# Defense Logistics Agency Fuel Pier Replacement Project

## Defense Logistics Agency located on Joint Base Langley-Eustis-Langley in Hampton, Virginia

# DRAFT ENVIRONMENTAL ASSESSMENT

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# I. EXECUTIVE SUMMARY

This Environmental Assessment (EA) has been prepared to assess the potential impacts of the Defense Logistic Agency (DLA) construction of a new fuel pier and its associated new work dredging on the Langley Air Force Base (LAFB) in Hampton, Virginia. Three alternatives were identified for this project: the refurbishment of the existing fuel pier, the No-Action Alternative, and the Proposed Action Alternative to construct a new fuel pier. 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 and temporary changes in water quality, air and noise emissions. 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. Additionally, long-term positive impacts to the stormwater system and utilities infrastructure may be anticipated as the project will tie in the new utilities and stormwater sumps and containment cells into the existing systems resulting in updated and improved conditions. Long-term positive impacts to human health and safety could also be anticipated as the new fuel pier will incorporate fire protection, spill containment, and other safety features that are lacking on the current structure. The demolition of the existing pier will also result in improved human health and safety as the structure will be removed from the existing clear zone and no longer be a potential hazard to flight operations.

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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# 1 INTRODUCTION

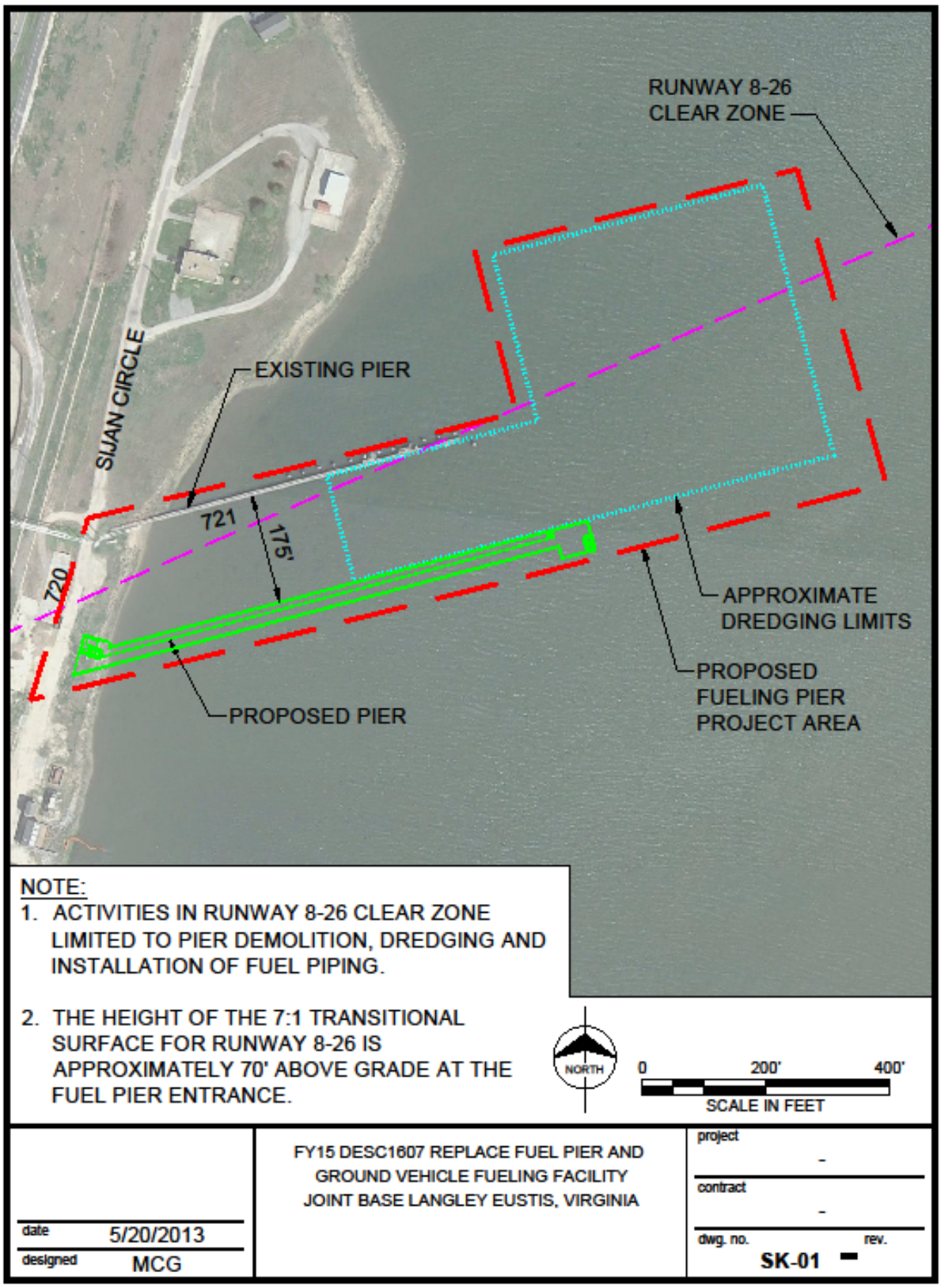
The Defense Logistics Agency (DLA) fuel pier replacement project is located at the Langley Air Force Base (LAFB) in Hampton, Virginia. Established in 1917, LAFB is the oldest continuously active air force base in the United States. In 2010, LAFB aligned with Fort Eustis in Newport News to become Joint Base Langley-Eustis (JBLE).

LAFB covers approximately 3,152 acres and contains an airfield and support facilities, research and development facilities, testing facilities, fuel docking and storage facilities, ordnance housing, golf courses, and various recreational areas. The base serves a large population made up of over 125,000 active duty, guard and reserve, family members, civilians, contractors, and retirees. LAFB is home to the 633d Air Base Wing, 1st Fighter Wing, 480th Intelligence, Surveillance, and Reconnaissance Wing, and the 192d Fighter Wing. The base also hosts the Global Cyberspace Integration Center field operating agency and Headquarters Air Combat Command.

## 1.1 PROPOSED ACTION'S LOCATION

LAFB is located in Hampton, Virginia between the Northwest Branch and Southwest Branch of the Back River, a tidal estuary of the Chesapeake Bay. DLA's fuel pier replacement project site is bounded to the west by the Building 722 foundation and on the east by the Southwest Branch of Back River. The project location is identified in Figure 1:

**Figure 1 DLA fuel pier replacement project vicinity map**



## 1.2 PROPOSED ACTION'S PURPOSE AND NEED

The purpose of this project is to replace the existing the pier structure, loading arms, piping, and associated equipment at a site approximately 175 feet south of the existing pier. The current fuel pier is a 7' wide wooden structure in poor condition with no spill containment and no fire protection. The existing pier was built in 1950 and is approaching 65 years of active service, with the piles exceeding their life expectancy. The pier has a waiver to be located and operated in the clear zone and was "grand-fathered" as an existing structure when the runway was extended to its current configuration. The current pier has the potential to fail structurally. The loss of the pier would inhibit the 1st Fighter Wing's ability to deploy and support fighter and transient aircraft, as well as limit its ability to carry out missions assigned in support of operations. Without the pier, LAFB aircraft usage would require truck delivery of approximately 315,000 gallons of fuel per week on average. The trucks required to maintain this level of fueling for an extended period of time require scheduling, monitoring, more personnel for operations, and overtime for DLA operations contractors.

Additionally, the existing service station's small space and system components are not safe. The small space does not meet the minimum spill retention basin requirements and creates safety issues with traffic flow problems and overcrowding. The existing system components, including the tanks, do not meet the minimum standard to operate the facility at a safe level. If a catastrophic spill were to occur, the fuel is not contained and would flow directly into the Back River channel and adjoining shorelines.

## 1.3 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 fuel pier replacement and the associated dredging. 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).

## 1.4 PUBLIC AND AGENCY INVOLVEMENT

The draft EA was coordinated with the following:

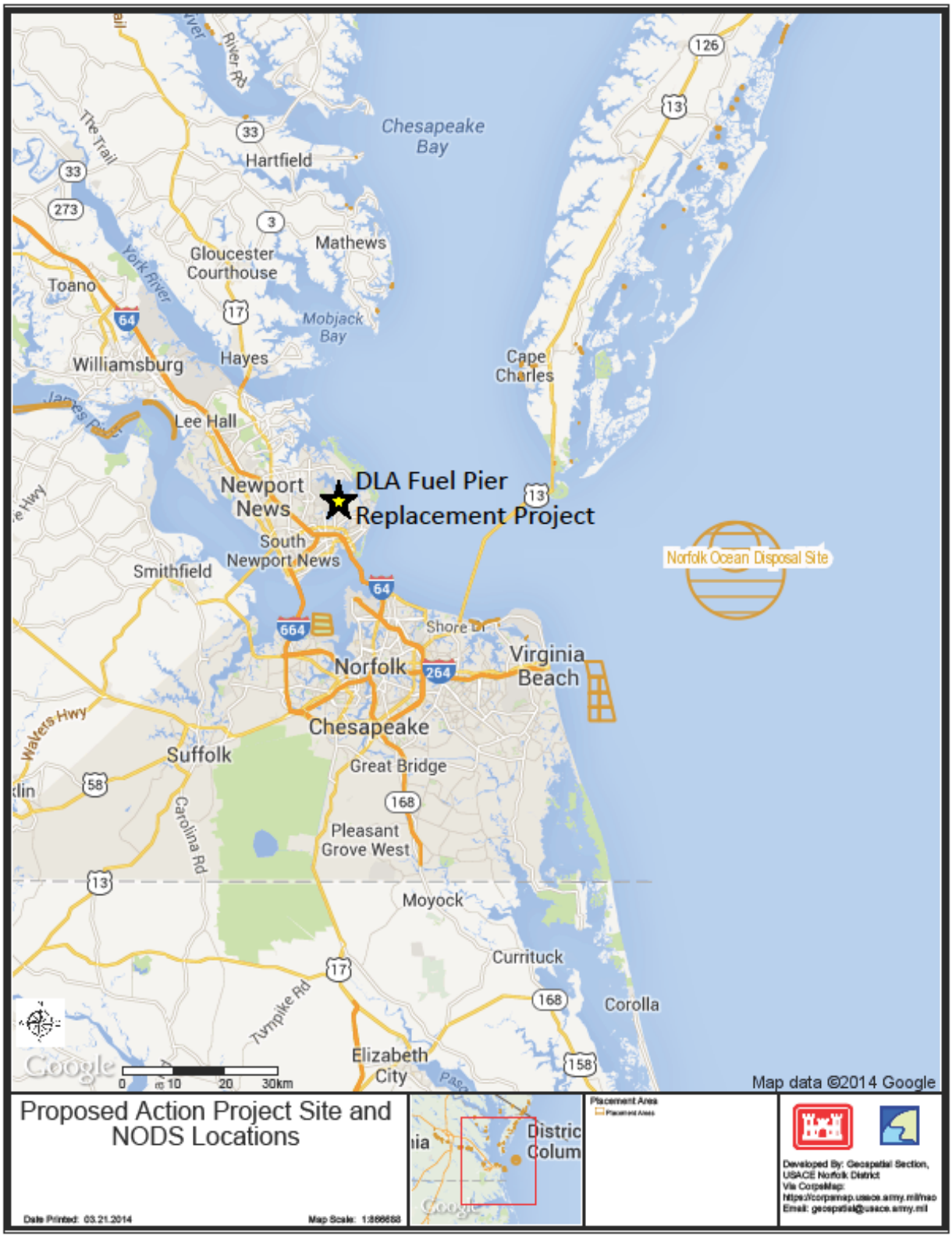
- JBLE-Langley
- DLA
- City of Hampton
- U.S. Army Corps of Engineers (USACE)
- U.S. Coast Guard (USCG)
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)
- U.S. Environmental Protection Agency (EPA)
- U.S. Fish and Wildlife Agency (USFWS)
- National Oceanic and Atmospheric Administration (NOAA)
- NOAA - National Marine Fisheries Service (NMFS)
- 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 replace DLA's existing fuel pier at JBLE-Langley in Hampton, Virginia. The project includes construction of the new fuel pier and service station, demolition of the existing fuel pier and service station, and new work dredging for the proposed fuel pier's turning basin and berthing area. Dredged material will be placed a Norfolk Ocean Disposal Site (NODS) for ocean disposal. See Figure 2 for the project site and placement site locations.

**Figure 2 Proposed Action project site and dredged material placement location**



## 2.1 FUEL PIER REPLACEMENT

The new pier will be a concrete pile supported pier structure with a concrete deck and will be constructed at a height of 11 feet above mean lower low water (MLLW) to avoid submergence and related equipment damage during extreme storm events. Per the Unified Facilities Criteria (UFC) 4-152-01, this deck height was set based upon a review of historical extreme high water plus freeboard allowance and the pier deck thickness. The pier and all topside structures will remain below the glide slope height transitional zone restricts for the adjacent runway.

The approach trestle and pier will total 857 feet in length. The approach trestle to the pier will be 800 feet long by 30 feet wide, including curbing, a 15 feet wide access driving lane, and a 10 feet wide utility corridor containing the fuel piping and electric and controls/communications conduits from the pier to the shore. Containment of potential drips or spills from piping and fueling operations is provided via curbed containment above the pier deck. The curbing also provides protection from impact damage and allows for maintenance access. Maintenance vehicles will access the pier via the access trestle to perform daily inspection and maintenance duties. The lane will accommodate personnel rescue vehicles, firefighters, and related equipment if needed. Construction of a 20 foot wide boat ramp adjacent to the pier (south) will also be included in the project. The ramp will be made of concrete slab, Portland cement concrete (PCC)/rigid pavement, or block mat and will provide access for emergency personnel.

The pier will be 57 feet long by 50 feet wide and will include one 10-inch diameter carbon steel fuel pipe with one optional 10-inch diameter carbon steel fuel pipe. The project will also include two new fuel loading arms with spill containment. The new piping for the new pier and approach trestle will tie into the existing piping located on shore near the existing pier. The new pier's piping and loading arms will be located in containment basins to provide containment for storm water and any drips or spills that may occur within these curbed areas on the pier. Minor drips and spills will be removed via absorbent materials stored on the pier. Larger releases will be contained on the pier. The pier's surface is sloped to multiple containment sumps. Materials collected in these sumps will be pumped to a 10,000 gallon concrete vault on shore for proper disposal. Storm water will be contained in the utility corridor containment areas, inspected for

contamination and either released (if not impacted), or pumped via sump pumps and pumping system from the pier to the on shore 10,000 gallon holding vault for proper disposal.

The new pier construction would take place independent of the operation of the existing pier. The existing pier must remain operational at all times during construction. Demolition would take place upon completion and acceptance of the new pier and includes removal of the existing pier and its associated fueling systems, dolphins, and related power and lighting. Work includes the removal of the pier deck, its associated timber piles, building and related equipment, pier lighting systems, the fueling systems, including piping, pipe supports, and support enclosure, and the fender pile system. Timber piles will be either cut at the mud line and removed at that point, or, vibrated and fully removed from the project site. Any coatings on the wooden materials will be identified, classified, and disposed of at the appropriate landfill facility. If possible, materials may be recycled.

## 2.2 ASSOCIATED DREDGING AND PLACEMENT OF DREDGED MATERIAL AT NODS

New work construction dredging for the DLA fuel pier replacement project will remove up to 65,000 cubic yards (CY) of dredged material in approximately 6.06 acres to establish turning basin dimensions for vessel maneuverability and minimal operational depths for vessels navigating and accessing the fuel pier. Dredged material will be hydraulically or mechanically dredged to provide a turning basin and berthing area with a maintained depth of -15 MLLW including -2 feet of paid overdepth and -1 foot allowable unpaid overdepth. The design barge is a JNB-22 barge with a length of 300 feet, a beam of 54 feet, and draft of 10.5 feet. The turning basin will be an area of approximately 450 feet by 450 feet per UFC 4-150-06 paragraph 5-6.2.4.2 (1.5 x vessel length) to accommodate the vessel. The berthing area will be approximately 50 feet long by 54 feet wide.

Ocean disposal of the DLA's proposed fuel pier replacement dredged material is the preferred alternative for the new work construction dredging and future maintenance dredging so long as the dredged material is tested and determined to be suitable for ocean placement. Any dredged material found to be not suitable for ocean disposal would be handled per regulations,

coordinated with the appropriate agencies, and placed at an appropriate upland placement site. Beneficial use of material is not practical for this project. The fine grains will not allow for shoreline or beach placement. Logistically, the creation of habitat is not practical due to the numerous oyster leases in the area surrounding the project site.

### 2.2.1 NODS Site History

Up to 65,000 CY of sediment from the dredging activities associated with the new work dredging of the DLA fuel pier replacement project are proposed for placement at the NODS. The NODS was officially designated as an ocean placement site in 1993 pursuant to Section 102c of the Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972 (as amended, 33 U.S.C. 1401 et seq). The site has had a history of ocean disposal, as a portion of the NODS overlaps an area historically used for dredged material disposal prior to the 1960s.

To determine the site's suitability for ocean disposal, the Norfolk District USACE submitted a Final Environmental Impact Statement (FEIS) for the NODS on July 23, 1982. The results of the evaluation determined that the site was an acceptable location for ocean dumping. A test dump program conducted in October 1981 demonstrated that there was no evidence of widespread dispersal of dredged material during operations. In late 1981, an archaeological investigation concluded that no sites of archaeological interest would be endangered by disposal operations. As a result of the FEIS, the NODS was designated by the EPA as an approved ocean disposal location in December of 1986. In August 1993, the site was utilized in conjunction with the construction of the Cheatham Annex Naval Supply Center and the Naval Weapons Station. These projects required the disposal of 51,000 CY and 475,000 CY dredged material respectively. The sediments from this dredging were primarily silt and clay. Since 2009 additional projects have received authorization to place dredged material at the NODS including the Craney Island Eastward Expansion (CIEE) (24.5 million CY), Norfolk Inner Harbor Channel 50-foot element (1 million CY), Baltimore Harbor Upper Bay Approach Channels, Virginia Department of Transportation – Midtown Tunnel Project (VDOT-MTT) (1.5 million CY), Cheatham Annex Naval Supply Center (48,000 CY), and the Yorktown Naval Weapons Station

(65,000 CY). The VDOT-MTT project commenced placement operations at NODS in October 2013.

### 2.2.2 NODS Location and Management

The center of the NODS is located 17 nautical miles east of the mouth of the Chesapeake Bay. The NODS is circular with a radius of 4 nautical miles and an area of approximately 50 square nautical miles. The center of the NODS site is located at 36^ 59' north latitude and 75^ 39' west longitude. Water depths near the center of the site vary between 43 to 85 feet. Bottom topography is generally flat with depth contours running parallel to the coastline.

Currently the site has been designated to receive new work and maintenance dredge material from Norfolk Harbor and the lower Chesapeake Bay. This site is also authorized to receive appropriate dredged material from the Thimble Shoals, Cape Henry, Atlantic, Hampton Roads, and York Spit Federal navigation channels. A FEIS, titled: "Final Environmental Impact Statement for the Designation of an Ocean Dredged Material Disposal Site Located Offshore Norfolk Virginia" was finalized in March of 1993.

Management of the NODS and dredged material placement operations at NODS are conducted in accordance with the Site Management and Monitoring Plan (SMMP). The SMMP for the NODS site establishes specific requirements for use of the site. The SMMP provides that only dredged material that has been evaluated in accordance with the MPRSA Section 103 regulations may be placed at the site. The SMMP does not specify specific methods of placement but does require that dredged material be evenly distributed to prevent unacceptable mounding and becoming a hazard to navigation. The management objective for the NODS area is to limit disposal quantities so as not to exceed 1.3 billion CY. The USACE has estimated that up to 250 million CY of dredged material from dredging projects (public and private) may be disposed at the site over the next 50 years. The quantity of material to be placed at the site depends on the quality of the dredged material. Only material that meets ocean dumping criteria will be placed at the NODS. Acceptable material includes unconsolidated fine to medium grain sands, silts, and clays. No seasonal restrictions to the placement of dredged material have been implemented for

the site. The management plan requires that each ocean disposal event must be verified and documented through a computer database system. Scow or hopper dredge transits and actual placement activities at NODS are currently required to be tracked using the USACE Dredge Quality Management program (DQM) (formerly "Silent Inspector") for tracking vessel transit locations and dredged material placement locations and activities.

### 2.2.3 Need for Ocean Disposal (Compliance With 40 CFR Part 227 Subpart C)

Placement of the dredged material at the NODS is the most viable option. Upland placement at privately-owned upland facilities (such as Port Tobacco at Weanack-Shirley Plantation) and upland landfill disposal were both considered as placement options for the dredged material from the Langley-DLA Fuel Pier Replacement project. The dredged material meets the Proposed Virginia Exclusionary Criteria requirements for upland placement at Port Tobacco at Weanack, the requirements for upland placement at some regional landfills, and the requirements for ocean placement at the NODS. Upland dredged material placement capacity is limited in the southern Virginia region and is preferential for projects with contaminated sediments that cannot meet the requirements for ocean or open-water placement.

Beneficial use (ex., beach nourishment and shoreline stabilization) was also considered as a placement option for the dredged material from Langley-DLA Fuel Pier Replacement project. The dredged material from the project site is primarily comprised of fine-grained silts and clays that are not suitable for beneficial use projects, particularly in high-energy environments.

In addition to the NODS, another alternative identified to be feasible for dredged material placement of sediments from the Langley-DLA Fuel Pier Replacement project was Craney Island Dredged Material Management Area (CIDMMA). Dredged material from the Langley-DLA Fuel Pier Replacement project is precluded from placement at CIDMMA because CIDMMA is restricted to placement of material from dredging to support navigation in Norfolk Harbor and adjacent waters [U.S. Army Corps of Engineers (USACE)-Norfolk District Policy Memorandum WRD-01]. Material from non-navigation transportation projects is specifically precluded from placement at CIDMMA unless the material is clean and needed for dike

construction. Physical and chemical testing of the dredged material from the Langley-DLA Fuel Pier Replacement project indicated that the sediments would not be suitable for dike construction.

Because the material meets the ocean placement requirements and because the NODS has sufficient capacity for the material, the most viable option for the dredged material from Langley-DLA Fuel Pier Replacement project is ocean placement at the NODS. Placement of the dredged material from Langley-DLA Fuel Pier Replacement project will reserve upland placement capacity for contaminated sediments and will be protective of the resources at the NODS.

## 2.3 FUEL STATION REPLACEMENT

The existing fuel station stores and dispenses gasoline and biodiesel. Fuel is received by commercial transport tanker trucks into two aboveground storage tanks, one 10,000 gallon capacity tank for gasoline and one 12,000 gallon capacity tank for diesel fuel. Each tank has a dedicated dispenser for motor vehicle fueling, and the gasoline tank also has a 300 gallons per minute pump and pantograph for bulk loading of gasoline to C- 300 tank trucks. Approximate combined throughput at the facility is 338 gallons per day (gasoline – 262 gallons per day, biodiesel – 76 gallons per day). The current fuel station is inadequate in that the tanks and equipment are aging, not protected from the elements and limited space does not allow room for an appropriate spill retention basin.

The existing gasoline and biodiesel service station will be replaced with a new gasoline, biodiesel, and ethanol (E85) refueling station. Work will include new tanks, pumps, pavements, piping, dispensers, gauging/metering system, emergency stop stations, and electrical systems. Three new 12,000 gallon UL 2085, fire-rated, protected, double-wall steel aboveground fuel storage tanks will be installed. Fuel system components will include off-load pumps, issue pump, flow control valves, tank offloading and receipt lines, ball valves, off-load hoses, covered hose storage rack, and thermal relief valves. An Automatic Tank Gauging (ATG) system capable of inventory management, tank level and statistical leak detection will be installed. An individual automatic level alarm system separate from the ATG system will be provided and will include

high level, high-high level, low level, and low-low level alarms. In addition to vehicle dispensers, the gasoline dispensing system will also have the ability to provide bulk issuance of fuel to C-300 tanker vehicles utilizing a pantograph loading arm relocated from the existing service station. The work for the new service station will also include paving, storm water and spill retention basin, security and screening fences, signage, water, power, lighting, communications and related equipment. The new service station pumps, new electrical equipment enclosure, and related new equipment that can be damaged by flood waters will be mounted above the 100 year flood level. Service station structures' heights including light poles and equipment canopies arms will remain below the glide slope height transitional zone restrictions for the adjacent runway.

The existing fuel station will remain operational until the new facility is completed and ready for use. When no longer needed, the existing service station and related components will be demolished. The existing service station demolition will include removal of the two existing aboveground storage tanks (one 10,000 gallon tank and one 12,000 gallon tank), associated mechanical receipt/dispensing equipment and electrical power/controls equipment mounted adjacent to the tanks. The tanks, pumps, dispensers, piping and valves will be drained, cleaned, purged and removed by the contractor and disposed of at an approved landfill or other approved tank disposal facility. Electrical circuits will be removed to the closest connection point and terminated in the related junction box. The bulk gasoline loading pantograph will be removed by others for re-use at the new facility. The existing canopy structure and dispenser island structure will be demolished and pavement restored in this area.

The replacement of the existing fuel station provides an overall environmental benefit. The existing station has aging equipment that is exposed to the elements, as well as undersized spill containment. The new fuel station will be equipped with all new aboveground tanks and equipment, modern leak detection systems, protection from the elements and adequately sized spill containment. Therefore, the new fuel station will reduce the potential for fuel leaks or spills to the surrounding environment.

The potential for environmental impact can be further minimized through the following:

- Employment of environmental protection measures during construction and demolition activities in accordance with standard industry practices. These requirements will be outlined in the plans and specifications for the project.

- Compliance with Aboveground Storage Petroleum Storage Tank Registrations issued by VDEQ. LAFB will be responsible for tank registration and permitting with VDEQ.

- Modification of the LAFB Integrated Contingency Plan (i.e., spill control measures) as required by the EPA, VDEQ, and the USCG.

- Preparation or modification of a Storm Water Pollution Prevention Plan (SWPPP) to incorporate the new fueling station.

## 2.4 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.

### 2.4.1 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.

### 2.4.2 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, prime farmland was dismissed as an impact topic in this EA.

### 2.4.3 Geohazards

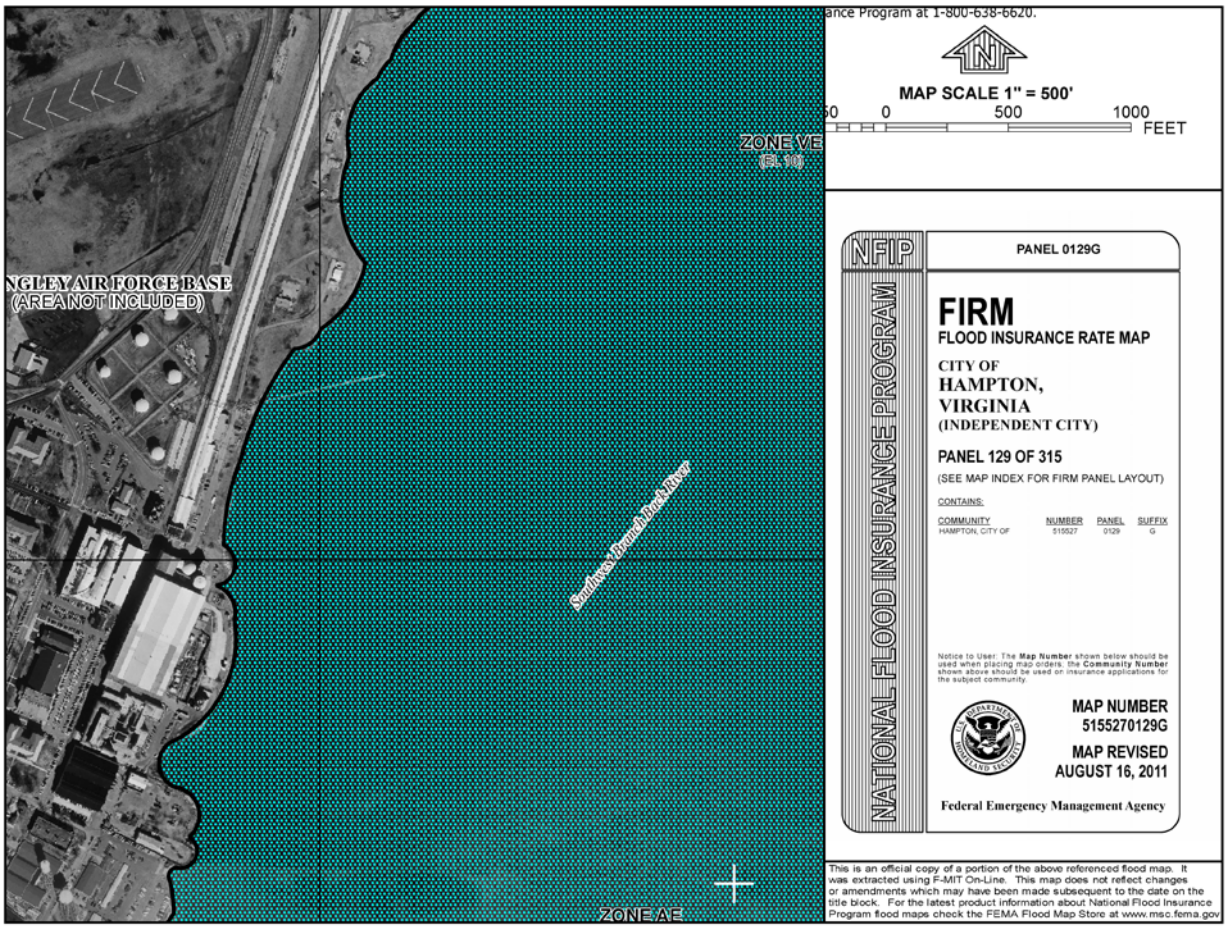
There are no known geohazards within the project area; therefore, this impact topic was dismissed from further analysis in this EA.

### 2.4.4 Floodplains

The fuel pier replacement project area is located in Zone VE per the Federal Emergency Management Agency (FEMA) flood insurance rate map (FIRM) for the City of Hampton, Virginia map number 5101040130F, panel 129 of 315 (see Figure 3). Zone VE is defined as "areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action." FEMA uses the terminology of "Coastal High Hazard Areas" for areas subject to inundation by 1% annual chance flood, extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.

The project site is subtidal; therefore, no significant floodplain impacts associated with the Proposed Action are anticipated. This impact topic was dismissed from further analysis in this EA.

**Figure 3 FEMA project site FIRM**




### 2.4.5 Groundwater

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

### 2.4.6 Vegetation

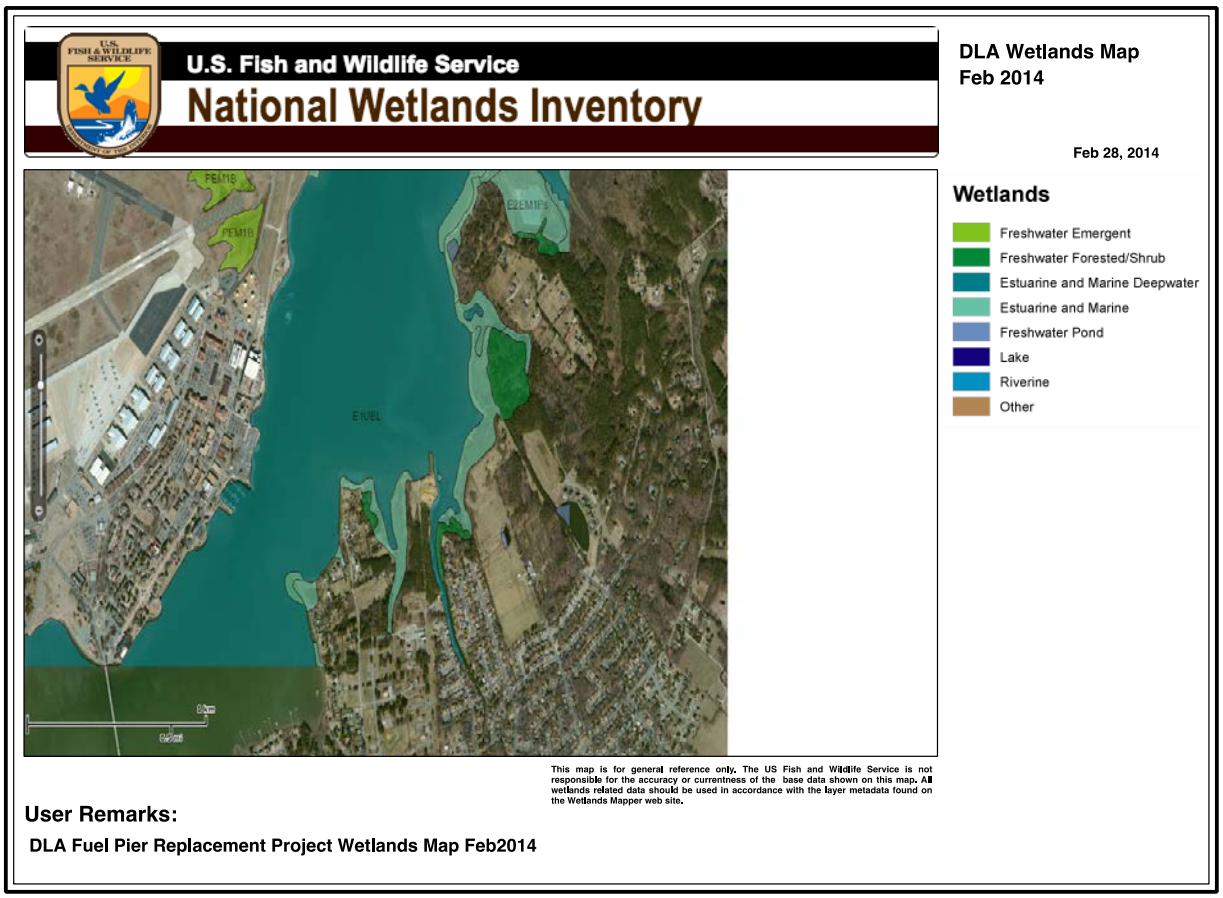
VIMS has not identified any submerged aquatic vegetation (SAV) in or adjacent to the project area (see Figure 4); therefore, this impact topic was dismissed from further analysis in this EA.

**Figure 4 VIMS map showing no SAV in or adjacent to the project site**

### 2.4.7 Wetlands

The USFWS National Wetlands Inventory (NWI) has not identified any wetlands in or adjacent to the project area (see Figure 5); therefore, this impact topic was dismissed from further analysis in this EA.

**Figure 5 NWI map showing no wetlands in or adjacent to the project site**




### 2.4.8 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 the project site; therefore, this impact topic was dismissed from further analysis in this EA.

### 2.4.9 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.

### 2.4.10 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.

### 2.4.11 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 DLA 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.

### 2.4.12 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.

### 2.4.13 Cultural Resources

Section 106 consultation regarding cultural resources within the area of the DLA fuel pier replacement project was completed in November 2013 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 December19, 2013 (see Appendix A "Agency Coordination"); therefore, this impact topic was dismissed from further analysis in this EA.

### 2.4.14 Aesthetics

The DLA fuel pier replacement 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. Three primary alternatives have been identified for this project: the No-Action Alternative, the replacement of the existing pier, and the refurbishment of the existing pier. The No-Action Alternative and refurbishment of the existing pier were determined to be least preferred. The replacement of the existing fuel pier was carried forward as the Proposed Action. This plan has been determined to be the best and most appropriate action that will allow for the efficient completion of ongoing operations and support of 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 DLA fuel pier replacement project would not occur. This alternative would eliminate environmental impacts to the benthic community at the project site and dredged material placement site. Adversely, the No-Action Alternative would allow for the continued degradation of the existing pier's poor structural conditions. The eventual loss of the pier would hamper the 1st Fighter Wing's ability to deploy and support fighter and transient air craft, as well as limit its ability to carry out missions assigned in support of operations. Additionally, the loss of the pier would require a significant increase in truck traffic to deliver fuel to maintain operations.

## 3.2 REFURBISHMENT OF THE EXISTING PIER

Under this alternative, the existing pier would be refurbished to the greatest extent possible. This alternative would eliminate environmental impacts to the benthic community at the proposed project site and dredged material placement site. Despite refurbishment repairs being carried out in 1999 to temporarily extend the longevity of the pier, the structure has outlived its service life expectancy by approximately 15 years. Adversely, this alternative does not resolve the existing safety issues or environmental concerns. Because the existing structure is timber, refurbishing the pier would again only temporarily extend the longevity and would not likely improve the

current fire protection or spill containment conditions. Although the existing pier has a waiver to be located and operate in the clear zone, the structure would continue to pose as a potential hazard for flight operations. The amount of repair work needed to refurbish the existing pier to an operationally and environmentally safe state would likely result in significant interference with normal, routine operations which could hinder fuel delivery to the 1st Fighter Wing and hamper its ability to carry out regional missions and operations; therefore, this alternative was not selected as the preferred alternative.

# 4 AFFECTED ENVIRONMENT

This section describes the affected environment and the existing conditions for the resource categories that may be impacted by the DLA fuel pier replacement 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 2.4). Only those affected resources applicable to the Proposed Action are discussed further in this section and in Section 5.0, Environmental Consequences.

The DLA fuel pier replacement project footprint is approximately 10.87 acres and the dredging area is approximately 6.06 acres. Impacts from the Proposed Action would primarily be found within the project boundaries. The proposed pier would be constructed approximately 175 feet south of the existing fuel pier. New work dredging would remove up to 65,000 CY of material to provide for a turning basin and berthing area. The area will be hydraulically or mechanically dredged to a minimum depth of -12 feet MLLW plus -2 feet paid overdepth and -1 foot non-paid overdepth for a maximum depth of -15 feet MLLW. The maintained depth of -14 feet MLLW is necessary to provide clear access for the barges the new pier will be designed to accommodate. This depth also matches the previous maintenance dredging for the channel leading to the existing pier. Dredged material would be transported to NODS for ocean disposal.

## 4.1 SOILS

Sediment in the DLA fuel pier replacement project site is considered new work material. Soils are predominantly fine grains, silts, and clays. No sensitive soils or Prime or Unique Farmland soils are present in the project site.

### 4.1.1 Summary of Remedial Action for Southwest Branch of Back River

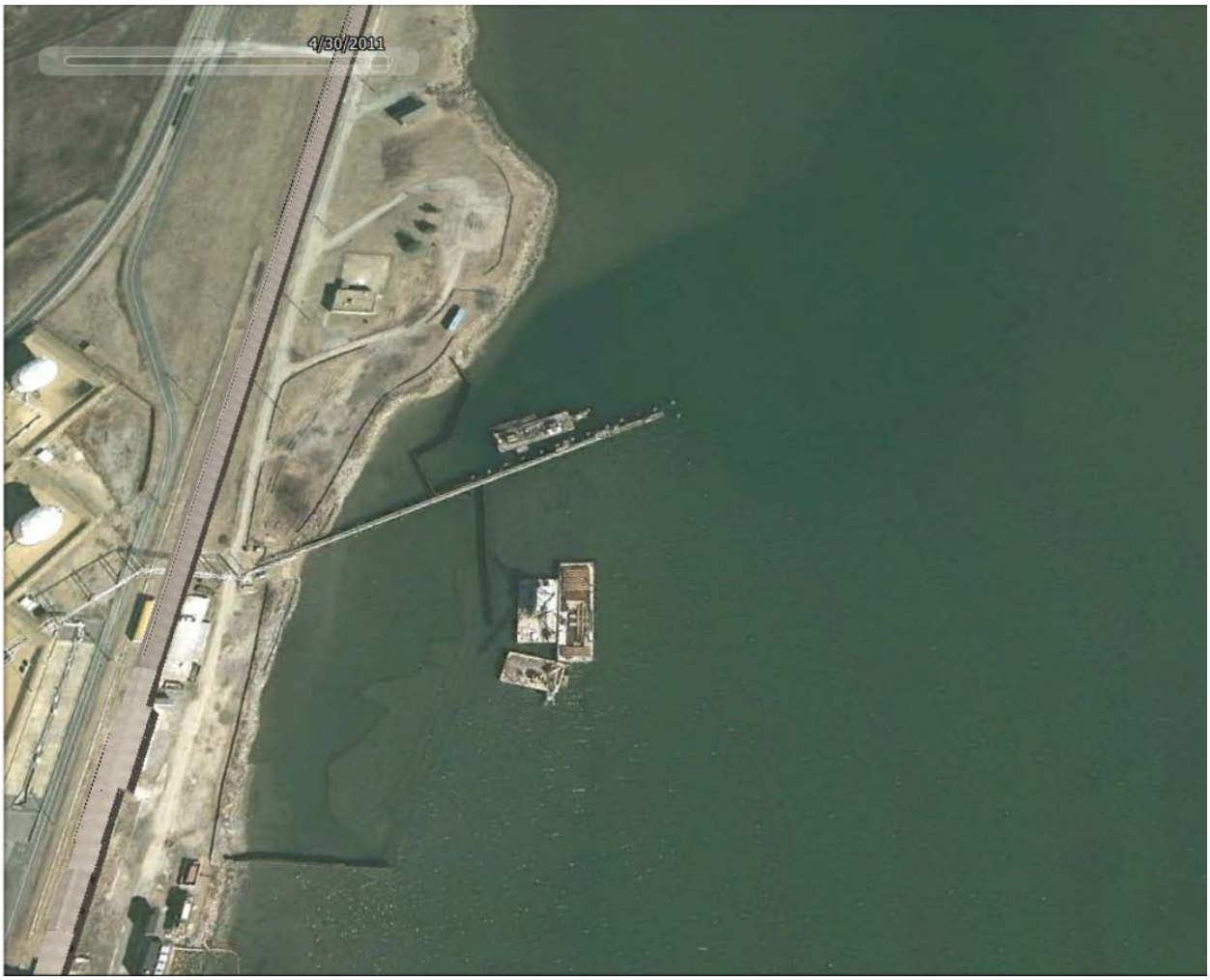
A remedial investigation (RI) was conducted in 2000 to characterize potential contamination identified during previous investigations, conduct a baseline ecological risk assessment (ERA) and human health risk assessment (HHRA), and evaluate potential impacts to the Back River from LAFB environmental restoration program (ERP) sites. The RI included the collection and analysis of surface water, sediment, and biota (bivalves, crabs, sport fish, and small fish) for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), chlorinated

pesticides, polychlorinated biphenyl (PCBs), polychlorinated terphenyls (PCTs), chlorinated herbicides, and metals. Based on the RI, the shoreline of the Southwest Branch of the Back River (ERP Site SS-63) was identified to be one of two sites containing elevated concentrations of chemicals. A portion of the Southwest Branch of Back River shoreline site included the existing fuel pier, which is adjacent to/within the DLA Fuel Pier Replacement Project footprint.

LAFB issued a proposed plan (PP) in December 2007 identifying the preferred alternative, Dry Excavation with Off-site Disposal, for addressing the contaminated sediment. A Remedial Design/Remedial Action Work Plan (RD/RAWP) was finalized in 2010 to detail the approach and procedures used to implement the final remedial action (RA).

The final RA included temporary erosion and sediment control measures such as silt fencing, diversion dikes, heavy equipment staging areas, decant/waste staging areas, and a stabilized construction entrance. The Fuel Pier site remedial activities included construction of a 1,090 linear feet interlocking sheetpile cofferdam to “block out” the Back River during excavation of the sediment and to inhibit tidal flow into the work area during removal activities (see Figure 6 for an aerial photo of the sheetpile cofferdam).

**Figure 6 RA's sheetpile cofferdam at the existing DLA fuel pier in the Southwest Branch of the Back River (ERP Site SS-63)**




A turbidity curtain was also installed outside the cofferdam to further minimize releases of suspended particles to the Back Water. Dry excavation of the PCB/PCT contaminated sediment was completed during November 28, 2010 through December 17, 2010 using two long-reach excavators mounted on pontoons. After the sediment was excavated, it was transported to the adjacent decant areas. Once in the decant area, a drying agent, Calciment, was mixed into the sediment with an excavator to remove excess moisture. The sediment and liners for the decant/waste staging areas were managed as special waste and disposed of at Bethel Landfill in Hampton, Virginia. Approximately 5,900 gallons of water was pumped from the decant areas (including water originating from normal rain events) and disposed of off-site as nonhazardous

wastewater due to the presence of copper, nickel, zinc, and phenol concentrations exceeding the Virginia surface water quality criteria.

## 4.2 BATHYMETRY

The DLA fuel pier replacement project site is located within the Atlantic Coastal Plain Physiographic Province. The site itself is sub-tidal and mostly flat with water depth varying from -4 feet to -10 feet. Roads, buildings, bridges, and other common urban features are found in the surrounding area.

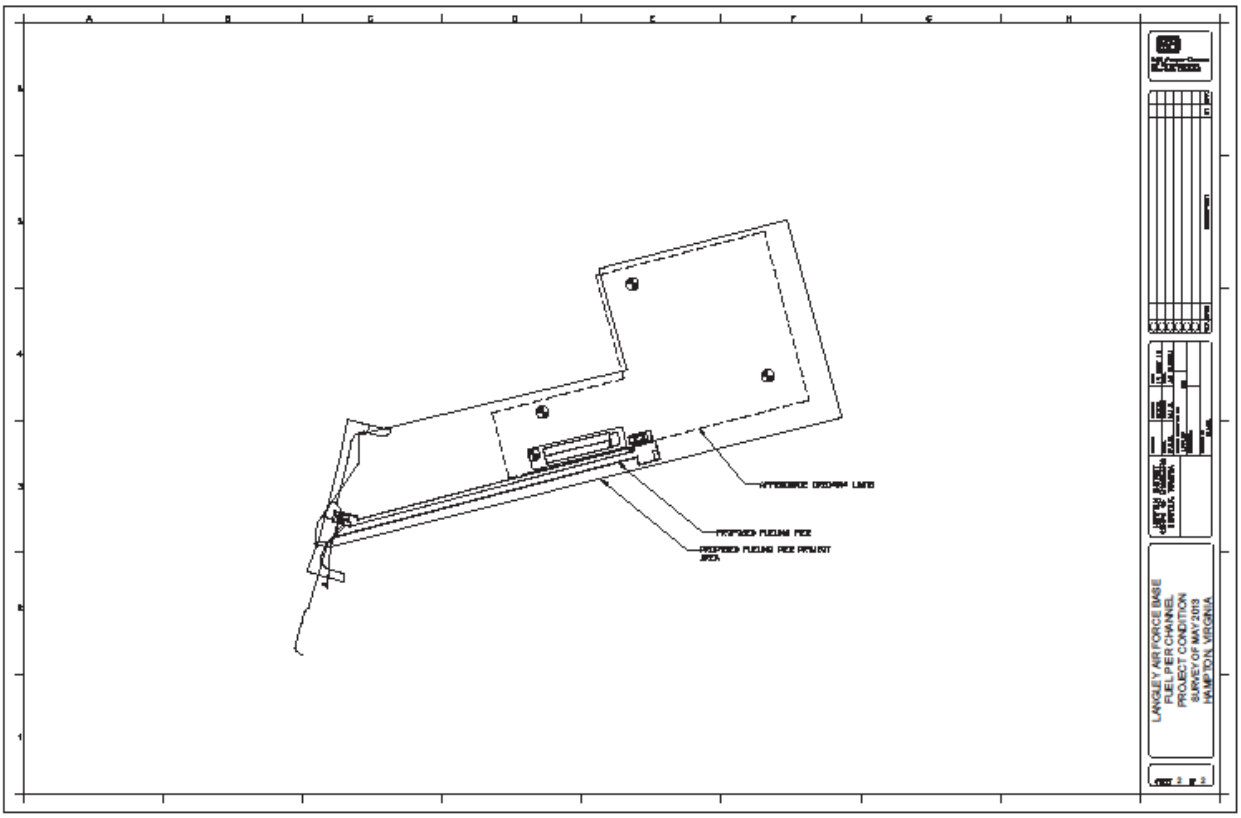
## 4.3 WATER QUALITY

The DLA fuel pier replacement project subtidal site ranges in salinity from 14.81 – 23.54 parts per thousand, and water temperature ranges from 33° to 85° Fahrenheit. Dredged material ocean placement requires a Section 103 concurrence from the EPA. In addition, the Proposed Action would require permits from the Regulatory Office of USACE, VMRC, and/or VDEQ. These permits and approvals would be obtained prior to the start of construction.

## 4.4 DREDGED MATERIAL CHARACTERIZATION

To ensure the Proposed Action's dredged material is suitable for placement at NODS, sediment and site water samples from four separate locations within the project's dredging footprint were collected (see Figure 7).

**Figure 7 Preliminary sample locations in the dredging footprint**




Samples from the dredging footprint were collected in October 2013 via vibracore and were evaluated in accordance with Section 103 of the MPRSA. Reference sediments were also collected, evaluated, and used for comparison to the Proposed Action's sediment. Reference samples were evaluated simultaneously with the project's dredged material. Reference sediments were collected at an EPA approved location at Willoughby Bank located south of the Thimble Shoals Channel. The reference location was selected as a comparison to the Proposed Action's sediments with a high proportion of silt and clay.

### 4.4.1 Applicable Regulations and Testing

Ocean dredged material placement is regulated under Section 103 of the MPRSA of 1972 (Public Law 92-532). The law states that any proposed placement of dredged material into ocean waters must be evaluated through the use of criteria published by the EPA in Title 40 of the Code of Federal Regulations, Parts 220-228 (40 CFR 220-228). The primary purpose of Section 103 of

the MPRSA is to limit and regulate adverse environmental impacts of ocean placement of dredged material. Dredged material proposed for ocean placement must comply with 40 CFR 220-228 (Ocean Dumping Regulations) and 33 CFR 320-330 and 335-338 (USACE Regulations for discharge of dredged materials into waters of the U.S.) prior to being issued an ocean placement permit. The technical evaluation of potential contaminant-related impacts that may be associated with ocean placement of dredged material is conducted in accordance with 40 CFR 220-228 and the *Ocean Testing Manual* (EPA/USACE 1991). The criteria in 40 CFR Part 227 are used to determine compliance.

The USACE has MPRSA Section 103 permitting authority for ocean disposal of dredged material and must seek and obtain concurrence from the EPA for the proposed ocean disposal. The EPA has the authority to review, approve or disapprove, or to conditionally approve the Corps Section 103 permit for ocean disposal.

The Proposed Action's dredged material was evaluated for water column impacts and benthic impacts in four specific cases to comply with the Limiting Permissible Concentration (LPC) (as defined in 40 CFR 227.27):

1. Water quality criteria compliance (liquid phase)
2. Water column toxicity compliance (liquid and suspended particulate phase)
3. Benthic toxicity (solid phase)
4. Benthic bioaccumulation

#### *4.4.1.1 Evaluation of the Liquid Phase – Water Quality Criteria (WQC)*

Two standard elutriates were prepared from composite samples locations. Standard elutriates were tested for each chemical constituent to determine compliance with applicable Federal water quality criteria and the LPC for the liquid phase dredged material in 40 CFR 227.6 and 227.27.

#### *4.4.1.2 Evaluation of the Liquid and Suspended Particulate Phases – Water Column Bioassay*

Water column bioassays were conducted using the following three water column species: *Mytilus galloprovincialis* (blue mussel), *Americamysis bahia* (opossum shrimp), and *Menidia*

*beryllina* (inland silverside). The water column species were exposed to a series of standard dilution of elutriates (100, 50, 10, and 1 percent) created from project dredged material. The opossum shrimp and inland silverside tests were measured for effects to organism survival and blue mussel tests measured development effects to embryos. Test survival or effects results from each dilution series were used to calculate LC50/EC50. Dredged material must meet the toxicity threshold of 0.01 of the LC50/EC50 within 4-hours or at the site boundary.

#### *4.4.1.3 Evaluation of the Solid Phase – Whole Sediment Bioassay*

Ten day whole sediment bioassays were conducted on dredged material to determine benthic toxicity using two benthic species: *Leptocheirus plumulosus* and *Ampelisca abdita*. The tests were static, non-renewal tests with ten days of exposure to the dredged material and overlying water. Tests measured survival of tests organisms in dredged material compared to survival in the reference sediments. To meet the LPC for the solid phase, the bioassay organisms in the dredged material must not exhibit mortality that is statistically greater than in the reference sediment and exceeds mortality in the reference sediment by at least 20%.

#### *4.4.1.4 Evaluation of Solid Phase – Bioaccumulation Evaluation*

Twenty-eight day bioaccumulation tests were conducted on the solid phase dredged material using two sensitive benthic marine organisms: *Nereis virens* (polychaete) and *Macoma nasuta* (blunt nose clam). The bioaccumulation tests measured the potential for bioaccumulation of contaminants in organism tissue as a result of exposure to the Langley DLA Fuel Pier dredged material. Test organisms were also exposed to reference sediments. Dredged material bioaccumulation tests are compared to reference sediment bioaccumulation tests and are compared to U.S. Food and Drug Administration (FDA) Action Levels. When bioaccumulation of contaminants in dredged material tests exceeds that in the reference sediments, general risk based factors must be assessed to determine compliance with 40 CFR 227.13.

The EPA required a subset of the organism tissue exposed to Proposed Action's dredged material to be analyzed for lipids and moisture content and the following constituents of concern: metals, polycyclic aromatic hydrocarbon (PAHs), dioxin and furan congeners, and chlorinated pesticides (dichlorodiphenyltrichloroethane (DDT) series only). The constituents selected for

analyses in organism tissues samples were determined on constituent detections in the dredged material bulk sediment analyses. Pre-test and reference sediment organism tissue were also analyzed.

## 4.5 PROTECTED SPECIES AND CRITICAL HABITAT

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 C "Threatened and Endangered Species Lists" for the VDGIF, USFWS, and Virginia Natural Heritage Resources (VNHR) species tables for the project area.

### 4.5.1 Magnuson-Stevens Fishery Conservation and Management Act

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 November 2013, as required by the Magnuson-Stevens Act, with the recommendation of no significant adverse effect on EFH (see Appendix A "Agency Coordination").

### 4.5.2 Informal Section 7 Consultation for the Atlantic Sturgeon

The Atlantic Sturgeon (*Acipenser oxyrinchus*) may be present in the project area based on data from the VDGIF Biota of Virginia Report (see Appendix C "Threatened and Endangered Species Lists" for detailed table listings.) An informal section 7 consultation regarding the incidence of Atlantic sturgeon within the area of the Proposed Action was submitted in December 2013 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 Southwest Branch of the Back River area. NMFS concurred with the insignificant adverse effect conclusion in a letter on March 25, 2014 (see Appendix A "Agency Coordination").

## 4.6 STORMWATER SYSTEMS

JBLE-Langley maintains a SWPPP. The existing pier is an all timber structure that allows storm water to drain directly into the Southwest Branch of Back River. The current landside surface water drainage pattern at the proposed pier site flows directly into the Southwest Branch of Back River via a combination of overland flow and discharge from area inlets.

## 4.7 UTILITIES

Potable water lines and 22kV electrical circuits are located at or near the existing site and the proposed project area (See Appendix E "Fuel Pier Utility and Grading Plan"). There are no known active or abandoned utilities located within the sub-tidal project site. An existing sanitary sewer main is located in close proximity to the new pier abutment.

## 4.8 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 ($O_3$), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), particulate matter ($PM_{2.5}$ and $PM_{10}$), VOC, and lead (Pb). The General Conformity Rule (40 CFR Parts 51 and 93) implements these requirements for actions occurring in air quality nonattainment areas.

The DLA fuel pier replacement project 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.

## 4.9 NOISE

The main source of noise at the existing DLA fuel pier and the surrounding area is airplane, jet, and vehicular traffic as well as 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.

## 4.10 TRANSPORTATION

LAFB is a secure site, and as such, transportation to and from the facilities are restricted-access. The DLA fuel pier is accessible through local roads on LAFB and by boat via the Southwest Branch of the Back River. NODS, the proposed placement site, is accessible by boat. Transportation to and from the proposed dredging and dredged material placement sites would have negligible adverse impacts to traffic in the area.

## 4.11 RECREATIONAL AND COMMERCIAL USE OF WATERS

Small, recreational boats may transit near the DLA fuel pier replacement project area in the Southwest Branch of Back River to access Back River. Multiple oyster leases are located in the Southwest Branch of the Back River adjacent to the LAFB. The existing fuel pier does not transect any oyster leases.

## 4.12 HUMAN HEALTH AND SAFETY

Because the pier is a wooden structure with no spill containment or fire protection, multiple human health and safety risk factors currently exist. In addition, the pier is a potential hazard to flight operations as it was granted a waiver to be located and operated in the clear zone due to being an existing structure when the runway was extended to its current configuration.

# 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 2.4.

In addition to the following, a Coastal Consistency Determination (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 -15 feet MLLW | No impact to existing conditions |
| Water Quality | Temporary, localized adverse impacts due to resuspension of sediments at dredging, pile installation and pile extraction, and NODS placement site | No impact to existing conditions |
| Dredged Material Characterization | No anticipated contamination issues | No impact to existing conditions |
| Protected Species and Critical Habitat | Localized, short-term adverse impacts to benthos at dredging, placement, and pile installation and extraction sites | No impact to existing conditions |
| Stormwater Systems | Long term positive impacts due to new system using sumps and containment cells for contaminated waters | No impact to existing conditions |
| Utilities | Minor, temporary impacts as utilities are tied into current lines and circuits<br>Potential positive long-term impacts anticipated due to potential for updated and improved utility infrastructure | No impact to existing conditions |
| Air Quality | Temporary, localized adverse impacts due to dredging, dredged material discharge, construction, and demolition equipment and activities | No impact to existing conditions |

| | | |
|---|---|---|
| Noise | Temporary, localized adverse impacts due to dredging, dredged material discharge, construction, and demolition equipment and activities | No impact to existing conditions |
| Transportation | Temporary impacts to traffic conditions near the Proposed Action's project site due to additional construction vehicle traffic in the area<br>No anticipated impacts to the dredging and placement site as both are sub-tidal | No impact to existing conditions |
| Recreational and Commercial Use of Waters | Long term impact to two oyster leases in the fuel pier construction and dredging project area | No impact to existing conditions |
| Human Health and Safety | Long term positive impacts as the Proposed Action would demolish the existing pier and eliminate the potential hazard to flight operations. The Proposed Action would also incorporate fire protection and spill containment. | Continued degradation of pier could allow for the potential increase of safety hazards and negative impacts to human health. |

## 5.1 SOILS

### 5.1.1 Proposed Action

Long-term impacts, typical of dredging projects, would be expected from the Proposed Action. Up to 65,000 CY of material would be dredged from the project's dredging footprint to achieve a maximum depth of -15 feet MLLW. The dredged material would be transported to NODS for ocean disposal. Any soils identified as not suitable for ocean disposal would be trucked off-site and disposed of at the appropriate facility.

### 5.1.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no 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 proposed DLA fuel pier's berthing area and turning basin to a maximum depth of -15 feet MLLW. The result of this action would create long term impacts to the current bathymetry which ranges from -4 feet MLLW to -10 feet MLLW.

### 5.2.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no impacts to the site's bathymetry.

## 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. Temporary impacts to water quality may also exist at the proposed fuel pier's construction site during pile installation and at the existing fuel pier's demolition site during pile extraction.

#### *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 would not significantly impact water quality.

#### *5.3.1.2 Impacts to Water Quality at the Proposed Placement Sites*

Dredged material removed from the proposed fuel pier project site would be transported to NODS for ocean disposal. Temporary turbidity impacts to water quality during dredge material disposal would occur at the 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 significantly impact water quality.

#### *5.3.1.3 Impacts to Water Quality at the Pile Installation and Extraction Sites*

Resuspension of sediment can be expected during proposed pile installation and existing pile removal. Impacts to water quality from the impact driven installation and vibration extraction would be minor, temporary and localized to the area around the piles. Localized turbidity would dissipate once the installation and extraction has ceased. Due to the area of impact and relatively short duration of the activities, the Proposed Action would not significantly impact water quality.

### 5.3.2 No-Action Alternative

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

## 5.4 DREDGED MATERIAL CHARACTERIZATION

### 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. The evaluation process for ocean disposal emphasizes the potential biological effects, rather than chemical presence of contaminants (EPA/USACE, 1991). Tier II and Tier III evaluations were conducted on the Proposed Action's dredged material. The sediments consisted predominantly of alluvial silts and clays with embedded sands and do not meet exclusion criteria. The MPRSA provides for exclusions to testing if the dredged material consists of the following:

1. Predominantly sand, gravel, or rock and is found in areas of high current or wave energy.
2. Dredged material is for beach nourishment.
3. When the dredged material is substantially the same as the substrate at the proposed disposal site and the material is far removed from known existing and historical sources of pollution.

Tier II investigations typically consist of sediment, water, and elutriate chemistry evaluations. Tier III investigations typically consist of appropriate water column and whole sediment bioassays on appropriate sensitive organisms to determine the potential for significant effects due to acute toxicity or bioaccumulation of constituents in the dredged material over a sufficient period of time.

Dredged material proposed for ocean disposal is required to comply with the LPC (as defined in 40 CFR 227.27) for water column impacts and benthic impacts in four specific cases:

1. Water quality criteria compliance (liquid phase).
2. Water column toxicity compliance (liquid and suspended particulate phase).
3. Benthic toxicity (solid phase).
4. Benthic bioaccumulation.

Summary tables of the evaluation results can be found in Appendix D "DLA Fuel Pier Replacement Project Dredged Material Evaluation Section 103 Report."

#### *5.4.1.1 Evaluation of the Liquid Phase – Water Quality Criteria (WQC)*

Compliance with the LPC was determined using the USACE Short-Term Fate of Dredged Material Disposal in Open Water (STFate) model to determine whether the liquid phase dredged material would achieve WQC within the site boundary and/or within 4-hours following dredged material placement. Arsenic had the greatest concentration requiring the greatest dilution to meet WQC (1.6-fold dilution) for Lang-01/02 (Lang-01/02, Ar=110 ug/l; WQC, AR=69 ug/l). Ammonia was the constituent requiring the greatest dilution to meet WQC (3.5-fold dilution) for Lang-03/04 (Lang-03/04, $NH_4$=17 mg/l; WQC, $NH_4$=4.91 mg/l). The STFate modeling indicates that a 248-fold dilution would occur in the first 4-hours.

Based on the information above, the liquid phase of the dredged material meets the LPC and is in compliance with 40 CFR 227.6(c)(1) and 227.27(a)(1).

#### *5.4.1.2 Evaluation of the Liquid and Suspended Particulate Phases – Water Column Bioassay*

Two water column bioassays were conducted on dredged material representative of each dredging unit. The greatest dilution required to meet the toxicity threshold was for composite sample location LANG-03/04. The STFate model run for LANG-03/04 indicates a maximum 9,000 CY barge discharge volume at the center of NODS would achieve a 248-fold dilution and meet the 0.01EC50 within 4-hours following placement. The STFate model run for LANG-01/02 indicates a maximum 20,000 cy barge discharge volume at the center of NODS would achieve a 163-fold dilution and meet the 0.01EC50 within 4-hours following placement. The leading edge of the plume was estimated to travel approximately 1,140 feet from the placement location within the 4-hours following placement and stay within the site boundary.

Based on the information above, the liquid and suspended particulate phase dredged material meets the LPC and complies with 40 CFR 227.6(c)(2) and 227.27(b).

#### *5.4.1.3 Evaluation of the Solid Phase – Whole Sediment Bioassay*

Two whole sediment bioassays were conducted on dredged material representative of each composite sample location. Mortality in the dredged material whole sediment bioassays is not statistically greater than in the reference sediment and does not exceed the mortality in the reference sediment by 20%.

Based on the above information, the dredged material meets the LPC for benthic toxicity in 40 CFR 227.13(c)(3).

#### *5.4.1.4 Evaluation of Solid Phase – Bioaccumulation Evaluation*

None of the tissues samples analyzed in Proposed Action's dredged material exceeded FDA action levels. Only two constituents, lead and octachlorodibenzo-p-dioxin (OCDD), statistically exceeded the reference site and pre-test tissue concentrations. The mean lead concentration in clam tissue from dredging units LANG-03/04 statistically exceeded the mean reference sediment and pre-test tissue concentrations; however the upper confidence level of the mean did not exceed the EPA Region 4 background concentration for lead. OCDD is the least toxic dioxin

congener, and the dioxin toxicity equivalent (TEQ) did not statistically exceed the reference sediment dioxin TEQ for either sample locations.

Determining compliance with the LPC for benthic bioaccumulation considers at least one of the following factors; number of constituents that statistically exceed reference sediment results, magnitude by which the constituent exceeds reference sample, propensity of the constituent for significant bioaccumulation, toxicological importance of the constituent, and comparison to EPA Region 4 background concentrations for clam tissues. After consideration of various factors, USACE has determined that dredged material placement at the NODS will not result in ecologically significant bioaccumulation for the individual contaminants.

Based on the above information, the solid phase of the dredged material complies with 40 CFR 227.6(c)(3) and 227.27(b).

### 5.4.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no changes to the existing conditions.

## 5.5 PROTECTED SPECIES AND CRITICAL HABITAT

### 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 pile installation, dredging activity, and placement at NODS would result in the destruction of the existing non-motile benthic community. After the pile installation and 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. Other species not mentioned but

are listed would likely not be present as they are upland species and the Proposed Action's project sites are previously developed or sub-tidal.

### 5.5.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no impacts to existing wildlife and aquatic biota.

## 5.6 STORMWATER SYSTEMS

### 5.6.1 Proposed Action

The construction of DLA's fuel pier replacement project will require coverage under Virginia's General Storm Water Permit for Construction Activities, the preparation of a SWPPP and Erosion and Sediment Control Plan, as well as a revision to the base's SWPPP and Integrated Contingency Plan.

For landside drainage of the fuel pier site, runoff will flow directly into the Southwest Branch of Back River to the greatest extent possible. Runoff from areas that cannot be drained directly into the Back River will be collected by inlets and flow via below grade piping to the river. The drainage area tributary to the new storm drainage system will be the same as the existing drainage area. A small increase of impervious area contributing to the storm drainage system is anticipated.

Storm water on the pier will be captured and collected over the entire area of the pier utility corridor. Concrete containment curbs will be incorporated into the pier deck design along the entire perimeter of the piping corridor, at the loading arms and the pier isolation valves. These curbs will contain local spills during offload operations. Sumps, cast into the pier deck, will be located inside the perimeter of pier utility corridor to collect spilled fuel as well as rain water. Nine deck sumps will be placed in the pier piping corridor. Each sump will be provided with a sump pump to transfer the collected storm water into the storm water header which discharges into the contaminated storm water vault or to the river if the water is clean. Each containment area will be inspected for any traces of fuel. If fuel is detected, that respective containment areas sump pump will be manually run to transfer the fuel/water to the containment vault at the base of

the pier. If no fuel is present, the storm water will be pumped into the river by redirecting the sump pump discharge to the river via manual valves located at each respective pumps discharge piping.

Based on the above information, no significant impacts to the stormwater systems are anticipated.

### 5.6.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no impacts to existing stormwater system conditions.

## 5.7 UTILITIES

### 5.7.1 Proposed Action

The Proposed Action would have minor short-term impacts to utilities within the project area as potable water and electric are tied into existing lines and circuits. These actions could cause temporary disturbances of services during the work on these utilities, although these impacts will be minimized by careful phases of construction activities. Any impacts would cease once the construction associated with the utilities has been completed. The potential for positive long-term impacts can be anticipated as all the proposed action's utilities would be tied into the existing lines resulting in a potentially updated and improved utility infrastructure.

### 5.7.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no impacts to existing conditions and utilities.

## 5.8 AIR QUALITY

### 5.8.1 Proposed Action

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 construction, dredging, dredged material discharge, and demolition activities occur. 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*. Because the existing structures are being repaired via replacement and the activities taking place after the completion of the Proposed Action are similar in scope and operation to the activities currently being conducted, this project meets the exemption requirements for non-applicability to the general conformity rule (40 CFR 93.153). A Record of Non-Applicability (RONA) was prepared in March 2014 and is included with the CCD. (Refer to Appendix B "Coastal Consistency Determination and Clean Air Act General Conformity Rule Record of Non-Applicability" for the RONA letter).

### 5.8.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no impacts to the existing air quality conditions.

## 5.9 NOISE

### 5.9.1 Proposed Action

The Proposed Action would result in minor, short term, local increases in noise production during the construction, dredging, and demolition phases of the project. The noise would result from the use of heavy machinery and the use of dredging equipment. The construction crews would be required to comply with all applicable laws regarding noise, including any potential 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 the project.

### 5.9.2 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 the existing daily activities at the facilities and in the surrounding area.

## 5.10 TRANSPORTATION

### 5.10.1 Proposed Action

The Proposed Action could have temporary adverse impacts to traffic conditions during the construction and demolition phases of the project due to additional construction vehicle and truck traffic in the area. The fuel pier replacement project and dredged material placement sites are subtidal and accessible by boat via the Southwest Branch of the Back River; therefore, transportation to and from the proposed dredging and dredged material placement sites would have negligible adverse impacts to traffic in the area.

### 5.10.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no impacts to existing traffic conditions.

## 5.11 RECREATIONAL AND COMMERCIAL USE OF WATERS

### 5.11.1 Proposed Action

Construction and demolition activities will have negligible impacts (if any) on recreational boaters in the area. The proposed fuel pier and its dredging footprint transect two oyster leases and therefore will permanently impact the leases. All notifications to impacted lease holders and any easements or transfers of leases would be completed prior to construction of the Proposed Action.

### 5.11.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, there would be no impacts to existing recreational and commercial use of waters.

## 5.12 HUMAN HEALTH AND SAFETY

### 5.12.1 Proposed Action

The Proposed Action would create long term positive human health and safety impacts. Construction of the new fuel pier would incorporate fire protection, spill containment, and other safety features lacking on the existing structure. The demolition of the existing fuel pier would

remove the structure from the clear zone which eliminates the current potential hazard to flight operations.

### 5.12.2 No-Action Alternative

Under the No-Action Alternative the Proposed Action would not occur; therefore, the continued degradation of the existing structure could potentially result in an increase of negative impacts to human health and safety.

# 6 CONCLUSIONS

The Norfolk District USACE has prepared this NEPA documentation for the proposed action of replacing the DLA's existing fuel pier at JBLE-Langley in Hampton, Virginia. The project includes construction of the new fuel pier and service station, demolition of the existing fuel pier and service station, and new work dredging for the proposed fuel pier's turning basin and berthing area. The purpose of this project is to replace the existing 7 foot wide wooden pier and its associated equipment with a new concrete pier located approximately 175 feet south of the existing pier. The DLA's replacement fuel pier berthing area and turning basin would be dredged to a maximum depth of -15 feet MLLW, which is necessary to be able to support the vessels that barge in the fuel. The -15 feet MLLW is also the authorized depth for the existing fuel pier's berthing area and turning basin. Dredging would be performed hydraulically or mechanically to remove the new work material in the dredging footprint. Dredged material would be transported to NODS for ocean disposal.

The Proposed Action needs to be completed for DLA to safely provide fuel to the 1st Fighter Wing. The conditions at the existing pier are unsafe as there is no fire protection on the pier, the spill containment conditions are poor, and the pier violates the existing clear zone, which is a potential hazard for flight operations.

Short-term adverse impacts associated with the Proposed Action include localized impacts to the benthic environment at the dredging and placement sites as well as the pile installation and removal sites. Temporary, localized adverse impacts to water quality, noise, and air emissions would occur at the construction, demolition, and dredging and placement sites. Long-term impacts to soils and bathymetry, typical for a dredging project, would be expected as a result of the Proposed Action. Additionally, long-term positive impacts to the stormwater system and utilities infrastructure may be anticipated as the project will tie in the new utilities and stormwater sumps and containment cells into the existing systems resulting in updated and improved conditions. Long-term positive impacts to human health and safety could also be anticipated as the new fuel pier will incorporate fire protection, spill containment, and other safety features that are lacking on the current structure. The demolition of the existing pier will

also result in improved human health and safety as the structure will be removed from the existing clear zone and no longer be a potential hazard to flight operations.

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. 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.

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# 9 REFERENCES

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## 10 COMMENTS/RESPONSE SECTION

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