Newport Commercial Marina
Section 107 Navigation Project

Integrated Feasibility Report and Environmental Assessment

Appendix E – Dredged Material Management Plan

US Army Corps
of Engineers ®
Portland District

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CONTENTS

TABLES

The goal of this Dredged Material Management Plan (DMMP) is to develop a placement plan that will accommodate the placement of new work and maintenance dredged material over 50 years associated with the Newport Commercial Marina Section 107 Navigation Project Feasibility Study. Dredged material management planning for all Federal projects is conducted by USACE to ensure that dredging activities are performed in an environmentally acceptable manner, use sound engineering techniques, are economically justified, and to ensure that long-term placement facilities are available. Ultimately, the DMMP identifies specific measures necessary to manage the volume of material likely to be dredged within the Newport Commercial Marina project area over the 50-year period of analysis. This DMMP considers maintenance and new work dredging volume associated with the Newport Commercial Marina Recommended Plan including: the west entrance channel alignment and the deepening and widening of the existing navigation pathways within the marina to improve access and maneuverability to Docks 5 and 7 and the hoist dock. The proposed entrance channel will be dredged to a depth of -22 feet MLLW (authorized depth of -20 feet MLLW with 2 feet of overdepth) and the navigation pathways within the marina will be dredged to a depth of -20 feet MLLW (authorized depth of -18 feet MLLW with 2 feet of overdepth). All channels have a bottom width of 72 feet and side slopes of 3:1 (3-foot run over 1-foot rise).

1 PLACEMENT AREA

The Yaquina North and South Ocean Dredged Material Disposal Sites (ODMDS) are considered as the potential disposal sites in this DMMP. These sites were determined to be the least cost, most practicable and environmentally acceptable option for the disposition dredged sediments. The South ODMDS will likely be used for this material. Of this material, an estimated 125,340 cy of unconsolidated sand and silt (over the mudstone layer of material) will be placed at the Yaquina ODMDSs. An estimated 91,140 cy of dredged material consisting of uncontaminated mudstone would be placed in open water disposal at the ODMDS. This DMMP considers the placement area requirements specifically for the Feasibility project features.

1.1 Yaquina North and South ODMDS

Pursuant to section 102(a) of the Marine Protection, Research and Sanctuaries Act (MPRSA), all disposal of dredged material at the ODMDSs, whether performed under a Department of the Army permit (issued by the Regulatory Branch) or by Portland District Civil Works, must be evaluated in accordance with EPA's criteria at 40 CFR Part 227. Specifically, 40 CFR § 227.1 and subparts C, D, E, and G apply in their entirety. To determine whether the proposed dumping of dredged material complies with subpart B of Part 227, only sections 227.4, 227.5, 227.6, 227.9, 227.10 and 227.13 apply. USACE's MPRSA evaluation of this CAP 107 project appears in section 6.1.10 of this EA/Feasibility Study.

EPA Region 10 designated the Yaquina North ODMDS and South ODMDS offshore of

Newport, Oregon pursuant to the MPRSA on September 7, 2012 (77 FR 55144). These sites are described in EPA's regulations at 40 CFR § 228.15(n)(15). The Yaquina North and South ODMDSs are identical in size, shape, and depth. Both sites are located offshore approximately 2 nautical miles (nmi) from the entrance to Yaquina Bay. The sites are 6,500 ft long (north-south) by 4,000 ft wide (east-west) in 120 to 160 ft of water. Both sites are inscribed with a 500-ft buffer surrounding a 5,500 ft by 3,000 ft release zone. These release zone at each site is divided into 66 500 ft by 500 ft management cells.

The Yaquina ODMDSs were designed to provide 20-50 years of capacity for and operational flexibility for dredging projects on the Yaquina Bay and River. Additional consideration was given to providing enough area to evenly distribute dredged material in relatively thin (vertical) layers an annual basis, if needed. The ODMDSs accommodate suitable dredged material from both the Yaquina Bay and Yaquina River federal navigation projects. However, dredging projects permitted by the USACE's Regulatory Branch may also use the ODMDSs with EPA's concurrence.

Disposal at the Yaquina ODMDSs has the following restrictions [40 CFR §§ 228.15(n)(15)(i)(F) and (ii)(F)]:

(1) Disposal shall be limited to dredged material determined to be suitable for ocean disposal according to 40 CFR 227.13 from the Yaquina Bay and River navigation channel and adjacent areas;
(2) Disposal shall be managed by the restrictions and requirements contained in the currently-approved Site Management and Monitoring Plan (SMMP);
(3) Monitoring, as specified in the SMMP, is required.

The SMMP for the Yaquina ODMDSs was jointly prepared by the EPA and USACE in 2012 as part of EPA's Site Evaluation and Environmental Assessment for designation of the sites. This document describes the management and monitoring requirements for the two sites. In accordance with the 2012 SMMP, USACE has used the Yaquina North and South ODMDSs to dispose of dredged material from the Yaquina Bay federal navigation project and the Depot Slough side channel (part of the Yaquina River federal navigation project). However, the 2012 SMMP did not include maintenance volumes from this CAP 107 project. The EPA and USACE are currently updating the SMMP to include this project, and a final SMMP is expected to be published in fall 2025.

Material dredged for placement at the ODMDS for this project would be conducted via mechanical dredging with material transported to the site using bottom dump scows. Other projects have material transported to the ODMDSs via hopper dredging. Placement will be performed and monitored in accordance with the Portland District and EPA's SMMP.

USACE work will consist of a bucket dredge or excavator, two or more split-hull scows, and tugs and push boats to tow the scows to the disposal sites and move the dredging plant and equipment around within the Project area. At least two scows are needed to segregate

unconsolidated dredged material from the underlying mudstone. Small survey and workboats would also be used. Assuming it is approved for disposal at the Yaquina ODMDSs, the mudstone (approximately 91,140 CY) would be transported and disposed within a specific zone at one of the sites. The cell containing mudstone would be covered with sand dredged from the Yaquina Bay FNC by District's trailing-suction hopper dredge YAQUINA.

All construction equipment would be waterborne plant. No onshore staging would be required. The contractor would be responsible for securing any shore side access for personnel and fuel according to their specific needs. All work at the dredging and disposal sites would be within the waters of the United States.

2 INFILL RATE

The Newport Commercial Marina has not typically required dredging and the access channel on the west side of the marina is naturally deep. The Commercial Marina has not been dredged in the last 30 years and is protected by the timber and rubblemound breakwater that surrounds the Commercial Marina, which indicates that the area is sheltered from large changes in sediment erosion or deposition.

3 PROJECTED DREDGED MATERIAL VOLUMES

3.1 Construction Material

Table 2 presents the new work dredged material volumes for the project based on the conditions of the study area based on a survey from November 2005. In total approximately 125,000 cy of unconsolidated sand and silt will be placed at the ODMDSs, and 91,000 cy of mudstone may be placed at the ODMDSs. Volumes shown in Table 1 below are indicating maximum volumes available to be dredged to evaluate and manage placement at the ODMDSs and to consider long term environmental authorizations needed for the purposes of dredging and dredged material disposal.

Table 1. Proposed (Estimated) Newport Commercial Marina Channel Dredged Volumes

	Mudstone Volume (CY)	**Sediment Volume (CY)**	**Total Dredged Volume (CY)**
Inner Channel (-20ft MLLW)	91,018	105,454	196,472

	Mudstone Volume (CY)	Sediment Volume (CY)	Total Dredged Volume (CY)
Entrance Channel (-22ft MLLW)	120	19,882	20,002

3.2 Maintenance Dredging Material

Maintenance dredging is anticipated to be needed every 5 years. The estimated maintenance dredging is 10,000 cy dredged 5 years after construction, then 5,000 cy per 5 years after that. The following estimated capacity shown in Table 2 below will be required for placement at the ODMDSs through the 50-year life cycle of this Project. Volumes shown in Table 2 below are indicating maximum volumes available to be dredged to evaluate and manage placement at the ODMDSs and to consider long term environmental authorizations needed for the purposes of dredging and dredged material disposal.

Table 2. Potential New Work, Maintenance, and Accumulative Volumes

Year	Activity	Volume dredged per cycle	Accumulative capacity required for NODS
0	Construction	220,000 CY	220,000 CY
5	Maintenance	10,000 CY	230,000 CY
10	Maintenance	5,000 CY	235,000 CY
15	Maintenance	5,000 CY	240,000 CY
20	Maintenance	5,000 CY	245,000 CY
25	Maintenance	5,000 CY	250,000 CY
30	Maintenance	5,000 CY	255,000 CY
35	Maintenance	5,000 CY	260,000 CY
40	Maintenance	5,000 CY	265,000 CY
45	Maintenance	5,000 CY	270,000 CY

Year	Activity	Volume dredged per cycle	Accumulative capacity required for NODS
50	Maintenance	5,000 CY	275,000 CY

4 DREDGED MATERIAL CLASSIFICATION

The MPRSA sediment testing regulations found at 40 CFR 227.13 require pre-dredge sediment testing prior to aquatic disposal of the dredged material. The USACE determines the suitability of the dredged material for aquatic disposal per this regulation. The EPA reviews USACE's dredged material suitability determination (and the project's compliance with other MRPSA evaluation criteria) and issues their concurrence/non-concurrence for the site use request.

In the Pacific Northwest, MPRSA dredged material testing is performed in accordance with the 2018 Sediment Evaluation Framework for the Pacific Northwest (SEF) (Northwest Regional Sediment Evaluation Team [NWRSET], 2018). The SEF is the regional implementation manual for the EPA and USACE's (1991) Ocean Testing Manual.

The most recent sediment characterization for the Commercial Marina Access Channel was performed for the Port of Newport in February and March 2024; sediment physical, chemical, and biological testing results are summarized in the Port's sediment characterization report (SCR) (GRI, 2025). The Commercial Marina Access channel was divided into five dredge material management units (DMMUs): a Port Dock 5 west channel unit (DMMU 5, ~37.9 kCY), a Port Dock 7 hoist dock unit (DMMU 4, 50.5 kCY), a Port Dock 7 east channel unit (DMMU 3, ~34.8 kCY), a Port Dock 7 west unit (DMMU 2, 48 kCY), and a Port Dock 7 east unit (DMMU1, 40.7 kCY). The Port's contractor used a roto-sonic borer to collect samples of the dredge prism and post-dredge surface sediments (i.e., the sediments exposed after dredging). Sediments were initially characterized to a maximum depth of -18 ft MLLW (depth to mudstone). Mudstone was collected from the dredge prism from the sediment chemistry collection and from -20 to -22 ft MLLW using geotechnical boring. Samples of mudstone were analyzed for polynuclear aromatic hydrocarbons (PAHs) and later analyzed for heavy metals.

Sediment Physical Characteristics

The dredge prism samples had an average of 7% sand (range 39 to 98%), 26% silt and clay (range 3 to 61%), and 2% gravel (range 0 to 7%).

Sediment Chemistry

The dredge prism samples were analyzed for the following chemicals: total organic carbon, ammonia, sulfides, metals, tributyltin, PHAs, semi-volatile organic compounds, polychlorinated biphenyls (both Aroclors and congers), and dioxins/furans. The mudstone samples were tested for PAHs and heavy metals for potential placement in the ODMDS. All detects and non-detect reporting limits from the dredge prism were below SEF marine SLs.

Benthic toxicity and bioaccumulation testing

Bioassay and bioaccumulation testing was conducted concurrently with the sediment chemical analyses. Per the SEF guidance, there were no toxicity or bioaccumulation bioassay failures.

Conclusions

Based on the Port's SCR, the Commercial Marina Access Channel sediments are suitable for ocean disposal per the SEF. USACE's suitability determination is currently pending; it is being reviewed by the EPA as part of their MPRSA review.

5 SITE UTILIZATION PLANS FOR OCEAN DISPOSAL

Site utilization plans (SUPs) are required to ensure that there is sufficient capacity within the designated placement areas necessary to contain both the new work dredged materials from the widening and deepening of the channel as well as future maintenance material from the repeated dredging of the channel to maintain navigable project depths over a 50-year period.

5.1 Construction.

Unconsolidated sediment (approximately 130,000 CY) and mudstone (approximately 90,000 CY) would be segregated into separate scows staged at the dredge area. Disposal at the Yaquina ODMDSs would be performed per SUPs prepared by USACE for the dredging contractor. The SUPs would be prepared after the construction contract is awarded and would be tailored to the contractor's equipment and type of material being disposed (unconsolidated sediment or mudstone).

The overlying unconsolidated sediment dredged from the Project would be disposed in one of the Yaquina ODMDSs and spread in a thin layer in accordance with the USACE-prepared SUP. This thin layer placement strategy would be employed to minimize mound formation at the sites.

As mudstone is encountered during dredging, it would be placed in a separate scow and transported to one of the ODMDSs. A specific zone within the ODMDS would be allocated for the mudstone material. A SUP would be developed to ensure even distribution of the mudstone over the specified zone. Assuming a bulking rate of 20%, 91,140 CY of mudstone would bulk in volume to approximately 110,000 CY. The allowable thickness of mudstone disposal has yet to be determined and would require the USEPA's approval. Possible mudstone disposal scenarios:

- Mudstone disposed in a layer 1.0 ft thick would cover approximately 12 of the 500 ft by 500 ft management cells in an ODMDS;
- A 1.5 ft-thick layer of mudstone would cover approximately 8 management cells;
- A 2.0 ft-thick layer of mudstone would cover approximately 6 management cells

Multiple multibeam hydrographic surveys would be required to verify the thickness and evenness of the mudstone layer.

After construction, the mudstone would need to be covered by at least 2 feet of sandy dredged material to facilitate recolonization of benthic infauna. Sand dredged from the Yaquina Bay entrance channel by the hopper dredge YAQUINA would be used to cover the mudstone. In the scenarios imagined above, the following quantities would be needed to cover the mudstone with 2 ft of sand:

- Mudstone spread 1.0 ft-thick over 12 management cells would require 225,000 CY
- Mudstone spread 1.5 ft-thick over 8 management cells would require 150,000 CY
- Mudstone spread 2.0 ft-thick over 6 management cells would require 110,000 CY

Additional multibeam surveys during and after placement would be necessary to verify the thickness of the sand covering the mudstone.

5.2 Maintenance Dredging.

After the completion of new work dredging for the Newport Commercial Marina channel, the project will require periodic maintenance dredging to retain navigability. It is estimated that the Newport Commercial Marina channel will receive a 5-year shoaling volume of approximately 10,000 CY 5 years after construction, then 5,000 CY every 5 years following, pursuant to the Feasibility Report Recommended Plan. This DMMP is based on maintenance dredging every 5 years. All unconsolidated sand and silt maintenance dredged volume is designated for placement at the ODMDSs, and mudstone may be placed at the ODMDSs, pending PSET determination that the mudstone is suitable for open water disposal once (during construction) at the ODMDSs.

6 UPLAND BENEFICIAL USE SITES

Terrestrial disposal alternatives were evaluated and determined to be infeasible. Nearshore and estuarine beneficial use alternatives were also evaluated and eliminated from further consideration.

Placement of dredged material in an upland Confined Disposal Facility for use to improve or construct harbor and port facilities, residential and urban areas, parks, airports, dikes, levees and containment facilities, roads, and island and historic preservation areas was considered. The material is considered clean and can be placed upland. The Port has an existing lease with the landowners at McLean Point to place clean material when needed. Based on interviews with local industry partners, the port has indicated that material placed upland could be beneficially used for Construction and Industrial/Commercial Use, per Engineering Manual 1110-2-5025 and the Expanding Beneficial Use of Dredged Material in the USACE Memorandum for Commanders, Major Subordinate Commands and District Commands (08/28/23).

7 REFERENCES

- EPA, USACE. 1991. *Evaluation of Dredged Material Proposed for Ocean Disposal Testing Manual*. AKA “Green Book” or “Ocean Testing Manual.” Prepared by EPA and

USACE, February 1991, 214 pp with appendices.

- EPA, USACE (2012) *Yaquina Bay North and South Ocean Dredged Material Disposal Sites Site Management/Monitoring Plan, 2012*. 20 pp.
- GRI. 2025. *Sediment Characterization Report; Port of Newport, Oregon*. Revised March 21, 2025. 1,152 pp with Figures and Appendices.
- Northwest Regional Sediment Evaluation Team (NWRSET). 2018. *Sediment Evaluation Framework for the Pacific Northwest*. Prepared by the RSET agencies, May 2018, 278 pp with appendices.