water quality, and biological resources of Hood Canal. These are described in  
16 more detail in Appendix C to the Environmental Impact Statement, and are summarized here:

- 17 ➤ **Storm Water Pollution Prevention Plan.** Construction and operations of the LWI will be  
18 conducted in accordance with Clean Water Act requirements and Storm Water Pollution  
19 Prevention Plan to ensure no violations of state water quality and to avoid and minimize  
20 potential for adverse impacts to water quality from stormwater runoff.
- 21 ➤ **Spill Prevention Control.** Construction and operation of the LWI will be managed to  
22 minimize the likelihood of adverse impacts to water quality resulting from accidental spills  
23 and releases of petroleum products through implementation of the existing Integrated  
24 Contingency Plan. This plan is reviewed and approved by the U.S. Coast Guard and WDOE.  
25 Absorbent oil containment booms will be placed around the in-water construction area to  
26 contain accidental oil or hazardous materials spills to minimize the exposure of fish and  
27 wildlife species and their habitats to spills.
- 28 ➤ **Construction Debris Control.** The contractor will prepare and implement construction  
29 debris management procedures as required by the Clean Water Act Section 401 Water  
30 Quality Certification for the project. Debris will be prevented from entering the water during  
31 all construction work. During in-water construction activities, the contractor will deploy and  
32 maintain floating booms no farther seaward than the 100-foot designated construction  
33 corridor to collect and contain floatable materials. Any accidental release of equipment or  
34 materials will be immediately retrieved and removed from the water.
- 35 ➤ **Propeller Wash Control.** To minimize disturbances of the seafloor from propeller wash,  
36 vessel traffic will be excluded from shallow areas outside of the 100-foot construction zone,  
37 which would be marked using temporary buoys or other visual guides. Additionally, shallow  
38 draft, low horsepower tugboats would be used in the nearshore area and for extended  
39 operations in areas shallower than about 40 feet below MLLW.
- 40 ➤ **Work Vessel Grounding Control.** Construction barges will avoid grounding during low  
41 tides. Spudding/anchoring in existing eelgrass habitat will be avoided wherever possible.

- 1 Vessel operators will be provided with maps of the project site with eelgrass beds clearly  
2 marked. The abutments and observation posts will be built from land.
- 3 ➤ **Mooring and Anchoring Plan.** To minimize the potential for seafloor disturbances, the  
4 contractor will submit a mooring and anchoring plan for approval by the Contracting Officer.  
5 The plan will identify measures to avoid or minimize impacts on bottom habitats from line or  
6 anchor drag.
- 7 ➤ **Protection of Water Quality During Construction and Operation.** Construction activities  
8 will be in accordance with the U.S. Environmental Protection Agency (USEPA) Construction  
9 General Permit. For compliance with the Energy Independence and Security Act of 2007,  
10 the Navy will maintain site hydrology to the maximum extent feasible. Design of upland  
11 features (e.g., laydown area) will consider the USEPA guidance for compliance with the  
12 Energy Independence and Security Act (USEPA 2009) as well as other relevant technical  
13 information regarding methods to improve stormwater retention and quality.
- 14 ➤ **In-water Work Timing Window.** To avoid impacts on ESA-listed fish species, abutment  
15 construction will be conducted within the in-water work window (July 15 through January  
16 15).

## 17 5.2 MITIGATION MEASURES

18 Construction noise would likely result in behavioral disturbance of ESA-listed fish (salmonids  
19 and rockfish), ESA-listed marbled murrelet, birds protected under the Migratory Bird Treaty Act,  
20 and marine mammals protected under the ESA and/or Marine Mammal Protection Act. The  
21 following mitigation measures would be used to minimize the potential for noise-related impacts  
22 to marine species during construction of the LWI:

- 23 ➤ **Use of Vibratory Driver in Lieu of Impact Hammer.** Pile driving would occur on land or  
24 at low tide ("in the dry"). A vibratory pile driver would be the primary method for driving  
25 piles; an impact hammer would be used primarily to proof vibratory driven piles, but also to  
26 drive piles which cannot be driven to the required depth using a vibratory pile driver because  
27 of geotechnical conditions.
- 28 ➤ **Soft-Start.** During impact pile driving, a soft-start approach would be used to induce marine  
29 mammals to leave the immediate area. This soft-start approach requires contractors to  
30 initiate noise from hammers at reduced energy, followed by a waiting period. Due to  
31 mechanical limitations, soft starts for vibratory driving will be conducted only with drivers  
32 equipped with variable moment features. Typically, this feature is not available on larger,  
33 high-power drivers. The Navy will use the driver model most appropriate for the geologic  
34 conditions at the project location, and will perform soft starts if the hammer is equipped to  
35 conduct them safely.
- 36 ➤ **Timing Restrictions.** Construction activities would not be conducted between the hours of  
37 10:00 p.m. and 7:00 a.m. Between July 15 and September 23, impact pile driving would  
38 occur only between 2 hours after sunrise and 2 hours before sunset to protect foraging  
39 marbled murrelets during the breeding season. Between September 24 and January 15, in-  
40 water construction activities would occur during daylight hours (sunrise to sunset). The  
41 Navy would notify the public about upcoming construction activities and noise at the  
42 beginning of each construction season.

1 **5.3 PROPOSED COMPENSATORY MITIGATION**

2 **5.3.1 In-Lieu Fee Program**

3 The Navy will, as part of the proposed action, undertake compensatory habitat mitigation in  
4 accordance with the Mitigation Action Plan. The Navy will purchase habitat credits from the  
5 Hood Canal In-Lieu Fee Program, which would implement appropriate mitigation actions in the  
6 Hood Canal watershed.

7 **5.3.2 Treaty Mitigation**

8 For Treaty impacts to the Skokomish Indian Tribe, the Navy would fund a portion of the Tribe's  
9 non-federal share of the Skokomish River Restoration project. The Skokomish River  
10 Restoration project is being managed by the U.S. Army Corps of Engineers.

11 For Treaty impacts to the Port Gamble S'Klallam, Jamestown S'Klallam and Lower Elwha  
12 Klallam Tribes, the Navy will fund one or more of the following projects:

- 13 ➤ Beach enhancement and shellfish seeding and at locations off Navy property. In this project,  
14 the Navy would enter into a cooperative agreement with the Port Gamble S'Klallam Tribe, or  
15 another entity, who would enhance beach substrate by the placement of appropriately sized  
16 gravel, sands, and shellfish seed. The placement would be likely done by barge.
- 17 ➤ Development and implementation of a floating upweller system (FLUPSY) management  
18 plan. In this project, the Navy would enter into a cooperative agreement with the Port  
19 Gamble S'Klallam Tribe or another entity, who would hire an experienced and qualified  
20 consultant to develop operational procedures for the FLUPSY and provide start-up and  
21 operational advice. The project will also fund incidental equipment purchases and shellfish  
22 seed.
- 23 ➤ Kilisut Harbor Restoration Project. This project will construct a bridge, replacing the  
24 causeway on State Route 116. The Navy would partner with the project sponsor, the North  
25 Olympic Salmon Coalition, to fund a portion of the project.

26 **6.0 CONSISTENCY WITH ENFORCEABLE POLICIES**

27 **6.1 SHORELINE MANAGEMENT ACT – CHAPTER 90.58 REVISED CODE OF WASHINGTON**  
28 **(RCW)**

29 The project site is located within Kitsap County. Kitsap County has adopted the County of Kitsap  
30 Shoreline Master Program (SMP), consistent with the Washington State Shoreline Management  
31 Act and approved by WDOE. The Kitsap County SMP does not apply to lands owned by federal  
32 government, and Kitsap County considers NAVBASE Kitsap Bangor as non-designated (Kitsap  
33 County Code Title 22). Therefore, the policies of the Kitsap County SMP are not addressed in  
34 this coastal consistency determination.

1    **6.2    WASHINGTON STATE**

2    The Navy reviewed use preferences for shorelines of statewide significance within the  
3    Washington State’s Revised Code of Washington (RCW) 90.58.020; consistency is discussed  
4    below.

5    *(1) Recognize and protect the statewide interest over local interest;*

6        The TRIDENT submarine program remains a vital part of the nation’s sea-based strategic  
7        deterrence mission. The LWI project is needed to enhance security within the WRA and  
8        comply with security requirements.

9    *(2) Preserve the natural character of the shoreline;*

10       The impacts from the project will occur on NAVBASE Kitsap Bangor, which is by definition  
11       outside of the coastal zone. Nevertheless, the proposed action has been designed to minimize  
12       impacts to the base shoreline. The natural character of the shoreline, off of Bangor, will be  
13       preserved.

14    *(3) Result in long-term over short-term benefit;*

15       The compensatory mitigation action will mitigate for impacts from the proposed action and  
16       will result in long-term benefits to Hood Canal.

17    *(4) Protect the resources and ecology of the shoreline;*

18       The proposed action has been designed to minimize impacts to the shoreline. The Navy’s  
19       compensatory mitigation action will result in long-term protection of resources and ecology.

20    *(5) Increase public access to publicly owned areas of the shorelines;*

21       The proposed action would occur within the existing Hood Canal Naval Restricted area. Due  
22       to security restrictions, no public access currently occurs at the LWI project sites and none  
23       would occur after construction.

24    *(6) Increase recreational opportunities for the public in the shoreline;*

25       Due to security restrictions, no public recreational opportunities are currently available at the  
26       LWI project sites and none would occur after construction.

27    *(7) Provide for any other element as defined in RCW 90.58.100 deemed appropriate or*  
28       *necessary.*

29       RCW 90.58.100 provides guidelines for the development of local SMPs and does not apply  
30       to specific shoreline actions.

31    **6.3    OTHER POLICIES**

32    **6.3.1    State Environmental Policy Act – Chapter 43.21C RCW**

33    The proposed action is a federal action subject to the National Environmental Policy Act and  
34    therefore, the State Environmental Policy Act is not applicable.

1 **6.3.2 Ocean Resource Management Act – Chapter 43.143 RCW**

2 The proposed action is located on Hood Canal, an estuarine tributary of Puget Sound, in Kitsap  
3 County, Washington. The enforceable policies of Chapter 43.143 RCW apply only to coastal  
4 waters of the Pacific Ocean, and do not apply to the proposed action.

5 **6.3.3 Clean Water Act – Chapter 90.48 RCW**

6 The Washington Clean Water Act, as amended, regulates discharges to the waters of the United  
7 States, including wetlands within Washington State. The design and implementation of the  
8 proposed action, including handling, storage, and disposal of hazardous materials and petroleum  
9 products, would adhere to applicable permit conditions and the water quality guidelines, policies,  
10 standards, and regulations of water quality management programs and regulatory agencies. The  
11 project would result in temporary construction actions including excavation below MHHW.  
12 These impacts would be mitigated through the proposed compensatory mitigation. The Navy has  
13 applied to the U.S. Army Corps of Engineers for a permit under Section 404 of the Clean Water  
14 Act, as well as Section 10 of the Rivers and Harbors Act, and to WDOE for a Section 401 Water  
15 Quality Certification. The Navy will comply with all permit requirements.

16 **6.3.4 Clean Air Act – Chapter 70.94 RCW**

17 The Washington Clean Air Act, as amended, provides for protection and enhancement of the  
18 state's air resources. The proposed action would not result in any permanent new sources of air  
19 pollutant emissions so a permit for a new source would not be required. Since the project is  
20 within an attainment area for all National Ambient Air Quality Standards, a conformity  
21 determination outlined in Section 176 (c) of the 1990 Federal Clean Air Act would not be  
22 required.

23 **6.3.5 Washington State Energy Facility Site Evaluation Council – Chapter 80.50 RCW**

24 The proposed action does not include the addition of any new energy facilities. The enforceable  
25 policies within Chapter 80.50 RCW do not apply.

26 **7.0 CONCLUSION**

27 Based on this information, data, and analysis, the proposed action is determined to be consistent  
28 to the maximum extent practicable with the enforceable policies of the Washington State Coastal  
29 Zone Management Program.

30 **8.0 REFERENCES**

31 USEPA. 2009. Technical guidance on implementing the stormwater runoff requirements for  
32 Federal Projects under section 438 of the Energy Independence and Security Act. EPA 841-  
33 B-09-001. U.S. Environmental Protection Agency, Office of Water, Washington, DC.  
34 December 2009. [http://www.epa.gov/owow/NPS/lid/section438/pdf/final\\_sec438\\_eisa.pdf](http://www.epa.gov/owow/NPS/lid/section438/pdf/final_sec438_eisa.pdf).

- 1 WDOE (Washington Department of Ecology). 2001. Managing Washington's Coast:
- 2 Washington State's Coastal Zone Management Program. Publication 00-06-029.
- 3 Washington Department of Ecology, Olympia, WA.

4

## **FIGURES**

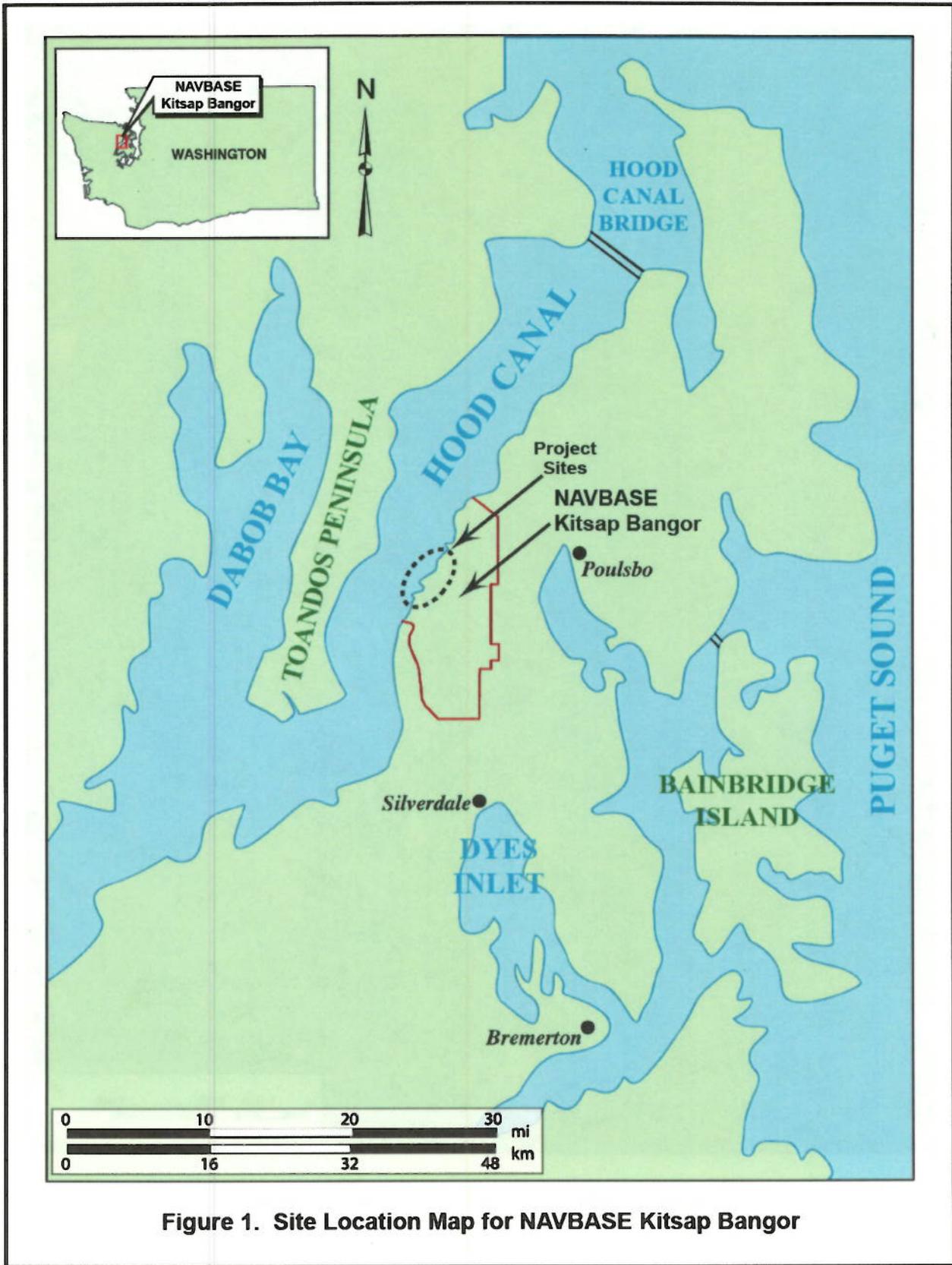
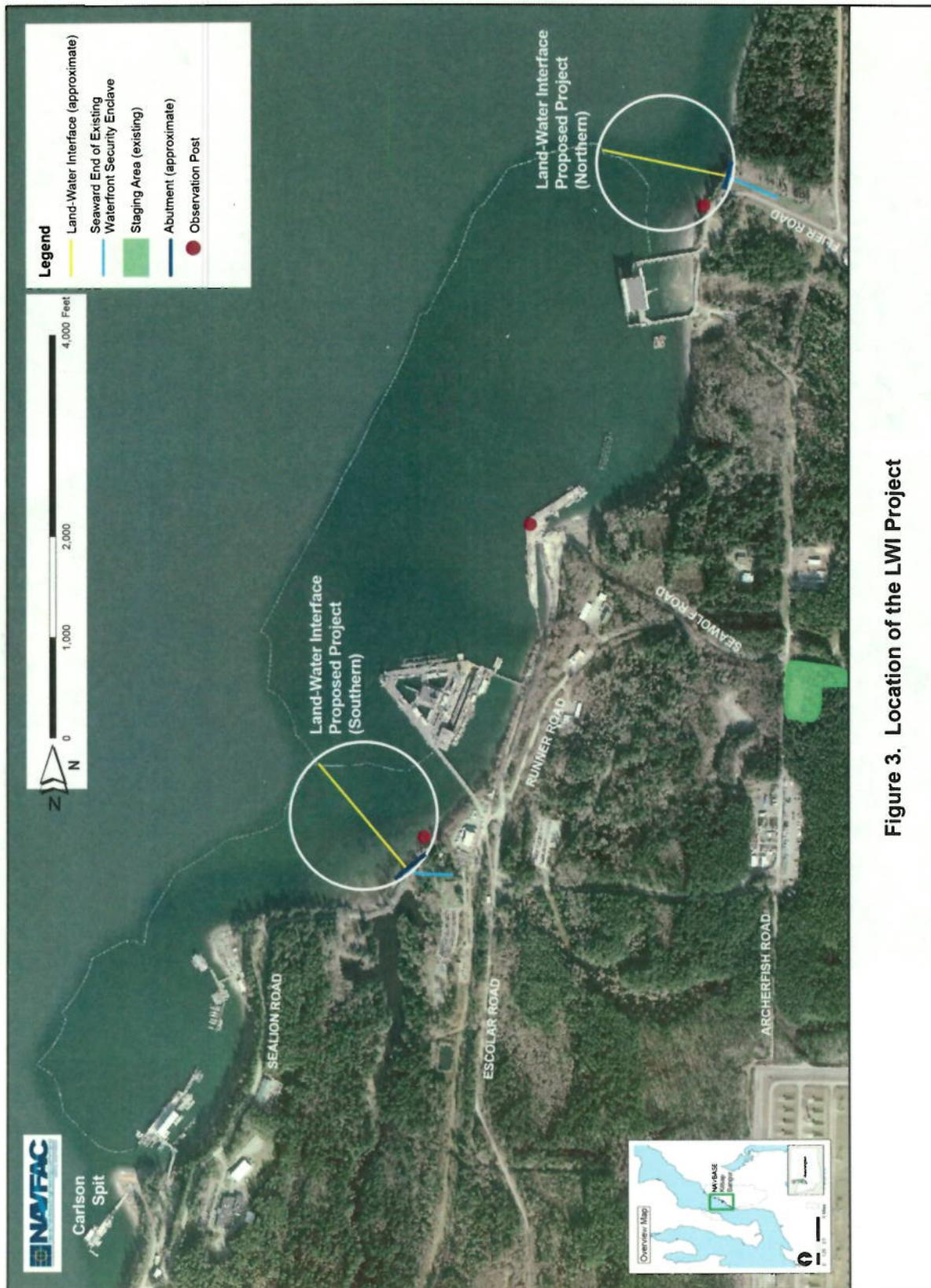


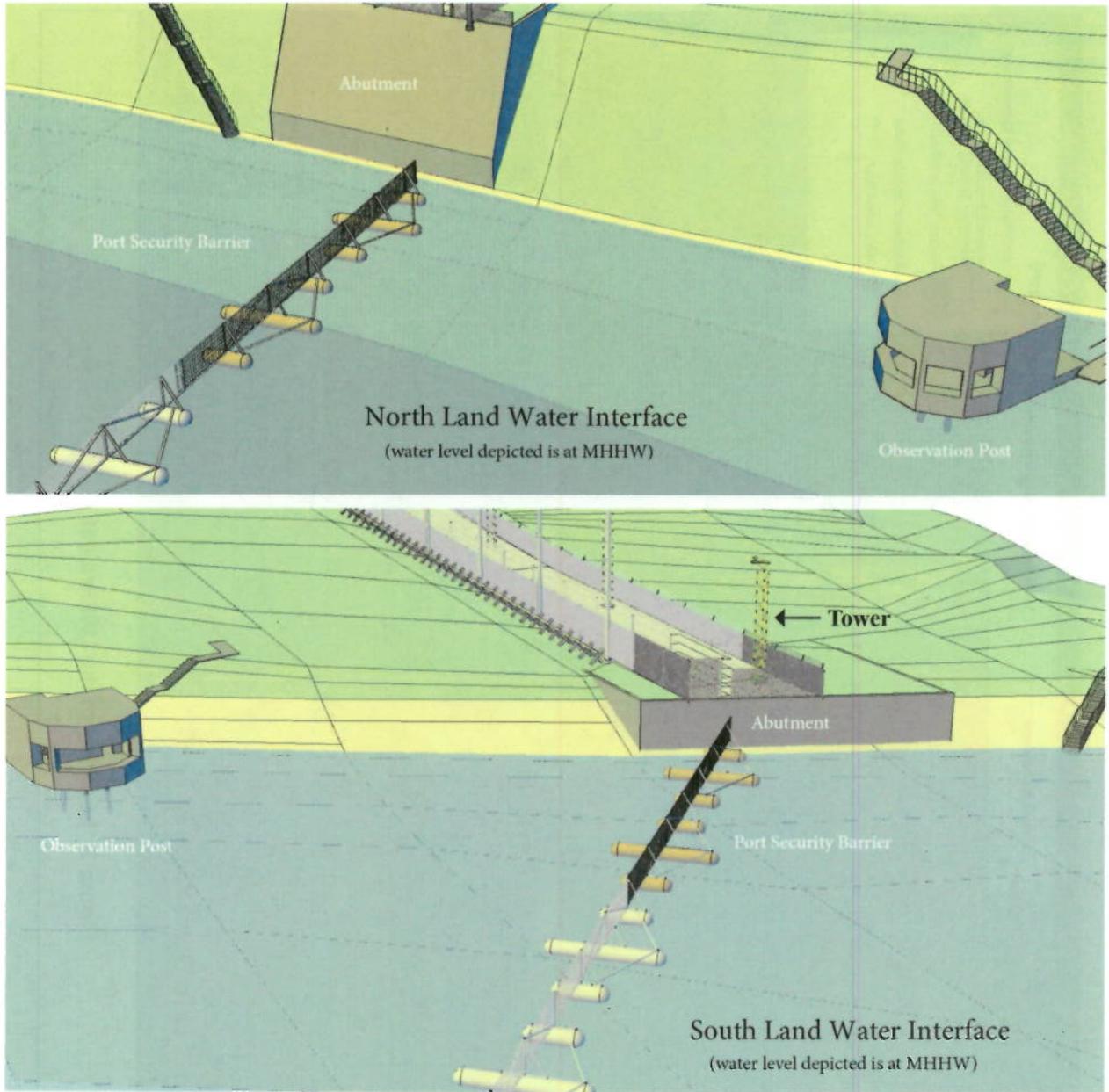
Figure 1. Site Location Map for NAVBASE Kitsap Bangor



**Figure 2. NAVBASE Kitsap Bangor Restricted Areas**



**Figure 3. Location of the LWI Project**



**Figure 4. Depiction of LWI Features**

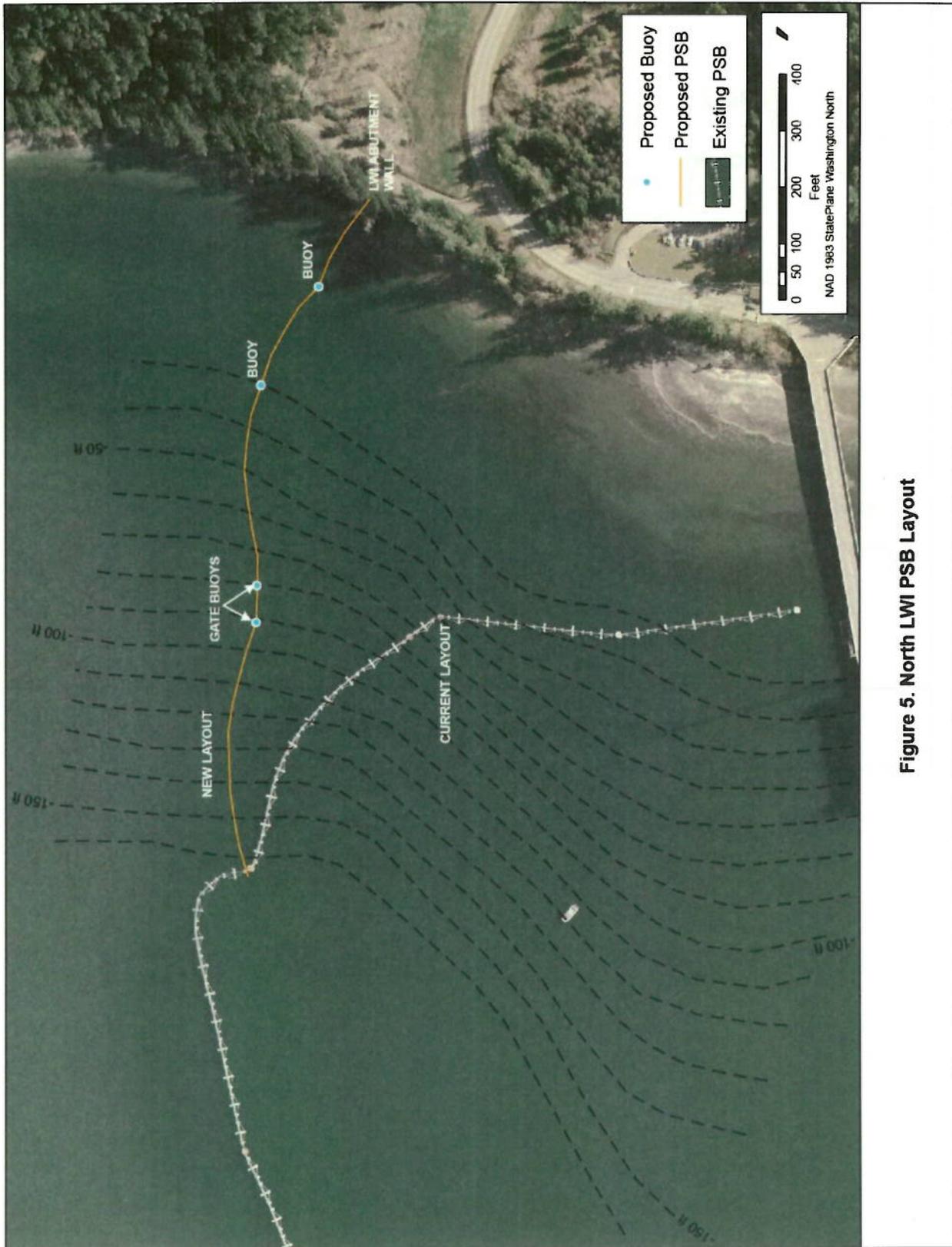


Figure 5. North LWI PSB Layout

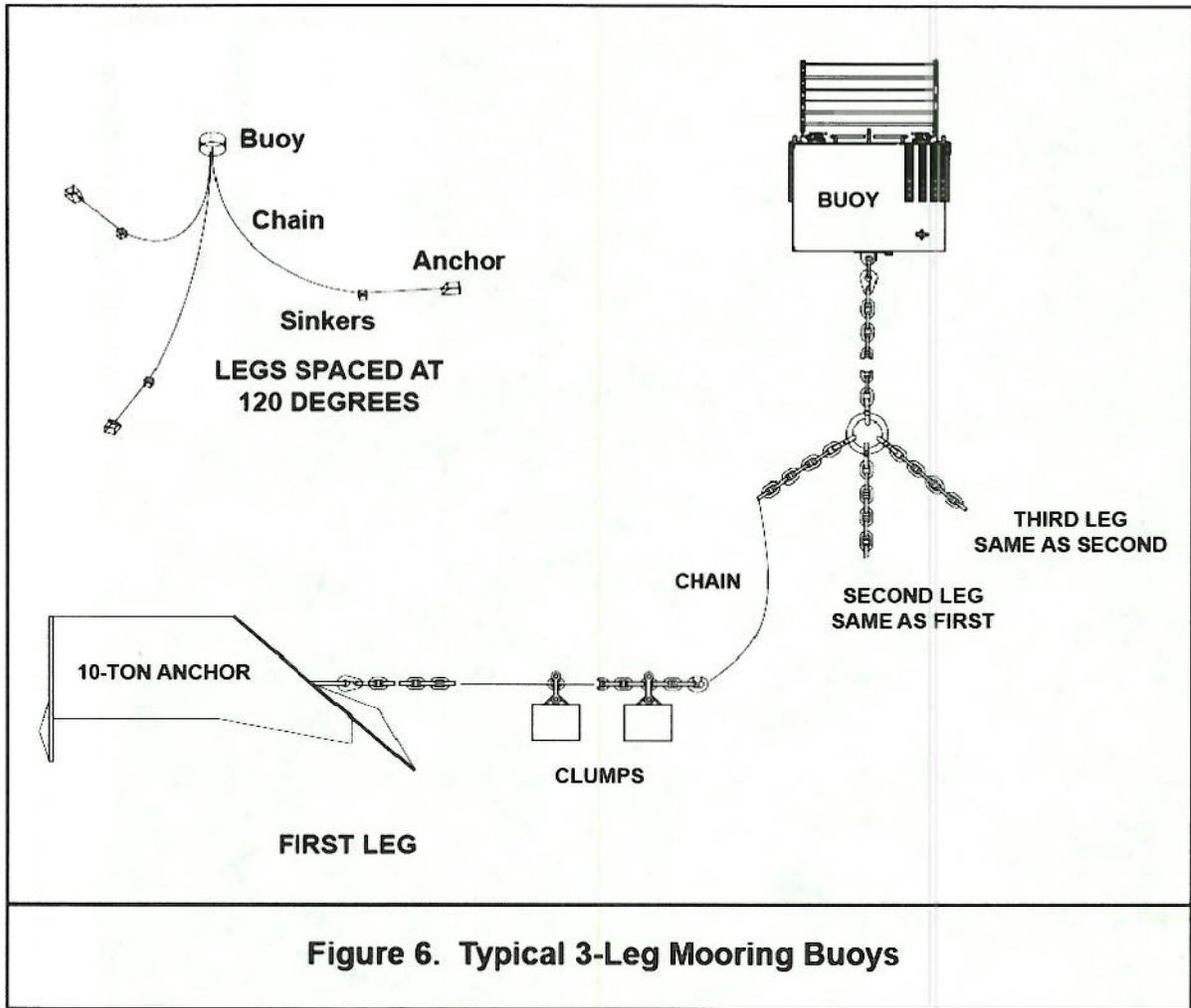
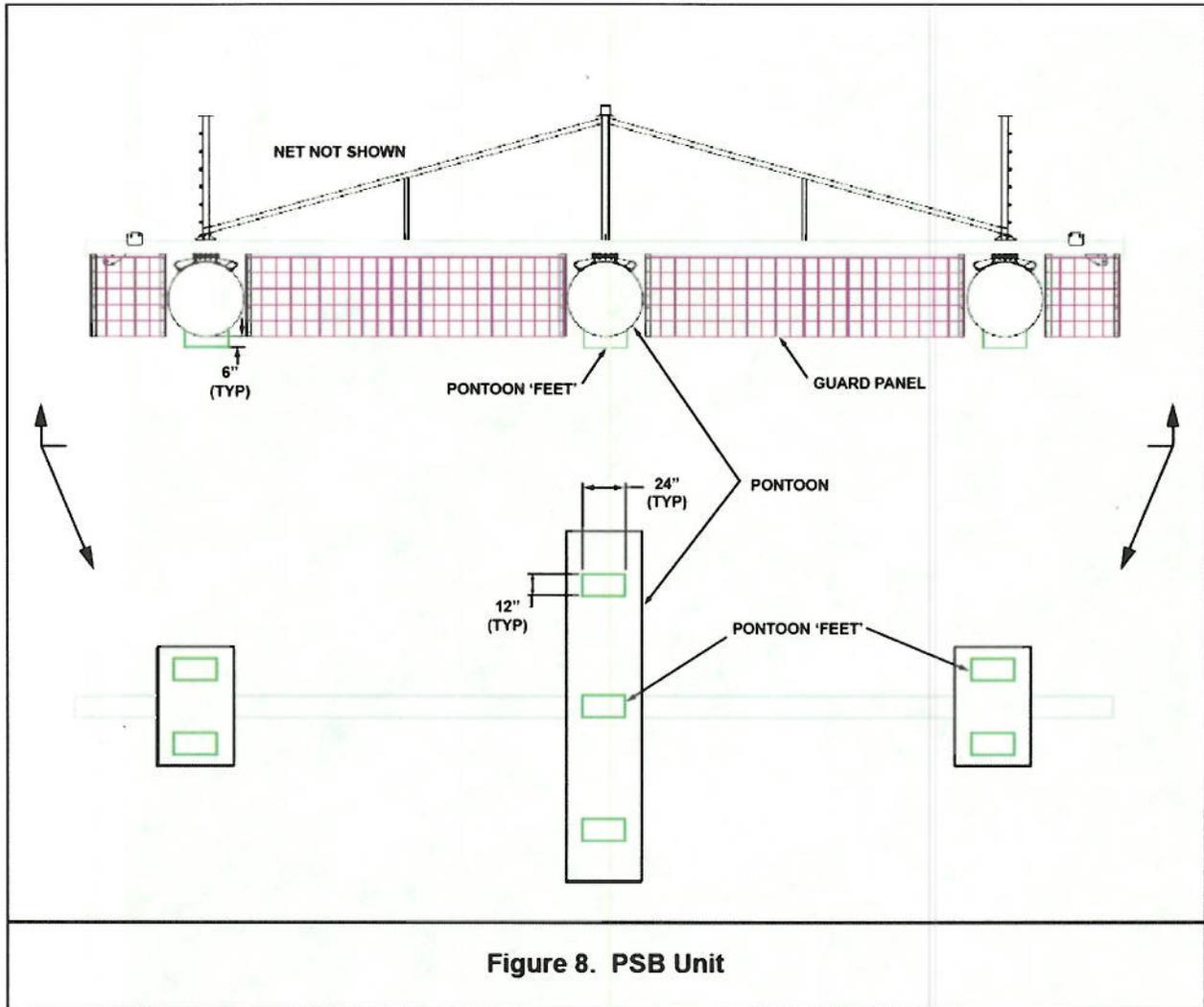


Figure 6. Typical 3-Leg Mooring Buoys



Figure 7. South LWI PSB Layout





# WASHINGTON STATE

## Joint Aquatic Resources Permit Application (JARPA) Form<sup>1,2</sup> [\[help\]](#)

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



US Army Corps  
of Engineers  
Seattle District

AGENCY USE ONLY

Date received:

Agency reference #:

Tax Parcel #(s):

RECEIVED

JUN 15 2016

DEPT OF ECOLOGY

### Part 1–Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [\[help\]](#)

Land-Water Interface (LWI) Project

### Part 2–Applicant

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

2a. Name (Last, First, Middle)

Zwolfer, T.A., Captain U.S. Navy

2b. Organization (If applicable)

Naval Base Kitsap (NBK)

2c. Mailing Address (Street or PO Box)

120 South Dewey Street, Building 443

2d. City, State, Zip

Bremerton, Washington 98314-5020

2e. Phone (1)

2f. Phone (2)

2g. Fax

2h. E-mail

(360) 627-4000

( )

( )

thomas.zwolfer@navy.mil

<sup>1</sup>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/Missions/CivilWorks/Regulatory/PermitGuidebook/EndangeredSpecies.aspx>.
- Not all cities and counties accept the JARPA for their local Shoreline permits. If you need a Shoreline permit, contact the appropriate city or county government to make sure they accept the JARPA.

<sup>2</sup>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](http://www.epermitting.wa.gov/site/alias_resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx).

For other help, contact the Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or [help@oria.wa.gov](mailto:help@oria.wa.gov).

### 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.) [\[help\]](#)

<b>3a. Name</b> (Last, First, Middle)			
Senner, Robert G.			
<b>3b. Organization</b> (If applicable)			
Naval Facilities Engineering Command Northwest			
<b>3c. Mailing Address</b> (Street or PO Box)			
1101 Tautog Circle			
<b>3d. City, State, Zip</b>			
Silverdale, Washington 98315-1101			
<b>3e. Phone (1)</b>	<b>3f. Phone (2)</b>	<b>3g. Fax</b>	<b>3h. E-mail</b>
(360) 396-0029	( )	( )	robin.senner@navy.mil

### Part 4—Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. Consider both **upland and aquatic** ownership because the upland owners may not own the adjacent aquatic land. [\[help\]](#)

- Same as applicant. (Skip to Part 5.)
- Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)
- There are multiple upland property owners. Complete the section below and fill out [JARPA Attachment A](#) for each additional property owner.
- Your project is on Department of Natural Resources (DNR)-managed aquatic lands. If you don't know, contact the DNR at (360) 902-1100 to determine aquatic land ownership. If yes, complete [JARPA Attachment E](#) to apply for the Aquatic Use Authorization.

<b>4a. Name</b> (Last, First, Middle)			
<b>4b. Organization</b> (If applicable)			
<b>4c. Mailing Address</b> (Street or PO Box)			
<b>4d. City, State, Zip</b>			
<b>4e. Phone (1)</b>	<b>4f. Phone (2)</b>	<b>4g. Fax</b>	<b>4h. E-mail</b>
( )	( )	( )	

## 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.

<b>5a.</b> Indicate the type of ownership of the property. (Check all that apply.) <a href="#">[help]</a>			
<input type="checkbox"/> Private <input checked="" type="checkbox"/> Federal <input type="checkbox"/> Publicly owned (state, county, city, special districts like schools, ports, etc.) <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Department of Natural Resources (DNR) – managed aquatic lands (Complete <a href="#">JARPA Attachment E</a> )			
<b>5b.</b> Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) <a href="#">[help]</a>			
Not applicable. See Figures 1 and 2 for project locations.			
<b>5c.</b> City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) <a href="#">[help]</a>			
Silverdale, Washington 98315			
<b>5d.</b> County <a href="#">[help]</a>			
Kitsap			
<b>5e.</b> Provide the section, township, and range for the project location. <a href="#">[help]</a>			
¼ Section	Section	Township	Range
North LWI: Northwest South LWI: Northwest	North LWI: 07 South LWI: 18	North LWI: 26 North South LWI: 26 North	North LWI: 01 East South LWI: 01 East
<b>5f.</b> Provide the latitude and longitude of the project location. <a href="#">[help]</a>			
<ul style="list-style-type: none"> <li>Example: 47.03922 N lat. / -122.89142 W long. (Use decimal degrees - NAD 83)</li> </ul>			
North LWI: 47.75746 N lat. / -122.72059 W long.			
South LWI: 47.73824 N lat. / -122.73263 W long.			
<b>5g.</b> List the tax parcel number(s) for the project location. <a href="#">[help]</a>			
<ul style="list-style-type: none"> <li>The local county assessor's office can provide this information.</li> </ul>			
Not applicable; all uplands within a mile of the site are owned by the federal government.			
<b>5h.</b> Contact information for all adjoining property owners. (If you need more space, use <a href="#">JARPA Attachment C.</a> ) <a href="#">[help]</a>			
Name	Mailing Address	Tax Parcel # (if known)	
Washington State Department of Natural Resources	1111 Washington Street SE Olympia, Washington 98504-7000	State-owned aquatic lands	

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

There are no wetlands within the limits of construction of the LWI Project sites.

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

Hood Canal

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

Yes     No     Don't know

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

NBK Bangor encompasses approximately 7,600 acres of uplands along the eastern shore of Kitsap County (Sheet 2). The base includes pier and dock structures used to support TRIDENT and SEAWOLF class submarine operations. A small bluff, ranging from a few feet to 40 feet high, runs along the entirety of the base and separates the beach from the uplands. The uplands remain largely undeveloped (68% forested). Within the Project vicinity, the majority of shoreline remains unmodified. The intertidal substrate ranges from sand and gravel to cobble and rock, with silty or muddy substrate located in deeper zones. Macroalgae and eelgrass (*Zostera*) are present along much of the shoreline to depths of approximately -20 feet mean lower low water (MLLW), with eelgrass concentrations generally between -2 feet and -14 feet MLLW. Green algae grow mainly in the lower intertidal and subtidal zones, and include common species such as sea lettuce (*Ulva* spp.). Red algae, such as *Gracilaria* sp., are located in the cobble and gravel upper intertidal, zone but also occur subtidally. Brown algae, which include understory kelps (*Saccharina* spp.) and the non-native Sargasso weed, or wireweed (*Sargassum muticum*), are found in nearshore environments of the Bangor shoreline from lower intertidal to subtidal zones.

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

The Project area is located within Naval Restricted Area 1, which covers the area north and south along Hood Canal encompassing the Bangor waterfront (Sheet 2). The regulations associated with Naval Restricted Area 1 state that no person or vessel shall enter this area without permission from the Commander, NBK Bangor, or his/her authorized representative.

The in-water portions of the LWI Project sites are currently used for naval waterfront operations. The LWI uplands areas are the site of an existing security barrier, the Waterfront Security Enclave, to which the LWI would connect.

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

The areas immediately adjacent to the Project area within NBK Bangor are used for U.S. Navy operations.

NBK Bangor is surrounded by private residential communities along its north, south, and east borders. The closest off-base community, Vinland, is approximately 1.3 miles northeast of the north LWI site. Olympic View is approximately 3 miles south of the south LWI Project site. The closest community east of the base is approximately 2.4 miles from the Project sites, while the closest community west of the base (across Hood Canal) is over 1.5 miles away. Hood Canal is used for recreational, commercial, and military vessel operations; commercial, traditional and recreational fishing and shellfishing; and scuba diving.

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

The NBK Bangor waterfront includes eight pier and wharf structures where various industrial activities are conducted in support of base missions. Adjacent upland areas include numerous industrial, administrative, and security facilities.

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

NBK Bangor is a secured facility, and visitors must have proper clearance to access the site. See Figures 1 and 2 for a map of the Project site and vicinity.

To the LWI project site from State Route (SR) 3, take the WA-308 West exit toward Bangor (0.4 mi). Continue west on NW Luoto Road and turn right immediately before the NBK Main Gate, and park in the Pass and ID lot.

## Part 6–Project Description

**6a.** Briefly summarize the overall project. You can provide more detail in 6b. [\[help\]](#)

The LWI project would completely enclose the WRA by constructing and operating barrier structures connecting the existing on-water Port Security Barrier (PSB) system to the landside fence system.

The Project would entail work in two locations (north LWI and south LWI). The north and south LWI locations would include similar Project elements, including extension of the landside fence system, construction of an abutment and access stairs, construction of an observation post, and relocation and extension of the PSB. The new PSB sections would attach to the abutments, as would the landside fence system, thus completing enclosure of the WRA. The existing observation post on Marginal Wharf will be replaced.

See the Project Description (Attachment 1) for additional Project details.

**6b.** Describe the purpose of the project and why you want or need to perform it. [\[help\]](#)

The purpose of the LWI project is to comply with Department of Defense directives to protect OHIO Class ballistic missile submarines, hereafter referred to as Navy TRIDENT submarines, from increased and evolving threats and to prevent the seizure, damage, or destruction of military assets. The project is needed to enhance security within the WRA and comply with security requirements.

The Land-Water Interface (LWI) would completely enclose the Waterfront Restricted Area (WRA) by constructing and operating barrier structures connecting the existing on-water Port Security Barrier (PSB) system to the existing on-land Waterfront Security Enclave (WSE; Sheet 2).

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

- Commercial     Residential     Institutional     Transportation     Recreational  
 Maintenance     Environmental Enhancement

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

- |                                      |                                  |                                |   |
|--------------------------------------|----------------------------------|--------------------------------|---|
| <input type="checkbox"/> Aquaculture | <input type="checkbox"/> Culvert | <input type="checkbox"/> Float | <input type="checkbox"/> Retaining Wall |
|--------------------------------------|----------------------------------|--------------------------------|---|

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

Other: Port Security Barrier

**6e.** Describe how you plan to construct each project element checked in 6d. 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 floodplain.

Construction is proposed both in the upland and intertidal zones. Construction activities include clearing and grading, excavation, backfilling, installation of auger cast piles for the abutment wall and steel piles to support the observation posts.

See the Project Description (Attachment 1) for more information on construction activities.

**6f.** What are the anticipated 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: Summer 2016      End date: Summer 2018       See JARPA Attachment D

**6g.** Fair market value of the project, including materials, labor, machine rentals, etc. [\[help\]](#)

Approximately \$32,000,000

**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 <sup>1</sup>	Wetland type and rating category <sup>2</sup>	Impact area (sq. ft. or Acres)	Duration of impact <sup>3</sup>	Proposed mitigation type <sup>4</sup>	Wetland mitigation area (sq. ft. or acres)

<sup>1</sup> 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.

<sup>2</sup> Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.

<sup>3</sup> Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.

<sup>4</sup>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

Specific design considerations to reduce potential impact include:

- The number of piles and anchors was minimized while still meeting structural, safety, and security requirements.
- The PSB pontoons would be fitted with “feet” to minimize disturbance of the seafloor when the pontoons bottom out at low tide.

In addition, the project would implement Best Management Practices (BMPs) to avoid or minimize potential impacts during construction. The Project BMPs are detailed in Attachment 1.

**8b.** Will your project impact a waterbody or the area around a waterbody? [\[help\]](#)

Yes  No

**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

The U.S. Navy plans to use the Hood Canal Coordinating Council (HCCC) In-Lieu Fee (ILF) Program to provide compensatory mitigation for unavoidable impacts to aquatic resources. The HCCC ILF Program instrument was approved in 2012 by the U. S. Army Corps of Engineers (USACE) and includes a service area throughout Hood Canal, including NBK Bangor.

**8d.** Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

- If you already completed 7g you do not need to restate your answer here. [\[help\]](#)

The U.S. Navy would coordinate with the ILF program sponsor (HCCC) to complete a site impact assessment to determine the amount of credits that would need to be purchased. The results of this analysis would be documented in an ILF Use Plan. The ILF Use Plan would then be provided to applicable regulatory agencies for review.

Upon agreement of the proposed impacts and credits, the ILF Use Plan would be finalized and the U.S. Navy would purchase credits from the HCCC ILF Program. A statement of sale would be provided to the applicable regulatory agencies, including USACE. The HCCC would then be tasked with locating, constructing and managing the mitigation site(s).

**8e.** Summarize impact(s) to each waterbody in the table below. [\[help\]](#)

Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name <sup>1</sup>	Impact location <sup>2</sup>	Duration of impact <sup>3</sup>	Amount of material (cubic yards) to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
Shoreline Abutment and Stairs Excavation	Hood Canal	Intertidal	Permanent	2,889	15,600
Shoreline Abutment and Stairs Fill	Hood Canal	Intertidal	Permanent	2,889	15,600
Observation Posts Pile Fill	Hood Canal	Intertidal	Permanent	22	118

<sup>1</sup> If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided.

<sup>2</sup> Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain.

<sup>3</sup> Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable.

**8f.** For all activities identified in 8e, describe the source and nature of the fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody. [\[help\]](#)

The shoreline abutment and stairs for both LWI locations would require a total of 2,889 cubic yards of fill. Fill would be placed within the intertidal zone and would consist of both excavated material from the bluff as well as clean materials sourced off-site from an approved facility.

**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. [\[help\]](#)

Excavation waterward of MHHW will occur in order to construct the abutment and stairs. Up to 2,889 cubic yards of material will be removed. Excavated material will be temporarily stored upland for potential reuse as backfill. Once construction is complete any excess material will be removed from the project site.

## 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
USACE	Brian Hooper	( 206 ) 316-3975	December 1, 2015
		( )	
		( )	

**9b.** Are any of the wetlands or waterbodies identified in Part 7 or Part 8 of this JARPA 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

North Hood Canal is on Ecology's 303(d) list for low dissolved oxygen (Ecology 2012).

**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.

Hood Canal - 17110018

**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 #.

15 - Kitsap

**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](http://www.ecy.wa.gov/programs/sea/sma/laws_rules/173-26/211_designations.html).

Rural    Urban    Natural    Aquatic    Conservancy    Other Federal Lands

**9g.** What is the Washington Department of Natural Resources Water Type? [\[help\]](#)

- Go to <http://www.dnr.wa.gov/forest-practices-water-typing> for the Forest Practices Water Typing System.

Shoreline    Fish    Non-Fish Perennial    Non-Fish Seasonal

**9h.** Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [\[help\]](#)

- If No, provide the name of the manual your project is designed to meet.

Yes    No

Name of manual: 2014 Stormwater Management Manual for Western Washington

**9i.** Does the project site have known contaminated sediment? [\[help\]](#)

- If Yes, please describe below.

Yes    No

**9j.** If you know what the property was used for in the past, describe below. [\[help\]](#)

The site has been a military installation since 1941 when the government began purchasing land from area residents. The construction of the base was completed by 1944. The purpose of the base was for ammunition loading of Navy ships supporting the Pacific theater in World War II (WWII). Ammunition handling was Bangor's chief mission through WWII, the Korean Conflict, and the Vietnam era. In the 1970's the installation was modernized for use as a TRIDENT submarine base.

**9k.** Has a cultural resource (archaeological) survey been performed on the project area? [\[help\]](#)

- If Yes, attach it to your JARPA package.

Yes    No

The U.S. Navy has completed Section 106 consultation with the Washington Department of Archaeology and Historic Preservation.

**9l.** 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. [\[help\]](#)

**Species and Critical Habitat with Federal Endangered Species Act Status That May Occur in the Action Area**

Common Name (Scientific Name)	Jurisdiction	ESA Status	Critical Habitat
Chinook salmon ( <i>Oncorhynchus tshawytscha</i> ) Puget Sound ESU	NMFS	Threatened	Designated
Chum salmon ( <i>Oncorhynchus keta</i> ) Hood Canal Summer ESU	NMFS	Threatened	Designated
Steelhead ( <i>Oncorhynchus mykiss</i> ) Puget Sound DPS	NMFS	Threatened	Designated
Bocaccio ( <i>Sebastes paucispinis</i> ) Puget Sound/Georgia Basin DPS	NMFS	Endangered	Designated
Canary rockfish ( <i>Sebastes pinniger</i> ) Puget Sound/Georgia Basin DPS	NMFS	Threatened	Designated
Yelloweye rockfish ( <i>Sebastes ruberrimus</i> ) Puget Sound/Georgia Basin DPS	NMFS	Threatened	Designated
Southern resident killer whale ( <i>Orcinus orca</i> )	NMFS	Endangered	Designated
Humpback Whale ( <i>Megaptera novaeangliae</i> )	NMFS	Endangered	Not Designated
Bull trout ( <i>Salvelinus confluentus</i> ) Coastal-Puget Sound DPS	USFWS	Threatened	Designated
Marbled murrelet ( <i>Brachyramphus marmoratus</i> )	USFWS	Threatened	Designated

Notes:

DPS = Distinct Population Segment

ESU = Evolutionarily Significant Unit

NMFS = National Marine Fisheries Service

USFWS = U.S. Fish and Wildlife Service

Source: NMFS 2016, USFWS 2016

**9m.** 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. [\[help\]](#)

Not applicable – Federal exemption

## 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.oria.wa.gov/opas/>.
- Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or [help@oria.wa.gov](mailto:help@oria.wa.gov).
- For a list of addresses to send your JARPA to, click on [agency addresses for completed JARPA](#).

**10a.** Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [\[help\]](#)

• For more information about SEPA, go to [www.ecy.wa.gov/programs/sea/sepa/e-review.html](http://www.ecy.wa.gov/programs/sea/sepa/e-review.html).

A copy of the SEPA determination or letter of exemption is included with this application.

A SEPA determination is pending with \_\_\_\_\_ (lead agency). The expected decision date is \_\_\_\_\_.

I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [\[help\]](#)

This project is exempt (choose type of exemption below).

Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt?  
\_\_\_\_\_

Other: \_\_\_\_\_

SEPA is pre-empted by federal law.

**10b.** Indicate the permits you are applying for. (Check all that apply.) [\[help\]](#)

**LOCAL GOVERNMENT**

**Local Government Shoreline permits:**

Substantial Development       Conditional Use       Variance

Shoreline Exemption Type (explain): \_\_\_\_\_

**Other City/County permits:**

Floodplain Development Permit       Critical Areas Ordinance

**STATE GOVERNMENT**

**Washington Department of Fish and Wildlife:**

Hydraulic Project Approval (HPA)       Fish Habitat Enhancement Exemption – [Attach Exemption Form](#)

You must submit a check for \$150 to Washington Department of Fish and Wildlife, unless your project qualifies for an exemption or alternative payment method below. **Do not send cash.**

Check the appropriate boxes:

\$150 check enclosed. Check # \_\_\_\_\_  
Attach check made payable to Washington Department of Fish and Wildlife.

My project is exempt from the application fee. (Check appropriate exemption) \_\_\_\_\_

HPA processing is conducted by applicant-funded WDFW staff.  
Agreement # \_\_\_\_\_

Mineral prospecting and mining.

Project occurs on farm and agricultural land.

(Attach a copy of current land use classification recorded with the county auditor, or other proof of current land use.)

Project is a modification of an existing HPA originally applied for, prior to July 10, 2012.  
HPA # \_\_\_\_\_

**Washington Department of Natural Resources:**

Aquatic Use Authorization

Complete [JARPA Attachment E](#) and submit a check for \$25 payable to the Washington Department of Natural Resources.

**Do not send cash.**

**Washington Department of Ecology:**

Section 401 Water Quality Certification

**FEDERAL GOVERNMENT**

**United States Department of the Army permits (U.S. Army Corps of Engineers):**

Section 404 (discharges into waters of the U.S.)

Section 10 (work in navigable waters)

**United States Coast Guard permits:**

Private Aids to Navigation (for non-bridge projects)

**References:**

Ecology (Washington Department of Ecology), 2012. EPA-Approved Marine Water Quality Assessment 305(b) report and 303(d) list. Approved by the U.S. Environmental Protection Agency on December 21, 2012. Available from:  
<http://www.ecy.wa.gov/programs/Wq/303d/currentassessmt.html>.

NMFS (National Marine Fisheries Service), 2016. Endangered and Threatened Marine Species. Accessed February 15, 2016. Available from: <http://www.nmfs.noaa.gov/pr/species/esa/>.

USFWS (U.S. Fish and Wildlife Service), 2016. IPac Trust Resource Report. Generated on February 15, 2016. Generated from: <http://ecos.fws.gov/ipac>.

## 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) [\[help\]](#)

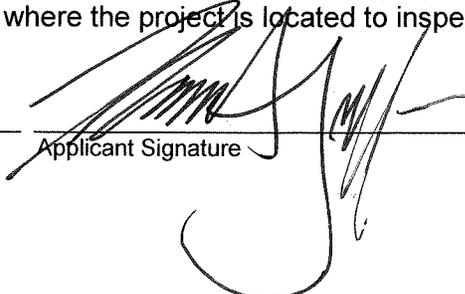
I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize the agent named in Part 3 of this application to act on my behalf in matters related to this application. MS (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. MS (initial)

T. A. Zwolfer, Captain, U.S. Navy

Applicant Printed Name



Applicant Signature

16 JUN 16

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.

Robert G. Senner

Authorized Agent Printed Name



Authorized Agent Signature

10 June 2016

Date

### 11c. Property Owner Signature (if not applicant) [\[help\]](#)

Not required if project is on existing rights-of-way or easements.

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 for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ENV-019-09 rev. 09/2015

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JUN 15 2016

**ATTACHMENT 1**

**P-983 LAND-WATER INTERFACE, NAVAL BASE KITSAP BANGOR**

DEPT OF ECOLOGY

**Project Elements**

The project would entail work in two locations (north LWI and south LWI; Sheets 3 and 4). The north and south LWI locations would include similar project elements, including relocation and extension of the Port Security Barrier (PSB) system, construction of an abutment, access stairs, observation posts, and extension of the existing landside fence system.

*Port Security Barrier Modifications*

The existing PSB system is made up of several PSB units connected together. Each PSB unit is 50 feet long and supports an 8-foot-high fence on a metal frame. Each PSB unit is supported on three pontoons. Each pontoon is 42 inches in diameter; the center pontoon is 18 feet long and each end pontoon is 6 feet long. A 42-inch-high metal grating guard panel is suspended below the fence, into the water to the bottom of the pontoons. The existing PSB system would be moved and extended to attach at each concrete abutment (Sheets 3 and 4). At the north LWI, approximately 1,200 feet of the existing PSB system would be moved and 100 feet added to extend the PSB system to the abutment. At the south LWI, approximately 1,200 feet of the existing PSB system would be moved and 200 feet of added to extend the PSB system to the abutment. Some nearshore sections of the PSB system would ground out during low tide cycles. Inert rubber feet, 12 inches by 24 inches, would be installed on the pontoons to reduce the surface area that would contact the beach during low tide.

Four existing buoys in the north and three buoys in the south would also be relocated. Each buoy is currently secured by a mooring system using three anchors spaced at approximately 120 degrees apart. One anchor is a 10-ton anchor, while the other two are each 2-ton anchors. Two of the four relocated buoys would be reduced from three anchors to two anchors (one 2-ton and one 10-ton). One anchor in the south would be reduced from three anchors to two anchors (one 2-ton and one 10-ton). Also, one new buoy would be installed in the south with two anchors (one 2-ton and one 10-ton).

*Abutments and Access Stairs*

North and south abutments would be constructed in order to secure the PSB to the uplands and provide a distinct connection between the intertidal and upland area for security purposes. The north abutment would be supported by fifteen 36-inch drill shaft piles, and would be approximately 40 feet high and 72 feet long. This abutment would extend from the beach area approximately +13 feet MLLW to the top of the slope (Sheet 9). The south abutment would be supported by sixteen 36-inch drilled shafts, and would be approximately 20 feet high by 72 feet long. This abutment would extend from approximately +11 feet MLLW to the top of the slope (Sheet 10).

The north and south abutments would each include a stairway to provide access from the top of the bluff to the LWI deck at the base of the bluff. The stairs would be cast-in-place concrete and

---

would include a second stairway to the base of the bluff. The south LWI abutment would replace a section of the existing creosote timber seawall (Sheet 11).

### *Observation Post*

Observation Posts (OP) would be constructed on the beach, adjacent to the abutment for both the north and south LWI (Sheets 12 and 13). Construction of the OP would involve the placement of a temporary pile-supported trestle to allow equipment to access the location without operating on the beach. Each temporary trestle would be supported by ten 24-inch steel piles. The OPs would be constructed of cast-in-place concrete and supported by twelve 30-inch steel piles each. Each OP would include a concrete stairway to access the bluff.

### *Landside Fence System*

The existing landside fence system consists of a double fence, a vehicle barrier, patrol road, lighting and security sensors. The fence system would be extended to reach the abutments. The north fence would be extended approximately 30 feet and the south would be extended approximately 15 feet.

**Table 3  
Piling Installation**

Structure	Type	Temporary	Permanent	Temporary Impact (square feet)	Permanent Impact (square feet)
North OP	30-inch steel	-	12	-	59
North OP Temporary Work Trestle	24-inch steel	10	-	33	-
South OP	30-inch steel	-	12	-	59
South OP Temporary Work Trestle	24-inch steel	10	-	33	-
<b>Total</b>	<b>Piles</b>	<b>20</b>	<b>24</b>	<b>-</b>	<b>-</b>
	<b>Square Feet</b>	<b>-</b>	<b>-</b>	<b>66</b>	<b>118</b>

### *Fill and Grading*

Both the north and south LWI sites would require fill and grading activities in order to construct the elements described above. Grading would entail contouring and excavation of the bluff area at each the north and south LWI locations in order to extend the upland fence system, construct the abutments and access stairs. See Tables 1 and 2 for a summary of upland and in-water excavation and fill quantities.

**Table 1  
Upland Excavation and Fill**

Project Element	Grading (square feet)	Excavation (cubic yards)	Fill (cubic yards)
<b>North LWI</b>			
Abutment and Stairs	29,000	3,910	4,100
Riprap Placement		404	404
<b>South LWI</b>			
Abutment and Stairs	18,000	1,931	2462
Riprap Placement		0	0
<b>Total</b>	<b>47,000</b>	<b>6,245</b>	<b>6,966</b>

**Table 2  
In-water Excavation and Fill**

Project Element	Grading (square feet)	Excavation (cubic yards)	Fill (cubic yards)	Overwater Cover (square feet)
<b>North LWI</b>				
Shoreline Abutment and Stairs	6,785	1,260	1,260	
Observation Post (concrete pile plugs)			11	1,000
<b>South LWI</b>				
Shoreline Abutment and Stairs	8,815	1,629	1,326	
Observation Post (concrete pile plugs)			11	1,000
<b>Total</b>	<b>15,600</b>	<b>2,889</b>	<b>2,911</b>	<b>2,000</b>

## Construction Methods and Sequencing

A temporary access ramp would be excavated down from the bluff at using heavy excavation equipment. The temporary access ramp would be used to access and excavate a work bench into the bluff. The work bench would allow excavators to reach the beach area for excavation and fill activities without the need to physically drive the excavation equipment on the beach. Along with the temporary access ramp, temporary sheetpile cofferdams would be constructed using a vibratory hammer in the dry during low tide cycles to create dry areas to install piles for the abutment and stairs. The lengths of the proposed coffer dams are 140 feet for the north abutment, 160 feet for the north stairs, 190 feet for the south abutment, and 160 feet long for the south stairs.

Once the initial grading is complete, two temporary trestles would be constructed to access the work area for the OP as well as the abutment. The trestles would be constructed by driving temporary H-piles into the sediment. A work platform would be placed over the top of the H-piles. With the temporary trestles in place, a vibratory or impact hammer would be used to install the steel piles at the OP location. Heavy construction equipment would be used to drill

the shafts for the foundation of the abutment. Once the piles are installed, both temporary trestles and H-piles would be removed. The OPs and stairs would then be constructed of cast-in-place concrete.

The abutment and stair work would also be conducted at low tide in the dry. Beach contours would be returned to pre-construction conditions following construction, except for the areas occupied by the new structures and riprap placed at base of abutment (Sheet 14). All bluff slopes disturbed by construction of the abutment would be stabilized using riprap. Native material at the base of the abutment would be excavated, and riprap would be placed in order to provide protection to the from wave action. The riprap would be placed to match the existing grade at the base of each abutment to elevations just below MLLW, ending just above +10 feet MLLW at the north LWI and just below +9 feet MLLW at the south LWI. The riprap would be covered with beach mix.

Once both north and south LWI structures are complete, the PSB system would be relocated and extended to connect to each abutment. Cranes from both barges and land would be used to position the floats and anchors into their new position. Additional PSB sections would be transported via barge and off-loaded into position by a barge-mounted crane.

All material generated by excavation activities for both the north LWI and south LWI would either be reused on site or disposed off the project site.

### *Schedule*

Upland construction would take approximately 540 days. Overall project construction would begin in September 2016 and end in March 2018. All in-water work would take place in one in-water work season, July 15 to January 15 of the year of in-water construction. Materials and equipment for the in-water work would be brought in by barge, while materials and equipment for abutment construction would be brought in by truck.

### **Best Management Practices**

The following best management practices would be employed during construction of the Project:

- All work will occur in the dry where practical.
  - The contractor will prepare and implement a Spill, Prevention, Control, and Countermeasures Plan to be used for the duration of the project to safeguard against an unintentional release of fuel, lubricants, or hydraulic fluid from construction equipment.
  - Containment boom will be deployed during in-water construction. If a spill occurs, the NRNW oil and hazardous spill contingency plan will be implemented.
  - Vessels will not be allowed to ground out on intertidal areas.
  - The contractor will develop a mooring and anchoring plan and implement measures to avoid dragging anchors and lines in special status areas.
-

- The contractor will avoid spudding/anchoring in existing eelgrass habitat whenever possible. Vessel operators will be provided with maps of the construction area with eelgrass beds clearly marked.
  - A revegetation plan will be developed and implemented with the objective of restoring native vegetation to the areas temporarily cleared for the construction.
  - Construction activities will not be conducted during the hours of 10:00 p.m. to 7:00 a.m. Between July 16 and September 23, impact pile driving will occur between 2 hours after sunrise and 2 hours before sunset to protect foraging marbled murrelets (*Brachyramphus marmoratus*) during the breeding season. Between September 24 and January 15, in-water construction activities will occur during daylight hours (sunrise to sunset).
  - The U.S. Navy will notify the public about upcoming construction activities and noise at the beginning of each construction season. The Notice to Mariners (MM 11a) would also serve to notify divers, including tribal divers, of potential underwater noise impacts.
  - The U.S. Navy will develop a local MM 11a to establish uniform procedures to facilitate the safe transit of vessels operating in the project vicinity.
  - Barge trips and associated Hood Canal bridge openings will be scheduled to avoid peak commuting hours.
  - Excess or waste materials will be removed from the project site.
-

T:\CAD\Projects\0159-KPFF Consulting Engineers\IP-993 WRA Land-Water Interface\Permits\JARPA 02-2016\0159-JA-001 (VMAP).dwg J1



AERIAL SOURCE: Google Earth Pro, 04-2015

VICINITY MAP



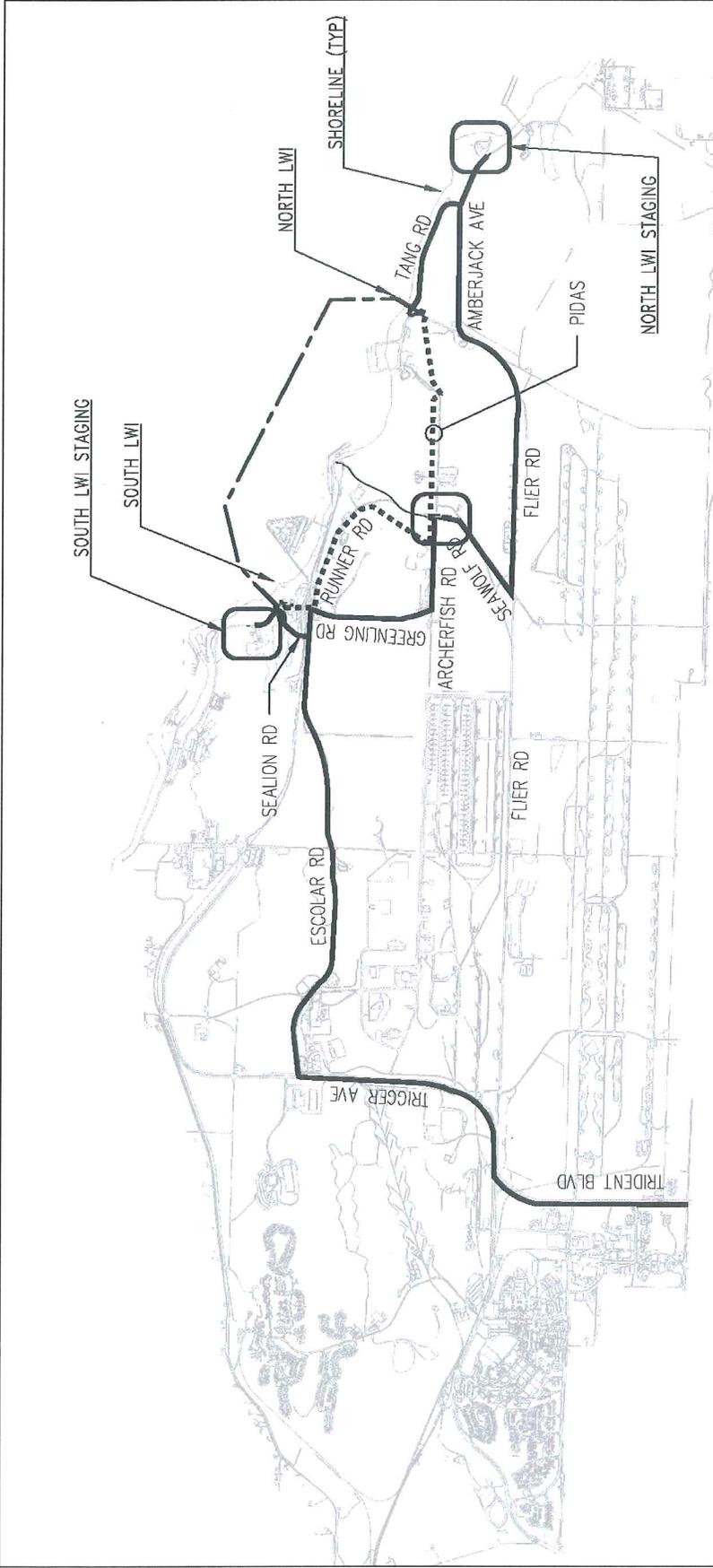
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PURPOSE: TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS  
 DATUM: MLLW 0.0'  
 LATITUDE: 47.443377°N  
 LONGITUDE: -122.435352°W  
 S-T-R: 18.07-26N-1E  
 SITE LOCATION ADDRESS:  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315

**NAME: LAND WATER INTERFACE PROJECT**  
  
 ADJACENT PROPERTY OWNERS:  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

PROPOSED: PHYSICAL BARRIER SECURITY IMPROVEMENTS  
  
 IN: NAVAL BASE KITSAP BANGOR  
 NEAR/AT: SILVERDALE  
 COUNTY OF: KITSAP  
 STATE: WASHINGTON  
  
 DATE: APRIL 2016

**ANCHOR OEA**  
 720 Olive Way, Suite 1900  
 Seattle, WA 98101  
 206-287-9130



**SOURCE:** Drawing prepared from CAD file provided by KPFF titled "General Construction Laydown" dated 04-2016.

**PURPOSE:** TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

**DATUM:** MLLW 0.0'  
**LATITUDE:** 47.443377°N  
**LONGITUDE:** -122.435352°W  
**S-T-R:** 18:07-26N-1E

**SITE LOCATION ADDRESS:**  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315

**SITE PLAN**

**NAME:** LAND WATER INTERFACE PROJECT

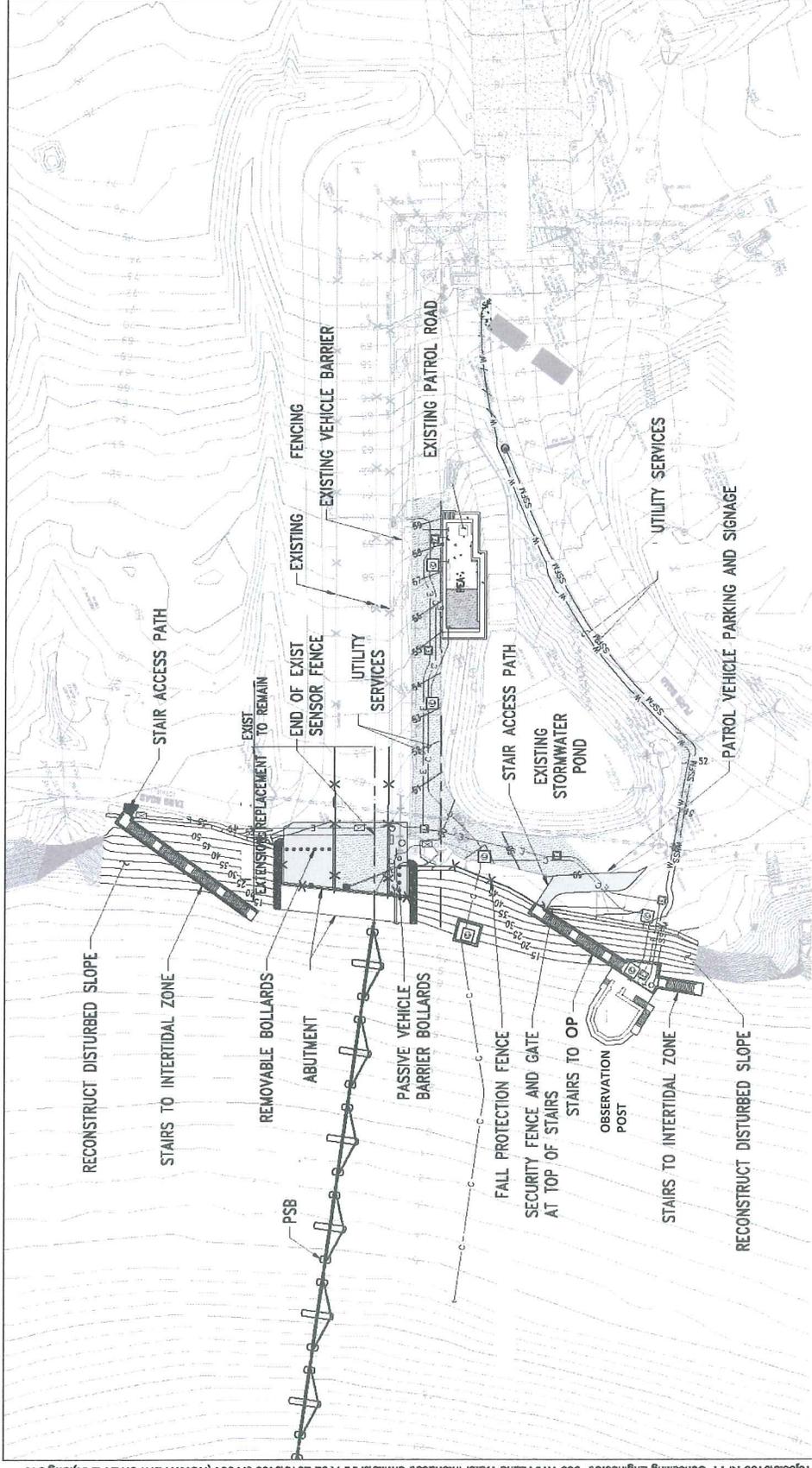
**ADJACENT PROPERTY OWNERS:**  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

**PROPOSED:** PHYSICAL BARRIER SECURITY IMPROVEMENTS

**IN:** NAVAL BASE KITSAP BANGOR  
**NEAR/AT:** SILVERDALE  
**COUNTY OF:** KITSAP  
**STATE:** WASHINGTON

**DATE:** APRIL 2016





**NORTH LWI SITE PLAN**

**SOURCE:** Drawing prepared from CAD file provided by KPFF titled "North LWI General Site Plan" dated 04-2016.

**PURPOSE:** TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

**DATUM:** MILLW 0.0'  
**LATITUDE:** 47.443377°N  
**LONGITUDE:** -122.435352°W  
**S-T-R:** 18:07-26N-1E

**SITE LOCATION ADDRESS:**  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315

**NAME:** LAND WATER INTERFACE PROJECT

**ADJACENT PROPERTY OWNERS:**  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

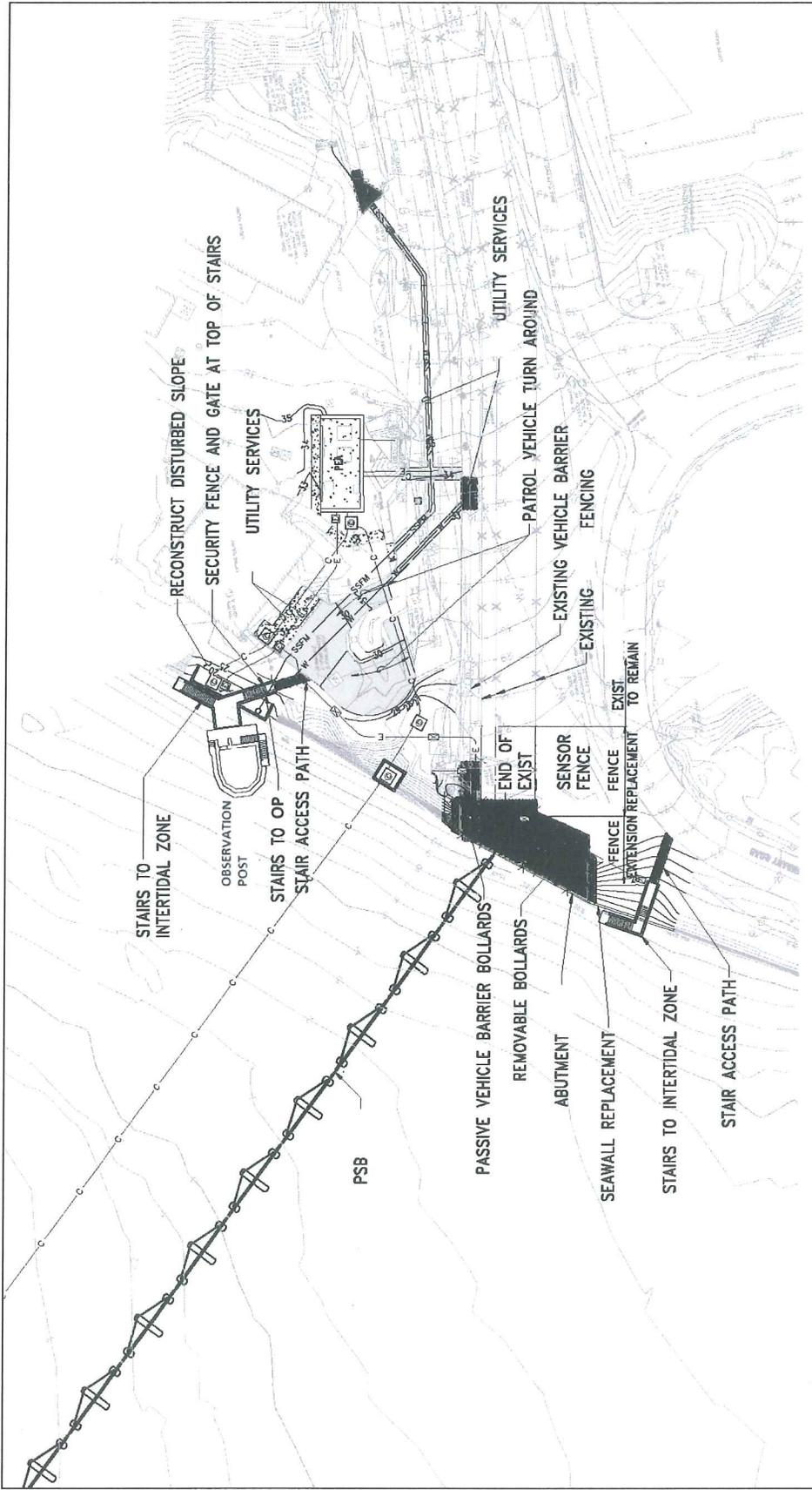
**PROPOSED: PHYSICAL BARRIER SECURITY IMPROVEMENTS**

**IN:** NAVAL BASE KITSAP BANGOR  
**NEAR/AT:** SILVERDALE  
**COUNTY OF:** KITSAP  
**STATE:** WASHINGTON



**DATE:** APRIL 2016

**SHEET: 3 OF 14**



**SOUTH LWI SITE PLAN**

**SOURCE:** Drawing prepared from CAD file provided by KPFF titled "South LWI General Site Plan" dated 04-2016.

**PURPOSE:** TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

**DATUM:** MLLW 0.0'  
**LATITUDE:** 47.443377°N  
**LONGITUDE:** -122.435352°W  
**S-T-R:** 18:07-26N-1E  
**SITE LOCATION ADDRESS:**  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315

**NAME:** LAND WATER INTERFACE PROJECT

**ADJACENT PROPERTY OWNERS:**  
 1- WASHINGTON DEPARTMENT OF NATURAL RESOURCES

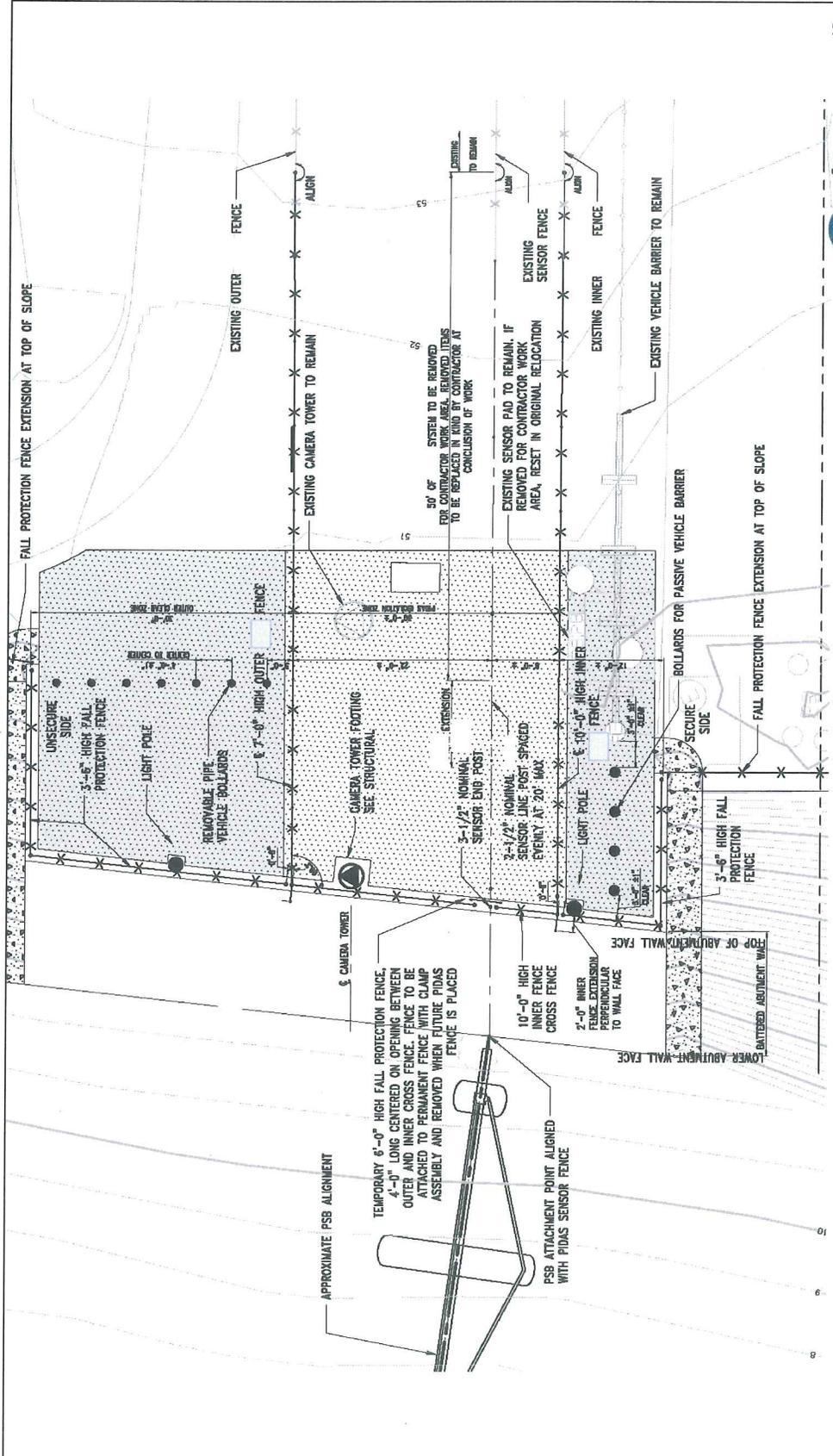
**PROPOSED:** PHYSICAL BARRIER SECURITY IMPROVEMENTS

**IN:** NAVAL BASE KITSAP BANGOR  
 NEAR/AT: SILVERDALE  
 COUNTY OF: KITSAP  
 STATE: WASHINGTON



**DATE:** APRIL 2016

**SHEET:** 4 OF 14



**NORTH LWI - FENCE EXTENSION**

SOURCE: Drawing prepared from CAD file provided by KPFF titled "North LWI-PIDAS Extension" dated 04-2016.

PURPOSE: TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

DATUM: MLLW 0.0'  
 LATITUDE: 47.443377°N  
 LONGITUDE: -122.455552°W  
 S-T-R: 18-07-26N-1E

SITE LOCATION ADDRESS:  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315

NAME: LAND WATER INTERFACE PROJECT

PROPOSED: PHYSICAL BARRIER SECURITY IMPROVEMENTS

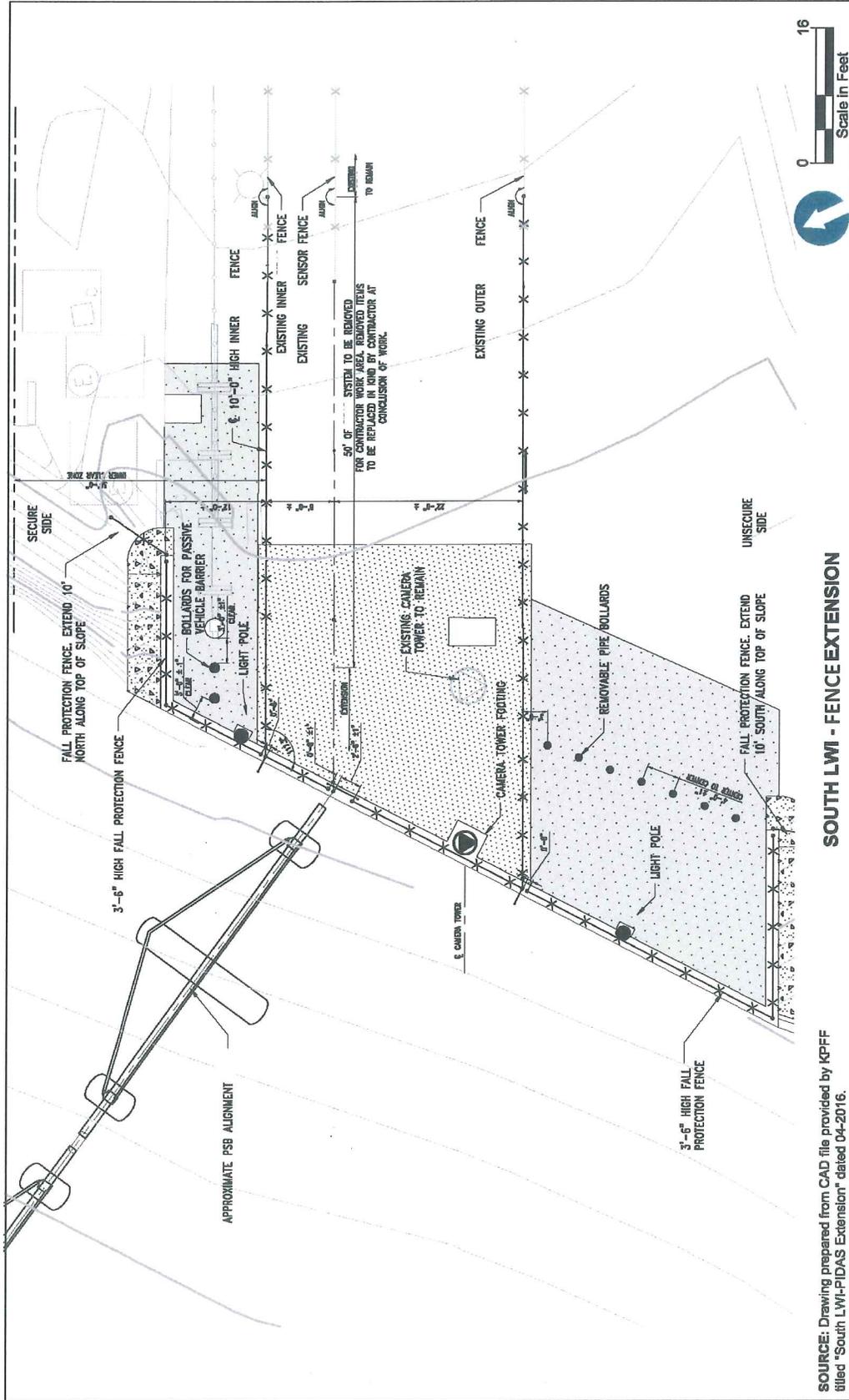
IN: NAVAL BASE KITSAP BANGOR  
 NEAR/AT: SILVERDALE  
 COUNTY OF: KITSAP  
 STATE: WASHINGTON

ADJACENT PROPERTY OWNERS:  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

DATE: APRIL 2016

SHEET: 5 OF 14





**ANCHOR OEA**  
 720 Olive Way, Suite 1800  
 Seattle, WA 98101  
 206-287-9130

**PROPOSED: PHYSICAL BARRIER SECURITY IMPROVEMENTS**

IN: NAVAL BASE KITSAP BANGOR  
 NEAR/AT: SILVERDALE  
 COUNTY OF: KITSAP  
 STATE: WASHINGTON

DATE: APRIL 2016

SHEET: 6 OF 14

**SOUTH LWI - FENCE EXTENSION**

**NAME: LAND WATER INTERFACE PROJECT**

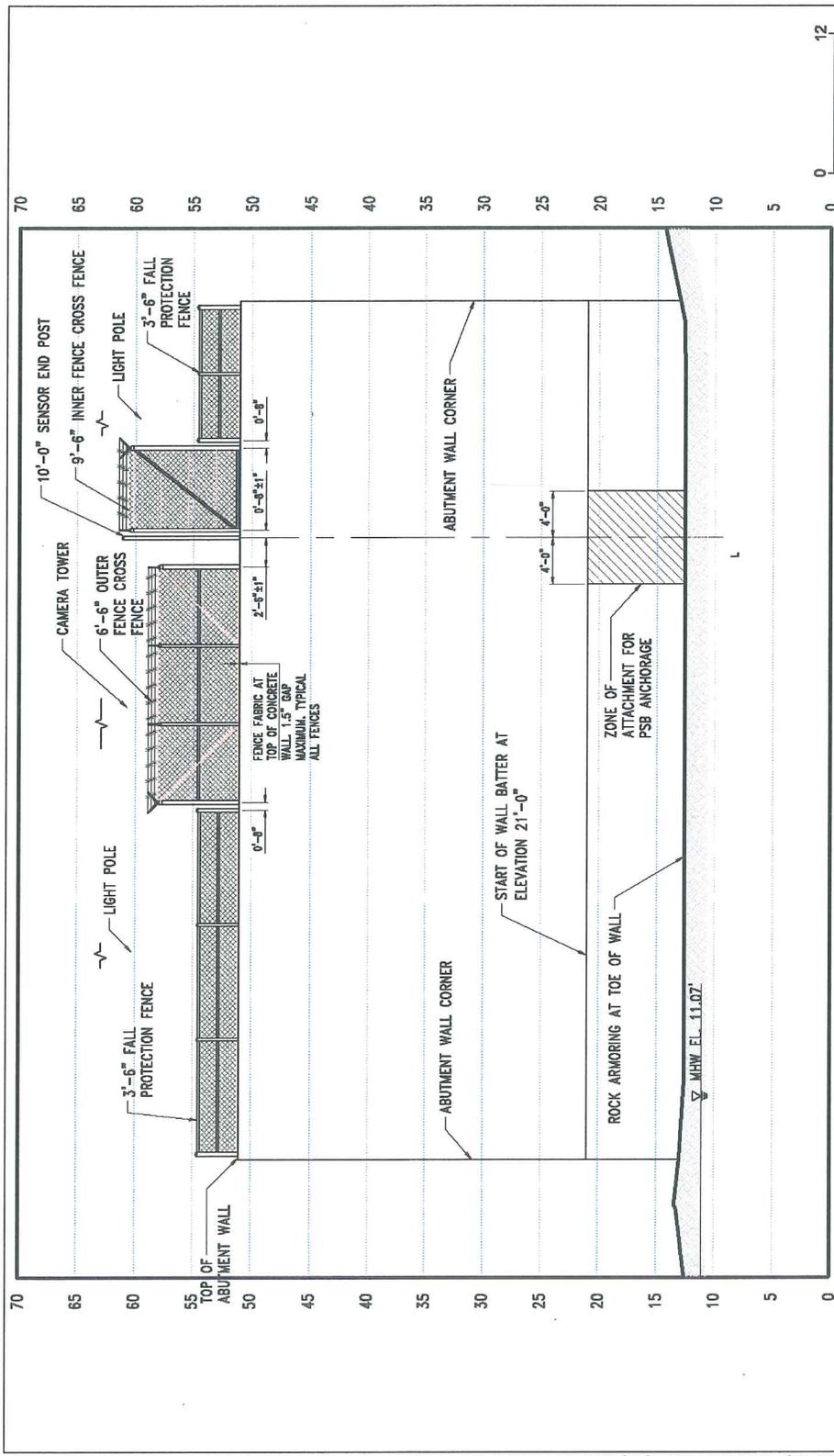
**ADJACENT PROPERTY OWNERS:**  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

**SOURCE:** Drawing prepared from CAD file provided by KPFF titled "South LWI-PIDAS Extension" dated 04-2016.

**PURPOSE:** TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

DATUM: MLLW 0.0'  
 LATITUDE: 47 443377"N  
 LONGITUDE: -122 435352"W  
 S-T-R: 18-07-26N-1E

**SITE LOCATION ADDRESS:**  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315



**NORTH LWI WALL - WEST ELEVATION**

SOURCE: Drawing prepared from CAD file provided by KPFF titled "North Lwi Wall Elevations" dated 04-2016.

PURPOSE: TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

DATUM: MLLW 0.0'  
 LATITUDE: 47.443377°N  
 LONGITUDE: -122.436552°W  
 S-T-R: 18:07:28N-1E  
 SITE LOCATION ADDRESS:  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315

NAME: LAND WATER INTERFACE PROJECT

ADJACENT PROPERTY OWNERS:  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

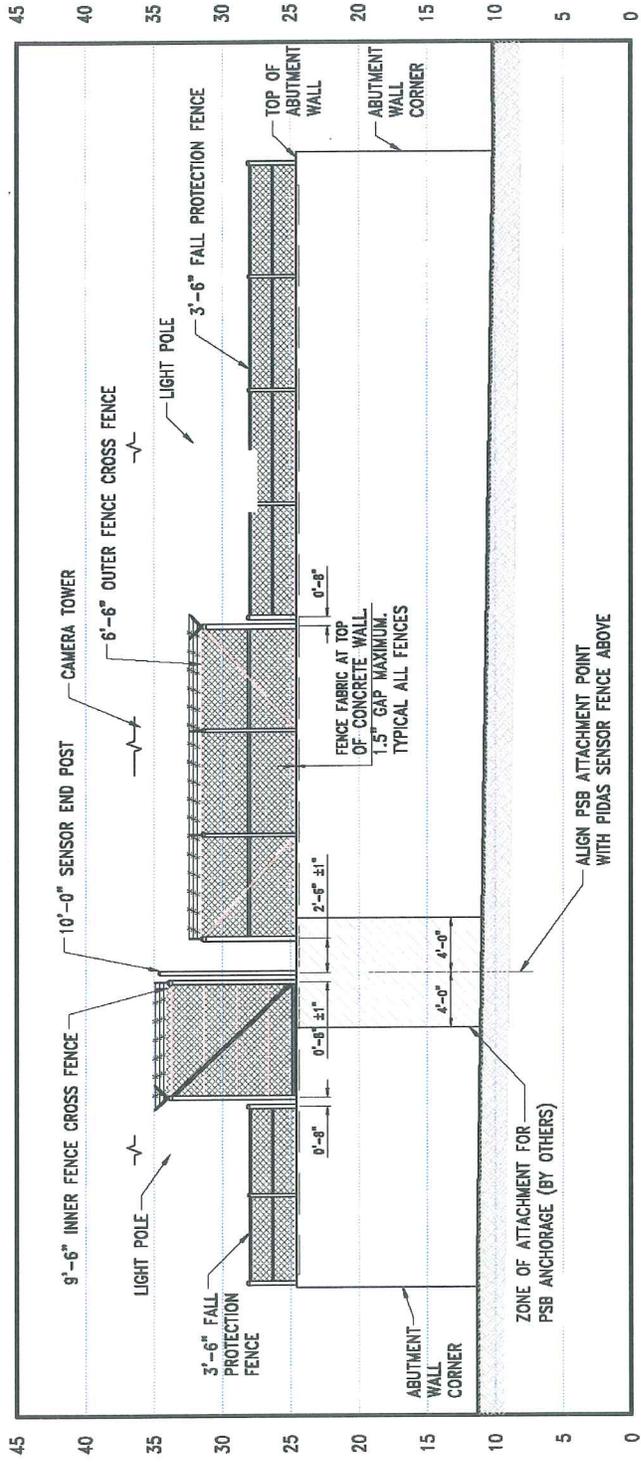
PROPOSED: PHYSICAL BARRIER SECURITY IMPROVEMENTS

IN: NAVAL BASE KITSAP BANGOR  
 NEARBY: SILVERDALE  
 COUNTY OF: KITSAP  
 STATE: WASHINGTON

DATE: APRIL 2016

SHEET: 7 OF 14





**SOUTH LWI - WEST ELEVATION**

SOURCE: Drawing prepared from CAD file provided by KPFF titled "South LWI Wall Elevations" dated 04-2016.

PURPOSE: TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

DATUM: MLLW 0.0'  
 LATITUDE: 47.443377°N  
 LONGITUDE: -122.435352°W  
 S-T-R: 18.07-26N-1E

SITE LOCATION ADDRESS:  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315

NAME: LAND WATER INTERFACE PROJECT

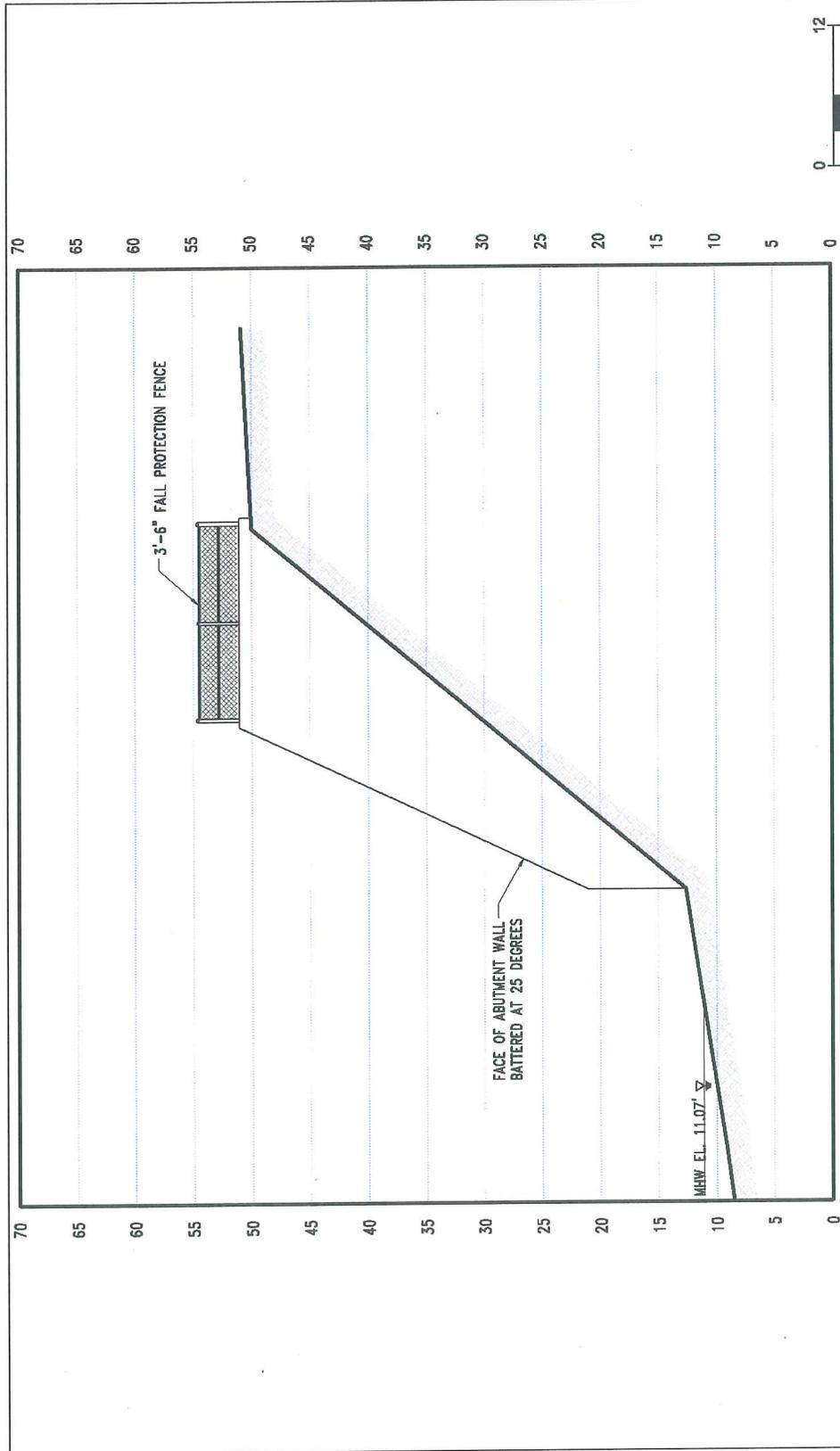
PROPOSED: PHYSICAL BARRIER SECURITY IMPROVEMENTS

IN: NAVAL BASE KITSAP BANGOR  
 NEAR/AT: SILVERDALE  
 COUNTY OF: KITSAP  
 STATE: WASHINGTON

DATE: APRIL 2016

SHEET: 8 OF 14





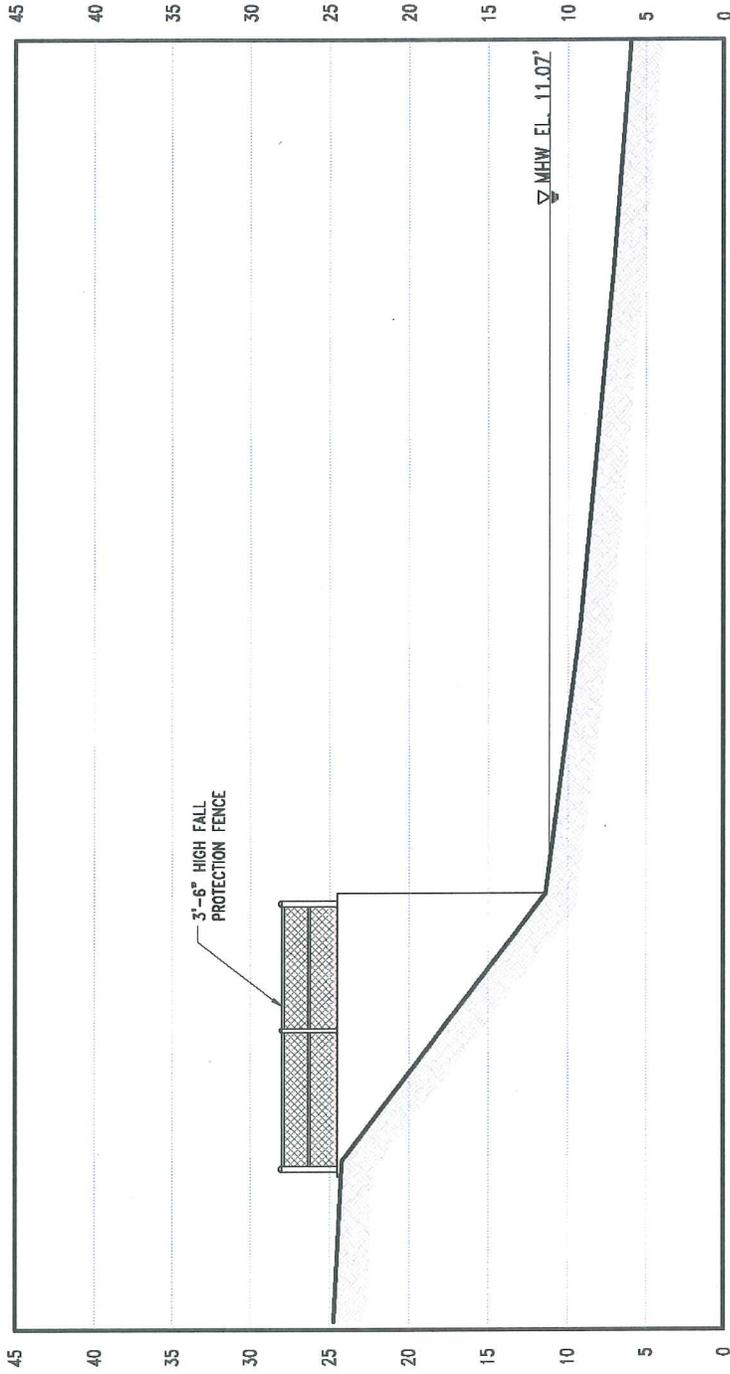
**NORTH LWI WALL - SOUTH ELEVATION**

SOURCE: Drawing prepared from CAD file provided by KPFF titled "North LWI Wall Elevations", dated 04-2016.  
 PURPOSE: TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS  
 DATUM: MLLW 0.0'  
 LATITUDE: 47.446377°N  
 LONGITUDE: -122.435352°W  
 S-T-R: 18-07-26N-1E  
 SITE LOCATION ADDRESS:  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315

NAME: LAND WATER INTERFACE PROJECT  
 ADJACENT PROPERTY OWNERS:  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

PROPOSED: PHYSICAL BARRIER SECURITY IMPROVEMENTS  
 IN: NAVAL BASE KITSAP BANGOR  
 NEAR/AT: SILVERDALE  
 COUNTY OF: KITSAP  
 STATE: WASHINGTON  
 DATE: APRIL 2016





**SOUTH LWI - NORTH ELEVATION**

SOURCE: Drawing prepared from CAD file provided by KPFF titled "South LWI Wall Elevations" dated 04-2016.  
 PURPOSE: TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

DATUM: MLLW 0.0'  
 LATITUDE: 47.443377° N  
 LONGITUDE: -122.435352° W  
 S-T-R: 18:07-26N-1E  
 SITE LOCATION ADDRESS:  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315

NAME: LAND WATER INTERFACE PROJECT

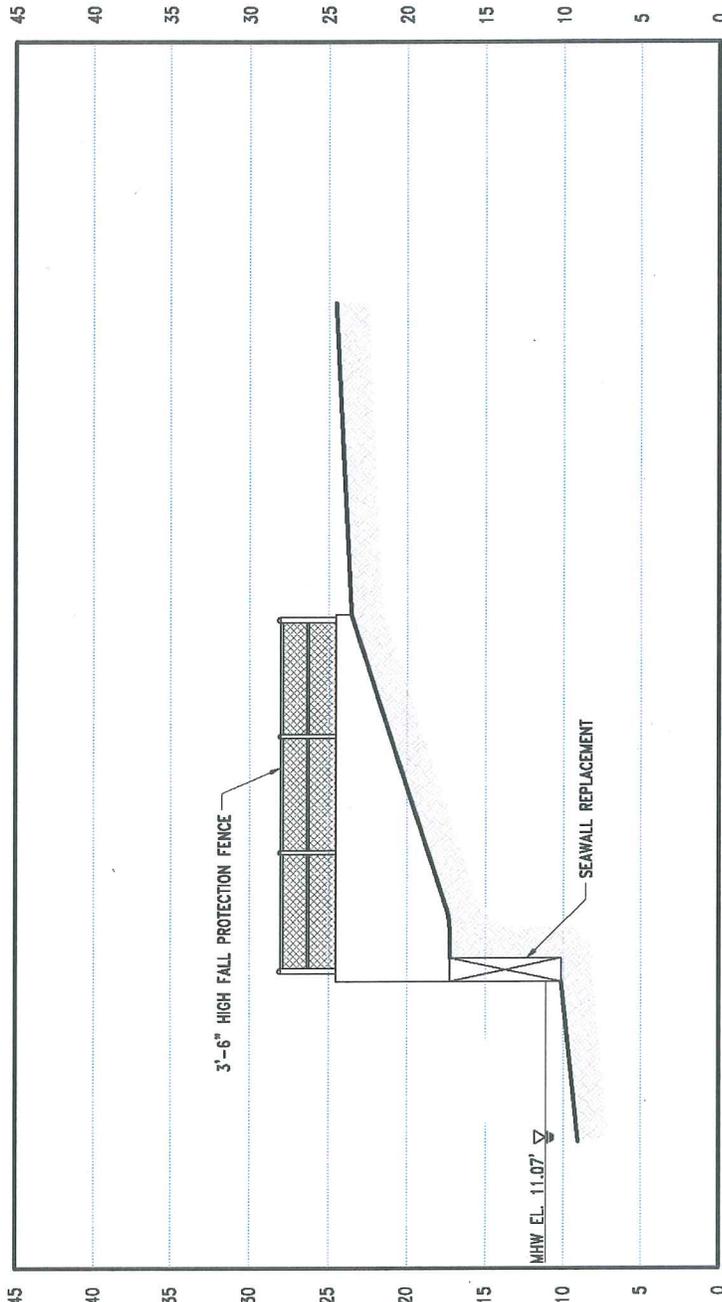
PROPOSED: PHYSICAL BARRIER SECURITY IMPROVEMENTS

IN: NAVAL BASE KITSAP BANGOR  
 NEAR/AT: SILVERDALE  
 COUNTY OF: KITSAP  
 STATE: WASHINGTON

ADJACENT PROPERTY OWNERS:  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

DATE: APRIL 2016





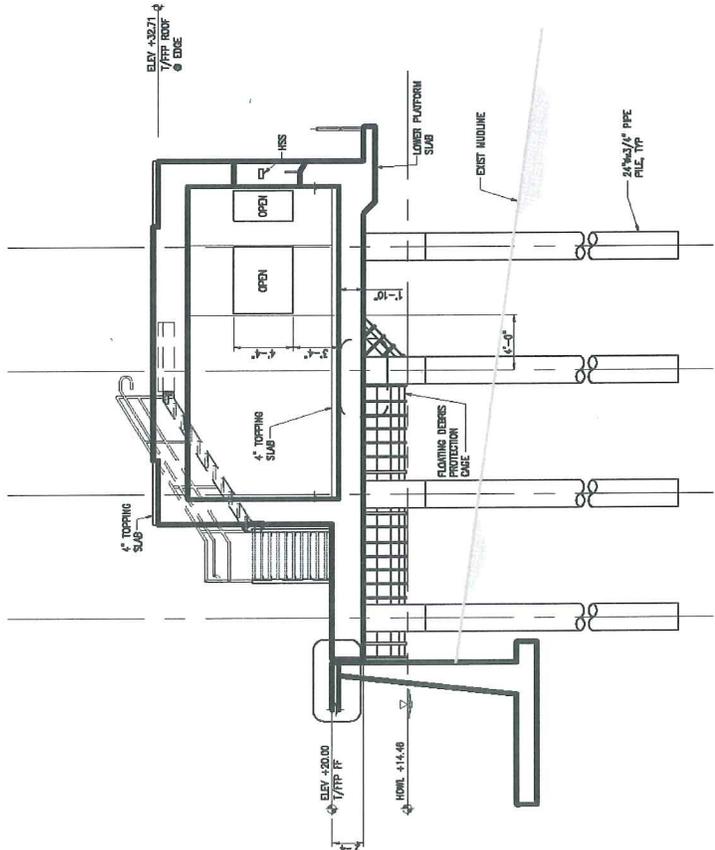
**SOUTH LWI - SOUTH ELEVATION**

**SOURCE:** Drawing prepared from CAD file provided by KPFF titled "South LWI Wall Elevations" dated 04-2016.  
**PURPOSE:** TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS  
**DATUM:** MLLW 0.0'  
**LATITUDE:** 47.443377°N  
**LONGITUDE:** -122.435352°W  
**S-T-R:** 18:07-26N-1E  
**SITE LOCATION ADDRESS:**  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98316

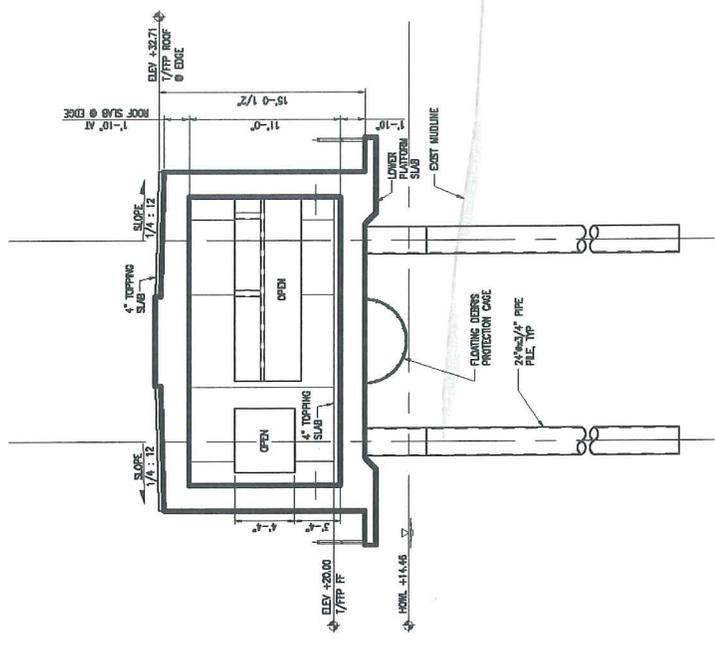
**NAME:** LAND WATER INTERFACE PROJECT  
**ADJACENT PROPERTY OWNERS:**  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

**PROPOSED:** PHYSICAL BARRIER SECURITY IMPROVEMENTS  
**IN:** NAVAL BASE KITSAP BANGOR  
**NEAR/AT:** SILVERDALE  
**COUNTY OF:** KITSAP  
**STATE:** WASHINGTON  
**DATE:** APRIL 2016





NORTH OBSERVATION POST – SECTION



NORTH OBSERVATION POST – SECTION



SOURCE: Drawing prepared from CAD file provided by KPFF titled "North FFP Sections" dated 04-2016.

PURPOSE: TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

DATUM: MLLW 0.0'  
 LATITUDE: 47 44 33.77"N  
 LONGITUDE: -122 43 55.52"W  
 S-T-R: 18 07 28N-1E

SITE LOCATION ADDRESS:  
 1103 HUNLEY ROAD  
 SILVERDALE, WA 98315

NAME: LAND WATER INTERFACE PROJECT

ADJACENT PROPERTY OWNERS:  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

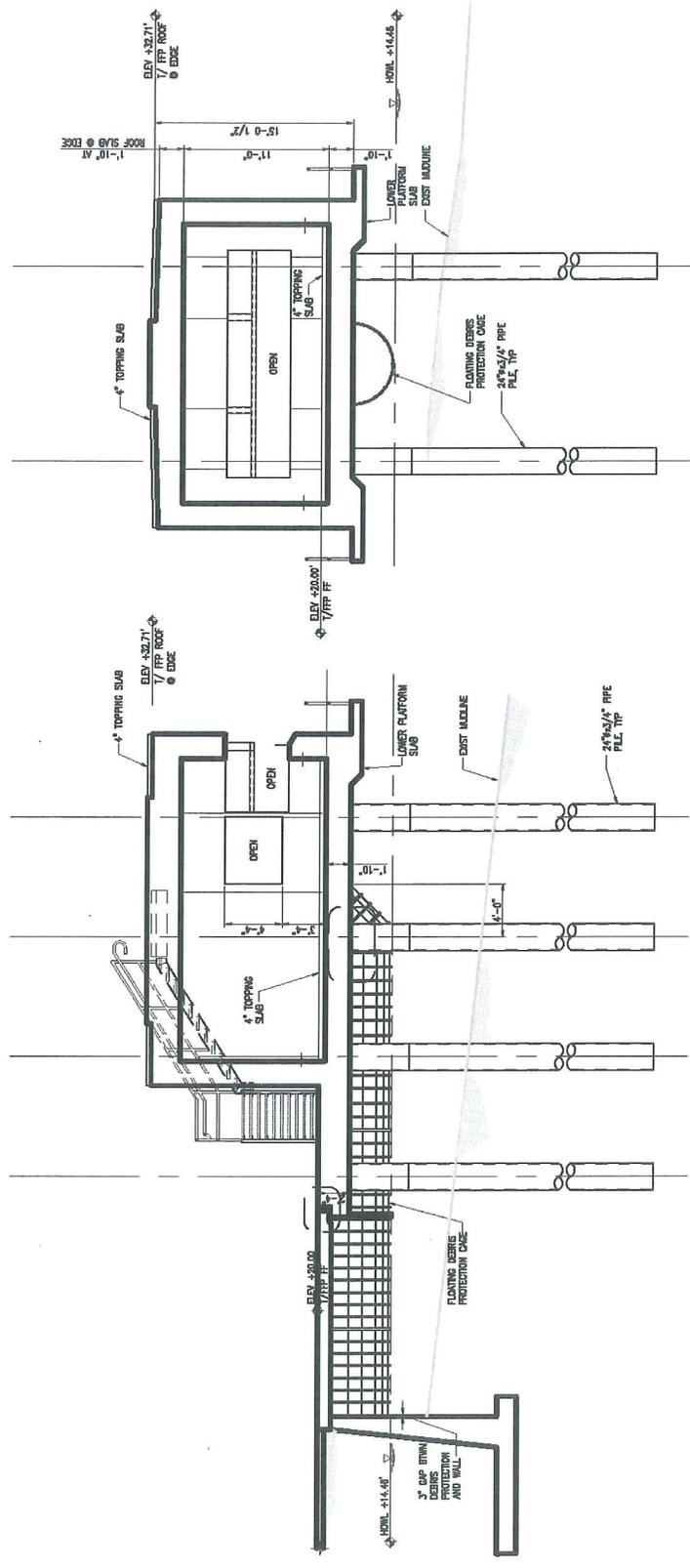
PROPOSED: PHYSICAL BARRIER SECURITY IMPROVEMENTS

IN: NAVAL BASE KITSAP BANGOR  
 NEAR/AT: SILVERDALE  
 COUNTY OF: KITSAP  
 STATE: WASHINGTON

DATE: APRIL 2016

SHEET: 12 OF 14





SOUTH OBSERVATION POST – SECTION

SOUTH OBSERVATION POST – SECTION



SOURCE: Drawing prepared from CAD file provided by KPFF titled "South FFP Sections" dated 04-2016.

PURPOSE: TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

DATUM: MLLW 0.0'  
 LATITUDE: 47.443377°N  
 LONGITUDE: -122.455352°W  
 S-T-R: 18:07-26N-1E

SITE LOCATION ADDRESS:  
 1103 HUNLEY ROAD  
 SILVERDALE, WA, 98315

NAME: LAND WATER INTERFACE PROJECT

ADJACENT PROPERTY OWNERS:  
 1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

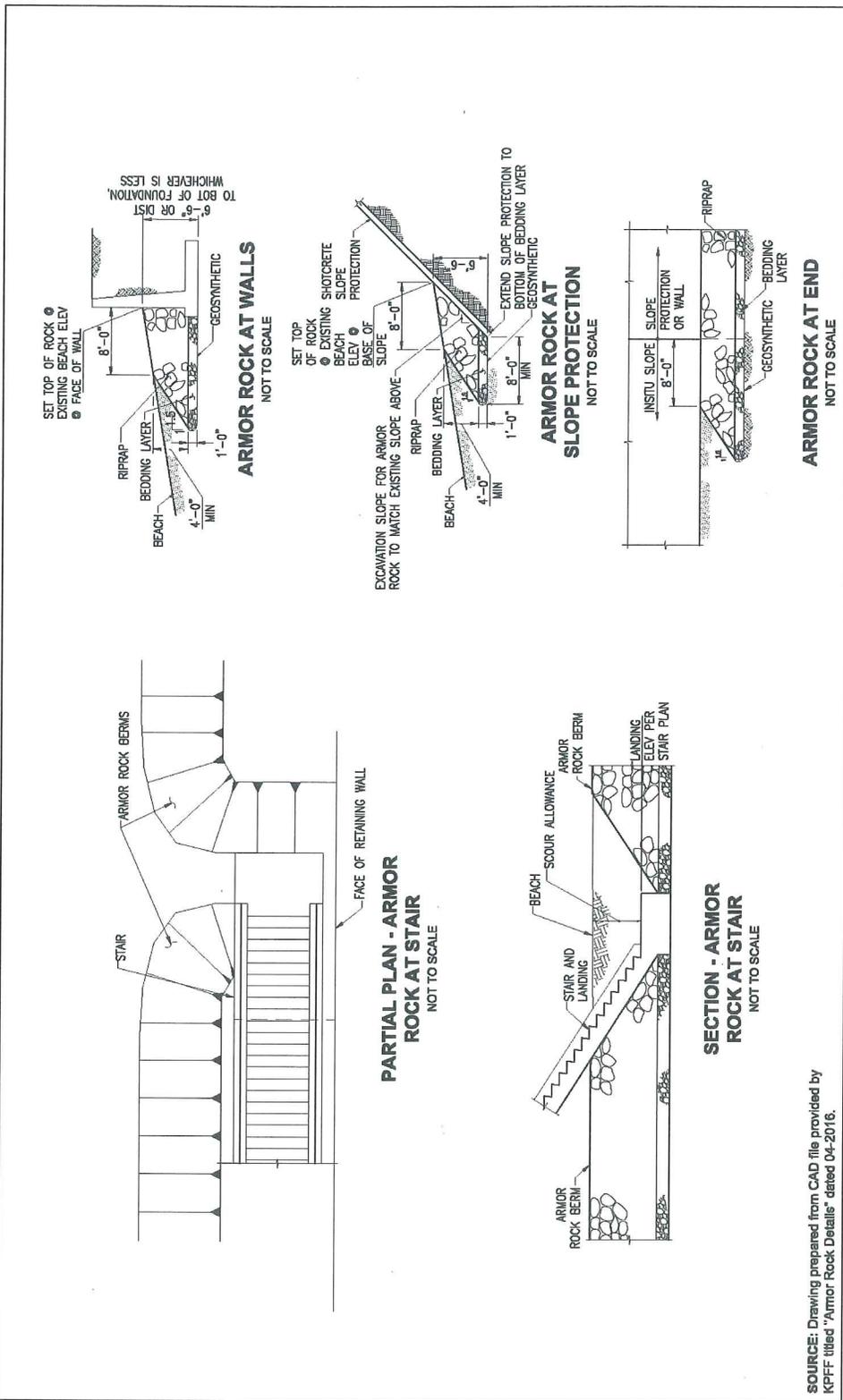
PROPOSED: PHYSICAL BARRIER SECURITY IMPROVEMENTS

IN: NAVAL BASE KITSAP BANGOR  
 NEAR/AT: SILVERDALE  
 COUNTY OF: KITSAP  
 STATE: WASHINGTON

DATE: APRIL 2016



SHEET: 13 OF 14



**SOURCE:** Drawing prepared from CAD file provided by KPFF titled "Armor Rock Details" dated 04-2016.

**PURPOSE:** TO ENHANCED SECURITY WITHIN THE WRA AND COMPLY WITH SECURITY REQUIREMENTS

**DATUM:** MLLW 0.0'

**LATITUDE:** 47.443377N

**LONGITUDE:** -122.435327W

**S-T-R:** 18.07-26N-1E

**SITE LOCATION ADDRESS:**  
1103 HUNLEY ROAD  
SILVERDALE, WA 98315

**NAME:** LAND WATER INTERFACE PROJECT

**ADJACENT PROPERTY OWNERS:**  
1 - WASHINGTON DEPARTMENT OF NATURAL RESOURCES

**PROPOSED:** PHYSICAL BARRIER SECURITY IMPROVEMENTS

**IN:** NAVAL BASE KITSAP BANGOR  
**NEAR/AT:** SILVERDALE  
**COUNTY OF:** KITSAP  
**STATE:** WASHINGTON

**DATE:** APRIL 2016

**SHEET:** 14 OF 14

