

## 2022 Federal approval documentation in lieu of SEPA Checklist submittal per below correspondence

**From:** Judy Surber <[jsurber@cityofpt.us](mailto:jsurber@cityofpt.us)>  
**Sent:** Thursday, October 20, 2022 5:48 PM  
**To:** Adam Tullis  
**Cc:** Robin Hill  
**Subject:** FW: PRE22-001 NWMC report

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

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Hello Adam,  
Please coordinate your submittal with our Permit Tech, Robin Hill. (cc'd herein)

Robin likes to have fee estimates ready to go to make the submittal seamless and less time consuming while the customer is at the counter.

Thank you!

**Judy Surber** | Planning Manager  
City of Port Townsend | [www.cityofpt.us](http://www.cityofpt.us) | [jsurber@cityofpt.us](mailto:jsurber@cityofpt.us)  
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 Follow us on Facebook: [fb.me/CityofPT](https://fb.me/CityofPT)

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**From:** Judy Surber <[jsurber@cityofpt.us](mailto:jsurber@cityofpt.us)>  
**Sent:** Thursday, October 20, 2022 4:40 PM  
**To:** Robin Hill <[RHill@cityofpt.us](mailto:RHill@cityofpt.us)>; David Nakagawara <[dnakagawara@cityofpt.us](mailto:dnakagawara@cityofpt.us)>  
**Cc:** Emma Bolin <[ebolin@cityofpt.us](mailto:ebolin@cityofpt.us)>  
**Subject:** PRE22-001 NWMC report

Just a heads up: We are expecting this SSDP CUP and Commercial Building Permit application with Flood Dev. Review to be submitted in the near future.

I spoke with Adam Tullis today and told him he could submit without SEPA application – we'd review the NEPA documentation and determine if a separate SEPA was required.

Judy

### **CITYOFPT NOTICE REGARDING PUBLIC DISCLOSURE:**

Public documents and records are available to the public as required under the Washington State Public Records Act (RCW 42.56).  
The information contained in all correspondence with a government entity may be disclosable to third party requesters under the Public Records Act.

**From:** [Bonnie Shorin - NOAA Federal](#)  
**To:** [Kerschke, William](#); [Sandra Forrester](#); [FEMAProgrammatic WCR - NOAA Service Account](#); [Frankie Chavez](#)  
**Subject:** Northwest Maritime Center, Jefferson County, WA WCRO 2016-00019-4412  
**Date:** Monday, July 11, 2022 12:14:02 PM

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**CAUTION:** This email originated from outside of DHS. DO NOT click links or open attachments unless you recognize and/or trust the sender. Please select the Phish Alert Report button on the top right of your screen to report this email if it is unsolicited or suspicious in nature.

Dear Bill,

I have reviewed the work proposed to be funded in part by FEMA pursuant to Stafford Act pursuant to FEMA-DR-441. I have evaluated the proposed work, in order to determine if the project can proceed under the analysis provided programmatically through our consultation, WCRO-2016-00019-4412.

The project is a shoreline/upper beach stabilization, consequential to a storm event that caused exposure of a foundation of an existing beach concrete stair pathway, affected second floor deck supports, and threatened existing utilities at the Northwest Maritime Center.

The project will include foundation and adjacent protective revetment repair, excavation of upper beach sand and gravel, beach nourishment actions, upper shoreline stabilization planting, and the placement of boulders and quarry spalls under a pile supported structure.

While the parent biological opinion is silent on shore stabilization, other work in nearshore or marine environments are described, and streambank stabilization is described. Using best professional judgment, and interpreting the design elements and mitigation elements described in the parent opinion, my evaluation of the proposed action is that it falls within the parent opinion's described range of effects, and it incorporates appropriate minimization and mitigation, specifically:

- Instead of using hard armoring along the shoreline, the proposal involves beach nourishment and the strategic placement of large boulders to help dissipate wave energy and act as debris barriers.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment by removing a portion of the armor rock on the intertidal beach surrounding the stormwater culvert along the SW end of the site, and removing boulders from the upper beach just NE of the NE end of the concrete stairway near the plaza and replacing them to the eroded low bank immediately adjacent above elevation +11 ft MLLW.
- Revegetating 356 sf in the uppermost beach/backshore with American dune grass (*Elymus mollis*).

Accordingly, NMFS confirms this action as an implementation of the FESP consultation, WCRO 2016-00019.

If you have any questions, contact me, Bonnie Shorin at [bonnie.shorin@noaa.gov](mailto:bonnie.shorin@noaa.gov) or at the phone number that appears at the bottom of this page.

Bonnie Shorin

Acting Branch Chief  
Central Puget Sound Branch

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**Bonnie Shorin, JD**

*Program Analyst, Oregon/Washington Coastal Office, WCR*

NOAA Fisheries | U.S. Department of Commerce

Mobile: (360) 995-2750

[www.fisheries.noaa.gov](http://www.fisheries.noaa.gov)





# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Washington Fish and Wildlife Office  
510 Desmond Dr. S.E., Suite 102  
Lacey, Washington 98503



In Reply Refer To:

**2022-0005667**

X-Ref: 01EWF00-2022-I-0366

Jacalen Printz, Chief, Regulatory Branch  
Seattle District, U.S. Army Corps of Engineers  
ATTN: Pamela Sanguinetti  
4735 E. Marginal Way South, Building 1202  
Seattle, Washington 98134-2388

Dear Ms. Printz:

Subject: Northwest Maritime Center Storm Damage Repair and Mitigation  
(NWS-2021-974)

This letter is in response to your December 15, 2021, request for our concurrence with your determination that the proposed action located at Northwest Maritime Center in Jefferson County, Washington, “may affect, but is not likely to adversely affect” federally listed species. We received your letter, Biological Evaluation, project drawings and photos, and other materials, providing information in support of “may affect, not likely to adversely affect” determinations, on December 15, 2021.

### **Project Description:**

This project is an effort to repair storm damage to the facilities of the Northwest Maritime Center, and to mitigate for future storm impacts by decreasing wave energy and shoreline erosion using strategically-placed large boulders and beach nourishment. The proposed action is to repair the exposed foundations supporting the Northwest Maritime Center’s pathway, stairs, first and second floor decks, place beach nourishment to protect the structure against future toe scour, and to place large boulders along the beach to act as barriers to reduce wave and debris impact to deck and pier supports. In addition, armor rock will be removed from the upper beach, dispersed along the low beach (+11 ft mean lower low water (MLLW)), and an area of 356 ft<sup>2</sup> will be planted with American Dunegrass along the upper north beach where armor rock is removed. Due to the in-air noise created from equipment use, the action area reaches 0.4 km waterward, but the project area stays in the upper intertidal zone of the beach. No in-water work will take place.

INTERIOR REGION 9  
COLUMBIA-PACIFIC NORTHWEST

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IDAHO, MONTANA\*, OREGON\*, WASHINGTON

\*PARTIAL

To prevent future toe scour to the facility foundations, the applicant will excavate the existing upper beach sediment from near the structure, pour a new concrete foundation below grade, and fill all repaired, exposed foundation voids with quarry spalls to avoid re-exposure. The applicant will also use this method to repair the south concrete stairs footing. Along the toe line of the structure on the north section of the beach, scour control will be implemented by excavating 1.75 ft below the existing grade and introducing 1.5 ft of cobble-gravel beach nourishment. After cobble is installed, 0.5 ft of excavated beach sediment will be placed atop the cobble. Also happening on the north beach is a revetment adjacent to the concrete stairs. The existing beach sediment will be excavated, and the placement of quarry spalls will be 9-21 inches below grade. This method will also be used to protect the deck and pier supports. Cobble-gravel beach nourishment will be imported to the upper beach once excavated. The cobble will extend to the 7.7 ft MLLW line from just above the mean higher high water (MHHW) line and will be aligned to be below the existing grade. The cobble placement will start 24 ft southwest of the existing pier and will run until 9 ft northeast of the pier, totaling 128 ft in length. The cobble will be covered by 0.5 ft thick surface layer of excavated sediment. Approximately 27 large boulders will be strategically placed along the beach to act as barriers to wave energy, debris, and shoreline erosion. Boulders will be placed over buried quarry spalls, at least 1 ft below grade. The project is expected to occur between July 16 – February 15 during the in-water work window, and during a stretch of very low tides in the summer to allow for concrete pouring and curing to be done “in the dry”.

Specifically, you requested informal consultation pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (ESA) for the federally listed species identified below.

- Bull trout (*Salvelinus confluentus*)
- Marbled Murrelet (*Brachyramphus marmoratus*)

The U.S. Army Corps of Engineers has determined that the action will have “no effect” on additional listed species and designated critical habitat that are known to occur in Jefferson County. The determination of “no effect” to listed resources rests with the federal action agency. The U.S. Fish and Wildlife Service (Service) has no regulatory or statutory authority for concurring with “no effect” determinations, and no consultation with the Service is required. We recommend that the federal action agency document their analysis on effects to listed species and maintain that documentation as part of the project file.

Sufficient information has been provided to determine the effects of the proposed action and to conclude whether it would adversely affect federally listed species and/or designated critical habitat. Our concurrence is based on information provided by the action agency, best available science, and complete and successful implementation of the conservation measures included by the action agency.

## **EFFECTS TO BULL TROUT**

The proposed action and resulting effects on bull trout will not be measurable and will not significantly disrupt normal behaviors (i.e., the ability to successfully forage, migrate, and/shelter), and are therefore considered insignificant because of the following:

- The action area is located in Port Townsend, where, at present, bull trout occurrence is minimal. While there are populations of forage fish near the action area, there is no designated bull trout critical habitat in or surrounding the action area. The nearest documented bull trout presence is 28 km west of the project site. Bull trout may migrate through the action area but will likely not spend time in it.
- All construction activities will be completed between July 16<sup>th</sup> and February 15<sup>th</sup> when bull trout are least likely to be present in the action area, and work will be done during low tide “in the dry” to minimize impacts to marine water quality and underwater noise.

## **EFFECTS TO MARBLED MURRELET**

The proposed action and resulting effects on marbled murrelet will not be measurable and will not significantly disrupt normal behaviors (i.e., the ability to successfully forage, migrate, and/shelter), and are therefore considered insignificant because of the following:

- While there is no designated marbled murrelet critical habitat surrounding the action area for 19 km, marbled murrelets forage in the action area. Construction noise levels will increase during equipment use. This level of noise may cause marbled murrelet to avoid the project area during construction activities but will not significantly disrupt their normal behaviors long-term.

## **EFFECT TO BULL TROUT, MARBLED MURRELET, AND THEIR PREY**

With successful implementation of the conservation measures included by the action agency as part of the proposed action, we expect that the effects of the action will not measurably degrade or diminish habitat functions or prey resources in the action area. Therefore, we consider the effects of the action on bull trout, marbled murrelets, and their prey to be insignificant.

- All construction activities will be completed between July 16 and February 15, when bull trout are least likely to be present in the action area.
- Construction activities and excavated beach sediment may temporarily increase turbidity in the action area; however, turbidity will remain localized to the immediate work area, will not affect the entire action area, and will settle within a few tidal cycles. All work will occur in the dry. Increased turbidity is only expected during a king tide or a storm event since all work resulting in increased sediment in the water column is happening in the upper intertidal zone.

- The action includes conservation measures for work area containment by storing and maintaining all equipment in the upland, and emergency spill response training and resources provided to all employees involved with onsite work. All debris from construction activities will be stored and contained within a designated corridor in the upland.
- The action will stabilize and nourish the shoreline of the project area, which presently lacks a drift cell due to large overwater structures throughout downtown Port Townsend. The addition of beach nourishment will help prevent erosion from wave and debris impact and add substrate that can be utilized by forage fish for spawning habitat. Future beach renourishment is anticipated.
- Newly poured concrete will be poured during a stretch of low tides where it will not come into contact with seawater for at least 7 days. If this is not possible, the concrete will be covered so that there is no chance it will come into contact with seawater for at least 7 days to allow to cure.

## CONCLUSION

Considering the status of listed species in the project area and the anticipated effects, the Service concurs that the project, as proposed, is not likely to adversely affect bull trout and marbled murrelet. This concludes consultation pursuant to the regulations implementing the ESA (50 CFR 402.13). Our review and concurrence with your effect determinations is based on implementation of the project as described. It is the responsibility of the federal action agency to ensure that the projects they authorize or carry out are in compliance with the regulatory permit and ESA. If a permittee or the federal action agency deviates from the measures outlined in a permit or project description, the federal action agency has the obligation to reinitiate consultation and comply with section 7(d).

This project should be re-analyzed and re-initiation may be necessary if: 1) new information reveals effects of the action that may affect listed species or critical habitat in a manner, or to an extent, not considered in this consultation; 2) if the action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this consultation; and/or, 3) a new species is listed or critical habitat is designated that may be affected by this project.

This letter constitutes a complete response by the Service to your request for informal consultation. A complete record of this consultation is on file at the Washington Fish and Wildlife Office, in Lacey, Washington. If you have any questions about this letter or our shared responsibilities under the ESA, please contact the consulting biologist or supervisor identified below.

U.S. Fish and Wildlife Service Consultation Biologist and Supervisor:

Anne Heron ([anne\\_heron@fws.gov](mailto:anne_heron@fws.gov))

Ryan McReynolds ([ryan\\_mcreynolds@fws.gov](mailto:ryan_mcreynolds@fws.gov))

Sincerely,

*for* Brad Thompson, State Supervisor  
Washington Fish and Wildlife Office





DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT  
4735 EAST MARGINAL WAY SOUTH, BLDG 1202  
SEATTLE, WA 98134-2388

Regulatory Branch

October 7, 2022

Katie Oman, Chief Operating Officer  
Northwest Maritime Center  
431 Water Street  
Port Townsend, Washington 98368

Reference: NWS-2021-974  
Northwest Maritime  
Center  
(Shoreline Storm  
Damage Repair)

Dear Ms. Oman:

We have reviewed your application to repair foundations, protect deck supports and other structures, place boulders and beach nourishment material as shoreline stabilization, and remove rock boulders and armor rock in Port Townsend Bay at 431 Water Street, Port Townsend, Jefferson County, Washington. Based on the information you provided to us, Nationwide Permit (NWP) 3, *Maintenance and NWP 13 Bank Stabilization* (Federal Register December 27, 2021, Vol. 86, No. 245), authorizes your proposal as depicted on the enclosed drawings dated November 22, 2021.

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *NWP 3 and NWP 13, Terms and Conditions* and the following special conditions:

a. In order to meet the requirements of the Endangered Species Act you may conduct the authorized activities from July 16 through February 15 in any year this permit is valid. You shall not conduct work authorized by this permit from February 16 through July 15 in any year this permit is valid. Your work window is also subject to the forage fish restriction detailed in Special Condition "b" below.

b. Forage fish may be spawning in the project area during the allowed work window. If work is occurring between October 15 and February 15, in order to meet the requirements of the Endangered Species Act and for the protection of sand lance, prior to construction, you must have an approved biologist confirm, in writing, that no forage fish are spawning in the area. For information on approved biologists for conducting forage fish surveys, contact the Washington Department of Fish and Wildlife (WDFW). If

a WDFW Habitat Biologist has volunteered to conduct a survey as part of the Hydraulic Project Approval, this survey may be submitted to the U.S. Army Corps of Engineers (Corps). The letter or memorandum from the approved biologist or the WDFW Habitat Biologist must include the date of the inspection, the forage fish spawning findings, and must be provided to the Corps, Seattle District, Regulatory Branch via email to [pamela.sanguinetti@usace.army.mil](mailto:pamela.sanguinetti@usace.army.mil) (with a copy sent to [NWS.Compliance@usace.army.mil](mailto:NWS.Compliance@usace.army.mil)), prior to construction. Include reference number NWS-2021-974. If the approved biologist or WDFW Habitat Biologist confirms that no forage fish are spawning in the project area, you have two weeks from the date of the inspection to complete all work waterward of the High Tide Line.

c. You must implement and abide by the Endangered Species Act (ESA) requirements and/or agreements set forth in the *Northwest Maritime Center Shoreline Storm Damage Repair Biological Evaluation* dated September 17, 2021, in its entirety. The U.S. Fish and Wildlife Service (USFWS) provided the enclosed LOC with a finding of “may affect, not likely to adversely affect” based on this document on February 11, 2022 (USFWS Reference Number 2022-0005667). USFWS will be informed of this permit issuance. Failure to comply with the commitments made in this consultation constitutes non-compliance with the ESA and your U.S. Army Corps of Engineers permit. The USFWS is the appropriate authority to determine compliance with ESA.

d. This U.S. Army Corps of Engineers (Corps) permit does not authorize you to take a threatened or endangered species, in particular Chinook salmon, steelhead, and Hood Canal summer-run chum. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permits, or ESA Section 7 consultation Biological Opinion (BO) with non-discretionary “incidental take” provisions with which you must comply). Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the National Marine Fisheries Service's (NMFS) programmatic consultation with the Federal Emergency Management Agency (WCRO-2016-00019-4412). The NMFS concurred that this project may proceed under this programmatic and the FESP consultation (WCRO-2016-00019) on July 11, 2022. These terms and conditions are incorporated by reference in this permit. Failure to comply with the commitments made in this document constitutes non-compliance with the ESA and your Corps permit. The NMFS appropriate authority to determine compliance with the ESA.

We have reviewed your project pursuant to the requirements of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act and the National Historic Preservation Act. We have determined this project complies with

the requirements of these laws provided you comply with all of the permit general and special conditions.

The Federal Emergency Management Agency completed Section 7 Endangered Species Act (ESA) consultation and Magnuson Stevens Act, Essential Fish Habitat (EFH) consultation for the proposed activity (National Marine Fisheries Service reference WCRO-2016-00019-4412). For the purpose of this Department of the Army authorization, we have determined this project will comply with the requirements of this law provided you comply with all of the permit conditions. We have determined the permit action is sufficiently addressed in their ESA and EFH consultation documents. By this letter we are advising you and the Services, in accordance with 50 CFR 402.07 and 50 CFR 600.920(b), that this agency has served as the lead Federal agency for the ESA and EFH consultation responsibilities for the activity described above.

As part of our permit application review process, we notified Native American tribes that have an interest in this area. The Jamestown S'Klallam Tribe requested their archeology staff be present to observe construction. Based on our coordination, you agreed to allow Ms. Allie Taylor access. Please contact Ms. Taylor at (360) 461-8191 and at [ataylor@jamestowntribe.org](mailto:ataylor@jamestowntribe.org) prior to commencing construction.

Please note that National General Condition 21, *Discovery of Previously Unknown Remains and Artifacts*, found in the *Nationwide Permit Terms and Conditions* enclosure, details procedures that must be followed should an inadvertent discovery occur. You must ensure that you comply with this condition during the construction of your project.

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

We have reviewed your project pursuant to the requirements of Section 14 of the Rivers and Harbors Act of 1899 as codified at 33 U.S.C.408 (Section 408). It has been determined that the activities authorized do not impair the usefulness of the U.S. Army Corps of Engineers Navigation project and is not injurious to the public interest.

Our verification of this NWP authorization is valid until March 14, 2026, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work for the NWP authorization has not been completed by that date and you have commenced or are under contract to commence this activity before March 14, 2026, you will have until March 14, 2027, to complete the activity under the enclosed terms and conditions of this NWP. Failure to comply with all terms and conditions of this NWP verification invalidates

this authorization and could result in a violation of Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. You must also obtain all local, State, and other Federal permits that apply to this project.

Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit*. All compliance reports should be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch electronically at [nws.compliance@usace.army.mil](mailto:nws.compliance@usace.army.mil). Thank you for your cooperation during the permitting process. We are interested in your experience with our Regulatory Program and encourage you to complete a customer service survey. Referenced documents and information about our program are available on our website at [www.nws.usace.army.mil](http://www.nws.usace.army.mil), select "Regulatory Permit Information". A copy of this letter with enclosures will be furnished to Mr. Adam Tullis at [adam@coastalgeo.com](mailto:adam@coastalgeo.com). If you have any questions, please contact me at [pamela.sanguinetti@usace.army.mil](mailto:pamela.sanguinetti@usace.army.mil) or (206) 764-6904.

Sincerely,

A handwritten signature in cursive script that reads "Pamela Sanguinetti".

Pamela Sanguinetti, Project Manager  
Regulatory Branch

Enclosures

Ecology ([ecyrefedpermits@ecy.wa.gov](mailto:ecyrefedpermits@ecy.wa.gov))  
USFWS ([wfwactap@fws.gov](mailto:wfwactap@fws.gov))  
NMFS ([femaprogrammatic.wcr@noaa.gov](mailto:femaprogrammatic.wcr@noaa.gov))



US Army Corps  
of Engineers ®  
Seattle District

# NATIONWIDE PERMIT 3

## Terms and Conditions



2021 NWP - Final 41; Effective Date: February 25, 2022

- 
- A. Description of Authorized Activities
  - B. U.S. Army Corps of Engineers (Corps) National General Conditions for All Final 41 NWPs
  - C. Seattle District Regional General Conditions
  - D. Seattle District Regional Specific Conditions for this Nationwide Permit (NWP)
  - E. 401 Water Quality Certification (401 WQC) for this NWP
  - F. Coastal Zone Management Consistency Response for this NWP
- 

In addition to any special condition that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit (NWP) authorization to be valid in Washington State.

### A. DESCRIPTION OF AUTHORIZED ACTIVITIES

3. Maintenance. (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP also authorizes the removal of previously authorized structures or fills. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project. This NWP also authorizes the removal of accumulated sediment and debris within, and in the immediate vicinity of, the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.). The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization.

(c) This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After conducting the maintenance activity, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.



US Army Corps  
of Engineers ®  
Seattle District

# NATIONWIDE PERMIT 13

## Terms and Conditions



2021 NWP's - Final 41; Effective Date: February 25, 2022

- 
- A. Description of Authorized Activities
  - B. U.S. Army Corps of Engineers (Corps) National General Conditions for All Final 41 NWP's
  - C. Seattle District Regional General Conditions
  - D. Seattle District Regional Specific Conditions for this Nationwide Permit (NWP)
  - E. 401 Water Quality Certification (401 WQC) for this NWP
  - F. Coastal Zone Management Consistency Response for this NWP
- 

In addition to any special condition that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit (NWP) authorization to be valid in Washington State.

### A. DESCRIPTION OF AUTHORIZED ACTIVITIES

13. Bank Stabilization. Bank stabilization activities necessary for erosion control or prevention, such as vegetative stabilization, bioengineering, sills, rip rap, revetment, gabion baskets, stream barbs, and bulkheads, or combinations of bank stabilization techniques, provided the activity meets all of the following criteria:

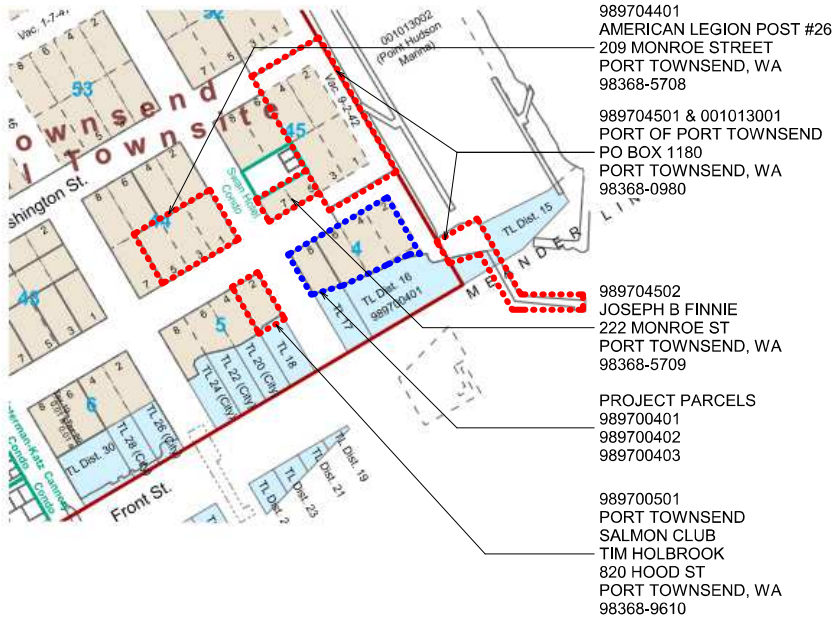
- (a) No material is placed in excess of the minimum needed for erosion protection;
- (b) The activity is no more than 500 feet in length along the bank, unless the district engineer waives this criterion by making a written determination concluding that the discharge of dredged or fill material will result in no more than minimal adverse environmental effects (an exception is for bulkheads – the district engineer cannot issue a waiver for a bulkhead that is greater than 1,000 feet in length along the bank);
- (c) The activity will not exceed an average of one cubic yard per running foot, as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line, unless the district engineer waives this criterion by making a written determination concluding that the discharge of dredged or fill material will result in no more than minimal adverse environmental effects;
- (d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless the district engineer waives this criterion by making a written determination concluding that the discharge of dredged or fill material will result in no more than minimal adverse environmental effects;
- (e) No material is of a type, or is placed in any location, or in any manner, that will impair surface water flow into or out of any waters of the United States;
- (f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored native trees and treetops may be used in low energy areas);
- (g) Native plants appropriate for current site conditions, including salinity, must be used for bioengineering or vegetative bank stabilization;
- (h) The activity is not a stream channelization activity; and
- (i) The activity must be properly maintained, which may require repairing it after severe storms or erosion events. This NWP authorizes those maintenance and repair activities if they require authorization.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the bank stabilization activity. Appropriate measures must be taken to maintain

**VICINITY MAP**



**PARCEL MAP**



**PROJECT TEAM**

**OWNER**

THE NORTHWEST  
MARITIME CENTER

CHRIS HARTLEY,  
FACILITIES MANAGER  
431 WATER STREET  
PORT TOWNSEND, WA  
98368  
1(360) 385-3628 x 114

**ARCHITECT**

THE MILLER HULL  
PARTNERSHIP

KEVIN CARPENTER,  
PROJECT MANAGER  
71 COLUMBIA - SIXTH  
FLOOR  
SEATTLE, WA 98104  
1(206) 682-6837

**STRUCTURAL ENGINEER**

QUANTUM CONSULTING  
ENGINEERS

SCOTT TINKER, PRINCIPAL  
1511 3RD AVENUE #323  
SEATTLE, WA 98101  
1(206) 903-1015

**COASTAL GEOLOGIST**

COASTAL GEOLOGIC  
SERVICES, INC

JIM JOHANNESSEN  
1711 ELLIS ST. #103  
BELLINGHAM, WA 98225  
1(360) 647-1845

**LANDSCAPE ARCHITECT**

GGLO

MARK SINDELL, ASSOCIATE  
1301 FIRST AVENUE #301  
SEATTLE, WA 98101  
1(206) 467-5828

**ENVIRONMENTAL**

MARINE SURVEYS &  
ASSESSMENTS

KIMBERLY MCCLURG  
380 JEFFERSON ST.  
PORT TOWNSEND, WA  
98368  
(360) 385-4073

**PROJECT INFORMATION**

**PROJECT DISCRPTION**

REPAIR OF STORM DAMAGE INCURRED OVER THE PRIOR 5 YEARS. SCOPE INCLUDES REPAIR OF BEACH ELEMENTS DAMAGED OR LOST, AS WELL AS NEW PROTECTIVE ELEMENTS TO MITIGATE FUTURE DAMAGE. REPAIR SCOPE: REINFORCE CONCRETE PAVING AND STAIRS UNDERMINED BY EROSION. REPLACE LOST SAND AND COBBLE. REPLACE LOST LOG PROTECTION WITH BOULDER PROTECTION. REPLANT LOST EROSION CONTROL LANDSCAPING  
MITIGATION SCOPE : ADD ADDITIONAL BEACH BOULDERS

**STREET ADDRESS**

431 WATER STREET  
PORT TOWNSEND, WA 98368

**TAX PARCEL NUMBERS**

989700401, 989700402,  
989700403

**GENERAL NOTES**

- IT IS THE INTENT OF THE CONTRACT DOCUMENTS THAT ALL WORK COMPLY WITH THE WASHINGTON STATE BUILDING CODE, THE WASHINGTON STATE ENERGY CODE, AND OTHER APPLICABLE CODES, RULLES, AND REGULATIONS OF JURISDICTIONS HAVING AUTHORITY.
- PRIOR TO COMMENCEMENT OF ANY PORTION OF THE WORK, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES NOTED AMONG OR BETWEEN THE CONTRACT DOCUMENTS, OWNER-PROVIDED INFORMATION, SITE CONDITIONS, MANUFACTURER RECOMMENDATIONS, OR CODES, REGULATIONS, OR RULS OF JURISDICTIONS HAVING AUTHORITY.
- PRIOR TO COMMENCEMENT OF ANY PORTION OF THE WORK, THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE CONTRACT DOCUMENTS, OWNER-PROVIDED INFORMATION, AND SITE CONDITIONS, INCLUDING TAKING FIELD MEASUREMENTS AS NECESSARY.
- THE CONTRACTOR SHALL SECURE AND PAY FOR ALL GOVERNMENTAL PERMITS, FEES, LICENSES, AND INSPECTIONS NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK, EXCEPT FOR THE GENERAL BUILDING PERMIT.
- THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE BINDING AS IF REQUIRED BY ALL.
- REPETATIVE FEATURES NOT INDICATED IN THE DRAWINGS EVERYWHERE THAT THEY OCCUR SHALL BE PROVIDED AS IF DRAWN IN FULL.
- DO NOT SCALE THE DRAWINGS.

**DRAWING INDEX**

NO.	TITLE
1	TITLE SHEET
2	EXISTING CONDITIONS - SITE PLAN
3	SHORELINE REPAIR - SITE PLAN
4	SHORELINE REPAIR - CROSS SECTION
5	LANDSCAPE SITE PLAN
6	LANDSCAPE PLANTING PLAN
7	DETAILS
8	STRUCTURAL SITE PLAN
9	STRUCTURAL DETAILS

Proposed: Northwest Maritime Center  
Shoreline Storm Damage Repair  
USACE Ref. #: NWS 2021-974  
In: Port Townsend County: Jefferson State: WA  
Application By:  
Northwest Maritime Center  
431 Water Street  
Port Townsend, WA 98368  
Project Location: 48.1158 Lat., -122.7512 Lon.  
Assessors Parcels: 989700403, 989700401

November 22, 2021



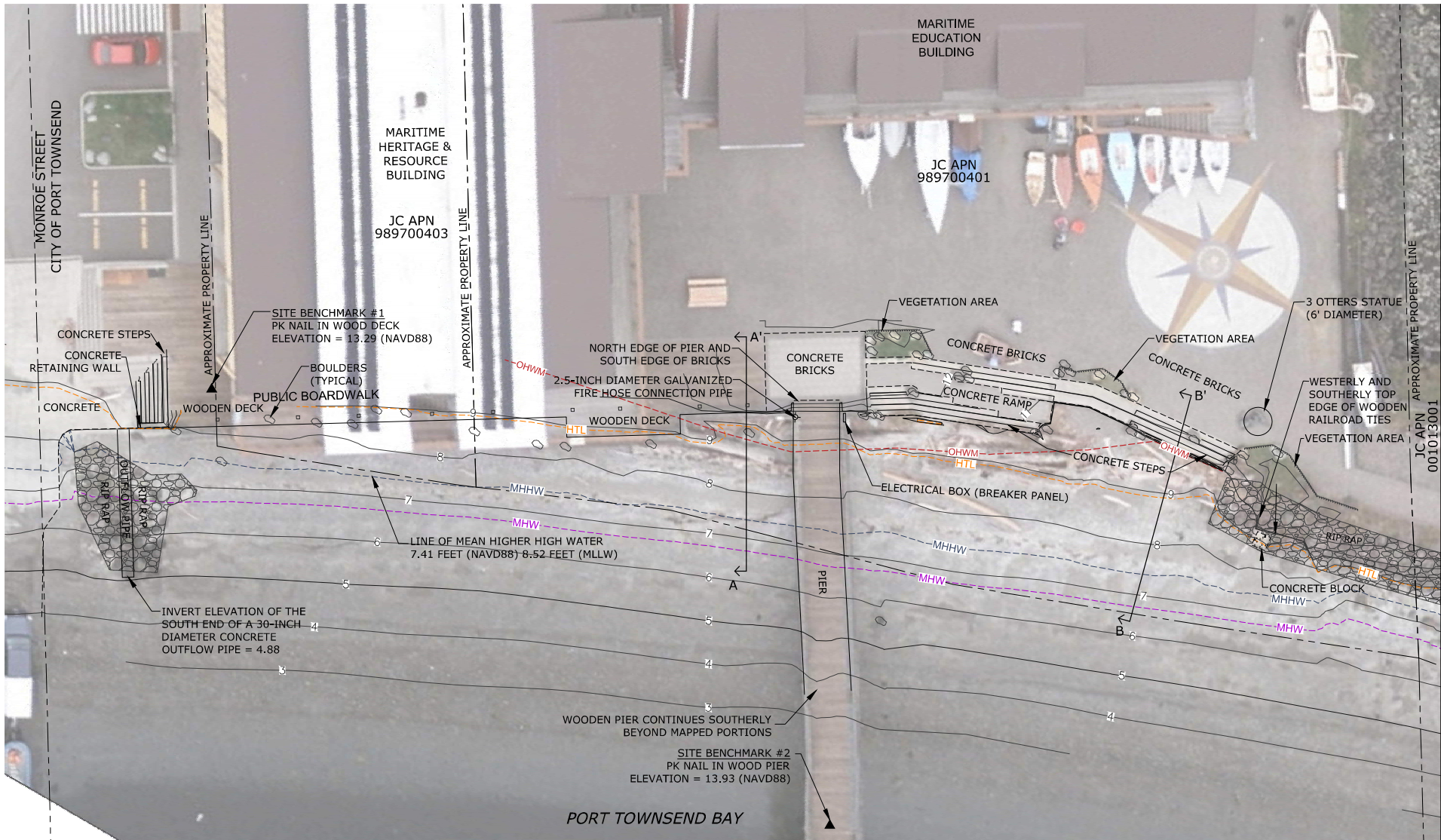
SHORELINE STORM DAMAGE REPAIR  
NWMC - 431 Water St. | Port Townsend, WA 98368

PERMIT DESIGN  
19 NOVEMBER 2021

No.	Description	Date
1	USACE	11/22/2021

Issue Date: 19 NOVEMBER 2021  
Drawn: KC  
Checked: DK  
M/H Project No.: A19.0075.00

**TITLE SHEET**  
**1**



**MILLER HULL**  
 The Miller Hull Partnership, LLP  
 Architecture and Planning  
 Pitkin Building  
 71 Columbia, Sixth Floor  
 Seattle, WA 98104  
 Phone 206.682.6837  
 Fax 206.682.2692  
 Contact Name



**SHORELINE STORM DAMAGE REPAIR**  
 NWMC - 431 Water St. | Port Townsend, WA 98368  
**PERMIT DESIGN**  
 17 SEPTEMBER 2021

**CGS**  
**COASTAL GEOLOGIC SERVICES**  
 1711 Ellis St, Suite 103  
 Bellingham, WA 98225  
 360-647-1845 - coaststageo.com

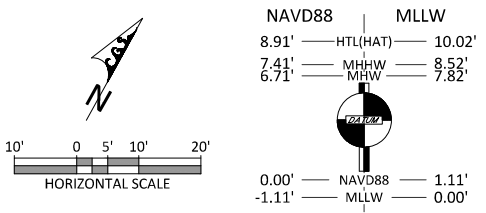


James W. Johannessen

No.	Description	Date
1	USACE	11/9/2021

Issue Date: 17 SEPTEMBER 2021  
 Drawn: ADJ  
 Checked: JVI  
 MJH Project No.: A19.0075.00

**EXISTING CONDITIONS**  
**SITE PLAN**  
**2**

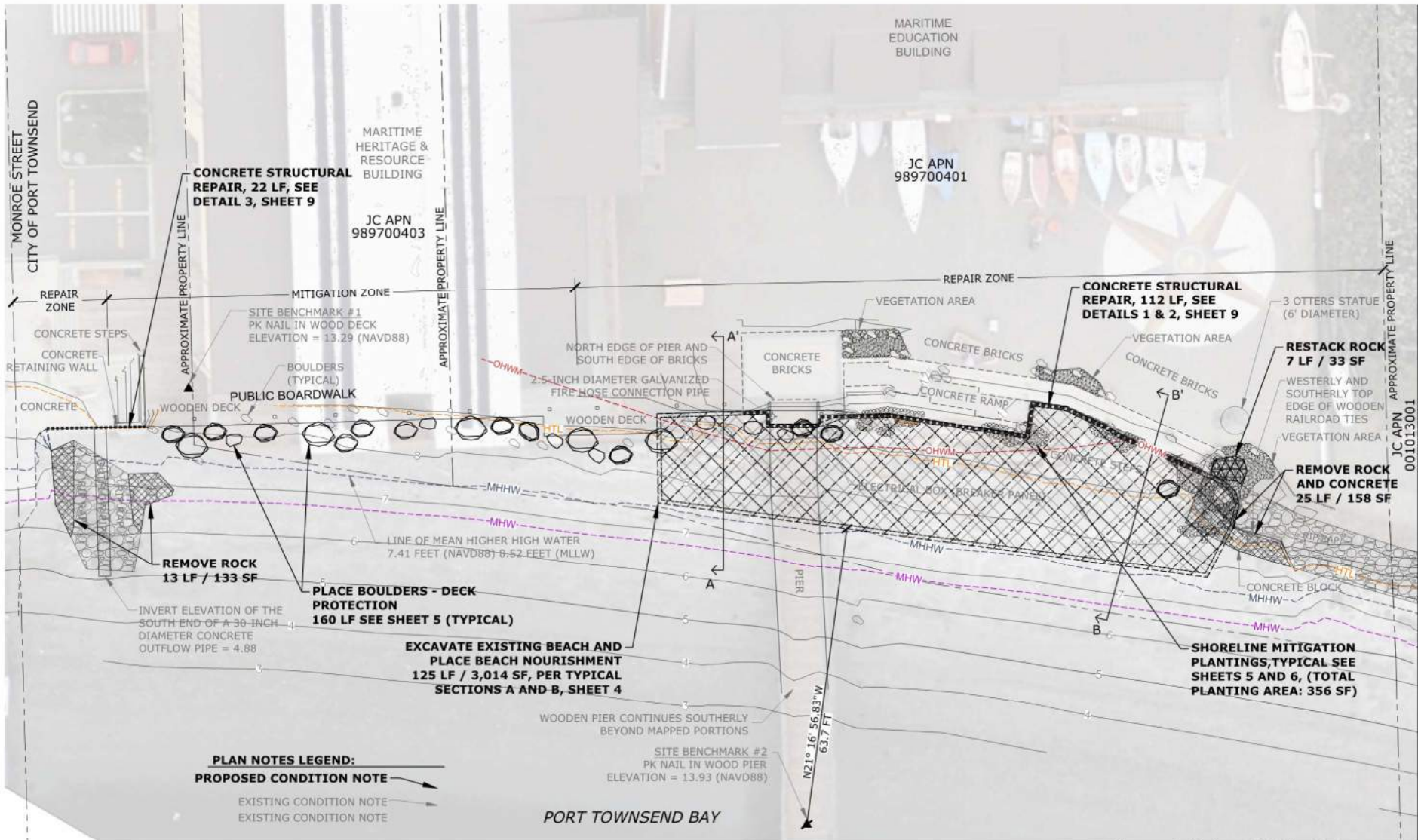


November 22, 2021

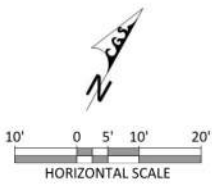
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**PERMIT DESIGN**  
 NOT FOR CONSTRUCTION





**PLAN NOTES LEGEND:**  
**PROPOSED CONDITION NOTE** →  
 EXISTING CONDITION NOTE →  
 EXISTING CONDITION NOTE →



November 22, 2021

MARITIME EDUCATION BUILDING  
 JC APN 989700401

MARITIME HERITAGE & RESOURCE BUILDING  
 JC APN 989700403

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 Architecture and Planning  
 Pioneer Building  
 71 Columbia, Sixth Floor  
 Seattle, WA 98104  
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 Fax 206.462.5682  
 Contact Name



**SHORELINE STORM DAMAGE REPAIR**  
 NMMC - 431 Water St. | Port Townsend, WA 98368  
**PERMIT DESIGN**  
 17 SEPTEMBER 2021



1711 Ellis St., Suite 100  
 Bellingham, WA 98225  
 360-847-1545 - coastalgeo.com

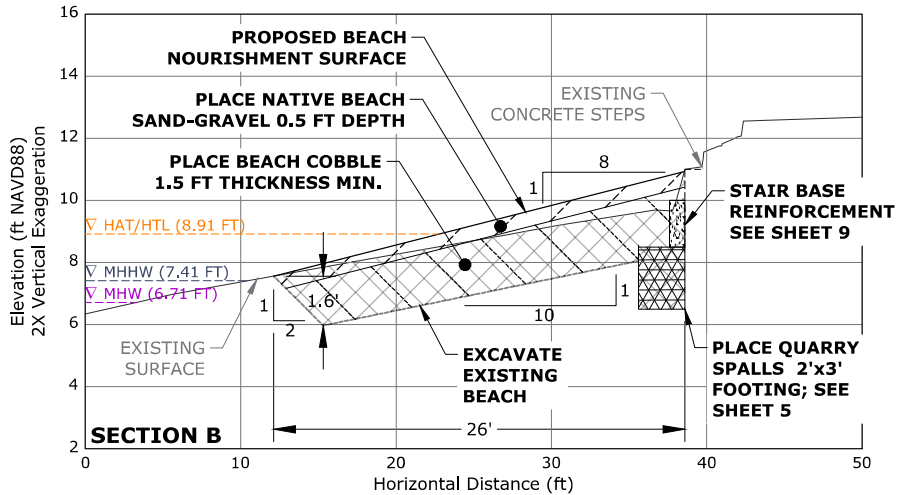
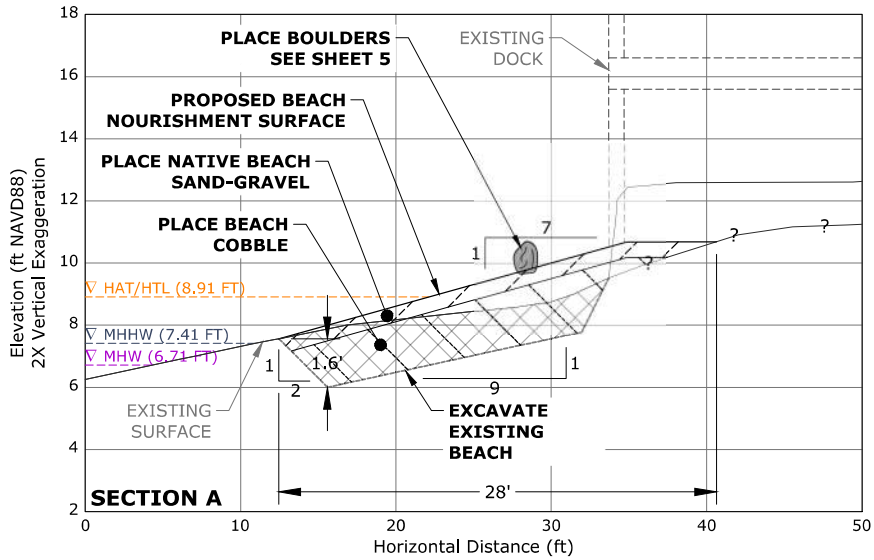


No.	Description	Date
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**PERMIT DESIGN**  
 NOT FOR CONSTRUCTION

**SHORELINE REPAIR**  
**SITE PLAN**



November 22, 2021

**PERMIT DESIGN**  
NOT FOR CONSTRUCTION

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Seattle, WA 98104  
Phone 206.462.6837  
Fax 206.462.6892  
Contact Name



**SHORELINE STORM DAMAGE REPAIR**  
NWMC - 431 Water St. | Port Townsend, WA 98368

**PERMIT DESIGN**

17 SEPTEMBER 2021



1711 Ellis St, Suite 105  
Bellingham, WA 98225  
360-647-1845 - coastalgeo.com



No.	Description	Date
1	USACE	11/9/2021

Issue Date: 17 SEPTEMBER 2021  
Drawn: ADJ  
Checked: JVI  
MH Project No.: A19.0075.00

**SHORELINE REPAIR  
CROSS SECTIONS**

**4**



**SHORELINE STORM DAMAGE REPAIR**  
 NWMC - 431 Water St. Port Townsend, WA 98368

**PERMIT DESIGN**

17 SEPTEMBER 2021



No.	Description	Date
1	USACE	11/9/2021

Issue Date: 17 SEPTEMBER 2021  
 Drawn: PD  
 Checked: MS  
 MH Project No.: A18.0075.00

REPAIR ZONE

MITIGATION ZONE

REPAIR ZONE

36"X 30" CLEAR WORK ZONE AT ELECTRICAL PANEL

PROTECT EXISTING FIRE SPRINKLER LINE UNDER DECK.

PAVING REPAIR - SEE STRUCTURAL DETAIL 3 SHEET 8

PROTECT EXISTING SD LINE.

REMOVE (APPROX. 100 SF.) OF EXISTING BOULDERS - SEE SHEET 2 FOR EXTENT.

PUBLIC BOARDWALK ABOVE

LANDSCAPE BOULDER ON GRADE - SEE DETAIL DETAIL 5 SHEET 7. SEE SCHEDULE FOR LANDSCAPE BOULDERS SIZE.

MEAN HIGHER HIGH WATER 7.41' (NAVD88)

EXISTING BOULDERS TO REMAIN, TYP.

EXISTING BEACH LOGS TO BE REMOVED AND RELOCATED NORTH OF THE EXISTING DOCK IF PRESENT, TYP.

EXISTING DOCK TO REMAIN

EXISTING PRECAST CONCRETE PAVER TERRACE

SEE PLANTING PLAN AND PLANT SCHEDULE - SHEET 6.

EXISTING LANDSCAPE BOULDERS TO REMAIN, TYP.

KAYAK RAMP REPAIR - SEE STRUCTURAL DETAIL 2 SHEET 8

**LANDSCAPE BOULDER SCHEDULE**

(8) ③ 3-MAN STONE

(14) ④ 4-MAN STONE

(5) ⑤ 5-MAN STONE

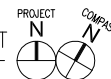
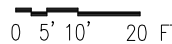
EXISTING CONCRETE STAIRS  
 STAIR REPAIR AREA - SEE DETAIL DETAIL 3 SHEET 7.

LANDSCAPE BOULDER STAIR REPLACEMENT - SEE DETAIL DETAIL 4 SHEET 7. SEE SCHEDULE FOR LANDSCAPE BOULDERS SIZE.

REPLENISH BEACH WITH COBBLE-GRAVEL BEACH NOURISHMENT TO ELEVATION 10.5' TYP.

RELOCATED TRANSIENT BEACH LOG PREVIOUSLY SOUTH OF THE EXISTING DOCK IF PRESENT.

November 22, 2021



1

**SITE DIAGRAM**

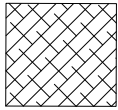
SCALE: HORIZONTAL\_SCALE

**Proposed: Northwest Maritime Center**  
**Shoreline Storm Damage Repair**  
**USACE Ref. #: NWS-2021-974**  
**In: Port Townsend County: Jefferson State: WA**  
**Application By:**  
**Northwest Maritime Center**  
**431 Water Street**  
**Port Townsend, WA 98368**  
**Project Location: 48.1158 Lat., -122.7512 Lon.**  
**Assessors Parcels: 989700403, 989700401**

N 30°31'52" W 292.98

# PLANT SCHEDULE

GROUND COVERS	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY
---------------	----------------	-------------	------	---------	-----



	ELYMUS MOLLIS	AMERICAN DUNEGRASS	1 GAL	18" o.c.	169 (356 SF.)
--	---------------	--------------------	-------	----------	---------------

PUBLIC BOARDWALK

EXISTING PRECAST  
CONCRETE PAVER  
TERRACE

MEAN HIGHER HIGH  
WATER 7.41' (NAVD88)

EXISTING DOCK TO  
REMAIN

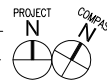
November 22, 2021

1

SITE\_DIAGRAM

SCALE: HORIZONTAL\_SCALE

0 5' 10' 20 FT



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MILLER HULL

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Architects and Planning  
Poison Building  
71 Columbia Street  
Seattle, WA 98104  
Phone 206.462.6837  
Fax 206.462.6592  
Contact: Name



SHORELINE STORM DAMAGE REPAIR  
NWMC - 431 Water St. Port Townsend, WA 98368

PERMIT DESIGN

17 SEPTEMBER 2021

GGLO DESIGN

1301 1ST AVE #301  
SEATTLE, WA 98101  
http://www.gglo.com



No.	Description	Date
1	USACE	11/9/2021

Issue Date: 17 SEPTEMBER 2021  
Drawn: PD  
Checked: MS  
MH Project No.: A18.0075.00

LANDSCAPE  
PLANTING  
PLAN

6



**SHORELINE STORM DAMAGE REPAIR**  
 NMMC - 431 Water St. | Port Townsend, WA 98368

**PERMIT DESIGN**  
 17 SEPTEMBER 2021



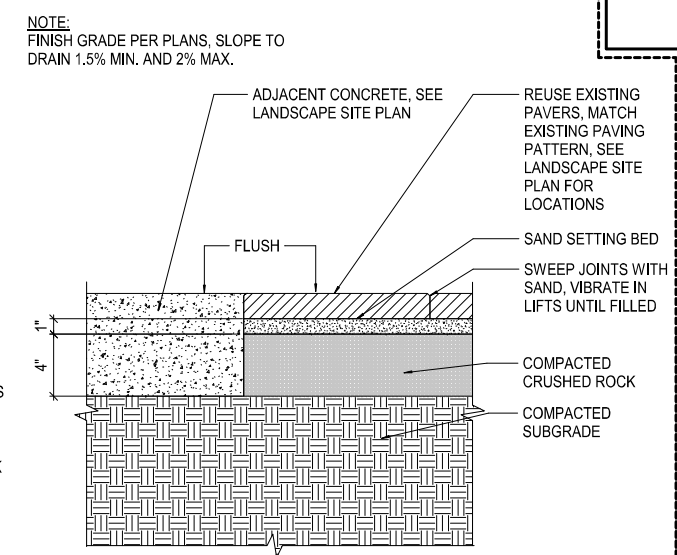
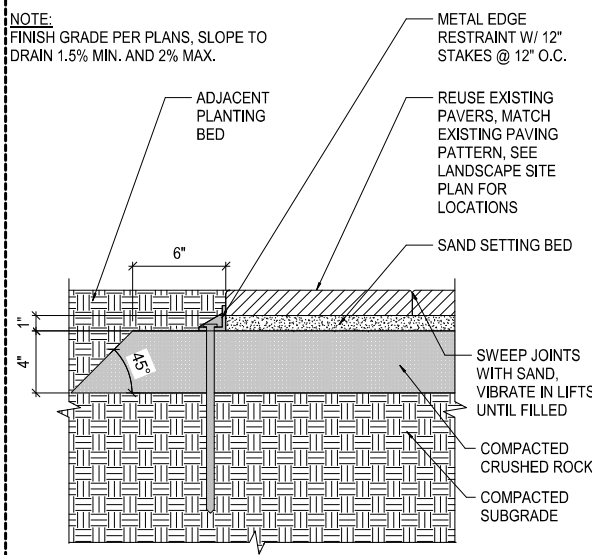
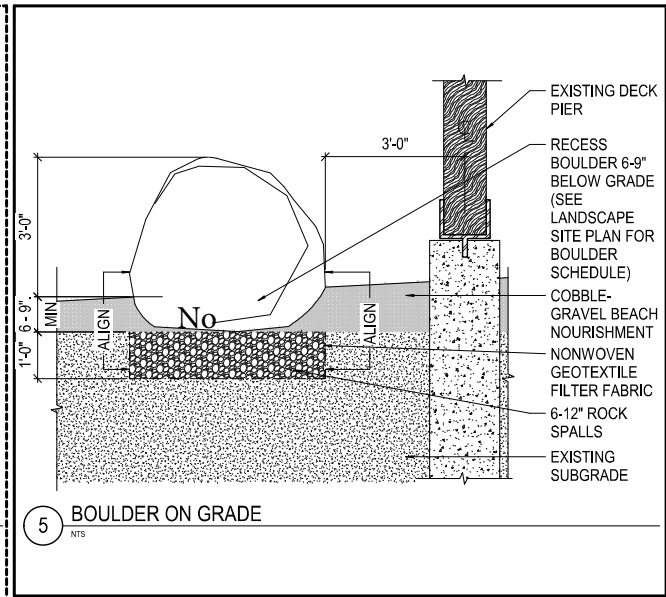
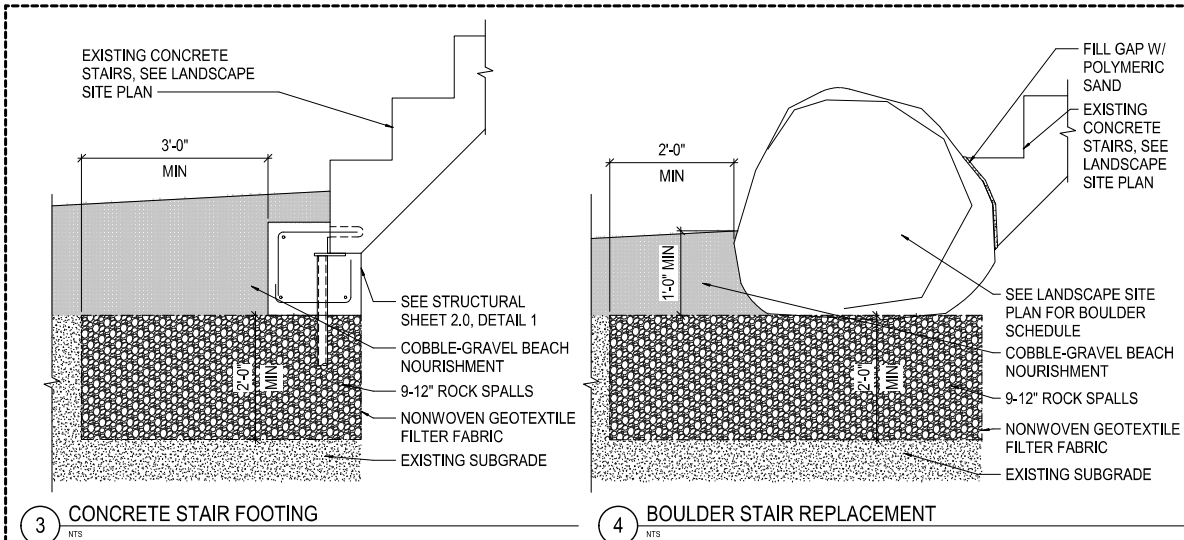
No.	Description	Date
1	USACE	11/9/2021

Issue Date: 17 SEPTEMBER 2021  
 Drawn: \_\_\_\_\_ NZ  
 Checked: \_\_\_\_\_ PD  
 MH Project No.: 2018084.01

**LANDSCAPE DETAILS**  
**7**

**REPAIR SCOPE**

**1/3 REPAIR, 2/3 MITIGATION SCOPE**



November 22, 2021

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 Northwest Maritime Center  
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November 22, 2021



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Contact Name:



**SHORELINE STORM DAMAGE REPAIR**  
NMMC - 431 Water St. Port Townsend, WA 98368

**PERMIT DESIGN**  
17 SEPTEMBER 2021

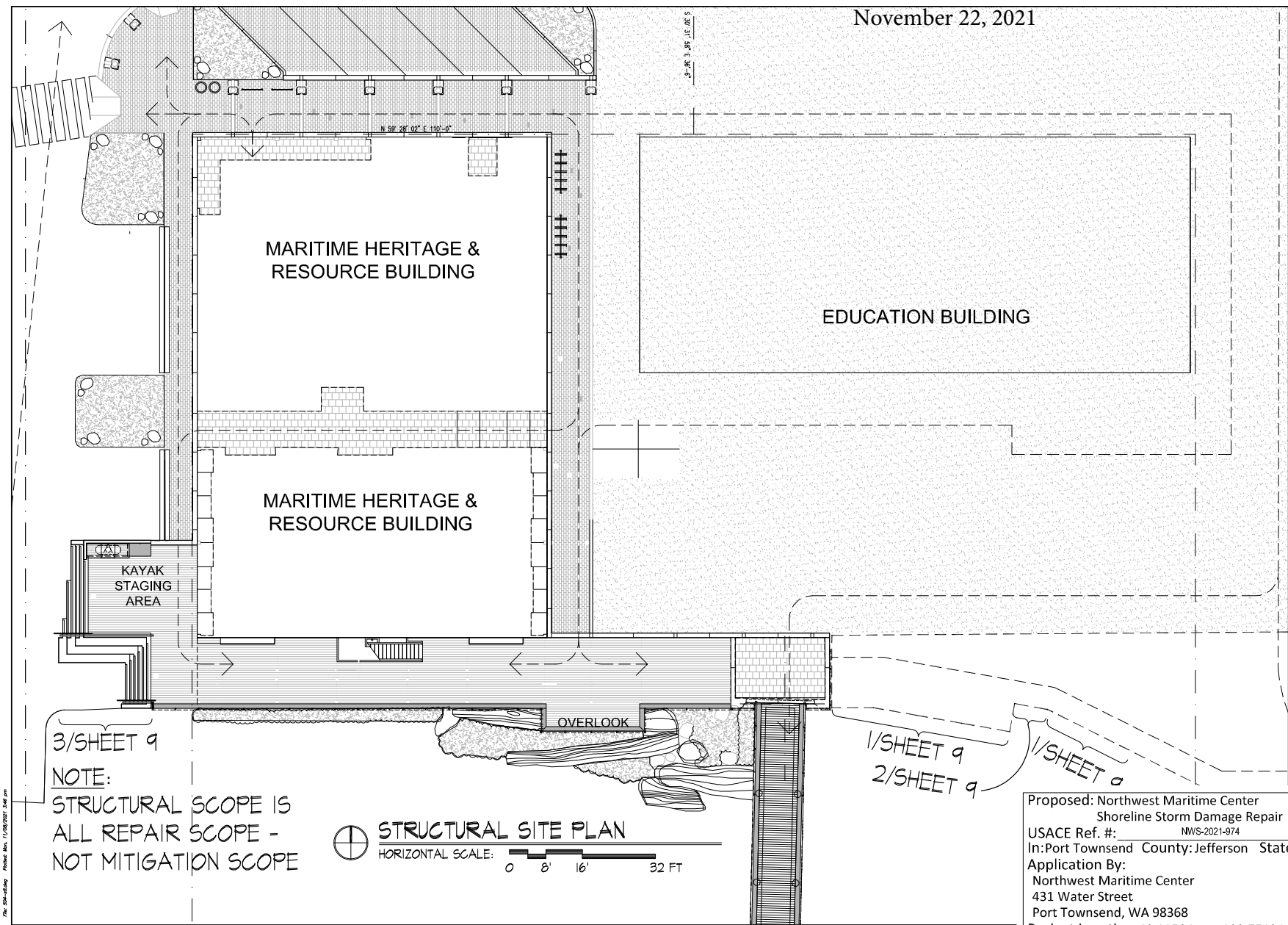


No.	Description	Date
1	USACE	11/9/21

Issue Date: 17 SEPTEMBER 2021  
Drawn: SSN  
Checked: SHT  
MH Project No.: 19504.01

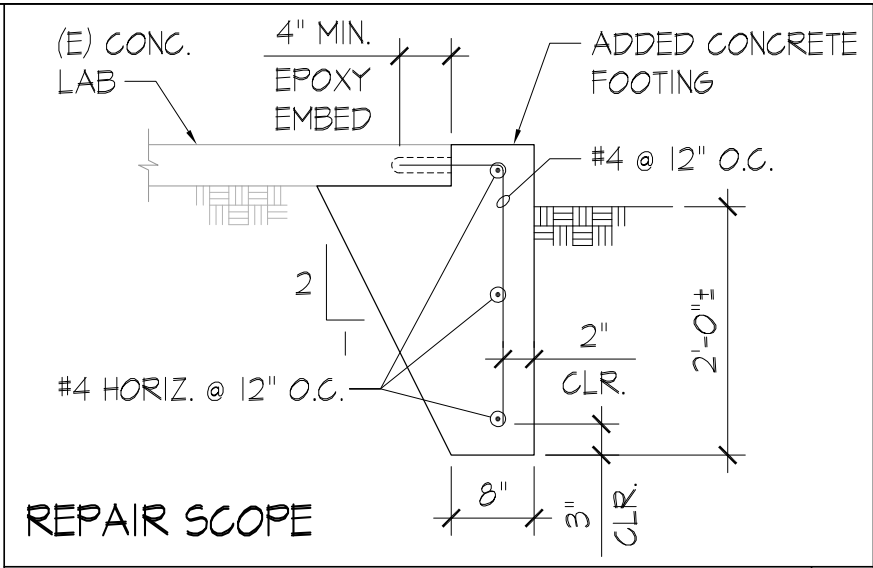
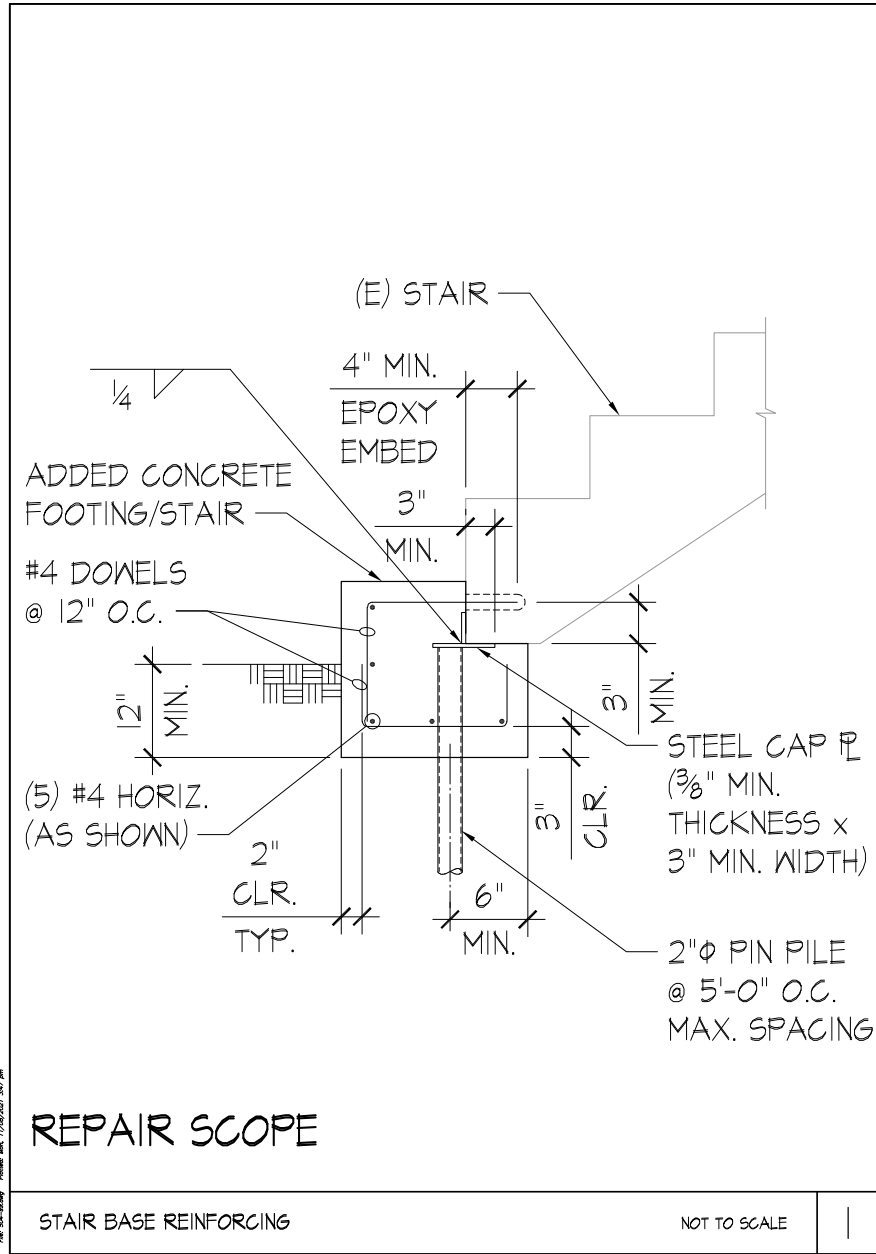
**STRUCTURAL SITE PLAN**

8

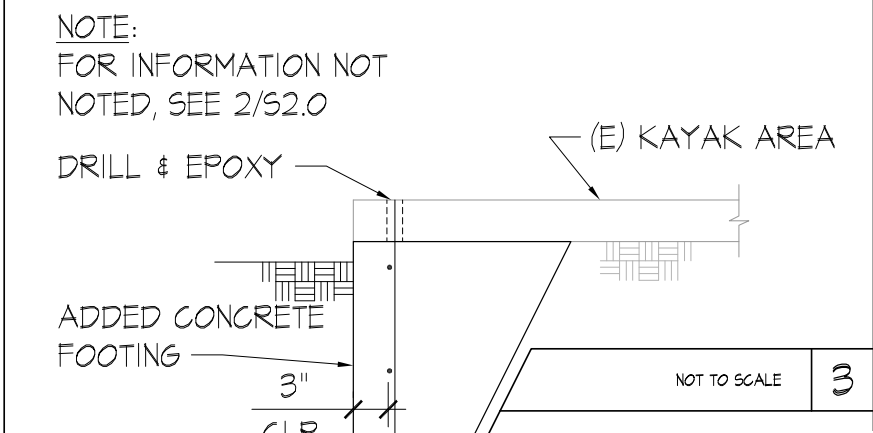


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431 Water Street  
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Project Location: 48.1158 Lat., -122.7512 Lon.  
Assessors Parcels: 989700403, 989700401

File: 004-millday - Project Rev: 11/09/2021 - 2:48 pm



SLAB EDGE REINFORCING - INCREASED FOOTPRINT NOT TO SCALE 2



SLAB EDGE REINFORCING - SAME FOOTPRINT

Proposed: Northwest Maritime Center  
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File: 004-rd.dwg Plotter Size: 11/16/2021 2:47 pm



The Miller Hull Partnership, LLP  
 Architecture and Planning  
 71 Columbia, 5th Floor  
 Seattle, WA 98104  
 Phone: 206.462.2637  
 Fax: 206.462.5992  
 Contact Name:



SHORELINE STORM DAMAGE REPAIR  
 NWS-431 Water St. Port Townsend, WA 98368

PERMIT DESIGN  
 17 SEPTEMBER 2021



No.	Description	Date
1	USACE	11/9/21

Issue Date: 17 SEPTEMBER 2021  
 Drawn: SSN  
 Checked: SHT  
 M/H Project No.: 19504.01

**STRUCTURAL DETAILS**

## **ACTION IMPLEMENTATION WORKSHEET INSTRUCTIONS**

**NMFS Review and Verification.** The FEMA project manager shall submit the below implementation sheet for every project submitted along with the pile installation and stormwater information worksheets (if applicable), with the Action Notification portion completed, to NMFS at *femaprogrammatic.wcr@noaa.gov* for notification or verification.

**The Following Actions Require Verification from NMFS.** NMFS will notify FEMA within 30 calendar days if the actions are verified or disqualified.

- a. Temporary bypass channels (PDC 15)
- b. Alluvium placement that occupies more than 25% of the channel bed or more than 25% of the bankfull cross sectional area (PDC 42e)
- c. Blasting (PDC 31)
- d. Compensatory mitigation (PDC 38)
- e. Engineered log jams (PDC 42i)
- f. Fish screens on pump intakes for dewatering at a rate that exceeds 3 cfs (PDC 16)
- g. Grade stabilization (PDC 39b)
- h. LW placement that occupies greater than 25% of the bankfull cross section area (PDC 42e)
- i. The following minor project modifications are allowed under the proposed action if on a case-by-case basis, when NMFS verifies the resulting environmental and biological effects of the modification fit within the biological opinion:
  - i. Work outside the in-water work window,
  - ii. Large wood placement outside of the instream work window,
  - iii. Alternate location for equipment, refueling, and staging,
  - iv. Additional heavy equipment in constructing stream fords,
  - v. Revegetating after the first growing season
- j. New or upgraded stormwater outfalls (PDC 35 & 40)
- k. Off- and side-channel habitat restoration (PDC 46)
- l. Pile installation (PDC 25)
- m. Road-stream crossing replacement or retrofit (39c)
- n. Set-back of an existing berm, dike, or levee (PDC 47)
- o. Stormwater facilities (PDC 35 & 40)
- p. Utility crossing that includes directional drilling that spans the channel migration zone or any associated wetland (PDC 41)
- q. Vegetated riprap with LW (PDC 42g)
- r. Water control structure removal (PDC 48)

Attach information to e-mail message if required or relevant to NMFS's review:

- Erosion and pollution control plan
- Engineering designs
- Site assessment for contaminants to identify the type, quantity, and extent of any potential contamination
- Stormwater management plan
- Frac-out release contingency plan
- SAV (submerged aquatic vegetation) survey



**The Following Actions Do Not Require Verification from NMFS.** Any action that involves (a) routine road surface, culvert and bridge maintenance activity; (b) utility line crossing (excluding directional drilling operations), (c) boulder placement for habitat restoration, (d) streambank restoration, or (e) debris removal.

**Project Reporting.** The FEMA project manager shall submit the following reports as necessary:

**Action Completion Reporting.** It is the FEMA project manager responsibility to submit this form to the NMFS within 90 days of completing all work below ordinary high water (OHW) for riverine systems or below the highest astronomical tide (HAT) for marine systems. FEMA will resubmit this form with the Action Completion Report portion completed to NMFS at *femaprogrammatic.wcr@noaa.gov*.

**Fish Salvage Reporting.** It is the FEMA project manager responsibility to submit this form to the NMFS within 90 days of completing a capture and release as part of an action completed under FEMA's Endangered Species programmatic opinion. The FEMA will submit the Fish Salvage Report completed to NMFS at *femaprogrammatic.wcr@noaa.gov*.

**ACTION IMPLEMENTATION WORKSHEET**  
**Action Notification**

<b>DATE OF REQUEST:</b>	<b>5/16/2022</b>	<b>NMFS TRACKING #:</b>	
<b>TYPE OF REQUEST:</b>	<input type="checkbox"/> ACTION NOTIFICATION (NO VERIFICATION) <input checked="" type="checkbox"/> ACTION NOTIFICATION (VERIFICATION REQUIRED)		
<b>Statutory Authority:</b>	<input type="checkbox"/> ESA ONLY <input checked="" type="checkbox"/> EFH ONLY <input type="checkbox"/> ESA & EFH COMBINED		
<b>Lead Action Agency:</b>	Federal Emergency Management Agency	FEMA Action ID #: DR 4418 PW 90 GM# 110433	Corps Action ID# (if any):
<b>Action Agency Contact:</b>	Curtis Dahlgren		NWS-2021-974
<b>Project Name:</b>	Northwest Maritime Center – Shoreline Storm Damage Repair		
<b>6<sup>th</sup>-Field HUC &amp; Name:</b>	1711001912 – Puget Sound		
<b>Proposed Construction Period:</b>	<b>Start Date:</b>	1/1/2022	<b>End Date:</b> 1/1/2027
<i>If applicable fill out the relevant information below</i>			
<b>Proposed Length of Channel and/or Riparian Modification in linear feet:</b>	Project site is approximately 300 linear feet, in total (upper beach shoreline)		
<b>Proposed Area of Herbicide Application in riparian area in linear feet:</b>	N/A		
<b>Proposed square footage of over-water structure</b>	N/A		
<b>Proposed amount of volume of material dredged</b>			

**Introduction**

The Northwest Maritime Center in the City of Port Townsend, Clallam County, is proposing a shoreline/upper beach stabilization action related to Presidentially declared disaster storm event (FEMA-DR-4418) that caused exposure of a foundation of an existing beach concrete stair pathway, affected second floor deck supports and threatened existing utilities. The project will include foundation and adjacent protective revetment repair, excavation of upper beach sand and gravel, beach nourishment actions, upper shoreline stabilization planting (American dunegrass), and the placement of boulders and quarry spalls under a pile supported structure. The facilities and project area are located at approximately: 48.1158, -122.7512.

As noted in the supporting Biological Assessment (attached), the project area is currently developed with a multi-purpose building and a hardscape staging area surfaced with pavers (See Figure 2 in attached BA). A concrete stairway descends from the staging area to the beach. Wave action during heavy storms caused erosion around the stairway, and the base and sides of the structure are exposed and unsupported in some areas. Soil was also eroded from beneath the pavers in one area along the top of the stairway.

Based on observations from the applicant's consultant (Coastal Geologic Services), the absence of regular, naturally-derived sediment supply from the surrounding shores to this site makes the project area less resilient to erosive forces. The historical drift cell that ran for miles from the SW to NE to the area was interrupted by several large overwater structures in the downtown Port Townsend waterfront, virtually eliminating all-natural sediment supply. Consequently, unprotected beaches in this area might continue to erode. To avoid the need to hard armor at the project site and to limit future erosion, beach nourishment is proposed as part of the project design along with plantings in the upper limits of the shoreline area. The intent is to dynamically maintain a slightly higher back beach elevation and help dissipate wave energy and reduce wave runup.

**Proposed Construction Period:**

An in-water work window is not being proposed for this project since the work will take place at low tide, in the dry, and to allow the contractor to take advantage of the best low tide cycles throughout the summer. All work will be conducted above the MHHW line, except for the mitigation work to remove a portion of the armor rock on the SW end of the project site surrounding the stormwater culvert.

For any work occurring outside of the established sand lance work window for Tidal Reference Area 10 (March 2 to October 14), a forage fish survey will be completed by a WDFW-certified biologist to determine presence/absence of eggs before any work begins.

**Project Description:**

The project is to repair the exposed foundation of the concrete pathway and beach stairs at the plaza and to protect the first and second floor deck supports and main building after chronic beach erosion. The repair will involve excavating upper beach sand and gravel at the undermined concrete step foundations and placing deeply buried, small, angular rock (quarry spall) and pouring a new concrete footing (all below grade) to fill the voids and deepen the foundation to avoid re-exposure of the foundation. Beach nourishment will be placed below in the existing upper beach sand and gravel waterward of the plaza and stairs.

**Project actions:**

1. Concrete Foundation Repair: 112 linear feet
  - a. Excavate toe sand at the concrete foundation.
  - b. Form a new concrete step/footing at the base of the existing footing.
  - c. Deepen and widen the foundation toe line and fill the voids under the exposed parts of the concrete foundation with quarry spalls to avoid re-exposure of the foundation.

2. Scour Control (Beach Nourishment 198 cubic yards) along Structure Toe Line on North Beach
  - a. Excavate existing beach approximately 1.75 ft below the existing grade.
  - b. Introduce 1.5 ft minimum cobble-gravel beach nourishment at the upper beach near the structure. to raise the beach elevation and to protect the structure against toe line scour.
  - c. Place 0.5 ft or slightly more excavated beach sediment atop newly placed cobble.
  - d. Place large boulders strategically as debris barriers to reduce wave and debris impact to structures.
3. Revetment Repair at North Bank Adjacent to the Concrete Stairway: 54 linear feet
  - a. Place quarry spall 9-21" below grade.
  - b. Place large boulders scattered and in groups on beach grade.
4. Protection of Deck at South Beach and Pier Deck at its Connection to Shore
  - a. Protect utility (water) pipes and supporting structural members beneath the deck, as well as the electric wire conduits beneath the pier.
  - b. Place quarry spall 9"-21" below grade.
  - c. Place large boulders scattered and in groups on beach grade.
5. South Stairs Repair: 22 linear feet
  - a. Remove unnecessary existing scattered boulders from the beach surface.
  - b. Excavate sand at and the edge of the concrete.
  - c. Add concrete footing below existing paving.
6. Project Mitigation
  - a. Remove rock boulders from the upper beach just NE of the NE end of the concrete stairway near the plaza—move to the eroded low bank immediately adjacent above elevation +11 ft MLLW. (25 linear feet)
  - b. Remove a portion of the armor rock on the SW end of the project site in the immediate area surrounding the stormwater culvert. (13 linear feet) Note: No repairs are planned for the stormwater culvert.
  - c. Install a small 356 sf planting area in the uppermost beach/backshore. This will involve the planting of American dune grass (*Elymus mollis*) on the north side of the existing pier, in front of the paved terrace.

See attachment: 9-17-2021. *Northwest Maritime Center Shoreline Storm Damage Repair - Biological Evaluation*. Marine Services and Assessments.

See attachment *2021-11-22\_JARPA-Beach Repair Project.pdf* for a more detailed description of the proposed actions.

See attachment *2021-11-22\_Storm Damage Repair Drawings 90%.pdf* for a vicinity map, site plan and detailed drawings of the project.

**Type of Action:**

*Identify the type of action proposed.*

Actions Requiring No Verification from NMFS:

- Routine road maintenance
- Utility line crossing (excluding directional drilling operations)
- Boulder placement
- Streambank restoration
- LW placement that occupies <25% of the bankfull cross section area
- Debris removal

Actions Requiring Verification from NMFS:

- Temporary bypass channels
- Alluvium placement in/*beach nourishment*
- Blasting
- Compensatory mitigation
- Utility line crossing (directional drilling)
- Engineered log jams
- Fish screens for diversion >3 cfs
- Grade stabilization
- LW placement that occupies >25% of the bankfull cross section area
- New or upgraded stormwater outfalls
- Off-and side-channel habitat restoration
- Pile Installation
- Road-stream crossing replacement or retrofit
- Set-back of an existing berm, dike, or levee
- Stormwater facilities
- Vegetated riprap with LW
- Water control structure removal
- In-water Over-water Structure
- Access maintenance
- Streambank and Channel Stabilization (marine shoreline)
- Minor project modification

**NMFS Species/Critical Habitat Present in Action Area:**

*Identify the species or designated critical habitat found in the action area:*

***ESA Species***

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> UWR spring-run Chinook | <input type="checkbox"/> MCR steelhead                | <input type="checkbox"/> SR sockeye                    |
| <input checked="" type="checkbox"/> PS Chinook  | <input checked="" type="checkbox"/> PS Steelhead      | <input type="checkbox"/> Lake Ozette sockeye           |
| <input type="checkbox"/> UWR steelhead          | <input type="checkbox"/> UCR spring-run Chinook       | <input type="checkbox"/> OC coho                       |
| <input type="checkbox"/> LCR Chinook            | <input type="checkbox"/> UCR steelhead                | <input type="checkbox"/> SONCC coho                    |
| <input type="checkbox"/> LCR steelhead          | <input type="checkbox"/> SR spring/summer run Chinook | <input checked="" type="checkbox"/> HC summer-run chum |
| <input type="checkbox"/> LCR coho               | <input type="checkbox"/> SR fall-run Chinook          | <input type="checkbox"/> Eulachon                      |
| <input type="checkbox"/> Columbia River chum    | <input type="checkbox"/> SR steelhead                 |  |

***EFH Species***

- Salmon, chinook
- Salmon, coho
- Salmon, pink
- Pacific Coast groundfish

## **Project Design Elements & Best Management Practices:**

*Check the Project Design Elements and Best Management Practices from the biological opinion that will be for this proposed action. Please attach all appropriate plan(s) for this proposed action including, but not limited to: design plans, any revegetation or compensatory mitigation plans, and any related stormwater treatment design plans. In general, a minimum of at least 30% completed design plan(s) plans are required for projects that do not involve any in-water work, and a minimum of at 50% completed design plan(s) is typically required for any projects that include in-water work. Some projects that involve complex designs or extensive disturbance may require near 100% design. When in doubt of what is required, it is recommended that applicants contact FEMA and/or NMFS staff for direction.*

The proposed actions that FEMA is proposing to fund under the FEMA Endangered Species Programmatic (FESP) agreement align most closely with Transportation Related Action – 3. Utilities and 4. Bank stabilization. Following is the list of 8 PDCs that FEMA has determined are applicable to the proposed action. If approved, FEMA will include them as a condition of the public assistance grant for the disaster recovery work:

### 12. Project Design

- a. To the extent feasible, use site design to retain natural vegetation and permeable soils, limit compaction, and otherwise minimize the extent and duration of earthwork.

### 17. Site Layout and Flagging

- a. Before any significant ground disturbance or entry of mechanized equipment or vehicles into the construction area, clearly mark with flagging or survey marking paint the following areas:
  - i. Sensitive areas, e.g., wetlands, water bodies, spawning areas will be flagged and identified by a qualified biologist.
  - ii. Equipment entry and exit points.
- b. Staging, storage, and stockpile areas.

### 18. Staging, Storage, and Stockpile Areas

- a. Designate and use staging areas to store hazardous materials, or to store, fuel, or service heavy equipment, vehicles, and other power equipment with tanks larger than 5 gallons, that are at least 150 feet from any natural water body or wetland, or on an established paved area, such that sediment and other contaminants from the staging area cannot be deposited in the floodplain or stream.

### 19. Pollution and Erosion Control.

- a. At a minimum, project designs and best management practices shall abide by those issued by the respective state department of ecology or department of environmental quality. Some (not all) pertinent state standards and guidance are available in the following documents (or any future documents that replace or supplement them):

Washington: Stormwater Management Manual for Western Washington; Volumes I thru V, Washington State Department of Ecology (as amended 2014) or Stormwater Management Manual for Eastern Washington; Washington State Department of Ecology Publication 04-10-076 (2004).

## 20. Hazardous Material Safety

- a. At the project site:
  - i. Post written procedures by the grantee for notifying environmental response agencies, including an inventory and description of all hazardous materials present, and the storage and handling procedures for their use.
  - ii. Maintain a spill containment kit, with supplies and instructions for cleanup and disposal, adequate for the types and quantity of hazardous materials present.
  - iii. Workers are trained in spill containment procedures, including the location and use of the spill containment kits.
  - iv. Temporarily contain any waste liquids generated under an impervious cover, such as a tarpaulin, in the staging area until the wastes can be properly transported to, and disposed of, at an appropriate receiving facility.

## 24. Equipment, Vehicles and Power Tools

- a. Select, operate, and maintain all heavy equipment, vehicles, and power tools to minimize damage to natural vegetation and permeable soils, *e.g.*, low pressure tires, minimal hard-turn paths for track vehicles, use of temporary mats or plates to protect wet soils.
- b. Before entering wetlands or working within 150 feet of a water body:
  - i. Power wash all heavy equipment, vehicles, and power tools, allow them to fully dry, and inspect them for fluid leaks, and to make certain no plants, soil, or other organic material are adhering to the surface.
  - ii. Ensure all equipment to be operated below ordinary high water is leak free or operating with biodegradable products.<sup>7</sup> This does not apply to vehicles and equipment that are doing road work and/or passing through a project area (*e.g.*, dozers, graders, etc.).
- c. Repeat cleaning as often as necessary during operation to keep all equipment, vehicles, and power tools free of external fluids and grease, and to prevent a leak or spill from entering the water.
- d. Avoid use of heavy equipment, vehicles, or power tools below OHW for riverine systems or below the HAT for marine systems unless project specialists determine such work is necessary, or if it is a temporary stream crossing or would result in less risk of sedimentation or other ecological damage than work above that elevation.
- e. Before entering the water, inspect any watercraft, waders, boots, or other gear/equipment to be used in or near water and remove any plants, soil, or other organic material adhering to the surface.
- f. Ensure that any generator, crane, or other stationary heavy equipment that is operated, maintained, or stored within 150 feet of any water body is also protected as necessary to prevent any leak or spill from entering the water.

### 37. Revegetation

- a. Plant and seed disturbed areas before or at the beginning of the first growing season after construction.
- e. Do not apply surface fertilizer within 50 feet of any wetland or water body.
- g. Do not use invasive or non-native species for site restoration.
- h. Conduct post-construction monitoring and treatment to remove or control invasive plants until native plant species are well-established.

### 42. Streambank and channel stabilization

- a. The streambank and channel stabilization action category is to ensure that roads, culverts, bridges and utility lines do not become hazardous due to the long-term effects of toe erosion, scour, subsurface entrainment, or mass failure.
- b. The following streambank stabilization methods (as further described below) may be used individually or in combination:
  - i. Alluvium placement
  - ii. Herbaceous cover, in areas where the native vegetation does not include trees or shrubs
  - iii. Bank reshaping and slope grading
- c. For more information on the above methods see Federal Emergency Management Agency (FEMA 2009) Engineering with Nature, Natural Resources Conservation Service (NRCS 2016) Natural Channel and Floodplain Restoration, Applied Fluvial Geomorphology, or Cramer et al. (2003) Washington State Aquatic Habitat Guidelines Program: Integrated Streambank Protection Guidelines. Other than those methods relying solely upon woody and herbaceous plantings, streambank stabilization projects must be designed by a qualified engineer that is appropriately registered in the state where the work is performed.
- d. Alluvium placement can be used as a method for providing bank stabilization using imported gravel/cobble/boulder-sized material of the same composition and size as that in the channel bed and banks, to halt or attenuate streambank erosion, and stabilize riffles. This method is predominantly for use in small to moderately sized channels and is not appropriate for application in mainstem systems. Alluvium placement is a method designed to provide roughness, redirect flow, and provide stability to adjacent streambed and banks or downstream reaches, while providing valuable fish and wildlife habitat.
  - i. NMFS fish passage verification. The NMFS will review alluvium placement projects that would occupy more than 25% of the channel bed or more than 25% of the bankfull cross sectional area.
  - ii. This design method is only verified in those areas where the natural sediment supply has been eliminated, significantly reduced through anthropogenic disruptions, or used to initiate or simulate sediment accumulations in conjunction with other structures, such as LW placements and ELJs.



- iii. When a footing, facing, head wall, or other protection will be constructed with rock to prevent scouring or down-cutting of, or fill slope erosion or failure at, an existing culvert or bridge, the amount of rock used will be limited to the minimum necessary to protect the integrity of the structure. Whenever feasible, include soil and woody vegetation as a covering and throughout the structure.
- iv. unsorted and unstable gravel, thus potentially resulting in redd destruction.
- v. Imported material will be free of invasive species and non-native seeds. If necessary, wash prior to placement.

<p><u>Administrative</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Electronic notification</li> <li><input type="checkbox"/> Site assessment for contaminants</li> <li><input type="checkbox"/> Site access</li> <li><input type="checkbox"/> Salvage notice</li> </ul> <p><u>General Construction</u></p> <p><u>Measures</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> In-water work timing</li> <li><input type="checkbox"/> Fish capture and release</li> <li><input type="checkbox"/> Work area isolation</li> <li><input type="checkbox"/> Fish screens</li> <li><input checked="" type="checkbox"/> Equipment, vehicles, power tools</li> <li><input checked="" type="checkbox"/> Site layout and flagging</li> <li><input checked="" type="checkbox"/> Staging, storage, and stockpile areas</li> <li><input checked="" type="checkbox"/> Pollution and erosion control</li> <li><input checked="" type="checkbox"/> Hazardous material safety</li> <li><input type="checkbox"/> Pile installation</li> <li><input type="checkbox"/> Pile removal</li> <li><input type="checkbox"/> Broken or intractable pile</li> <li><input type="checkbox"/> Fish passage</li> <li><input type="checkbox"/> Surface water withdrawal</li> <li><input type="checkbox"/> Dust abatement</li> <li><input type="checkbox"/> Construction discharge water</li> <li><input type="checkbox"/> Temporary access roads and paths</li> <li><input type="checkbox"/> Temporary stream crossings</li> <li><input type="checkbox"/> Drilling and boring</li> <li><input type="checkbox"/> Pesticide and preservative-treated wood</li> <li><input type="checkbox"/> Barge use</li> <li><input type="checkbox"/> Invasive and non-native plant control</li> <li><input type="checkbox"/> Post-construction stormwater management</li> <li><input type="checkbox"/> Site restoration</li> <li><input checked="" type="checkbox"/> Revegetation</li> <li><input type="checkbox"/> Compensatory mitigation</li> </ul>	<p><u>1. Road Maintenance/Rehab/Replacement</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Design criteria</li> <li><input type="checkbox"/> road/culvert/bridge maintenance</li> <li><input type="checkbox"/> Grade stabilization</li> <li><input type="checkbox"/> Structure stabilization</li> <li><input type="checkbox"/> Permanent stream-road crossing replacement</li> <li><input type="checkbox"/> Vegetated riprap with LW</li> <li><input type="checkbox"/> Roughened toe</li> <li><input type="checkbox"/> Rock structures</li> </ul> <p><u>2. Stormwater Management Plan</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Design criteria</li> <li><input type="checkbox"/> Low Impact Development</li> <li><input type="checkbox"/> Water quality BMPs</li> <li><input type="checkbox"/> Water quantity BMPs</li> <li><input type="checkbox"/> Maintenance plan</li> <li><input type="checkbox"/> Monitoring and reporting</li> </ul> <p><u>3. Utility Stream Crossings</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Design criteria</li> </ul> <p><u>4. Streambank/Channel Stabilization</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Alluvium placement</li> <li><input type="checkbox"/> Large wood (LW) placement</li> <li><input type="checkbox"/> Vegetated riprap with LW</li> <li><input type="checkbox"/> Woody plantings</li> <li><input type="checkbox"/> Herbaceous cover</li> <li><input type="checkbox"/> Streambank shaping</li> <li><input type="checkbox"/> Coir logs</li> <li><input type="checkbox"/> Soil reinforcement</li> <li><input type="checkbox"/> Engineered log jams</li> <li><input type="checkbox"/> Floodplain flow spreaders</li> <li><input type="checkbox"/> Fertilizer</li> <li><input type="checkbox"/> Fencing</li> <li><input type="checkbox"/> Filling scour hole</li> <li><input checked="" type="checkbox"/> Slope stabilization with rock</li> </ul> <p><u>5. Streambank Restoration</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Non-herbicide methods</li> <li><input type="checkbox"/> Power equipment</li> <li><input type="checkbox"/> Herbicide applicator qualifications</li> <li><input type="checkbox"/> Transportation and safety plan</li> </ul>	<p><u>6. Boulder Placement for Habitat Restoration</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Site selection</li> <li><input type="checkbox"/> Installation</li> </ul> <p><u>7. Large Wood Placement</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Large wood condition</li> </ul> <p><u>8. Off- and Side-Channel Habitat</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Needs NMFS Verification</b></li> </ul> <p><u>9. Set-back Berm, Dike, and Levee</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Needs NMFS Verification</b></li> </ul> <p><u>10. Water Control Structure Removal</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Needs NMFS Verification</b></li> </ul> <p><u>11. In-water Over-water structures</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Boat ramps</li> <li><input type="checkbox"/> Replacement floats</li> <li><input type="checkbox"/> Relocation of existing structures</li> <li><input type="checkbox"/> Repair/replacement of covered moorage/boat houses</li> </ul> <p><u>12 &amp; 13 Dredging</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintenance dredging</li> <li><input type="checkbox"/> Vessel access dredging</li> </ul> <p><u>14. Debris Removal</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Design criteria</li> </ul> <p><u>Invasive and Non-native Plant Control</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Non-herbicide methods</li> <li><input type="checkbox"/> Power equipment</li> <li><input type="checkbox"/> Herbicide applicator qualifications</li> <li><input type="checkbox"/> Herbicide transportation and safety plan</li> <li><input type="checkbox"/> Approved herbicides</li> <li><input type="checkbox"/> Approved herbicide adjuvants</li> <li><input type="checkbox"/> Approved herbicide carriers</li> <li><input type="checkbox"/> Herbicide mixing</li> <li><input type="checkbox"/> Approved herbicide application rates</li> <li><input type="checkbox"/> Approved herbicide application methods</li> <li><input type="checkbox"/> Minimize herbicide drift and leaching</li> <li><input type="checkbox"/> Required herbicide buffer distances</li> </ul>
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US Army Corps  
of Engineers ®  
Seattle District

## CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT



Permit Number: NWS-2021-974

Name of Permittee: Katie Oman

Date of Issuance: October 7, 2022

Upon completion of the activity authorized by this permit, please check the applicable boxes below, date and sign this certification, and return it to the following email or mailing address:

NWS.Compliance@usace.army.mil                      OR                      Department of the Army  
U.S. Army Corps of Engineers Seattle  
District, Regulatory Branch  
4735 E. Marginal Way S, Bldg 1202  
Seattle, Washington 98134-2388

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of your authorization, your permit may be subject to suspension, modification, or revocation.

<input type="checkbox"/>	<p>The work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of this permit.</p> <p>Date work complete: _____</p> <p><input type="checkbox"/> Photographs and as-built drawings of the authorized work (OPTIONAL, unless required as a Special Condition of the permit).</p>
--------------------------	--

<input type="checkbox"/>	<p>If applicable, the mitigation required (e.g., construction and plantings) in the above-referenced permit has been completed in accordance with the terms and conditions of this permit (not including future monitoring).</p> <p>Date work complete: _____ <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> Photographs and as-built drawings of the mitigation (OPTIONAL, unless required as a Special Condition of the permit).</p>
--------------------------	--

<input type="checkbox"/>	<p>Provide phone number/email for scheduling site visits (must have legal authority to grant property access).</p> <p>Printed Name: _____</p> <p>Phone Number: _____ Email: _____</p>
--------------------------	---

Printed Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# **Northwest Maritime Center Shoreline Storm Damage Repair**

## **Biological Evaluation**

**September 17, 2021**

**For: Northwest Maritime Center  
431 Water Street  
Port Townsend, WA 98368**



**MARINE SURVEYS & ASSESSMENTS  
380 Jefferson Street  
Port Townsend WA 98368  
360-385-4073  
[info@msaenvironmental.com](mailto:info@msaenvironmental.com)**

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# **1 Project Overview**

## **1.1 Purpose**

This Biological Evaluation (BE) has been prepared by Marine Surveys & Assessments (MSA) for the repair of the exposed foundation of a concrete pathway and beach stairs and to protect the first and second floor deck supports of the Northwest Maritime Center in Port Townsend WA. The shoreline has experienced chronic beach erosion during major storms over the last five years. This work will involve excavation and placement of fill below the High Tide Line (HTL) so it within U.S. Army Corps of Engineers (USACE) jurisdiction. The Endangered Species Act (ESA) requires preparation of this BE because it is a major construction project with a federal nexus.

Section 7(a)(2) requires Federal agencies to consult with the Services to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or result in the destruction or adverse modification of designated critical habitat.

The purpose of this BE is to evaluate the potential effects of the proposed project on listed and proposed wildlife, fish, and plant species and designated or proposed critical habitats that are likely to occur in the vicinity of the project.

## **1.2 Applicant Information**

Name: Northwest Maritime Center c/o Chris Hartley, facilities manager

Phone: (360) 385-3628 x 114

Mailing Address: 431 Water Street, Port Townsend, WA 98368

## **1.3 Project Location**

Section 1, Township 30N, Range 1W

Site Address: 431 Water Street, Port Townsend, WA

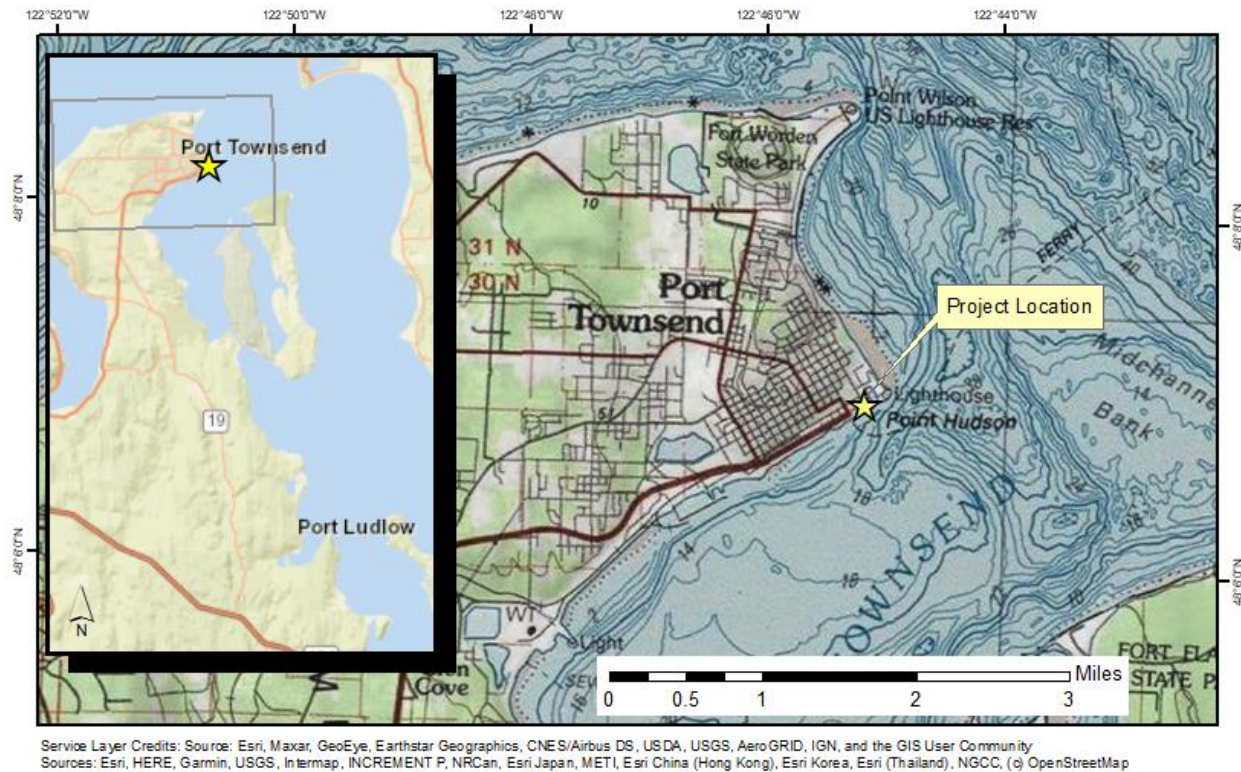
Parcel: 989700403 and 989700401 in Jefferson County

Latitude: 48.1158, Longitude: -122.7512

Waterbody: Port Townsend Bay

WRIA: 17 Quilcene-Snow

**Figure 1. Vicinity map**



## 1.4 Project Justification

As described in the project narrative prepared by Coastal Geologic Services:

The waterfront site is currently developed with a multi-purpose building and a hardscape staging area surfaced with pavers (Figure 2). A concrete stairway descends from the staging area to the beach. We understand that wave action during heavy storms has caused erosion around the stairway, and the base and sides of the structure are exposed and unsupported in some areas. Soil was also eroded from beneath the pavers in one area along the top of the stairway.

The main observations and relevant information are summarized as follows:

- Upper beach erosion and toe scour with exposure and loss of foundation base rocks was observed at the northeast end of the concrete pathway to the beach, which provides wheelchair beach access.
- Toe line scour and base exposure were also observed along the toe of the concrete stairway leading to the North Beach. Similar toe line scour was seen at South Beach leading to the paved concrete boat ramp.

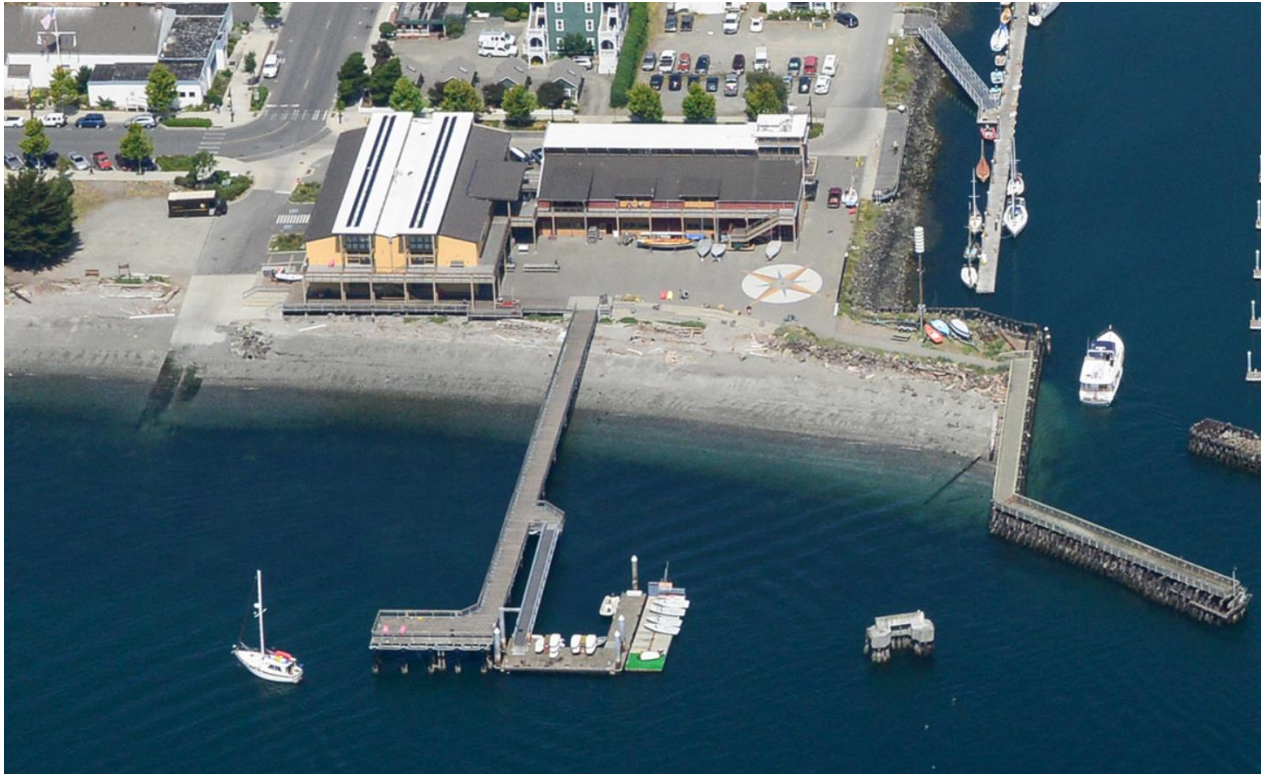


- Decorative landscaping boulders that had previously been integrated into the concrete structure were undermined and displaced due to toe scour beneath the boulders.
- At least one large log (we understand some were removed prior to 2018) that had been originally installed and anchored at the upper beach had been displaced. One approximately 40 ft-long log was found partially stuck under the porch deck. Evidence of impact and abrasion between the log and the metal truss (deck supporting member) was evident. Other large and small logs and wood pieces were scattered on the upper beach/backshore.
- The electric box and wire conduit (HDPE pipes) at the shore end of the pier on the beach side were broken and deformed, apparently damaged by debris impact during the recent storms.

The absence of regular, naturally-derived sediment supply from the surrounding shores to this site makes this site less resilient to erosive forces. The historical drift cell that ran for miles from the SW to NE to this site was interrupted by a number of large overwater structures in the downtown Port Townsend waterfront, virtually eliminating all-natural sediment supply. Unprotected beaches under current conditions at this site could continue to erode. To avoid the need to hard armor at the site over the intermediate-term, the buried, larger grain size sediment (cobble and gravel) upper portions of the upper beach through beach nourishment are included in the design. This should help dynamically maintain a slightly higher back beach elevation and help dissipate wave energy and reduce wave runup. Some maintenance in the form of re-nourishment would likely be needed over time.

As all previously installed protection logs were detached during storms and the beach has lowered, leaving the beach and the porch deck more exposed to storm wave attack. The upper beach elevation could be further lowered in a future storm which would allow more wave energy to reach the structures. Considering the limited under-deck clearance, future extreme high-water storms would put the porch/pier deck at the risk of under-deck wave impact (as occurs at the Cannery Building several blocks to the southwest). Therefore, a certain level of protection measures are warranted to reduce future risk potential. Purposely placed large boulders, scattered and in groups, should work effectively as debris barriers.

**Figure 2. Close-up of Department of Ecology shoreline photo (dated 7/25/2016) to show project site**



## **1.5 Project Description**

As described in the project narrative prepared by Coastal Geologic Services:

The project is to repair the exposed foundation of the concrete pathway and beach stairs at the plaza and to protect the first and second floor deck supports after chronic beach erosion during major storms in the last 5 years. The repair will involve excavating upper beach sand and gravel at the undermined concrete step foundations and placing deeply buried, small, angular rock (quarry spall) and pouring a new concrete footing (all below grade) to fill the voids and deepen the foundation to avoid re-exposure of the foundation.

To prevent future toe scour and damage, existing upper beach sediment will be excavated, and cobble-gravel beach nourishment will be imported at the upper beach near the structure area to protect the structure against potential future toe scour. The cobble will extend as far waterward at elevation 7.7 ft MLLW, just above the MHHW line and be keyed below existing grade. Cobble will be placed starting 24 ft SW of the existing pier and 9 ft NE of the pier, for a total length of 128 ft. Most of the excavated sediment will be placed on top the imported cobble in a 0.5 ft thick surface layer.

Large boulders will be placed strategically as debris barriers to reduce wave and debris impact to deck and pier supports on the uppermost beach. A total of (8) 3-man, (14) 4-man, and (5) 5-man builders will be used. Boulders will be placed on buried quarry spall rock placed at least 1.0 ft below existing grade.

The displaced boulders and eroded upper beach have resulted in undermining the north bank adjacent to the concrete stairway shall be repaired by the excavation of existing beach sediment at the existing structure's toe and the placement quarry spall 9-21 inches below grade. Large boulders shall be placed scattered and in groups on beach grade.

To summarize the project actions:

**1. Concrete Foundation Repair**

- a. Excavate toe sand at the concrete foundation.
- b. Form a new concrete step/footing at the base of the existing footing.
- c. Deepen and widen the foundation toe line and fill the voids under the exposed parts of the concrete foundation with quarry spalls to avoid re-exposure of the foundation.

**2. Scour Control along Structure Toe Line on North Beach**

- a. Excavate existing beach approximately 1.75 ft below the existing grade.
- b. Introduce 1.5 ft minimum cobble-gravel beach nourishment at the upper beach near the structure. to raise the beach elevation and to protect the structure against toe line scour.
- c. Place 0.5 ft excavated beach sediment atop newly placed cobble.
- d. Place large boulders strategically as debris barriers to reduce wave and debris impact to structures.

**3. Revetment Repair at North Bank Adjacent to the Concrete Stairway**

- a. Place quarry spall 9-21 inches below grade.
- b. Place large boulders scattered and in groups on beach grade.

**4. Protection of Porch Deck at South Beach and Pier Deck at its Connection to Shore**

- a. Protect utility (water) pipes and supporting structural members beneath the porch deck, as well as the electric wire conduits beneath the pier.
- b. Place quarry spall 9-21 inches below grade.
- c. Place large boulders scattered and in groups on beach grade.

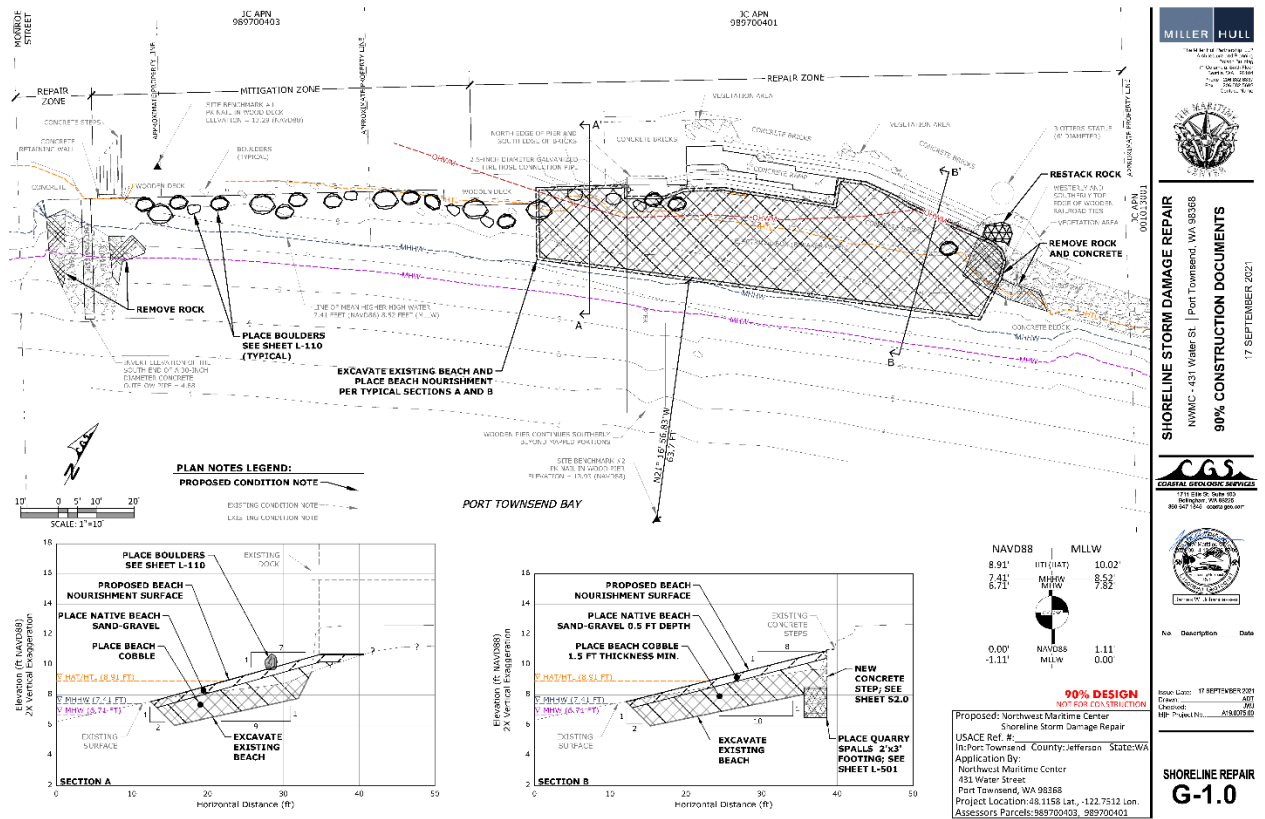
**5. South Stairs Repair**

- a. Remove existing scattered boulders from the beach surface.

- b. Excavate sand at and the edge of the concrete.
- c. Add concrete footing below existing paving.

Equipment and materials will access the site from the upland side of the project area, a barge will not be used. The contractor will complete the concrete work in the dry and will try to time the work so that it occurs during a low tide series in the summer to ensure wet concrete will not come in contact with seawater for at least seven days. If this is not possible, then plastic sheeting secured with sandbags may be used to keep the wet concrete from coming in contact with seawater while it cures for seven days. The proposed work can be seen in Figure 3.

**Figure 3. Site plan of proposed shoreline repair**



## 1.6 Action Area

The “project area” is the area where the work will occur. The project area also includes areas used for staging materials/equipment and accessing the site. The “action area” includes any areas with potential ecological effects from short-term construction activities or long-term habitat modification. This area includes potential turbidity and in-air noise effects from the use of large equipment during construction. The action area would likely extend no more than 0.25 mile to account for elevated noise from large equipment that will be used to move the boulders into position.

## 2 Baseline Environmental Conditions

The upper beach consists of gravel and shell hash on a sandy base with a narrow band of pea gravel and sand below MHHW (+8.52 ft MLLW) and a narrow band of sand above. Below approximately +6 ft MLLW, the substrate transitions into larger cobble. No attached submerged aquatic vegetation was found within the project area. There are a few large drift logs along the upper beach, next to the existing structures.

**Figure 4. View of the beach on the north side of the pier**



**Figure 5. View of the beach on the south side of the pier**



Washington State Department of Ecology’s Coastal Atlas Map shows no appreciable drift along the shoreline and the slope stability is classified as “modified”. The Coastal Atlas Map has also mapped the shoreline in front of the Northwest Maritime Center as an artificial pocket beach (Figure 6). Fringe (patchy) kelp and eelgrass is mapped along the project shoreline (WDNR 2001). The project site is not included in the Washington Department of Natural Resources’ eelgrass monitoring data (WDNR); however, during a dive completed by MSA on September 9, 2021, eelgrass was observed over 200 ft from the OHWM, starting on the shoreward end of the L-shaped float as seen in Figure 2.

**Figure 6. Artificial pocket beach at the project site**



### 3 Species & Critical Habitat

#### 3.1 State Priority Habitat & Species

Queries of the Washington State Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) data are summarized in

Table 1 below. Queries of WDFW’s Salmonid Stock Inventory (SaSI) show no streams within the action area that are utilized by salmonids.

**Table 1. WDFW PHS query results**

Species or Habitat	Priority Area/Occurrence Type	Action Area	Project Footprint
Waterfowl concentrations-Port Townsend Shoreline	Regular concentration: Brant & Harlequin feeding areas	Y	Y
Estuarine and Marine Wetland	Aquatic habitat	Y	N
Pacific Sand Lance	Breeding area (~0.5 mi away)	N	N
Waterfowl concentrations-Hudson Point, Port Townsend	Regular concentration: waterfowl wintering & migration areas	Y	N
Purple martin ( <i>Progne subis</i> )	Breeding area	Y	N

### 3.1.1 Forage Fish

Migrating salmon utilize baitfish such as Pacific herring (*Clupea harengus pallasii*), sand lance (*Ammodytes hexapterus*), and surf smelt (*Hypomesus pretiosus*) as prey resources. These forage fish form a very important trophic link between plankton resources and a wide variety of predatory marine organisms as well as providing food for marbled murrelets and bald eagles. According to WDFW, there is no documented forage fish spawning habitat along the shoreline at the project site; the nearest is sand lance spawning habitat approximately 0.5 mile southwest of the site (Figure 7).

**Figure 7. WDFW documented forage fish spawning habitat**



Quantum Spatial, USDA FSA, GeoEye, Maxar, CNES/Airbus DS | Washington Department of Natural Resources Aquatics Division | These data were collected by WDFW staff with contributions from the North Olympic Salmon Coalition and the Friends of the San Juans. | Washington Department of Fish and Wildlife | Esri, HERE, Garmin, iPC, NRCAN

### 3.2 Federal ESA-listed Species & Critical Habitat

For each listed species with the *potential to be in the project action area*, the listing status, distribution of species, and relevant life history traits are presented in the sections below. Salmon species that utilize streams adjacent to the project site will also be included as they may migrate past the project site. Species with critical habitat within the action area are summarized in Table 2 below and a detailed Assessment of Impacts to Critical Habitat is included with this report as an attachment for each species (see Attachments 2-4).

**Table 2. National Marine Fisheries Service (NMFS) and U.S. Fish & Wildlife Service (USFWS) Designated Critical Habitat**

NMFS/USFWS Critical Habitat	Action Area	Project Footprint
Final Nearshore Rockfish Critical Habitat (NMFS, 2014)	Y	Y
Final Deepwater Rockfish Critical Habitat (NMFS, 2014)	Y	N
Chum Salmon Critical Habitat (NMFS, 2005)	N	N
Marine Critical Habitat for Puget Sound Chinook Salmon (NMFS, 2005)	Y	Y
Freshwater Chinook Salmon Critical Habitat (NMFS, 2005)	N	N
Final Critical Habitat for Puget Sound Steelhead (NOAA, 2016)	N	N
Marine Critical Habitat Hood Canal Summer-run Chum Salmon (NMFS, 2005)	Y	Y
Southern Resident Killer Whale Critical Habitat (NMFS, 2006)	Y	N
Steelhead Trout Critical Habitat (NMFS, 2005)	N	N
Bull Trout Final Critical Habitat (USFWS, 2010)	N	N
Marbled Murrelet (USFWS, 2016)	N	N
Leatherback Sea Turtle Critical Habitat (NMFS, 2012)	N	N
Green Sturgeon Critical Habitat (NMFS, 2009)	N	N
Southern Eulachon (NMFS, 2011)	N	N
Proposed Humpback Whale Critical Habitat (NMFS, 2019)	N	N

#### 3.2.1 Puget Sound Chinook

Puget Sound Chinook (*Oncorhynchus tshawytscha*), also called the king salmon, are distinguished from all other Pacific salmon by their large size. Most Chinook in the Puget Sound are “ocean-type” and migrate to the marine environment during their first year (Myers et al. 1998). They may enter estuaries immediately after emergence as fry from March to May at a length of 40 mm or they may enter the estuaries as fingerling smolts during May and June of their first year at a length of 60-80 mm (Healey 1982). Chinook fry in Washington estuaries feed on emergent insects and epibenthic crustaceans (gammarid amphipods, mysids, and cumaceans). As they grow and move into neritic habitats, they feed on decapod larvae, larval and juvenile fish, drift insects, and euphausiids (Simenstad et al. 1982). These ocean-type Chinook use estuaries as rearing areas and are the most dependent of all salmon species on estuaries for survival.



The Puget Sound Chinook is listed under the Endangered Species Act (ESA) as threatened according to the National Marine Fisheries Service (NMFS) (70 FR 37160; June 28, 2005). In addition, NMFS has designated critical habitat for 12 Evolutionarily Significant Units (ESUs) of West Coast salmon, including the Puget Sound Chinook Salmon ESU. The portion of the project footprint and action area below the line of extreme high water is in an area designated as critical habitat for the Puget Sound Chinook ESU (70 FR 52685; September 2, 2005).

The project site and action area are within Puget Sound Chinook critical habitat. There are no streams within the action area with documented Chinook presence (WDFW SaSI). The nearest stream with documented presence is the Dungeness River almost 20 miles to the west. However, since juvenile Chinook are very shoreline oriented, Chinook that utilize streams to the south in the Hood Canal may migrate and forage along the shoreline at the project site.

An “Assessment of Impacts to Critical Habitat” is provided in Attachment 2.

### **3.2.2 Hood Canal Summer-run Chum**

In Puget Sound, chum spawning grounds are situated near coastal rivers and lowland streams. Puget Sound chum typically spawn from September to March (WSCC 2003). Chum (along with ocean-type Chinook) spend more time in the estuarine environment than other species of salmon (Healey 1982). Residence time in the Hood Canal ranges from 4 to 32 days with an average residence of 24 days (Simenstad et al. 1982). Juvenile chum consume benthic organisms found in and around eelgrass beds (harpacticoid copepods, gammarid amphipods and isopods), but change their diet to drift insects and plankton such as calanoid copepods, larvaceans, and hyperiid amphipods as their size increases to 50 - 60 mm (Simenstad et al. 1982). Chum move offshore and switch diets when presented with a lack of food supply (Simenstad et al. 1982).

NMFS has listed the Hood Canal summer-run chum ESU (*Oncorhynchus keta*) as threatened under the ESA (70 FR 37160; June 28, 2005). NMFS designated critical habitat for the Hood Canal summer-run chum ESU shortly after (70 FR 52739; September 2, 2005) and it includes the entire Hood Canal and contiguous shoreline north/northwest, ending past Dungeness Bay near Sequim.

The project site and action area are within Hood Canal summer-run chum critical habitat. There are no streams within the action area with documented summer chum presence; the nearest is Chimacum Creek almost 5 miles to the south (WDFW SaSI). Since juvenile chum are dependent on nearshore habitats, it is likely this species may migrate and forage along the shoreline at the project site.

An “Assessment of Impacts to Critical Habitat” is provided in Attachment 2.

### 3.2.3 Bull Trout

In the United States, Coastal-Puget Sound bull trout (*Salvelinus confluentus*) used to range from northern California (now extinct in California) to Alaska. In the salmon family, they are members of the char subgroup. Spawning occurs typically from August to November in streams and migration to the open sea (for anadromous populations) takes place in the spring. Very cold water is required for the survival of eggs and juveniles. Temperatures in excess of about 15 degrees C are thought to limit bull trout distribution (Rieman & McIntyre, 1993). They live both in fresh and marine waters. Some migrate to larger rivers (fluvial), lakes (adfluvial), or saltwater (anadromous) before returning to smaller streams to spawn. Others (resident bull trout) complete all of their life in the streams where they were reared. Habitat degradation, dams and diversions, and predation by non-native fish threaten the Coastal Puget Sound population (64 FR 58910; November 1, 1999).

All populations of bull trout, including the Coastal-Puget Sound populations, were listed as threatened by the United States Fish and Wildlife Service (USFWS) in 1999 (64 FR 58910; November 1, 1999). USFWS designated critical habitat for bull trout in 2010 (75 FR 63898; October 18, 2010).

The project site and action area are not within bull trout critical habitat. According to SaSI data, the nearest documented bull trout presence is in the Dungeness River almost 20 miles west of the project site (WDFW). There are streams in the Hood Canal that are utilized by bull trout so it is possible this species may migrate past the project site.

### 3.2.4 Puget Sound Steelhead

Steelhead is the name given to the anadromous form of the species *Oncorhynchus mykiss*. The freshwater residents are called rainbow trout. Steelhead can return to the ocean after spawning and migrate to freshwater to spawn again, unlike Pacific salmon. Steelhead fry can spend one to two years in freshwater before heading to the open ocean, where they may stay for two to four years before returning to Washington streams. The majority of juvenile steelhead downstream migration occurs in the spring and summer (WSCC 2003). Steelhead migrate quickly through Puget Sound and into the open sea as individuals or in small groups (PSEMP 2012). In one study, they were found to have a median residence time in the Hood Canal of eight days (Moore et al. 2010). Unlike Chinook, steelhead do not have a long-term feeding and growth period in Puget Sound nearshore areas (PSEMP 2012).

NMFS has listed the Puget Sound steelhead as a threatened species under the ESA (72 FR 26722; May 11, 2007). Critical habitat has been finalized for the Puget Sound steelhead distinct population segment (81 FR 9252; February 24, 2016).

The project site and action area are not within Puget Sound steelhead critical habitat. The nearest critical habitat is in Chimacum Creek 5 miles south of the site where winter steelhead are documented (WDFW SaSI). Juvenile steelhead are less shoreline oriented than Chinook and chum and migrate rapidly to the Pacific Ocean, therefore, it does not seem likely that they will utilize the project shoreline.

### 3.2.5 Rockfish

Bocaccio (*Sebastes paucispinis*) and yelloweye (*Sebastes ruberrimus*) rockfish remain in the upper part of the water column as larvae and pelagic juveniles. Around 3 to 6 months old, bocaccio rockfish settle into intertidal, nearshore habitat; they prefer to settle in rocky reefs, kelp beds, low rock, and cobble areas (Love et al. 2002). Juvenile yelloweye rockfish are usually found in the upper extent of the adult depth range instead of in intertidal habitat (Studebaker et al. 2009). As both species grow larger, they move into deeper waters. Adults are found around rocky reefs and coarse habitats. Marine habitats high in complexity are associated with higher numbers of rockfish species (Young et al. 2010). Adult yelloweye and bocaccio rockfish generally inhabit depths from approximately 90 ft to 1,400 ft (Love et al. 2002). Both species are opportunistic feeders, with their prey dependent on their life stage. Predators of adult rockfish include marine mammals, salmon, other rockfish, lingcod, and sharks.

NOAA has listed the distinct population segments (DPSs) of yelloweye (*Sebastes ruberrimus*) as threatened species under the ESA and listed the Georgia Basin DPS of bocaccio rockfish (*Sebastes paucispinis*) as endangered (75 FR 22276; April 28, 2010). The Georgia Basin refers to all of Puget Sound, including the area around the San Juan Islands, and the Strait of Georgia, north to the mouth of the Campbell River in British Columbia. The western boundary of the Georgia Basin runs from east of Port Angeles to Victoria in the Strait of Juan de Fuca. Critical habitat for both species was designated in 2014 (79 FR 68042; November 13, 2014).

The proposed project and action area falls within the nearshore rockfish critical habitat; deepwater rockfish critical habitat is present within the action area. Although these species have the potential to be present within the action area, the effects of this project are expected to be minimal, if at all. Adult rockfish are commonly found in deeper water than exists at the project site. Shallow, intertidal, nearshore waters in rocky, cobble and sand substrates (with or without kelp) can provide suitable substrate for juvenile (3-6 month old) bocaccio rockfish. However, the highest densities of juvenile rockfish are found in areas with floating or submerged kelp species. The proposed work is occurring high in the upper intertidal zone (which is devoid of any attached submerged aquatic vegetation) at low tide so it does not seem likely this species would be adversely affected.

An “Assessment of Impacts to Critical Habitat” is provided in Attachment 3.

### **3.2.6 Marbled Murrelets**

Marbled murrelets (*Brachyramphus marmoratus*) are small marine birds in the Alcidae family. They spend most of their time at sea and only use old growth areas for nesting. In the critical nesting areas, fragmentation and loss of old growth forest has a significant impact on the survival and conservation of the species (WDW 1993). Adult birds are found within or adjacent to the marine environment where they dive for sand lance, sea perch, Pacific herring, surf smelt, other small schooling fish and invertebrates.

Marbled murrelets have been listed as threatened by the USFWS since 1992 (57 FR 45328; October 1, 1992). Critical habitat was designated by USFWS in 1996, revised in 2011, and reviewed again in 2016 to determine if the ESA definition of critical habitat was being met (81 FR 51348; August 4, 2016).

There is no critical habitat mapped in or near the project site or action area. Marbled murrelets could potentially forage in the area when sand lance are spawning to the south, outside of the action area. However, there should be little, if any, impact to this species from the proposed project.

### **3.2.7 Humpback Whales**

NMFS has listed the humpback whale (*Megaptera novaeangliae*) as an endangered species that may occur in Puget Sound (81 FR 62260; September 8, 2016). Critical habitat was designated by NMFS in 2021, but does not include the action area (86 FR 21082; April 21, 2021).

In the North Central Puget Sound sub-basin in the last two years, there have been 0-2 sightings in the summer with more sightings around the southern end of Whidbey Island in the fall. Since the furthest waterward extent of the action area is to account for in-air noise from construction equipment, it seems unlikely humpback whales would be adversely affected by this project since the work will be done in the dry in the upper intertidal zone, and therefore, no elevated in-water noise.

### **3.2.8 Southern Resident Killer Whales**

The Southern Resident population consists of three pods: J, K and L. According to Wiles (2004), “While in inland waters during warmer months, all of the pods concentrate their activity in Haro Strait, Boundary Passage, the Southern Gulf Islands, the eastern end of the Strait of Juan de Fuca and several localities in the southern Georgia Strait.” During early autumn, these pods, especially J pod, extend their movements into Puget Sound to take advantage of the chum and Chinook salmon runs. Resident killer whales spend more time in deeper water and only occasionally enter water less than 5 meters deep (Baird 2001).

On November 15, 2005 NMFS listed the Southern Resident killer whale (SRKW) (*Orcinus orca*) as endangered under the ESA (70 FR 69903; November 18, 2005). NMFS has designated critical habitat for killer whales: "Critical habitat includes waters deeper than 20 ft relative to a contiguous shoreline delimited by the line of extreme high water." (71 FR 69054; November 29, 2006).

Only the most waterward portion of the action area is in designated SRKW critical habitat. According to the Southern Resident Killer Whale Sighting 1990-2013 map (Olson 2014), in quadrant #387 (which encompasses the water east of Port Townsend) there were the following sightings:

- January: 10
- February: 9
- March: 8
- April: 0
- May: 2
- June: 1
- July: 2
- August: 2
- September: 6
- October: 22
- November: 22
- December: 26

Since the furthest waterward extent of the action area is to account for in-air noise from construction equipment, it seems unlikely SRKW would be adversely affected by this project since the work will be done in the dry and there will be no elevated in-water noise. Any other effects from the project are unlikely to extend into SRKW habitat since the project is occurring high on the shoreline.

An "Assessment of Impacts to Critical Habitat" is provided in Attachment 4.

### **3.2.9 Leatherback Sea Turtle**

NMFS has listed the Pacific leatherback turtle (*Dermochelys coriacea*) as an endangered species that may occur in Puget Sound (35 FR 8491). There is no designated critical habitat for Pacific leatherback turtles in Puget Sound at this time; it is designated along the outer coast of Washington state (77 FR 4170; January 26, 2012).

Breeding habitat for leatherback sea turtles in Washington does not exist, even though they are occasionally seen along the coast (Bowlby et al. 1994). Leatherback sea turtles are rarely seen in

Puget Sound (McAllister, pers. comm.). It is highly unlikely leatherback turtles would be found near the project site.

## **4 Effects of the Action**

When reviewing all the data, the direct and indirect effects of the project on the listed species and their critical habitat should be considered. Impacts to ESA-listed species and critical habitats are based on current baseline conditions versus historic pre-development conditions, where existing structures are considered an element of the environmental baseline at the time of a proposed action.

### **4.1 Direct Effects**

When considering the direct effects of the proposed project, one must determine if the proposed project will immediately reduce or destroy the listed species and/or their habitat. The potential, direct effects caused by the construction process include noise and turbidity.

#### **4.1.1 Water Quality**

This project is in an area that already experiences somewhat degraded water quality. In the action area, Port Townsend Bay has water designated as Category 4c for impaired eelgrass beds at the Port Townsend Ferry Dock “due to inorganic nitrogen loading resulting in human-caused eutrophication” (ECY).

Increased turbidity caused by the disturbance of loose sediment on the beach during excavation could have adverse effects on salmon and bull trout. The impact level depends on duration of exposure, concentration of turbidity, the life stage during the increased exposure and the options available for the fish to avoid the plumes. The effects can be discussed in terms of lethal, sublethal or behavioral (Nightingale and Simenstad 2001).

Variations in suspended sediment concentration can also negatively impact species composition, biomass, algal growth and can affect secondary production as well (Newcombe and MacDonald 1991; Kahler et al. 2000). Filter feeders can have blockages in feeding structures which affects their feeding efficiency, in turn reducing growth rates, increasing stress or in some cases can result in death (Newcombe and MacDonald 1991). Suspended sediments can also impact salmonid fishes by increasing mortality rate, reducing growth rate and/or reducing resistance to disease, modifying natural movements, interfering with development, reducing prey abundance and fish catch methods (Newcombe and MacDonald 1991).

Another potential source of degraded water quality is the alteration of pH in marine waters exposed to uncured concrete (which is alkaline). Most fish species and many invertebrates have narrow ranges of pH tolerance with potential adverse health and fitness effects outside their optimal range (WDFW 2009). The Washington Department of Ecology water quality standards

for pH in marine waters is 7.0 to 8.5, with a strict threshold of human-caused variation of less than 0.2 units for the aquatic use category (WECY 2015). However, pH is unlikely to be significantly affected by the small area of concrete being poured in the high upper-intertidal zone (above the HTL) because this elevation rarely gets inundated (WDFW 2009, WECY 2015).

For this project, since the majority of the work (i.e. excavation and placement of beach nourishment) will be done in the high upper-intertidal zone (above MHHW) in the dry, turbidity effects are expected to be localized and brief, if at all. Any disturbed sediment that may become suspended on an incoming tide is not anticipated to stay suspended for more than one tidal cycle.

#### **4.1.2 Noise**

Work will occur in the dry at low tide so in-water noise levels are not expected to be affected. However, in-air noise levels will be increased during equipment use and may have temporary behavioral impacts to birds and other wildlife, such as avoidance of the area. Work will occur only during daylight hours to comply with local noise ordinances.

## **4.2 Indirect Effects**

When considering the indirect effects of the proposed project on the listed species and their habitat, one must determine the effects that might occur later in time, after completion of the project.

### **4.2.1 Sediment Transport and Supply**

Hard armoring, such as bulkheads, block sediment supply from entering the marine environment. Physical changes in beach structure, specifically beach narrowing and lowering, from reduced sediment input are also linked to biological effects. Most directly, forage fish spawning habitat in the upper intertidal zone may be degraded in both extent and quality (Penttila 2007). Surf smelt spawn in the intertidal zone of beaches comprised of mixed sand and gravel and spawning suitability can be impacted by nearshore development. Shoreline structures may reduce fine-grained spawning substrates, resulting in coarsening substrate that is unsuitable for spawning. Substrate on the beach was determined by MSA to be potentially suitable forage fish spawning habitat.

However, the project shoreline is not a feeder bluff and it is along a part of the shoreline that has “no appreciable drift” (ECY). As stated by Coastal Geologic Services:

The absence of regular, naturally-derived sediment supply from the surrounding shores to this site makes this site less resilient to erosive forces. The historical drift cell that ran for miles from the SW to NE to this site was interrupted by a number of large overwater structures in the downtown Port Townsend waterfront, virtually eliminating all-natural sediment supply. Unprotected beaches under current conditions at this site could continue

to erode. To avoid the need to hard armor at the site over the intermediate-term, the buried, larger grain size sediment (cobble and gravel) upper portions of the upper beach through beach nourishment are included in the design. This should help dynamically maintain a slightly higher back beach elevation and help dissipate wave energy and reduce wave runup. Some maintenance in the form of re-nourishment would likely be needed over time.

Therefore, sediment supply and transport is not expected to be impacted by this project. This project should help retain sediment on the upper beach through beach nourishment and the strategic placement of large boulders to further help dissipate wave energy and act as debris barriers.

#### **4.2.2 Riparian Vegetation**

Surf smelt spawning habitat in the upper intertidal zone is impacted by the removal of riparian vegetation, which can reduce shade and result in increased egg mortality (Penttila 2007). Loss of riparian vegetation also alters allochthonous input (reduced inputs of leaf litter, woody debris, and terrestrial insects) and can result in a loss of large woody debris (LWD) in the marine environment (reducing complex intertidal habitat) (WDFW 2009).

The upland area of the project site is completely developed with paved surfaces and buildings. No riparian vegetation will be removed. A small planting plan can be installed if deemed necessary by the permitting agencies. This would involve the planting of a 356 ft<sup>2</sup> area with American dunegrass (*Elymus mollis*) on the north side of the existing pier, in front of the paved terrace.

#### **4.2.3 Benthic Communities**

Some disturbance, crushing, or smothering of benthic meiofauna in the extreme upper intertidal zone may occur while stockpiling materials and operating equipment in the intertidal work corridor. The impacts will be relatively short in duration and will occur within the recommended 25-ft work corridor in the upper intertidal zone.

No benthic macrofauna was noted in the upper intertidal zone of the project area. Invertebrate benthic communities have been shown to recover quickly after more extensive sediment disturbances. For instance, most studies indicate that benthic prey resources are impacted temporarily by shellfish harvesting (Hall & Harding 1997, Hauton et al. 2004, Vanblaricom et al. 2015) but recovery of sediment structure and benthic invertebrate infaunal community is expected to occur rapidly (within 12 months) (Price 2011, Hall & Harding 1997, Spencer et al. 1998).



### 4.3 Cumulative Effects

Cumulative effects from future state, local, or private entities are reasonably certain to occur in the action area are anticipated for this project. The action area includes commercial shoreline properties (including a marina) within 0.25 mile of the project site. The proposed project would facilitate continued habitat alteration along the shoreline and may promote future maintenance activities. The influence of these activities cannot be quantified in this assessment, but with appropriate regulations in place, these activities are not anticipated to have an adverse effect on state and ESA-listed species and/or critical habitat.

### 4.4 Interrelated/Interdependent Effects

Completion of this project is not anticipated to promote future construction or other activities that would not otherwise occur without its completion. Therefore, no additional interrelated or interdependent actions that could affect species regulated under ESA are anticipated to occur because of this project.

## 5 Conservation Measures to Avoid & Minimize Impacts

Conservation measures presented here include avoidance and minimization measures that are intended to address both City of Port Townsend SMP criteria and FEMA requirements. The FEMA requirements pertain to marine critical habitat and ESA-listed species within the adjoining floodplain.

All shoreline development must be located, designed, constructed, and maintained in a manner that protects ecological functions and ecosystem-wide processes. This section describes the steps taken during project planning and implementation to find the least environmentally damaging practicable alternative to achieve the project goal.

The following mitigation sequencing steps, as described in WAC 173-26-201(2)(e), were considered during project development and site selection:

- **No action:** To avoid the adverse impact altogether by not taking a certain action or parts of an action.
  - The project purpose and need are described in more detail in the Project Description section. “No Action” would not achieve the project goal of repairing damage from erosion and preventing damage from future erosion.
- **Minimizing impacts** by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts.
  - Instead of using hard armoring along the shoreline, the proposal involves beach nourishment and the strategic placement of large boulders to help dissipate wave energy and act as debris barriers.

- **Rectifying** the impact by repairing, rehabilitating, or restoring the affected environment.
  - Beach nourishment will be placed to help replace substrate on the upper beach as well as to help prevent erosion around existing structures. It is also proposed to remove a portion of the armor rock on the intertidal beach surrounding the stormwater culvert along the SW end of the site, and to remove rock boulders from the upper beach just NE of the NE end of the concrete stairway near the plaza and move them to the eroded low bank immediately adjacent above elevation +11 ft MLLW (Figure 6).
- **Reducing or eliminating** the impact over time by preservation and maintenance operations.
  - Coastal Geologic Services estimates that there may need to be some maintenance in the form of beach re-nourishment over time.
- **Compensating** for the adverse impact by replacing, enhancing, or providing substitute resources or environments.
  - If needed, a planting plan may be installed which would include the planting of a 356 ft<sup>2</sup> area with American dunegrass (*Elymus mollis*) on the north side of the existing pier, in front of the paved terrace (Figure 7).
- **Monitoring** the impact and the compensation project and taking appropriate corrective measures.
  - If a planting plan is implemented, monitoring of installed vegetation for compensatory mitigation should occur over the next 5 years to ensure success.

In order to minimize potential impacts to listed species and habitat associated with this project, the following conservation measures are recommended by MSA for implementation at the site:

1. “Best Management Practices” (BMPs) will be exercised throughout this project
  - a. Care will be taken to contain all construction debris.
  - b. Training for all employees on emergency spill response and containment.
  - c. Daily housekeeping to ensure debris does not enter the water/area adjacent to the work site.
  - d. Equipment shall be operated in a way that minimizes turbidity, such as running equipment and stockpiling materials within a designated corridor on the beach.
  - e. The concrete work will occur in the dry at low tide, preferably during a low tide series in the summer to allow the concrete to cure for at least seven days before it comes in contact with seawater. If this is not possible, then plastic sheeting secured with sandbags may be used to keep the wet concrete from coming in contact with seawater while it cures for seven days.
2. For work occurring outside of the established sand lance work window for Tidal Reference Area 10 (March 2 to October 14), a forage fish survey must be completed by a WDFW-certified biologist to determine presence/absence of eggs before any work begins.

An in-water work window is not being proposed for this project since the work will take place at low tide in the dry and to allow the contractor to take advantage of the best low tide cycles throughout the summer.

## **5.1 Potential Mitigation**

To summarize, potential mitigation targets identified by Coastal Geologic Services on site include:

- Remove rock boulders from the upper beach just NE of the NE end of the concrete stairway near the plaza—move to the eroded low bank immediately adjacent above elevation +11 ft MLLW (Figure 8).
- Remove a portion of the armor rock on the intertidal surrounding the stormwater culvert along the SW end of the site (Figure 8).
- Install small 356 ft<sup>2</sup> planting area in uppermost beach/backshore. This would involve the planting of American dunegrass (*Elymus mollis*) on the north side of the existing pier, in front of the paved terrace (Figure 9).

Figure 8. Landscape site plan

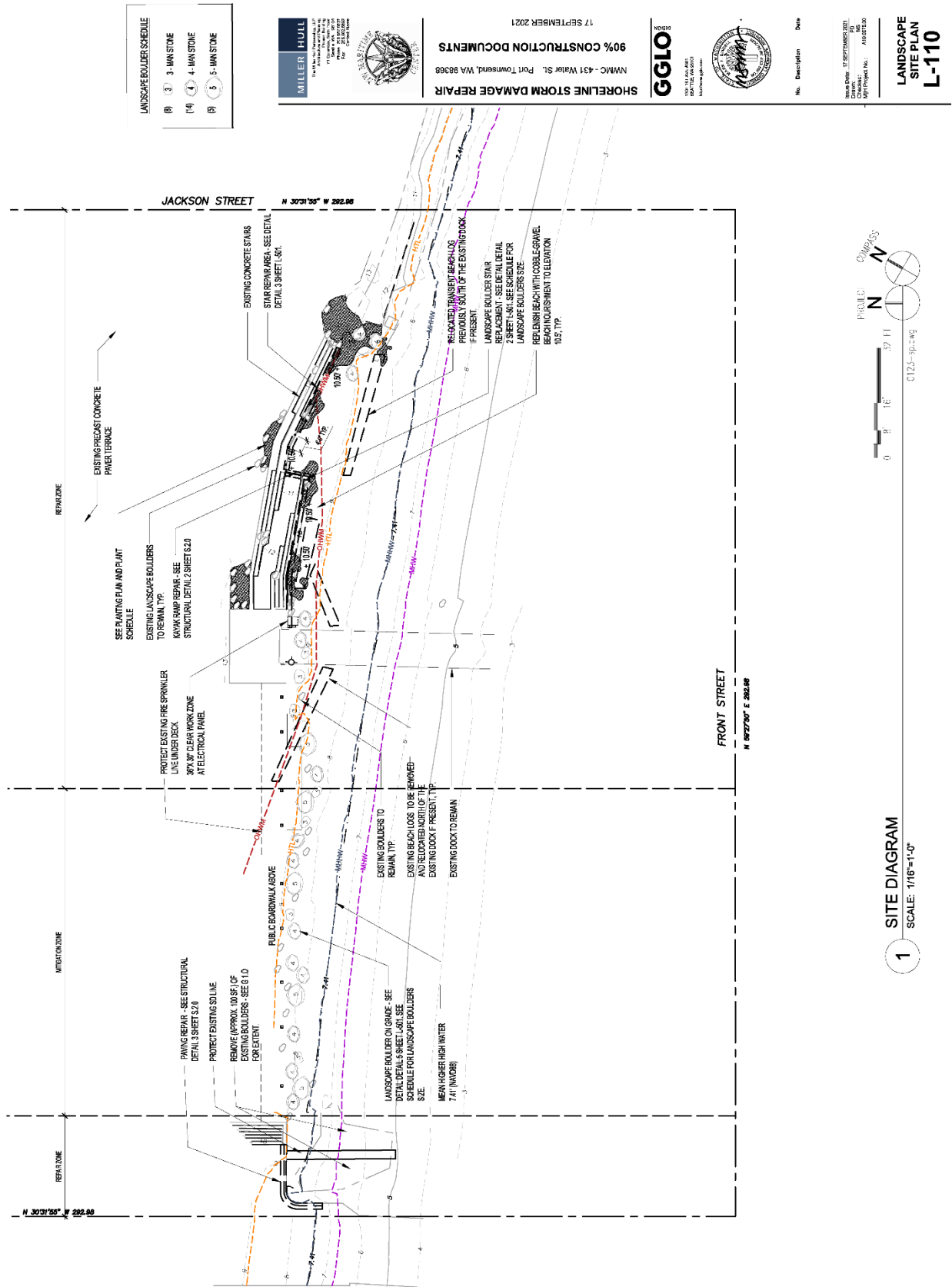
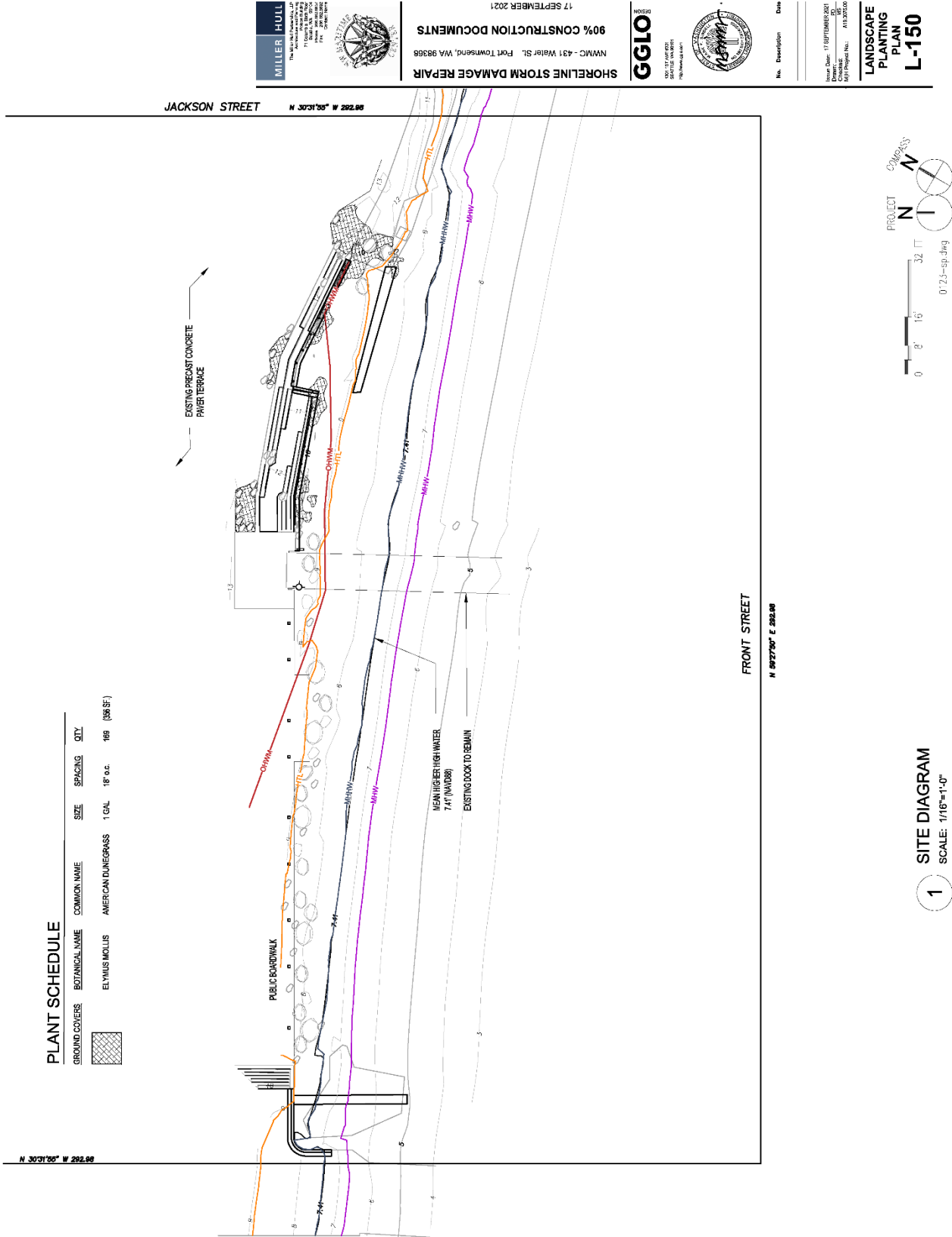


Figure 9. Landscape planting plan



## 6 Take Analysis

The ESA (Section 3) defines “take” as to “harass, harm, pursue, hunt, shoot, wound, trap, capture, collect or attempt to engage in any such conduct.” The USFWS further defines “harm” as “significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.” It is likely that no “take” will result from this project.

## 7 Determination of Effect

ESA-listed species and critical habitat in the action area and FEMA Flood Hazard Area are evaluated below based on the following assessments:

- No effect (absolutely no effect whatsoever, either positive or negative);
- May affect, not likely to adversely affect (insignificant effects that never reach the level where take occurs, or effects are discountable and extremely unlikely to occur; or there would be an entirely beneficial effect); or,
- May affect, likely to adversely affect (measurable or significant effects are likely, and the project will require formal consultation).

This determination of effect for protected species is contingent upon implementation of the conservation and minimization measures and proposed compensatory mitigation described in section 5. In general, direct adverse effects to ESA-listed species (avoidance, behavior modification) will be short-term, but would not result in take, and would not contribute to an increased risk of extinction.

After reviewing the appropriate data, the determination of effect to each ESA-listed species within the action area is:

- **Puget Sound Chinook** – “May affect, not likely to adversely affect”
- **Hood Canal Summer-run chum** – “May affect, not likely to adversely affect”
- **Puget Sound Steelhead** – “May affect, not likely to adversely affect”
- **Bull trout** – “No effect”
- **Rockfish** – “May affect, not likely to adversely affect”
- **Marbled Murrelet** – “May affect, not likely to adversely affect”
- **Green sturgeon** – “No effect”
- **Southern Eulachon** – “No effect”
- **Humpback whale** – “No effect”
- **Leatherback sea turtle** – “No effect”
- **Southern Resident Killer Whale** – “May affect, not likely to adversely affect”

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- Federal Register / Vol. 81, No. 36 / Wednesday, February 24, 2016 / Rules and Regulations.
- Federal Register / Vol. 81, No. 150 / Thursday, August 4, 2016 / Rules and Regulations.
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## **Attachment 1. Essential Fish Habitat Assessment**

### **A. Background**

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public law 104-267), requires Federal agencies to consult with NMFS on activities that may adversely affect designated Essential Fish Habitat (EFH) for the relevant species. According to the MSA, EFH means “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” For the Pacific West Coast, the Pacific Fisheries Management Council (Council) has designated EFH for federally managed groundfish (PFMC 1998a), coastal pelagic (PFMC 1998b) and Pacific salmon fisheries (PFMC 1999).

The purpose of the EFH Assessment is to determine the effects of the proposed project on the EFH for the relevant species and to recommend conservation measures to avoid, minimize or otherwise offset adverse effects on EFH.

### **B. Identification of EFH**

The designated EFH for groundfish and coastal pelagic species encompasses all waters from the mean high water line, and upriver extent of saltwater intrusion in river mouths, along the coasts of Washington, Oregon and California, seaward to the boundary of the U. S. exclusive economic zone (370.4 km) (PFMC 1998a, 1998b). The designated EFH in estuarine and marine areas for salmon species extends from the nearshore and tidal submerged environments within state territorial water out to the full extent of the exclusive economic zone (370.4 km) offshore of Washington, Oregon, and California north of Point Conception to the Canadian border (PFMC, 1999).

### **C. Proposed Action**

The details of the proposed project are presented in “**Project Description**” section of the BE. The project involves repair of the exposed foundation of the concrete pathway and beach stairs at the plaza of the Northwest Maritime Center in downtown Port Townsend, WA and to protect the first and second floor deck supports after chronic beach erosion during major storms in the last 5 years. The proposed project will also help prevent future erosion at the site by placing beach nourishment and large boulders on the upper beach.

### **D. Effects of the Proposed Action**

The effects of this project on designated EFH are likely to be similar to the effects described in detail in the “**Effects Analysis**” section of the attached BE. The project may have minor temporary adverse effects on EFH designated for Pacific coast salmon and groundfish due to turbidity that may result from sediment disturbed during excavation being suspended on an incoming tide.

### **E. EFH Conservation Measures**

The conservation measures contained in the BE will be implemented to minimize any possible adverse effects to EFH.

### **F. Conclusion**

The project may have temporary, intermittent adverse effects on EFH for groundfish and Pacific salmonids in the form of reduced water quality. Because the project is a repair high in the upper-intertidal zone, no new permanent adverse effects on EFH are anticipated to occur.

### **G. Additional References**

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## Attachment 2. Assessment of Impacts to Critical Habitat for Puget Sound Chinook and Hood Canal Summer-run Chum

**Project description:** shoreline storm damage repair

**Applicant:** Northwest Maritime Center

**COE reference:**

**NMFS reference:**

**The Physical and Biological Features (PBFs) determined essential to the conservation of salmon are:**

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

**Existing Conditions:** Does not apply - the project is in the marine environment

**Effects to PBF:** None

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

**Existing Conditions:** Does not apply - the project is in the marine environment

**Effects to PBF:** None

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

**Existing Conditions:** Does not apply - the project is in the marine environment

**Effects to PBF:** None

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

**Existing Conditions:** There is an existing pier, ramp, and floats on site. There is no large riparian vegetation along the shoreline. The area along the shoreline is highly developed with buildings and paved surfaces.

**Effects to PBF:** The project will create minor, temporary impacts during construction that may include localized increased turbidity and elevated in-air noise levels, which may cause short-term

avoidance of the area by these listed fish species. The proposed beach nourishment and boulders should actually help retain sediment on the beach and reduce erosion.

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

**Existing Conditions:** See 4 above.

**Effects to PBF:** See 4 above.

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

**Existing Conditions:** Does not apply - the site is in a nearshore marine environment

**Effects to PBF:** None

**Determination of Effect:** “May affect, not likely to adversely affect”

### **Attachment 3. Assessment of Impacts to Critical Habitat for Puget Sound/Georgia Basin Bocaccio and Yelloweye Rockfish**

**The Physical and Biological Features (PBFs) determined essential to the conservation of Puget Sound/Georgia Basin Bocaccio and Yelloweye Rockfish are:**

#### **Adult Bocaccio and Adult/Juvenile Yelloweye Rockfish (for deepwater sites >30 meters)**

(1) Quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities.

**Existing Conditions:** This project is occurring high in the upper-intertidal zone, outside of critical habitat for adult rockfish. The most waterward extent of the action area is only to account for elevated in-air noise levels during construction.

**Effects to PBF:** No effect.

(2) Water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities.

**Existing Conditions:** This project is occurring high in the upper-intertidal zone, outside of critical habitat for adult rockfish. The most waterward extent of the action area is only to account for elevated in-air noise levels during construction.

**Effects to PBF:** Water quality may be temporarily impacted by disturbed sediment that may become suspended on an incoming tide, but it is unlikely to last longer than one tidal cycle and therefore unlikely to extend deep enough into adult rockfish critical habitat.

(3) The type and amount of structure and rugosity that supports feeding opportunities and predator avoidance.

**Existing Conditions:** This project is occurring high in the upper-intertidal zone, outside of critical habitat for adult rockfish. The most waterward extent of the action area is only to account for elevated in-air noise levels during construction.

**Effects to PBF:** No effect.

#### **Juvenile bocaccio rockfish (nearshore areas are contiguous with the shoreline from the line of extreme high water out to a depth no greater than 30 meters relative to MLLW)**

(1) Nearshore juvenile rearing sites with sand, rock, and/or cobble to support forage and refuge.

**Existing Conditions:** There is existing sand, rock, and cobble at the site.

**Effects to PBF:** The proposed project aims to place beach nourishment and large boulders on the site to help retain sediment and reduce erosion from waves. This PBF is not anticipated to be adversely affected but might actually be enhanced.

(2) Quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities.

**Existing Conditions:** There is eelgrass offshore which may provide habitat for zooplankton (prey species for juvenile rockfish).

**Effects to PBF:** The project could have brief and temporary adverse impacts on zooplankton due to brief and localized turbidity. However, any suspended sediment is expected to subside after one tidal cycle.

(3) Water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities.

**Existing Conditions:** In the action area, Port Townsend Bay has water designated as Category 4c for impaired eelgrass beds at the Port Townsend Ferry Dock “due to inorganic nitrogen loading resulting in human-caused eutrophication” (ECY).

**Effects to PBF:** This PBF is not expected to be adversely affected in the long term. Any suspended sediment from excavation activities is expected to subside after one tidal cycle.

**Determination of Effect:** “May affect, not likely to adversely affect”

## **Attachment 4. Assessment of Impacts to Critical Habitat for Southern Resident Killer Whales**

**The Physical and Biological Features (PBFs) determined essential to the conservation of Southern Resident Killer Whales (SRKW) are:**

**(1) Water quality to support growth and development.**

**Existing Conditions:** In the action area, Port Townsend Bay has water designated as Category 4c for impaired eelgrass beds at the Port Townsend Ferry Dock “due to inorganic nitrogen loading resulting in human-caused eutrophication” (ECY).

**Effects to PBF:** This PBF is not expected to be adversely affected in the long term. Any suspended sediment from excavation activities is expected to subside after one tidal cycle and should not extend deep enough into SRKW critical habitat.

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

**Existing Conditions:** Habitat on site for prey species is impacted by non-grated surfaces and creosote piles associated with overwater structures.

**Effects to PBF:** Some potential short-term and localized turbidity may be associated with excavation, but should subside after one tidal cycle and not adversely affect any salmon that may be present during construction.

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

**Existing Conditions:** The project site is along a highly developed waterfront and adjacent to a marina. There can be a lot of boat traffic in Port Townsend Bay and the Port Townsend ferry frequently travels back and forth from Coupeville.

**Effects to PBF:** No effect, the project is occurring high on the beach outside of critical habitat.

**Determination of Effect:** “No effect”