

Cape Charles City Harbor Federal Navigation Project

Cape Charles, Virginia

DRAFT Supplemental Environmental Assessment



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1 EXECUTIVE SUMMARY

The purpose of this Supplemental Environmental Assessment (SEA) is to supplement the 1975 and 1987 Environmental Assessments (EA) for restoring navigation to the Cape Charles City Harbor Federal Navigation Project.

Two key changes have occurred since the maintenance dredging was last performed in October 1987. In 2012, the Atlantic sturgeon (*Acipense oxyrinchus oxyrinchus*) was listed as a federally endangered species under the Endangered Species Act and its listing generates a need for an updated evaluation of potential impacts. Secondly, the historical beach placement site, Beach Site B, is unavailable for dredged material placement this cycle due to multiple natural resources being located in the area. While this site may be viable for use in the future, the current resources create too many constraints for the upcoming cycle. Alternative overboard placement of dredged material at Wolftrap Alternate Placement Site (WTAPS) and Norfolk Ocean Disposal Site (NODS), beneficial use of dredged material for beach renourishment at Tangier or the Western shore of Virginia, and the beneficial use of dredged material for construction purposes at Craney Island Dredged Material Management Area (CIDMMA) and the Craney Island Eastward Expansion (CIEE) project have been evaluated for the placement of dredged material in the immediate maintenance dredging cycle and for future maintenance dredging cycles.

The need for updated potential impacts evaluation due to the listing of the Atlantic sturgeon and additions to the authorized locations for dredged material placement constitutes the rationale for a SEA. The previous EAs did not include this new information. This SEA has been prepared to address these issues and ensure compliance with the National Environmental Policy Act of 1969. This SEA primarily assesses the issues noted since these represent the only changes in the affected environment since the 1975 and 1987 EAs.

This SEA will be available for review and comment for 30 days from the date of posting.

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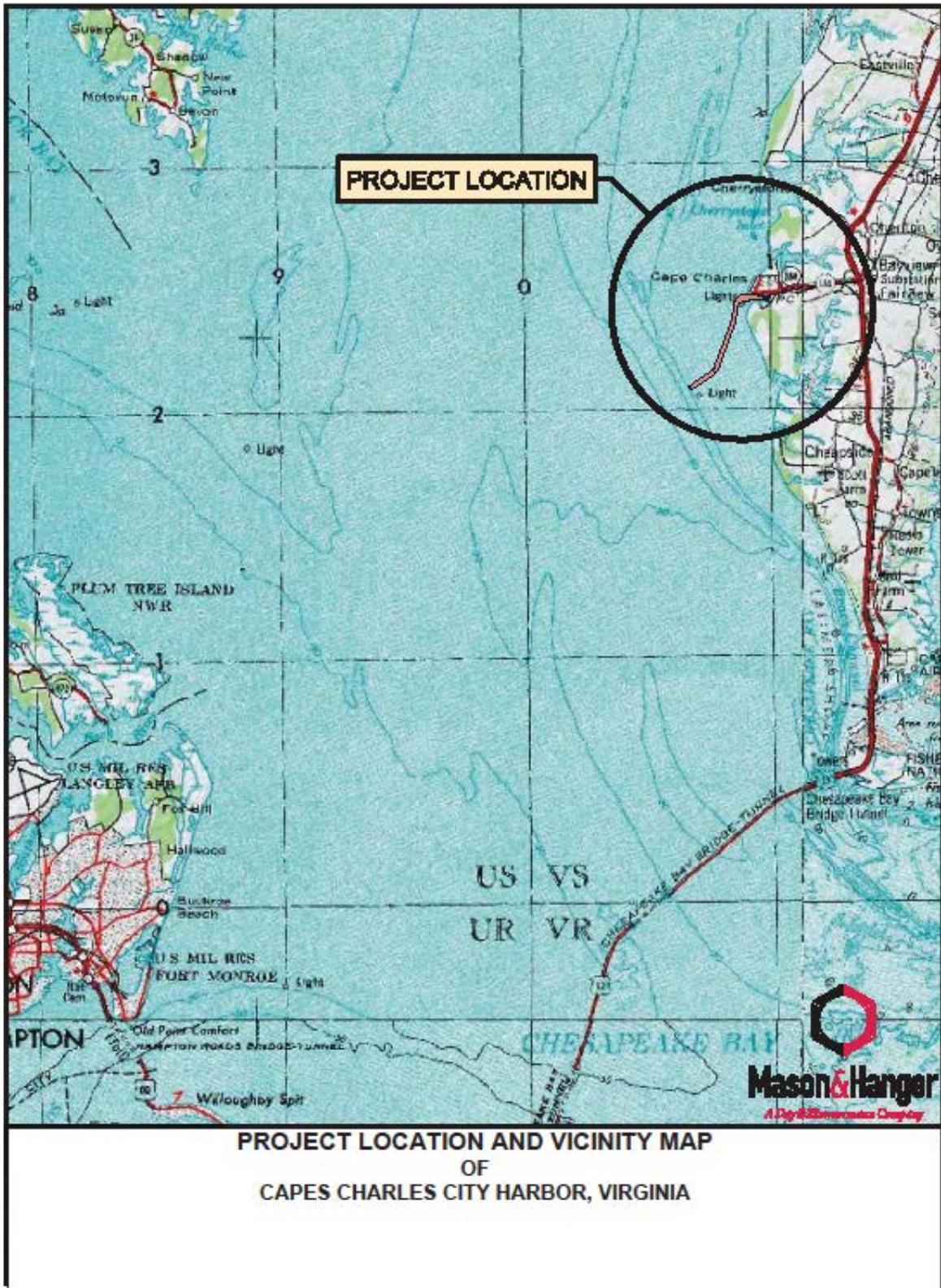
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1 INTRODUCTION

The Cape Charles City Harbor Federal Navigation project is located at Cape Charles, Virginia, which lies near the southern tip of the Eastern Shore of Virginia (see Figure 1). Bordered to the west by the Chesapeake Bay, the town was developed from farmland in 1884 to accommodate steam boats importing shellfish, sand, gravel, and crushed rock. The inner harbor areas are used by commercial and recreational fishermen, boaters, and the U.S. Coast Guard.

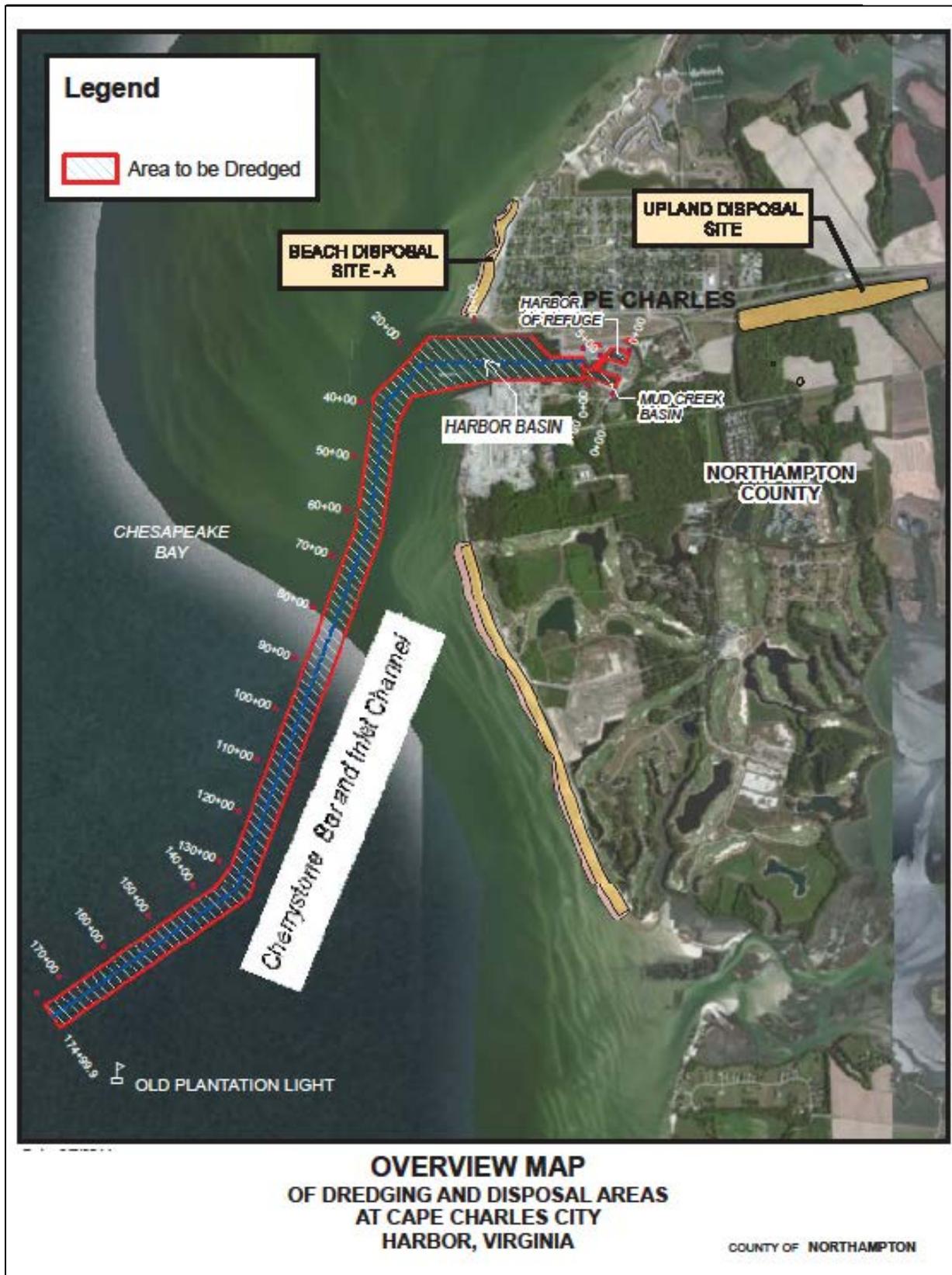
Figure 1 Cape Charles City Harbor Federal Navigation project location



The U.S. Army Corps of Engineers (USACE) is authorized to maintain the Cape Charles City Harbor Federal Navigation project to its authorized depth, width, and length. Maintenance dredging occurs every five to seven years and removes approximately 750,000 cubic yards (CY) of material each cycle. The project includes dredging of the Cherrystone Bar and Inlet Channel, Cape Charles Harbor Basin, and Mud Creek Basin, and the Harbor of Refuge (see Figure 2).

- *Cherrystone Bar and Inlet Channel* was authorized by the River and Harbor Act of 1890 (modified by the River and Harbor Acts of 1938 and 1945). The channel is maintained to a maximum depth of -22 feet mean lower low water (MLLW) including a minimum depth of -18 feet MLLW plus -3 feet paid overdepth and -1 foot non-paid overdepth. The channel is 300 feet wide from the 18-foot contour in the Chesapeake Bay, through Cherrystone Bar and Inlet, to the harbor entrance. The dredged material from the channel was historically placed by pipeline as beach nourishment along the Town of Cape Charles Public Beach (Beach Site A and Site B).
- *Cape Charles Harbor Basin* was authorized by the River and Harbor Act of 1890 (modified by the River and Harbor Acts of 1938 and 1945). The harbor is maintained to a maximum depth of -22 feet MLLW including a minimum depth of -18 feet MLLW plus -3 feet paid overdepth and -1 foot non-paid overdepth. The harbor is 1000 feet to 400 feet wide and 3,000 feet long. Dredged material from the outer portion of the basin was historically placed by pipeline as beach nourishment along the Town of Cape Charles Public Beach (Beach Site A and Site B). Dredged material from the inner/eastward portion of the basin was historically placed at the confined upland placement site.
- *Mud Creek Basin* was authorized by the River and Harbor Act of 1890 (modified by the River and Harbor Acts of 1938 and 1945). The channel and basin are maintained to a maximum depth of -14 feet MLLW including a minimum depth of -10 feet MLLW plus -3 feet paid overdepth and -1 foot non-paid overdepth. The channel ranges from 100 feet to 180 feet wide and 260 feet long to the basin which is 180 feet wide by 420 feet long at the head of Mud Creek. Dredged material from this basin was historically placed at the confined upland placement site.
- *Harbor of Refuge Basin* was approved by the Chief of Engineers under the authority of Section 107 of the River and Harbor Act of 1960. The entrance channel and harbor of refuge is maintained to a maximum depth of -11 feet MLLW including a minimum depth of -7 feet MLLW plus -3 feet paid overdepth and -1 foot non-paid overdepth. The entrance channel is 60 feet wide and connects the harbor of refuge to the north side of Mud Creek. Dredged material from this basin was historically placed at the confined upland placement site.

Figure 2 Cape Charles City Harbor Federal Navigation project components



1.1 PROPOSED ACTION

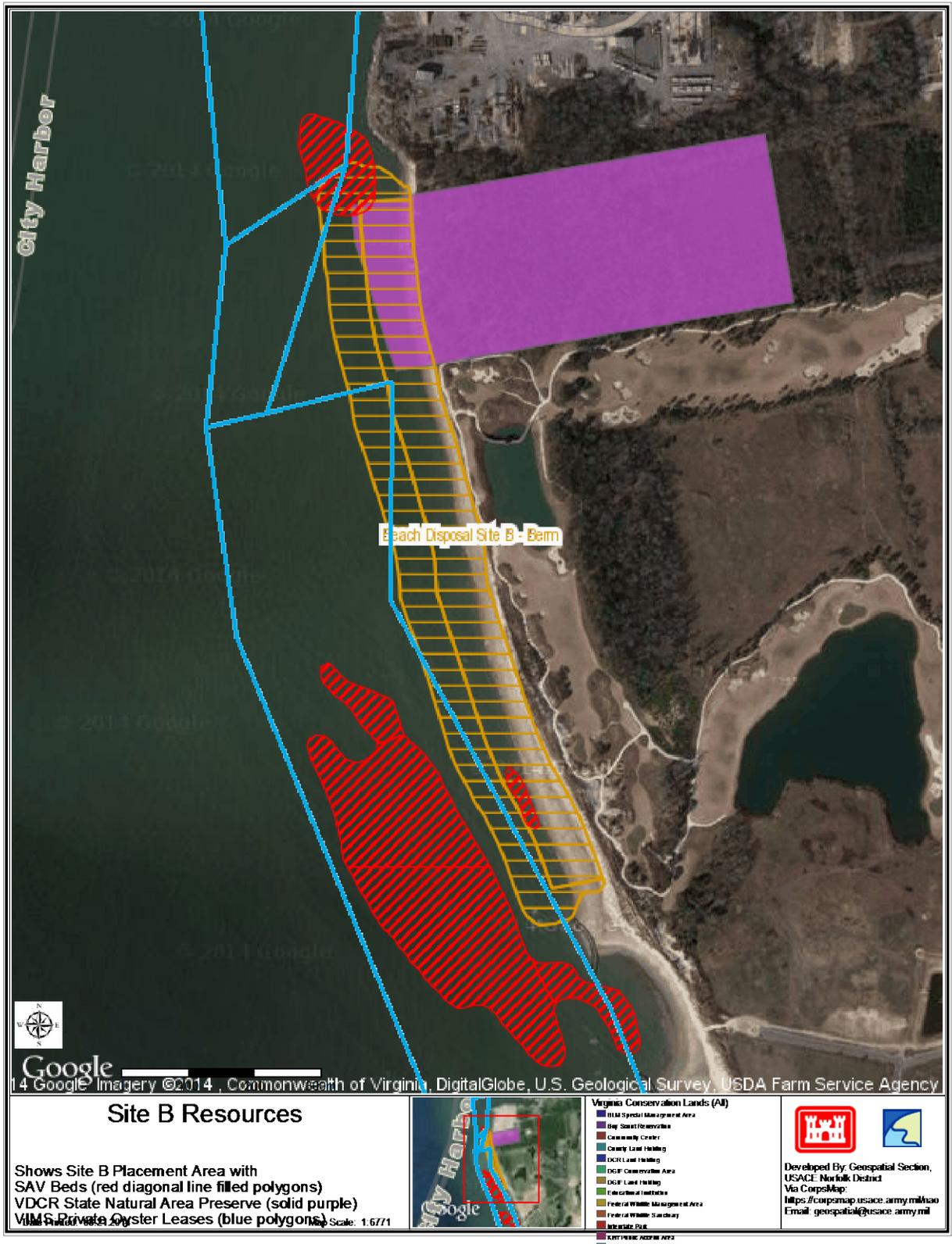
The Cape Charles City Harbor Federal Navigation project is in need of required maintenance dredging. The Proposed Action is to dredge the project to its authorized depth, width, and length and place the fine grain dredged material from the inner (eastward) portion of the Cape Charles Harbor Basin, Mud Creek Basin, and Harbor of Refuge at the confined upland placement site via pipeline. Dredged material from the outer portion of the Cape Charles City Harbor and Cherrystone Bar and Inlet Channel will be used for beach nourishment along the Beach Site A. The remainder of the beach quality dredged material will be placed overboard at the Wolftrap Alternate Placement Site (WTAPS) or beneficially used for construction purposes at the Craney Island Dredged Material Management Area (CIDMMA) or the Craney Island Eastward Expansion (CIEE) project in the upcoming cycle. If the historically authorized beneficial use placement sites are no longer available, the preferred alternative for future cycles is to place dredged material at the Norfolk Ocean Disposal Site (NODS).

1.2 PURPOSE AND NEED

The primary purpose of maintenance dredging the Cape Charles City Harbor Federal Navigation project is to provide safe navigation and anchorage. Current soundings in the project indicate that there are shoaled locations. With the current shallows depths, vessels are subject to running aground which obstructs navigation and could be hazardous to human health and safety.

Placement of the dredged material is not viable at all of the previously authorized placement site locations. Beach Site B is currently not a viable option for dredged material placement due to the amount of natural resources in the placement site's vicinity (see Figure 3). There are private oyster leases and submerged aquatic vegetation (SAV) located adjacent to or within the placement site boundary. A section of the north end of the placement site now contains a state natural preserve area owned by the Virginia Department of Conservation and Recreation (VDCR). Lastly, it is possible that there is a presence of the endangered species Northeastern Beach Tiger Beetle (*Cicindela dorsalis dorsalis*). While Beach Site B may be available for future use, the current environment has too many constraints to be a viable placement location for the upcoming maintenance dredging cycle.

Figure 3 Oyster leases, SAV, and state natural area preserve within Beach Site B



1.3 SCOPE OF THE SUPPLEMENTAL EA

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. EAs were prepared pursuant to NEPA and its implementing regulations in 1975 and 1987. The 1987 EA resulted in a Finding of No Significant Impact (FONSI).

Maintenance dredging is required to restore and maintain safe navigation in the channels. The existing footprints and dredging depths will remain the same. In 2012, the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) was listed as a federally endangered species under the Endangered Species Act. Its listing generates a need for an updated evaluation of potential impacts. Additionally, not all of the previously authorized placement sites are available to accept dredged material. The evaluation of alternate dredged material placement sites requires a SEA. The purpose of this SEA is to evaluate the potential environmental effects of maintenance dredging and dredged material placement of the Cape Charles City Harbor Federal Navigation project on the Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) and the placement of dredged material at proposed alternative placement sites.

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 SEA describes the alternatives considered. Section 4.0 describes the existing conditions that fall within the scope of this SEA. Section 5.0 describes the environmental consequences envisioned as a result of implementing the Proposed Action.

The SEA focuses on impacts likely to occur within the proposed area of dredging and placement of dredged material that were not analyzed in the previous EAs due to changes in the status of listed species and changes in the project's scope. The document analyzes impact topics' 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 SEA was coordinated with the following:

- Town of Cape Charles
- 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)

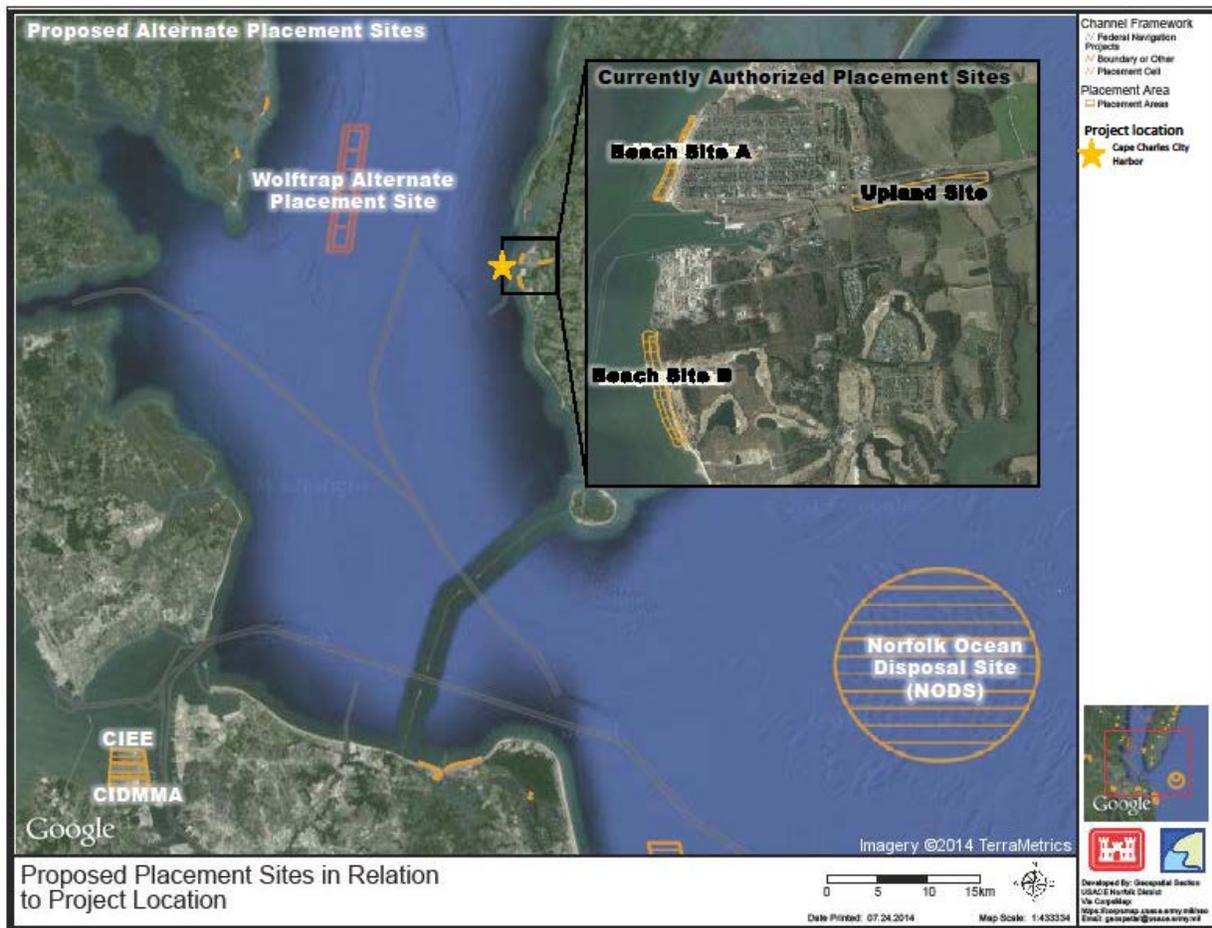
- NOAA - National Marine Fisheries Service (NMFS)
- Virginia Department of Conservation and Recreation (VDCR)
- Virginia Department of Environmental Quality (VDEQ)
- Virginia Department of Game and Inland Fisheries (VDGIF)
- Virginia Department of Historic Resources (VDHR)
- Virginia Institute of Marine 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 considered in this SEA is the placement of suitable dredged materials at the currently authorized placement sites and overboard placement at the WTAPS or beneficial use of the dredged material at CIEE and/or CIDMMA for construction purposes. The use of NODS is preferred as a future long-term maintenance dredging and placement plan if the currently authorized sites are no longer viable. Figure 4 shows the proposed alternative placement sites in relationship to the project’s location.

Figure 4 Currently authorized and proposed placement sites in relationship to the project location



Maintenance dredging is necessary to maintain a safe, operational channel for vessels and watercraft transiting the area and accessing the harbor. Effects of maintenance dredging and dredged material placement at Beach Site A, Beach Site B, and the confined upland placement site were considered in previous environmental assessments.

2.1 IMPACT TOPICS FROM 1975 AND 1987 EAs ELIMINATED FROM FURTHER ANALYSIS AND CONSIDERATION

Since the maintenance dredging will not appreciably change from the project described in the original 1975 and 1987 EAs, the following environmental components relating to maintenance dredging and the use of Beach Site A, Beach Site B, and the confined upland placement site have been adequately assessed (See Appendix A for full versions of the prior EAs):

- Land use
- Flood plains
- Soils
- Bathymetry
- Water quality at the dredging sites
- Water quality at the Town Beach placement site
- Air quality
- Terrestrial vegetation and wildlife at the upland placement site
- Noise
- Recreational and commercial use of waters
- Human Health and Safety

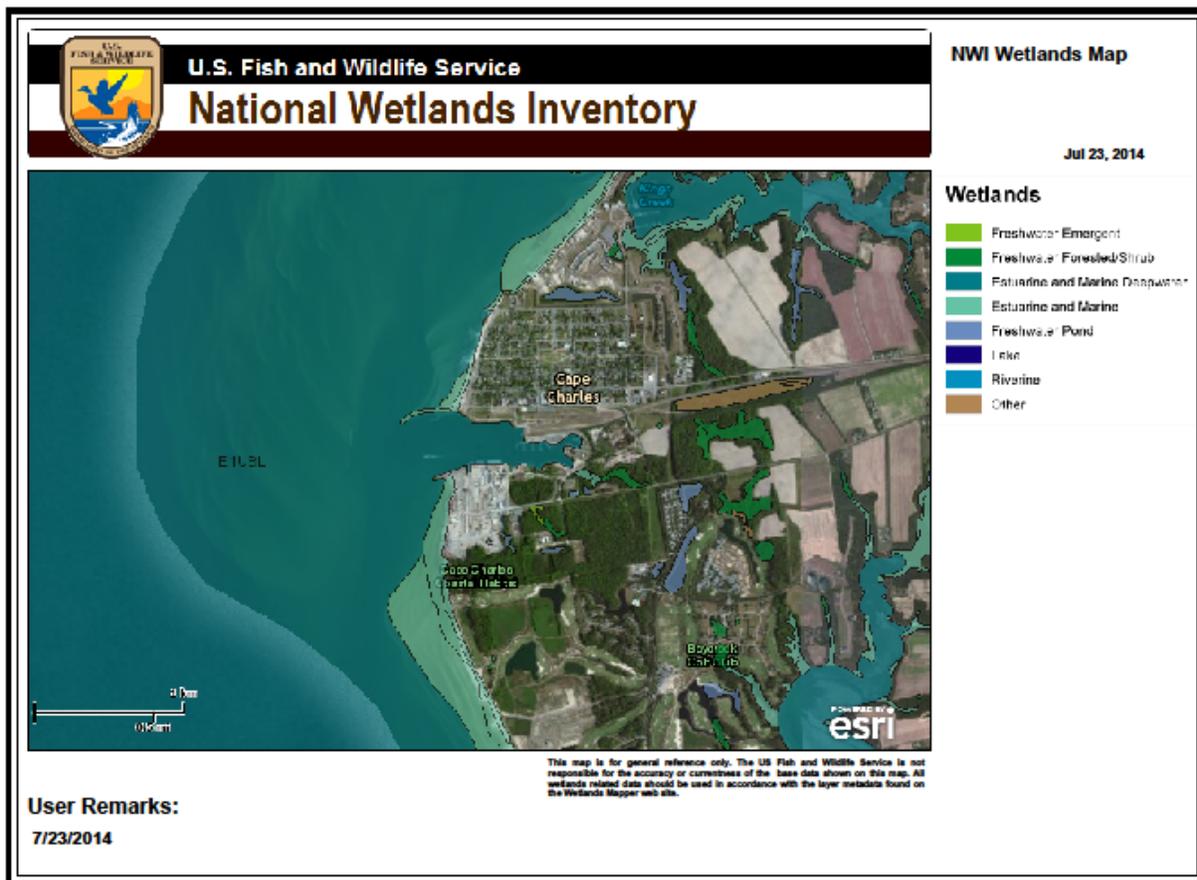
2.2 IMPACT TOPICS ELIMINATED FROM FURTHER ANALYSIS AND CONSIDERATION

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

2.2.1 Wetlands

The USFWS National Wetlands Inventory (NWI) has not identified any wetlands in the project area (see Figure 5). There are wetlands adjacent to Beach Site A, however, they are easily avoided. Construction activities would not encroach on the wetlands therefore this impact topic was dismissed from further analysis in this SEA.

Figure 5 USFWS NWI project location map indicating no wetlands are present within the project area



2.2.2 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 SEA.

2.2.3 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 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 SEA.

2.2.4 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 SEA.

2.2.5 Transportation

The WTAPS and NODS are subtidal and accessible by boat; therefore, no impacts to traffic conditions are anticipated. A large majority of CIDMMA and the entire CIEE project site are accessible by local restricted roads and by boat. Both sites are construction zones and maintain restricted access; therefore, any impact to traffic in the area would be negligible. This impact topic was dismissed from further analysis in this SEA.

2.2.6 Cultural Resources and Aesthetics

The Cape Charles City Harbor Federal Navigation project is sub-tidal and does not have features that are aesthetically prominent or architecturally distinguished. Section 106 consultation regarding cultural resources within the project area was completed in December 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 December 11, 2013 (see Appendix B "Permits and Agency Consultation Correspondence"); therefore, these impact topics were dismissed from further analysis in this SEA.

3 ALTERNATIVES TO THE PROPOSED ACTION

Under NEPA, a SEA must evaluate reasonable alternatives for a project. The primary alternative placement sites identified for the Cape Charles City Harbor Federal Navigation dredged material are: the No-Action Alternative, overboard placement of dredged material at WTAPS, beneficial use of dredged material at CIEE and/or CIDMMA for construction purposes, the beneficial use of dredged material at Tangier Island or the Western Shore of Virginia, and ocean disposal placement of dredged material at NODS. In addition to placing dredged material at the

previously authorized placement sites, specifically Beach Site A and the confined upland site, the overboard placement of dredged material at WTAPS or beneficial use of dredged material at CIEE and/or CIDMMA for construction purposes were carried forward as the preferred alternatives for this and future cycles. Placement at NODS is a preferred alternative for future cycles if the other sites are no longer viable. This plan has been determined to be the best and most appropriate action that will allow for the efficient completion of maintenance dredging and placement of dredged material.

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 placement activities for the maintenance dredging of Cape Charles City Harbor Federal Navigation project would only occur at the currently authorized locations. This alternative would eliminate environmental impacts to the benthic community at the proposed overboard dredged material placement sites and would limit the amount of dredged material being removed from the project due to limited capacity of the currently authorized placement sites. Reduced or discontinued maintenance dredging would result in the continued reduction in operational depth of the navigation channel and basins due to naturally occurring shoaling. Eventually, the channels and basins would reach hydrodynamic equilibrium, and the benefits of the waterway would be eliminated as the shoaling would become a hazard to safe navigation and human health and safety.

3.2 OVERBOARD PLACEMENT AT WTAPS

The WTAPS is a 2,300-acre (4,500 acres with the designated buffer zone) rectangular area located in the Chesapeake Bay, approximately 5 miles east of New Point Comfort and south of Wolf Trap light, east of Mathews County, Virginia with the center of the WTAPS at approximately 37° 19' north latitude and -76° 10' west longitude. As a result of monitoring efforts from both the VIMS and the Waterways Experiment Station from 1987 to 1991, the area was classified into six equally divided cells. This placement site is currently used for the periodic maintenance dredging of the York River Entrance and York Spit Channels. The most recent material placement event occurred in 2012. Placement at WTAPS meets the Federal standard, which requires the Federal government to choose the least costly, environmentally acceptable alternative, and is a preferred alternative.

3.3 BENEFICIAL USE OF DREDGED MATERIAL FOR CONSTRUCTION AT CIEE AND/OR CIDMMA

CIDMMA is a confined disposal facility located in the Norfolk Harbor, city of Portsmouth, Virginia. CIDMMA was congressionally authorized by the River and Harbor Act of 1946 and is

used by private interests, local municipalities, Federal and Commonwealth of Virginia government agencies for the disposal of dredged material from Norfolk Harbor and its adjacent waterways [U.S. Army Corps of Engineers (USACE)-Norfolk District Policy Memorandum WRD-01]. The CIEE project involves constructing a 522 acre expansion on the eastern side of CIDMMA which will increase the capacity for dredged material and provide an area for a new marine terminal. Dredged material from non-navigation transportation projects and projects beyond CIDMMA's geographic service area are specifically precluded from placement at CIDMMA unless the material is clean and needed for dike construction. Although the Cape Charles City Harbor Federal Navigation project is not located within CIDMMA's geographic service area, the placement of dredged materials at CIEE and/or CIDMMA for construction purposes is a preferred alternative if the Virginia Port Authority (VPA) and USACE Operations and Maintenance program pay the incremental difference beyond the Federal standard.

3.4 OCEAN DISPOSAL PLACEMENT AT 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 center of the NODS is located 17 nautical miles east of the mouth of the Chesapeake Bay at 36° 59' north latitude and 75° 39' west longitude. The NODS is circular with a radius of 4 nautical miles and an area of approximately 50 square nautical miles. 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 placement of dredged materials from the Cape Charles City Harbor Federal Navigation project at CIEE and/or CIDMMA for construction purposes is a preferred alternative for the future, long-term placement plan if the dredged material meets MPRSA Section 103 regulations. Sediment and site water samples from separate locations within the project's dredging footprint would need to be collected and evaluated in accordance with Section 103 of the MPRSA prior to placement in NODS. Additionally, the project must receive EPA concurrence for the placement of dredged material in NODS prior to the placement activity.

3.5 BENEFICIAL USE OF DREDGED MATERIAL FOR BEACH RENOURISHMENT AT TANGIER ISLAND

Placement of dredged material from the Cape Charles Federal Navigation project at Tangier Island's currently authorized placement sites was considered as an alternative. Tangier Island is located approximately 58 miles north of Cape Charles in the Chesapeake Bay. This alternative is cost prohibitive and does not meet the Federal standard. A local sponsor would need to be identified to pay the incremental difference beyond the Federal standard.

3.6 BENEFICIAL USE OF DREDGED MATERIAL FOR BEACH RENOURISHMENT ON WESTERN SHORE OF VIRGINIA

Placement of dredged material from the Cape Charles City Harbor Federal Navigation project along the Western Shore of Virginia was considered as an alternative. This alternative is cost prohibitive and does not meet the Federal standard. A local sponsor would need to be identified to pay the incremental difference beyond the Federal standard.

4 AFFECTED ENVIRONMENT

This section describes the affected environment and the existing conditions for the resource categories that may be impacted by the Cape Charles City Harbor Federal Navigation project, specifically on potential impacts to the Atlantic sturgeon from maintenance dredging and placement activities, and potential impacts relating to the placement of dredged material at the WTAPS, CIEE, CIDMMA, and NODS, as these issues did not exist when the original EAs were prepared in 1975 and 1987. 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.

4.1 VEGETATION

The Virginia Institute of Marine Science (VIMS) has not identified any SAV within the Cherrystone Bar and Inlet channel, Harbor of Refuge Basin, Mud Creek Basin, or Beach Site A. SAV is not present in the confined upland placement site, WTAPS, NODS, CIEE, or CIDMMA. VIMS has identified SAV to be near-adjacent or present in the Cape Charles City Harbor Basin (see Figure 6).

Figure 6 SAV in project's vicinity



4.2 WATER QUALITY

4.2.1 Overboard Placement at WTAPS

WTAPS is a subtidal site within the Chesapeake Bay. Surface water quality conditions in the Chesapeake Bay are dependent on numerous factors, such as land usage in the watershed, wind and tidal effects, and physical and chemical characteristics of freshwater stream flow. The Chesapeake Bay Monitoring Program (CBMP) is a cooperative effort involving Maryland, Pennsylvania, Virginia, the District of Columbia, several federal agencies, 10 institutions, and over 30 scientists. The CBMP has monitored water quality conditions since 1985. Over the past 5 years, salinity has ranged from 9.81 parts per thousand (ppt) to 28 ppt. Water temperature ranged from 35.1o F to 85.8o F. More detailed information on the water quality at WTAPS can be found in the 2005 Baltimore Harbor and Channels (MD and VA) Final Environmental Impact Statement (EIS).

4.2.2 Beneficial Use at the CIEE AND/OR CIDMMA for Construction Purposes

Placement of dredged material at CIDMMA would occur directly on the dikes or within a containment cell. Placement of dredged material at CIEE would occur on or near the south containment cell dike and the division dike. CIEE and CIDMMA are located at the mouth of the Elizabeth River in the Chesapeake Bay. Salinity data for that area from the past 5 years of the CBMP ranged from 7.2 ppt to 29.1 ppt. Water temperature ranged from 35.2 o F to 83.1o F. More detailed information on the water quality at the CIEE project site can be referenced in the 2006 Final EIS for CIEE.

4.2.3 Ocean Disposal Placement at NODS

NODS is a subtidal site in the Atlantic Ocean. A portion of the site was used for the disposal of dredged materials since 1900. No observable adverse effects are attributed to the site's use for dredged material disposal. The 1982 Final EIS for NODS can be referenced for extensive water quality details, including several studies on ocean pollution monitoring program, circulation patterns, and the chemical and geochemical characteristics of the area.

4.3 PROTECTED SPECIES AND CRITICAL HABITAT

Refer to Appendix C "Threatened and Endangered Species" for the species tables for the project area.

4.3.1 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 June 2014, as required by the Magnuson-Stevens Act, with the recommendation of no significant adverse effect on EFH (see Appendix B “Permits and Agency Consultation Correspondence”).

4.3.2 Informal Section 7 Consultation

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 June 2014 with the recommendation of insignificant adverse effect on Atlantic Sturgeon. The Cape Charles City Harbor Federal Navigation project is a high traffic area. It is unlikely that Atlantic sturgeon would be present in the project area. 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. Atlantic sturgeons have the ability to leave the area prior to commencement of maintenance dredging and placement activities. NMFS concurred with the insignificant adverse effect conclusion in a letter on July 15, 2014 (see Appendix B “Permits and Agency Consultation Correspondence”).

5 ENVIRONMENTAL CONSEQUENCES

This section of the SEA identifies and evaluates the anticipated environmental consequences or impacts associated with the Proposed Action (overboard placement at WTAPS and the beneficial use of dredged material at CIEE and/or CIDMMA for construction purposes) and the Future Preferred Alternative (ocean disposal placement at NODS), and the No-Action Alternative. Table 5.1 summarizes the environmental impacts associated with the alternatives.

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.

In addition to the following, an updated Coastal Consistency Determination (CCD) was 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 D “Coastal Consistency Determination” 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 Cumulative Impacts Summary

Impact	<u>Proposed Action:</u> WTAPS	<u>Proposed Action:</u> Construction Use at CIEE and/or CIDMMA	<u>Future Preferred Alternative:</u> Ocean Disposal at NODS	No Action Alternative
Vegetation	No SAV present No impacts to existing conditions	No SAV present No impacts to existing conditions	No SAV present No impacts to existing conditions	No impacts to existing conditions
Water Quality	Temporary, localized adverse impacts due to resuspension of sediments at the placement site	Potential for temporary, localized adverse impacts due to resuspension of sediments at the CIEE No impacts to existing conditions on CIDMMA	Temporary, localized adverse impacts due to resuspension of sediments at the placement site	No impacts to existing conditions
Protected Species and Critical Habitat	Localized, short-term adverse impacts to benthos at placement site	Localized, short-term adverse impacts to benthos at the CIEE placement site No anticipated impacts to wildlife at CIDMMA	Localized, short-term adverse impacts to benthos at placement site	No impacts to existing conditions

5.1 VEGETATION

5.1.1 Proposed Action – Overboard Placement at WTAPS

Temporary, localized adverse impacts to SAV in the dredging footprint at Cape Charles City Harbor basin may occur due to the act of dredging, resuspension of sediments and slouching of material from the dredge cut. No SAV is present at WTAPS, therefore, no impacts would be anticipated during placement activities.

5.1.2 Proposed Action – Beneficial Use at the CIEE AND/OR CIDMMA for Construction Purposes

Temporary, localized adverse impacts to SAV in the dredging footprint at Cape Charles City Harbor basin may occur due to the act of dredging, resuspension of sediments and slouching of material from the dredge cut. No SAV is present at CIEE or CIDMMA, therefore, no impacts would be anticipated during placement activities.

5.1.3 Future Preferred Alternative – Ocean Disposal Placement at NODS

Temporary, localized adverse impacts to SAV in the dredging footprint at Cape Charles City Harbor basin may occur due to the act of dredging, resuspension of sediments and slouching of material from the dredge cut. No SAV is present at NODS, therefore, no impacts would be anticipated during placement activities.

5.1.4 No Action Alternative

Under the No-Action Alternative, the amount of dredged material removed during maintenance dredging would be reduced or discontinued. Localized adverse impacts to SAV in the dredging footprint at Cape Charles City Harbor basin may or may not occur depending on the location of dredging activities.

5.2 WATER QUALITY

5.2.1 Proposed Action – Overboard Disposal at WTAPS

Dredged material removed from the Cape Charles City Harbor Federal Navigation project site would be transported to WTAPS for overboard 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 placement of dredged material in the WTAPS is not likely to significantly impact water quality.

5.2.2 Proposed Action – Beneficial Use at the CIEE AND/OR CIDMMA for Construction Purposes

Dredged material removed from the Cape Charles City Harbor Federal Navigation project site would be transported to CIEE and/or CIDMMA for construction purposes. Placement of dredged material at CIEE for the south containment dike and division dike could result in temporary turbidity impacts to water quality. 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 placement of dredged material at CIEE is not likely to significantly impact water quality.

Placement of dredged material at CIDMMA would be upland directly on the dikes or within a containment cell. The project will be planned in accordance with industry standards, state law, and CIDMMA's SMMP. Following these requirements will minimize any potential impacts to water quality from the placement of dredged material from the Cape Charles City Harbor Federal Navigation project.

5.2.3 Future Preferred Alternative – Ocean Disposal at NODS

Dredged material removed from the Cape Charles City Harbor Federal Navigation project site would be transported to NODS for overboard 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 placement of dredged material in the NODS is not likely to significantly impact water quality.

5.2.4 No Action Alternative

Under the No-Action Alternative, the dredged material from Cape Charles City Harbor Federal Navigation project would only be placed at the currently authorized sites, therefore, there would be no new impacts introduced to the water quality at the project or placement sites.

5.3 PROTECTED SPECIES AND CRITICAL HABITAT

5.3.1 Proposed Action – Overboard Placement at WTAPS

The placement of dredged material at the WTAPS would result in the localized, temporary destruction of the existing non-motile benthic community. Repopulation of benthic organisms within the impacted areas would begin quickly. The benthic community should repopulate within one to two years. The commercially important Chesapeake Bay Blue crab utilizes the area in and around WTAPS for overwintering in sediments. To date, no known impacts from

dredged material placement have been documented, but to avoid the potential to impact overwintering blue crabs, placement of dredged material from Cape Charles City Harbor Federal Navigation project at WTAPS will occur outside of the months December through March. The probability of sea turtles or Atlantic Sturgeon being found within the placement site is very low. Any 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 placement site; however, no adverse impacts are anticipated because they are highly mobile. Other species not mentioned but are listed on the USFWS Natural Resources of Concern list would likely not be present as they are upland species and the WTAPS is sub-tidal.

5.3.2 Proposed Action – Beneficial Use at the CIEE AND/OR CIDMMA for Construction Purposes

The beneficial use of dredged material for construction purposes at CIEE and/or CIDMMA may result in the localized, temporary destruction of the existing non-motile benthic community if dredged material is placed on the south containment dike and division dike of the CIEE project. 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 CIEE and CIDMMA project sites; however, no adverse impacts are anticipated because they are highly mobile. In addition, a bird management plan is maintained for CIDMMA operations. During the bird nesting season, active nests will be avoided and provided a buffer. Other wildlife found in this area are typical for an urban environment, such as squirrels, rabbits, raccoons, opossums, foxes, and deer. Songbirds and bats inhabit the area as well as various small reptiles and amphibians. No adverse impacts are anticipated to other species not mentioned but are listed on the USFWS Natural Resources of Concern list as they are highly mobile and would likely relocate during construction activities.

5.3.3 Future Preferred Alternative – Ocean Disposal at NODS

The placement of dredged material at NODS would result in the localized, temporary destruction of the existing non-motile benthic community. 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 placement site; however, no adverse impacts are anticipated because they are highly mobile. Other species not mentioned but are listed on the USFWS Natural Resources of Concern list would likely not be present as they are upland species and the NODS is sub-tidal.

5.3.4 No Action Alternative

Under the No-Action Alternative, the dredged material from Cape Charles City Harbor Federal Navigation project would only be placed at the currently authorized placement sites therefore, there would be no impact to the protected species or critical habitat at the proposed placement sites. The probability of sea turtles or Atlantic Sturgeon being found near Beach Site A and Beach Site B is very low. In addition, motile marine organisms would be able to relocate during the dredging operations to avoid any direct physical impacts.

6 CONCLUSIONS

Dredging will be accomplished in the most environmentally acceptable and cost-effective manner. Any effects on the environment will be minimized to the greatest extent practicable and will be offset by the project benefits of restoring and maintaining safe navigation and commerce.

Future maintenance dredging and disposal of sediments from the Cape Charles City Harbor Federal Navigation project at the WTAPS or CIEE and/or CIDMMA will be accomplished in a manner that will not cause long-term adverse effects on the surrounding ecosystem.

Based on this supplemental EA, no significant environmental impacts would result from implementing of the Proposed Action. Implementation of the Proposed Action will have no significant direct, indirect, or cumulative effects on the quality of the natural or human environment.

7 CONTACT INFORMATION

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

8 DISTRIBUTION LIST

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10 COMMENTS RECEIVED ON DRAFT SEA

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

APPENDIX A

1975 ENVIRONMENTAL ASSESSMENT FOR CAPE
CHARLES CITY HARBOR

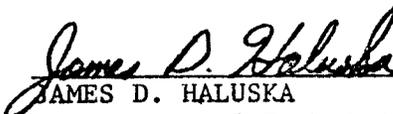
AND

1987 ENVIRONMENTAL ASSESSMENT FOR CAPE
CHARLES CITY HARBOR (MUD CREEK)

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT, CORPS OF ENGINEERS
803 FRONT STREET
NORFOLK, VIRGINIA 23510

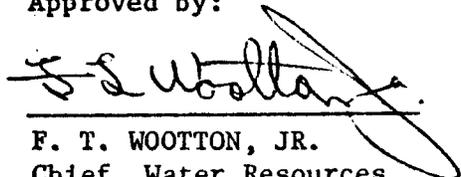
ENVIRONMENTAL ASSESSMENT
CAPE CHARLES CITY HARBOR (MUD CREEK)
CAPE CHARLES, VIRGINIA
MARCH 1975

Prepared by:



JAMES D. HALUSKA
Environmental Technician

Approved by:



F. T. WOOTTON, JR.
Chief, Water Resources
Planning Branch

ENVIRONMENTAL ASSESSMENT

MUD CREEK, CAPE CHARLES CITY HARBOR, VIRGINIA
(Maintenance Dredging)

1.01 Project description. The existing project (see plate 1) consists of a channel 18 feet deep and 500 feet wide from that depth in Chesapeake Bay through Cherrystone Bar and Inlet to the entrance to Cape Charles City Harbor, a distance of 2.71 miles. The harbor basin is the same depth, from 400 to 1,000 feet wide, and 3,000 feet long; thence, a channel 10 feet deep, 100 to 180 feet wide and 260 feet long connecting a basin of the same depth 180 feet wide and 420 feet long at the head of Mud Creek. On the north side of Mud Creek is a harbor of refuge, 7 feet deep, 200 to 250 feet wide, and 375 feet long which is connected to Mud Creek by an entrance channel 7 feet deep and 60 feet wide. This project also provides for protective works in the form of a stone jetty and sand mole 1,350 feet long south of the harbor entrance.

1.02 The existing project was approved under the River and Harbor Act of 1945 (H. DOC. 90, 79th Cong., 1st Session) and under Section 107 of the River and Harbor Act of 1960 for the harbor of refuge.

1.03 The most recent work was accomplished in 1968, when the above project was completed at a cost of \$628,644 of which \$6,000 was from contributed funds. Dredging will be done by bucket dredge, and spoil from the project will be deposited on the side of the harbor for later transportation by truck to the area of disposal (see Sec. 4.05).

1.04 Work in connection with the proposed maintenance dredging will be in the Mud Creek basin portion of this project. Approximately 10,000 cubic yards of material (not more than 15,000 cubic yards) will be removed from assorted shoals in this area (see plate 1).

2.01 Environmental setting without the project. Eastern Virginia lies on the Atlantic Coastal Plain which consists of unconsolidated and consolidated marine and non-marine sediments resting upon a metamorphic basement rock. These sediments vary in thickness from a few feet at the fall line in the vicinity of Richmond, Virginia, to approximately

12,000 feet on the Virginia continental shelf. Northampton County overlies a portion of the Precretaceous-Cretaceous Salisbury embayment. Sediments in this area are approximately 5,400 feet thick and range in age from Triassic to Recent. Confined aquifers lie very deep, at least 400 feet below the surface.

2.02 Northampton County (land area 220.1 sq. mi. or 140,864 acres-- water area 136.9 sq. mi.) lies on the Eastern Shore of Virginia. The county is a peninsula bound on the West by the Chesapeake Bay and on the East by the Atlantic Ocean. On the ocean side are numerous bays, inlets and islands. The county is quite flat and contains a considerable amount of marsh land. Temperatures are mild and average 78 degrees in July and 41 degrees in January. Precipitation is about 43 inches annually. About one-fourth of the county is wooded and some lumber is produced. The only minerals in the county are beds of sand, gravel, clay and shell strata. The sand and gravel beds are worked and the resulting products used in highway construction, ready-mix concrete and fill purposes. The fine oyster beds and finfish available in the county provide a living for many residents.

2.03 The 1970 population of Northampton County was 14,442. The Division of State Planning and Community Affairs has projected that the population will decrease at an average annual rate of 0.6 percent and will reach 13,500 by 1980.

2.04 Northampton has long been a fine farming county; its truck and field crops are the chief sources of income. The productive sandy loam soil, aided by long growing seasons and a mild climate, permits intensive cultivation to the extent of two and sometimes three vegetable crops a year.

2.05 Most of Northampton's manufacturing is closely tied to its natural

resources. Large packing houses produce canned and packed oysters and other seafoods and many kinds of canned vegetables. Other manufacturing includes beverages, apparel, animal foods and prestressed concrete.

2.06 Vacation and tourist trade is an important factor in the county's economy. Visitors come in large numbers to enjoy the beaches and saltwater sports and the historical points of interest. The Chesapeake Bay Bridge-Tunnel connecting the southern tip of the county with the city of Virginia Beach and the Virginia mainland is a tourist attraction as well as part of a traffic corridor from Maine to Florida. It is the longest bridge-tunnel in the world and has two tunnels, each over a mile in length, under the main ship channels. Fort John Custis is near Kiptopeke. Mockhorn Island is a wildlife management area, part of which is open for hunting in season, and Wreck Island has been set aside as a wilderness area.

2.07 History. Northampton County was one of the first eight Virginia Shires established in 1634. The county originally included all of the peninsula south of Maryland and was called Accomack. The name was changed to Northampton, after the English county of which Colonel Obedience Robins, a prominent early resident of the Eastern Shore, was a resident. This change took place in 1643 by legislative action. The earliest exploration of the county was made by Captain John Smith in 1608 and the first settlement was probably in 1614. The first county seat was Townfield near the present Cheriton and a courthouse was built at this site in 1664. The county seat was moved several times and was finally established at Eastville where the old courthouse, which is still standing, was built in 1731. Also, still standing in Eastville are the clerk's office and the debtors' prison, built around 1770.

2.08 The town of Cape Charles, Virginia is on the Chesapeake Bay on the west side of the peninsula separating the bay from the Atlantic Ocean. It is about 11 miles north of the southernmost portion of the Delmarva Peninsula and 45 miles south of the Maryland-Virginia State line. Cape Charles City Harbor is an artificial landlocked harbor on the south side of the town (see National Ocean Survey chart N.O. 12061 (C&GS. 1222)). The project area is shown in plate 1, attached.

2.09 The harbor complex is bulkheaded or otherwise retained around most of its perimeter. Those areas of the perimeter which are not protected show signs of severe erosion and storm damage, the former probably caused by the wakes of boats entering the harbor at excessive speeds. Along the bank in the non-protected areas are several species of non-marine plants such as sumac and weed plants.

2.10 Facilities in the harbor consist of the Penn-Central Railroad barge piers, a public harbor of refuge, a Coast Guard station, a small seafood processing plant, and the precast concrete products plant of the Bayshore Concrete Products Corporation. Commerce handled by this harbor is summarized in the following table:

TABLE 2-1.

COMMERCE THROUGH CAPE CHARLES CITY HARBOR, VA.

1971 & 1972

<u>Commodity</u>	<u>Tons 1971</u>	<u>Tons 1972</u>
Fresh fish, except shellfish	259	2,737
Shellfish, except prepared	1,375	2,237
Menhaden	35,343	-
Sand, gravel, crushed rock	56,541	64,907
Prepared animal feeds	3,490	881
Distillate fuel oil	1,002	-
Gasoline	-	1,200
Misc. non-metallic mineral products	16,262	2,095
Waste and scrap, etc.	3,500	-
Passengers	150	200
Machinery, except electrical	-	1,025
TOTALS (except passengers)	117,772	78,079

2.11 The harbor itself is not a highly productive area for marine fauna or flora, although during the course of a year many of the nektonic organisms common to the Chesapeake Bay proper may visit the harbor in order to find nutrition or seclusion. It is doubtful that the harbor is used by any organisms for breeding or spawning. There are no known rare or endangered plant or animal species inhabiting the harbor or its channel. •

2.12 Maintenance dredging of Cape Charles has been accomplished on the average of every 7 years with the removal of about 1,800 cubic yards per cycle. As of the present time, no maintenance has been done on the harbor of refuge since it was constructed in 1967. Maintenance of the entrance channel to the harbor is not contemplated before 1982.

3.01 The relationship of the proposed action to land use plans.

3.02 Current Use. The harbor, with its harbor-of-refuge (constructed in 1967), is used mainly for commercial activities. Bayshore Concrete Products Corporation, the Coast Guard, and the Penn-Central Railroad, as well as several other commercial facilities, depend on the harbor for transportation of raw and finished materials.

3.03 Effects. The proposed action will enhance the area's value for its current development trends. Non-implementation of the action will cause the area to eventually become unfit for the use it now enjoys.

4.01 Environmental impacts of the proposed action.

4.02 Air quality. No significant reduction in the air quality of Cape Charles or at Cape Charles Harbor will occur from this project. Some particulate and noxious gases (carbon monoxide, sulphur dioxide, nitrogen oxides, and hydrocarbons) may be introduced to the

environment by the dredging machinery.

4.03 Water quality. Dredging will cause an increase in suspended sediment and dissolved organic and inorganic materials in the waters around the dredging operation. As the tidal and current velocities in this body of water are very slow, these materials will either rapidly settle or flocculate from the water or be reassimilated by the sediments in the creek. The sandy sediment in Cape Charles Harbor ensures that resuspension of dredged sediments will not be environmentally damaging.

4.04 Noise. This operation will cause a temporary increase in the noise level at Cape Charles Harbor. Due to the commercial uses of this area and the remoteness of this area from residences, this noise increase will have a negligible effect.

4.05 Waste disposal. The only waste generated by the project will be the dredged sediment. This material will be disposed of in the upland disposal area northeast of the harbor complex. If hydraulic dredging is used, this area will be diked to retain the sediment in the disposal area. Weirs will be installed to control the effluent from this area and its settling time. Since the area is populated with reed (Phragmites australis) in the areas of low porosity, the disposal of 10,000 cubic yards or less here will not cause any long-term adverse impact on the local environment. A minor short-term impact will be imposed upon the disposal area. The sediment will be placed in the disposal area so that the plants existing there will act as filters and retard flow of the run-off water. (See Area A, Plate 1).

4.06 Wildlife. No rare, endangered, or aesthetic wildlife species will be threatened by the operation. Some bottom-dwelling organisms

in the channel area will be destroyed by the dredging operation. Others adjacent may sustain damage from resuspension and settlement of sediment. Since the organisms in this area are common to the Hampton Roads Area, repopulation of the area is expected to occur in one to two years. The use of the upland disposal area will not significantly reduce the long-term standing stock of this area. It is not believed that any animals other than common rodent and bird species inhabit the disposal area.

4.07 Vegetation. The only affected high order vegetation will be Phragmites australis. Due to the relatively low volume of material to be deposited in the spoil area and the plants' rapid regrowth potential, no long-term impact to this species is anticipated.

4.08 Historical Resources. No historical resources will be affected by the project, nor will any building, site, or structure now on the National Register of Historic Places. The Cape Charles project consists of channel maintenance and a spoil disposal area provided as an item of local cooperation. As such, the United States does not own or lease any lands. The project will not contribute to the preservation and enhancement of any non-Federally owned sites or districts of historical significance in connection with Executive Order 11593.

5.01 Alternatives.

5.02 Method of Dredging. Hydraulic dredging could be employed to dredge this project; however, the small amount of material to be removed (10,000 cubic yards), as presently expected, makes this method uneconomical. If the amount of material to be removed is more than 10,000 cubic yards, then hydraulic dredging may be used. In this case, the disposal area will be diked around its perimeter to allow the spoil to settle before the transport media (water) is released from the spoil area. No more than 15,000 cubic yards of material will be removed without reassessment of this action.

5.03 Disposal Area. An alternative to the upland disposal area would be the placement of this material at the tip of Cape Charles, on the property of the Bayshore Concrete Company (see Area B, Plate 1). If the dredged material is coarse enough, its placement at this point would retard the erosion of this section of the shoreline. If the material is deposited at this area by pumping, diking will be necessary to ensure that the material is deposited at the Cape and not offshore to smother organisms.

5.04 Spoil Transport. Present plans call for bucket dredging of this area with spoil removal by truck haul. In the event the material to be removed is of sufficient volume to make hydraulic dredging economical, the material will be pumped to the diked spoil area.

5.05 No Action. Non-maintenance of the project will cause this area to become useless for the landing of oysters and other seafood. Alternate harbors will have to be used for sustention of these activities at considerable expense to the boats' owners. A negative economic impact imposed upon the town of Cape Charles would result from the inevitable closing of this facility which depends upon small craft and fishing industries as well as the concrete plant and railroad for income.

5.06 Kings Creek would require extensive dredging before it would be adequate to serve in the capacity of the existing project. The cost of maintenance would be more if this alternative was implemented, as new dredging and facilities construction would be required here.

6.01 Conclusions. These conclusions are based on consideration of the small amount of material to be removed, its composition, the removal method under primary consideration, and the recommended disposal site:

a. This action will not have a significant adverse effect on the environment of the Harbor and Chesapeake Bay.

b. The implementation and effect of this action will not be environmentally controversial.

c. A fully coordinated Environmental Impact Statement need not be prepared.

1 Exhibit
Cape Charles City
Harbor, Virginia,
(Map, Rev Jun 68)

C H E S A P E A K E

B A Y



HARBOR OF REFUGE

CAPE CHARLES CITY

VA HWY 184

PENN

HARBOR

Mud Creek

NORTHAMPTON COUNTY

DISPOSAL AREAS

AREA A N.E., HARBOR OF REFUGE

AREA B ALONG BACKSHORE & COAST

CHERRYSTONE INLET CHANNEL

CHERRYSTONE BAR CHANNEL

Project Depths:

- Cherrystone Bar, Inlet Channel & Harbor - 18'
- Mud Creek Channel, 100' to 180' x 260' and Mud Creek Basin, 180' x 420' - 10'
- Harbor of Refuge Channel, 60' x 435' and Harbor of Refuge 200' to 250' x 375' - 7'

Old Plantation Light

LEGEND



PAST DISPOSAL AREA

CAPE CHARLES CITY HARBOR, VIRGINIA

MAP REVISED JUNE 1968

SCALE IN FEET

1,000 0 1 2 3,000

NORFOLK DISTRICT

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT
U.S. ARMY CORPS OF ENGINEERS
ENVIRONMENTAL ASSESSMENT
CAPE CHARLES CITY HARBOR

JULY 1987

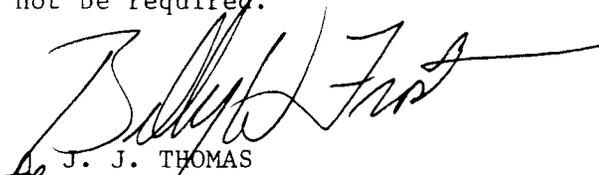
DREDGING MANAGEMENT BRANCH
NORFOLK DISTRICT, CORPS OF ENGINEERS
803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

Contact: TERRY GETCHELL
Commercial (804) 441-3617
FTS 827-3617

FINDING OF NO SIGNIFICANT IMPACT
CAPE CHARLES CITY HARBOR AND MUD CREEK
MAINTENANCE DREDGING

I have reviewed and evaluated the environmental assessment for this project as it relates to the overall public interest. The possible consequences of this proposal and various alternatives, including the no action alternative, were considered in terms of probable environmental impacts, economic factors and social benefits.

Information contained in the assessment includes testing of the sediments for chemical contaminants, an engineering design which was modified to reduce environmental impacts and several discussions with the consulting Federal, State and local agencies. Based on the results of these factors, I have concluded that the continued maintenance of the Cape Charles City Harbor and Mud Creek is vital to the economic and social welfare of Cape Charles as well as Northampton County. The environmental impacts from this project, including the removal of an undetermined amount of submerged aquatic vegetation has been minimized by reducing the width of the beach disposal site. Because of the lack of either significant adverse impacts or opposition to the project, an environmental impact statement will not be required.


J. J. THOMAS
Colonel, Corps of Engineers
Commander

1.00 Project Location: Cape Charles Harbor is an integral component of the municipal town of Cape Charles. The town and project are located in southern Northampton County on the Chesapeake Bay side of Virginia's Eastern Shore peninsula. The outer project begins at the 18-foot contour in Chesapeake Bay near Old Plantation Light and progresses in a general northeast direction towards the municipality of Cape Charles. The harbor lies south of the present business district and railroad yard.

2.00 Project Description: The authorized project consists of a channel 18 feet deep and 500 feet wide from the 18-foot contour in the Chesapeake Bay, through Cherrystone Bar and Inlet, to the harbor entrance; a basin in the harbor 18 feet deep, 1,000 to 400 feet wide and 3,000 feet long; a channel 10 feet deep and flaring from 100 feet to 180 feet wide and 260 feet long, to a basin 10 feet deep, 180 feet wide and 420 feet long at the head of Mud Creek; a Harbor of Refuge 7 feet deep, 200 to 250 feet wide, and 375 feet long, connected to Mud Creek by an entrance channel 7 feet deep and 60 feet wide.

2.01 The Cherrystone Bar, Inlet Channel and Harbor, and the Mud Creek Channel and Basin were authorized by the River and Harbor Act of 19 September 1890 and modified by the River and Harbor Act of 20 June 1938 and 2 March 1945. The Harbor of Refuge was approved by the Chief of Engineers under authority of Section 107 of the River and Harbor Act of 14 July 1960.

2.02 The next maintenance dredging will not include the Harbor of Refuge and will provide a narrower 300-foot wide outer channel. It will produce approximately 420,000 cubic yards of material. It is estimated that in 20 year dredging frequency cycles, approximately 1,500,000 cubic yards will need to be removed over the next 50 years to maintain this waterway at project depth.

2.03 The next dredging will be accomplished by hydraulic pipeline dredge and will dispose of approximately 80,000 cubic yards of material along the Public Beach, 130,000 cubic yards along the Brown and Root shoreline and 240,000 cubic yards in a 35- to 40-acre upland site currently owned by the railroad.

2.04 The beach disposal is expected to provide a finished 150-foot berm width and up to 7 feet in height at mean low water. Approximately 2300 feet length of the public beach will be filled while approximately 4000 feet of the southern beach shoreline will be used.

2.05 Dredged material from the inner harbor areas will be disposed of in a 35 to 40 acre site formerly used as a switching yard by the railroad. Pipelines associated with the operation will go under existing railroad tracks. The spillway effluent will return to the Harbor of Refuge by enlarging an existing 12-inch pipe which goes through the bulkhead to 30 inches.

2.06 The project is expected to take 60 days for completion.

3.00 Environmental Setting: The project lies near the southern tip of the Eastern Shore of Virginia. Connected directly by land only to Maryland, it is bordered by the Atlantic Ocean to the east and Chesapeake Bay to the west. The Chesapeake Bay Bridge-Tunnel connects this area to the Tidewater Region as well as other areas north and south by means of Route 13.

3.01 The flat, 220 square miles of Northampton County overlies a portion of the Precretaceous - Cretaceous Salisbury embayment. The sediments range in age from Triassic to Recent and consist mainly of sand, gravel and clay, the former two being used commercially for construction and concrete products. The soils also support some of the highest agricultural productivity within the Chesapeake Bay Estuary. In the 70's the land was proportioned 30 percent cropland, 34 percent forest and 2 percent urbanized.

3.02 Cape Charles shares a strong dependency on the seafood industry with many of its nearby coastal towns. In addition, Cape Charles includes concrete and grain industries, serves as a link for loading railroad cars on barges being sent across the Bay to Norfolk-Virginia Beach and has an operative Coast Guard Search and Rescue Station.

3.03 Cape Charles was developed from farmland in 1884 when the New York, Philadelphia and Norfolk Railroad extended its lines from Maryland. The harbor was dredged from a small creek to accommodate steamboats which connected with Norfolk. Shellfish, sand, gravel and crushed rock appear to pass through this harbor on a consistent basis. Distillate and residual fuel oil and miscellaneous nonmetallic minerals occasionally transit the port. Minor products such as fresh fish, fabricated metal and iron-steel products have been reported intermittently through the years.

3.04 The project is used by a large concrete products company which imports gravel, sand and cement for processing into finished products which are then exported to markets along the eastern seaboard of the United States and overseas. This company is a major manufacturer of structural products for marine oriented construction projects such as bridges, piers, docks, and bulkheads. Approximately 90 percent of the shipments from the plant are delivered by barge. Sand and gravel are received by barge while cement is received via railroad car transported by barges from across the Chesapeake Bay. This company employs from 250 to 225 people depending upon workload requirements. This is the largest industrial payroll in Northampton County. The Eastern Shore Railroad indicates moving over 1 million tons of commodities through the channel per year.

3.06 The inner harbor areas, Mud Creek and Harbor of Refuge are used by commercial fishermen, recreational boaters and the U.S. Coast Guard.

3.07 Tides in and near Cape Charles have an estimated mean range of 2.4 feet. Air temperatures are mild, averaging 78 degrees in July and 41 degrees in January. Precipitation is approximately 43 inches annually.

3.08 The beach shoreline north and south of Cape Charles is generally straight and is exposed to long fetches from the southwest and northwest quadrants. Both shorelines have undergone steady erosion as shown by available aerial photography. Extensive sand flats offshore may provide some protection to the shoreline. The offshore sand flats are believed to serve as a sink for the moving sand.

3.09 Southward longshore transport is present along both shorelines as evidenced by the sand accumulation on the northern sides of the groins along the public beach. It appears likely, based on photographic evidence, that some beach sand naturally bypasses the harbor entrance and is transported to the southern offshore sand flats. Since drogue investigations revealed the strongest currents in Cherrystone Channel, it is unlikely that much of the bypassed sand actually reaches the southern shoreline. Instead, the sand may be transported into Cherrystone Channel and deposited downdrift of the Federal navigation channel.

3.10 The public beach contains a 2,300 foot long, 9 foot high sheet-pile timber bulkhead capped by a 10-foot wide concrete walkway. The bulkhead was constructed in 1935 and has been effective in reducing storm damage although it has been overtopped in the 1936 and 1960 hurricanes. Timber groins, spaced along the beach at 200 intervals extend approximately 80 feet seaward from the bulkhead.

3.11 The southern beach, stretching from the harbor to Old Plantation Creek, is undeveloped for approximately 10,000 linear feet. The nearshore fastland is typically a small sand bluff, varying from +5 feet to +10 feet in elevation. Shallow sand flats, having an average depth less than 2 feet mean low water extend seaward to 300 feet at the northern end and up to 1500 feet at the western-most point from shore.

3.12 On 13 and 22 July 1986, studies were conducted to determine velocity of offshore currents. Currents were determined by deploying three drogues over 2 hours during peak flood. Current meters registering in 10-foot intervals to the bottom, were stationed in the offshore deepwater troughs during maximum flood and ebb. The greatest velocities were found in Cherrystone Channel and were parallel to the channel. Currents were found to have velocities ranging from 1.4 to 2.0 feet per second near the bottom and 1.0 to 2.0 feet per second near the surface. Location information is provided in figure 3.

3.13 Sediment samples in the project channel and the two beach disposal sites were taken and locations are shown in Appendix C. The channel, generally having fine sand, is similar to the fine to medium grained sand found along the beaches. The sand content decreases as one proceeds into the harbor, with silts and clays becoming more dominant. Mud Creek sediments are composed of sand, silts and clays with traces of organics present.

3.14 Various chemical constituents in the sediment were analyzed over two separate occasions with the results presented in Appendices A and B. A core sampler with plastic and metal tubes was used to penetrate down to depths of

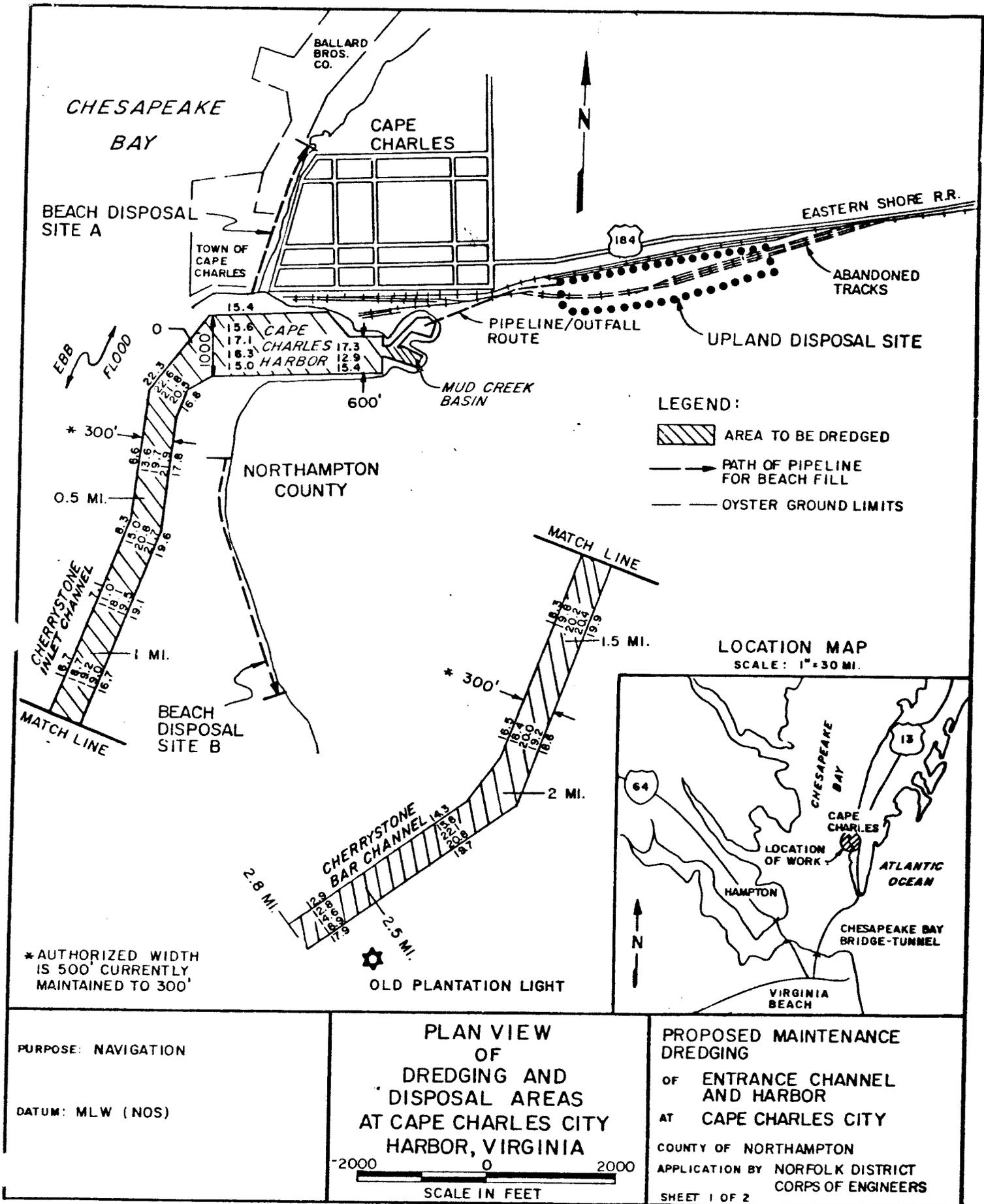
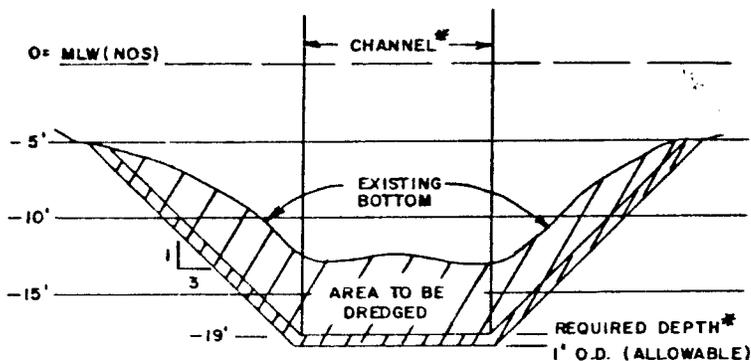
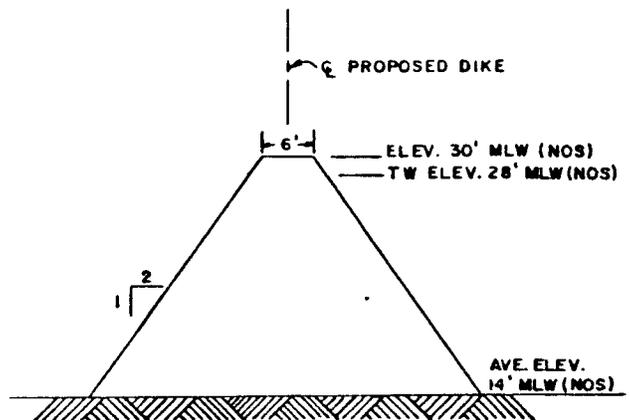


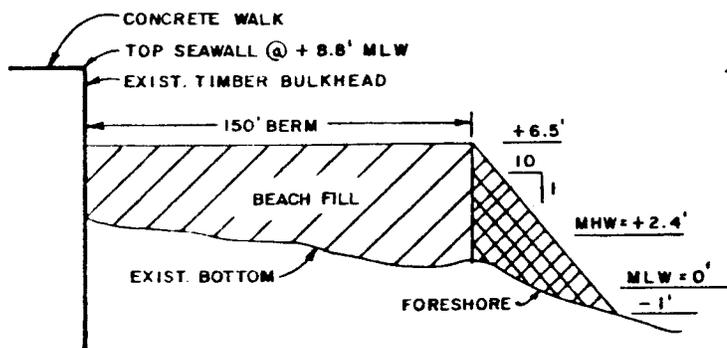
FIGURE 1



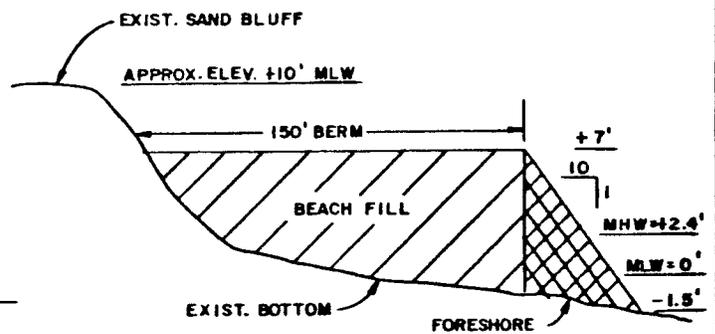
**DREDGING AREA
TYPICAL CROSS SECTION**
* VARIABLE - SEE NARRATIVE



**UPLAND SITE
TYPICAL DIKE CROSS SECTION**



**SITE A
TYPICAL CROSS SECTION
AT PLACEMENT**



**SITE B
TYPICAL CROSS SECTION
AT PLACEMENT**

PURPOSE: NAVIGATION

DATUM: MLW (NOS)

**CROSS SECTIONS
OF
DREDGING AND
DISPOSAL AREAS
AT CAPE CHARLES CITY
HARBOR, VIRGINIA**

NOT TO SCALE

**PROPOSED MAINTENANCE
DREDGING**

OF ENTRANCE CHANNEL
AND HARBOR
AT CAPE CHARLES CITY

COUNTY OF NORTHAMPTON

APPLICATION BY NORFOLK DISTRICT
CORPS OF ENGINEERS

SHEET 2 OF 2

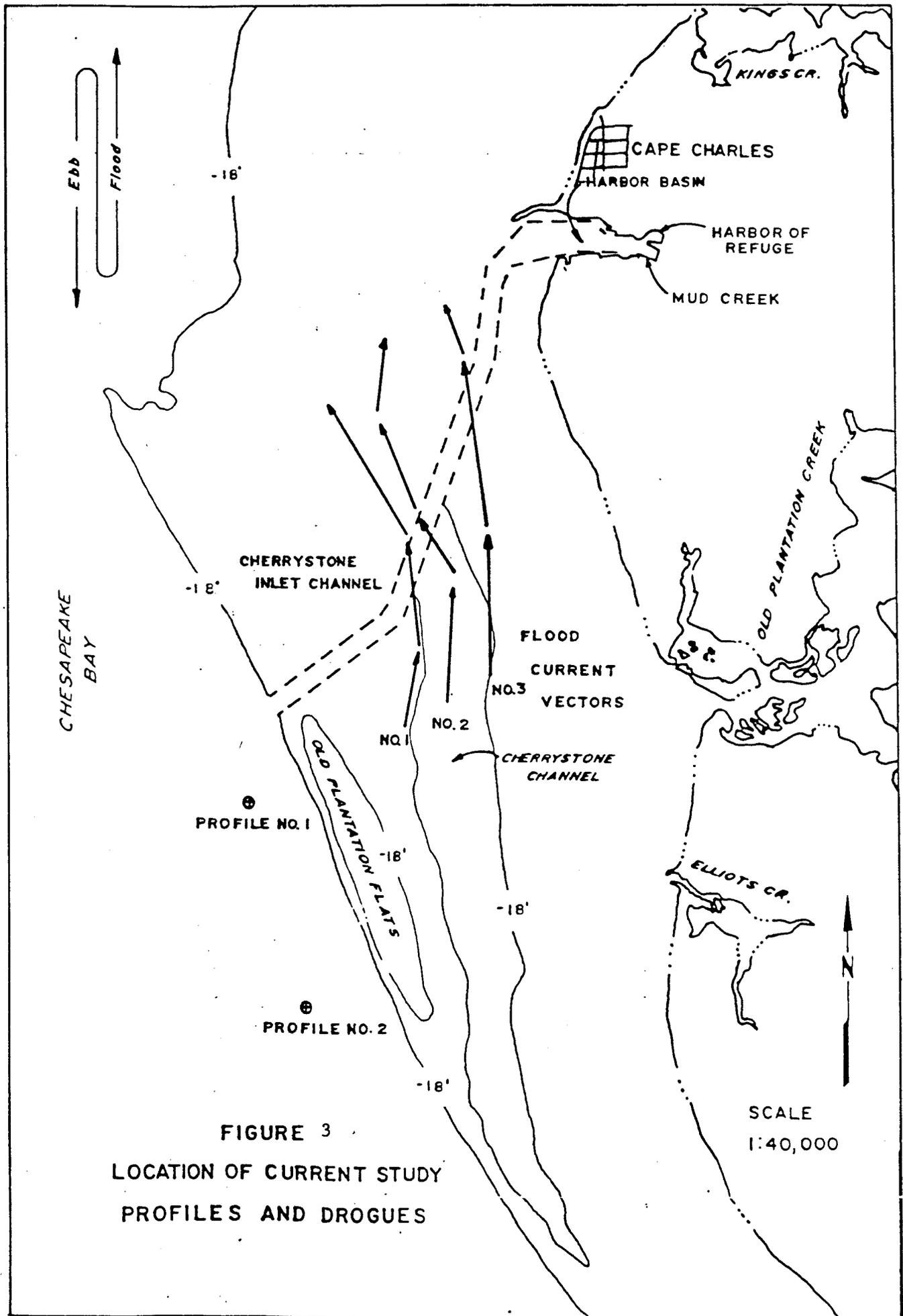


FIGURE 3
 LOCATION OF CURRENT STUDY
 PROFILES AND DROGUES

the expected dredging. Each station consisted of two separate samples for metals and two for organics analysis. Analysis was performed according to EPA procedures and methodologies.

3.15 Sample results are typical of what would be expected in moderately industrial areas. Chemical oxygen demand (COD) was expectedly higher in the harbor sediments where organic composition of the sediments increased. Since agriculture is a primary activity in this area, pesticides were considered an important part of the testing by U. S. Fish and Wildlife Service; however, amounts were found to be less than 10 ug/kg.

3.16 A swale located on the Bay Shore Concrete property was at one time being considered as part of the upland disposal. A sample was also taken of the water since it had a suspicious reddish tinge. At a temperature of 18.8°C, analysis showed the water to have a pH of 9.25. Such values are believed to be a result of water washing over the nearby concrete remnant and debris.

3.17 The beachfronts north and south of the Cape Charles entrance will be used for disposal of sandy material, mainly from the outer channel areas. The northern beach is primarily used for recreation by local residents while the southern beach is not yet developed, with the exception of land owned by Bay Shore Concrete. The primary factors which influence the biota, namely sediment type, beach slope, waves and currents react on these two beaches in a somewhat similar fashion. Therefore the communities should be similar in most respects.

3.18 There are commercial resources within the beach disposal areas. There are leased oyster grounds adjacent to the public beach disposal area, some of which will be within the actual confines of disposal operation. A seasonal fishing device stretches approximately 500 feet from the southern jetty west into the Chesapeake Bay. A similar structure is located approximately one mile towards the Bay mouth.

3.19 The severity of waves and currents are such that only specialized organisms which can tolerate abrasiveness inhabit the beach zone. The interstitial zone includes protozoans, copepods, and roundworms while beach fleas, sand diggers, ghost crabs and mite crabs use both the surface and top few inches, depending on tides and time of day. At certain times of the year the beach egg cases of whelks, snails and skates as well as various seaweeds such as Ulva lactuca are strewn about.

3.20 Aerial photography taken in 1986 indicated that submerged aquatic vegetation was present offshore of the shoreline disposal areas. On 26 May 1987 a field investigation was conducted to locate, identify and quantify these areas.

3.21 The investigation showed that the primary aquatic vegetation was eelgrass Zostera Marina with lesser amounts of sea lettuce Ulva lactuca and Ceramium rubrum. The majority of vegetation offshore of the northern beach is

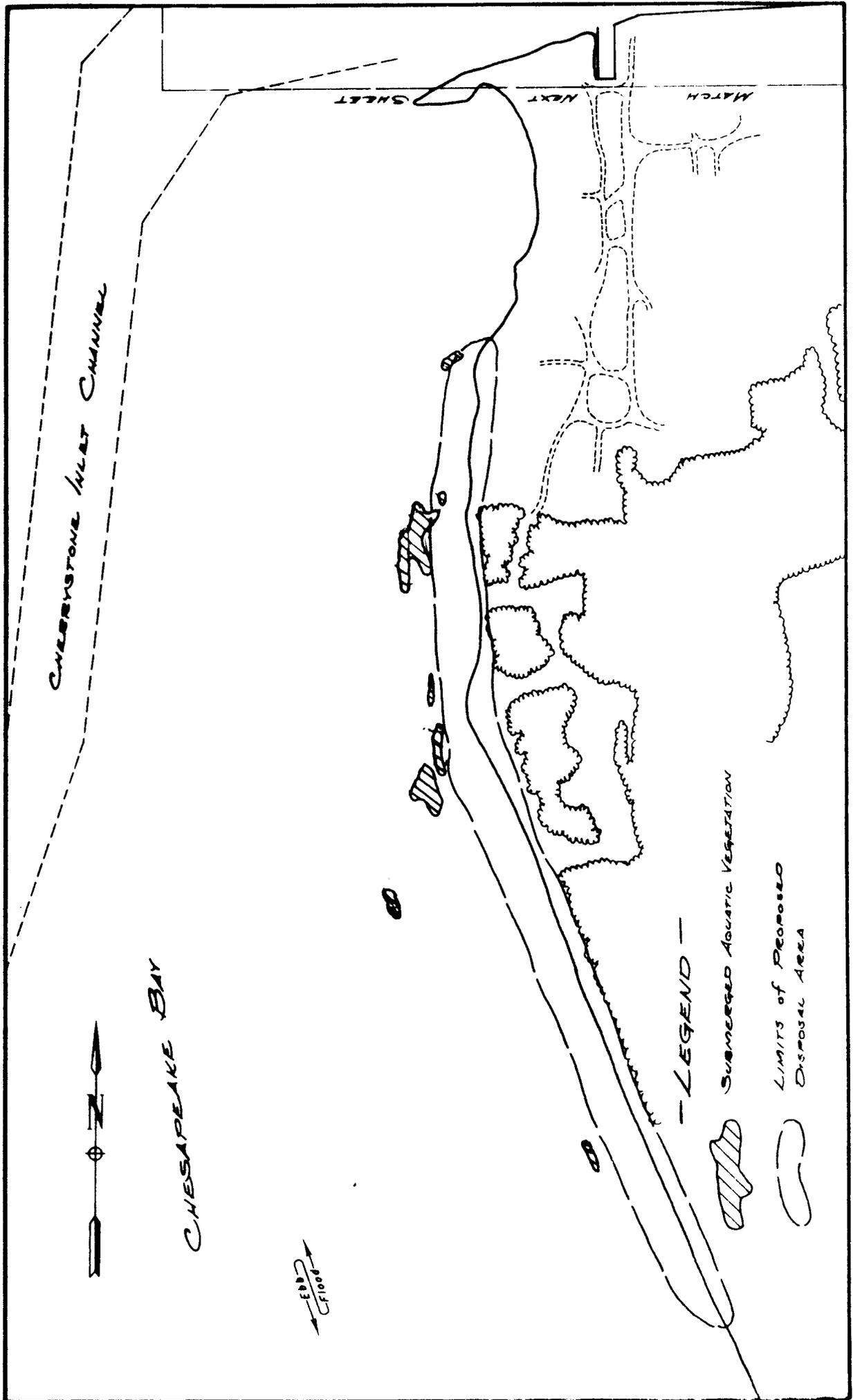


FIGURE 4

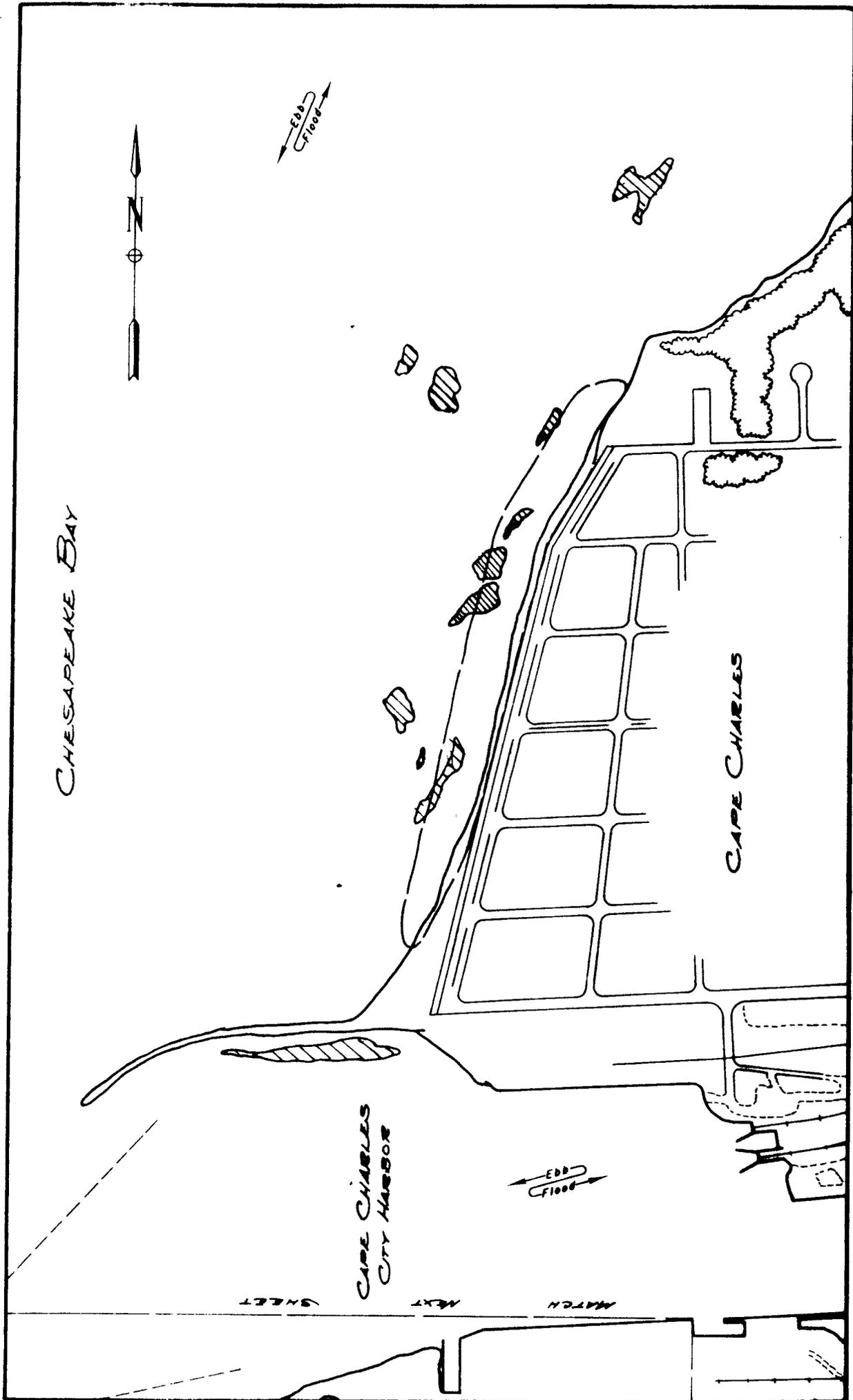


FIGURE 5

located in two patches covering an estimated total area of 20,000 square feet. The vegetation is in ten square foot clumps with wide spacing for the most part. Therefore, the actual quantity of vegetation is more likely less than 10,000 square feet. Locations are shown in Figures 4 and 5.

3.22 The southern offshore area also has similar patches of eelgrass, however, the majority of vegetation consists of red algae.

3.23 A list of fishes, based on a survey of Old Plantation Flats by the Virginia Institute of Marine Science in 1978, is included in Appendix D. The list also includes many benthics which are likely present in and around the project.

3.24 Cape Charles waters maintain an abundant commercial and recreational fishery. Conch dredging offshore takes place between 1 May and 1 October. Drum fishing during May is recognized worldwide. Tautog is caught on the flats during the fall. Flounder, croaker and black sea bass are also common catches.

3.25 Since available oxygen is generally low in the interstitial waters of the beach, most animals occupy the top 2 to 10 centimeters. Bacteria is in plentiful supply for the microorganisms and filter feeding herbivores feed on the diatoms and phytoplankton in the absence of multicellular plants.

3.26 Material from the inner harbor or any dredged material not selected for beach disposal will be placed in a 35 to 40 acre upland site located east of the harbor. Soil analysis for channel sediments is contained in Appendix C.

3.27 The upland disposal area was once a switching and holding yard for the railroad which has since been abandoned. There are approximately seven sets of remnant rail tracks lying on a bed of slag. Woodlands are situated on both sides of the track proper. Much of the northern portion, which will be within the disposal boundaries, has been burnt and has recent new growth. The perimeter of the southern woodline may also be used for disposal.

3.28 Both areas contain primarily sweetgum Liquidambar styraciflua, flowering dogwood Cornus florida, loblolly pine Pinus taeda, shagbark hickory Carya ovata and black cherry Prunus serotina. The upland disposal area is above normal floodwaters which might be produced by a 100 year flood.

4.00 Environmental Impacts of Project: The proposed action provides commercial benefits to the Eastern Shore by maintaining a navigable waterway for use by industry, fisheries and recreation. This waterway is significant to the economy of Eastern Shore. In addition to everyday benefits afforded by the waterway, it provides a safe harbor of refuge in times of storm and distress.

4.01 Distributing sand along the beach will provide sacrificial material to abate erosion along both beaches. Additionally, the surface of the public beach will be increased, at least temporarily, for the public enjoyment of beach-goers.

4.02 The submerged aquatic vegetation along the northern beach will likely be eliminated by the beach disposal since their landward edge ranges from 100 to 125 feet offshore of the existing bulkhead. Other areas further offshore should not be impacted.

4.03 The mixture of red algae and eelgrass offshore of the southern shoreline is located at least 150 feet from the beach. A small area may be impacted by the proposed beach disposal.

4.04 Since no alteration of wave energies or currents is expected within the project area, the remaining plants should not be interrupted in their growth patterns. The biota which inhabits the existing subsurface beach may be eliminated during the filling stages of the project, however, the area will likely begin to repopulate within a growing season.

4.05 Benthic organisms in the channel such as polychaetes, crustaceans, and mollusks will be eliminated by the dredging. Finfish are more likely to move in and out of the area to the extent that acute or chronic conditions should not be realized. Crab larvae and/or juvenile crabs may be impacted depending on the time of dredging. However, significant adverse impacts are not anticipated.

4.06 Releases will be sought from owners of the fishing device at the southern jetty and the oyster grounds adjacent to the public beach.

4.07 The upland disposal site will convert a former railroad yard into a disposal area. A narrowing, three-hundred foot strip of trees and an approximate 100 foot width of field will be utilized for disposal. The site will undergo successional change for approximately twenty years before becoming defoliated by the next maintenance dredging. It is expected that various wildlife will be able to use this area during some portions of the successional change. Although it is not a certainty, this area could benefit avians as have other coastal disposal sites.

4.08 Various wildlife species will be displaced by this activity. While some may relocate, an overall net loss of this habitat will likely result in an overall reduction and/or stress factor of species in this community. This impact would be similar to other uses of this area by man.

4.09 Endangered Species: No rare or endangered species are expected to be impacted by this project. There has been an eagle's nest near Eastville. Kemps ridley (Lepidochelys kempii), Atlantic loggerhead (Carretta caretta) and Atlantic green turtle (Chelonia mydas) have been sighted in Chesapeake Bay. However, they should not be impacted by this project.

4.10 No historical resources should be affected by this project. The beach has been disposed on previously. The upland disposal site will displace a former railroad yard where intense activity has taken place and likely obliterated any historical sites which could have been present.

TABLE 1. COMPLIANCE WITH ENVIRONMENTAL STATUTES

Federal Policies	Compliance
Archaeological and Historic Preservation Act, as amended	Full
Clean Air Act, as amended	Full
Clean Water Act of 1977, as amended	Full
Coastal Zone management Act of 1972, as amended	Full
Endangered Species Act of 1973, as amended	Full
Estuary Protection Act (PL 90-454)	Full
Federal Water Project Recreation Act, as amended	Full
Fish and Wildlife Coordination Act, as amended	Full
Land and Water Conservation Fund Act of 1965, as amended	Full
Marine Protection Research, and Sanctuary Act of 1969, as amended	Full
National Environmental Policy Act of 1969, as amended	Full
National Historic Preservation Act of 1966, as amended	Full
Rivers and Harbors Appropriation Act of 1899, as amended	Full
Watershed Protection and Flood Prevention Act, as amended	Full
Wild and Scenic River Act, as amended	N/A
Floodplain Management (E.O. 11988)	Full
Protection of Wetlands (E.O. 11990)	Full

4.11 Noise associated with operating mechanical equipment may increase during the dredging. However, this should not be in significant excess that creates by existing industrial activities. An increase of noise at night may occur.

4.12 Train tracks, railcars and engines will be removed by the Eastern Shore Railroad or be covered by the dredged material in the upland disposal site. The disposal options are shown in Figure 6.

5.00 Alternatives: An offshore disposal site near Old Plantation Flats was considered for disposal of dredged channel materials. The area is characterized by a deep trough, which is believed, hydrologically, to be suitable for disposal of the dredged material. However, the Virginia Institute of Marine Science surveyed the Cherrystone area for biological resources in 1978 and concluded that other alternatives should be considered. The investigation of this site indicated a high diversity of fish and invertebrates. Overwintering female crabs, conch fisheries and finfish are among the resources cited as using this area.

5.01 Therefore, the search for an appropriate disposal area shifted from this site to upland and beaches. Should the need for future disposal locations arise, this site may again be considered: however, more detailed resource investigations would likely be necessary.

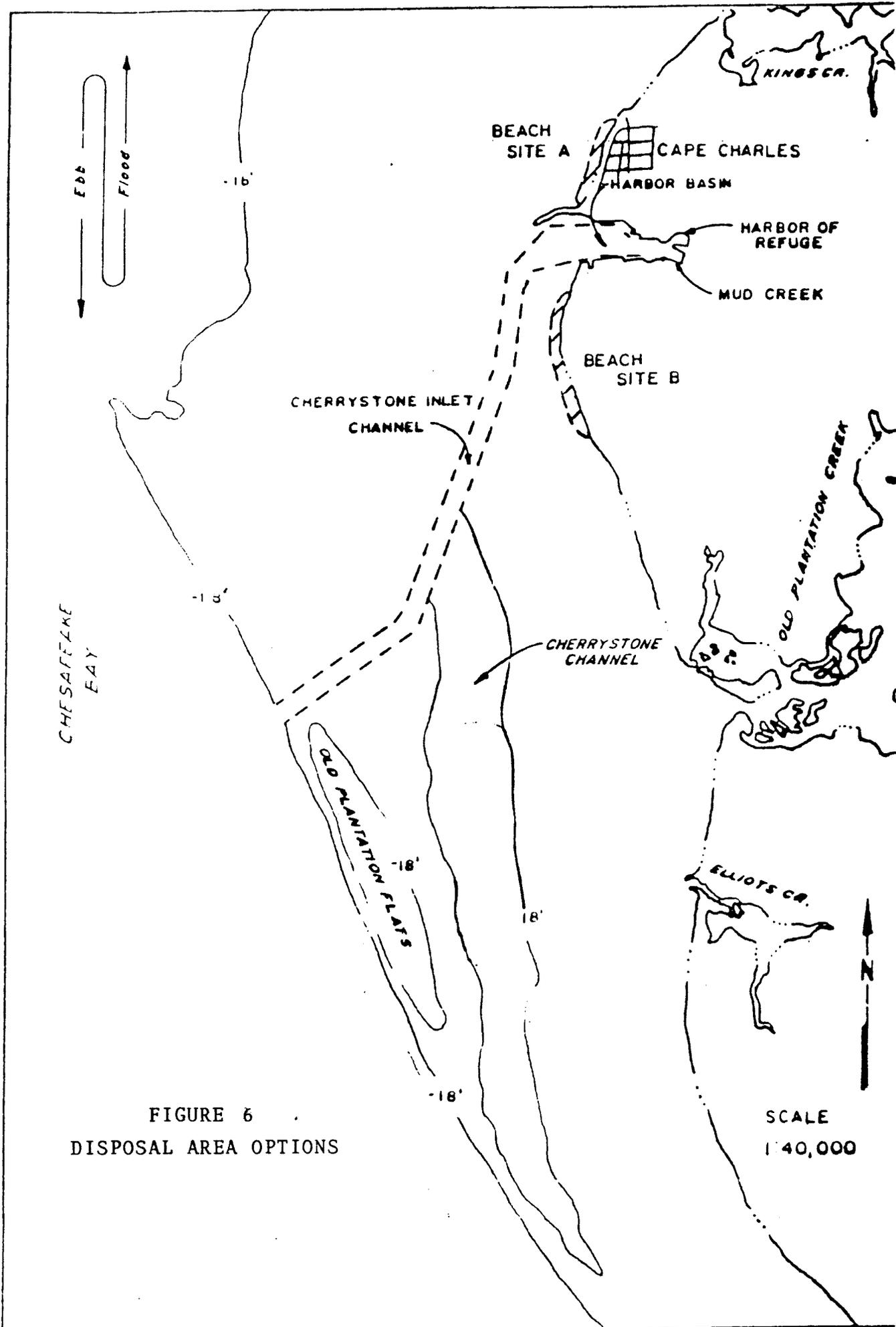


FIGURE 6
DISPOSAL AREA OPTIONS

SCALE
1" = 40,000'

5.02 A triangular shaped upland site located on Brown and Root and Bay Shore Concrete properties was considered. The dense woodland would have required extensive tree removal. A swale in the center of the area retained drainage from the concrete plant. Chemical analysis of the water showed a PH of 9.25 at 18.8°C. The high PH value is believed to be a result of water washing over and through the concrete remnants. This area has been eliminated from consideration during this dredging, when the railroad site became available.

5.03 Initial beach disposal design called for a 250 foot berm width, however, it was reduced to 150 feet to minimize the possible impact to nearby submerged aquatic vegetation beds.

5.04 The no action alternative would allow the project to gradually revert to shallower depths. Eventually users such as the Coast Guard, Bay Shore Concrete, commercial fisherman and the railroad would be curtailed in their activities. Reduced operations would easily spread economic losses to the Eastern Shore.

6.00 List of Agencies, Interested Groups, and Public Consulted: This project has been discussed at the Dredging Management Branch's regular bimonthly coordination meeting with the environmental agencies. This assessment will be coordinated with the following agencies:

- U.S. Coast Guard
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Soil Conservation Service
- National Marine Fisheries Service
- Governor's Council on the Environment
- Soil and Water Conservation Commission
- Virginia Historic Landmarks Commission
- Virginia Institute of Marine Science
- Virginia Marine Resources Commission
- Virginia State Water Control Board
- Northampton County Administrator

7.00 Conclusion: Cape Charles City Harbor and approach channel provides a critical life-blood to this community as well as the Eastern Shore. The project has benefit cost ratio of 2.01.

7.01 The project, as proposed, has undergone extensive modifications and negotiations in order that the seeking the optimum use of the dredged materials as well as the most economical procedures. The proposed project is not expected to have a significant adverse effect on the environment, while, providing the maximum economic benefits.

8.00 Comments and Responses

8.01 Virginia Institute of Marine Science

Comment: Although our studies have previously indicated the presence of relatively low density submerged vegetation offshore of the two beach disposal areas, we were not aware of the actual extent of eel grass involved until the Corps' Environmental Assessment was released in June. We are now of the opinion that steps should be taken to minimize the amount of eel grass destroyed in the beach disposal operation. From an environmental perspective it would be preferable to avoid covering the existing grass community. If this is not feasible, transplanting the affected grass areas further offshore would be desirable.

Response: My staff has attempted to reduce the impacts to submerged aquatic vegetation by narrowing the original width of disposal along the public beach from 250 feet to 150 feet. I understand the state is presently looking for ways to move the remaining grass and I support these efforts.

8.02 Virginia Council on the Environment

Comment: Disposal of dredged material along the northern beach is likely to cover the submerged eelgrass growing there. This problem could best be mitigated by realigning the disposal area so that the eelgrass communities are not covered by dredge spoil. We recommend transplanting the eelgrass farther offshore as another alternative to prevent destroying viable eelgrass communities.

Response: See response to Virginia Institute of Marine Science comment above.

Comment: If the Marine Resources Commission issues a permit for this project, the project will be deemed consistent with Virginia's coastal resource management program.

Response: The Marine Resources Commission approved this project on 7 July 1987, so I will consider it to be consistent with the coastal resource management program, based on your letter.

8.02 U. S. Fish and Wildlife Service

Comment: We recommend that the dredging contract stipulate that the material destined for the shoreline disposal areas be distributed as uniformly as possible along the entire length of the designated disposal reach.

Response: The contract plans and specifications will require placement of the dredged material uniformly along the entire shoreline of each disposal site. The Federal Dredging Inspector assigned to this project will ensure compliance.

Comment: The agreements with the property owners of the shoreline disposal areas should also stipulate that the owners will not harden the newly created shoreline for the purpose of creating permanent fastland out of the area that is presently part of the aquatic system.

Response: The stipulation that you recommend placing into this contract would prevent a property owner from the right to protect his property. Instead, any "hardening" action by a property owner is best presented within the framework of the permit process in which your agency participates. As you know, the process includes a complete public interest review before a permit is issued.

Comment: Concentrations of arsenic, chromium, lead, cadmium, and nickel were elevated above normal background levels. The levels at some of the sample sites were found to be higher than those detected in the sediments of the Elizabeth River and Baltimore Harbor. We recommend that the disposal area be sized as large as is practicable and either compartmentalized or otherwise managed to maximize the settling time before the decant leaves the disposal area.

Response: Contrary to your statement, concentrations found during this testing are not as high as these in the Elizabeth River and in many cases are magnitudes lower. For example, a most recent wet weight analysis for cadmium at Sewell's Point was 6 ppm compared to the highest wet weight value at Cape Charles being 1.58 ppm.

The upland disposal site has been designed to include the maximum area available for disposal after the inclusion of drainage pathways and access roads. This office feels that the size is compatible for this project.

Comment: We recommend the addition of pH modifiers and soil amendments to the dredged material to promote rapid and vigorous colonization of the disposal area by vascular plants, thereby reducing pollutant movement due to erosion by wind or water. Based upon a telephone conversation with the primary author, we understand that Skogerboe et al. (1986), a paper published by the Corps' Waterways Experiment Station, discusses these procedures in greater detail. Finally, off road vehicle use of the disposal site should be prohibited.

Response: Concentration of the metals you mentioned were discussed with the authors you cited as well as Mr. Charles Liusford of the State Water Control Board which generated the data for the Elizabeth River sediments. The steps discussed in the paper you cite related to Black Rock Harbor which, by comparison, has cadmium levels in excess of 20 ppm as well as very high levels of other contaminants, making this a prime opportunity for the experimental research discussed in the paper. Such measures are not warranted for this project.

8.03 U.S. Environmental Protection Agency

Comment: We know from past experience that old abandoned railroad operations are often a source for PCBs, coal tars, asbestos, industrial solvents, etc. There was no mention in the assessment that the soils in the upland site were analyzed for these or other possible contaminants.

Response: The railyard is an infrequently used component of a small railroad system. Repairs, fueling, storage and similar activities were never performed in this area and for the most part, any area of the adjoining yard. The pitch of the yard allowed cars to roll to a stop rather than brake. For these reasons, I am confident that such contaminants were rightfully omitted from discussion in the Environmental Assessment.

Transformers were present in another part of the yard at one time. Before removal to a controlled landfill, tests were performed for PCB levels. The results show a maximum of 7.8 ppm in the oil, and non-detectable levels in the ground. Railroad personnel were informed this was well within the EPA standard of 50 ppm for handling.

Comment: Soil analysis for the channel sediments, particularly from the City Harbor, appear to suggest that some of the metals, especially cadmium, which is bioaccumulative, are above the criteria for over-board disposal. While the material from this project is scheduled for upland disposal a problem with leachates might develop, considering that there are no proposals for lining this disposal site.

Response: The cadmium levels were found to be higher than expected for a relatively non-industrialized area. However, the proposed management and design of the disposal area is expected to sufficiently retain any containments in an environmentally acceptable manner.

WANG #0812u/rn

SECTION 404(b)(1) PRELIMINARY EVALUATION
BEACH DISPOSAL AT CAPE CHARLES
NORTHAMPTON, VIRGINIA

I. General Physical Characteristics

Disposal of clean dredged material along the shoreline will not only enhance public use of the area, but will not result in the degradation of waters of the United States. The material consists primarily of granular sands, similar in nature to the existing substrate. Although there may be temporary, very minimal elevations in turbidity, detrimental effects on water quality are not expected. The project should be in compliance with 230.20-230.25 (subpart c).

II. Biological Characteristics

The project will have minimal effects on the benthic community, however, some organisms associated with high to moderate sandy beaches will be eliminated. Patches of some Zostera marina located offshore, but within the expected influence of the disposal will be eliminated. Design of the project was readjusted to a narrower profile to minimize this impact.

III. Contaminants

Testing for pollutants was conducted on two separate occasions and the results are contained in the assessment. While some contaminants were found to be present in the sediments, none exceeded acceptable levels and therefore are in compliance with 230.20-230.25 (subpart c).

IV. Effects on Human Health

The project will not result in significant adverse effects on water supplies, recreation, plankton, fish, shellfish, wildlife, and special aquatic sites or any aspect of human health.

V. Determination of Compliance

a. The project as described represents the least environmentally damaging alternative while providing the maximum economic benefits.

b. A 401 State Water Quality Certificate has been requested from the State Water Control Board. The permit will be adhered to with respect to water quality. No long-term adverse impacts to water quality are expected.

c. The project should not impact any endangered species on their habitat.

d. The project has undergone design modifications to minimize adverse impacts. An increase in the beach should improve aesthetics as well as human use of the beach. Cumulative adverse effects are not expected.

WANG 0781u/1h

References

Barfield, Alan E. 1978. Life in Sandy Beaches.

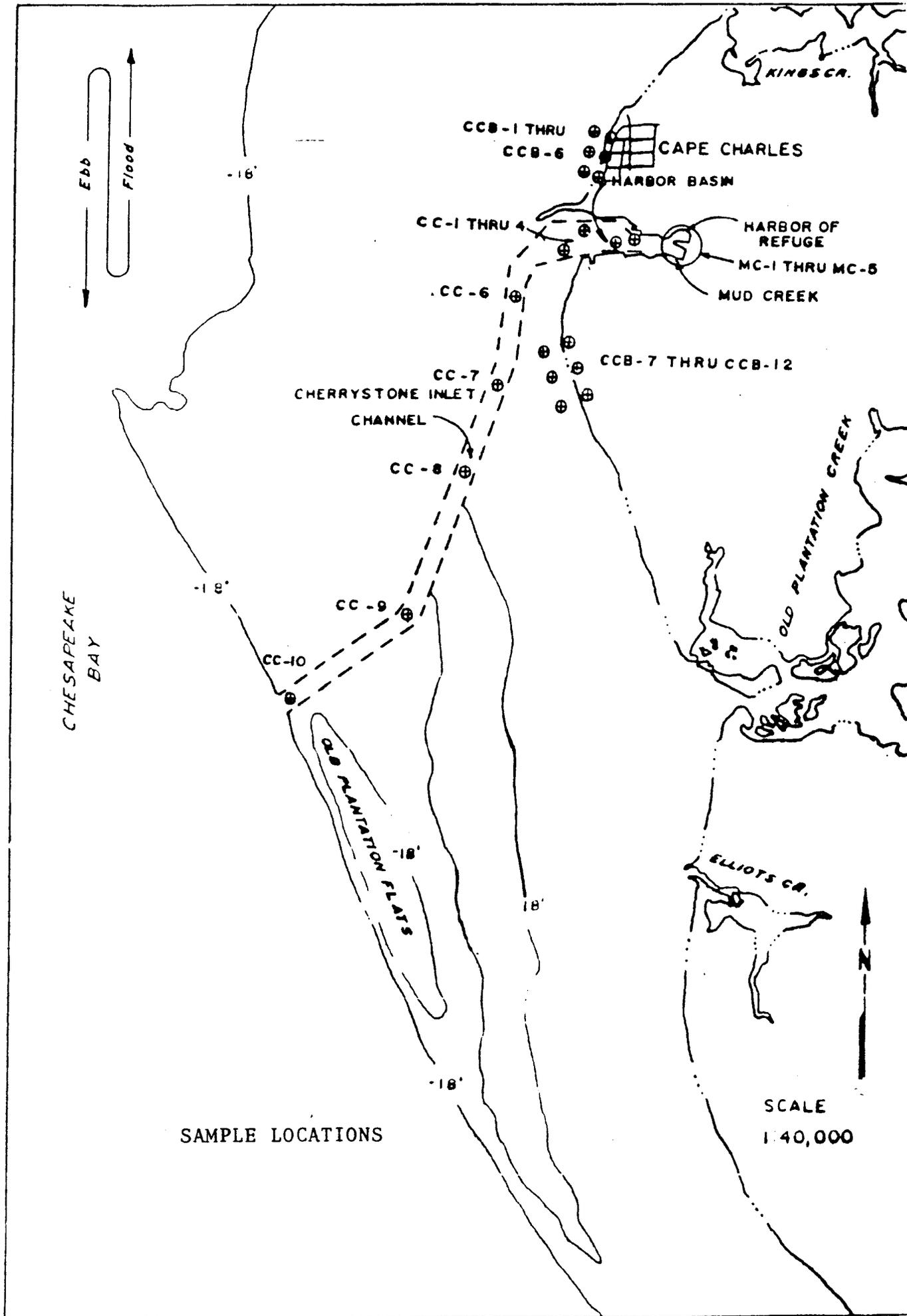
Cape Charles Flood Plain Information 1970, Corps of Engineers, Norfolk District.

Van Dolah, R.F., D. R. Calder, D. M. Knott. 1984. Effects of Dredging and Open-Water Disposal on Benthic Macroinvertebrates in a South Carolina Estuary. Estuaries Vol 7, #1 - March 1984.

WANG 0781u/lh

APPENDIX A

ELUTRIATE TESTING - 25 APRIL 1986



SAMPLE LOCATIONS

SCALE
1:40,000

the **bionetics** corporation
ANALYTICAL LABORATORIES

20 RESEARCH DRIVE
HAMPTON, VIRGINIA 23666
TELEPHONE: (804) 865-0880

July 21, 1986

U.S. Army Engineers District Norfolk
Engineering Division, Dredging Mgmt. Branch
803 Front Street
Norfolk, VA 23510-1096
ATTN: Myles Pocta

Dear Sirs:

Regarding the samples of sediment delivered to our laboratory April 25, 1986, for analysis; the following addition should be made to the reports of analysis dated May 30, 1986:

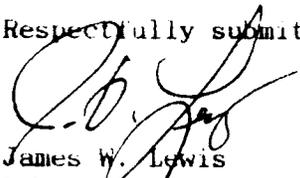
Elutriates were prepared from sediment samples MC-1, MC-3, MC-5, CC-2 and CC-3 according to the procedure described in Technical Report EPA/CE-81-1 (Procedures for Handling and Chemical Analysis of Sediment and Water Samples). This procedure involves the 30 minute shaking of one part sediment with four parts water obtained from the dredging site. The resulting mixture is settled and filtered through a 0.45 um filter prior to chemical analysis.

Chemical analysis of elutriates and of sediment samples was performed using procedures described in Technical Report EPA/CE-81-1. These procedures are identified as follows:

T. Solids	Water	3-56
	Sediment	3-58
Ammonia	Water	3-140
	Sediment	3-155
TKN	Water	3-190
	Sediment	3-201
TOC	Water	3-69
	Sediment	3-73
Oil & Grease	Water	3-278
	Sediment	3-284

Procedure references are those noted from Technical Report EPA/CE-81-1 and are derived from standard analytical texts by APHA; ASTM; and EPA.

Respectfully submitted,


James W. Lewis
Laboratory Manager

REPORT OF ANALYSIS

TO: US Army Engineers District Norfolk
 Engineering Division, Dredging Mgmt. Branch
 803 Front Street
 Norfolk, VA 23510-1096
 ATTN: Myles Pocta

May 30, 1986

SAMPLE OF: Elutriates

REC'D: April 25, 1986

CODE: As Indicated

Sample ID	Code	T. Solids, %	Ammonia, ^{ppm} mg/l	TKN, ^{ppm} mg/l	TOC, ^{ppm} mg/l	O&G, ^{ppm} mg/l
MC-1	51007	60.3	2.64	163.9	6.2	12
MC 3	51008	54.5	10.2	12.11	6.0	6
MC-5	51009	60.3	2.66	11.79	5.9	4
CC-2	51010	32.7	24.5	29.78	9.4	8
CC-3	51011	34.4	30.4	42.83	12.3	10

RESPECTFULLY SUBMITTED,

SEE REVERSE SIDE FOR EXPLANATION
 OF SYMBOLS AND ABBREVIATIONS

E. F. Stewart

REPORT OF ANALYSIS

TO: US Army Engineers District Norfolk
 Engineering Division, Dredging Mgmt. Branch
 803 Front Street
 Norfolk, VA 23510-1096
 ATTN: Myles Pocta

May 30, 1986

SAMPLE OF: Sediments

REC'D: April 25, 1986

CODE: As Indicated

Sample ID	Code	T. Solids, %	^{ppm} Ammonia, mg/kg	^{ppm} TKN, mg/kg	^{ppm} TOC, g/kg	O&G, %
MC 2	51012	73.0	< 40	97.99	9.04	< 0.1
MC 4	51013	69.3	< 40	226.0	23.7	< 0.1
CC-1	51014	32.5	112	996.7	49.4	0.1
CC-4	51015	34.8	< 40	1162	79.5	< 0.1
CC-5	51016	73.1	< 40	117.9	7.10	< 0.1
CC-6	51017	68.1	< 40	149.2	3.21	< 0.1
CC-7	51018	73.5	< 40	72.72	7.49	< 0.1
CC-8	51019	68.7	< 40	203.2	60.9	< 0.1
CC-9	51020	71.5	< 40	128.5	15.6	< 0.1
CC-10	51021	70.9	< 40	63.16	6.80	< 0.1

RESPECTFULLY SUBMITTED,

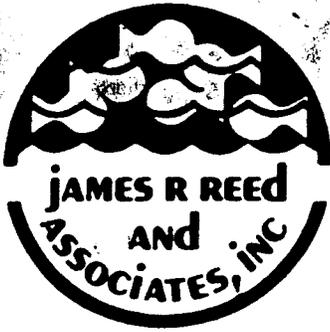
SEE REVERSE SIDE FOR EXPLANATION
 OF SYMBOLS AND ABBREVIATIONS



E. J. Hawley

APPENDIX B

BULK SEDIMENT TESTING - 29 MARCH, 9 APRIL 1987



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

813 forrest drive • newport news, virginia 23606 • (804) 599-6750

Laboratory Services Report

┌
Norfolk District Corp. of Engineers
├ 803 Front Street
└ 0 Norfolk, VA 23510-1096
L

April 27, 1987

Sample Identification

Analyses

Results

Samples received 3-30-87

3-29-87 @ 11:09
Cape Charles
OC-1
87-1767

Mercury	<0.013 mg/kg
Arsenic	0.376 mg/kg
Chromium	<5.00 mg/kg
Selenium	<0.245 mg/kg
Lead	12.5 mg/kg
Zinc	12.5 mg/kg
Copper	<1.25 mg/kg
Cadmium	1.50 mg/kg
Tin	<25 mg/kg
Nickel	<3.75 mg/kg

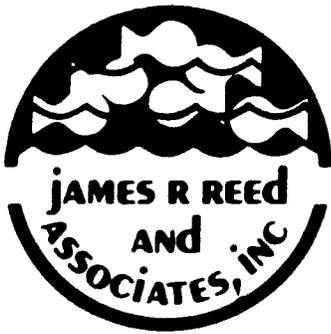
Pesticides

p.p' ₁ -DDE	<10 ug/kg
p.p' ₁ -DDD	<10 ug/kg
p.p' ₁ -DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	1757 mg/kg
General Appearance	sandy mixture

Respectfully submitted,

Priscilla Short

Laboratory Manager



James R. Reed & Associates, Inc.

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Laboratory Services Report

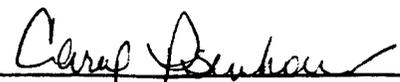
┌ Norfolk District Corp. of Engineers
803 Front Street
T Norfolk, VA 23510-1096
0
└

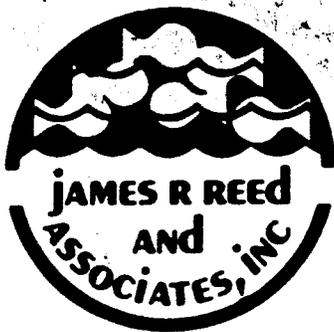
May 12, 1987

Corrected Report from April 27, 1987

<u>Sample Identification</u>	<u>Analyses</u>	<u>Results</u>
Samples received 4-10-87		
4-9-87 @ 09:28 Cape Charles OC-2 87-1995	Mercury Arsenic Chromium Selenium Lead Zinc Copper Cadmium Tin Nickel Pesticides p,p'-DDE p,p'-DDD p,p'-DDT Endrin Estimated Toxaphene Dieldrin Heptachlor epoxide Oxychlorodane Cis-chlordane Trans-nonachlor Cis-nonachlor PCB COD General Appearance	<0.013 mg/kg 0.662 mg/kg <5.31 mg/kg <0.259 mg/kg 15.9 mg/kg 14.6 mg/kg <1.33 mg/kg 1.33 mg/kg 7.3 mg/kg 2.66 mg/kg <10 ug/kg <10 ug/kg 2699 mg/kg uniform sandy some black mud

Respectfully submitted,


Laboratory Manager



James R. Reed & Associates, Inc.

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Laboratory Services Report

┌
Norfolk District Corp. of Engineers
803 Front Street
T
0 Norfolk, VA 23510-1098
└

April 27, 1987

Sample Identification

Analyses

Results

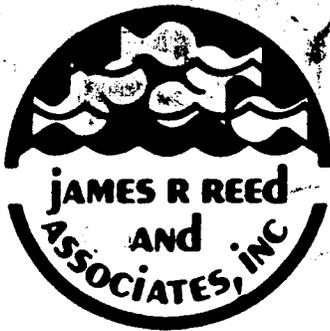
Samples received 3-30-87

3-29-87 @ 13:30
Cape Charles
OC-3
87-1768

Mercury	<0.012 mg/kg
Arsenic	0.622 mg/kg
Chromium	<4.97 mg/kg
Selenium	<0.249 mg/kg
Lead	12.4 mg/kg
Zinc	13.7 mg/kg
Copper	<1.24 mg/kg
Cadmium	1.74 mg/kg
Tin	<34 mg/kg
Nickel	2.49 mg/kg
Pesticides	
p.p ¹ -DDE	<10 ug/kg
p.p ¹ -DDD	<10 ug/kg
p.p ¹ -DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	21160 mg/kg
General Appearance	black sandy with water

Respectfully submitted,

Proctor
Laboratory Manager



James R. Reed & Associates, Inc.

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Laboratory Services Report

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Norfolk, VA 23510-1096

April 27, 1987

Sample Identification

Samples received 3-30-87

3-29-87 @ 12:40
Cape Charles
OC-4
87-1769

Analyses

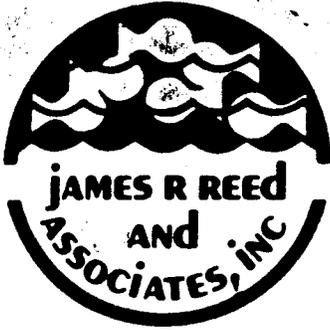
Mercury	<0.012 mg/kg
Arsenic	0.241 mg/kg
Chromium	<4.74 mg/kg
Selenium	<0.256 mg/kg
Lead	13.0 mg/kg
Zinc	15.4 mg/kg
Copper	<1.18 mg/kg
Cadmium	1.78 mg/kg
Tin	<19 mg/kg
Nickel	<2.37 mg/kg
Pesticides	
p.p ₁ -DDE	<10 ug/kg
p.p ₁ -DDD	<10 ug/kg
p.p ₁ -DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	4513 mg/kg
General Appearance	uniform sandy

Results

Respectfully submitted,

Russella Short

Laboratory Manager



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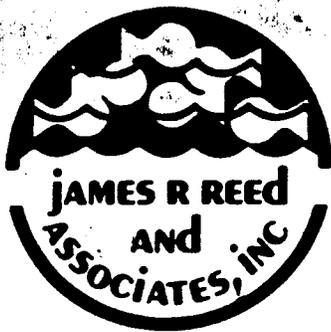
April 27, 1987

<u>Sample Identification</u>	<u>Analyses</u>	<u>Results</u>
Samples received 4-10-87		
4-9-87 @ 14:25 Cape Charles CC-1 87-1985	Mercury Arsenic Chromium Selenium Lead Zinc Copper Cadmium Tin Nickel Pesticides p.p ₁ -DDE p.p ₁ -DDD p.p ₁ -DDT Endrin Estimated Toxaphene Dieldrin Heptachlor epoxide Oxychlorodane Cis-chlordane Trans-nonachlor Cis-nonachlor PCB COD General Appearance	<0.043 mg/kg 9.27 mg/kg 53.5 mg/kg <0.838 mg/kg 103 mg/kg 152 mg/kg 24.7 mg/kg 4.93 mg/kg <34 mg/kg 37.0 mg/kg <10 ug/kg <10 ug/kg 154787 mg/kg uniform black muddy

Respectfully submitted,

Priscilla Short

Laboratory Manager



James R. Reed & Associates, Inc.

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Laboratory Services Report

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Norfolk, VA 23510-1096

April 27, 1987

Sample Identification

Analyses

Results

Samples received 4-10-87

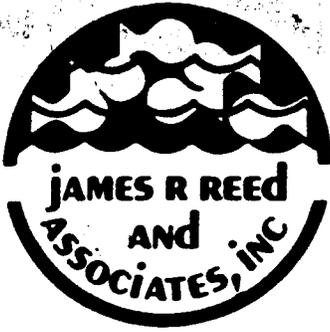
4-9-87 @ 14:00
Cape Charles
CC-2
87-1986

Mercury	<0.037 mg/kg
Arsenic	8.12 mg/kg
Chromium	44.2 mg/kg
Selenium	<0.743 mg/kg
Lead	92.2 mg/kg
Zinc	136 mg/kg
Copper	18.4 mg/kg
Cadmium	4.42 mg/kg
Tin	<28 mg/kg
Nickel	29.5 mg/kg
Pesticides	
p.p' ₁ -DDE	<10 ug/kg
p.p' ₁ -DDD	<10 ug/kg
p.p' ₁ -DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	149286 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,

Priscilla Short

Laboratory Manager



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Norfolk, VA 23510-1096

April 27, 1987

Sample Identification

Analyses

Results

Samples received 4-10-87

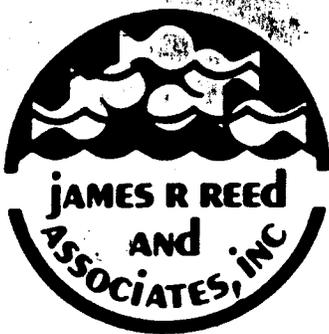
4-9-87 @ 13:37
Cape Charles
CC-3
87-1987

Mercury	<0.037 mg/kg
Arsenic	6.64 mg/kg
Chromium	50.6 mg/kg
Selenium	<0.741 mg/kg
Lead	94.0 mg/kg
Zinc	123 mg/kg
Copper	10.9 mg/kg
Cadmium	4.34 mg/kg
Tin	37 mg/kg
Nickel	32.6 mg/kg
Pesticides	
p.p ₁ -DDE	<10 ug/kg
p.p ₁ -DDD	<10 ug/kg
p.p ₁ -DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	89941 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,

Russella Short

Laboratory Manager



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[Norfolk District Corp. of Engineers
 T 803 Front Street
 O Norfolk, VA 23510-1096
 L

April 27, 1987

Sample Identification

Analyses

Results

Samples received 4-10-87

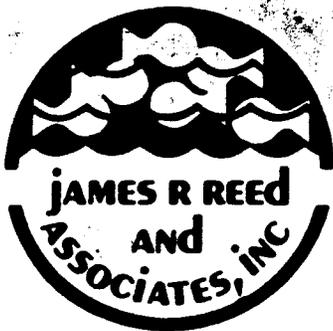
4-9-87 @ 11:44
 Cape Charles
 CC-4
 87-1988

Mercury	<0.037 mg/kg
Arsenic	6.34 mg/kg
Chromium	45.4 mg/kg
Selenium	<0.726 mg/kg
Lead	87.4 mg/kg
Zinc	122 mg/kg
Copper	14.0 mg/kg
Cadmium	3.84 mg/kg
Tin	<52 mg/kg
Nickel	28.0 mg/kg
Pesticides	
p,p'-DDE	<10 ug/kg
p,p'-DDD	<10 ug/kg
p,p'-DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	113670 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,

Prisilla Short

Laboratory Manager



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[Norfolk District Corp. of Engineers
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 0 Norfolk, VA 23510-1096
 L

April 27, 1987

Sample Identification

Analyses

Results

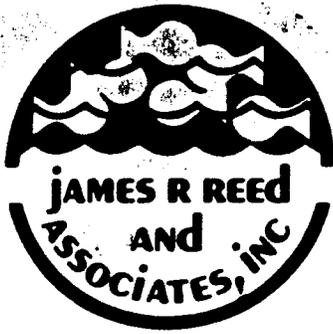
Samples received 4-10-87

4-9-87 @ 10:08
 Cape Charles
 CC-5
 87-1989

Mercury	<0.022 mg/kg
Arsenic	5.50 mg/kg
Chromium	29.2 mg/kg
Selenium	<0.453 mg/kg
Lead	44.9 mg/kg
Zinc	62.9 mg/kg
Copper	2.25 mg/kg
Cadmium	2.92 mg/kg
Tin	<17 mg/kg
Nickel	13.5 mg/kg
Pesticides	
p,p'-DDE	<10 ug/kg
p,p'-DDD	<10 ug/kg
p,p'-DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	46714 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,


 Priscilla Shott
 Laboratory Manager



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

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Laboratory Services Report

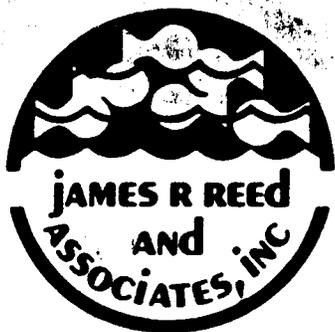
Norfolk District Corp. of Engineers
803 Front Street
Norfolk, VA 23510-1096

April 27, 1987

<u>Sample Identification</u>	<u>Analyses</u>	<u>Results</u>
Samples received 4-10-87		
4-9-87 @ 12:03 Cape Charles CC-6 87-1990	Mercury Arsenic Chromium Selenium Lead Zinc Copper Cadmium Tin Nickel Pesticides p,p'-DDE p,p'-DDD p,p'-DDT Endrin Estimated Toxaphene Dieldrin Heptachlor epoxide Oxychlorodane Cis-chlordane Trans-nonachlor Cis-nonachlor PCB COD General Appearance	<0.032 mg/kg 6.37 mg/kg 37.9 mg/kg <0.633 mg/kg 85.3 mg/kg 120 mg/kg 25.3 mg/kg 5.06 mg/kg <26 mg/kg 25.3 mg/kg <10 ug/kg <10 ug/kg 90736 mg/kg uniform black muddy

Respectfully submitted,

Priscilla Short
Laboratory Manager



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

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Laboratory Services Report

Norfolk District Corp. of Engineers
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Norfolk, VA 23510-1096

April 27, 1987

Sample Identification

Analyses

Results

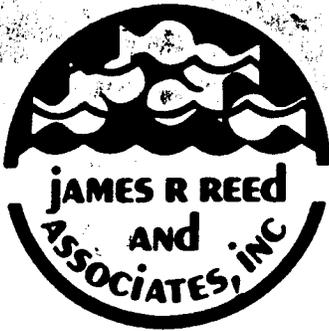
Samples received 4-10-87

4-9-87 @ 10:40
Cape Charles
CC-7
87-1991

Mercury	<0.038 mg/kg
Arsenic	10.5 mg/kg
Chromium	33.2 mg/kg
Selenium	<0.758 mg/kg
Lead	81.1 mg/kg
Zinc	103 mg/kg
Copper	14.8 mg/kg
Cadmium	4.79 mg/kg
Tin	<53 mg/kg
Nickel	18.4 mg/kg
Pesticides	
p.p ¹ -DDE	<10 ug/kg
p.p ¹ -DDD	<10 ug/kg
p.p ¹ -DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	101338 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,

Priscilla Short
Laboratory Manager



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

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Laboratory Services Report

┌
Norfolk District Corp. of Engineers
803 Front Street
0 Norfolk, VA 23510-1096
└

April 27, 1987

Sample Identification

Analyses

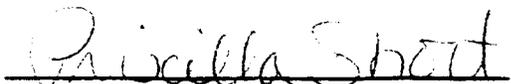
Results

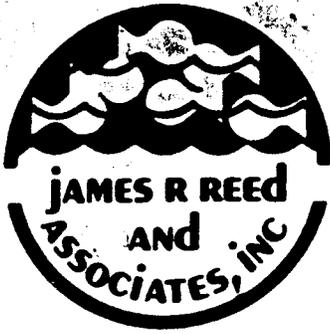
Samples received 4-10-87

4-9-87 @ 13:07
Cape Charles
CC-8
87-1992

Mercury	<0.036 mg/kg
Arsenic	8.49 mg/kg
Chromium	41.6 mg/kg
Selenium	<0.685 mg/kg
Lead	90.1 mg/kg
Zinc	139 mg/kg
Copper	24.3 mg/kg
Cadmium	5.54 mg/kg
Tin	<36 mg/kg
Nickel	31.2 mg/kg
Pesticides	
p.p' ₁ -DDE	<10 ug/kg
p.p' ₁ -DDD	<10 ug/kg
p.p' ₁ -DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	72909 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,


Laboratory Manager



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

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Laboratory Services Report

Norfolk District Corp. of Engineers
803 Front Street
Norfolk, VA 23510-1096

April 27, 1987

Sample Identification

Analyses

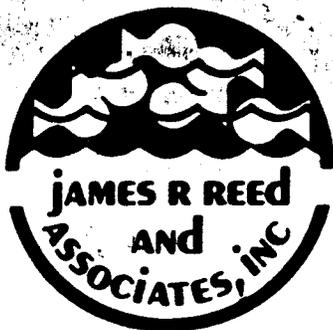
Results

Samples received 4-10-87

4-9-87 @ 12:23
Cape Charles
CC-9
87-1993

Mercury	<0.036 mg/kg
Arsenic	9.62 mg/kg
Chromium	38.5 mg/kg
Selenium	<0.719 mg/kg
Lead	84.0 mg/kg
Zinc	122 mg/kg
Copper	24.5 mg/kg
Cadmium	4.55 mg/kg
Tin	<30 mg/kg
Nickel	28.0 mg/kg
Pesticides	
p,p'-DDE	<10 ug/kg
p,p'-DDD	<10 ug/kg
p,p'-DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	109599 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

813 forrest drive • newport news, virginia 23606 • (804) 599-6750

Laboratory Services Report

┌
Norfolk District Corp. of Engineers
803 Front Street
0 Norfolk, VA 23510-1096
└

April 27, 1987

Sample Identification

Analyses

Results

Samples received 4-10-87

4-9-87 @ 11:20
Cape Charles
CC-10
87-1994

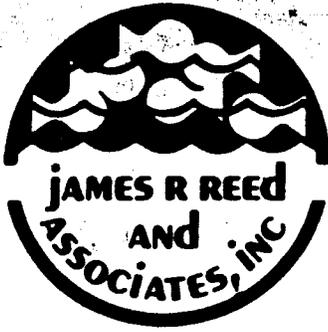
Mercury	<0.037 mg/kg
Arsenic	9.30 mg/kg
Chromium	37.2 mg/kg
Selenium	<0.740 mg/kg
Lead	92.9 mg/kg
Zinc	115 mg/kg
Copper	18.6 mg/kg
Cadmium	4.83 mg/kg
Tin	25 mg/kg
Nickel	22.3 mg/kg

Pesticides

p.p ₁ -DDE	<10 ug/kg
p.p ₁ -DDD	<10 ug/kg
p.p ₁ -DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	131141 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,

Phyllis Short
Laboratory Manager



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

813 Forrest Drive • Newport News, Virginia 23606 • (804) 599-6750

Laboratory Services Report

[Norfolk District Corp. of Engineers
 803 Front Street
 T Norfolk, VA 23510-1096
 0
 L

April 27, 1987

Sample Identification

Analyses

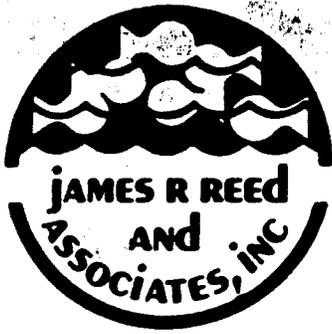
Results

Samples received 4-10-87

4-9-87 @ 14:47
 Cape Charles
 MC-1
 87-1996

Mercury	<0.032 mg/kg
Arsenic	5.99 mg/kg
Chromium	31.1 mg/kg
Selenium	<0.634 mg/kg
Lead	84.0 mg/kg
Zinc	218 mg/kg
Copper	59.1 mg/kg
Cadmium	4.04 mg/kg
Tin	<34 mg/kg
Nickel	15.6 mg/kg
Pesticides	
p,p'-DDE	<10 ug/kg
p,p'-DDD	<10 ug/kg
p,p'-DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	129606 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

813 Forrest Drive • Newport News, Virginia 23606 • (804) 599-6750

Laboratory Services Report

Norfolk District Corp. of Engineers
803 Front Street
Norfolk, VA 23510-1096

April 27, 1987

Sample Identification

Analyses

Results

Samples received 4-10-87

4-9-87 @ 15:05
Cape Charles
MC-2
87-1997

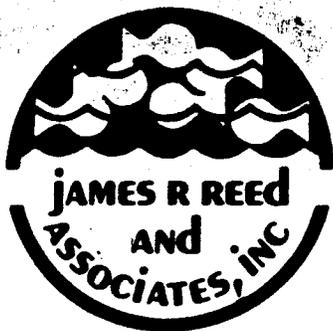
Mercury	<0.021 mg/kg
Arsenic	3.38 mg/kg
Chromium	18.6 mg/kg
Selenium	<0.422 mg/kg
Lead	53.7 mg/kg
Zinc	122 mg/kg
Copper	39.3 mg/kg
Cadmium	2.69 mg/kg
Tin	<18 mg/kg
Nickel	14.5 mg/kg

Pesticides

p,p'-DDE	<10 ug/kg
p,p'-DDD	<10 ug/kg
p,p'-DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	43349 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,

Christina Smith
Laboratory Manager



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

813 forrest drive • newport news, virginia 23606 • (804) 599-6750

Laboratory Services Report

Norfolk District Corp. of Engineers
803 Front Street
Norfolk, VA 23510-1096

April 27, 1987

Sample Identification

Analyses

Results

Samples received 4-10-87

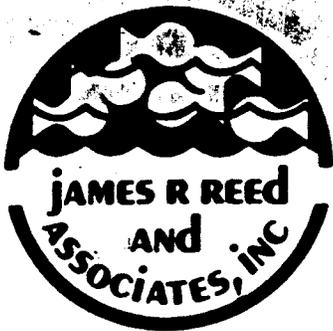
4-9-87 @ 15:21
Cape Charles
MC-3
87-1998

Mercury	<0.021 mg/kg
Arsenic	4.73 mg/kg
Chromium	22.1 mg/kg
Selenium	<0.409 mg/kg
Lead	54.3 mg/kg
Zinc	94.6 mg/kg
Copper	38.2 mg/kg
Cadmium	3.02 mg/kg
Tin	<23 mg/kg
Nickel	14.1 mg/kg
Pesticides	
p,p ₁ -DDE	<10 ug/kg
p,p ₁ -DDD	<10 ug/kg
p,p ₁ -DDT	<10 ug/kg
Endrin	<10 ug/kg
Estimated Toxaphene	<10 ug/kg
Dieldrin	<10 ug/kg
Heptachlor epoxide	<10 ug/kg
Oxychlorodane	<10 ug/kg
Cis-chlordane	<10 ug/kg
Trans-nonachlor	<10 ug/kg
Cis-nonachlor	<10 ug/kg
PCB	<10 ug/kg
COD	42149 mg/kg
General Appearance	uniform black muddy

Respectfully submitted,

P. Willa Short

Laboratory Manager



James R. Reed & Associates, Inc.

Environmental Testing & Consulting

813 forrest drive • newport news, virginia 23606 • (804) 599-6750

Laboratory Services Report

┌
Norfolk District Corp. of Engineers
T 803 Front Street
O Norfolk, VA 23510-1098
└

April 27, 1987

Sample Identification

Analyses

Results

Samples received 4-10-87

4-9-87 @ 16:00
Cape Charles
Concrete Plant Pond
87-1999

Pesticides

p,p'-DDE	<10 ug/L
p,p'-DDD	<10 ug/L
p,p'-DDT	<10 ug/L
Endrin	<10 ug/L
Estimated Toxaphene	<10 ug/L
Dieldrin	<10 ug/L
Heptachlor epoxide	<10 ug/L
Oxychlorane	<10 ug/L
Cis-chlordane	<10 ug/L
Trans-nonachlor	<10 ug/L
Cis-nonachlor	<10 ug/L
PCB	<10 ug/L

General Appearance	aqueous sample greenish free floating algae
--------------------	---

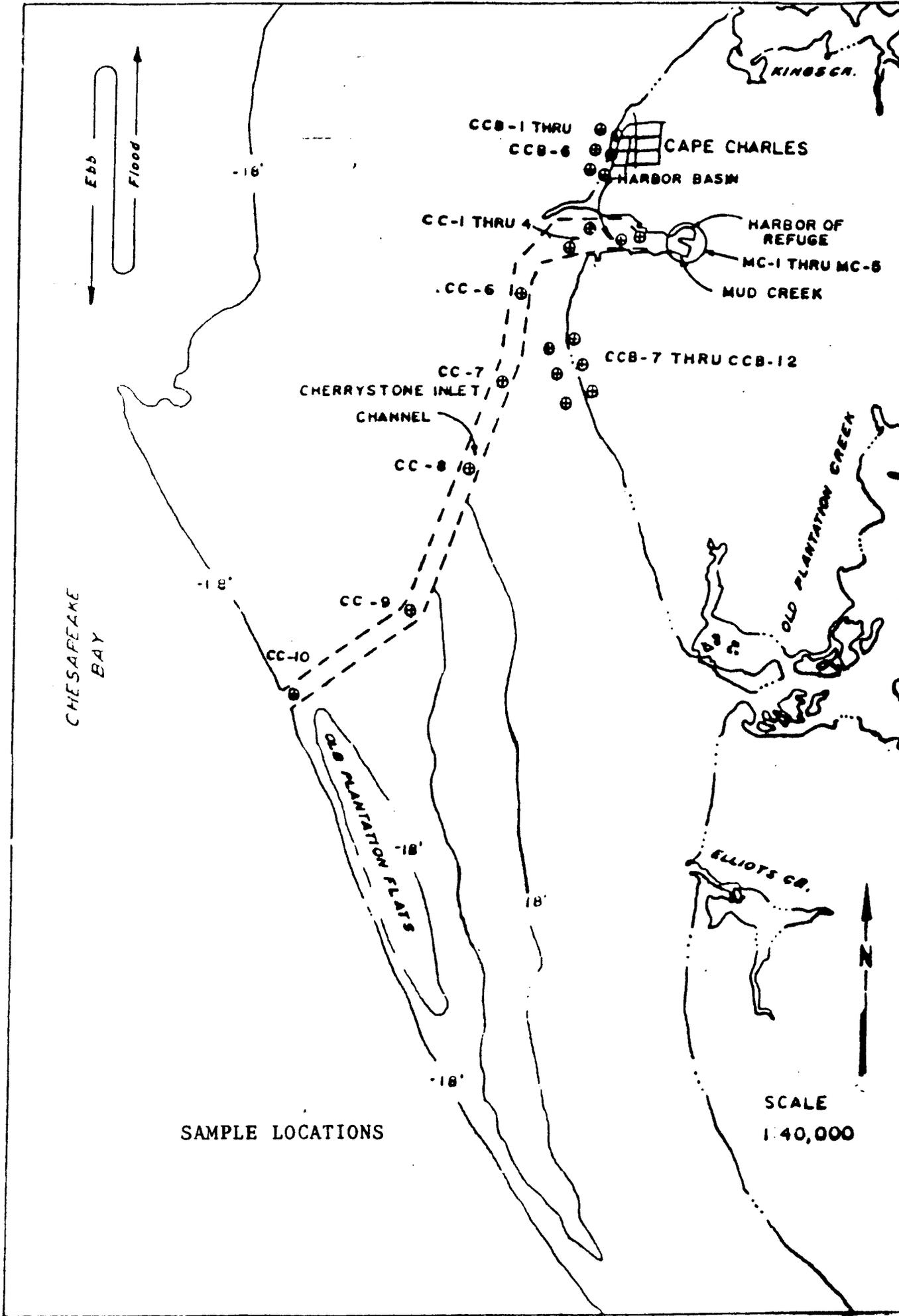
Respectfully submitted,

Priscilla Short

Laboratory Manager

APPENDIX C

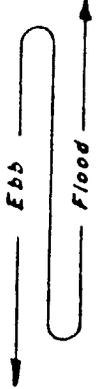
SOIL ANALYSIS - 25 APRIL 1986



CHESAPEAKE
BAY

SAMPLE LOCATIONS

SCALE
1:40,000



CCB-1 THRU
CCB-6

CAPE CHARLES

HARBOR BASIN

CC-1 THRU 4

HARBOR OF
REFUGE

MC-1 THRU MC-6

MUD CREEK

CC-6

CCB-7 THRU CCB-12

CC-7
CHERRYSTONE INLET
CHANNEL

CC-8

CC-9

CC-10

OLD PLANTATION
FLATS

OLD PLANTATION
CREEK

ELLIOTS CR.



-16°

-18°

-18°

18'

SOIL ANALYSIS RESULTS
PROJECT CHANNEL

<u>SAMPLE</u>	<u>LOCATION</u>	<u>SAND*</u>	<u>D₅₀(mm)</u>	<u>CLASS.</u>	<u>DESCRIPTION</u>
MC-1	Mud Creek	79%	0.13	SC	Fn.Sand, Sm.Fines
MC-2	Mud Creek	91%	0.19	SP-SC	Fn.-M. Sand
MC-3	Mud Creek	59%		SC-H	Fn.Sand, Fines
MC-4	Mud Creek	91%	0.25	SP-SC	Fn.Med.Sand, Tr.Fines
MC-5	Mud Creek	43%		CH	Clay, Fn.Sand
CC-1	City Harbor	13%		CH	Clay, Sm.Silt & Fn.Sand
CC-2	City Harbor	15%		CH	Clay, Sm.Silt & Fn.Sand
CC-3	City Harbor	8%		CH	Clay, Sm.Silt & Fn.Sand
CC-4	City Harbor	7%		CH	Clay, Sm.Silt & Fn.Sand
CC-5	City Beach	99%	0.21	SP	Fine Sand
CC-6	Cherrystone Inlet Channel	96%	0.18	SP	Fine Sand
CC-7	" "	99%	0.22	SP	Fn.-Med.Sand
CC-8	" "	95%	0.12	SP	Fine Sand
CC-9	" "	94%	0.13	SP-SM	Fine Sand
CC-10	" "	98%	0.12	SP	Fine Sand

* % Retained, #200 Sieve

SOIL ANALYSIS RESULTS
BEACH DISPOSAL SITES

<u>SAMPLE</u>	<u>LOCATION</u>	<u>SAND*</u>	<u>D₅₀ (mm)</u>	<u>CLASS.</u>	<u>DESCRIPTION</u>
CCB-1	A	99.7%	0.61	SP	Fine-Med.Sand
CCB-2	B	99.2%	0.32	SP	Fine-Med.Sand
CCB-3	A	99.9%	0.32	SP	Fine-Med.Sand
CCB-4	B	99.2%	0.27	SP	Fine Sand
CCB-5	A	99.7%	0.35	SP	Fine-Med.Sand
CCB-6	B	98.9%	0.24	SP	Fine Sand
CCB-7	C	99.6%	0.50	SP	Fine-Coarse Sand
CCB-8	D	98.9%	0.18	SP	Fine Sand
CCB-9	C	99.7%	0.62	SP	Fine-Med.Sand
CCB-10	D	99.0%	0.21	SP	Fine Sand
CCB-11	C	99.9%	0.58	SP	Fine-Med.Sand
CCB-12	D	99.0%	0.20	SP	Fine Sand

* Percent retained #200 Sieve

Location Code

- A = City Beach, Shoreline
- B = City Beach, Nearshore
- C = South Beach, Shoreline
- D = South Beach, Nearshore

APPENDIX D

FAUNASTIC INVENTORY AT OLD PLANTATION FLATS
VIRGINIA INSTITUTE OF MARINE SCIENCE - 1978

Phylum Arthropoda

Horseshoe crab	<i>Limulus polyphemus</i>
Mantis shrimp	<i>Squilla empusa</i>
Amphipod	<i>Caprella sp.</i>
Pink shrimp	<i>Penaeus duorarum duorarum</i>
Shrimp	<i>Trachypeneus constrictus</i>
Sand shrimp	<i>Crangon septemspinosa</i>
Porcellanid crab	<i>Polyonx gibbesi</i>
Hermit crab	<i>Pagurus longicarpus</i>
Hermit crab	<i>Pagurus pollicaris</i>
Blue crab	<i>Callinectes sapidus</i>
Calico crab	<i>Ovalipes ocellatus</i>
Rock crab	<i>Cancer irroratus</i>
Mud crab	<i>Eurypanopeus depressus</i>
Mud crab	<i>Neopanope texana sayi</i>
Spider crab	<i>Libinia emarginata</i>
Spider crab	<i>Libinia dubia</i>

Phylum Echinodermata

Starfish	<i>Asterias forbesi</i>
Sea cucumber	<i>Thyone briareus</i>
Sea urchin	<i>Arbacia punctulata</i>
Sand dollar	<i>Mellita quinquiesperforata</i>
Tunicate	<i>Botryllus schlosseri</i>

TABLE II. LIST OF INVERTEBRATES COLLECTED AT OLD PLANTATION
FLATS DEEP STATION

Phylum Porifera

<u>Common Name</u>	<u>Scientific Name</u>
Boring sponge	<i>Cliona sp.</i>

Phylum Cnidaria

Purple whipcoral	<i>Leptogorgia virgulata</i>
Star coral	<i>Astrangia danae</i>

Phylum Bryozoa (Ectoprocta)

Branching bryozoan	<i>Alcyonidium sp.</i>
--------------------	------------------------

Phylum Mollusca

Jingle shell	<i>Anomia simplex</i>
Blue mussel	<i>Mytilus edulis</i>
Quahog	<i>Mercenaria mercenaria</i>
Limpet	<i>Crepidula fornicata</i>
Moon snail	<i>Polinices sp.</i>
Atlantic oyster drill	<i>Urosalpinx cinerea</i>
Whelk	<i>Busycon sp.</i>
Chiton	<i>Chaetopleura apiculata</i>
Squid	<i>Lolliguncula brevis</i>

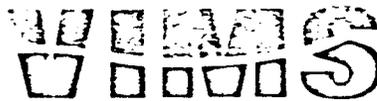
<u>Common Name</u>	<u>Scientific Name</u>
Scup	<i>Stenotomus chrysops</i>
Silver perch	<i>Bairdiella chrysura</i>
Weakfish	<i>Cynoscion regalis</i>
Banded drum	<i>Larimus fasciatus</i>
Northern kingfish	<i>Menticirrhus saxatilis</i>
Atlantic croaker	<i>Micropogon undulatus</i>
Northern sennet	<i>Sphyræna borealis</i>
Striped blenny	<i>Chasmodes bosquianus</i>
Feather blenny	<i>Hypsoblennius hentzi</i>
Goby	<i>Gobiosoma sp.</i>
Northern searobin	<i>Prionotus carolinus</i>
Summer flounder	<i>Paralichthys dentatus</i>
Winter flounder	<i>Pseudopleuronectes americanus</i>
Hogchoker	<i>Trinectes maculatus</i>
Blackcheek tonguefish	<i>Symphurus plagiusa</i>
Striped burrfish	<i>Chilomycterus schoepfi</i>

TABLE I. LIST OF FISHES COLLECTED AT OLD PLANTATION FLATS
DEEP STATION

<u>Common Name</u>	<u>Scientific Name</u>
Sandbar shark	<i>Carcharhinus milberti</i>
Spiny dogfish	<i>Squalus acanthias</i>
Clearnose skate	<i>Raja eglanteria</i>
Little skate	<i>Raja erinacea</i>
Southern stingray	<i>Dasyatis americana</i>
American eel	<i>Anguilla rostrata</i>
Conger eel	<i>Conger oceanicus</i>
Blueback herring	<i>Alosa aestivalis</i>
Round herring	<i>Etrumeus teres</i>
Bay anchovy	<i>Anchoa mitchilli</i>
Inshore lizardfish	<i>Synodus foetens</i>
Oyster toadfish	<i>Opsanus tau</i>
Skilletfish	<i>Gobiesox strumosus</i>
Red hake	<i>Urophycis chuss</i>
Spotted hake	<i>Urophycis regius</i>
Striped cusk-eel	<i>Rissola marginata</i>
Atlantic silverside	<i>Menidia menidia</i>
Lined seahorse	<i>Hippocampus erectus</i>
Northern pipefish	<i>Syngnathus fuscus</i>
Black sea bass	<i>Centropristis striata</i>
Rough scad	<i>Trachurus lathamii</i>
Pinfish	<i>Lagodon rhomboides</i>

APPENDIX E

COMMENTS



THE COLLEGE OF WILLIAM AND MARY
 VIRGINIA INSTITUTE OF MARINE SCIENCE
 SCHOOL OF MARINE SCIENCE
SHORELINE PERMIT APPLICATION REPORT

June 26, 1987

<u>APPLICANT</u>	<u>WETLANDS BOARD</u>	<u>VMRC NO.</u>	<u>INSPECTION DATE</u>
Corps of Engineers	N/A	N/A	12 March 1986 26 March 1987
<u>CITY OR COUNTY</u>	<u>WATERWAY</u>	<u>TOPO SHEET</u>	<u>TYPE APPLICATION</u>
Cape Charles	Chesapeake Bay Cherrystone Channel	Cape Charles	Subaqueous
<u>ACTIVITY</u>	<u>TYPE AND EXTENT</u>	<u>PURPOSE</u>	
Dredge	420,000 Cu. Yds.	Channel maintenance	
<u>TYPE OF WETLANDS INVOLVED</u>		<u>EXTENT OF WETLANDS INVOLVED</u>	
Intertidal sand beach		In excess of twenty acres	

THIS ASSESSMENT IS BASED ON BIOLOGICAL, CHEMICAL, GEOLOGICAL AND PHYSICAL FACTORS AFFECTING THE MARINE ENVIRONMENT AT AND IN THE VICINITY OF THE PROPOSED ACTIVITY. PARAMETERS OF THE MARINE ENVIRONMENT WHICH MAY INFLUENCE RECREATIONAL, COMMERCIAL OR INDUSTRIAL ACTIVITIES WHICH ARE DEPENDENT ON THE MARINE ENVIRONMENT ARE ALSO CONSIDERED WHERE APPLICABLE.

THE VIRGINIA INSTITUTE OF MARINE SCIENCE (VIMS) IS AWARE THAT REGULATORY OR ADMINISTRATIVE BODIES WHO WEIGH THE OVERALL POTENTIAL PUBLIC AND PRIVATE BENEFITS AND DETRIMENTS IN ARRIVING AT DECISIONS MUST ALSO CONSIDER OTHER FACTORS SUCH AS ECONOMICS, AESTHETICS, ZONING OR COMMUNITY DESIRES. INFORMATION PROVIDED IN THIS REPORT IS, THEREFORE, ONLY THE ENVIRONMENTAL AND MARINE RESOURCES INPUT INTO THE DECISION MAKING PROCESS.

- We have reviewed this proposal from a marine environmental viewpoint and it is our opinion that the individual and cumulative adverse impacts resulting from this activity will be minimal.
- It is our opinion that the individual and cumulative adverse environmental impacts resulting from this project warrant careful consideration. The attached report summarizes these impacts and, where appropriate, suggests alternatives to minimize environmental effects.
- It is our opinion that this proposal has the potential to significantly affect the marine environment. Please see the attached report.

Estimated Impact

The dredging will involve localized increases in turbidity and the removal of the benthic (bottom-dwelling) community from the channel bottom. Repopulation of the channel should take place within one to two years depending on a number of variable factors. Turbidity should be greater within the harbor area where silts, clays and organics will be dredged. Hydraulic dredging with direct disposal into a properly prepared upland site minimizes turbidity significantly. Disposal of the sandy material from the entrance channel on the public beach and Brown and Root property will cover the floral and faunal assemblages of the intertidal beach, but these organisms should reestablish along the relocated intertidal zone. The beach disposal will also cover an estimated ten to twenty thousand square feet of eel grass community and an undetermined area of leased oyster ground. If there are oysters on these grounds, we would not expect recovery in the near term. Any recovery by eel grass would have to await erosion of the dredged sand and natural reestablishment of the grasses through seeding.

Lessening Adverse Impact

Due to the documented ecological value of the eel grass community and the fact that the Bay's eelgrass population is presently at a low ebb, it is our opinion that large losses of this resource should be avoided where possible. We suggest that consideration be given to moving the threatened eelgrass areas offshore of the disposal area in order to minimize loss of the resource. Another alternative would be to narrow the width of the disposal areas to avoid the eel grass and to increase the Brown and Root disposal area longitudinally to accommodate the projected amount of sand to be dredged.

Conclusion

From a marine environmental perspective this proposal is generally well planned with environmental issues having been carefully considered. We concur with the principle of reserving the upland disposal site for the undesirable material to be removed from inside the harbor. We also feel that beach disposal of suitable sandy material is highly desirable in this instance.

Although our studies have previously indicated the presence of relatively low density submerged vegetation offshore of the two beach disposal areas, we were not aware of the actual extent of eel grass involved until the Corps' Environmental Assessment was released in June. We are now of the opinion that steps should be taken to minimize the amount of eel grass destroyed in the beach disposal operation. From an environmental

perspective it would be preferable to avoid covering the existing grass community. If this is not feasible, transplanting the affected grass areas further offshore would be desirable.


Thomas A. Barnard, Jr.
Marine Scientist

TAB/jh

C: EPA

SWCB

NMFS

F&WS

Miles Pocta, CE

Applicant

Wetlands Board

Bob Orth, VIMS

Jay Roberts, C. Envir.

file



COMMONWEALTH of VIRGINIA

Council on the Environment

KEITH J. BUTTLEMAN
ADMINISTRATOR

215 NORTH STREET, DEPT. OF ENVIRONMENTAL AFFAIRS
RICHMOND, VIRGINIA 23219
804-781-4800

July 8, 1987

Mr. Jack G. Starr
Chief, Engineering Division
Norfolk District, Corps of Engineers
803 Front Street
Norfolk, VA 23510

Dear Mr. Starr:

The Commonwealth of Virginia has completed its review of the Environmental Assessment for Maintenance Dredging of Cape Charles City Harbor. The Council on the Environment is responsible for coordinating Virginia's review of federal environmental documents and responding to appropriate federal officials on behalf of the Commonwealth. The following agencies joined in this review:

State Water Control Board
Commission of Game and Inland Fisheries
State Department of Health
Department of Conservation and Historic Resources
Marine Resources Commission
Virginia Institute of Marine Science.

We have no objection to this dredging and disposal project and will agree with a Finding of No Significant Impact. We agree that dredge material removed from inside Cape Charles Harbor should be disposed of on an upland site. The disposal site, we understand, has been discussed at length with other state agencies and its location carefully chosen over alternative sites. The disposal of suitable sandy dredge material on beaches, as part of beach nourishment efforts, is a desirable use of dredge spoil in this case.

Disposal of dredged material along the northern beach is likely to cover the submerged eelgrass growing there. This problem could best be mitigated by realigning the disposal area so that the eelgrass communities are not covered by dredge spoil. We recommend transplanting the eelgrass farther offshore as another alternative to prevent destroying viable eelgrass communities.

Mr. Jack G. Starr
Page Two

If the Marine Resources Commission issues a permit for this project, the project will be deemed consistent with Virginia's coastal resource management program.

Thank you for the opportunity to review this document.

Sincerely,

A handwritten signature in black ink, appearing to read "Keith J. Buttleman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Keith J. Buttleman

cc: The Honorable John W. Daniel, II
Mr. Thomas A. Barnard, Jr., VIMS
Mr. Norman E. Larsen, MRC
Mr. Michael B. Gregory, SWCB
Mr. William E. Neal, CGIF
Ms. Bonnie S. Greenwood, DCHR
Ms. Nancy Miller, DHCD



United States Department of the Interior

FISH AND WILDLIFE SERVICE
DIVISION OF ECOLOGICAL SERVICES
1825 VIRGINIA STREET
ANNAPOLIS, MARYLAND 21401

July 2, 1987

Colonel Joseph J. Thomas
District Engineer
Norfolk District, Corps of Engineers
Fort Norfolk, 803 Front Street
Norfolk, Virginia 23510-1096

Attn: Mr. Terry Getchell, Dredging Management Branch

Dear Colonel Thomas:

The U.S. Fish and Wildlife Service (Service) has reviewed the joint Federal/State public notice dated June 5, 1987, regarding the proposed 10 year program for dredging and disposing of materials maintenance dredged from the channels associated with the Cape Charles City Harbor Federal Navigation Project located at the town of Cape Charles, Northampton County, Virginia. We have also reviewed the environmental assessment for the project dated June 3, 1987. This letter constitutes the report of the Service and the Department of the Interior on the proposed project and is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

The Service has no objection to the proposed dredging, although we have several suggestions regarding management of the disposal areas. In order to prevent a recurrence of the disposal problems experienced during the recent dredging of the Federal navigation channel into Cranes Creek in Northumberland County, we recommend that the dredging contract stipulate that the material destined for the shoreline disposal areas be distributed as uniformly as possible along the entire length of the designated disposal reach. The agreements with the property owners of the shoreline disposal areas should also stipulate that the owners will not harden the newly created shoreline for the purpose of creating permanent fastland out of the area that is presently part of the aquatic system.

A Service Environmental Contaminants biologist reviewed the sediment analysis data from the inner harbor and found that the concentrations of arsenic, chromium, lead, cadmium, and nickel were elevated above normal background levels. The levels at some of the sample sites were found to be higher than those detected in the sediments of the Elizabeth River and Baltimore Harbor. While we do not believe that an impermeable liner is necessary for the confined upland disposal area, we do recommend that the

Colonel Joseph J. Thomas
Page 2

disposal area be sized as large as is practicable and either compartmentalized or otherwise managed to maximize the settling time before the decant leaves the disposal area. In addition, we recommend the addition of pH modifiers and soil amendments to the dredged material to promote rapid and vigorous colonization of the disposal area by vascular plants, thereby reducing pollutant movement due to erosion by wind or water. Based upon a telephone conversation with the primary author, we understand that Skogerboe et al. (1986), a paper published by the Corps' Waterways Experiment Station, discusses these procedures in greater detail. Finally, off road vehicle use of the disposal site should be prohibited.

If the next dredging cycle occurs within the 10 year period covered by this public notice, please advise our Gloucester Point sub-office so that the Service can determine whether the project features are consistent with the policies and management methods in effect at that time.

Please contact Gary Frazer at our Gloucester Point sub-office if you have any questions regarding these comments.

Sincerely,

Karen L. Mayne

Acting Supervisor
Annapolis Field Office

Literature Cited

Skogerboe, J.G., C.R. Lee, and R.A. Price. 1986. Upland disposal site management for surface runoff water quality. Environmental Effects of Dredging, Tech. Note EEDP-02-3. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

841 Chestnut Building
Philadelphia, Pennsylvania 19107

JUL 2 1987

Jack G. Starr
Chief, Engineering Division
Department of the Army
Norfolk District, Corps of Engineers
Fort Norfolk, 803 Front St.
Norfolk, Virginia 23510-1096

Re: Environmental Assessment for Maintenance Dredging of
Cape Charles City Harbor (7-09-181)

Dear Mr. Starr:

This regional office has reviewed your Environmental Assessment (EA) for Manitenance Dredging of Cape Charles City Harbor for potential environment impacts, pursuant to responsibilities granted to the U.S. Environmental Protection Agency (EPA) within Section 309 of the Clean Air Act (P.L. 91-604).

We note that the proposed dredging will be accomplished by a hydraulic pipeline dredge and will dispose of approximately 240,000 cubic yards of dredge material in a 35-40 acre upland site owned by the Eastern Shore Railroad. Pipelines associated with the operation will go under existing railroad tracks. The spillway effluent will return to the Harbor of Refuge by enlarging to 30 inches, an existing 12 inch pipe which goes through the bulkhead.

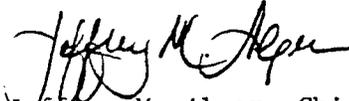
The upland disposal area was once a switching and holding yard for the railroad, which has since been abandoned. There are approximately seven sets of remnant rail tracks lying on a bed of slag. In Section 4.12 on page 7 it is stated that "train tracks, railcars, and engines will be removed by the Eastern Shore Railroad or be covered by the dredged material in the upland disposal site." We know from past experience that old abandoned railroad operations are often a source for PCBs, coal tars, asbestos, industrial solvents, etc. There was no mention in the assessment that the soils in the upland site were analyzed for these or other possible contaminants. Were these to be buried and a leachate problem develop, a very costly CERCLA removal project could result. This possibility should be addressed.

Soil analysis for the channel sediments, particularly from the City Harbor appear to suggest that some of the metals, especially cadmium, which is bioaccumulative, are above the criteria for over-board disposal. While the material from this project is scheduled for upland disposal a problem with leachates might develop, considering that there are no proposals for lining this disposal site. This too, poses the possibility of a CERCLA problem which should also be further addressed.

It should be noted that the purpose of an EA is to determine the applicability of a Finding of No Significant Impact (FONSI) or the need for a full Environmental Impact Statement (EIS). In light of the issues noted above, EPA recommends the development of a Supplemental EA or an EIS to thoroughly address these concerns before the project is declared to be free of significant impact.

Thank you for the opportunity to review and comment on this dredging project. Any further correspondence on this project should be addressed to Mr. James L. LaBay (215-597-0355) of my staff.

Sincerely,



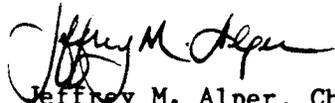
Jeffrey M. Alper, Chief
NEPA Compliance Section

cc: Les Balderson-VA WCB
Karen Mayne-FWS

Considering the maximum level of 7.8 ppm, however, I have been advised by our Superfund staff that it is not likely that removal of the PCBs will be required. Should higher levels be found, that position could change. Nonetheless, we suggest that the COE maintain thorough records of the testing sites and the levels measured for future reference, if needed. If there is any doubt over the accuracy or scope of the PCB testing program, we recommend that consideration be given to performing additional tests prior to placing any fill material.

We appreciate your thorough and sincere response to our concerns and look forward to working with the Norfolk Corps in the future. If I can be of further assistance, feel free to contact me at FTS 597-9302.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey M. Alper". The signature is fluid and cursive, with a large initial "J" and "A".

Jeffrey M. Alper, Chief
NEPA Compliance Section



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

841 Chestnut Building
Philadelphia, Pennsylvania 19107

Jack E. Starr, Chief
Engineering Division
Department of the Army
Norfolk District, Corps of Engineers
Fort Norfolk, 803 Front Street
Norfolk, Virginia 23510-1096

Re: Maintenance Dredging of the Cape Charles City Harbor

Dear Mr. Starr,

With regard to the above referenced project, we wish to acknowledge your response by telephone to the comments expressed in our July 2, 1987 letter. Based on the limited information provided in the environmental assessment (EA), our comments were made in a generic fashion, especially with regard to the potential presence of PCBs, asbestos, coal tars and industrial solvents at the abandoned rail yard. Your response served to clarify many of the issues that had previously been unaddressed. Consequently, we now have a better understanding of the size of the yard, its former function and most importantly, the levels of PCBs found to be present during a screening of the site.

Prior to the telephone conversation of July 15, 1987, EPA was unaware that any PCB testing had been conducted at the site. We are now advised, however, that the maximum level measured was 7.8 parts per million (ppm) and that this reading was taken from an area not scheduled to be filled.

As was explained over the telephone, EPA Region III's Hazardous Waste Management Division is scheduled to conduct a PCB survey of rail yards within our jurisdiction. The list of sites is scheduled to be compiled this fall with sampling to be conducted in the summer of 1988. It is not known at this time whether the Eastern Shore Railroad yard will appear on the list. If it does, it will be subject to PCB testing, regardless of whether the site is used for the disposal of dredged material as planned. Should excessive levels be found, the COE would then be responsible for removal of the PCBs.

APPENDIX B

PERMITS AND AGENCY CONSULTATION CORRESPONDENCE



COMMONWEALTH of VIRGINIA

STATE WATER CONTROL BOARD

2111 Hamilton Street

Richard N. Burton
Executive Director

July 16, 1987

Post Office Box 11143
Richmond, Virginia 23230-1143
(804) 257-0056

Mr. Jack G. Starr
Chief, Engineering Division
Norfolk District Corps of Engineers
803 Front Street
Norfolk, Virginia 23510

Re: Certification No. 87-0929

Dear Mr. Starr:

In accordance with your application, we have enclosed the Certification for the proposed maintenance dredging of approximately 420,000 cubic yards of material in Cape Charles City Harbor and approach channel in the Chesapeake Bay, located at Cape Charles, Virginia, pursuant to Section 401 of the Clean Water Act Amendments of 1977, Public Law 95-217.

The Certification requires your signature and date of acceptance of the special conditions contained therein.

We have also enclosed two additional copies of the Certification, one for your files and one which we ask that you sign and return to us.

If you have any questions, please advise us.

Sincerely,

A handwritten signature in cursive script, appearing to read "Larry G. Lawson".

Larry G. Lawson, P.E, Director
Office of Water Resources Management

sep

Enclosures

cc: SWCB - Permits Program, 401 Certification File
Virginia Marine Resources Commission

#7523



COMMONWEALTH of VIRGINIA

STATE WATER CONTROL BOARD

2111 Hamilton Street

Richard N. Burton
Executive Director

Post Office Box 11143
Richmond, Virginia 23230-1143
(804) 257-0056

CERTIFICATION NO. 87-0929

401 CERTIFICATION
ISSUED TO

U.S. Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, Virginia 23510

PURSUANT TO SECTION 401 OF THE CLEAN WATER ACT (33USC SECTION 1341)

The State Water Control Board hereby certifies, subject to the special conditions listed herein, that the proposed dredging of approximately 420,000 cubic yards of material in Cape Charles City Harbor and approach channel in the Chesapeake Bay, located at Cape Charles, Virginia, and for a 10 year maintenance dredging permit to perform maintenance work on an as-needed basis, as specified in the application submitted to the Board on June 16, 1987 and completed on July 5, 1987 and other correspondence or communications supplied to the Board by the applicant, will comply with (1) the Virginia Water Quality Standards which became effective on July 20, 1970 and which are, as amended, in full force and effect under Section 303(a) of Public Law 95-217; (2) other applicable limitations, standards, regulations, and requirements in accordance with the State Water Control Law (Title 62.1-44.2 through 62.1-44.34 of the Code of Virginia (1950), as amended). The Board further certifies that there are no other applicable promulgated effluent limitations or other limitations under Sections 301, 302, and 303 and there is not an applicable standard under Sections 306 or 307 of Public Law 95-217 presently in effect.

The applicant shall immediately notify the Board of any modification of this project and shall demonstrate in a written statement to the Board that said modification will not violate any conditions of this Certification. If such demonstration cannot be made, the applicant shall apply to the Board for a modification of this Certification.

This Certification, after proper hearing, is subject to revocation for failure to comply with the conditions herein. It is issued in accordance with the plans for the project and certifies that the applicant and the project contractor shall not violate the Water Quality Standards to accomplish the project. Any violation of the Water Quality Standards will be subject to abatement and control under the State Water Control Law.

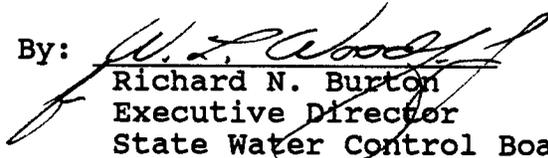
This Certification is valid providing the applicant complies with the following Special Conditions, which are made a part of this Certification.

SPECIAL CONDITIONS

1. That all work shall be done in such a manner as to minimize sedimentation of State waters.
2. That all dredging shall be accomplished by hydraulic method.
3. That approximately 180,000 to 200,000 cubic yards of material from the approach channel dredging shall be piped directly by hydraulic pipeline and deposited along the shoreline adjacent to Cape Charles for beach nourishment.
4. That the dredged material from the inner harbor channel shall be pumped by hydraulic pipeline directly into an onshore disposal site.
5. That an earthen berm shall be placed above the mean high water mark around the perimeter of the disposal site at sufficient height and soil compactness to prevent overflow or breakthrough of the dredged material to State waters.
6. That a spillway (or de-watering riser and outlet pipe) acceptable to the staff of the State Water Control Board shall be provided at the disposal site.
7. That the spillway (or de-watering riser) shall be located well away from the influent line to permit maximum settling within the disposal site.
8. That the approach channel in the Chesapeake Bay shall be approximately 2.8 miles long, with authorized width of 500 feet and currently maintained at 300 feet, and to be dredged to 18 feet mean low water with one foot allowable over depth. The inner harbor will have a basin approximately 3,000 feet long and 600 feet to 1,000 feet wide, and dredged to 18 feet mean low water. Two small basins, designated as Harbor of Refuge and Mud Creek, are situated at the headwaters of Cape Charles Harbor and will be dredged respectively to 7 feet and 10 feet mean low water.

9. That the applicant understands that the State Water Control Board (SWCB) grants clearance only for the initial dredging. Each successive dredging operation will require clearance from the SWCB prior to commencement of dredging activities. Requests for clearance should be submitted by letter at least 30 days before the anticipated commencement of dredging activities as further data may be required by the Board prior to granting clearance.
10. That the State Water Control Board's Permits Program, Office of Water Resources Management, Richmond Office be notified when dredging begins so that the staff will be aware of progress and inspections of the project may be made.

By:

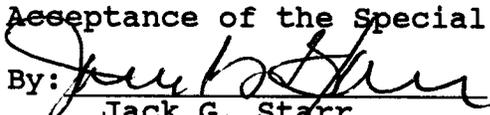

Richard N. Burton
Executive Director
State Water Control Board

Date:

7/14/87

Acceptance of the Special Conditions is acknowledged by:

By:


Jack G. Starr
Chief, Engineering Division - Norfolk District
U.S. Army Corps of Engineers

Date:

**ASSOCIATE MEMBERS**

GEORGE S. FORREST
Poquoson, Virginia
JOHN W. FREEMAN, SR.
Hampton, Virginia
TIMOTHY G. HAYES
Richmond, Virginia
WILLIAM A. HUDNALL
Heathsville, Virginia
DONALD L. LIVERMAN, SR.
Virginia Beach, Virginia
PAUL B. MERRITT
Chincoteague, Virginia
PETER W. ROWE
Chesapeake, Virginia
JANE C. WEBB
Newport News, Virginia

WILLIAM A. PRUITT
Commissioner

ROBERT D. CRAFT
Chief, Administration and Finance

ROBERT W. GRABB
Chief, Habitat Management

ROBERT J. MARKLAND
Chief, Law Enforcement

JACK G. TRAVELSTEAD
Chief, Fisheries Management

COMMONWEALTH of VIRGINIA

Marine Resources Commission

P. O. Box 756

2600 Washington Avenue

Newport News, Virginia 23607-0756

May 25, 1990

Mr. Ronald G. Vann, Chief
Civil Programs Branch
U. S. Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, Virginia 23510-1096

Re: VMRC #87-0929-4
Cape Charles Harbor

Dear Mr. Vann:

This is to inform you that the completion date for work authorized by the above-referenced permit has been extended to July 31, 1995, as requested by your letter dated May 7, 1990. This extension is conditioned upon your agreement to incorporate special conditions #16 and #17 as listed on the attached sheet. These conditions are hereafter incorporated into your original permit document.

Please affix this letter and the attached special conditions to your permit document as evidence of the authorization contained herein.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. W. Grabb".

Robert W. Grabb
Chief, Habitat Management

RWG:khc

HM

Attachment

cc: U. S. Army Corps of Engineers, Regulatory Functions Branch
Virginia Institute of Marine Science
Virginia Water Control Board



COMMONWEALTH of VIRGINIA

Marine Resources Commission

P. O. Box 756

2401 West Avenue

Newport News, Virginia 23607-0756

Telephone: (804) 247-2200

July 29, 1987

WILLIAM A. PRUITT
Commissioner

ROBERT D. CRAFT
Chief, Administration and Finance

NORMAN E. LARSEN
Chief, Habitat Management

ROBERT J. MARKLAND
Chief, Law Enforcement

JACK G. TRAVELSTEAD
Chief, Fisheries Management

Chief, Engineering Division
U.S. Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, Virginia 23510-1096

ASSOCIATE MEM

RICHARD S. BRAY
Portsmouth, Virginia

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Davis Wharf, Virginia

S. LAKE COWART, S
Lottsburg, Virginia

GEORGE S. FORRES
Poquoson, Virginia

JOHN W. FREEMAN,
Hampton, Virginia

TIMOTHY G. HAYES
Richmond, Virginia

JAMES F. McHUGH
Newport News, Virginia

TED J. WOOL
Virginia Beach, Virginia

Re: VMRC #87-0929-4

Dear Sir:

Enclosed is the Marine Resources Commission permit for your proposal to maintenance dredge 420,000 cubic yards of material from Cherrystone Bar Channel and Cape Charles Harbor with suitable spoils material to be used for beach nourishment; the remainder will be transported to an upland disposal site in Northampton County, Virginia.

The work authorized by this permit is to be completed by July 31, 1990. All other conditions of the permit will remain in effect. Please notify this office just prior to commencing work on this project by returning the enclosed orange card at that time. The card requires current U.S. postage and will not be delivered without proper postage.

Sincerely,


Norman E. Larsen
Chief, Habitat Management

NEL:blh
Enclosure

cc: Mr. Robert Bois, Marine Patrol Officer
Mr. Randy Widgeon, Marine Patrol Officer
U.S. Army Corps of Engineers, Norfolk District

7692

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The following special conditions are imposed on this permit:

- 16) The Permittee agrees to inform the Commission in writing at least fifteen (15) working days before the commencement of each maintenance dredging operation and shall certify that an adequate area for the placement of dredged material is available. Commission staff must approve the site of the dredged material placement plan before the commencement of each maintenance dredging operation.

- 17) "If any loss or damage to the Commonwealth is caused by or contributed to, in whole or in part, by the Permittee arising from the establishment, operation, or maintenance of said project, the liability of the Permittee therefore shall be determined in accordance with the applicable provisions of the Federal Tort Claims Act of August 2, 1946, as amended.



COMMONWEALTH of VIRGINIA

Department of Historic Resources

Douglas W. Domenech
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.virginia.gov

December 11, 2013

Chris Turner, Project Manager
U.S. Army Corps of Engineers - Norfolk District
Water Resources Division
803 Front Street
Norfolk, VA 23510-1096

Re: Maintenance Dredging Federal Navigation Channel
Town of Cape Charles Harbor
Northampton County, Virginia
DHR File No. 2013-1502

Dear Mr. Turner:

Thank you for your e-mail of December 5, 2013 requesting our comments on the referenced project.

Review of our inventory files shows no recorded archaeological sites within the federal navigation channel, the two beach placement sites (Sites A and B) or the upland placement site west of the town of Cape Charles (see attached V-CRIS map). In our opinion no further identification efforts are warranted. Based upon the available information, we agree with your assessment that the proposed project will not have an adverse impact on Cape Charles Historic District (DHR ID#182-0002), a district listed on both the Virginia Landmarks Register and the National Register of Historic Places. We recommend a finding of No Adverse Effect on historic properties for the proposed work.

If you have any questions concerning our comments, or if we may provide any further assistance, please do not hesitate to contact me at (804) 482-6088; fax (804) 367-2391; e-mail ethel.eaton@dhr.virginia.gov. We look forward to working with you on future projects

Sincerely,

A handwritten signature in black ink that reads "Ethel R. Eaton".

Ethel R. Eaton, Ph.D., Senior Policy Analyst
Division of Resource Services and Review

Administrative Services
10 Courthouse Ave.
Petersburg, VA 23803
Tel: (804) 862-6416
Fax: (804) 862-6196

Capital Region Office
2801 Kensington Office
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Tidewater Region Office
14415 Old Courthouse Way 2nd
Floor
Newport News, VA 23608
Tel: (757) 886-2807
Fax: (757) 886-2808

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5428
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7031
Fax: (540) 868-7033



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

JUL 15 2014

Elizabeth G. Waring, Chief
Operations Branch
U.S. Army Corps of Engineers
Norfolk District
803 Front Street
Norfolk, VA 23510-1096

RE: Cape Charles City Harbor Federal Navigation Project

Dear Ms. Waring:

We have completed an Endangered Species Act (ESA) section 7 consultation in response to your letter dated June 13, 2014, and additional information of June 23, 2014, regarding the proposed maintenance dredging of the Cape Charles City Harbor Federal Navigation Project. We concur with your determination that the proposed action is not likely to adversely affect any species listed by us as threatened or endangered under the ESA of 1973, as amended. Our supporting analysis is provided below.

Proposed Action

The Army Corps of Engineers (ACOE), Norfolk District, has been identified as the lead federal agency for this action. The proposed maintenance dredging for the Cape Charles City Harbor Federal Navigation Project will be authorized for 15 years. The project includes four sections to be dredged including: 1) a 300 foot wide channel maintained at -22 feet mean lower low water (MLLW) that begins from the 18-foot contour in the Chesapeake Bay and continues through Cherrystone Bar and Inlet, to the harbor entrance (Cherrystone Bar and Inlet Channel); 2) a basin in the harbor measuring 3,000 feet long by 400 to 1,000 feet wide and -22 feet deep (Cape Charles Harbor Basin); 3) a 260 foot long by 100 to 180 foot wide channel maintained at -14 feet MLLW to a basin measuring 100 to 180 feet wide by 420 feet long and 14 feet deep at the head of Mud Creek (Mud Creek Basin); and 4) a harbor of refuge on the north side of Mud Creek measuring 375 feet long by 200 to 500 feet wide and -11 feet deep connected to Mud Creek by a 60 foot wide and -11 foot deep entrance channel (Harbor of Refuge Basin). Dredging occurs, on average, every five to seven years, removing approximately 750,000 cubic yards per cycle for a total of 2,250,000 cubic yards total.



A hydraulic cutterhead dredge with a pipe diameter of 14 to 18 inches, and a mechanical dredge or a USACE Special Purpose Hopper Dredge such as the “*Currituck*” or “*Murden*” will be used to remove accumulated sediment in the channels associated with the project. Special purpose hopper dredges such as the *Currituck* and *Murden* include small draghead sizes (2 feet by 2 feet by 3 feet), small draghead openings (3 to 5-inch or 5 to 8-inch), and small diameter intake pipes (10-14 inches). The suction is low velocity at 350-400 horsepower with a maximum bin capacity of 300 cubic yards, and the dredges operate at speeds between one and three knots. While in transit to the disposal areas, speeds of approximately five knots may be reached.

Maintenance dredging of fine grained material from the inner portion (eastward) of the Cape Charles Harbor Basin, Mud Creek, and Harbor of Refuge will be performed with a cutterhead dredge. Approximately 375,000 cubic yards of material will be removed and placed via floating pipeline at an upland confined placement facility located adjacent to the dredge footprint within the inner harbor. A plume of approximately 1,150 foot plume associated with cutterhead dredges. The pipeline will vary in length from 3,000 to 10,800 feet. Maintenance dredging of sandy material from the Cape Charles Harbor Basin (outer portion), and Cherrystone Bar and Inlet Channel, will be performed using a cutterhead dredge. An estimated 80,000 cubic yards of sandy material may be placed via floating pipeline at the beach nourishment site along the Town of Cape Charles Public Beach. A pipeline of approximately 2,000 to 4,500 feet will be used for this portion of the project. Additionally, maintenance dredging of sandy material from these same reaches may be performed via mechanical dredge or USACE special purpose dredge, and an additional 295,000 cubic yards of material will be transported by scow or special purpose dredge and placed overboard at Wolfrap Alternate Placement site, located 44,000 feet away from the dredge footprint. Plumes associated with dredging via a mechanical dredge or special purpose hopper dredge range from 2,624 feet to 4,982 feet. The placement site is made of 6 individual placement cells for the regular deposition of material from federal channels in the Chesapeake Bay. You propose to utilize cell number 5 for disposal related to the action. Cell 5 is approximately 700 acres, and the material will be evenly distributed within the four coordinate points of the cell.

Action Area

The action area is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR§402.02). For this project, the action area includes the project footprint, the disposal sites, pipeline footprint, vessel transit routes, as well as all underwater areas where NMFS listed species may be exposed to the effects of the action (e.g., extent of increased turbidity, interaction with dredges or vessels, etc.). Based on analyses of hydraulic cutterhead dredging, increased sediment levels are likely to be present no more than approximately 1,150 feet downstream of the dredge within the bottom six feet of the water column (ACOE 1983). Analyses of hydraulic hopper dredging activities (ACOE 1983, Anchor Environmental 2003) indicate that suspended sediment plumes are expected to be fully dissipated at an average distance of 2624 to 3,937 feet from the dredge site when a hopper dredge (*i.e.*, the *Currituck*, or industry small hopper dredge) is used. The exact size of the plume is influenced by the particular dredge used, the dredge operator, sediment type, strength of current and tidal stage and is likely to vary throughout the project. Regardless of these variables, the maximum distance of increased suspended sediment is likely to be 1,200 meters from the

draghead. During the discharge of sediment at an overboard disposal site, increases in suspended sediment may extend a maximum of 6,521 feet (ACOE 1983). The action area includes the area to be dredged and within a 3,937-foot radius from the area where sediment is discharged. Based upon analysis of mechanical dredging activities (Burton 1993; EPA and ACOE 2007), suspended sediment plumes are expected to be fully dissipated at a distance of 2,034 to 4,921 feet from the dredge site. These areas are expected to encompass all of the effects of the proposed project.

Dredged material disposal will occur via pipeline to an adjacent upland disposal site and a beach nourishment site. Some material will also be discharged at an overboard placement site via scow. The support vessel routes and pipelines are included in the action area, but the upland disposal site is not, as impacts to listed species are not likely to occur at the terrestrial, contained disposal site. The action area is characterized by sandy sediment in the Cherrystone Bar and Inlet Channel and Cape Charles Harbor Basin (outer portion). These sandy sediments prone to shoaling are likely colonized by low numbers and low diversity of small benthic organisms adapted to high rates of disturbance. The inner portion of Cape Charles Basin and Mud Creek are characterized by silty sediments and consistent vessel traffic, which will not support significant foraging resources for sturgeon or sea turtles. Atlantic sturgeon and sea turtles prefer mollusks, crustaceans, and a high diversity of prey items, and/or seagrass beds.

NMFS Listed Species in the Action Area

The following NMFS listed species may occur in the action area:

Marine Mammals

Several endangered species of large whales, including the right whale (*Eubalaena glacialis*), humpback whale (*Megaptera novaeangliae*), finback (*Balaenoptera physalis*), the sei (*Balaenoptera borealis*), and the sperm whale (*Physeter macrocephalus*) may be present along the Atlantic seaboard during certain times of the year. However, the action area is characterized by shallow, near-shore depths within Chesapeake Bay and does not typify habitat used by these marine mammals. Thus, we do not expect these whale species to be present in any part of the action area. Accordingly, we do not expect any effects to these species resulting from the action, and marine mammals will not be considered further in this consultation.

Sea Turtles

Four species of ESA-listed threatened or endangered sea turtles under the jurisdiction of NMFS may be found seasonally in the coastal waters of Virginia and in Chesapeake Bay: the threatened Northwest Atlantic distinct population segment (DPS) of loggerhead (*Caretta caretta*), and the endangered Kemp's ridley (*Lepidochelys kempi*), green (*Chelonia mydas*) and leatherback (*Dermochelys coriacea*) sea turtles, although the latter species tends to frequent offshore habitats (not within coastal habitat). Sea turtles are expected to be in Virginia waters during warmer months. This typically equates to April through November (Morreale 1999; Morreale 2003; Morreale and Standora 2005; Shoop and Kenney 1992).

The sea turtles in Virginia are typically juveniles with the most abundant species being the loggerhead followed by the Kemp's ridley sea turtle. Several studies have examined the seasonal

distribution of sea turtles in the mid-Atlantic, including Maryland and Virginia. Sea turtles begin appearing in nearshore habitats of the mid-Atlantic as water temperatures rise during the spring and then remain in the region throughout the summer and fall (Morreale and Standora 2005). As temperatures decline in the fall (usually beginning the first week of November), sea turtles tend to leave their coastal habitats and join a larger contingent of other turtles migrating southward to overwinter in southern waters. Consequently, by the end of November, NMFS listed sea turtles have left Virginia waters (Shoop and Kenney 1992; Musick and Limpus 1997; Morreale and Standora 2005).

Satellite tracking studies of sea turtles have found that foraging turtles mainly occurred in areas where the water depth was between approximately 16 and 49 feet (Ruben and Morreale 1999). This depth was interpreted not to be an upper physiological depth limit for turtles, but rather a natural limiting depth where light and food are most suitable for foraging turtles (Morreale and Standora 1990). Leatherback sea turtles feed almost exclusively on jellyfish in offshore marine environments, whereas green sea turtles tend to frequent sea grass beds. Loggerhead and Kemp's ridley sea turtles will feed on mollusks and crustaceans in a variety of habitats. Sea turtles have not been shown to exhibit sensitivity to increased suspended sediments; however, if prey items are affected, adverse effects to sea turtles may occur as well.

Atlantic Sturgeon

Atlantic sturgeon originating from the New York Bight, Chesapeake Bay, South Atlantic and Carolina DPSs are listed as endangered, while those from the Gulf of Maine DPS are listed as threatened. The marine range of all five DPSs extends along the Atlantic coast from Canada to Cape Canaveral, Florida. The distribution of Atlantic sturgeon, from any DPS, is strongly associated with prey availability. As a result, Atlantic sturgeon may occur where suitable forage (e.g., benthic invertebrates such as mollusks and crustaceans) and appropriate habitat conditions (e.g., areas of submerged aquatic vegetation (SAV)) are present. Atlantic sturgeon also tend to be at least as tolerant of turbid estuarine and river conditions as other anadromous fish, such as striped bass (Summerfelt and Moiser 1976 and Combs 1979 in Burton 1993). Dadswell (1984) reports that sturgeon are more active under lowered light conditions, such as those in turbid waters. Subadult and adult Atlantic sturgeon travel within the marine environment, in waters up to approximately 164 feet in depth, using coastal bays, sounds, and marine waters (Vladykov and Greeley 1963; Murawski and Pacheco 1977; Dovel and Berggren 1983; Smith 1985; Collins and Smith 1997; Welsh *et al.* 2002; Savoy and Pacileo 2003; Stein *et al.* 2004; Laney *et al.* 2007; Dunton *et al.* 2010; Erickson *et al.* 2011). Dadswell (1984) illustrates that shortnose sturgeon typically occur in waters no shallower than 3.3 feet (Squiers *et al.* 1981). While no studies exist on the minimal depth preferences of Atlantic sturgeon, because of similar observed habitat requirements and biology between shortnose and Atlantic sturgeon, this observation is likely accurate for both species.

Based on the best available information, subadult and adult Atlantic sturgeon originating from any of the five DPSs could occur in marine and estuarine habitat along the coast of Virginia and at the entrance to Chesapeake Bay. Juvenile and early life stages (ELS) of Atlantic sturgeon would not be present based on the tidal marine nature of the habitat in the action area. Juveniles and ELS are not able to tolerate the salinity of marine and coastal waters.

Effects of the Action

Turbidity and Habitat Effects

The proposed dredging will cause a temporary increase in the amount of turbidity in the action area; however, suspended sediment is expected to settle out of the water column within a few hours and any increase in turbidity will be short term. Based on a conservative (*i.e.*, low) total suspended solids (TSS) background concentration of 5 mg/L, modeling results of cutterhead dredging indicated that elevated TSS concentrations (*i.e.*, above background levels) would be present at the bottom six feet of the water column for a distance of approximately 1,150 feet. Turbidity levels associated with cutterhead dredge sediment plumes typically range from 11.5 to 282 mg/L with the highest levels detected adjacent to the cutterhead and concentrations decreasing with greater distance from the dredge (U. Washington 2001).

Near-bottom turbidity plumes caused by hopper dredges, such as the *Currituck* or *Murden* or industry small hopper dredges, may extend 2,296 to 2,395 feet down current from the dredge, and approximately 1,150 feet behind the dredge the two plumes merge into a single plume (ACOE 1983). A wide range of total suspended solids (TSS) levels have been reported for hopper dredging operations. Nearby concentrations range from 80 to 475 mg/L (Anchor Environmental 2003), with turbidity levels in the near-surface plume decreasing exponentially with increasing distance from the dredge due to settling and dispersion. By a maximum distance of 3,937 feet from the dredge, plume concentrations are expected to return to background levels. Studies also indicate that in almost all cases, the vast majority of resuspended sediments resettle close to the dredge within one hour (Anchor Environmental 2003). During the discharge of sediment at a disposal site, suspended sediment levels have been reported as high as 500 mg/L within 75 meters of the disposal vessel and decreasing to background levels (*i.e.*, 15 to 100 mg/L depending on location) within a maximum of 984 to 3,937 feet (ACOE 1983).

The turbidity plume associated with a typical mechanical dredging operation extends approximately 1,000 feet at the surface and 1,600 feet near the bottom (ACOE 1983). The maximum distance reported in the literature is 4,921 feet, which occurred in an area with very strong tidal currents (EPA and ACOE 2007). Several studies have monitored sediment plumes associated with dredging projects along the U.S. Atlantic coast. Turbidity levels associated with these sediment plumes typically range from 26 to 350 mg/L (Anchor Environmental 2003; EPA and ACOE 2007) with the highest levels detected adjacent to the dredge bucket and concentrations decreasing with greater distance from the dredge (see EPA and ACOE 2007).

Sea Turtles

Limited information is available on the effects of increased turbidity on juvenile and adult sea turtles. Sea turtles breathe air, and are not subject to the same potential respiratory effects of high turbidity as fish. Increased turbidity is most likely to affect sea turtles if a plume causes a barrier to normal behaviors or if sediment settles on the bottom affecting sea turtle prey. As sea turtles are highly mobile, they are likely to be able to avoid any sediment plume. Avoiding the sediment plume will not create detectable or measureable effects on their ability to perform critical life functions such as swimming, foraging, reproducing, etc. Although some portions of

the dredge footprint are consistent with the preferred foraging depths of sea turtles, forage habitat has not been identified (areas with seagrass or mollusk beds) within the action area. The action area includes a regularly disturbed harbor basin with fine-grained, silty sediment, and a predominantly sandy navigation channel characterized by sediment shoaling. The harbor basin is consistently disturbed by vessel traffic and is not likely to provide substantial foraging opportunity for sea turtles. Additionally, the sandy environment within the adjacent navigation channel suggests that most benthic organisms are small and adapted to a high energy environment (*i.e.*, small worms, mollusks, amphipods, etc.), which is inconsistent with preferred sea turtle foraging habitat. The Wolftrap Placement site is a regularly used for deposition of sediments from other federal channels in Chesapeake Bay. As such, the benthic habitat likely comprises small benthic infaunal communities adapted to disturbance. This forage base is inconsistent with the preferred forage of sea turtles, as previously discussed. Additionally, all other material will be placed at a beach nourishment site, which is located in intertidal habitat and inconsistent with preferred foraging depths (16 to 49 feet), or at an upland facility where sea turtles will not be present. Thus, all effects to foraging sea turtles will be insignificant.

Atlantic Sturgeon

Studies of the effects of turbid waters on fish suggest that concentrations of suspended solids can reach thousands of milligrams per liter before an acute toxic reaction is expected (Burton 1993). Studies on estuarine fish, such as striped bass, indicate that adverse effects on fish could occur at 580 mg/L for the most sensitive species, with 1,000 mg/L as a more typical threshold (see summary of scientific literature in Burton 1993), and effects to certain benthic communities could occur at 390 mg/L (EPA 1986). While there have been no directed studies on the effects of TSS on Atlantic sturgeon, sturgeon juveniles and adults are often documented in turbid water (Dadswell 1984). Atlantic sturgeon are assumed to be at least as tolerant to suspended sediment as other estuarine fish such as striped bass.

In the action area, temporary TSS levels are expected to 11.5 to 282 mg/L for the cutterhead dredges, 80 to 475 mg/L for special purpose hopper dredges, and 26 to 350 mg/L for mechanical dredges used on this action. TSS levels may be as high as 500 mg/L at the disposal site within 75 meters of the vessel. These TSS levels are below those shown to have a detectable or measurable effect on fish species, including Atlantic sturgeon. Based on this information, direct effects of TSS resulting from dredging and disposal operations are not likely to adversely affect Atlantic sturgeon and effects will be insignificant.

Turbidity and dredging may reduce prey species through the alteration of the existing biotic assemblages or by temporary removal. Some reduction in the amount of benthic resources in the area to be dredged is likely and increased suspended sediments will accumulate on benthic organisms in some areas; however, the action area is not consistent with the preferred habitat of foraging sturgeon. Part of the action area is characterized by shoaling and sediment movement, and is likely colonized by small benthic organisms. Additionally, the harbor basin portion of the action area is characterized by silty sediments and consistent vessel traffic, which will not support significant foraging resources for sturgeon. Atlantic sturgeon prefer larger mollusks, crustaceans, and a high diversity of prey items, and/or seagrass beds. It is extremely unlikely that Atlantic sturgeon would be regularly foraging directly in the shoaling navigation channel or

harbor basin, based on these ecological and environmental factors. All disposal of material will occur at an upland facility with no in-water component, at a beach nourishment site, or at an overboard placement site. The beach nourishment site is intertidal and not consistent with preferred foraging habitat for Atlantic sturgeon. Also, the overboard placement site is consistently disturbed, thus supporting small infaunal organisms inconsistent with preferred prey of Atlantic sturgeon. Thus, as any effects would be extremely unlikely and not measurable to detect, we have determined that any effects of dredging and disposal to foraging Atlantic sturgeon will be insignificant and discountable.

Direct Interaction

Direct interaction with vessels, the pipeline, or entrainment in dredges may kill or injure Atlantic sturgeon and/or sea turtles. As previously discussed, the action area is inconsistent with the preferred foraging habitat of both sea turtles and Atlantic sturgeon. However on rare occasion, either species could be present. Dredging will occur every five to seven years over 15 years.

Entrainment/Impingement of Atlantic Sturgeon and Sea Turtles in Cutterhead or Mechanical Dredges

Adult and subadult Atlantic sturgeon and sea turtles are not known to be vulnerable to cutterhead dredges. Cutterhead dredge heads are placed within the sediment at the dredge site, and sturgeon and sea turtles are able to avoid interaction with the dredge because of the low intake velocity of the machinery. Clarke (2011) reports that suction is lowered as the diameter of the pipeline decreases, and individuals would need to be very close to the intake pipe to feel any suction at all. Studies by the Norfolk Corps demonstrated, through telemetry in the James River, that Atlantic sturgeon were unaffected by the noise associated with dredges, or the presence of cutterhead dredges themselves (Cameron 2009). They did not exhibit avoidance behavior. During the study, the cutterhead dredge in full operation did not impede their passage, and individuals were not entrained during dredging activities. Thus, the use of cutterhead dredges is extremely unlikely to entrain or impinge Atlantic sturgeon or sea turtles and all effects will be insignificant. Based on all available evidence, the risk of capture in a mechanical dredge is low due to the slow speed at which the bucket moves and the relatively small area of the bottom it interacts with at any one time. Atlantic sturgeon and sea turtles are highly mobile and it is anticipated that they will be able to avoid the dredge bucket, and as any changes in movement would be non-detectable, effects are insignificant.

Entrainment/Impingement of Atlantic Sturgeon in Special Purpose Hopper Dredges

For special purpose hopper dredges, such as the *Currituck* or *Murden*, there are several characteristics that minimize the likelihood of impingement or entrainment of sea turtles and Atlantic sturgeon. The *Currituck* has a maximum bin capacity of 300 cubic yards and operates at speeds between 1 and 3 knots. While in transit to the disposal area, the *Currituck* will be traveling at speeds of approximately 5 knots. Gridded baffles subdivide the dragheads to create draghead openings (3 to 5-inch by 5-inch). Given the small openings on the draghead and the low intake velocity at which these dredges operate, any Atlantic sturgeon present near these dredges are likely to be able to swim away and avoid the intake. Therefore, impingement or entrainment of Atlantic sturgeon is extremely unlikely, and effects of special purpose hopper dredges are discountable.

Entrainment/Impingement of Sea Turtles in Special Purpose Hopper Dredges

Studies done by the Corps in 1998 have shown that the suction produced by *Currituck* would not be strong enough to fully impinge a sea turtle. The studies confirmed that the small draghead openings prevented small turtles from becoming entrained and that even small live turtles are strong enough swimmers to free themselves if impinged. Due to the low operating speed, low level of suction, and the small draghead openings, it is extremely unlikely that a sea turtle would become impinged on or entrained in a special purpose dredge. Thus, effects of impingement or entrainment on sea turtles are discountable. This conclusion is supported by the lack of any observed impingement or entrainment of sea turtles on the *Currituck* or *Murden* dredges operating several times per year in areas where sea turtles are likely to be present.

Interaction with Pipeline

The 14 to 18-inch diameter pipeline will float on the surface of the water from the dredge footprint to the upland disposal site. Depending on the location of the dredge, the pipeline may be approximately 3,000 to 10,800 feet. While the dredge is hydraulically pumping sediment to the beach nourishment site, the pipeline will be approximately 2,000 to 4,500 feet in length. The pipeline itself does not pose any threat to listed species besides acting as a barrier to passage, as Atlantic sturgeon and sea turtles would likely be foraging near the bottom if they were to be in the action area. Because the 14 to 18-inch pipeline is floating on the surface of proportionally deeper water, sea turtles and Atlantic sturgeon would be able to maneuver around the pipeline if they were in the action area, and no detectable or measurable changes to their behavior would occur. Thus, all effects will be insignificant.

Vessel Interactions

The dredging and disposal operations proposed in this action may result in increased vessel traffic in the area. Sea turtles and Atlantic sturgeon could be struck by a vessel dredging operations. However, sea turtles and Atlantic sturgeon are more vulnerable to being struck by faster moving vessels. Typically dredges, barges, and support vessels for this type of project move at slow speeds (*i.e.*, on average 8-10 knots, but the special use hopper dredges tend to move at approximately 5 knots) and have shallow drafts. In addition, Atlantic sturgeon, specifically, are known to be more vulnerable to vessels strikes in rivers, by deep-draft vessels, where there is little area to maneuver, and when they are engaging in overwintering or foraging activity. This is not the case in the action area. Thus, it is extremely unlikely for Atlantic sturgeon or sea turtles to be struck by vessels during the dredging process or during the disposal of the material.

Because the action area is dredged at a regular interval of every 5 to 7 years, the maintenance is not expected to result in an increase in boat traffic, but rather in safer use by the existing boat traffic. Both sturgeon and sea turtles stand to benefit by the increased depth of the navigation channel; if an individual is crossing the inlet, the additional depth will allow it more room to maneuver and avoid the vessel.

Based on the best available information, we are able to conclude that the interaction of sea turtles and Atlantic sturgeon with vessels is discountable.

Conclusions

Based on the analysis that any effects to listed species will be insignificant or discountable, we are able to concur with your determination that the proposed project is not likely to adversely affect any listed species under NMFS jurisdiction. Therefore, no further consultation pursuant to section 7 of the ESA is required. Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the project has been retained or is authorized by law and: (a) If new information reveals effects of the project that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified project is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the consultation; or (c) If a new species is listed or critical habitat designated that may be affected by the identified project. No take is anticipated or exempted. If there is any incidental take of a listed species, reinitiation would be required.

Should you have any questions about this correspondence please contact Chris Vaccaro at 978-281-9167 or by email (Christine.Vaccaro@noaa.gov). If you have any questions about Essential Fish Habitat (EFH), and consultation requirements under the Magnuson-Stevens Fishery Conservation Act, please contact Dave O'Brien at 804-684-7828 or by email (David.I.O'Brien@noaa.gov).

Sincerely,



John K. Bullard
Regional Administrator

File Code: H:\Section 7 Team\Section 7\Non-Fisheries\ACOE\Informal\2014\Norfolk District\Cape Charles Federal Navigation Project
PCTS: NER-2014-11142

EC: Vaccaro GAR
O'Brien GAR
Nadal, ACOE

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EFH ASSESSMENT WORKSHEET FOR FEDERAL AGENCIES

PROJECT NAME: Cape Charles City Harbor Federal Navigation Project DATE: June 27, 2014

PROJECT NO.: Permit # 14-0171

LOCATION: Cape Charles, VA

PREPARER: Teri Nadal

Step 1. Use the Habitat Conservation Division EFH webpage, Guide to Essential Fish Habitat Designations in the Northeastern United States to generate the list of designated EFH for federally-managed species for the geographic area of interest (<http://www.nero.noaa.gov/hcd/index2a.htm>). Use the species list as part of the initial screening process to determine if EFH for those species occurs in the vicinity of the proposed action. Attach that list to the worksheet because it will be used in later steps. Make a preliminary determination on the need to conduct an EFH Consultation.

1. INITIAL CONSIDERATIONS		
EFH Designations	Yes	No
Is the action located in or adjacent to EFH designated for eggs?	X	
Is the action located in or adjacent to EFH designated for larvae?	X	
Is the action located in or adjacent to EFH designated for juveniles?	X	
Is the action located in or adjacent to EFH designated for adults?	X	
Is the action located in or adjacent to EFH designated for spawning adults?		X
If you answered no to all questions above, then EFH consultation is not required - go to Section 5. If you answered yes to any of the above questions proceed to Section 2 and complete remainder of the worksheet.		

Step 2. In order to assess impacts, it is critical to know the habitat characteristics of the site before the activity is undertaken. Use existing information, to the extent possible, in answering these questions. Please note that, there may be circumstances in which new information must be collected to appropriately characterize the site and assess impacts.

2. SITE CHARACTERISTICS	
Site Characteristics	Description
Is the site intertidal, sub-tidal, or water column?	The dredging area site is tidal.
What are the sediment characteristics?	The inner portion of the project primarily consists of silt and clay (Cape Charles Harbor Basin inner portion (eastward), Mud Creek and Harbor of Refuge). The outer portion of the project primarily consists of sand (Cape Charles Harbor Basin (outer portion), and Cherrystone Bar and Inlet Channel).
Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so what type, size, characteristics?	Shallow areas have been identified as HAPC for sandbar shark nursery and pupping grounds. According to EFH mapper the entire site is designated as HAPC for the sandbar shark. It should be noted that EFH mapper does state that there are quality issues with the data. * <i>The following spatial data quality issues should be considered when evaluating how EFH and HAPC data can be effectively used in a geographic information system (GIS). The usage caveats derived from these data issues (included in the data inventory) should be carefully considered when interpreting any analyses based on EFH or HAPC data layers.</i>
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the spatial extent.	There may be SAV adjacent or in the Federal Navigation Channel. Any SAV in the channel footprint will be lost during dredging operations to maintain the authorized depth of the navigation channel. Determined using VIMS website. Attachment B.
What is typical salinity and temperature regime/range?	The average range in salinity is 18 to 24 ppt. The average range in temperature is 38° to 79° F.
What is the normal frequency of site disturbance, both natural and man-made?	This site is used year round for recreational and commercial vessels. Maintenance dredging may be required every 5 to 7 years.
What is the area of proposed impact (work footprint & far afield)?	If the entire project needed to be dredged the impact would be approximately 5.9 M square feet.

Step 3. This section is used to describe the anticipated impacts from the proposed action on the physical/chemical/biological environment at the project site and areas adjacent to the site that may be affected.

3. DESCRIPTION OF IMPACTS			
Impacts	Y	N	Description
Nature and duration of activity(s)			Maintenance dredging of the channel will be conducted using a hydraulic and mechanical dredge. 375,000 cys of fine grain dredged material will be placed at an upland confined placement site via pipeline. 80,000 cys of sandy dredged material will be placed as beach nourishment via pipeline. An additional 295,000 cys of sandy dredged material will be dredged by mechanical dredge and/or USACE special purpose dredge, transported and placed overboard at the Wolftrap Alternate Placement Site. Dredging duration is approximately 120 days.
Will benthic community be disturbed?	x		Dredging will permanently impact non-motile benthic organisms within the dredging area through direct removal of substrate in the channel prism. Once dredging is complete, benthic organisms should begin to repopulate quickly.
Will SAV be impacted?		x	SAV may be impacted (identified through the VIMS website)
Will sediments be altered and/or sedimentation rates change?	x		Post dredge substrate characteristics will be the same as shoaled sediments removed by dredging. Short-term impacts will occur during dredging operations. There will be minor impacts to sedimentation rates in the dredging area.
Will turbidity increase?	x		Turbidity will temporarily increase at the location of the dredging location. Turbidity will increase due to the physical characteristics of the sediment.
Will water depth change?	x		Dredging will restore the channels to authorized depths, removing siltation that has occurred since the last maintenance event.
Will contaminants be released into sediments or water column?		x	There is no reason to believe contaminants will be encountered during the dredging project. The material will be transported and placed in the overboard placement site within the Wolf Trap Alternate Placement Site.
Will tidal flow, currents or wave patterns be altered?		x	There will be a no significant change in tidal flow, currents, or wave patterns.
Will ambient salinity or temperature regime change?		x	The ambient salinity and temperature regime should not change as a result of the dredging or placement operations.
Will water quality be altered?	x		Short-term and isolated impacts to dissolved oxygen may occur through increased turbidity. Impacts should be temporary.

Step 4. This section is used to evaluate the consequences of the proposed action on the functions and values of EFH as well as the vulnerability of the EFH species and their life stages. Identify which species from the EFH species list (generated in Step 1) will be adversely impacted from the action. Assessment of EFH impacts should be based upon the site characteristics identified in Step 2 and the nature of the impacts described within Step 3. The Guide to EFH Descriptions webpage (<http://www.nero.noaa.gov/hcd/list.htm>) should be used during this assessment to determine the ecological parameters/preferences associated with each species listed and the potential impact to those parameters.

4. EFH ASSESSMENT			
Functions and Values	Y	N	Describe habitat type, species and life stages to be adversely impacted
Will functions and values of EFH be impacted for:			
Spawning		x	
Nursery	x		Demersal waters serve as nursery areas for juvenile and adult windowpane and summer flounder. Shallow areas of have been identified has HAPC for sandbar shark nursery and pupping grounds. There will be temporary impacts during dredging operations. However, these species are expected to relocate during operations and return upon completion of the work.
Forage	x		Juvenile and adult windowpane and summer flounder are benthic feeders. These species are motile benthic feeders and are expected to relocate during operations and return upon completion of the work.
Shelter	x		Shallow areas have been identified as HAPC for sandbar shark nursery and pupping grounds. However, these species are expected to relocate during operations and return upon completion of the work.
Will impacts be temporary or permanent?			Impacts are anticipated to be temporary. Species that may be present in the project area are expected to relocate during the dredging activity and return once the work is complete.
Will compensatory mitigation be used?		x	n/a

Step 5. This section provides the Federal agency's determination on the degree of impact to EFH from the proposed action. The EFH determination also dictates the type of EFH consultation that will be required with NOAA Fisheries.

5. DETERMINATION OF IMPACT		
		Federal Agency's EFH Determination
Overall degree of adverse effects on EFH (not including compensatory mitigation) will be: (check the appropriate statement)		There is no adverse effect on EFH EFH Consultation is not required
	X	The adverse effect on EFH is not substantial. This is a request for an abbreviated EFH consultation. This worksheet is being submitted to NMFS to satisfy the EFH Assessment requirement.
		The adverse effect on EFH is substantial. This is a request for an expanded EFH consultation. A detailed written EFH assessment will be submitted to NMFS expanding upon the impacts revealed in this worksheet.

Step 6. Consultation with NOAA Fisheries may also be required if the proposed action results in adverse impacts to other NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats. Some examples of other NOAA-trust resources are listed below. Inquiries regarding potential impacts to marine mammals or threatened/endangered species should be directed to NOAA Fisheries' Protected Resources Division.

6. OTHER NOAA-TRUST RESOURCES IMPACT ASSESSMENT	
Species known to occur at site (list others that may apply)	Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat).
alewife	
blueback herring	
rainbow smelt	
Atlantic sturgeon	
Atlantic menhaden	
American shad	
American eel	
American lobster	
blue mussels	
soft-shell clams	
quahog	
Other species:	
Anadromous fish	

The Cape Charles City Harbor Federal Navigation Project is an integral component of the municipal town of Cape Charles. The project is located in Northampton County on the Chesapeake Bay side of Virginia's Eastern Shore peninsula. The outer project begins at the 18-foot contour in the Chesapeake Bay near Old Plantation Light and progresses in a general northeast direction towards the municipality of Cape Charles. The harbor lies south of the business district and railroad yard. The primary purpose of maintenance dredging the Cape Charles City Harbor Federal Navigation Project is to provide safe navigation and anchorage.

The Cape Charles City Harbor Federal Navigation Project includes:

- a. a channel 22 feet deep and 300 feet wide from the 18-foot contour in the Chesapeake Bay, through Cherrystone Bar and Inlet, to the harbor entrance (Cherrystone Bar and Inlet Channel)
- b. a basin in the harbor 22 feet deep, 1000 feet to 400 feet wide and 3,000 feet long (Cape Charles Harbor Basin)
- c. a channel 14 feet deep ranging from a 100 feet to 180 feet wide and 260 feet long, to a basin 14 feet deep to 180 feet wide and 420 feet long at the head of Mud Creek (Mud Creek Basin)
- d. a harbor of refuge on the north side of Mud creek 11 feet deep, 200 to 250 feet wide, and 375 feet long, connected to Mud Creek by an entrance channel 11 feet deep and 60 feet wide (Harbor of Refuge Basin)

Maintenance dredging will occur every five to seven years removing approximately 750,000 cubic yards of material each cycle.

Maintenance dredging of fine grain material from the inner portion (eastward) of the Cape Charles Harbor Basin, Mud Creek and Harbor of Refuge will be performed utilizing a hydraulic cutterhead dredge. An estimated 375,000 cubic yards of fine grain dredged material may be placed by pipeline at an upland confined placement facility.

Maintenance dredging of sandy material from the Cape Charles Harbor Basin (outer portion), and Cherrystone Bar and Inlet Channel may be performed utilizing a hydraulic cutterhead dredge. An estimated 80,000 cubic yards of sandy material may be placed by pipeline as beach nourishment along the Town of Cape Charles Public Beach.

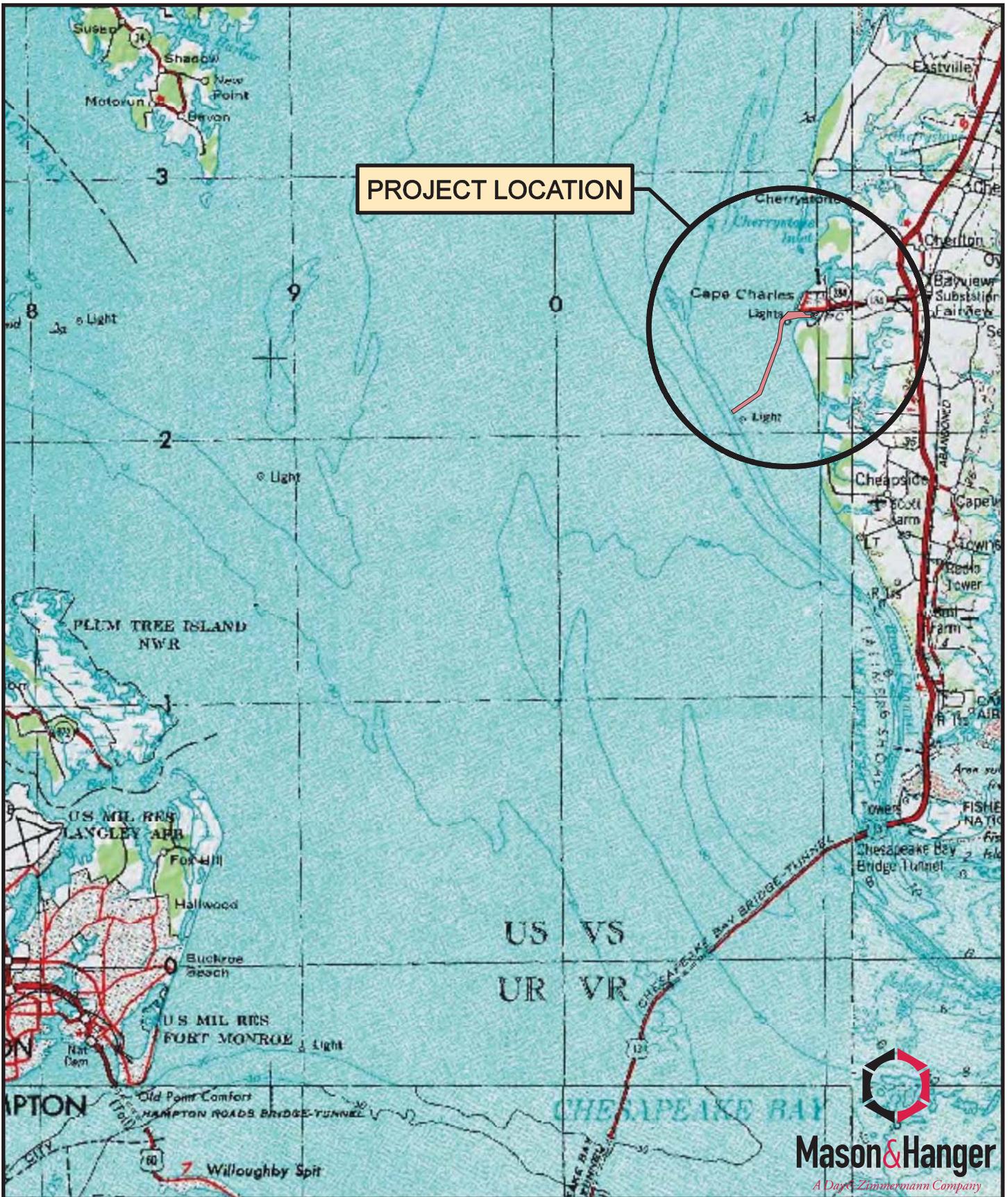
Maintenance dredging of sandy material from the Cape Charles Harbor Basin (outer portion), and Cherrystone Bar and Inlet Channel may be performed utilizing a mechanical dredge or USACE special purpose dredge. An estimated 295,000 cubic yards of sandy dredged material may be transported by scow barge or small special purpose dredge and placed overboard at the Wolftrap Alternate Placement Site. The Wolf Trap Alternate Placement Site is an area approximately 18,228 feet by 6,076 feet in dimension and has an area of approximately 2,543 acres in size (4,500 acres with the designated buffer zone). The site is located in the Chesapeake Bay, east of New Point Comfort and south of Wolf Trap light, east of Mathews County.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). Congress defines EFH as, "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". The MSA governs the EFH and requires the identification of EFH for managed species as well as measures to conserve and enhance the habitat necessary for fish to carry out their life cycles. The NMFS oversees the EFH designations, and gives guidance to minimize harm to EFH. Habitat Areas of Particular Concern (HAPC) are subsets of EFH and are given special consideration to adverse impacts. The project site lies adjacent to EFH for several species including: adult Atlantic sharpnose shark (*Rhizopriondon terraenovae*), eggs, larvae, juvenile and adult Atlantic

butterfish (*Peprilus triacanthus*); adult Atlantic sea herring (*Clupea harengus*); juvenile and adult black sea bass (*Centropristus striata*); juvenile and adult bluefish (*Pomatomus saltatrix*); eggs, larvae, juvenile, and adult stages of cobia (*Rachycentron canadum*); larvae and juvenile dusky shark *Charcharinus obscurus*); eggs, larvae, juvenile, and adult king mackerel (*Scomberomorus cavalla*); eggs, larvae, juvenile, and adult red drum (*Sciaenops ocellatus*); juvenile and adult red hake (*Urophycis chuss*); sand tiger shark (*Carcharias taurus*) larvae; larvae, juvenile and adult sandbar shark (*Charcharinus plumbeus*); juvenile and adult scup (*Stenotomus chrysops*); eggs, larvae, juvenile, and adult Spanish mackerel (*Scomberomorus maculatus*); larvae, juvenile and adult summer flounder (*Paralichthys dentatus*); juvenile and adult windowpane flounder (*Scopthalmus aquosus*); juvenile and adult Clearnose Skate, Little Skate and Winter Skate. In addition to these EFH designations, the area has been designated as a HAPC for larvae, juvenile and adult life cycles of the sandbar shark.

The proposed maintenance dredging duration is 120 days. Maintenance dredging and material placement site impacts to fish will be temporary. Any fish within the area would relocate and return once work is complete. This project does not have the potential to substantially adversely affect EFH for the species of concern by loss of forage and/or shelter habitat.

ATTACHMENT A: Project Maps



PROJECT LOCATION



**US Army Corps
of Engineers**
Norfolk District

Date: 12/19/2013
Sheet 1 of 12

Purpose:
NAVIGATION
Datum:
MLLW (NOS)

**LOCATION MAP
OF
CAPE CHARLES CITY
HARBOR, VIRGINIA**



**PROPOSED MAINTENANCE
DREDGING**

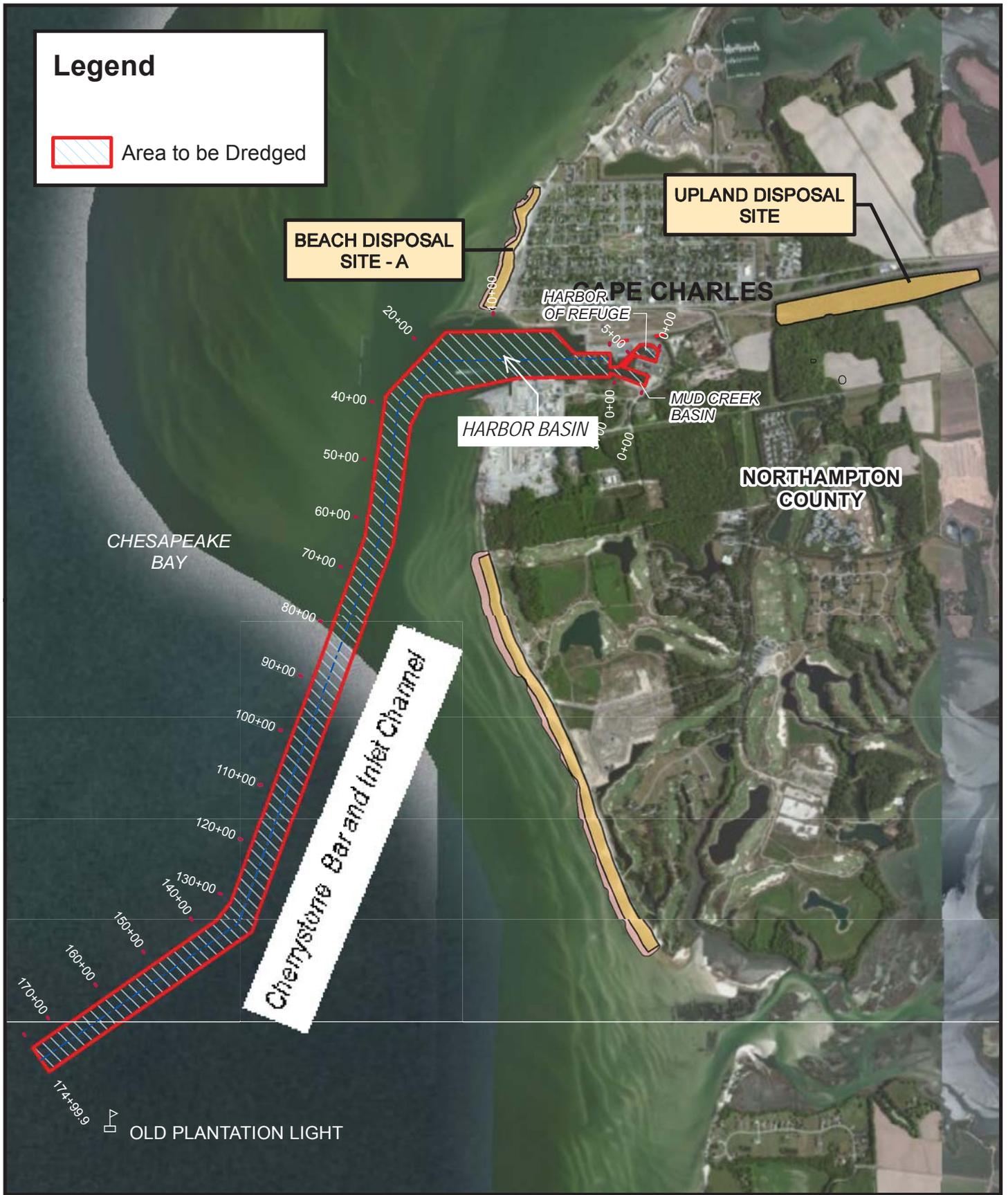
OF ENTRANCE CHANNEL
AT CAPE CHARLES CITY
COUNTY OF NORTHAMPTON
APPLICATION BY
NORFOLK DISTRICT
CORPS OF ENGINEERS



Mason & Hanger
A Day & Zimmermann Company

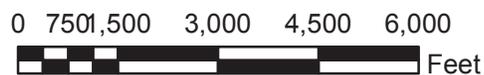
Legend

 Area to be Dredged

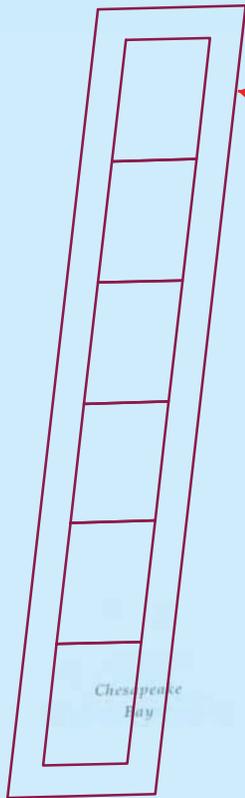


OVERVIEW MAP OF DREDGING AND DISPOSAL AREAS AT CAPE CHARLES CITY HARBOR, VIRGINIA

Purpose:
NAVIGATION
Datum:
MLLW (NOS)

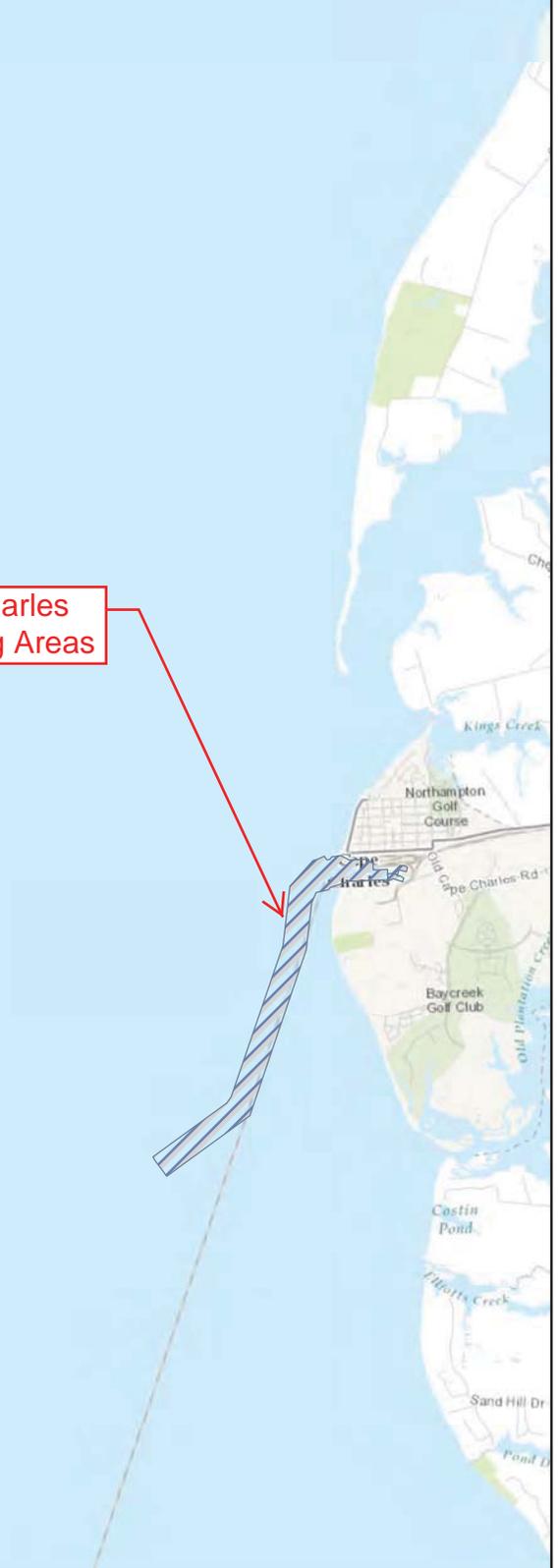


COUNTY OF NORTHAMPTON
APPLICATION BY
NORFOLK DISTRICT
CORPS OF ENGINEERS



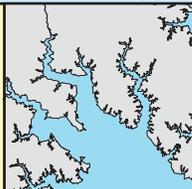
Wolftrap
Placement Site

Cape Charles
Dredging Areas



US Army Corps
of Engineers
Norfolk District

**Location Map:
Cape Charles Dredging Area
and Wolftrap Placement Site**



1:750,000

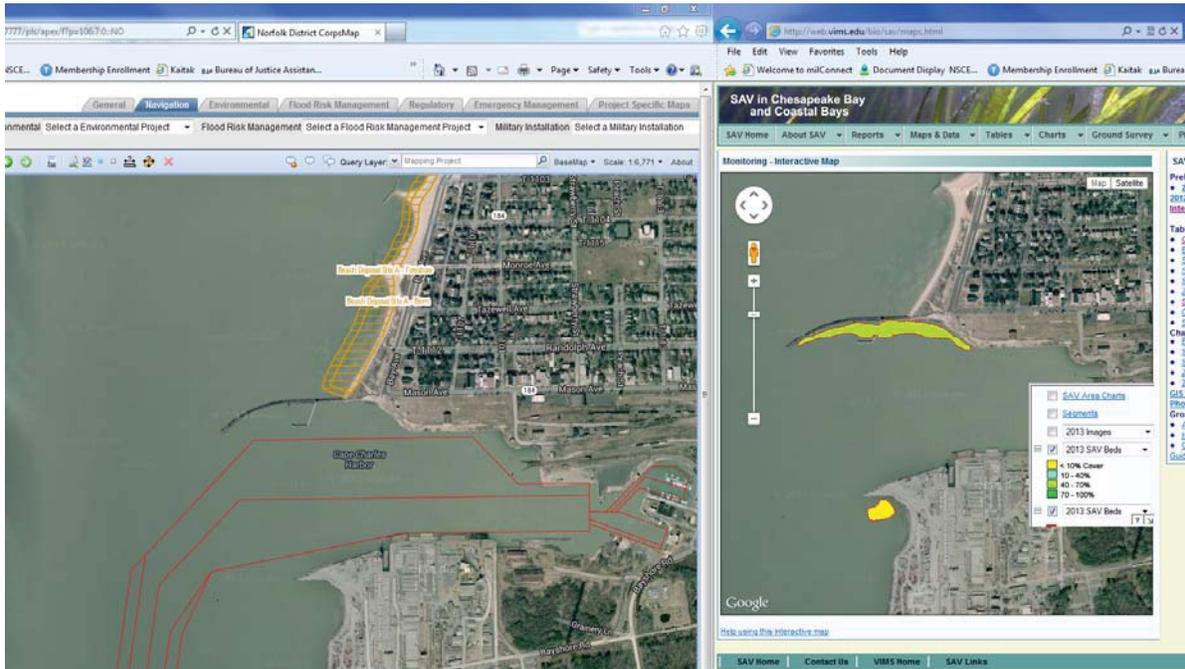
Project Manager: Holly Carpenter
E-mail: holly.a.carpenter@usace.army.mil
Phone: (757) 201-7825

Map Date: April 22 2014



ATTACHMENT B: SAV Map

Accessed June 18, 2014 <http://web.vims.edu/bio/sav/maps.html>



Summary of Essential Fish Habitat (EFH) Designations Cape Charles City Harbor

10 x 10 Square Coordinates:

Boundary	North	East	South	West
Coordinate	37° 20.0 N	76° 00.0 W	37° 10.0 N	76° 10.0 W

Square Description (i.e. habitat, landmarks, coastline markers) Atlantic Ocean waters within the square within the Chesapeake Bay affecting the following: Cherrystone Reef, Westcoat Pt. on Savage Neck, the western part of Cherrystone Inlet, Cherrystone, VA., Mill Pt., the western part of King Creek, Cherrystone Channel, Old Plantation Flats, and Elliots Creek.

Species	Eggs	Larvae	Juveniles	Adults
Atl. sharpnose shark (<i>Rhizopriondon terraenovae</i>)				X
Atlantic butterfish (<i>Peprilus triacanthus</i>)	X	X	X	X
Atlantic sea herring (<i>Clupea harengus</i>)				X
black sea bass (<i>Centropristis striata</i>)	n/a		X	X
bluefish (<i>Pomatomus saltatrix</i>)			X	X
cobia (<i>Rachycentron canadum</i>)	X	X	X	X
dusky shark (<i>Carcharhinus obscurus</i>)		X	X	
king mackerel (<i>Scomberomorus cavalla</i>)	X	X	X	X
red drum (<i>Sciaenops ocellatus</i>)	X	X	X	X
red hake (<i>Urophycis chuss</i>)			X	X
sand tiger shark (<i>Carcharias taurus</i>)		X		
sandbar shark (<i>Carcharhinus plumbeus</i>)		X	X	X
sandbar shark (<i>Carcharhinus plumbeus</i>)		HAPC	HAPC	HAPC
scup (<i>Stenotomus chrysops</i>)	n/a	n/a	X	X
Spanish mackerel (<i>Scomberomorus maculatus</i>)	X	X	X	X
summer flounder (<i>Paralichthys dentatus</i>)		X	X	X
windowpane flounder (<i>Scophthalmus aquosus</i>)			X	X

Summary of Essential Fish Habitat (EFH) Designations Wolftrap 10 x 10 Square Coordinates:

Boundary	North	East	South	West
Coordinate	37° 30.0 N	76° 10.0 W	37° 20.0 N	76° 20.0 W

Square Description (i.e. habitat, landmarks, coastline markers): Atlantic Ocean waters within Chesapeake Bay within the square affecting the following: from the south at Dyer Creek, north past New Pt., Horn harbor, Peary, VA., and Beach Pt., both on Potato Neck, Winter Harbor, past Garden Creek, Haven Beach, Whites Creek, Stoakes Creek, Billups Creek, Fitchetts, VA., Stutts Creek, Pt. Breeze on Crab Neck, Langs Creek, Cricket Hill, Queens Creek Inlet, up to just southeast of Burton Pt. on Cow Neck. Also, affected within the square on the southwest corner of the square is Pepper Creek and Inlet, along with other features such as Wolftrap, The Hole in the Wall, and the southern half of Glynn I., including Sandy Pt., along with, within the Bay, Milfordhaven.

Species	Eggs	Larvae	Juveniles	Adults
Atlantic butterfish (<i>Peprilus triacanthus</i>)	X	X	X	X
bluefish (<i>Pomatomus saltatrix</i>)			X	X
cobia (<i>Rachycentron canadum</i>)	X	X	X	X
dusky shark (<i>Carcharhinus obscurus</i>)		X	X	
king mackerel (<i>Scomberomorus cavalla</i>)	X	X	X	X
red drum (<i>Sciaenops ocellatus</i>)	X	X	X	X
sandbar shark (<i>Carcharhinus plumbeus</i>)		X	X	X
sandbar shark (<i>Carcharhinus plumbeus</i>)		HAPC	HAPC	HAPC
scup (<i>Stenotomus chrysops</i>)	n/a	n/a	X	X
Spanish mackerel (<i>Scomberomorus maculatus</i>)	X	X	X	X
summer flounder (<i>Paralichthys dentatus</i>)		X	X	X
windowpane flounder (<i>Scophthalmus aquosus</i>)			X	X

Summary of Essential Fish Habitat (EFH) Designation Wolftrap 10 x 10 Square Coordinates:

Boundary	North	East	South	West
Coordinate	37° 20.0 N	76° 10.0 W	37° 10.0 N	76° 20.0 W

Square Description (i.e. habitat, landmarks, coastline markers) Atlantic Ocean waters within the square within the Chesapeake Bay affecting the following: New Point Comfort Shoal, Poquoson Flats, York Spit, a large disposal area on the northeast corner, southeastern Mobjack Bay, Dutchman Pt., Motorun, VA., Dyer Creek, Deep Creek, and New Point Comfort.

Species	Eggs	Larvae	Juveniles	Adults
Atlantic butterfish (<i>Peprilus triacanthus</i>)	X	X	X	X
black sea bass (<i>Centropristis striata</i>)	n/a		X	X
bluefish (<i>Pomatomus saltatrix</i>)			X	X
cobia (<i>Rachycentron canadum</i>)	X	X	X	X
dusky shark (<i>Carcharhinus obscurus</i>)		X	X	
king mackerel (<i>Scomberomorus cavalla</i>)	X	X	X	X
red drum (<i>Sciaenops ocellatus</i>)	X	X	X	X
sandbar shark (<i>Carcharhinus plumbeus</i>)		X	X	X
sandbar shark (<i>Carcharhinus plumbeus</i>)		HAPC	HAPC	HAPC
Spanish mackerel (<i>Scomberomorus maculatus</i>)	X	X	X	X
summer flounder (<i>Paralichthys dentatus</i>)		X	X	X
windowpane flounder (<i>Scophthalmus aquosus</i>)			X	X

Accessed June 17, 2014 <http://www.nero.noaa.gov/hcd/STATES4/virginia/virginia/37107600.html>

APPENDIX C

THREATENED AND ENDANGERED SPECIES LISTS



Virginia Department of Game and Inland Fisheries

12/12/2013 9:36:03 AM

Fish and Wildlife Information Service

VaFWIS Search Report Compiled on 12/12/2013, 9:36:03 AM

[Help](#)

Known or likely to occur within a 3 mile radius around point Cape Charles Harbor
 Channel Channel Northampton
 (at 37.2609722 -76.0290833)
 in 131 Northampton County, VA

[View Map of Site Location](#)

475 Known or Likely Species ordered by Status Concern for Conservation
 (displaying first 40) (40 species with Status* or Tier I** or Tier II**)

<u>BOVA Code</u>	<u>Status*</u>	<u>Tier**</u>	<u>Common Name</u>	<u>Scientific Name</u>
010032	FESE	II	Sturgeon, Atlantic	Acipenser oxyrinchus
050062	FESE	II	Squirrel, Delmarva Peninsula fox	Sciurus niger cinereus
040183	FESE	IV	Tern, roseate	Sterna dougallii dougallii
030073	FESE		Turtle, hawksbill sea	Eretmochelys imbricata
030074	FESE		Turtle, Kemp's ridley sea	Lepidochelys kempii
030075	FESE		Turtle, leatherback sea	Dermodochelys coriacea
030071	FTST	I	Turtle, loggerhead sea	Caretta caretta
040120	FTST	I	Plover, piping	Charadrius melodus
100361	FTST	II	Beetle, northeastern beach tiger	Cicindela dorsalis dorsalis
030072	FTST		Turtle, green sea	Chelonia mydas
040118	SE	I	Plover, Wilson's	Charadrius wilsonia
040110	SE	I	Rail, black	Laterallus jamaicensis
040096	ST	I	Falcon, peregrine	Falco peregrinus
040129	ST	I	Sandpiper, upland	Bartramia longicauda
040293	ST	I	Shrike, loggerhead	Lanius ludovicianus
040385	ST	I	Sparrow, Bachman's	Aimophila aestivalis
040379	ST	I	Sparrow, Henslow's	Ammodramus henslowii
040179	ST	I	Tern, gull-billed	Sterna nilotica
040403	ST		Falcon, Arctic peregrine	Falco peregrinus tundrius
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans
040144	FC	IV	Knot, red	Calidris canutus rufus
040093	FS	II	Eagle, bald	Haliaeetus leucocephalus
100001	FS	IV	fritillary, Diana	Speyeria diana
030067	CC	II	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin
030063	CC	III	Turtle, spotted	Clemmys guttata
040225		I	Sapsucker, yellow-bellied	Sphyrapicus varius
040319		I	Warbler, black-throated green	Dendroica virens
040038		II	Bittern, American	Botaurus lentiginosus
040052		II	Duck, American black	Anas rubripes
040029		II	Heron, little blue	Egretta caerulea caerulea
040213		II	Owl, northern saw-whet	Aegolius acadicus
040114		II	Oystercatcher, American	Haematopus palliatus
040105		II	Rail, king	Rallus elegans
040192		II	Skimmer, black	Rynchops niger
040381		II	Sparrow, saltmarsh sharp-tailed	Ammodramus caudacutus

040186		II	Tern, least	Sterna antillarum
040187		II	Tern, royal	Sterna maxima maximus
040320		II	Warbler, cerulean	Dendroica cerulea
040304		II	Warbler, Swainson's	Limnothlypis swainsonii
040266		II	Wren, winter	Troglodytes troglodytes

To view **All 475 species** [View 475](#)

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FC=Federal Candidate; PS=Federal Species of Concern; CC=Collection Concern

** I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Anadromous Fish Use Streams

N/A

Impediments to Fish Passage (3 records)

[View Map of All Fish Impediments](#)

ID	Name	River	View Map
172	JONES DAM #1	OLD PLANTATION CREEK	Yes
173	JONES DAM #2	TR-OLD PLANTATION CREEK	Yes
167	LONG DAM	TR-OLD PLANTATION CREEK	Yes

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests (4 records)

[View Map of All Query Results Bald Eagle Nests](#)

Nest	N Obs	Latest Date	DGIF Nest Status	View Map
NT0602	13	Apr 23 2011	RECENTLY ACTIVE	Yes
NT9304	1	Jan 1 1993	HISTORIC	Yes
NT9501	1	Dec 30 1899	HISTORIC	Yes
NT9801	5	May 14 1999	HISTORIC	Yes

Displayed 4 Bald Eagle Nests

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species (4 Species)

[View Map of Combined Terrestrial Habitat Predicted for 4 WAP Tier I & II Species Listed Below](#)

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
100361	FTST	II	Beetle, northeastern beach tiger	Cicindela dorsalis dorsalis	Yes
030067	CC	II	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Yes
040114		II	Oystercatcher, American	Haematopus palliatus	Yes
040186		II	Tern, least	Sterna antillarum	Yes

Virginia Breeding Bird Atlas Blocks (6 records)

[View Map of All Query Results Virginia Breeding Bird Atlas Blocks](#)

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
62074	Cape Charles, CE	1			Yes
62076	Cape Charles, SE	38		II	Yes
63073	Cheriton, CW	3	FS	II	Yes
63075	Cheriton, SW	2			Yes
62062	Elliotts Creek, NE	27		II	Yes
63061	Townsend, NW	28	FS	II	Yes

Public Holdings:

N/A

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
131	Northampton	470	FESE	I

USGS 7.5' Quadrangles:

Elliotts Creek
Cape Charles
Townsend
Cheriton

USGS NRCS Watersheds in Virginia:

N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
CB46	Lower Chesapeake Bay-Cherrystone Inlet	87	FESE	I
CB47	Lower Chesapeake Bay	73	FESE	I

Compiled on 12/12/2013, 9:36:03 AM. V508398 (I) report=V, searchType= R, dist= 4828.032,poi= 37.269722,-76.029083

Natural Heritage Resources

Your Criteria

County: Northampton

Watershed: 02080101 - Lower Chesapeake Bay

Search Run: 9/3/2014 10:51:50 AM

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences
Northampton						
Lower Chesapeake Bay						
OTHER						
Landbird	<i>Landbird</i>	G3	S1	None	None	1
Migratory	<i>Migratory</i>					
Concentration	<i>Concentration</i>					
Area	<i>Area</i>					

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an [information request](#).

To Contribute information on locations of natural heritage resources, please fill out and submit a [rare species sighting form](#).

APPENDIX D

COASTAL CONSISTENCY DETERMINATION

Coastal Zone Management Act (CZMA) Consistency Determination for the Cape Charles City Harbor Federal Navigation Project located in Cape Charles, Virginia

This document provides the Commonwealth of Virginia with the U.S. Army Corps of Engineers, Norfolk District's Coastal Consistency Determination (CCD) under the CZMA section 307(c)(1) and 15 CFR Part 930, sub-part C. This CCD addresses the maintenance dredging and placement of dredged material from the Cape Charles City Harbor Federal Navigation Project in Cape Charles, Virginia. The information in this CCD is provided pursuant to 15 CFR section 930.39.

Proposed Federal Agency Activity

The Cape Charles City Harbor Federal Navigation project is in need of required maintenance dredging. The proposed federal action is the maintenance dredging and material placement of the Cape Charles City Harbor Federal Navigation Project. Dredged material from the outer portion of the Cape Charles City Harbor and Cherrystone Bar and Inlet Channel (sandy material) will be placed as beach nourishment along Beach Site A, overboard at the Wolftrap Alternate Placement Site, and used for construction at the Craney Island Dredged Material Management Area (CIDMMA) and the Craney Island Eastward Expansion (CIEE). Maintenance dredging of the fine grain material from the inner (eastward) portion of the Cape Charles Harbor Basin, Mud Creek Basin, and Harbor of Refuge will be placed by pipeline at the upland confined placement site. A Supplemental Environmental Assessment (SEA) of the proposed action has been prepared by the U.S. Army corps of Engineers, Norfolk District.

Background

The Cape Charles City Harbor Federal Navigation project is located at Cape Charles, Virginia which lies near the southern tip of the Eastern Shore of Virginia. Bordered to the west by the Chesapeake Bay, the town was developed from farmland in 1884 to accommodate steam boats importing shellfish, sand, gravel, and crushed rock. The inner harbor areas are used by commercial and recreational fishermen, boaters, and the U.S. Coast Guard. Maintenance dredging will restore the project depths for safe navigation and anchorage of vessels

Enforceable Policies

The Virginia Coastal Resources Management Program (VCP) contains the below enforceable policies (A-I). More information can be found in the Final Environmental Assessment for this project.

A. Fisheries Management

This program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities.

The proposed agency activity will temporarily affect the use of a limited reach of Cape Charles City Harbor for commercial and recreational fishing. There will be temporary increases in water column turbidity associated with dredging. Potential impacts to fisheries management will include temporary disturbance to feeding and movement patterns for some species that may be within the project area.

The proposed dredging area offers commercial and recreational fishing opportunities. However, segments of the channel have shoaled and silted. Restoring the dimensions of the project will reestablish these opportunities. The Cape Charles City Harbor Federal Navigation project will improve marine and fisheries resources by providing access to the channel and harbor which is shoaled.

Private oyster leases are located adjacent to or transecting the boundary of Beach Site B. While Beach Site B may be available for future use, the current environment has too many constraints to be a viable placement location for the upcoming maintenance dredging cycle. Prior to dredged material placement on Beach Site B notifications to impacted lease holders and any easements or transfers of leases would be coordinated with VMRC and lease holders.

B. Subaqueous Lands Management

This management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality, Water Division.

Submerged Aquatic Vegetation (SAV) is located within the dredging prism by Cape Charles City Harbor basin and adjacent to Beach Site A. Temporary, localized adverse impacts to SAV in the dredging footprint at Cape Charles City Harbor basin may occur due to the act of dredging, resuspension of sediments and slouching of material from the dredge cut. The SAV and Beach Site A are separated by a rip rap jetty; therefore, placement activities on the beach will not impact the SAV. Impacts to water quality will be minor and temporary, consisting of localized increases in turbidity due to dredging.

C. Wetlands Management

The purpose of the wetlands management program is to preserve tidal and non-tidal wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation.

There are no wetlands located in the dredging or placement sites; therefore, no impacts are anticipated.

D. Dunes Management

Dune protection is carried out pursuant to the Coastal Primary Sand Dune Protection Act and is intended to prevent destruction or alteration of primary dunes.

Artificial sand dunes are located adjacent to the placement area on Beach Site A; however, placement activities will not interfere or adversely impact the dunes. The placement of dredged material in front of the dunes may provide protection from naturally occurring erosion.

E. Non-point Source Pollution Control

Virginia's Erosion and Sediment Control Law requires soil-disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth.

Erosion and sediment control (ESC) and storm water management (SWM) best management practices will be incorporated into the project design to ensure compliance with state programs. The contract plans and specifications will address requirements to achieve reduction of soil erosion and storm water management. On-site inspections will ensure compliance with government contract plans and specifications and the applicable state program to the maximum extent practicable.

F. Point Source Pollution Control

Point source pollution control is accomplished through the implementation of the National Pollutant Discharge Elimination System permit program established pursuant to Section 402 of the Federal Clean Water Act and administered in Virginia as the Virginia Pollutant Discharge Elimination System permit program.

A Virginia Pollutant Discharge Elimination System (VPDES) permit is not required for this project. Dredged material discharges into waters of the United States are regulated under Section 404 of the Clean Water Act, and receive appropriate water quality certifications under Section 401 of the Clean Water Act. Hence, dredged material discharges are not regulated under Section 402 of the Clean Water Act and VPDES regulations.

G. Shoreline Sanitation

The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth.

The proposed project does not include the installation, removal, or maintenance of septic tanks.

H. Air Pollution Control

The program implements the Federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS).

The Clean Air Act prohibits Federal entities from taking actions which do not conform to the State implementation plan (SIP) for attainment and maintenance of the national ambient air quality standards (NAAQS).

Air emissions due to the dredging and placement activities for this project will be minor and temporary. It has been determined that the activities proposed will not exceed *de minimus* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153(c)(2)(ix).

I. Coastal Lands Management

Coastal Lands Management is a state-local cooperative program administered by the DCR's Division of Stormwater Management – Local Implementation (previously the Division of Chesapeake Bay Local Assistance) and 88 localities in Tidewater, Virginia established pursuant to the Chesapeake Bay Preservation Act; Virginia Code §§ 10.1-2100 through 10.1-2114 and Chesapeake Bay Preservation Area Designation and Management Regulations; Virginia Administrative code 9 VAC10-20-10 et seq.

While NOAA has determined that the CZMA does not grant states regulatory authority over activities on federal lands, federal activities affecting Virginia's coastal resources must be consistent with the Bay Act and the Regulations as one of the enforceable programs of Virginia's Coastal Zone Management Program.

This project does not involve land development; therefore, this project is not subject to the Chesapeake Bay Preservation Act.

Advisory Policies for Geographic Area of Particular Concern

a. Coastal Natural Resource Areas

Coastal Natural Resource Areas are areas that have been designated as vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. These areas include the following resources: wetlands, aquatic spawning, nursing, and feeding grounds, coastal primary sand dunes, barrier islands, significant wildlife habitat areas, public recreation areas, sand gravel resources, and underwater historic sites.

The project area may contain spawning, nursing, and/or feeding grounds for finfish and shellfish. Habitat for finfish and shellfish will not be harmed and may be improved as a

result of this project. An Essential Fish Habitat (EFH) Assessment is being coordinated with NOAA Fisheries and will be included with the EA.

b. Coastal Natural Hazard Areas

This policy covers areas vulnerable to continuing and severe erosion and areas susceptible to potential damage from wind, tidal, and storm related events including flooding. New buildings and other structures should be designed and sited to minimize the potential for property damage due to storms or shoreline erosion. The areas of concern are highly erodible areas and coastal high hazard areas, including flood plains.

The project area contains no coastal natural hazard areas; therefore, adherence to this program is not applicable.

c. Waterfront Development Areas

These areas are vital to the Commonwealth because of the limited number of areas suitable for waterfront activities. The areas of concern are commercial ports, commercial fishing piers, and community waterfronts.

While this project includes no onshore development, it does support waterfront activities by providing safe reliable navigation to the Cape Charles City Harbor Federal Navigation project located in Cape Charles, Virginia.

Advisory Policies for Shorefront Access Planning and Protection

a. Virginia Public Beaches

These public shoreline areas will be maintained to allow public access to recreational resources.

This project has will provide a positive impact to restoring the public beach through beach nourishment.

b. Virginia Outdoors Plan (VOP)

The VOP, which is published by Virginia's Department of Conservation and Recreation (DCR), identifies recreational facilities in the Commonwealth that provide recreational access. Prior to initiating any project, consideration should be given to the proximity of the project site to recreational resources identified in the VOP.

This project is consistent with the Virginia Outdoor Plan for Region 23, Hampton Roads, whose main recreational activities revolve around water access and boating. This project is consistent with the Virginia Outdoor Plan for the Hampton Roads Planning District. This project will restore outdoor recreational opportunities to the Cape Charles City Harbor Federal Navigation project.

c. *Parks, Natural Areas, and Wildlife Management Areas*

The recreational values of these areas should be protected and maintained.

A section of the north end of the placement site Beach Site B now contains a state natural preserve area owned by the Virginia Department of Conservation and Recreation (VDCR); however, this location is not a viable option for the upcoming cycle's placement of dredged material based on existing conditions and resources in the area. There are no other Parks, Natural Areas, or Wildlife Management Areas in any other portion of the project.

d. *Waterfront Recreational Land Acquisition*

It is the policy of the Commonwealth to protect areas, properties, lands, or any estate or interest therein, of scenic beauty, recreational utility, historical interest, or unusual features which may be acquired, preserved, and maintained for the citizens of the Commonwealth.

This project does not limit the ability of the Commonwealth in any way to acquire, preserve, or maintain waterfront recreational lands. In fact, this project provides access to an economically distressed area in the Commonwealth of Virginia and is restoring waterfront recreation opportunities.

e. *Waterfront Recreational Facilities*

Boat ramps, public landings, and bridges shall be designed, constructed, and maintained to provide points of water access when and where practicable.

This project does not involve the design, construction, or maintenance of any boat ramps, public landings, or bridges.

f. *Waterfront Historic Properties*

The Commonwealth has a long history of settlement and development, and much of that history has involved both shorelines and near-shore areas. The protection and preservation of historic shorefront properties is primarily the responsibility of the Virginia Department of Historic Resources.

The National Historic Preservation Act - Section 106 consultation with the Department of Historic Resources (VDHR) has been completed. This project will not affect historic properties or their viewshed. VDHR concurred with the no effect conclusion in a letter dated December 11, 2013.

Determination

Based upon the following information, data, and analysis, the U.S. Army Corps of Engineers, Norfolk District finds that the that the maintenance dredging of Cape Charles City Harbor Federal Navigation project and material placement is consistent to the maximum extent

practicable with the enforceable policies of the Virginia Coastal Resources Management Program.

Pursuant to 15 CFR Section 930.41, the Virginia Coastal Resources Management Program has 60 days from the receipt of this letter in which to concur with or object to this Consistency Determination, or to request an extension under 15 CFR section 930.41(b). Virginia's concurrence will be presumed if its response is not received by the U.S. Army Corps of Engineers on the 60th day from receipt of this determination.

2 Sep 2014
Date

Keth B. Johnson FOR
Elizabeth G. Waring
Chief, Operations Branch