

# **Mitigation Plan**

## **Makah Indian Tribe Emergency Spill Response Dock Extension Construction Project**

### **Submitted to**

**U.S. Army Corps of Engineers, Seattle District  
Seattle, Washington**

### **On behalf of**

**Applicant:  
Makah Indian Tribe  
Neah Bay, Washington**

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# MITIGATION PLAN

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## **MAKAH INDIAN TRIBE EMERGENCY SPILL RESPONSE DOCK EXTENSION CONSTRUCTION PROJECT**

### **EXECUTIVE SUMMARY**

The Makah Indian Tribe (Tribe) is proposing to provide a permanent mooring location for the emergency response towing vessel (ERTV) and associated vessels currently moored in the Neah Bay Marina. The ERTV mooring will be constructed as an extension from the existing commercial fishing dock located at the north end of Wispoo Street in Neah Bay, Washington, on the Tribe's land (Sheet 1). The project site is located in the open water of Neah Bay adjacent to an existing commercial fishing dock for tribal and non-tribal fishing operations (Sheets 1 through 3).

The proposed dock extension will provide a permanent mooring location for the vessels and allow for more rapid response time and greater functionality for vessel loading and unloading operations. The project site was chosen to minimize the amount of new construction and related impacts. The proposed design builds the spill dock extension from the existing fishing dock trestle, which eliminates the need for a new trestle that connects to the shore. The proposed design allows the spill dock extension to be constructed in deeper water, thereby reducing the amount of dredging necessary to accommodate vessel draft.

The proposed action also includes mitigation and minimization activities consisting of debris removal from below the mean higher high water of Neah Bay at the project site and placement of suitable dredge material for beach nourishment, to improve intertidal habitat and create high-value intertidal habitat from subtidal habitat in the northwest corner of the bay.

This plan summarizes the aquatic impacts that could result from the proposed dock extension project and the measures that have been incorporated into the project to avoid, minimize, and/or mitigate to compensate for them. The new dock extension will result in the creation of new overwater coverage over existing shallow and deep subtidal habitat, will convert shallow subtidal habitat to deep subtidal habitat, and associated pile installation will impact the benthic habitats beneath the structure.

In selecting the proposed mitigation and minimization activities and locations, the following documents were used as reference.

- General Policies for Evaluating Permit Applications (33 CFR Part 320.4)
- Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 332)
- WDFW Policy Memorandum POL-M5002 "Requiring or Recommending Mitigation"
- Selecting Mitigation Sites Using a Watershed Approach. (Ecology 2009)

The project site is not within the service boundaries of any established mitigation banks or approved in-lieu fee mitigation programs. As the proposed action occurs within the marine waters of Neah Bay, Section 323.3 (c)(v) of the U.S. Army Corps of Engineers (USACE) final

mitigation rule (USACE 2008) also indicates that a watershed approach is not appropriate for mitigation site selection. The USACE final mitigation rule states that for “areas where watershed boundaries do not exist, such as marine areas...an appropriate spatial scale should be used to replace lost functions and services within the same ecological system” (USACE 2008). For this project, the USACE has agreed that mitigation should be focused in Neah Bay and recommended a bay-wide approach for mitigation site selection (personal communication with Pam Sanguinetti, USACE, 13 July 2016).

The nearshore habitat of Neah Bay has been altered significantly over time through development, slope armoring, and construction of in-water structures along the southeast two-thirds of the shoreline. Nearshore habitat appears to be the most impacted resource in the bay. The location of the proposed project, extending from the existing commercial fishing dock trestle approximately 56 feet south of the dock (Sheet 3), will construct the majority of the dock extension over existing deep subtidal habitat with a small portion of the new structure over existing shallow subtidal habitat, effectively avoiding all impacts to existing intertidal habitat in the project area (Sheet 6).

The impacts to marine aquatic habitats from the new structure have been avoided and minimized to the degree possible. The unavoidable aquatic impacts have the potential to reduce the function and quantity of subtidal marine habitat locally; the Tribe has, therefore, incorporated specific mitigation activities to offset these impacts as part of the proposed action.

The Tribe proposes to conduct permittee-responsible mitigation through a combination of “on-site, in-kind” (i.e., debris removal to mitigate for pile installation benthic impacts), and “off-site, out-of-kind” (i.e., creation of high-value intertidal habitat to mitigate for overwater coverage/shading) and replacement of impacted marine habitat functions for bay-wide impact minimization. The specific details of this mitigation plan were developed in coordination with Ms. Sanguinetti (telephone conference, 13 July 2016, and pre-application meeting, 5 October 2016).

### **Overwater Coverage and Shading**

Overwater coverage and shading had been avoided by sharing the existing fishing dock trestle for access to the new ERTV moorage areas and by minimizing the amount of new intertidal shading. The new overwater coverage (0.4 acre) created by the structure will be located over an area with existing shallow (0.03 acre) and deep (0.67 acre) subtidal habitat that will all be converted to deep subtidal habitat by dredging prior to construction. The new steel pile installation associated with the structure will decrease benthic habitat in the area by approximately 200 square feet (0.005 acre) at the site.

The mitigation includes bottom debris removal in the project area to compensate for benthic loss due to pile placement. Approximately 6,000 (0.12 acre) to 7,000 (0.14 acre) square feet of debris will be removed from the mudline prior to dredging at the project site. The area and location of the debris were confirmed via video survey completed in November 2016. The debris removal will result in a net gain of benthic habitat of 0.12 to 0.14 acre of substrate.

Additionally, approximately 16,570 cubic yards of sediment with concentrations of contaminants of concern greater than the Dredged Material Management Program and Sediment Management Standard screening levels will be dredged and removed from the marine environment and placed upland. This will improve the benthic habitat at the mudline in an approximately 1.12-acre area, generally improve benthic habitat bay-wide, and generally improve water quality in the project area and bay-wide.

The shading impact of the new structure will be mitigated by improving substrate conditions in existing intertidal habitat by placing dredged in the northwest corner of the bay where most of the substrate is exposed bedrock with little to no cover. Approximately 16.74 acres of adjacent shallow subtidal habitat will be converted to intertidal habitat by placing dredged material to raise the elevation and provide substrate. The net increase in benthic habitat and the creation of a large area of high-value intertidal habitat will improve habitat conditions throughout the inner harbor nearshore habitats.

## 1.0 INTRODUCTION

The Makah Indian Tribe (Tribe) is proposing to provide a permanent mooring location for the emergency response towing vessel (ERTV) and associated vessels currently moored in the Neah Bay Marina by constructing a dock extension from the existing commercial fishing dock. The site is located at the north end of Wispoo Street in Neah Bay, Washington, on tribal land (Sheet 1). The project site is located in the open water of Neah Bay adjacent to an existing commercial fishing dock used for tribal and non-tribal fishing operations. The proposed project site, beneficial use area, and project details are shown on Sheets 1 through 9.

The proposed project represents the second phase of the Makah Dock Project that began with the emergency demolition and replacement of the Makah Commercial Fishing Dock in 2014 (Phase I). Phase II of the project consists of construction of the dock extension to provide moorage for the emergency response vessels.

The ERTV and associated vessels have been stationed at Neah Bay since 1999 under contract to the Washington State Department of Ecology (Ecology). Owners and operators of vessels transiting through the Strait of Juan de Fuca (except for transits extending no further west than Race Rocks Light) contract the ERTV for compliance with state Ecology oil spill response contingency plan regulations and during vessel emergencies. The tugboat Jeffery Foss is stationed at the Neah Bay marina under charter to the Washington State Maritime Cooperative per a service agreement with the ERTV Compliance Group, and provides further oil spill response capability in the Neah Bay staging area as per the Strait of Juan de Fuca Geographical Response Plan.

The proposed dock extension will provide a permanent mooring location for the vessels and allow for more rapid response while improving functionality for equipment staging and loading operations. The project site was chosen to minimize the amount of new construction, as the proposed design builds onto the existing fishing dock trestle. This design eliminates the need for a new connection to the shore as the fishing dock and spill dock extension will share the same trestle for shore access. Additionally, the proposed design allows the spill dock extension to be constructed in deeper water, and thereby helps minimize the amount of dredging required to accommodate vessel draft.

The proposed dock will extend at an angle to the northwest from the fishing dock trestle, beginning approximately 56 feet south of the fishing dock and extending for a length of approximately 563 feet (Sheets 3 and 6). Utilities, including electricity and fire extinguishing foam, will also be extended from the existing dock to provide service to the new dock and the emergency vessels moored there.

The project will create new overwater coverage from construction of the dock extension and will impact benthic habitat below the mean higher high water (MHHW) mark of Neah Bay resulting from pile installation and dredging. These modifications, without supplemental mitigation, could affect the suitability of aquatic habitat function within

the action area by increasing the quantity of overwater shading and by reducing the quantity and quality of benthic habitats.

To address potential impacts, the Tribe has incorporated mitigation and minimization activities as part of the proposed action. Mitigation activities associated with the proposed work consist of removal of debris from below the MHHW of Neah Bay in the project area and removal of contaminated sediment from the marine environment and placing it upland. Additional bay-wide impact minimization measures include dredged material placement for beach nourishment and creation of high-value intertidal habitat in the northwest corner of the bay shown on Sheets 8 and 9.

## **2.0 LOCATION, HISTORY, AND BASELINE CONDITIONS**

### **2.1 Location and Ownership**

The project site is located in the open water of Neah Bay adjacent and to the west of an existing commercial fishing dock used for tribal and non-tribal fishing operations. The site is situated at the north end of Wispoo Street in Neah Bay, Washington, on tribal land (Sheets 1 and 2). Neah Bay is protected by Waadah Island and the breakwater/jetty on the northwest side of the bay. The shoreline along the south side of the bay is within the Crescent-Hoko watershed (Hydrologic Unit Code 17110021), Water Resource Inventory Area 19.

### **2.2 Purpose and Need**

The purpose of the proposed project is to provide adequate, dedicated infrastructure to support enhanced oil spill response capability in Neah Bay and the Strait of Juan de Fuca. The dock expansion project is a high priority for the Makah Tribe, the Port of Neah Bay, oceangoing mariners, and the public that all rely on maintaining superlative spill and emergency response in the region. Over 2 million gallons of oil have been spilled in the Makah Treaty Area since the 1970s, and with the increasing volume of shipping vessel traffic in the Strait of Juan de Fuca, a need to maintain vigilant spill response capabilities will continue into the foreseeable future.

The ERTV tug stationed in Neah Bay since 1999 is critically important for emergency and oil spill response. However, its spill response capabilities are limited without dedicated oil skimming equipment and interim recovered oil storage resources to support it. In order to meet pending federal requirements<sup>1</sup>, as well as maintaining robust

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<sup>1</sup> In 2011, under direction from Congress, the U.S. Coast Guard (USCG) announced its intent to expand the higher volume port area (HVPA) designation for Puget Sound and the Strait of Juan de Fuca to include waters within a 50-mile radius of Cape Flattery, located 6 miles west of Neah Bay. Changes to the federal HVPA rule would require vessel response plan holders to meet the spill response capacity for HVPA, which requires up to 12,500 barrels per day (bpd) of estimated daily recovery capacity (EDRC) for the operating area (note that 12,500 bpd is the “cap,” the actual requirement could be lower depending upon vessel size and type of oil transported). This EDRC requirement is the same as the state requirement for the Neah Bay staging area; however, the expansion of the HVPA to Cape Flattery would require this capacity to be available to respond to spills up to 50 miles seaward of Neah Bay.

response capability in this critical area, a spill response barge, associated oil recovery equipment, and a dedicated oil spill response vessel are planned to be located in Neah Bay. To support these resources, additional moorage capacity, situated to provide quick and flexible loading and deployment, is needed.

The project site and facility configuration were chosen to minimize the amount of new construction and associated impacts. The proposed design builds the spill dock extension from the existing fishing dock trestle, which eliminates the need for a new trestle that extends to the shore—the fishing dock and spill dock extension will share the same trestle for shore access. Additionally, the proposed design allows the spill dock extension to be constructed in deeper water, thereby reducing the dredging necessary to accommodate vessel draft and avoiding shading of intertidal habitat. The structure will be constructed over shallow subtidal and deep subtidal habitat that currently ranges from approximately -6 feet to -19 feet mean lower low water (MLLW).

### **2.3 Environmental Baseline Conditions of Impact Site and Mitigation Sites**

The project will occur within aquatic areas used for commercial fishing, marina-related, and recreational boating uses in Neah Bay. The mitigation and minimization activities will occur in an aquatic area in the northwest portion of the bay, as well as upland site(s) to be identified by the Tribe.

Nearshore habitat function in Neah Bay is severely impaired due to the near-complete modification of the shoreline over the last 100 to 150 years, the filling of substantial sections of upper intertidal habitat in Neah Bay, and direct impacts to lower reaches and stream deltas of the streams that drain to the bay (Point No Point Treaty Council, 2006). The resources most impaired in the bay are nearshore and intertidal habitats.

There is little vegetation in any of the areas where project activities would be conducted. Eelgrass surveys of the project site and the mitigation sites were completed in November 2016. Eelgrass was identified to the west of the proposed beneficial use dredged material placement area (Sheet 8).

Sandy gravel/gravelly sand with silt was observed at the mudline during an underwater video survey completed adjacent to the project site in 2013. Subsurface conditions observed in geotechnical investigation borings (Landau Associates, Inc. 2013) on the adjacent commercial fishing dock property to the east included dense to very dense marine sand deposits overlaying medium dense sand followed by stiff to very stiff silt deposits ranging to the depth of exploration of 61 feet below mudline (approximately -78 feet MLLW). The surface material sampled during the November 2016 sediment characterization consisted of silty fine sand to very fine sand with silt and gravel. The shoreline at the project site is protected with rock riprap extending east and west. There is very little aquatic or upland vegetation in the project vicinity. The substrate at the beneficial use site is sandy and rocky.

Riparian habitat along the shoreline adjacent to the project area is almost entirely devoid

of riparian vegetation. Most terrestrial habitats consist of hardened shoreline, riprap, and/or impervious surfaces. Fringe areas between the MHHW mark and the top of bank that are adjacent to impervious surfaces include scattered patches of grasses and weedy forbs. Most shoreline is hardened with riprap or bulkheads. In some areas, riprap extends below the MHHW elevations, affecting intertidal habitat quality.

There is some riparian vegetation present along the shoreline to the west of the beneficial use site, which has a more natural beach shore environment bordered by a roadway. The Neah Bay riprap breakwater/jetty is located on the north side of the beneficial use site.

An underwater video survey of the perimeter of the commercial fishing dock facility was performed on 20 November 2016 to identify whether eelgrass exists in the vicinity of the project area. Eelgrass beds were not observed in the project vicinity during the survey. The Tribe conducted a low-tide eelgrass survey of the area in and around the beneficial use site in May 2016 (Makah Fisheries, 9 May through 11 May 2016). No eelgrass was observed in the beneficial use site during a -2 feet MLLW tide as part of this survey. Extensive eelgrass beds were observed to the south during the same survey. Eelgrass beds were observed to be more extensive and were present farther north near the beneficial use area during the November 2016 video survey. The area of eelgrass observed during the November 2016 survey is shown on Sheet 8.

Neah Bay represents documented habitat for several Endangered Species Act (ESA)-listed populations of fish, marine mammals, and birds. The bay also provides habitat for several species and species assemblages identified on the Priority Habitats and Species list prepared by the Washington Department of Fish and Wildlife (WDFW), including subtidal hardshell clam, red sea urchin, sea otter, harbor seal, Dungeness crab, common loon, pandalid shrimp, pinto abalone, bald eagle, shorebird concentrations, and harlequin duck.

### **3.0 MITIGATION PLAN**

#### **3.1 Mitigation Sequencing**

The proposed project has been designed to avoid and minimize impacts to aquatic resources to the greatest extent practicable. The proposed new dock extension is situated in relatively deep-water environments to avoid impacts to intertidal habitats, minimize dredging, and minimize impacts to shallow subtidal habitats. The location for the dock was also chosen to minimize the amount of new construction as the proposed design eliminates the need for a new shore connection. This greatly minimizes the extent of impacts to nearshore shallow water and intertidal habitats.

The project will be constructed using the best management practices (BMPs) summarized in the project Joint Aquatic Resources Project Application (JARPA) to minimize construction impacts to the environment. These will include BMPs relative

to dredging and dredged material placement, pile installation, and deck construction.

### **3.2 Project Impacts**

The project activities will result in modifications in the quantity and location of overwater coverage and benthic habitat impacts within Neah Bay. The following section describes the unavoidable impacts associated with the project. A detailed analysis of project impacts is provided in Table 1.

#### **3.2.1 New Overwater Structure**

The project will result in approximately 30,380 square feet of new overwater coverage associated with the construction of the dock extension. A small portion of the finger piers will have grating to allow stormwater discharge. However, this area of grating will allow little if any light through so the grating does not impact the amount of overwater coverage. Overwater coverage can affect primary productivity and aquatic habitat suitability. However, the location of the dock extension over subtidal and deep subtidal areas will minimize the extent of these effects, but these are nevertheless permanent impacts to aquatic habitat.

There is no new overwater coverage proposed within intertidal habitats associated with the project. The structure will be constructed over shallow subtidal and deep subtidal habitat from approximately -6 feet to -19 feet MLLW (existing, pre-dredge mudline). The structure will create approximately 0.03 acre of new overwater coverage in existing shallow subtidal habitat and approximately 0.67 acre of new overwater coverage over existing deep subtidal habitat.

#### **3.2.2 New In-water Structure**

The project will result in a total of 688 square feet (0.02 acre) of new in-water structure associated with installation of new concrete-filled steel pipe piling for the dock extension. This will represent a permanent impact to benthic habitat. These impacts will be in existing shallow subtidal and tidal habitat. High-value intertidal habitat will not be impacted by these piles. The piles will be installed in locations where the pre-dredge mudline ranges from -6 feet to -19 feet MLLW. This area will be dredged to between -15 and -25 feet MLLW (plus 1 foot of allowable overdredge) prior to pile installation.

#### **3.2.3 Dredge and Fill within Waters of the State/United States**

A maximum of approximately 208,000 cubic yards of material will be dredged from project area. The project will require dredging to increase the depth of the berth area to elevations ranging from -15 to -25 feet MLLW (plus 1 foot of allowable overdredge) to accommodate the drafts of the spill response vessels (Sheets 6 and 7). A transit channel extending to the north will also be dredged to a mudline elevation of -25 feet MLLW (plus 1 foot of allowable overdredge).

No dredging would occur within intertidal areas. The area to be dredged will convert shallow subtidal (approximately 0.6 acre) and deep subtidal (approximately 12.6 acres)

habitat to tidal habitat as summarized in Table 1 below. Intertidal, shallow subtidal, and deep tidal habitat depths are defined in Table 1. Dredged material will be placed as part of intertidal habitat creation activities described in Section 3.3.2 below.

Table 1 below provides a detailed analysis of project impacts and a summary of the proposed mitigation activities.

**Table 1 Aquatic Impacts and Mitigation Summary**

| Activity                                      | Description of Activity  | Habitat          |                           | New Overwater Coverage (sf) | New In-water Structure <sup>2</sup> (sf) | Dredging in Waters of the US |                    | Mitigation and Minimization Summary<br><i>*All mitigation/minimization will be conducted prior to or concurrently with the proposed activity.</i>  |
|---|--|------------------|---------------------------|-----------------------------|--|------------------------------|--------------------|--|
|   |  |                  |                           |                             |  | Dredge Area (Acres)          | Dredge Volume (CY) |  |
| Dredging for New Dock Extension               | Dredging with mechanical (clamshell) or hydraulic equipment  | Intertidal       | MHHW to -2 feet MLLW      | NA                          | NA                                       | NA                           | NA                 | The bay-wide habitat impacts from conversion of 13.2 acres of shallow and deep subtidal habitat to tidal habitat will be minimized by the creation of 16.74 acres of intertidal habitat from existing subtidal habitat at the beneficial use site (Sheets 8 and 9) through the placement of dredged material deemed suitable for beneficial use under the Washington State Sediment Management Standards (SMS).                    |
|   |  | Shallow Subtidal | -2 feet to -10 feet MLLW  |                             |  | 0.6                          | 208,000            |  |
|   |  | Deep Subtidal    | -10 feet to -20 feet MLLW |                             |  | 12.6                         |                    |  |
| New Dock Extension                            | Install steel pipe piles<br>• Eighty-five 24-inch<br>• Thirty-five 18-inch<br>And Decking (overwater coverage) | Intertidal       | MHHW to -2 feet MLLW      | NA                          | NA                                       | NA                           | NA                 | <b>New Overwater Coverage and Benthic Impacts</b> <ul style="list-style-type: none"> <li>High-value intertidal habitat will not be impacted by the project.</li> <li>1,200 sf of overwater coverage and 688 sf of benthic impact to moderate value shallow subtidal habitat will be mitigated by removal of between approximately 5,000 and 6,000 sf of debris from below the MHHW of Neah Bay within the project area.</li> </ul> |
|   |  | Shallow Subtidal | -2 feet to -10 feet MLLW  | 1,200 sf (0.03 acre)        | +27 (new piles)                          |                              |                    |  |
|   |  | Deep Subtidal    | -10 feet to -20 feet MLLW | 29,180 sf (0.67 acre)       | +661 (new piles)                         |                              |                    |  |
| <b>Total Project Impacts (Pre-mitigation)</b> |  |                  |                           | <b>+30,380</b>              | <b>+688</b>                              | <b>+13.2</b>                 | <b>208,000</b>     |  |

<sup>2</sup> For purposes of this project, the U.S. Army Corps of Engineers (USACE) is defining steel pipe piles with concrete fill as in-water “structure” per discussion with Pam Sanguinetti (USACE, 13 July 2016).

### **3.3 Mitigation and Minimization Strategy**

Without supplemental mitigation and minimization, project activities could potentially affect the suitability of aquatic habitat function within the action area and bay by increasing the quantity of nearshore overwater shading and by reducing the quantity and quality of benthic habitats. The Tribe has, therefore, incorporated mitigation and minimization activities as part of the proposed action. Specifically, the Tribe proposes two categories of activity: (1) intertidal debris cleanup mitigation, (2) removal of contaminated sediment from the marine environment, and (3) the creation of intertidal habitat for bay-wide habitat impacts minimization.

#### **3.3.1 Intertidal Debris Cleanup**

To restore benthic habitat, and to offset overwater coverage associated with the spill response dock extension, the Tribe proposes to improve benthic habitat in an area of approximately 6,000 to 7,000 square feet by removing debris from below MHHW. This area is within intertidal, shallow subtidal, and deep subtidal habitats in the project area. The quantity and location of the debris was confirmed by a video survey completed in November 2016.

#### **3.3.2 Removal of Contaminated Sediment from Marine Environment**

Approximately 16,570 cubic yards of unsuitable dredged material will be removed from the marine environment and placed upland at a site identified by the Tribe in accordance with state and federal waste disposal and landfill regulations. The removal of this material from the marine environment will improve benthic habitat in an approximately 49,000-square-foot (1.12 acres) area by removing sediment with concentrations of contaminants of concern at levels greater than Dredged Material Management Program (DMMP) and SMS screening levels from the marine environment. This generally improve benthic habitat bay-wide and generally improve water quality in the project area and bay-wide. The location of this material is shown on Sheet 6.

#### **3.3.3 Intertidal Habitat Creation (Impacts Minimization): Suitable Dredged Material Placement**

The Tribe also proposes to place approximately 191,430 cubic yards of dredged material deemed suitable for beneficial use under Washington State SMS and DMMP guidelines at the beneficial site located in the northwest portion of the bay (Sheets 8 through 9) to create new intertidal habitat within Neah Bay. The formal DMMP suitability determination is pending their review of the sediment characterization report. This dredged material placement will create high-quality intertidal habitat from relatively lower-functioning shallow subtidal habitat currently present at the beneficial use site and will serve to further restore and offset impacts to benthic habitats from dredging and new overwater coverage. The new intertidal habitat will serve as substrate to promote the expansion of the existing eelgrass beds to the west.

Table 2 provides a summary of the mitigation and minimization activities that have been proposed to compensate for these impacts. The net result is that the effects of the proposed project to water quality and nearshore habitat suitability will be fully offset by the proposed mitigation activities.

**Table 2. Mitigation Activities Summary**

| Site/Activity  | Description of Mitigation Activity  | Debris Removal                     | Dredge Material Placement/Removal  | Minimization   | Mitigation/Minimization Summary           |
|--|---|------------------------------------|--|--|---|
|  |   | Debris Area (sf)                   | Fill/Dredge Volume (CY)  |  |   |
| Debris Removal   | Remove approximately 6,000 to 7,000 sf of debris from the mudline in the project area. Debris includes timbers, garbage, derelict fishing gear, etc. The location and extent of the debris to be removed will be confirmed by video survey prior to construction.   | --6,000 to 7,000 sf                | NA   | NA   | 6,000 to 7,000 sf of total debris removal |
| Removal of Contaminated Sediment from the Marine Environment | Remove approximately 16,570 cy (approximately 1.12-acre area) of contaminated sediment from the marine environment improving local and bay wide benthic habitat and water quality.  | NA                                 | 16,570 Placed at Approved Upland Site  | 1.12 acres of benthic habitat improvement                                | 1.12 acres of benthic habitat improvement |
| Intertidal Habitat Creation                                  | Placement of dredged material suitable for beneficial use per SMS and DMMP to create approximately 16.74 acres of new, high-value intertidal habitat at the beneficial use site.<br><br>Additional dredged material will be stockpiled on the nearby upland and placed on the beach as beach nourishment. | NA                                 | Beneficial Use Site: Approximately 191,430<br><br>Potential Stockpile for Tribe use: TBD | Creation of 16.74 acres of new intertidal habitat and beach nourishment. | 16.74 acres of new intertidal habitat     |
| <b>Mitigation Totals</b>                                     |   | <b>-6,000 to 7000</b>              | <b>208,000 cy</b>  | <b>17.86 acres</b>   |   |
| <b>Net Impact Post Mitigation</b>                            |   | <b>+5,312 to 6,312<sup>1</sup></b> | <b>-0<sup>2</sup></b>  | <b>+17.72 to 17.74 acres</b>   |   |

Notes:

1. Net impact of pile installation post -mitigation.

2. Net impact is a sum of dredged material removed minus dredged material placed to create intertidal habitat and beach nourishment.

#### **4.0 SITE SELECTION FACTORS AND JUSTIFICATION**

In selecting the proposed mitigation activities and locations, the following documents were used as reference.

- General Policies for Evaluating Permit Applications (33 CFR Part 320.4)
- Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 332)
- WDFW Policy Memorandum POL-M5002 “Requiring or Recommending Mitigation”
- Selecting Mitigation Sites Using a Watershed Approach. (Ecology 2009)

The project site is not within the service boundaries of any established mitigation banks or approved in-lieu fee mitigation programs. As the proposed action occurs within the marine waters of Neah Bay, Section 323.3 (c)(v) of the USACE final mitigation rule (USACE 2008) also indicates that a watershed approach is not appropriate for mitigation site selection. The USACE final mitigation rule states that for “areas where watershed boundaries do not exist, such as marine areas...an appropriate spatial scale should be used to replace lost functions and services within the same ecological system” (USACE 2008). For this project, the USACE has agreed that mitigation should be focused in Neah Bay and recommended a bay-wide approach for mitigation site selection (personal communication with Pam Sanguinetti, USACE, 13 July 2016).

The Tribe, therefore, proposes to conduct permittee-responsible mitigation and minimization through a combination of on-site and out-of-kind enhancements (debris and contaminated sediment removal), and out-of-site and out-of-kind (intertidal habitat creation) enhancements to nearshore habitats in the bay. All of the proposed mitigation and minimization activities that are proposed would be conducted within and adjacent to waters of Neah Bay, and would directly benefit benthic habitat and water quality within the waters where project activities are being conducted.

Proposed debris and contaminated sediment removal activities will occur on Tribe-leased Washington State Department of Natural Resources (DNR) property in areas within the vicinity of the proposed project activities. Habitat dredged material placement, will occur on DNR-owned properties near the northwest corner of the bay. These activities will benefit intertidal habitats and aquatic habitat conditions near the marine shoreline of Neah Bay.

#### **5.0 GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS**

The overall goal of the proposed mitigation plan is to offset the impacts to aquatic habitat functions that could result from the proposed project. This section identifies the site-specific goals, objectives, and performance standards that are included in the plan to achieve the overall goal of the plan. Goals define what the project is trying to accomplish. Objectives define the specific project elements that are being undertaken to

achieve the goals. Performance standards are measurable and performance-based criteria for determining whether goals and objectives are being achieved.

### **5.1 Site-Specific Goals**

The functions most likely to be affected by the project (and to benefit from proposed mitigation) are benthic primary and secondary productivity, nearshore fish habitat function, and marine water quality. The bay shoreline habitat will also be enhanced through the placement of suitable dredged material on the shoreline of the beneficial use site. All of these functions are impaired, to some extent, by nearshore debris and existing nearshore substrate conditions.

The proposed project activities have the potential to result in further impairment of these functions due to creation of new overwater shading associated with the dock extension and new benthic habitat impacts associated with new piling footprints.

In order to offset the incremental impacts to benthic primary and secondary productivity, nearshore fish habitat function, and marine water quality, the following site-specific goals have been established for this mitigation plan.

- Create intertidal benthic habitat (by conducting beneficial dredged material placement)
- Improve water quality and benthic habitat (by removing debris and contaminated sediment from the project area)

### **5.2 Objectives**

The specific objectives of the mitigation are as follows.

- Create 16.74 acres of high-quality intertidal habitat at the beneficial use site (Sheets 8 and 9).
- Remove approximately 6,000 to 7,000 square feet of debris from the project area prior to dredging (below MHHW elevation).
- Remove approximately 16,570 cubic yards of contaminated sediment from an approximately 1.12-acre area in the project site.

### **5.3 Performance Standards**

The performance standard for these mitigation and minimization actions will consist of documenting the completion of the proposed mitigation and minimization activities as stated in this plan. Successful implementation of the plan will be documented via a report to the USACE that proposed debris removal, contaminated dredged material removal, and dredge material placement have occurred consistent with this plan. The Tribe will prepare and submit a brief memorandum to the USACE following completion

of these mitigation and minimization activities, documenting that the proposed mitigation activities have been completed.

## **6.0 DETERMINATION OF MITIGATION CREDITS**

The USACE's *Final Rule for Compensatory Mitigation for Losses of Aquatic Resources* (33 CFR 332[f]) states that "the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions."

Ms. Sanguinetti of the USACE regulatory division stated that because of the lack of mitigation banks or available in-kind and on-site mitigation near the project site, the Tribe will not be required to calculate impact/mitigation ratios for the project (13 July 2016 phone call). Instead, impacts and mitigation/minimization will be evaluated relative to bay-wide habitat impacts and improvements based on the resource(s) most at risk/impacted in Neah Bay. Nearshore intertidal habitat is the most impacted resource in Neah Bay based on findings in the 2006 Point No Point Treaty Council study (2006, Point No Point Treaty Council). The mitigation and minimization actions proposed by the Tribe, therefore, focus on improving and creating high-value intertidal habitat in the bay. Table 3 below summarizes the unavoidable impacts associated with the project and the proposed mitigation.

**Table 3. Impacts/Mitigation and Minimization Summary**

| Impact by Type of Habitat  | Impact Quantity | Total Impact Quantity     | Mitigation/Minimization Quantity | Net Impact Post-Mitigation | Notes   |
|--|-----------------|---------------------------|----------------------------------|----------------------------|---|
| <b>New Overwater Coverage</b>  |                 |                           |                                  |                            |   |
| Shallow Subtidal   | +1,200 sf       | 30,380 sf                 | -3,000 to -4,000                 | -1,800 to -2,800 sf        | <ul style="list-style-type: none"> <li>1,200 sf of overwater coverage over moderate value shallow subtidal habitat will be mitigated by removal of approximately 6,000 to 7,000 sf (total) of debris from the project area.</li> </ul>  |
| Deep Subtidal  | +29,180 sf      |                           |                                  |                            |   |
| <b>In-water Structure: Concrete Filled Steel Pile Installation</b>   |                 |                           |                                  |                            |   |
| Shallow Subtidal   | +27 sf          | +688 sf                   | -1,000 to -2,000 sf              | -312 to -1,312 sf          | <ul style="list-style-type: none"> <li>Debris removal within the project area (approximately 6,000 to 7,000 sf total) will mitigate for the benthic impacts resulting from pile installation in shallow and deep subtidal habitat.</li> </ul>   |
| Deep subtidal  | +661 sf         |                           |                                  |                            |   |
| <b>Dredging/Fill in Waters of the State/U.S.</b>   |                 |                           |                                  |                            |   |
| Shallow Subtidal   | 82,764 sf       | 670,734 sf<br>-208,000 CY | +729,194 sf                      | +646,430 sf                | <ul style="list-style-type: none"> <li>Includes creation of intertidal habitat at the beneficial use site.</li> <li>16,570 cy (over 1.12 acres) of the dredged material is assumed unsuitable for beneficial use barring additional testing and will be removed from the marine environment and placed at an approved upland facility.</li> </ul> |
| Volume   | -26,000 CY      |                           | +191,430 CY                      | +100,000 to 118,000 CY     |   |
| Deep Subtidal  | 588,060 sf      |                           | See above                        | See above                  | <ul style="list-style-type: none"> <li>Some of the suitable dredged material may be stockpiled at an upland facility pending identification of other beneficial use site(s) by the Tribe.</li> </ul>  |
| Volume   | -182,000 CY     |                           |                                  |                            |   |
| <b>Out-of-Kind Mitigation</b>  |                 |                           |                                  |                            |   |
| <ul style="list-style-type: none"> <li>729,194 sf of benthic habitat creation (habitat dredged material placement) – Will improve intertidal habitat conditions in the northwest corner of the bay and bay-wide, and will offset impacts to and improve benthic habitats.</li> </ul> |                 |                           |                                  |                            |   |

The proposed mitigation and minimization will fully offset impacts to aquatic habitat that may occur as a result of this project. The proposed debris removal, intertidal habitat creation, and beach nourishment will improve intertidal habitat at the site in the northwest portion of the bay and, subsequently, in the bay-wide region. Debris removal from an area of approximately 6,000 to 7,000 square feet and removal of contaminated sediment over 1.12-acre area will serve to offset pile installation benthic impacts of 688 square feet as on-site and in-kind mitigation. The proposed dredged material placement will create a total of 646,430 square feet of high-value intertidal habitat and provide erosional beach nourishment in the northwest corner of the bay. The creation of intertidal habitat will offset overwater shading impacts created by the construction of the proposed dock extension (30,380 square feet), as well as impacts caused by dredging, and will be an off-site and out-of-kind impacts minimization action. These activities will

enhance the intertidal habitat function, and by extension, the aquatic habitat suitability within Neah Bay over the long term.

## **7.0 MITIGATION WORK PLAN**

The proposed mitigation and minimization will be conducted either prior to, or concurrently with, activities for which they are providing mitigation (as described in Table 1) to avoid any temporal loss of function.

All work below the MHHW of Neah Bay will occur within the WDFW-approved in-water work window (16 July to 15 February) for waters of the Strait of Juan de Fuca. Work conducted overwater and above MHHW (including construction of the overwater portions of the deck structure) may occur outside of this window. Work will typically be conducted during standard daylight working hours, roughly 8 to 10 hours a day.

Debris removal, dredging, and dredged material placement would occur prior to construction of the dock extension. Debris and contaminated sediment would most likely be removed by a clamshell on an excavator operated from a barge or the existing commercial fishing dock. Material would be retrieved, stored temporarily on site, and then disposed of in an appropriate, off-site, upland location.

BMPs, including appropriate spill control measures, will be implemented throughout the project to minimize the potential for any water quality impacts during debris removal, dredging, dredged material placement, and construction. A containment boom will be deployed to capture released sawdust or other construction debris generated during decking construction and will be removed upon completion of the work. BMPs are discussed in detail in the project JARPA.

## **8.0 MONITORING, MAINTENANCE, AND SITE MANAGEMENT**

None of the proposed debris removal or dredged material placement mitigation and minimization activities have components that would require long-term maintenance or monitoring and, as such, none of these activities are proposed. Mitigation and minimization will be fully complete and functional upon initial completion of the dredging, structure and debris removal, and dredged material placement. The proposed mitigation and minimization will be conducted either prior to, or concurrently with, activities for which they are providing mitigation and minimization (as described in Table 1) to avoid any temporal loss of function. The Tribe will continue to manage the aquatic sites where mitigation activities are proposed consistent with their existing management plans.

## **9.0 SITE PROTECTION AND LONG-TERM MANAGEMENT**

None of the proposed mitigation and minimization activities require long-term site preservation or protection, and none are proposed. The debris removal and new intertidal habitat will be located on DNR-owned aquatic lands.

## 10.0 REFERENCES

- Point No Point Treaty Council, 2006. Historical Changes to Estuaries, Spits, and Associated Tidal Wetland Habitats in the Hood Canal and Strait of Juan de Fuca Regions of Washington State. December 2006.  
[http://www.pnptc.org/PNPTC\\_Web\\_data/Publications/habitat/GIS/Historic%20Changes%20Main%20Report.pdf](http://www.pnptc.org/PNPTC_Web_data/Publications/habitat/GIS/Historic%20Changes%20Main%20Report.pdf)
- U.S. Army Corps of Engineers (USACE). 2008. Compensatory Mitigation for Losses of Aquatic Resources Final Rule (33 CFR Parts 332). Dated April 10, 2008.
- Washington Department of Ecology (Ecology). 2006. *Wetland Mitigation in Washington State – Part 1 Agency Policies and Guidance and Part 2: Developing Mitigation Plans (Version 1)*. Ecology Publication #06-06-011a. Dated March 2006.
- Washington Department of Ecology (Ecology). 2009. *Selecting Mitigation Sites Using a Watershed Approach*. Ecology Publication #09-06-032. Dated December 2009.

**Mitigation Plan  
Makah Indian Tribe  
Emergency Spill Response Dock Extension Construction Project  
Neah Bay, Washington**

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**Appendix A  
Figures (Sheets 1 to 9)**