

Dredged Material Discharges from New Work and Maintenance Dredging of National Oceanic and Atmospheric Administration Marine Operations Center – Atlantic Approach and Berthing Areas

ENVIRONMENTAL ASSESSMENT



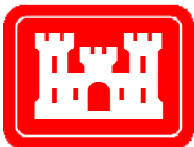
Prepared By:

U.S. Army Corps of Engineers

Operations Branch

803 Front Street

Norfolk, Virginia 23510



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I. EXECUTIVE SUMMARY

This Environmental Assessment (EA) has been prepared to assess the potential impacts of the new work and maintenance dredging of the approach and berthing areas of the National Oceanic and Atmospheric Administration Marine Operations Center – Atlantic (NOAA MOC-A) in Norfolk, Virginia. Four alternatives were identified for this project: relocation of the NOAA MOC-A facility, dredging of the NOAA MOC-A facility’s approach and berthing areas to previously permitted depths, No-Action Alternative, and the Proposed Action Alternative to maintenance and new work dredge the NOAA MOC-A facility’s approach and berthing areas. The direct and indirect impacts of the Proposed Action Alternative and No-Action Alternative were evaluated for temporary and permanent impacts.

Short-term impacts associated with the Proposed Action include destruction of the non-motile benthic community, temporary changes in water quality, air and noise emissions, and potential temporary interruptions in accessibility to and from adjacent piers. Short-term impacts would cease with the completion of construction.

Long-term impacts to soils and bathymetry, typical for a dredging project, would be expected as a result of the Proposed Action.

This EA was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (40 CFR 1500-1508) and all applicable implementing regulations. This EA will be available for review and comment for 30 days from the date of posting.

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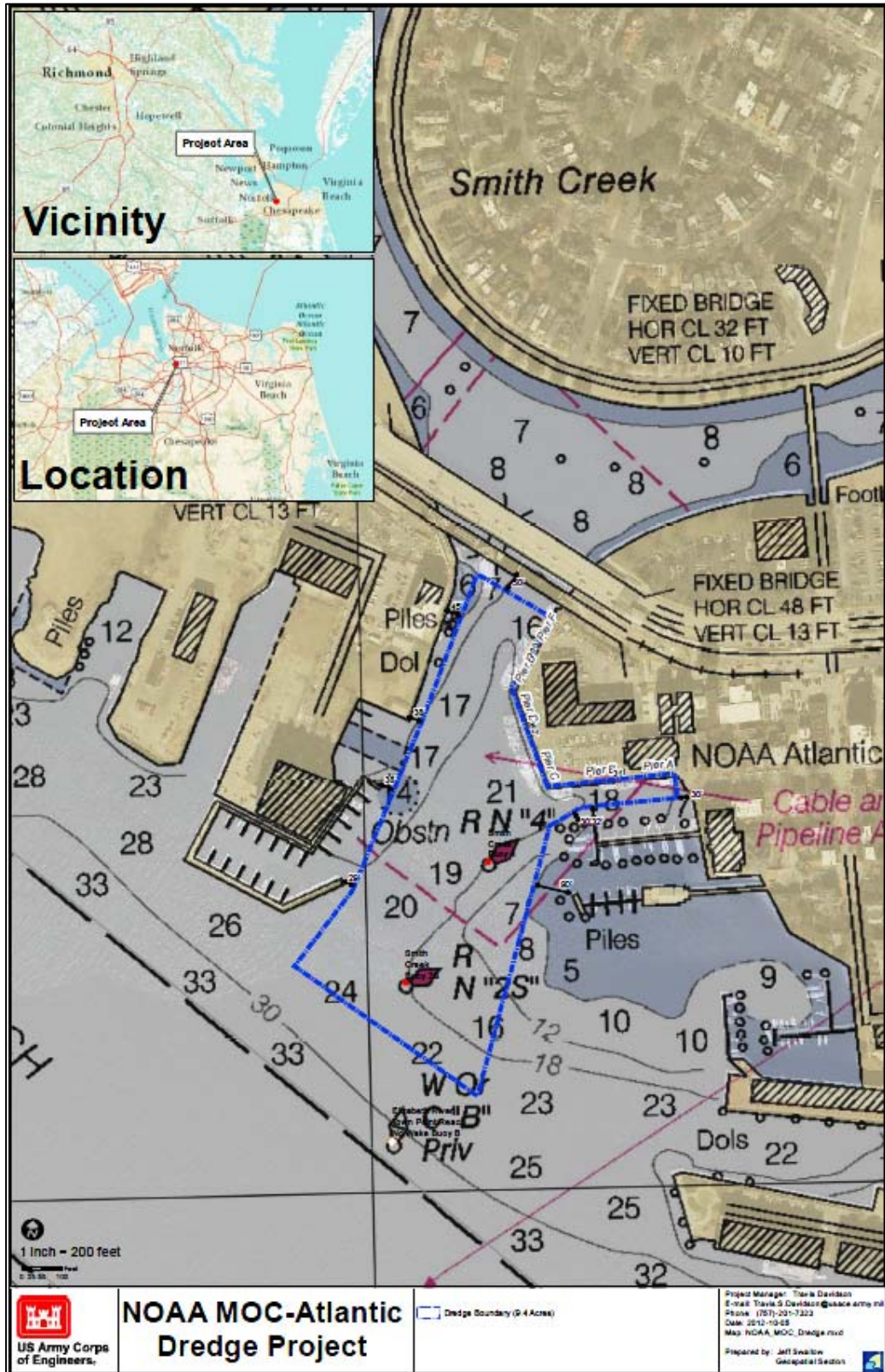
Appendix F Inland Testing Manual Tables

1 INTRODUCTION AND PROJECT LOCATION

The National Oceanic and Atmospheric Administration Marine Operations Center – Atlantic (NOAA MOC-A) is located in Norfolk, Virginia at the terminus of West York Street, adjacent to the Brambleton Avenue Bridge where it crosses over Smith Creek/the Hague. The facility provides centralized management and logistical support to nine National Oceanic and Atmospheric Administration (NOAA) ships on the East Coast and the Gulf of Mexico and serves as a temporary homeport for NOAA ships, servicing vessels transitioning to and from service. Outfitting and post-delivery availability periods for new vessels and disposal preparations for deactivated vessels are accomplished at the facility due to the concentration of marine engineering, electronics engineering, and administrative, logistical, and operational support personnel at the facility. NOAA MOC-A supports shoreside personnel, shipboard personnel, and personnel from the Atlantic Hydrographic Branch in the Hydrographic Surveys Division of NOAA’s National Ocean Service.

NOAA MOC-A’s approach and berthing area is approximately 9.4 acres and stretches west and south of the facility’s bulkhead in the Elizabeth River. The project site is bounded to the north by Smith Creek/the Hague, to the south by Paradise Creek to Lamberts Bend Federal Navigation Channel, to the south-east by privately-owned piers, to the west by the People for the Ethical Treatment of Animal’s (PETA) bulkhead, and to the south-west by privately-owned piers. The project location is identified in Figure 1.1

Figure 1.1 NOAA MOC-A maintenance and new work dredging project vicinity map



1.1 PURPOSE AND NEED

The purpose of this project is to provide safe navigation for NOAA's vessels so the facility is fully able to support regional missions and operations. NOAA MOC-A currently provides administrative, engineering, maintenance, and logistical support to NOAA's Atlantic fleet and is homeport for one NOAA survey ship. The Atlantic fleet vessels and respective minimum drafts are listed in Table 1.1:

Table 1.1 NOAA Atlantic Fleet

Vessel Name	Draft (ft)
Ronald H. Brown	17.0'
Ferdinand R. Hassler	12.5'
Nancy Foster	12.8'
Gordon Gunter	16.0'
Thomas Jefferson	14.0'
Oregon II	14.0'
Henry B. Bigelow	21.0'
Pisces	21.0'
Okeanos Explorer	17.0'

Dredging of the NOAA MOC-A approach and berthing area is necessary to maintain -25 feet mean lower low water (MLLW) for adequate draft and under keel clearance for current and future vessel support. The maintained depth of -25 feet MLLW is necessary for NOAA MOC-A to be able to support several NOAA vessels that draft 21 feet and/or have valuable scientific instruments mounted to the hulls. In addition, divers need adequate clearance to be able to service vessels using the NOAA MOC-A facility.

1.2 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

Under the requirements of Section 102 of the National Environmental Policy Act (NEPA), this proposed project constitutes a major Federal action, and an Environmental Assessment (EA) is

therefore required. This EA has been prepared pursuant to NEPA and its implementing regulations.

The purpose of this EA is to evaluate the direct and indirect impacts associated with the proposed maintenance and new work dredging of NOAA MOC-A's approach and berthing area. This document identifies and evaluates the potential environmental, cultural resources, and socioeconomic effects associated with the Proposed Action as accomplished by implementing the Preferred Alternative discussed in Section 2.0. Section 3.0 of this EA describes the alternatives considered. Section 4.0 describes the existing conditions that fall within the scope of this EA. Section 5.0 describes the environmental consequences envisioned as a result of implementing the Proposed Action.

The EA focuses on impacts likely to occur within the proposed area of construction. The document analyzes direct effects (those resulting from the alternatives and occurring at the same time and place) and indirect effects (those distant or occurring at a future date).

1.3 PUBLIC AND AGENCY INVOLVEMENT

The draft EA was coordinated with the following:

- City of Norfolk
- National Marine Fisheries Service (NMFS)
- NOAA
- U.S. Army Corps of Engineers (USACE)
- U.S. Coast Guard (USCG)
- U.S. Environmental Protection Agency (EPA)
- U.S. Fish and Wildlife Agency (USFWS)
- U.S. Soil Conservation Service (USSCS)
- Virginia Department of Conservation and Recreation (VDCR)
- Virginia Department of Environmental Quality (VDEQ)
- Virginia Department of Game and Inland Fisheries (VDGIF)
- Virginia Department of Historic Resources (VDHR)

- Virginia Institute of Marine Science (VIMS)
- Virginia Marine Resources Commission (VMRC)

This EA will be provided electronically to interested parties for a 30-day comment period. There will also be a link to it on the Norfolk District USACE (<http://www.nao.usace.army.mil/>) website.

2 PROPOSED ACTION

The Proposed Action is to hydraulically or mechanically dredge maintenance and new work material in the approach and berthing areas at the NOAA MOC-A facility to a maintained depth of -25 feet MLLW. Minor bed-leveling may be performed during the dredging operation's clean-up phase if the site is mechanically dredged to remove any irregularities and establish required depths. Dredged material would be placed in the Craney Island Rehandling Basin (CIRB) or directly in one of the containment cells at Craney Island Dredged Material Management Area (CIDMMA). Material would be transported to the placement site by hydraulic pipeline if hydraulically dredged or by barge/scow if mechanically dredged to be placed overboard or bottom dumped in CIRB or directly pumped out into a containment cell at CIDMMA.

Figure 2.1 NOAA MOC-A Proposed Action dredging project site and dredged material placement locations: CIDMMA and CIRB



Currently, the average depth ranges from -17 feet MLLW to -20 feet MLLW in the approach and berthing areas. Maintenance dredging would restore the site to its previously permitted depth of -20 feet MLLW. Dredging would also remove an additional 5 feet of new work material to increase the maintained depth to -25 feet MLLW for adequate draft and under keel clearance.

2.1 HYDRAULIC DREDGING

Hydraulic dredging allows for sediment resuspension at the point of material removal only (at the cutterhead) since sediments are suctioned from the bottom and are not directly in contact with the middle or upper part of the water column. The concentration of resuspended sediments the dredging activity will create is a function of dredge type and sediment properties (Collins 1995). Compared to other dredges, cutterhead dredges remove sediment with only limited amounts of resuspension extending beyond the immediate vicinity of the dredge (USACE 1986).

2.2 MECHANICAL DREDGING

Mechanical dredging allows for sediment resuspension at vertical points in the water column from the bottom to above the water surface. Resuspension of the material into the water column can happen as the bucket impacts the bottom, closes, and is pulled off the bottom through the water column and breaks the water surface. Generally, resuspension of sediment is higher using mechanical clamshell dredges than hydraulic dredges but can be minimized through operational controls. Clamshell (bucket) dredges can be used in smaller navigation channels due to increased maneuverability. Clean-up dredging occurs near the completion of mechanical dredging activities to establish the required depths by removing the small, localized ridges that occur. A common economic method used to smooth the irregularities created during mechanical dredging is a bed-leveler device.

2.3 PLACEMENT OF MATERIAL AT CIDMMA CONTAINMENT CELL

Congress authorized the CIDMMA in 1946 in the River and Harbor Act, P.L. 79-525, in accordance with House Document 563 of the 79th Congress. As set forth in House Document 563, the project was authorized in order to create a disposal area for the sole purpose of accommodating materials dredged locally from Norfolk Harbor and adjacent waters for navigation purposes. Dredged material proposed for placement at CIDMMA must meet all requirements of the Clean Water Act (CWA).

Material is pumped into one of CIDMMA's containment cells via direct pump-out by hydraulic pipeline. The inflow pipe discharges at the east end of the containment cell and advances west as the dredge work progresses. (The actual inflow point is determined by the CIDMMA facility

manager depending on site conditions at the time of construction.) The inflow slurry flows towards the west end of CIDMMA while undergoing sedimentation. The high retention time and the sedimentation process results in a clarified effluent that is discharged through a system of weirs on the west side of the containment dike.

2.4 PLACEMENT OF MATERIAL AT CRANEY ISLAND REHANDLING BASIN

CIRB is located in Norfolk Harbor, Virginia at the southeast corner of the CIDMMA facility and consists of a basin and two approach channels. The rehandling basin is a rectangular area 1,400 feet by 1,100 feet with a depth of -40 feet MLLW. Existing depths surrounding the basin are approximately -15 feet MLLW. Three sides of the rehandling basin are surrounded by land or levees with one side open to the Elizabeth River. Dredged material is typically placed overboard or bottom dumped via barge/scow in CIRB and is later pumped by hydraulic pipeline to one of CIDMMA's upland containment cells.

2.5 IMPACT TOPICS ELIMINATED FROM FURTHER ANALYSIS AND CONSIDERATION

The following impact topics were eliminated from further analysis in this EA and a brief rationale for dismissal is provided for each topic. Potential impacts to these resources would be negligible, localized, and most likely immeasurable.

2.5.1 Land Use

The project site is subtidal and would not impact occupancy, property values, ownership, or any type of land use; therefore, this impact topic was dismissed from further analysis in this EA.

2.5.2 Prime Farmland

Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses. The soil qualities, growing season, and moisture supply are those needed for a well-managed soil to produce a sustained high yield of crops in an economic manner. The land can be cropland, pasture, rangeland, or other land, but not urban built-up land or water. Prime farmland is protected under the Farmland Protection Policy Act of 1981 to minimize the extent to which

Federal programs contribute to the unnecessary or irreversible conversion of farmland to nonagricultural uses. The project site is subtidal and is not considered prime farmland; therefore, this impact topic was dismissed as an impact topic in this EA.

2.5.3 Geohazards

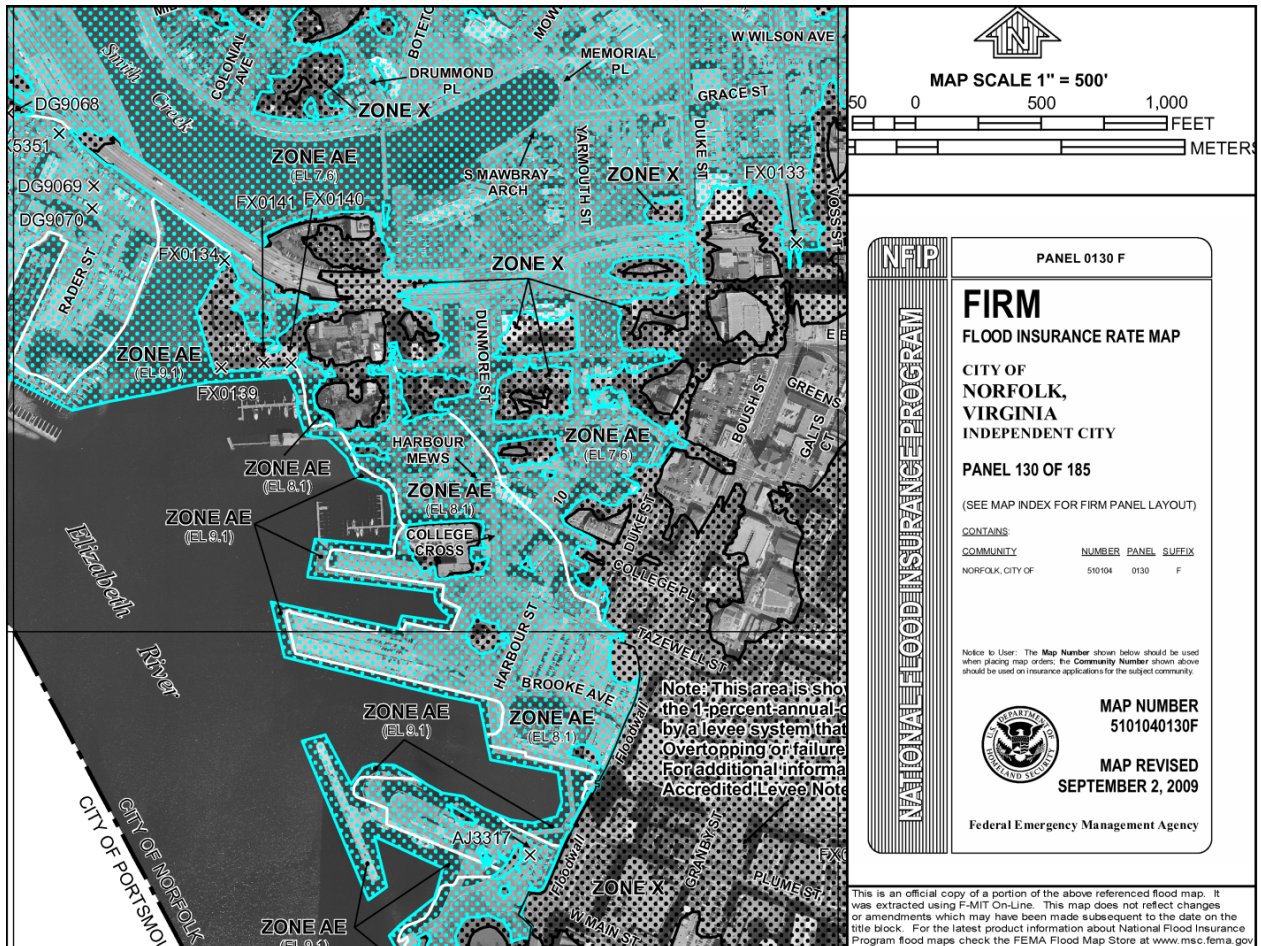
There are no known geohazards within the project area; therefore, this impact topic was dismissed from further analysis in this EA.

2.5.4 Floodplains

The project area is located in Zone AE and Zone X per the Federal Emergency Management Agency (FEMA) flood insurance rate map for the City of Norfolk, Virginia map number 5101040130F, panel 130 of 185 (see Figure 2.2). Zone AE is defined as “areas of 1% annual chance flood with an established base floodplain elevation” and Zone X is defined as “areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.” FEMA uses the terminology of “Special Flood Hazard Area” for the area subject to a 1% or greater chance of flooding in any given year. This terminology is equivalent to the older terminology of 100 year floodplain,

No significant floodplain impacts associated with the Proposed Action are anticipated. This impact topic was dismissed from further analysis in this EA.

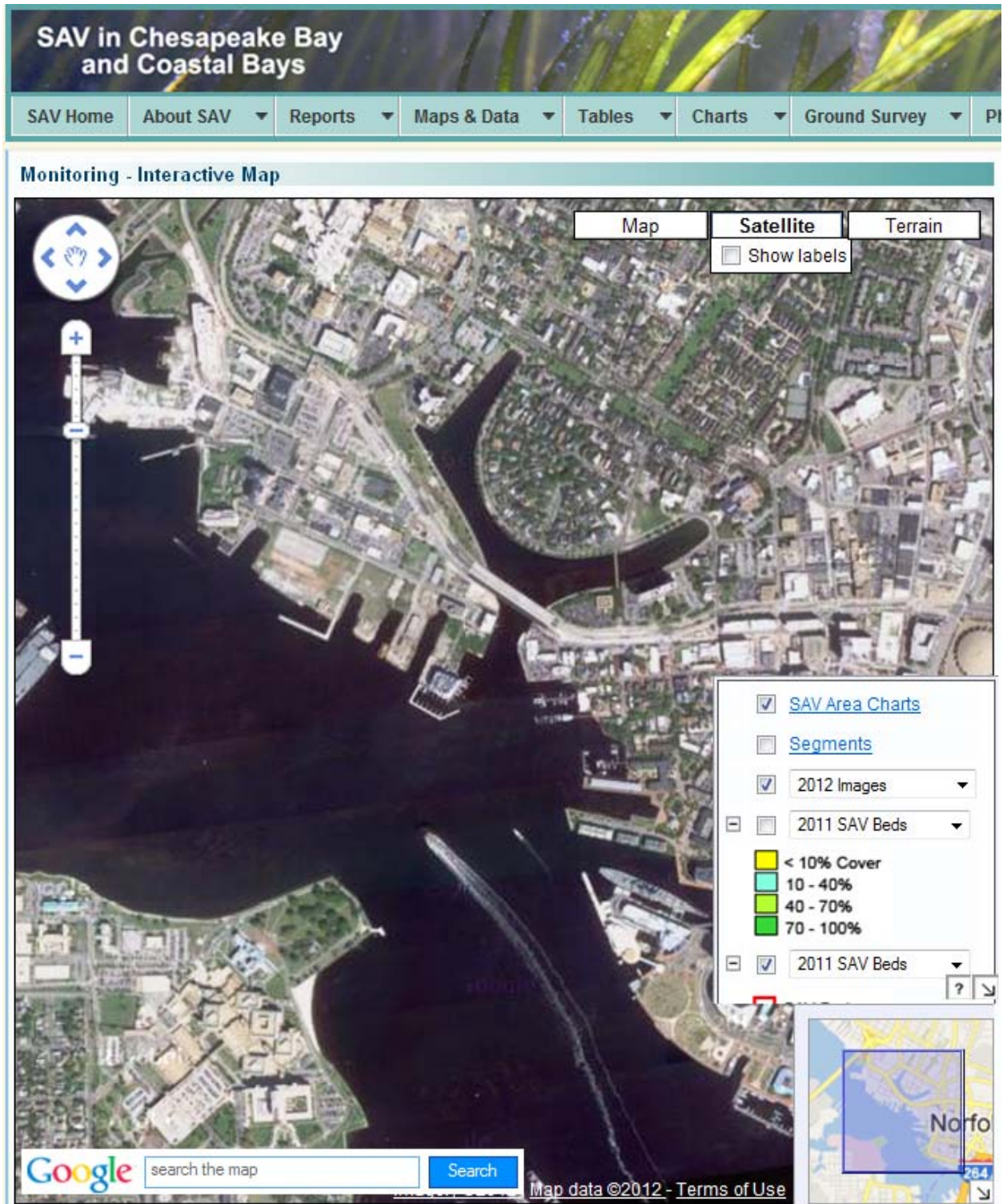
Figure 2.2 FEMA project site flood insurance rate map (FIRM)



2.5.5 Vegetation

VIMS has not identified any submerged aquatic vegetation (SAV) in or adjacent to the project area (see Figure 2.3); therefore, this impact topic was dismissed from further analysis in this EA.

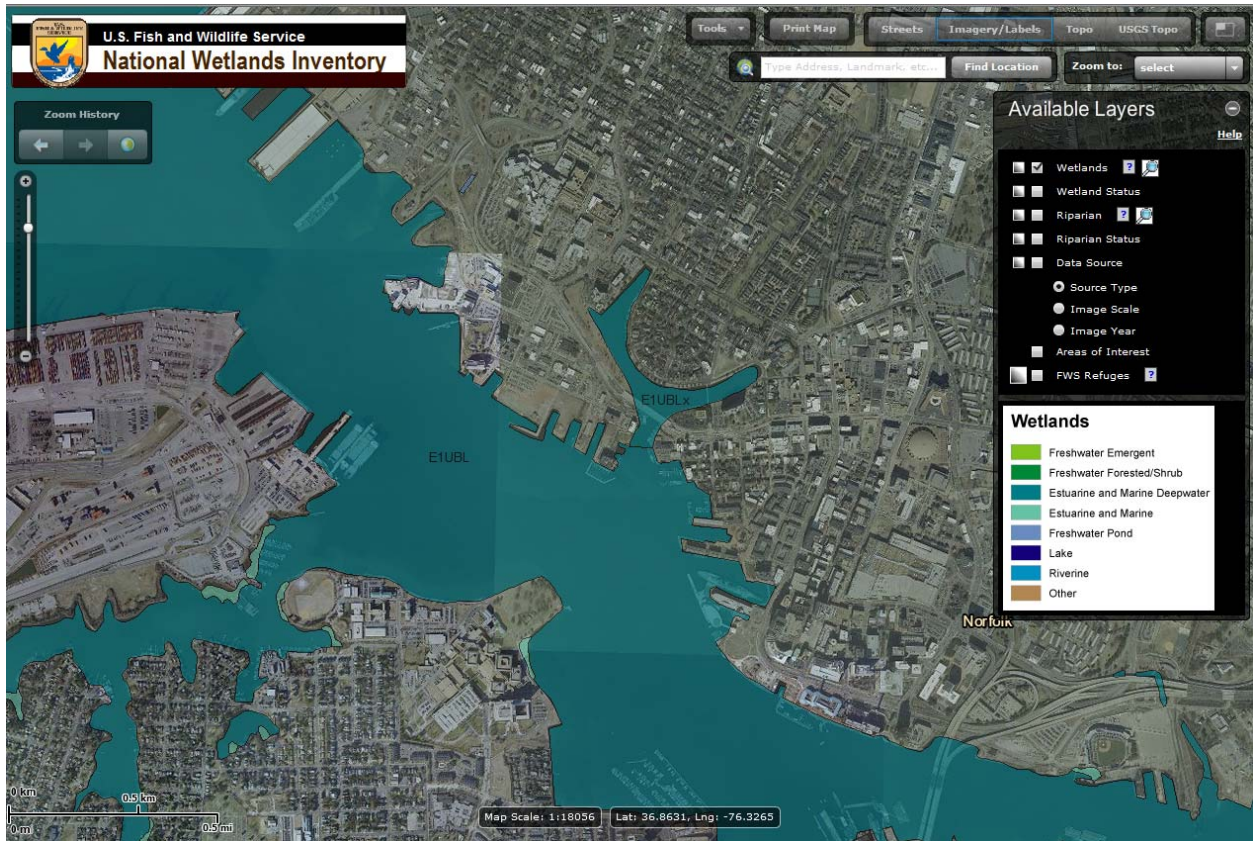
Figure 2.3 VIMS map showing no SAV in or adjacent to project site



2.5.6 Wetlands

The USFWS National Wetlands Inventory (NWI) has not identified any wetlands in or adjacent to the project area (see Figure 2.4); therefore, this impact topic was dismissed from further analysis in this EA.

Figure 2.4 NWI map showing no wetlands in or adjacent to project site



2.5.7 Groundwater

The project site is subtidal; therefore, this impact topic was dismissed from further analysis in the EA.

2.5.8 Unique Ecosystems, Biosphere Reserves, and World Heritage Sites

There are no known unique ecosystems, biosphere reserves, or World Heritage Sites listed within or adjacent to NOAA MOC-A's project site; therefore, this impact topic was dismissed from further analysis in this EA.

2.5.9 Wild and Scenic Rivers

The project site is not located in or adjacent to a National Wild and Scenic river; therefore, this impact topic was dismissed from further analysis in this EA.

2.5.10 Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by Department of Interior agencies is explicitly addressed in environmental documents. The Federal Indian Trust responsibility is a legally enforceable fiduciary obligation on the part of the U. S. Government to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of Federal law with respect to American Indian tribes and Alaska Native entities. The project area is not held in Trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians; therefore, this impact topic was dismissed from further analysis in this EA.

2.5.11 Environmental Justice

On February 11, 1994, President Clinton issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations". This order directs agencies to address environmental and human health conditions in minority and low-income communities so as to avoid the disproportionate placement from any adverse effects by Federal policies and actions on these populations. Local residents near the NOAA MOC-A project may include low-income populations; however, these populations would not be particularly or disproportionately affected by activities associated with the project. This impact topic was dismissed from further analysis in this EA.

2.5.12 Socioeconomic Resources

NEPA requires an analysis of impacts to the human environment, which includes economic, social, and demographic elements in the affected area. The current conditions in the project area, as represented by the No-Action Alternative, would not have any impacts to the socioeconomic resources of the surrounding area. The Proposed Action would neither change local and regional land use, nor appreciably impact local businesses or other agencies. Implementation of the Proposed Action could provide a negligible beneficial impact to the nearby surrounding

economies from short-term minimal increases in employment opportunities for the construction workforce and revenues for local businesses and government generated from construction activities. Since the impacts to the socioeconomic resources associated with the project would be negligible, this impact topic was dismissed from further analysis in this EA.

2.5.13 Human Health and Safety

No human health and safety risk factors currently exist on the project site, and none would be introduced as a result of this project. Since the impacts to human health and safety associated with the project would be negligible, this impact topic was dismissed from further analysis in this EA.

2.5.14 Cultural Resources

Section 106 consultation regarding cultural resources within the area of the NOAA MOC-A dredging project was completed in October 2012 with the recommendation of no adverse effect to archaeological properties and historic landscapes. VDHR concurred with the ‘no effect’ conclusion in a Record of Coordination letter dated October 16, 2012 (see Appendix A “Agency Coordination”).

2.5.15 Transportation

The NOAA MOC-A and CIDMMA facilities are accessible through local roads and by boat via the Elizabeth River. NOAA MOC-A and CIDMMA are secure sites, and as such, transportation to and from the facilities are restricted-access. The project and CIRB dredged material placement sites are subtidal and accessible by boat via the Elizabeth River. CIDMMA containment cells are accessible by facility owned roads. Transportation to and from the proposed dredging and dredged material placement sites would have negligible adverse impacts to traffic in the area; therefore, this impact topic was dismissed from further analysis in this EA.

2.5.16 Stormwater Systems

There are no stormwater systems located in the project site; therefore, this impact topic was dismissed from further analysis in this EA.

2.5.17 Utilities (Water, Sewer, Electric, and Gas)

Virginia Code §56-265.17 requires coordination with VUPS prior to the start of any construction activity. Utilities are located adjacent to the project area (See Appendix E “Location of Utilities at NOAA MOC-A Facility”); however, there are no known active or abandoned utilities located within the sub-tidal project site. The Proposed Action would not impact adjacent utilities; therefore, this impact topic was dismissed from further analysis in this EA.

2.5.18 Air Quality

The Clean Air Act (CAA) as amended requires Federal actions to conform to an approved state implementation plan (SIP) designed to achieve or maintain an attainment designation for air pollutants as defined by the National Ambient Air Quality Standard (NAAQS). The NAAQS were designed to protect public health and welfare. The criteria pollutants include carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM_{2.5} and PM₁₀), volatile organic compounds (VOC), and lead. The General Conformity Rule (40 CFR Parts 51 and 93) implements these requirements for actions occurring in air quality nonattainment areas.

The NOAA MOC-A project site is located in the Air Quality Control Region (AQCR) known as Hampton Roads Intrastate ACQR in Virginia (42 CFR 481.93). This region is in attainment for all the NAAQSs.

Temporary increases in air pollution could occur during the Proposed Action’s implementation; however, the impacts to air quality are anticipated to be localized and negligible, lasting only as long as dredging and discharge activities occur. Additionally, the EPA has ruled that some Federal actions are exempt from the conformity requirement, as these actions have been determined to result in no emission increase or an increase that is clearly *de minimis*. Since the impacts to air quality with the project would be negligible, this impact topic was dismissed from further analysis in this EA (see Appendix B “Coastal Consistency Determination and Clean Air Act General Conformity Rule” for the CAA General Conformity Rule, Record of Non-Applicability letter included with the Coastal Consistency Determination (CCD)).

2.5.19 Aesthetics

The NOAA MOC-A project site is sub-tidal; therefore, the project does not have features that are aesthetically prominent nor architecturally distinguished. This impact topic was dismissed from further analysis in this EA.

3 ALTERNATIVES TO THE PROPOSED ACTION

Under NEPA, an EA must evaluate reasonable alternatives for a project. Four primary alternatives have been identified for this project: the No-Action Alternative, the relocation of NOAA MOC-A facility, the dredging of the NOAA MOC-A facility's approach and berthing areas to previously permitted depths, and the new work and maintenance dredging of the NOAA MOC-A facility's approach and berthing areas. The No-Action Alternative, relocation of the facility, and maintenance dredging to previously permitted depths were determined to be least preferred. The new work and maintenance dredging of the NOAA MOC-A facility's approach and berthing areas was carried forward as the Proposed Action. This plan has been determined to be the best and most appropriate action for NOAA MOC-A to continue to efficiently complete operations and support regional missions.

3.1 THE NO-ACTION ALTERNATIVE

NEPA regulations refer to the No-Action Alternative as the continuation of existing conditions of the affected environment without implementation of, or in the absence of, the Proposed Action. Inclusion of the No-Action Alternative is prescribed by the Council on Environmental Quality (CEQ) regulations as the benchmark against which Federal actions are evaluated. Under this alternative, the NOAA MOC-A project would not occur. This alternative would eliminate environmental impacts to the benthic community in the dredging area and placement site. Adversely, the No-Action Alternative would allow the area to continue to naturally shoal and prevent the NOAA MOC-A facility from being fully able to support regional missions and operations due to lack of adequate draft and under keel clearance.

3.2 RELOCATION OF THE NOAA MOC-A FACILITY

Relocating NOAA MOC-A to a new location could not be performed within existing constraints as anticipated under the Department of Commerce (DOC) Environmental Management Manual. Additionally, such an alternative is considered not practical since costs would be unreasonable in comparison to the costs of the Proposed Action; therefore, this plan does not represent a practical alternative.

3.3 DREDGING OF THE NOAA MOC-A FACILITY'S APPROACH AND BERTHING AREAS TO PREVIOUSLY PERMITTED DEPTHS

Maintenance dredging of the NOAA MOC-A facility's approach and berthing areas to the previously permitted depth of -20 feet MLLW could be performed. This alternative would reestablish the previously dredged depth of -20 feet MLLW in the approach and berthing areas. Adversely, this action does not fully meet the needs of the facility. NOAA MOC-A plans to support several NOAA vessels that draft 21 feet and/or have scientific instruments mounted to the hulls. In addition, divers need adequate clearance to be able to service vessels using the NOAA MOC-A facility. The dredging of the NOAA MOC-A facility's approach and berthing areas to previously permitted depth of -20 feet MLLW does not adequately meet the needs for NOAA MOC-A to be able to fully support regional missions and operations.

4 AFFECTED ENVIRONMENT

This section describes the affected environment and the existing conditions for the resource categories that may be impacted by the NOAA MOC-A dredging project. Each resource category was reviewed for its potential to be impacted. Through this analysis, resource categories clearly not applicable to the alternatives were screened from further evaluation (and were briefly described in Section 2). Only those affected resources applicable to the Proposed Action are discussed further in this section and in Section 5.0, Environmental Consequences.

The NOAA MOC-A dredging project would be completed at the 9.4-acre subtidal approach and berthing areas directly adjacent to the NOAA MOC-A facility. Dredging would restore the area to its previously dredged depth of -20 feet MLLW and remove an additional 5 feet of new work

material. The maintained depth of -25 feet MLLW is necessary for NOAA MOC-A to be able to provide support to some NOAA vessels that draft 21 feet and/or have scientific instruments mounted to the hulls. Dredged material would be transported to CIDMMA by hydraulic pipeline if hydraulically dredged or by barge/scow if mechanically dredged to be placed overboard or bottom dumped in CIRB or directly pumped out into a containment cell at CIDMMA. Surrounding the study area are Smith Creek/the Hague to the north, Paradise Creek to Lamberts Bend Federal Navigation Channel to the south, privately-owned piers to the south-east, PETA's bulkhead to the west, and privately-owned piers to the south-west. Impacts from the Proposed Action would primarily be found within the project boundaries.

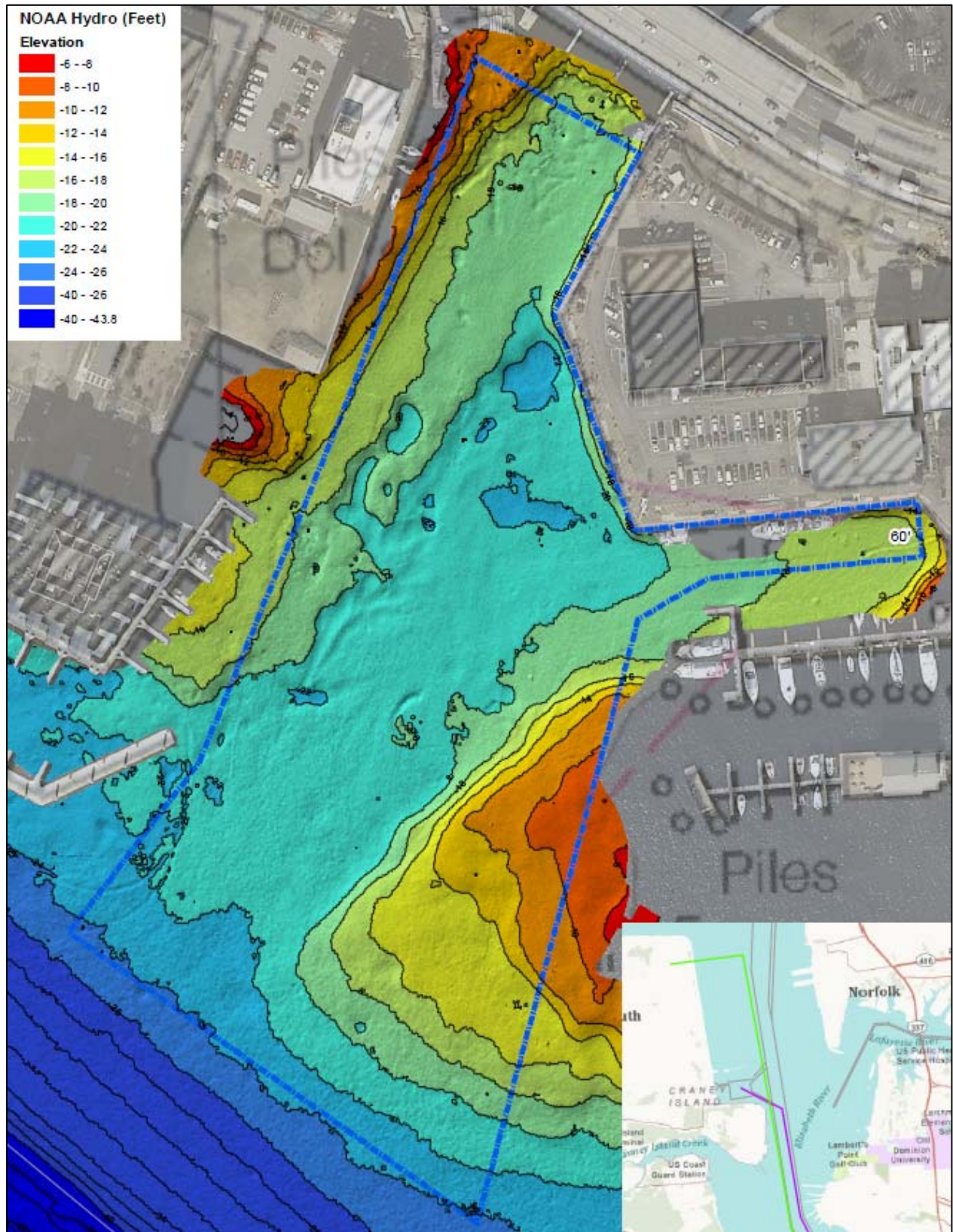
4.1 SOILS

Sediment in the NOAA MOC-A project site is considered previously disturbed maintenance and new work material. Soils are anticipated to be predominantly fine grains, silts, and clays. No sensitive soils or Prime or Unique Farmland soils are present in the project site.

4.2 BATHYMETRY

The NOAA MOC-A project site is located within the Outer Coastal Plain Physiographic Province. The site itself is sub-tidal and mostly flat. Roads, buildings, bridges, and other common urban features are found in the surrounding area. Figure 4.1 shows the project footprint overlaying the approach and berthing areas' bathymetric data.

Figure 4.1 Bathymetric map of the project site



4.3 WATER QUALITY

The NOAA MOC-A project site varies in depth from -17 feet to -20 feet MLLW. The average range in salinity is 6.8 to 27.1 parts per thousand, and water temperature ranges from 37° to 84° Fahrenheit. Dredged material discharges into “waters of the United States” including all waters landward of the baseline of the territorial sea are regulated under Section 404 of the CWA. All dredged material discharges authorized under Section 404 of the CWA must be certified under Section 401 of the CWA as complying with applicable State water quality standards. The CWA 404(b)(1) guidelines state in part that “No discharge of dredged or fill material shall be permitted if it: (1) causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard” (see Appendix C “Clean Water Act 404(b)1” for the completed worksheet).

In addition, the Proposed Action would require permits from the Regulatory Office of USACE, VMRC, and/or VDEQ for the discharge of dredged material. These permits and approvals would be obtained prior to the start of construction.

4.4 DREDGED MATERIAL DISCHARGE, SECTION 404 WATER QUALITY EVALUATION

To ensure NOAA MOC-A’s dredged material proposed for placement at the CIRB/CIDMMA meets facility screening criteria and CWA Section 404(b)1 requirements, sediment and site water samples from five separate locations within the project footprint were collected. Additionally, up to fifteen optional sediment samples may be required if petroleum contamination is observed. The optional samples may be collected to delineate the horizontal and/or vertical extents of the petroleum contamination.

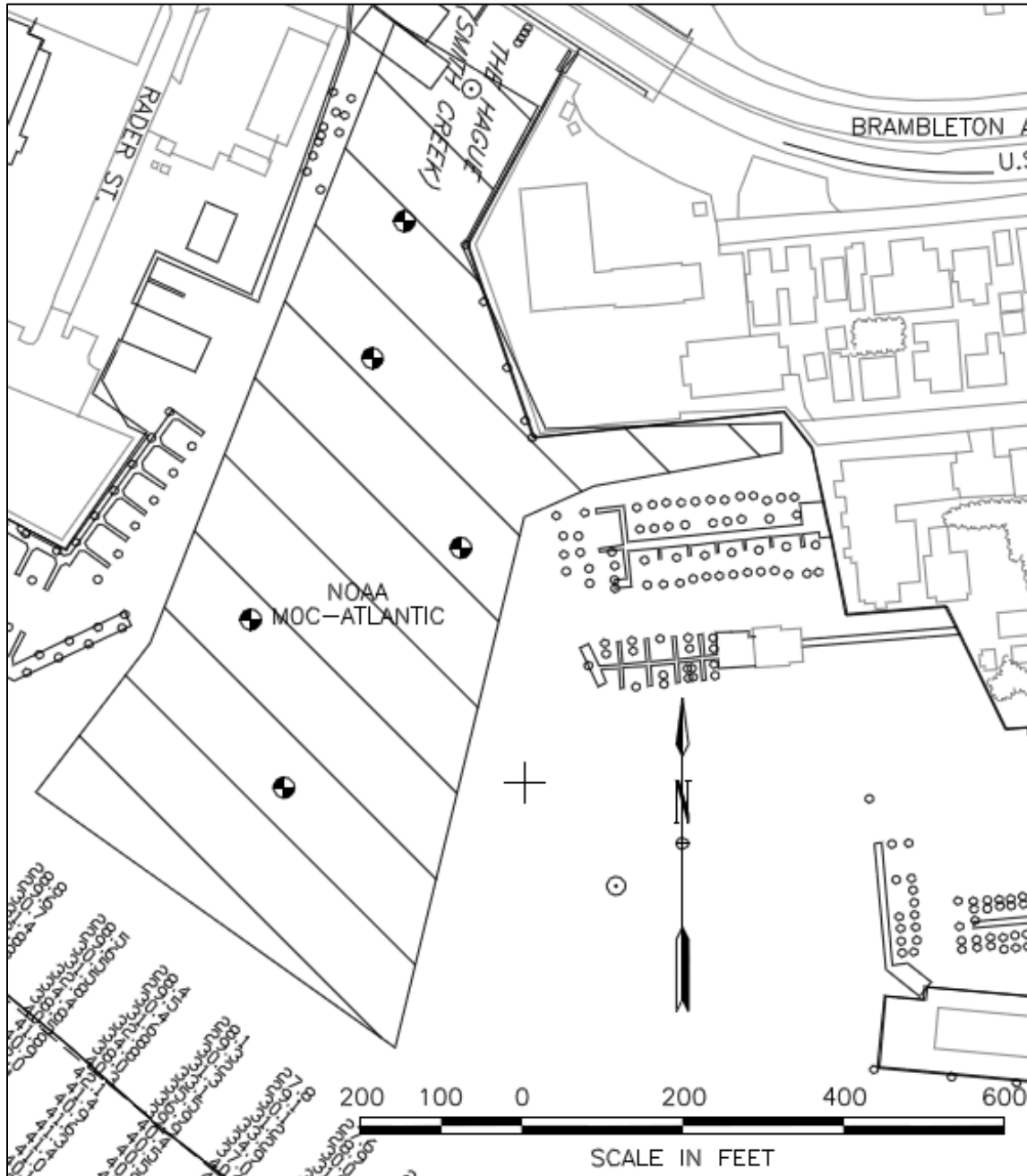
Samples from the NOAA MOC-A site were collected in January 2013 via vibracore and are being analyzed in accordance with the EPA/USACE “Inland Testing Manual” and USACE “Upland Testing Manual” for specific contaminants of concern (COCs) that pose the highest risk for occurrence in the project area or may adversely impact the water column when dredged and

placed at CIDMMA. No petroleum or other obvious pollution was observed during sample collection. Table 4.1 lists what samples will be analyzed for the COCs.

Table 4.1 COCs to be analyzed in NOAA MOC-A's sediment, site water, effluent elutriate, and unfiltered elutriate samples

Contaminant of Concern (COCs)	Samples to be Analyzed			
	Sediment	Site Water	Effluent Elutriate	Unfiltered Elutriate
Polycyclic aromatic hydrocarbons (PAH)	X	X	X	
Total polychlorinated biphenyls (PCB)-summation and highest priority congeners (See Appendix F "Inland Test Manual Tables," Table 9-3)	X	X	X	
Total petroleum hydrocarbons (TPH)	X	X	X	
Gasoline range organics (GRO)	X	X	X	
Diesel range organics (DRO)	X	X	X	
Oil range organics (ORO)	X	X	X	
Metals (See Appendix F "Inland Test Manual Tables," Table 9-1)	X	X	X	
Grain size (Sieve plus hydrometer)	X	X		
Specific gravity	X	X		
Total solids	X	X		
Total organic carbon (TOC)	X			
Total suspended solids (TSS)		X		X

Figure 4.2 Preliminary sediment and water sample locations in NOAA MOC-A project site



4.5 WILDLIFE RESOURCES INCLUDING RARE, THREATENED AND ENDANGERED SPECIES

Wildlife found in this area is typical for an urban environment. Species generally include squirrel, rabbit, raccoon, opossum, fox, and deer. Songbirds and bats inhabit the area as well as

various small reptiles and amphibians. Refer to Appendix D “Threatened and Endangered Species Lists” for the VDGIF, USFWS, and Virginia Natural Heritage Resources (VNHR) species tables for the NOAA MOC-A project area.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance Essential Fish Habitat (EFH) for those species regulated under a Federal fisheries management plan (FMP). Section 305(b)(2) of the Magnuson-Stevens Act requires Federal action agencies to consult with NMFS on all actions, or Proposed Actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH. As part of the EFH consultation process, the guidelines require Federal action agencies to prepare a written EFH Assessment describing the effects of that action on EFH (50 CFR 600.920(e)(1)). The written EFH Assessment was submitted in September 2012, as required by the Magnuson-Stevens Act, with the recommendation of insignificant adverse effect on EFH. NOAA Fisheries Service concurred with the insignificant adverse effect conclusion in an email on January 3, 2013 (see Appendix A “Agency Coordination”).

The Atlantic Sturgeon (*Acipenser oxyrinchus*) may be present in the project area based on data from the VDGIF Biota of Virginia Report (see Appendix D “Threatened and Endangered Species Lists” for detailed table listings.) Written informal section 7 consultation regarding the incidence of Atlantic sturgeon within the area of the NOAA MOC-A dredging project was submitted in October 2012 with the recommendation of insignificant adverse effect on Atlantic Sturgeon. The site is not in an area where spawning is known to occur. Small juveniles are not likely using the area, but adults and sub-adults may transit the project area during migration or to forage. No injuries or mortalities of Atlantic Sturgeon have been reported for the Smith Creek-Elizabeth River area. NMFS concurred with the insignificant adverse effect conclusion in a letter on December 28, 2012 (see Appendix A “Agency Coordination”).

4.6 NOISE

The main source of noise at NOAA MOC-A and the surrounding area is vehicular traffic, light rail trains, and commercial and recreational boats passing near or through the area. Noise also

originates from common sources found in an urban environment, such as lawn mowers, people talking, etc.

4.7 RECREATION

Small, recreational boats may pass through the NOAA MOC-A approach and berthing areas to access Smith Creek/the Hague. In addition, privately-owned piers are located south-east and south-west, adjacent to the project site.

5 ENVIRONMENTAL CONSEQUENCES

This section of the EA identifies and evaluates the anticipated environmental consequences or impacts associated with the Proposed Action and the No-Action Alternative. Table 5.1 summarizes the environmental impacts associated with the Proposed Action.

The terms “impact” and “effect” are used interchangeably in this section. Impacts may be discussed as positive or negative, significant or minor, as appropriate to the resource area. Positive impacts occur when an action results in a beneficial change to the resource, whereas negative impacts occur when an action results in a detrimental change to the resource. Significant impacts occur when an action substantially changes or affects the resource. A minor impact occurs when an action causes impact, but the resource is not substantially changed. Impacts are also discussed as temporary as well as short and long-term impacts, and are associated with relative time frames as the direct result of the action. In this case, temporary refers to an impact only during the period of construction. Short-term describes the impact for 1-3 years post construction, whereas long-term describes the permanent impacts that would be expected to remain for many years. This section is organized by resource area following the same sequence as in the preceding Section 4.0. Some resource topics were excluded from further evaluation. A brief discussion of those topics can be found in Section 2.5.

In addition to the following, a CCD is being submitted to comply with the requirements of the Coastal Zone Management Act (CZMA) passed in 1972. The Act provides for management of the nation's coastal resources and balances economic development with environmental

conservation. It requires that federal agencies be consistent in enforcing the policies of state coastal zone management programs when conducting or supporting activities that affect a coastal zone. The CZMA is intended to ensure that federal activities are consistent with state programs for the protection and, where possible, enhancement of the nation's coastal zones. The CCD is included in Appendix B "Coastal Consistency Determination and Clean Air Act General Conformity Rule" with the recommendation that the Proposed Action is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program.

Table 5.1 Environmental Consequences Summary

Impact	Proposed Action	No Action Alternative
Soils	Long-term impact due to removing soil from the project site	No impact to existing conditions
Bathymetry	Long-term impact due to deepening the project site to a maintained depth of -25 feet MLLW	Natural shoaling will continue to occur preventing NOAA MOC-A from being able to fully support regional missions and operations
Water Quality	Temporary, localized adverse impacts due to resuspension of sediments at dredging and CIRB placement site	No impact to existing conditions
Dredged Material Discharge, Section 404 Water Quality Evaluation	No anticipated contamination issues	No impact to existing conditions
Wildlife Resources Including Rare, Threatened, and Endangered Species	Localized, short-term adverse impacts to benthos at dredging and placement sites	No impact to existing conditions
Noise	Temporary, minor impacts due to dredging activities and equipment	No impact to existing conditions
Recreation	Temporary, minor interruptions in accessibility to adjacent piers during dredging activities	No impact to existing conditions

5.1 SOILS

5.1.1 Proposed Action

Long-term impacts, typical of dredging projects, would be expected from the Proposed Action. Approximately 135,000 cubic yards of material would be dredged from the project footprint to achieve a maintained depth of -25 feet MLLW. The dredged material would be placed in CIRB or CIDMMA, depending on the total volume removed and CIDMMA construction activities ongoing at the time of the Proposed Action. Soils that are identified as not suitable for placement at CIRB/CIDMMA would be trucked off-site.

5.1.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no direct impacts to soils.

5.2 BATHYMETRY

5.2.1 Proposed Action

The Proposed Action's intent is to remove sediment in the project footprint to deepen the NOAA MOC-A approach and berthing area to a maintained depth of -25 feet MLLW. The result of this action would involve long-term impacts to the current bathymetry which ranges from -17 feet MLLW to -20 feet MLLW.

5.2.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no direct impacts to the site's bathymetry. Any natural shoaling in the area would continue to occur. Adversely, NOAA MOC-A would not be able to fully support regional operations and missions due to limited draft and under keel clearance in the facility's approach and berthing areas.

5.3 WATER QUALITY

5.3.1 Proposed Action

The Proposed Action would result in temporary impacts to water quality at the dredging and placement sites.

5.3.1.1 Impacts to Water Quality at the Dredging Site

Resuspension of sediment is expected with dredging. Generally, resuspension is higher using mechanical clamshell dredges than hydraulic dredges; however, this impact can be minimized through operational controls. Impacts to water quality from mechanical or hydraulic dredging would be minor, temporary and localized to the area around the dredge. Localized turbidity would dissipate once dredging has ceased. Due to the area of impact and relatively short duration of the dredging activity, the Proposed Action is not likely to adversely affect water quality.

5.3.1.2 Impacts to Water Quality at the Proposed Placement Sites

Dredged material removed from the NOAA MOC-A project site would be transported and placed at CIRB or hydraulically pumped directly into one of the containment cells at CIDMMA. Temporary turbidity impacts to water quality during dredge material discharges by either mechanical or hydraulic methods would occur at CIRB proposed placement site. Increased sediment loads in the water column can result in a reduction of dissolved oxygen through biochemical oxygen demand. These impacts may be more pronounced during late summer months when water temperatures are warmer and less capable of holding dissolved oxygen. Due to the area of impact and relatively short duration of the discharge activity, the Proposed Action is not likely to adversely affect water quality.

5.3.2 No-Action Alternative

Under the No-Action Alternative the NOAA MOC-A project would not occur; therefore, there would be no direct impacts to water quality.

5.4 DREDGED MATERIAL DISCHARGE, SECTION 404 WATER QUALITY EVALUATION

5.4.1 Proposed Action

Samples from the project site were collected and analyzed as described in section 4.5. . No petroleum or other obvious pollution was observed during sample collection. Contamination in the project site is not anticipated; however, if any areas are identified, placement of contaminated dredged material will be coordinated with appropriate agencies and handled per regulations.

5.4.2 No-Action Alternative

The No-Action Alternative would not be expected to result in any changes to the existing conditions.

5.5 WILDLIFE RESOURCES INCLUDING RARE, THREATENED AND ENDANGERED SPECIES

5.5.1 Proposed Action

The Proposed Action would result in localized, temporary impacts to existing resources in the project area and placement site. The dredging activity and placement at CIRB would result in the destruction of the existing non-motile benthic community. After dredging, repopulation of benthic organisms within the impacted areas would begin quickly. The benthic community should repopulate within one to two years. The probability of sea turtles or Atlantic Sturgeon being found within the project site is very low. In addition, motile marine organisms would be able to relocate during the dredging operations to avoid any direct physical impacts.

Listed bird species may pass through and use areas in or adjacent to the project site; however, no adverse impacts are anticipated because they are highly mobile. In addition, a bird management plan is maintained for CIDMMA operations. Other species not mentioned but are listed would likely not be present as they are upland species and the dredging and CIRB placement sites are sub-tidal. No adverse impacts are anticipated to upland species that may be near CIDMMA containment cells as the upland species are highly mobile and would avoid any direct physical impacts.

5.5.2 No-Action Alternative

Under the No-Action Alternative the NOAA MOC-A dredging project would not occur; therefore, there would be no direct impacts to existing wildlife and aquatic biota.

5.6 NOISE

5.6.1 Proposed Action

The Proposed Action would result in minor, short-term, local increases in noise production during the construction period. This noise would result from the use of dredging machinery and equipment. The construction crews would be required to comply with all applicable laws regarding noise, including time of day restrictions and maximum decibel levels. Additionally, the dredging contract will require the use of properly installed and maintained mufflers, silencers, and the manufacturer-recommended sound suppressors on all plant, machinery, and

equipment. Any impacts associated with the Proposed Action would cease with the completion of dredging activities.

5.6.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no noise impacts beyond those associated with daily activities at the facility and in the surrounding area.

5.7 RECREATION

5.7.1 Proposed Action

Dredging activities should not impact small, recreational boat access to and from Smith Creek/the Hague. Interruptions in accessibility to and from the piers adjacent to the project site may occur during the dredging activity. The interruptions would be temporary in nature and would be minimized to the maximum extent practicable.

5.7.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur. There would be no impact to recreational use of the project site or adjacent areas.

6 CONCLUSIONS

The Norfolk District USACE has prepared this NEPA documentation for the dredging of the approach and berthing areas at the NOAA MOC-A facility in Norfolk, Virginia. The purpose of the Proposed Action is to dredge the NOAA MOC-A approach and berthing areas to a maintained depth of -25 feet MLLW to allow vessel's adequate draft and under keel clearance. The need for the Proposed Action is to enable NOAA MOC-A to fully support regional missions and operations. The maintained depth of -25 feet MLLW is necessary for NOAA MOC-A to be able to support several NOAA vessels that draft 21 feet and/or have scientific instruments mounted to the hulls. In addition, divers need adequate clearance to be able to service vessels using the NOAA MOC-A facility.

Dredging would be performed hydraulically or mechanically to remove maintenance and new work material at the facility's approach and berthing areas. Dredged material would be placed in the CIRB or hydraulically pumped directly into one of the containment cells at CIDMMA. Material would be transported to the placement site by hydraulic pipeline if hydraulically dredged or by barge/scow if mechanically dredged to be placed overboard or bottom dumped in CIRB or directly pumped out into a containment cell at CIDMMA.

Short-term adverse impacts associated with the Proposed Action include localized impacts to the benthic environment at the dredging and placement sites. Temporary, localized adverse impacts to water quality, noise, and air emissions would occur at the dredging and placement sites. Additionally, temporary interruptions in accessibility to the adjacent piers may occur during dredging activities. Long-term impacts to soils and bathymetry, typical for a dredging project, would be expected as a result of the Proposed Action.

The Proposed Action would require coordination for Federal, state, and local permits and/or approvals for the discharge of dredged material. All permits and/or approvals would be obtained prior to the start of construction. The Dredged Material Discharge, Section 404 Water Quality Evaluation within the project site would also be completed prior to the start of construction. In addition, coordination is required with the utility companies prior to and during construction.

This Environmental Assessment was prepared by the Norfolk District USACE in compliance with the NEPA and all applicable implementing regulations. Based on the evaluation of environmental impacts described in Section 5 and summarized in Table 5.1, no significant impacts would be expected from the Proposed Action; therefore, an Environmental Impact Statement will not be prepared and a Finding of No Significant Impact will be prepared and signed.

7 CONTACT INFORMATION

If you have any questions or wish to provide comments, please contact Ms. Kristen Donofrio of the U.S. Army Corps of Engineers, Norfolk District, at Kristen.L.Donofrio@usace.army.mil or 757-201-7843.

8 DISTRIBUTION LIST

The draft EA has been submitted to the following for comments:

Office of the Mayor
City of Norfolk, Virginia
810 Union Street
City Hall Building, Suite 1001
Norfolk, VA 23510

Mr. Lee Rosenberg
Environmental Services Manager
Department of Planning, City Hall Building
810 Union Street, Suite 508
Norfolk, VA 23510

Regional Director, Northeast Region
National Marine Fisheries Service, NOAA
U.S. Department of Commerce
1 Blackburn Drive
Gloucester, MA 09130

CDR Nancy Ash Hann, NOAA
Marine Operations Center-Atlantic
439 West York Street
Norfolk, VA 23510

Commander, U.S. Coast Guard
Portsmouth Federal Building
431 Crawford Street
Portsmouth, VA 23704

NEPA Programs
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103

Regional Director
U.S. Fish and Wildlife Service
300 West Gate Center Drive
Hadley, MA 01035

Ms. Cindy Schulz
Ecological Services
U.S. Fish and Wildlife Service
6669 Short Lane
Gloucester, VA 23061

Mr. Lee Hill
VA Department of Conservation and Recreation
203 Governor Street, Suite 302
Richmond, VA 23219

Mr. David Davis
VA Department of Environmental Quality
629 East Main Street
Richmond, VA 23219

Mr. Bert Parolari
VA Department of Environmental Quality-TRO
5636 Southern Boulevard
Virginia Beach, VA 23462

Mr. Raymond T. Fernald
Environmental Services Section
VA Department of Game & Inland Fisheries
4010 West Broad Street
Richmond, VA 23230

Ms. Julie Langan
Director, DRSR
VA Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Ms. Julie Bradshaw
VA Institute of Marine Science
P.O. Box 1345
Gloucester Point, VA 23062

Mr. Tony Watkinson
Habitat Management Division
VA Marine Resources Commission
2600 Washington Avenue, Third Floor
Newport News, VA 23607

Dave O'Brien
Habitat Conservation Division
PO Box 1346
7580 Spencer Road
Gloucester Point, VA 23062

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10 COMMENTS/RESPONSE SECTION

This section will be updated after the 30-day comment period has closed.