

MEMORANDUM FOR RECORD

January 11, 2018

SUBJECT: TIER 1 DETERMINATION REGARDING THE SUITABILITY OF PROPOSED DREDGED MATERIAL FROM OFFSHORE SAND BORROW AREAS IN WILLAPA BAY FOR USE IN THE RESTORATION OF THE GRAVEYARD SPIT BARRIER DUNE AT THE SHOALWATER BAY INDIAN RESERVATION.

1. **Introduction.** This memorandum reflects the consensus determination of the Dredged Material Management Program (DMMP) agencies (U.S. Army Corps of Engineers, Washington Departments of Ecology and Natural Resources, and the Environmental Protection Agency) regarding the suitability of the borrow material needed to repair and complete the construction of the Graveyard/Empire Spit barrier dune. The Corps of Engineers proposes to dredge approximately 700,000 cubic yards (cy) of sand from the entrance of Willapa Bay and place it on the spit to restore the eroded dune and complete its construction. Attachment 1 includes vicinity and location maps. Attachment 2 provides a general site plan, including the location of the borrow areas.
2. **Background.** The Shoalwater Bay Shoreline Erosion Project was authorized by Section 545 of the Water Resources Development Act of 2000. The authorized project included construction of a 12,500-foot long protective barrier dune. Initial construction was completed in October 2013, but included only 9,800 feet of the authorized length due to construction restrictions. Subsequent storm events in March 2016 and October 2016 significantly eroded the northern 3,200 feet of dune – including the 2,700-ft portion not included in the initial construction – resulting in over-wash (USACE, 2017).

The proposed project includes construction of the remaining 2,700 feet of dune and restoration of eroded portions of the dune constructed in 2013. The project includes dredging up to 700,000 cy of sand from the same offshore borrow areas used in 2013 for placement on the dune. Approximately 50,000 cy of 10-inch minus cobble and 15,000 cy of 1-inch minus filter material will also be placed along 3,413 feet of the project (Station 3+87 to 38+00) to stabilize the toe of the dune (Michalsen, 2018). Without the proposed project, the wave protection provided by the barrier dune to the Shoalwater Reservation will continue to decrease, resulting in increased flooding (USACE, 2017).

3. **Exclusionary Criteria.** The Clean Water Act (CWA) Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material (CFR 40 Section 230.60, subparagraphs a and b) outline general requirements for the evaluation of dredged or fill material, and include exclusionary criteria with regard to testing. The Guidelines state that (1) dredged or fill material is most likely to be free from chemical, biological, or other pollutants where it is composed primarily of sand, gravel, or other naturally occurring inert material. Dredged material so composed is generally found in areas of high current or wave energy such as streams with large bed loads or coastal areas with shifting bars and channels; and (2) the extraction site shall be examined in order to assess whether it is sufficiently removed from sources of pollution to provide reasonable assurance that the proposed discharge material is not a carrier of contaminants (EPA, 1980). Dredged material that meets these two guidelines may be excluded from further testing.

In 2007, the DMMP agencies determined that dredged material from the two offshore borrow areas met the exclusionary criteria stipulated in the CWA Section 404(b)(1) guidelines (DMMP, 2007). The proposed project is in a highly dynamic coastal area with high-energy waves and currents. The proposed dredged material is also far from any known sources of contamination. The DMMP Users Manual indicates that the Willapa Bar is ranked “very low”, meaning that the area is geospatially removed from potential sources of contamination (DMMP, 2016).

To verify that conditions have not changed with respect to known sources of contamination since the 2007 DMMP suitability determination, USACE reviewed spill response records for Pacific County from the Department of Ecology’s Environmental Response Tracking System (ERTS). The DMMP agencies expressed interest in all spill responses within a ten-mile radius of the borrow areas and any others greater than 100 gallons within the Willapa Bay watershed regardless of distance from the borrow areas.

Spill responses within ten miles of the borrow sites are shown in Attachment 3. The majority of these incidents involved either no loss of petroleum hydrocarbons to the water or minimal loss. The only spill of significant quantity within ten miles of the borrow areas occurred after the R/V Hero sank on the Palix River, near Bay Center, on March 4, 2017 (ERTS# 671163). Approximately 355 gallons of “diesel/marine gas oil” are listed as having been lost to the water. Newspaper accounts reviewed by the DMMP agencies indicate that a sheen appeared on the Palix River for at least several days following the sinking. The Department of Ecology and Coast Guard responded, hiring a contractor to remove the remaining fuel and hydraulic oil from the vessel, seal any ports from which petroleum hydrocarbons could be lost, and clean up lost fuel and oil within and around the vessel. The source of the sheen was described as diesel fuel, which has a specific gravity less than water. As the spill occurred over nine miles from the borrow area, was of relatively small quantity and would have a tendency to float rather than sink, the DMMP agencies determined that the risk of the spill having affected the borrow areas is very low.

Attachment 4 shows all spills greater than 100 gallons within the Willapa Bay watershed. Only two such incidents occurred. One was associated with the sinking of the R/V Hero, discussed previously. The second was associated with the grounding of the F/V Genesis A on January 25, 2013 on Leadbetter Point, which resulted in an estimated loss of 675 gallons of diesel and oil (ERTS# 638874). The coordinates provided in ERTS (and shown in Attachment 4) are not correct, as the vessel grounding was reported to have occurred on a sand bar at Leadbetter Point near the mouth of Willapa Bay. A description of the grounding indicated that “the vessel was under power and driven onto the beach through the surf.” A photo of the grounded vessel corroborated this account, showing the surf and open ocean in the background. This is of importance because it demonstrates that the grounding did not take place within the Willapa Bay estuary itself. In an article in the Chinook Observer, an Ecology representative stated that “the high-energy surf and other weather conditions caused the diesel that did spill to be quickly dissipated...We saw sheen about 200 yards south of the vessel and about 400 yards to the north...Responders inspected from the shore side inside Willapa Bay and after a thorough inspection did not see any oil.” Based on the available evidence the DMMP agencies determined that there was little chance that the spill from the F/V Genesis A could have adversely impacted the quality of sediment in the borrow areas.

Based on the above information, the DMMP agencies determined that the risk that conditions have changed substantively at the borrow sites since 2007 is low and that the borrow material still meets

the exclusionary criteria under the CWA Section 404(b)(1) guidelines.

4. **Tier 1 Determination**. This memorandum documents the evaluation of the suitability of sediment proposed for dredging from 1) adjacent offshore sand borrow areas for use in the restoration of the Graveyard Spit barrier dune system in Willapa Bay. Based on an evaluation of spill response information since 2007, the DMMP agencies conclude that **all 700,000 cubic yards are suitable** for use in dune restoration.

Prior to initial construction, USACE estimated performing maintenance of the barrier dune every five years by dredging approximately 250,000 cy from the borrow areas and placing the dredged material on the restored dune (USACE, 2017). The recency period for a 'very low' ranked project is ten years (DMMP, 2016). Barring changed conditions – such as an oil spill in the vicinity of the borrow areas – this Tier 1 determination is valid for the next ten years of dredging and dune maintenance.

5. **References**.

DMMP, 2007. *Determination Regarding the Suitability of Proposed Dredged Material from 1) Sand Borrow Sites Adjacent to the Willapa Bay North Channel for Beneficial Use in the Restoration of the Graveyard Spit Barrier Dune at the Shoalwater Bay Indian Reservation and 2) The Proposed North Cove Channel Alignment*. Prepared by the Dredged Material Management Office, U.S. Army Corps of Engineers – Seattle District for the Dredged Material Management Program agencies, July 12, 2007.

DMMP, 2016. *Dredged Material Evaluation and Disposal Procedures (Users Manual)*, prepared by the Dredged Material Management Office, U.S. Army Corps of Engineers – Seattle District for the Dredged Material Management Program agencies, November 2016.

EPA, 1980. *Guidelines for Specification of Disposal Sites for Dredged or Fill Material, 40 CFR Part 230*, Environmental Protection Agency (published in the Federal Register), December 24, 1980.

Michalsen, 2018. Personal communication from David Michalsen, U.S. Army Corps of Engineers – Seattle, January 10, 2018.

USACE, 2017. *Shoalwater Bay Erosion Control Project; Continuation of Construction and Storm Damage Repair; Pacific County, Washington – Substantive Compliance for Clean Water Act Section 404 and Rivers and Harbors Act*. Prepared by CENWS-PME, U.S. Army Corps of Engineers – Seattle District, November 2017.

6. Agency Signatures.

Concur:

The signed copy is on file in the Dredged Material Management Office.

Date David Fox, P.E. - Seattle District Corps of Engineers

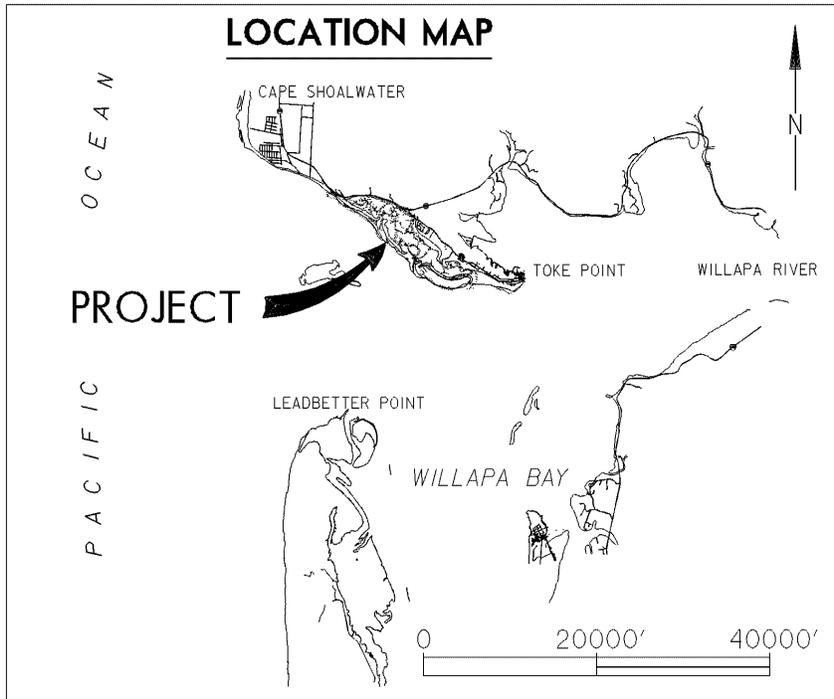
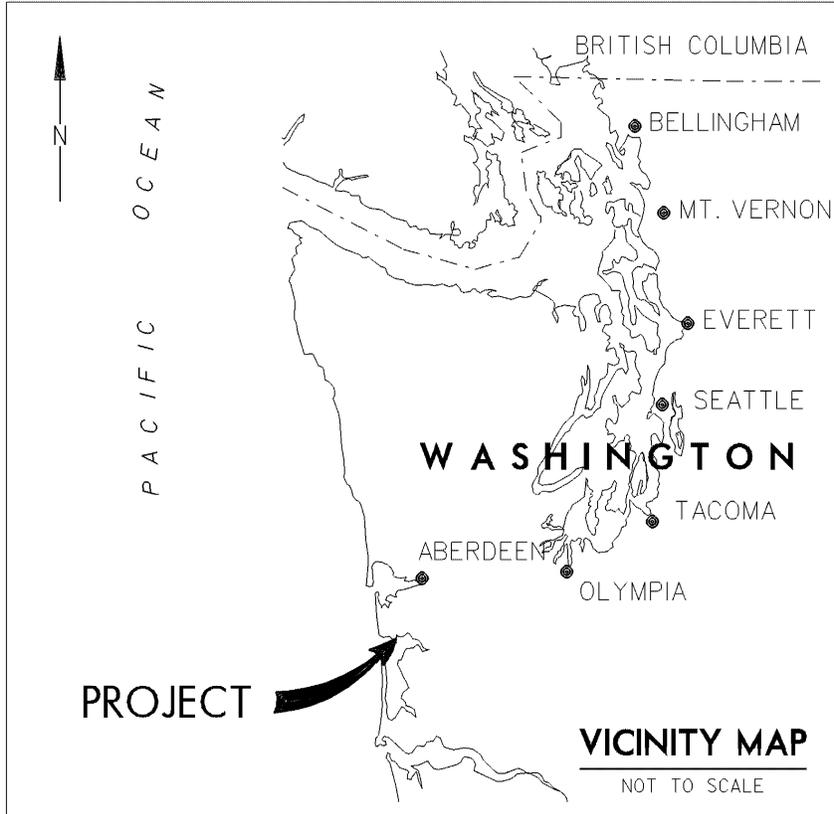
Date Justine Barton - Environmental Protection Agency

Date Laura Inouye, Ph.D. - Washington Department of Ecology

Date Celia Barton - Washington Department of Natural Resources

Copies furnished:

- DMMP signatories
- Melissa Leslie, Seattle District
- David Michalsen, Seattle District



Attachment 3 Spill Response Incidents Within 10 miles of Borrow Areas

10-mile radius

borrow areas

ERTS#: 638148
12/12/2012
55 gallon drum
Recovered Qty: 54 gallons
HYDRAULIC OIL
Some sheening on the water

ERTS#: 672027
4/5/2017
Spill Qty: 5 gallons
Recovered Qty: 5 gallons
WASTE OIL

ERTS#: 675623
9/8/2017
Spill Qty: 0.01 gallons
Recovered Qty: 0 gallons
Light sheen inside boat,
no evidence of spill to water

ERTS#: 651762
9/24/2014
Spill Qty: not reported
Recovered Qty: not reported
GASOLINE
Minimum sheen from sunken vessel

ERTS#: 616620
11/19/2009
Spill Qty: 15 gallons
Recovered Qty: 0 gallon
DIESEL/MARINE GAS OIL
Sunken vessel at Tokeland Marina

ERTS#: 674649
7/27/2017
Spill Qty: 2 gallons
Recovered Qty: 1 gallon
HYDRAULIC OIL

ERTS#: 616579
11/16/2009
Spill Qty: 0 gallons
Recovered Qty: 0 gallons
DIESEL/MARINE GAS OIL
Grounded vessel refloated

ERTS#: 613928
7/9/2009
Spill Qty: 0 gallons
Recovered Qty: 0 gallons
HYDRAULIC OIL
Derelict vessel - no sheen

ERTS#: 636823
10/7/2012
Spill Qty: 1 gallon
Recovered Qty: 1 gallon
Z-OTHER

ERTS#: 643943
9/16/2013
Spill Qty: 1 gallon
Recovered Qty: 1 gallon
Chemical

ERTS#: 638104
12/7/2012
Spill Qty: 0 gallons
Recovered Qty: 0 gallons
RV Hero

ERTS#: 671153
3/4/2017
Spill Qty: 355 gallons
Recovered Qty: 0 gallons
DIESEL/MARINE GAS OIL
RV Hero sinking and oil spill



Attachment 4 Spills Greater Than 100 Gallons

borrow areas

Leadbetter
Point

ERTS#: 671163
3/4/2017
Spill Qty: 355 gallons
Recovered Qty: 0 gallons
DIESEL/MARINE GAS OIL
RV Hero sinking and oil spill

ERTS#: 638874
1/25/2013
Spill Qty: 675 gallons
Recovered Qty: 0 gallons
DIESEL/MARINE GAS OIL
FV Genesis A grounding and oil spill

N

0 5 10 15 20 Miles