

2.12.2 Description of Selected Remedy

The Selected Remedy includes the following components:

- Conduct additional sediment sampling [i.e., PRD Sediment Sampling] prior to implementation of the remedial action to assess localized contaminant re-distribution resulting from the disruption of the sea floor by Navy construction projects conducted before finalizing this ROD, and within the footprint of the former location of the ex-Saratoga. The areas requiring dredging as part of the OU5 remedy may be revised depending on the sampling results. Details of the PRD Sediment Sampling will be included in a PRD SAP.
- Targeted open water dredging and off-site disposal of dredged sediment to reduce contaminant volume while meeting the cleanup goals on a surface-area weighted average basis.
- Confirmation sampling after dredging to verify that SWACs have reached cleanup goals.
- Installation of an engineered cap under portions of Pier 2 to provide protection from contaminants under the pier without demolition of the pier.
- Implementation of LUCs, including 1) short-term LUCs (i.e., Base instruction and signage) to notify persons that shellfish should not be taken from within the OU until the dredging and capping components of the remedy are completed; 2) permanent LUCs prohibiting unauthorized disturbance of the engineered sand/gravel cap installed at the target sub-pier area - any future proposed work to demolish or restore the pier below the water line or over the capped area that could undermine the cap's integrity would require prior Navy, EPA, and RIDEM concurrence to avoid compromising the cap; and 3) permanent LUCs to minimize the potential for exposure to asbestos potentially present in dredged sediment through development of documented precautionary measures and safe work practices.
- Monitoring to ensure the cap under Pier 2 remains intact and protective.
- Establishing a dewatering area onshore and/or on barges, and treating water from the dewatering process.
- Five-year reviews to assess the protectiveness of the cap component of the remedy and the LUCs established to protect the cap and to address potential asbestos in sediments.

The Selected Remedy will allow for the planned continued use of OU5.

Pre-Remedial Design (PRD) Sediment Sampling

Additional sediment sampling [i.e., PRD Sediment Sampling] will be conducted prior to implementation of the remedial action to assess the contaminant re-distribution resulting from the disruption of the sea floor by Navy construction projects (Pier 2 fender pile replacement, and marginal wharf upgrade) conducted before finalizing this ROD.

PRD Sediment Sampling will also be conducted within the footprint of the former location of the ex-Saratoga which departed from Pier 1 on August 21, 2014 and previously obstructed sediment sample positions. The areas requiring dredging as part of the OU5 remedy may be revised depending on the sampling results and a revised SWAC. Details of the PRD Sediment Sampling will be included in a PRD SAP.

Dredging and Disposal

Dredging will be conducted to a one-foot depth in eleven target areas, and to a two-foot depth in eight target areas (Figure 2-6). Dredging will be conducted over a total area of approximately 251,279 square feet, with an associated dredged volume of approximately 27,646 cubic yards. Dredging in these areas is expected to result in a minor increase in water depths. During dredging operations, silt curtains or other

appropriate resuspension/particulate control systems will be used to minimize potential adverse environmental effects that may occur due to resuspension of fine-grained sediments during dredging activities. Bathymetric surveys will also be completed before dredging and after dredging to confirm that targeted dredging depths were reached. Sediment will be dredged using methods selected based on effectiveness and to minimize water column turbidity. The final determination of the most appropriate technique will be made during development of the RD. Visual inspection(s) will be conducted after completion of the remedy to document recovery of the benthic community in the dredge area.

Dredged materials to be transported off-base for disposal will be dewatered on barges and/or on shore by gravity thickening and then mixed with Portland cement, lime, or another pozzolanic material to reduce the free water content of the sediment. The resultant water from the dewatering process will be treated as necessary to meet applicable state and federal discharge standards prior to discharge into Narragansett Bay or to a POTW, as appropriate. If necessary, water will be treated by means of a portable clarifier and filtration system located either on a barge or on shore. The clarifier would remove inorganic constituents by precipitation. Unsettled metals precipitants and other suspended particles and fines would be removed by filtration. Any organic constituents (PAHs and PCBs) present are expected to be adsorbed onto the surface of the suspended particles and thereby be removed by filtration along with these particles. Based on available data, the need for additional treatment for dissolved chemicals is not anticipated; however, treatment requirements may be more completely evaluated through a pilot test conducted as part of the design. Dewatered and stabilized sediment samples will be collected and analyzed to verify that the material meets applicable criteria before being transported for landfill disposal. Evaluation of the existing sediment analytical data indicates that the contaminant levels are low enough that the material will likely meet requirements for disposal in a RCRA Subtitle D landfill without treatment. The process of dewatering will be fully developed in the design documents and/or the RD or RAWP documents.

Confirmation Sampling

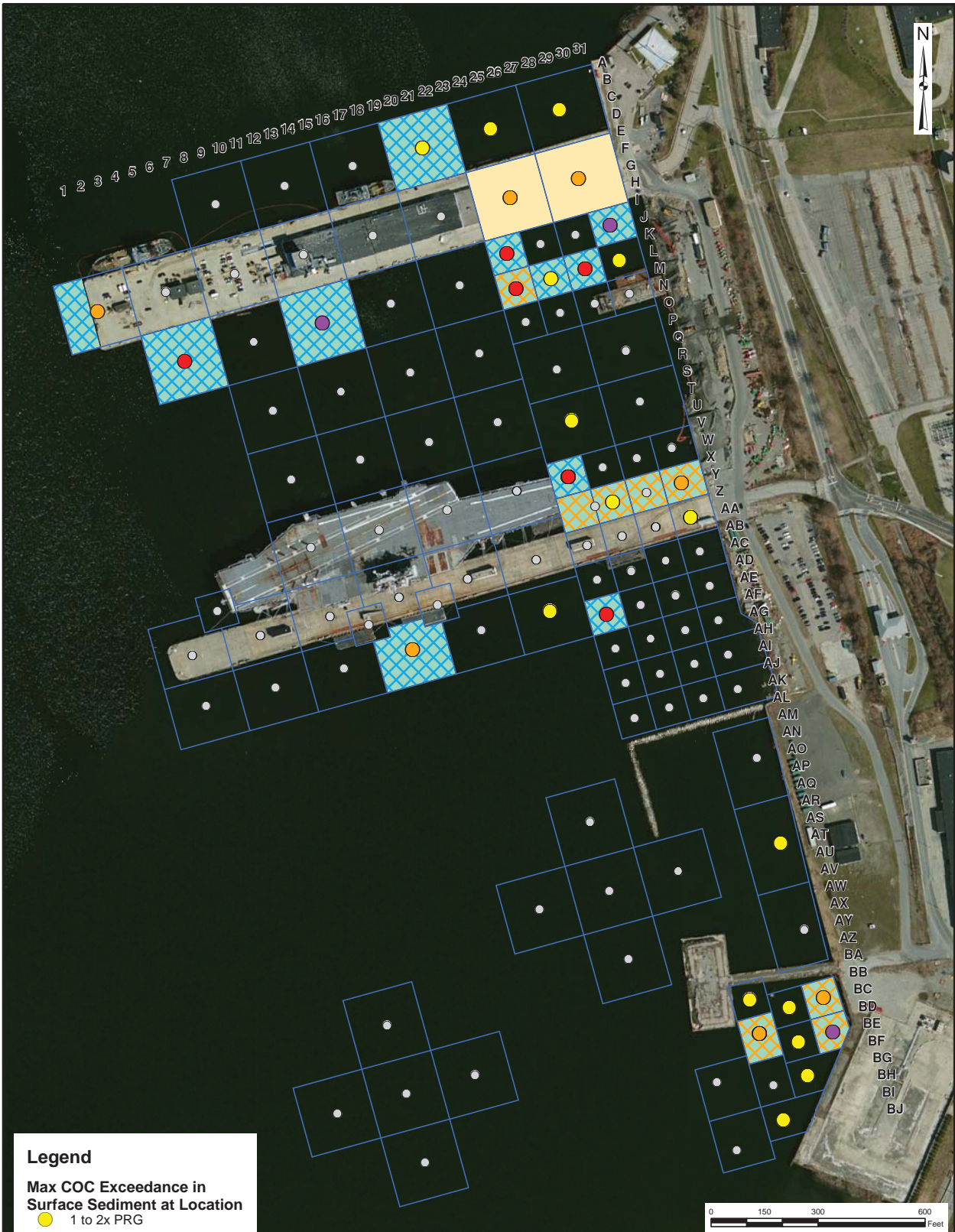
Following dredging activities, confirmation sampling will be conducted to ensure that the RAOs are met. Confirmation sampling will be conducted within dredged cells and within cells adjacent to the dredged cells. Using this description as guidance, the final details of the confirmation sampling program will be developed during the RD in consultation with the Navy, EPA, and RIDEM.

These data would be used to recalculate SWACs for the open water area to represent post-dredging conditions. Specifically, confirmation sampling data from dredged cells would be utilized to calculate a SWAC for the dredged area only. If this SWAC calculation indicates cleanup goals are met, the project will be considered complete. If not, the confirmation data from adjacent cells would be added to this SWAC calculation to moderate heterogeneity of sediment data and calculate a second SWAC. If this second SWAC calculation indicates that cleanup goals are met, the project will be considered complete. If not, the team will meet to determine an appropriate course of action.

If the area surrounding any of the dredge cells was not previously sampled, a new cell (either 100 by 100 feet or 200 by 200 feet, to be consistent with the size of the adjacent dredged cell) will be created at the appropriate position. If the adjacent area is a landform with no sediment present, no adjacent sample in that direction will be collected. Exact locations for post-dredge sampling will be determined based on the actual limits of dredging after it is completed. Confirmation samples will be collected from the 0- to 1-foot interval at each sample station and analyzed for COCs (HMW PAHs including benzo(a)pyrene, PCBs, and lead). This post-excavation sampling and analysis approach is believed to be sufficiently conservative in determining that RAOs have been reached. The approach of sampling adjacent areas considers the origins of the contaminants as described in the CSM and the potential for migration of contaminants during dredging and compensates for the heterogeneity and variability of sediment.

Engineered Cap under Pier 2

This alternative also includes placement of a minimum 1-foot thick engineered barrier (in-situ cap) over two target areas beneath the eastern end of Pier 2 (Figure 2-6). An estimated area of approximately 83,574 square feet will be capped and will require 8,794 cubic yards of cap material. The projected volume of cap material is based on an estimate for a 2-foot-thick barrier, which will be a target thickness



Legend

Max COC Exceedance in Surface Sediment at Location

- 1 to 2x PRG
- 2 to 5x PRG
- 5 to 10x PRG
- > 10x PRG
- Sample Location

- Sampling Grid
- 1-Foot Dredge
- 2-Foot Dredge
- Dredge
- In-Situ Cap



NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND

ALTERNATIVE 5

SITE 19 - FORMER DERECKTOR SHIPYARD
OU5 - MARINE SEDIMENT
RECORD OF DECISION

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FIGURE NUMBER	2-6	REV	DATE
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RECORD OF DECISION

SITE 19 – FORMER DERECKTOR SHIPYARD MARINE SEDIMENT OPERABLE UNIT 5



NAVAL STATION NEWPORT
MIDDLETOWN/NEWPORT, RHODE ISLAND
SEPTEMBER 2014

