APPENDIX A

MAPS

1	Wicomico River Navigation Project
2	A Potential overland pipeline route and placement cells, B Potential overland pipeline route (only)
3	Potential pipeline routes from pipe landing at Dames Quarter south to Route 363
4	Preliminary cell locations, Deal Island WMA
5	Example of material flow from pipeline
6	Deal Island WMA
7	Soils
8	SAV in vicinity of proposed placement area
9	NWI wetlands
10	Oyster map (Aquaculture Siting Tool)
11	Historic oyster beds
12	Waterfowl areas
13	Coastal Barrier Resources System Units

Map 1: Wicomico River Navigation Project

WICOMICO RIVER, DORCHESTER, WICOMICO, AND SOMERSET COUNTIES, MARYLAND

Existing Project: The project provides for a channel 14 feet deep and 150 feet wide from Chesapeake Bay to Salisbury including 100-foot-wide channels with turning basins all 14 feet deep in the north and south prongs, and a 60-foot-wide channel 6 feet deep from deep water in the river to Webster Cove, with a T-shaped basin in the cove 100 feet wide and 400 feet long and extension of basin 200 feet long and 100 feet wide on each side. The total project length is 37 miles.

Range of Tide: 3.0 feet.

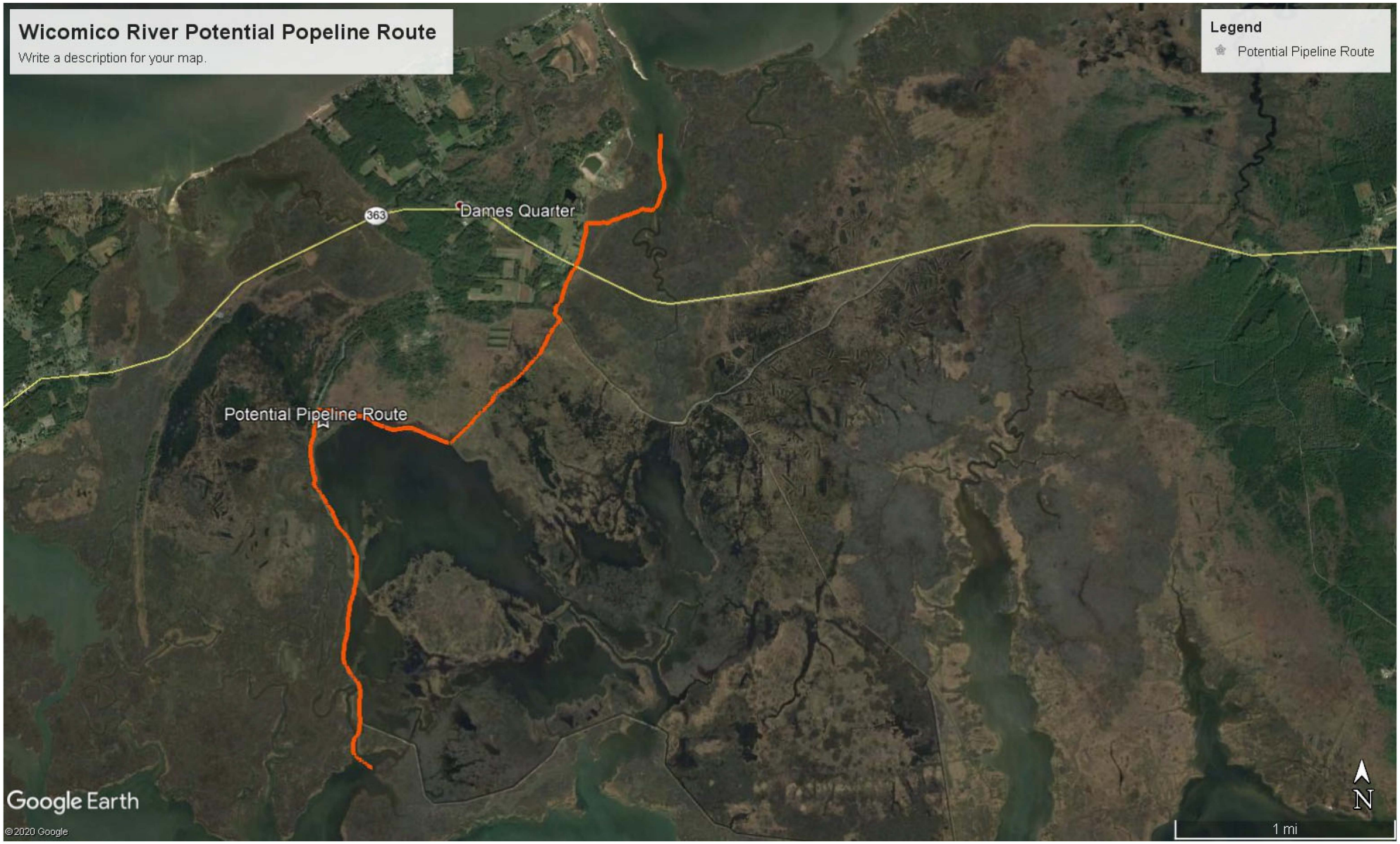
NAVD 88 (Adjustment to MLLW for the '83-'01 Tidal Epoch = approximately 1.3048'. Adjustment obtained using VDATUM.)

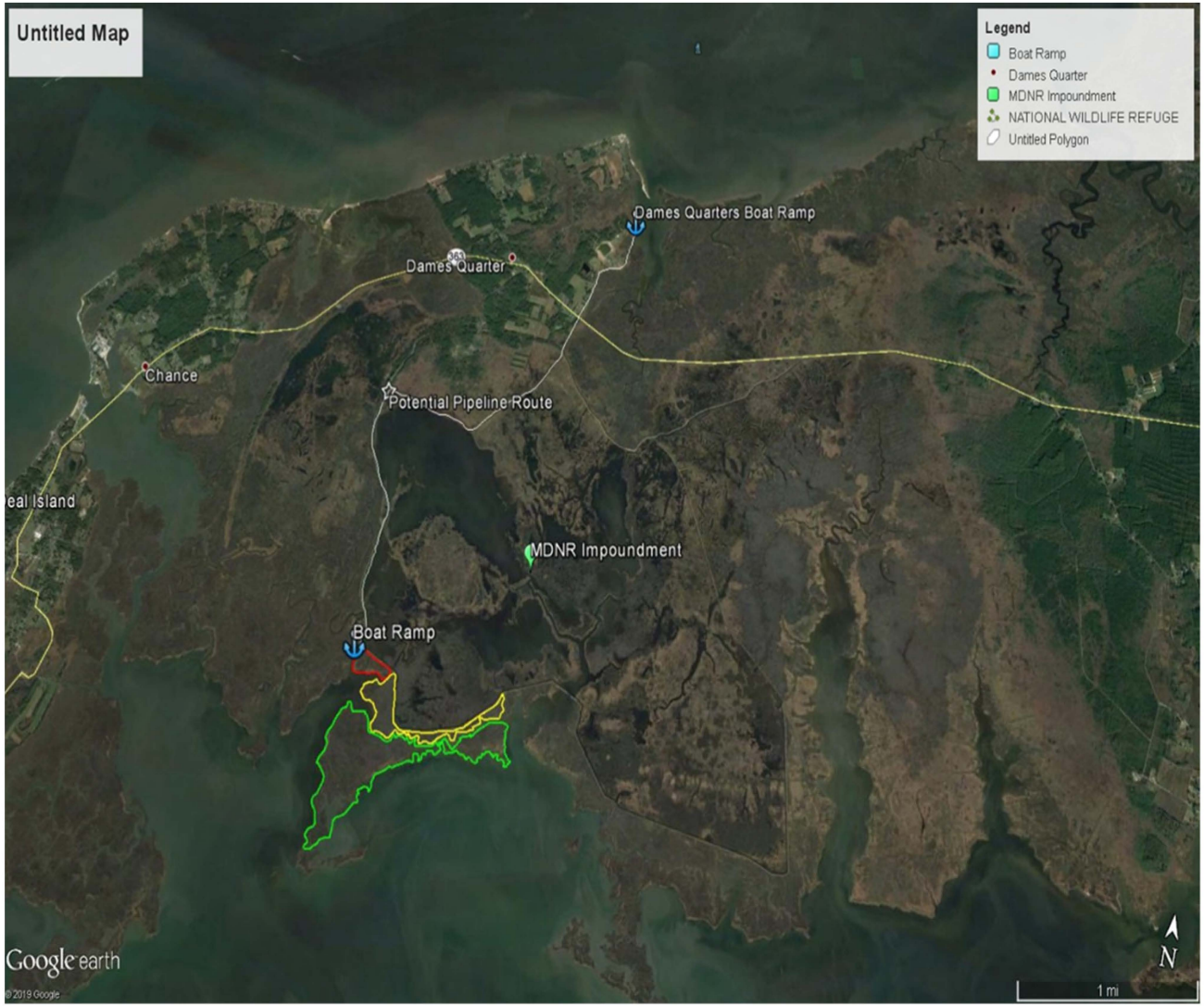
Soundings are in feet
Datum Plane is Local M.L.L.W.

0 15,000 30,000 45,000 60,000

Map 2: Potential overland pipeline route and placement cells.

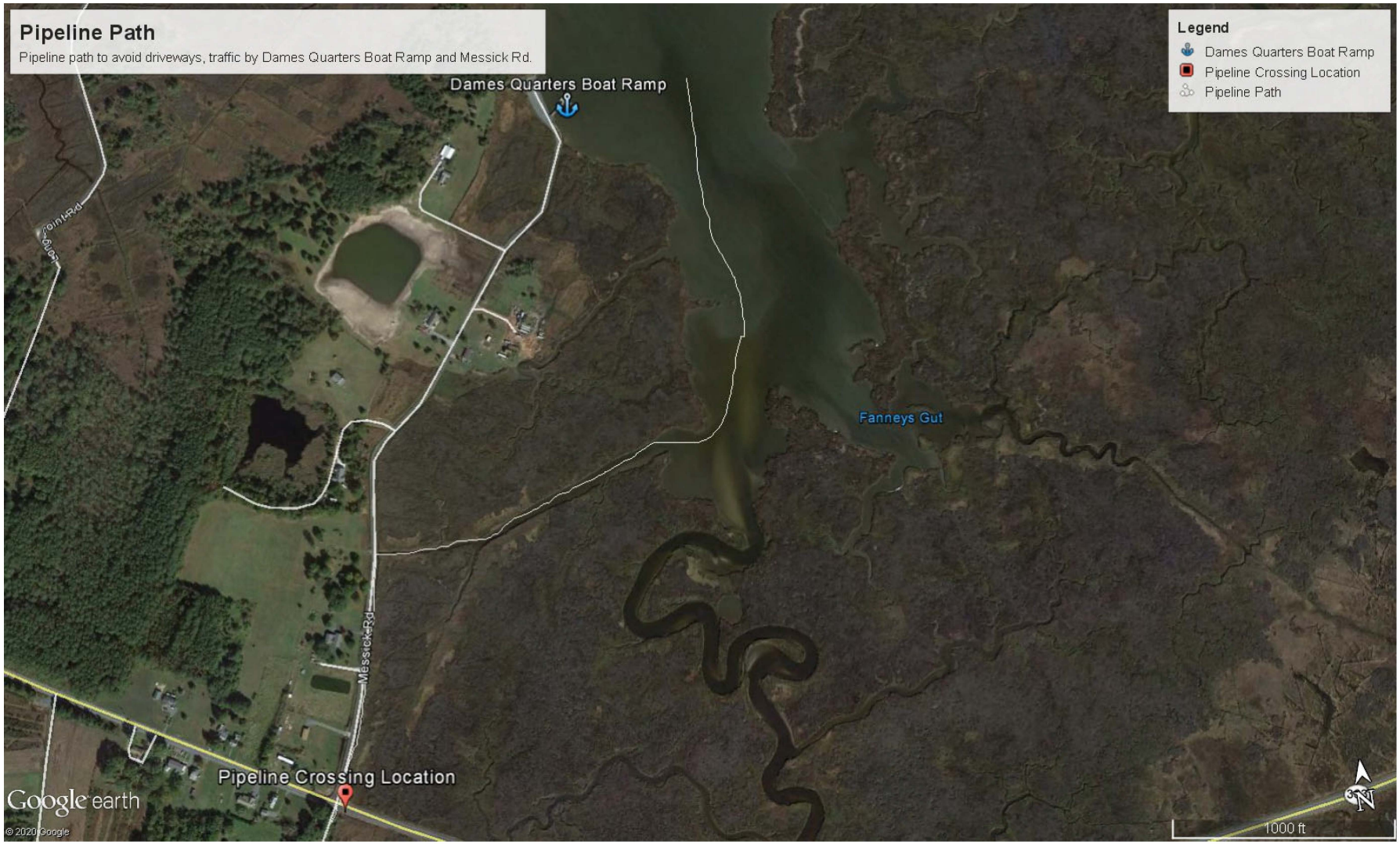
(Note: Potential overland pipeline route from boat ramp along Messick Road in Dames Quarter depicted. Alternative pipeline route in Dames Quarter Creek and tidal tributary depicted on Map 3).


Wicomico River Potential Popeline Route
Write a description for your map.
Legend
Potential Pipeline Route
363
Dames Quarter
Potential Pipeline Route
Google Earth
©2020 Google
N
1 mi


Untitled Map
Legend
Boat Ramp
Dames Quarter
MDNR Impoundment
NATIONAL WILDLIFE REFUGE
Untitled Polygon
Dames Quarters Boat Ramp
Dames Quarter
Chance
Potential Pipeline Route
eal Island
MDNR Impoundment
Boat Ramp
Google earth
© 2019 Google
N
1 mi

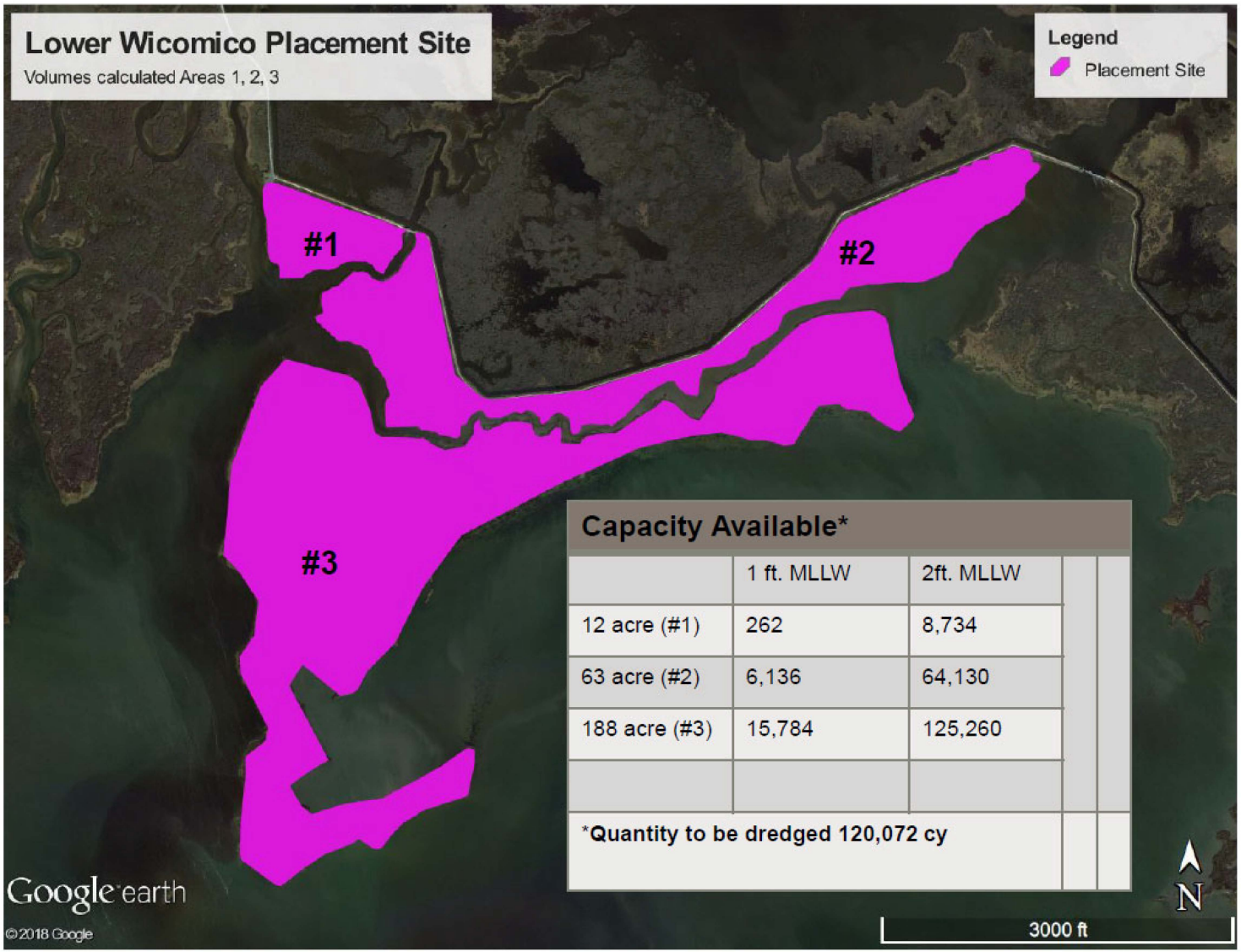
Map 3: Potential alternative pipeline landing and route at Dames Quarter.

Pipeline would follow Dames Quarter Creek southward, then proceed southwestward up tidal tributary to Messick Road. Pipeline crossing under Route 363 through conduit or culvert indicated.


Pipeline Path
Pipeline path to avoid driveways, traffic by Dames Quarters Boat Ramp and Messick Rd.
Legend
Dames Quarters Boat Ramp
Pipeline Crossing Location
Pipeline Path
Dames Quarters Boat Ramp
Fanneys Gut
Messick Rd
Pipeline Crossing Location
Google earth
© 2020 Google
1000 ft
N

Map 4: Preliminary cell locations, Deal Island WMA

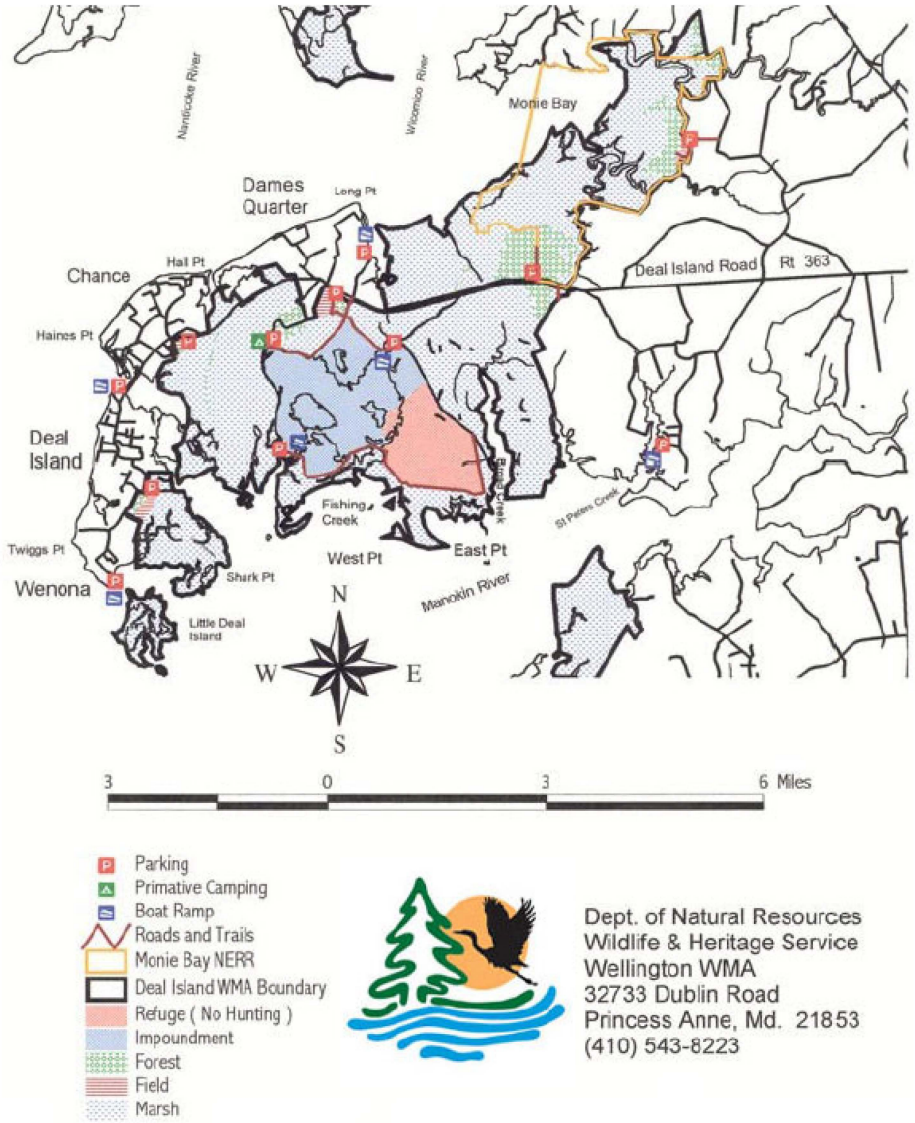
(Note that locations are approximate, and that volumes and areas are preliminary and differ from information presented in EA main body text).


Lower Wicomico Placement Site
Volumes calculated Areas 1, 2, 3
Legend
Placement Site
#1
#2
#3
Capacity Available*
1 ft. MLLW
2ft. MLLW
12 acre (#1) 262 8,734
63 acre (#2) 6,136 64,130
188 acre (#3) 15,784 125,260
*Quantity to be dredged 120,072 cy
Google earth
© 2018 Google
N
3000 ft

Map 5: Material flow from pipeline

Example of Material Flow from Pipeline
Legend
Containment (Straw bales and Tidal Ditch Plugs)
Dredged Sediment Outflow from Pipe
Pipeline Route
Google Earth
600 ft
N

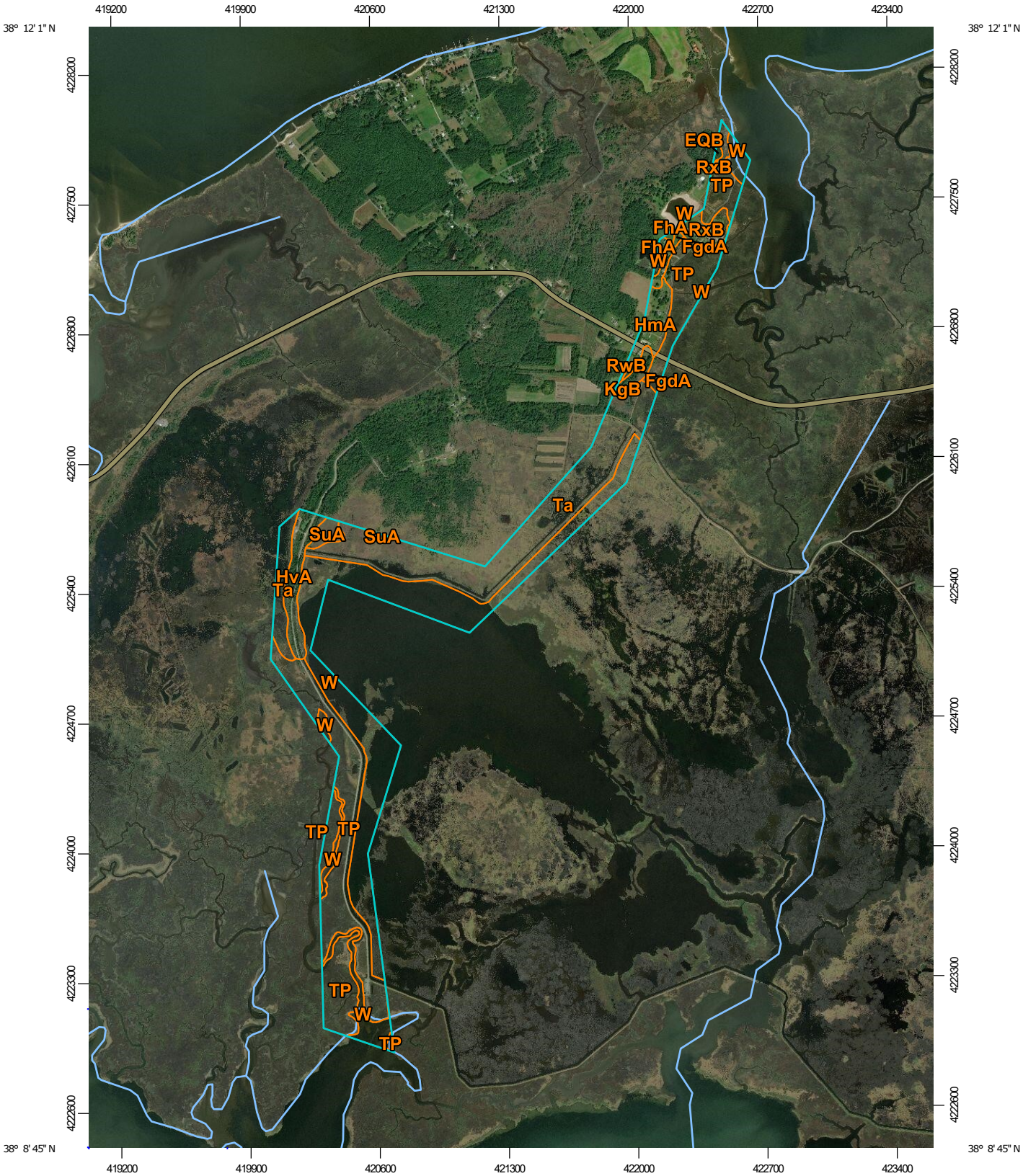
Map 6: Deal Island WMA



Dept. of Natural Resources
Wildlife & Heritage Service
Wellington WMA
32733 Dublin Road
Princess Anne, Md. 21853
(410) 543-8223

Map 7: Soils

Soil Map—Somerset County, Maryland
(Wicomico River Maintenance Dredging Potential Pipeline Route)



Map Scale: 1:29,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 400 800 1600 2400

Feet
0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EQB	Endoaquepts and Sulfaquepts, 0 to 5 percent slopes	0.8	0.2%
FgdA	Fallsington loams, 0 to 2 percent slopes, Northern Tidewater Area	4.9	1.1%
FhA	Fallsington-Glassboro complex, 0 to 2 percent slopes	0.5	0.1%
HmA	Hammonton loamy sand, 0 to 2 percent slopes	13.6	3.1%
HvA	Hurlock sandy loam, 0 to 2 percent slopes	17.2	3.9%
IgB	Ingleside sandy loam, 2 to 5 percent slopes	3.3	0.7%
KgB	Klej-Galloway complex, 0 to 5 percent slopes	0.3	0.1%
RwB	Runclint-Cedartown complex, 2 to 5 percent slopes	0.0	0.0%
RxB	Runclint-Evesboro complex, 2 to 5 percent slopes	9.1	2.1%
SuA	Sunken mucky silt loam, 0 to 2 percent slopes, occasionally flooded, tidal	4.8	1.1%
Ta	Tangier mucky peat, very frequently flooded, tidal	115.6	26.0%
TP	Transquaking and Mispillion soils, very frequently flooded, tidal	134.6	30.2%
W	Water	140.4	31.5%
Totals for Area of Interest		**445.3**	**100.0%**

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Somerset County, Maryland
Survey Area Data: Version 16, Sep 13, 2019

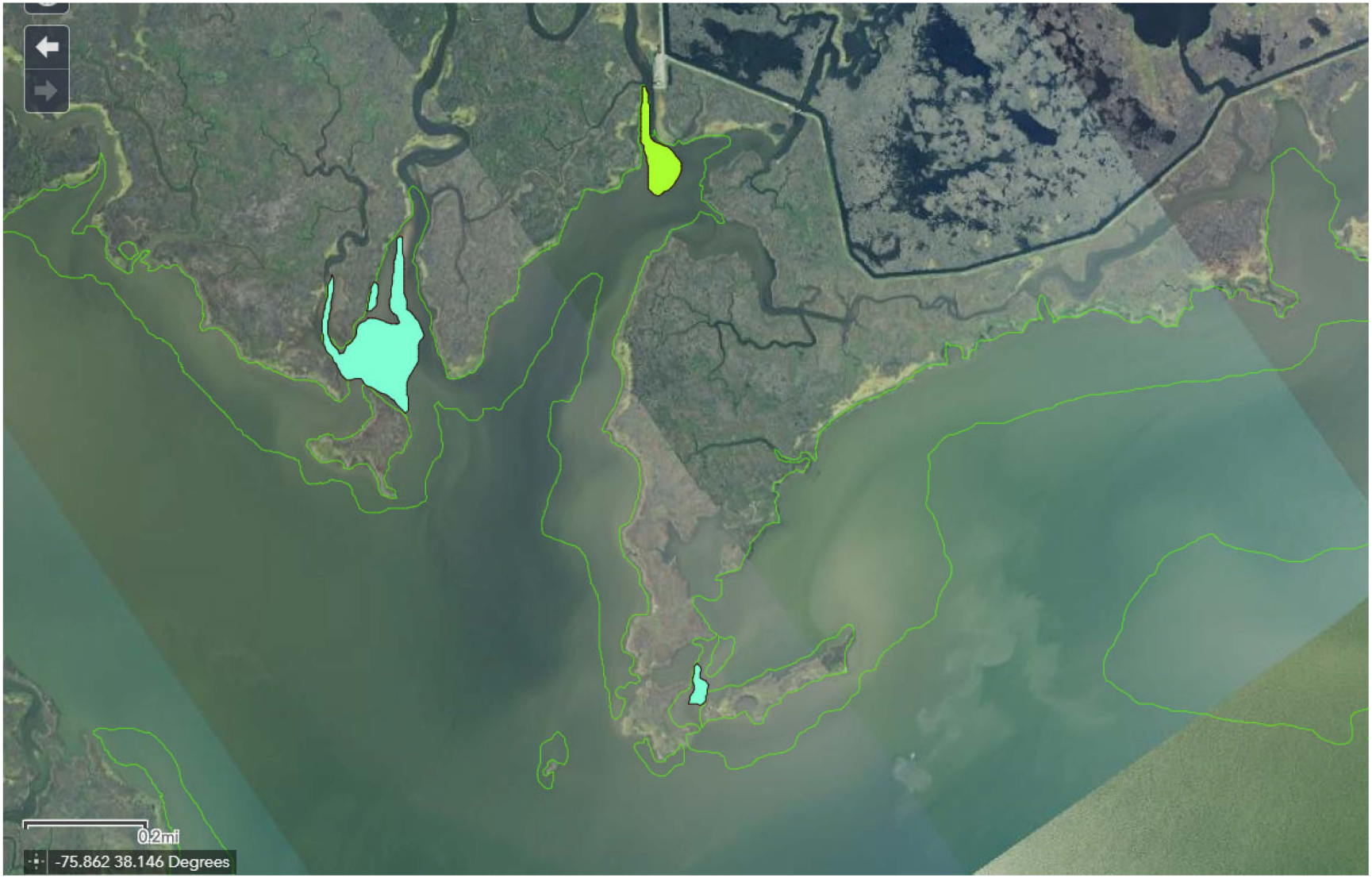
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 24, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map 8: SAV in vicinity of proposed placement area

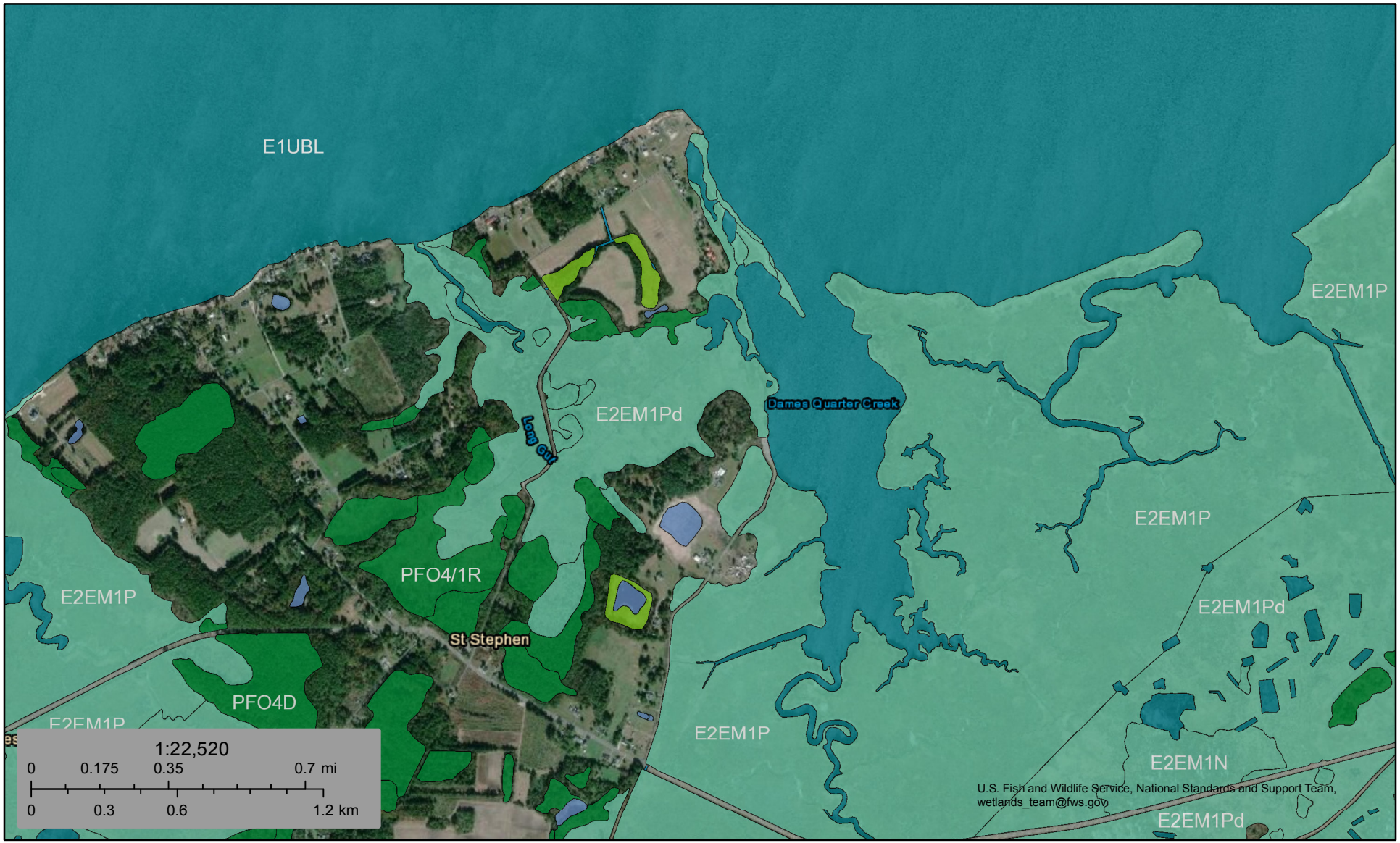
(2019 beds filled in color. Green no-fill polygons depict composite SAV over the period 2014-2018. VIMS.)


0.2mi
-75.862 38.146 Degrees

Map 9: NWI wetlands

U.S. Fish and Wildlife Service
National Wetlands Inventory

Dames Quarter Creek Pipeline Route



June 10, 2020

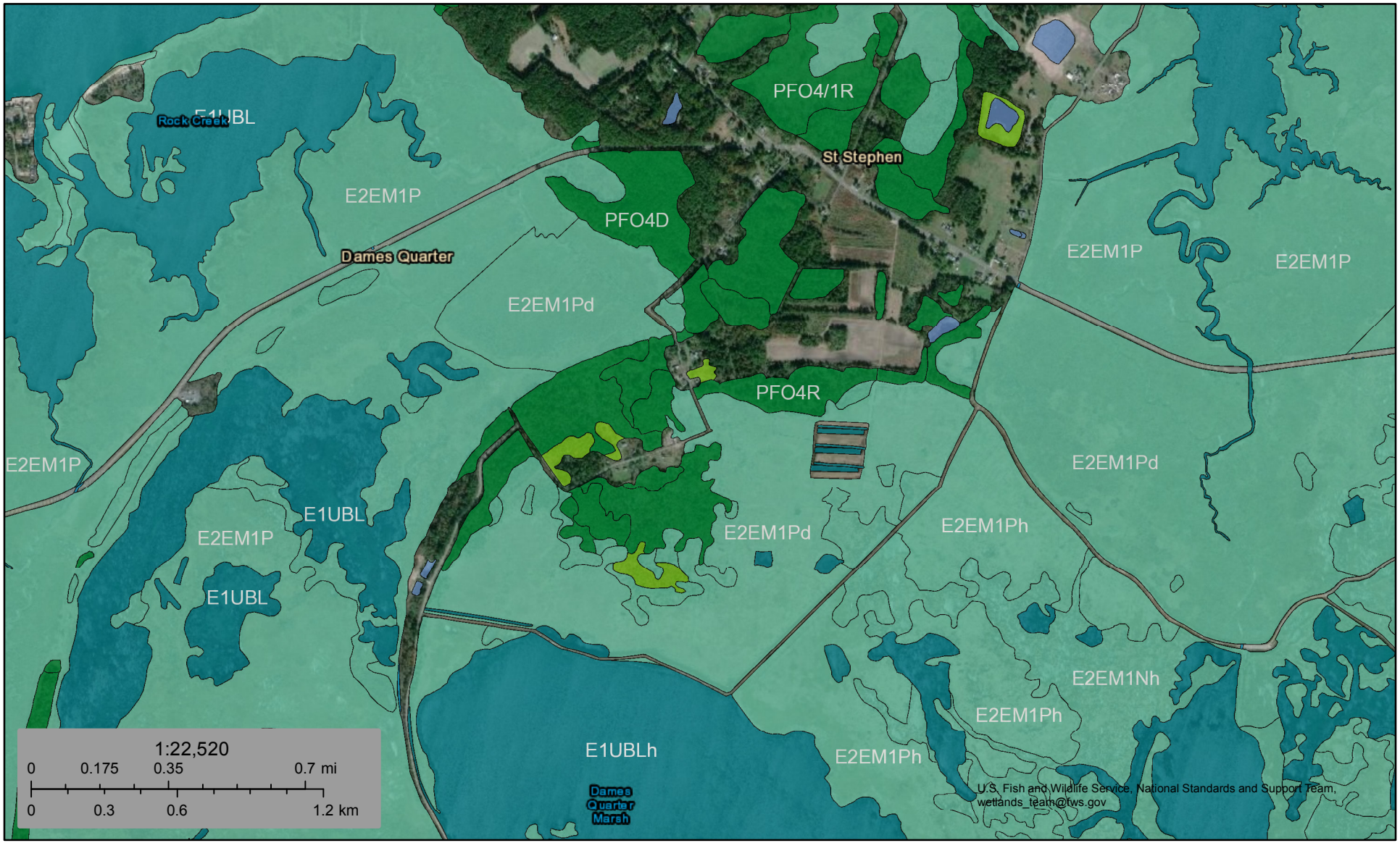
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

U.S. Fish and Wildlife Service
National Wetlands Inventory

Pipeline Route_Marsh North



June 10, 2020

Wetlands

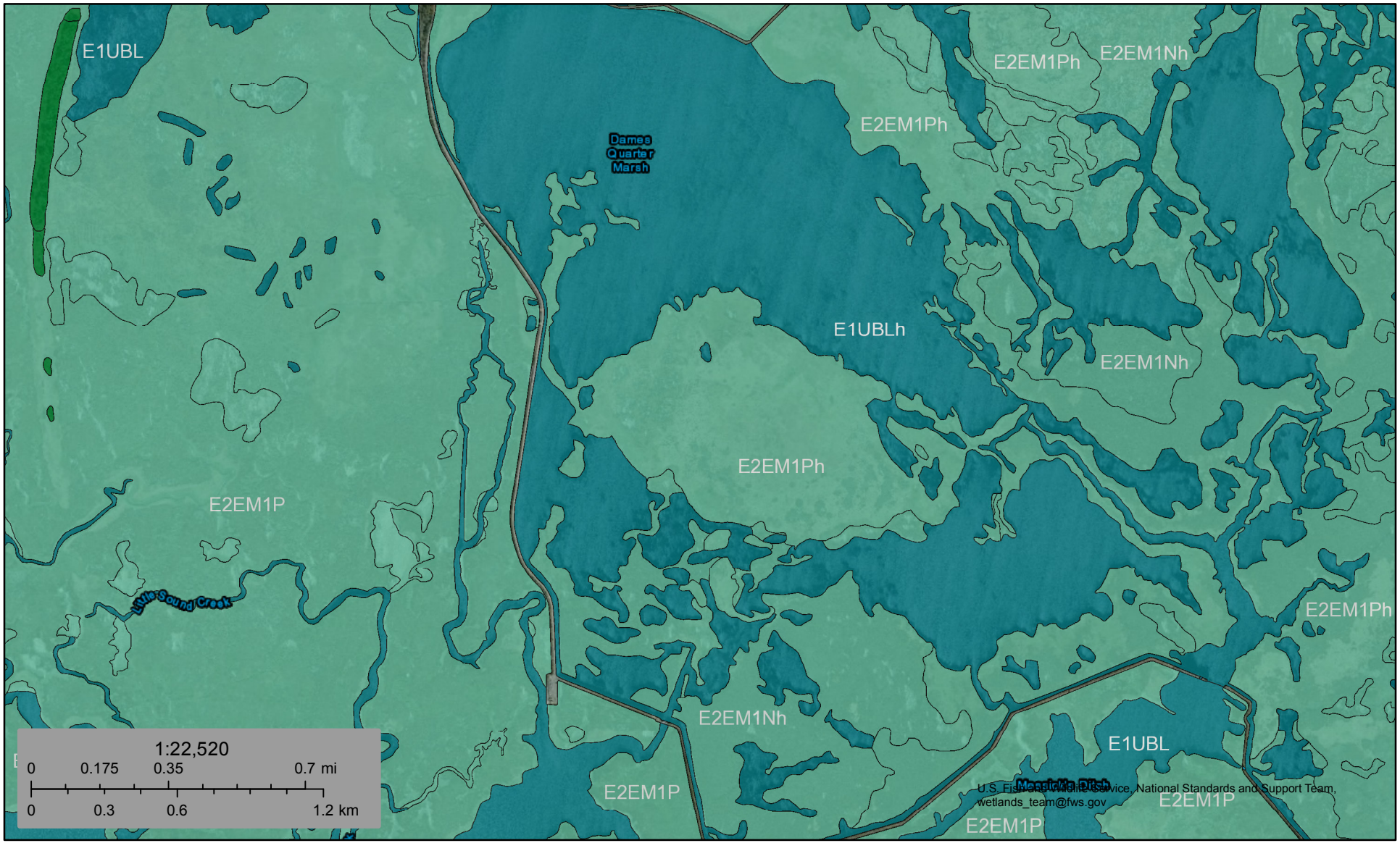
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

U.S. Fish and Wildlife Service

National Wetlands Inventory

Pipeline Route_Marsh South



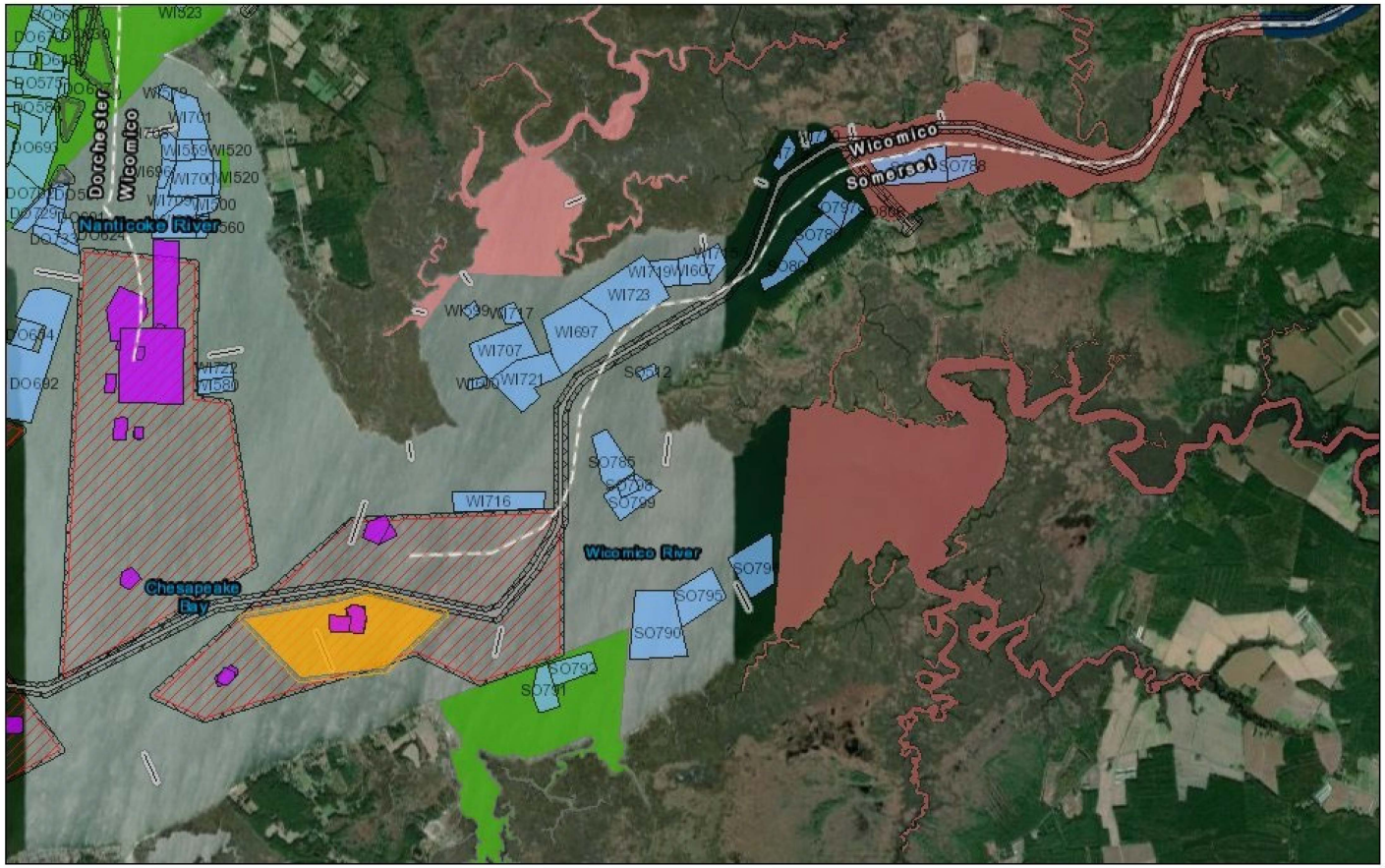
June 10, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Map 10: Oyster map (Aquaculture Siting Tool)

Aquaculture Siting Tool



July 30, 2020

1:72,224

0 0.5 1 2 mi

0 1 2 4 km

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Oyster Sanctuaries
- Oyster Sanctuary

Oyster Leases
- Active Oyster Lease

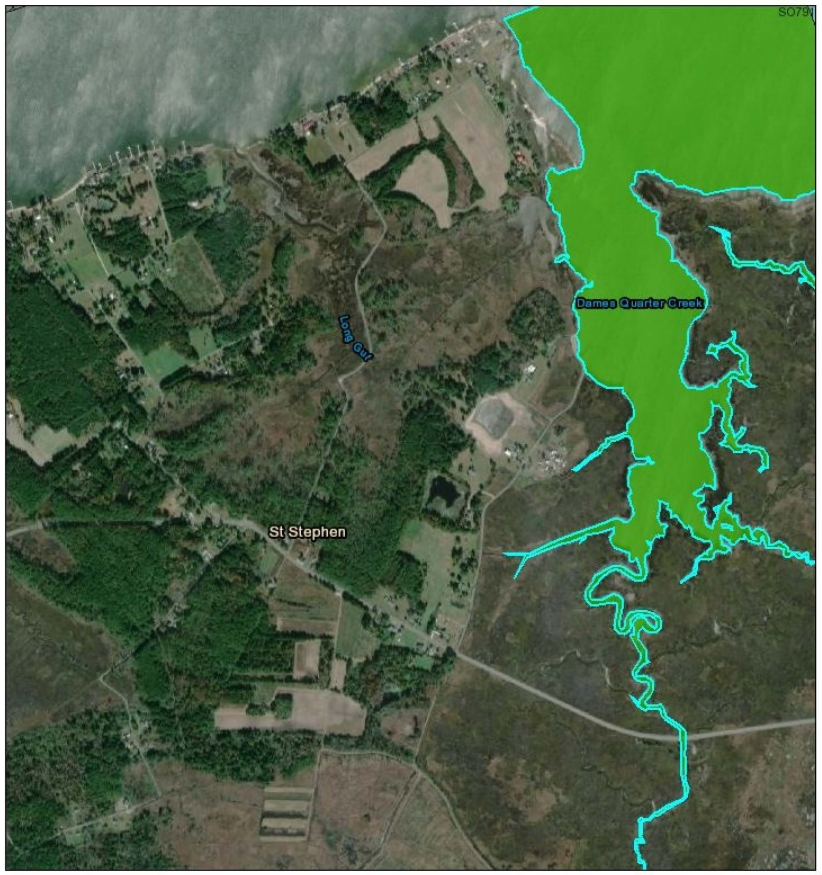
MDE Closures
- Restricted Shellfish Harvesting Areas

NAV Channels
- BUFFER

PSFAs
- BUFFER
- PSFA
- Restoration Sites 2009 - 2018

Harvest Reserves

Aquaculture Siting Tool



July 30, 2020

1:18,056

0 0.15 0.3 0.6 mi

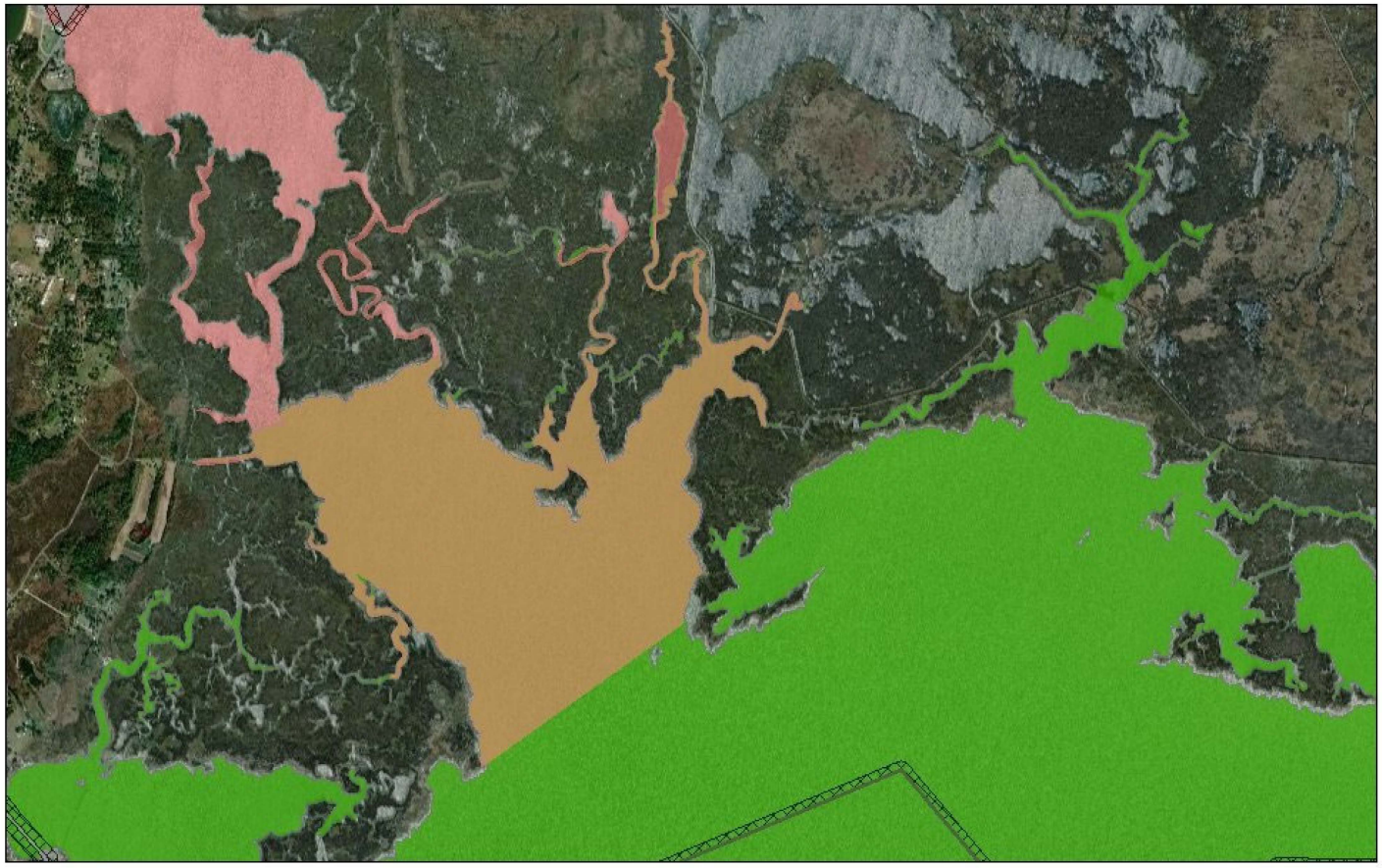
0 0.25 0.5 1 km

Oyster Sanctuaries

Oyster Sanctuary

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
MD IMAP, MDE

Aquaculture Siting Tool



June 11, 2020

Restricted Shellfish Harvesting Areas

Oyster Sanctuaries

Oyster Sanctuary

1:36,112

0 0.3 0.6 1.2 mi

0 0.5 1 2 km

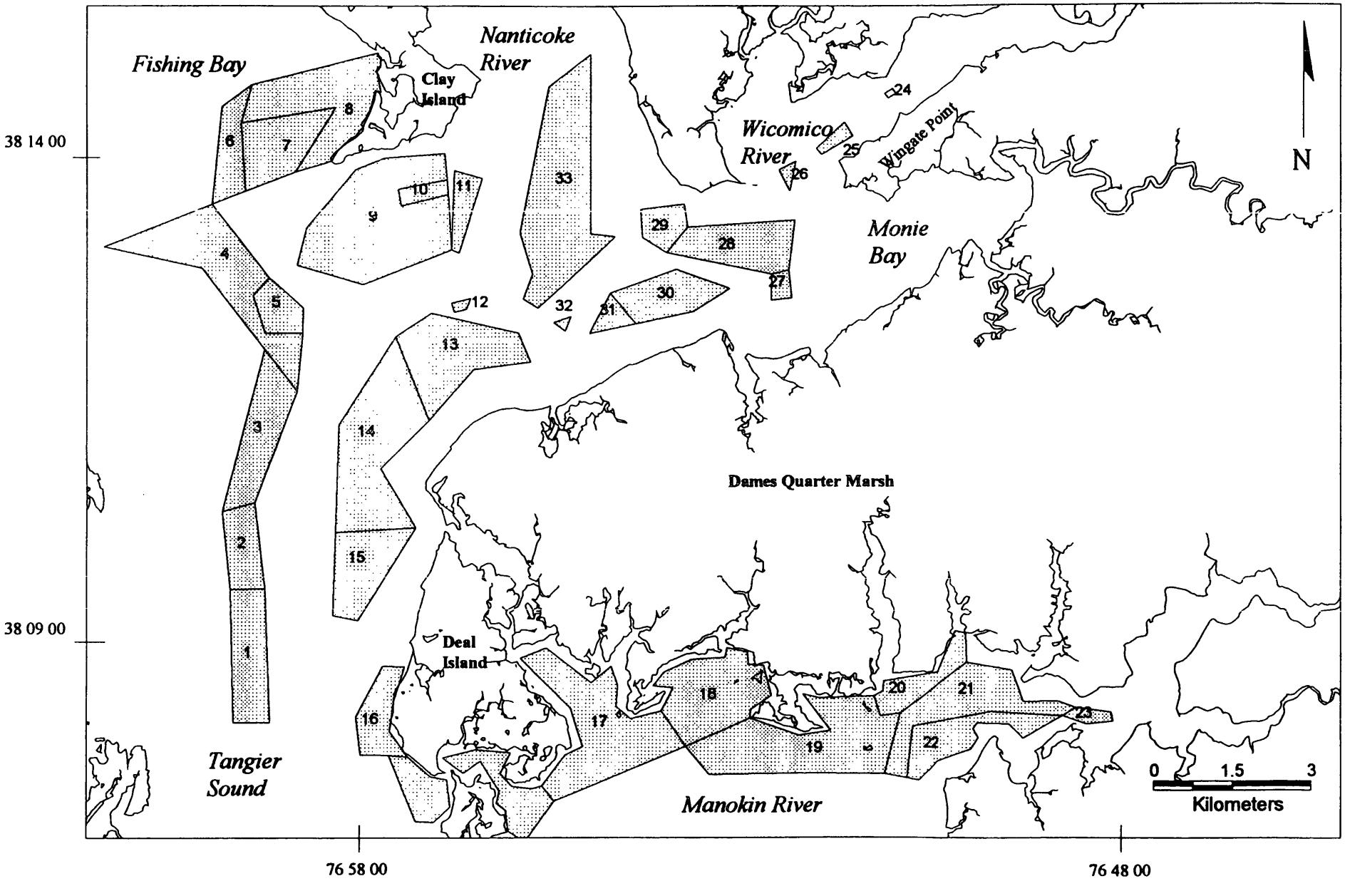
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map 11: Historic oyster beds

Appendix E-29

#	BARCODE	BARNAME	REGION	CO
1	UTSTE0	TURTLE EGG	UPPER TANGIER SOUND	SO
2	UTSMR0	MUD ROCK	UPPER TANGIER SOUND	SO
3	UTSMU1	MUD ADD 1	UPPER TANGIER SOUND	DO
4	UTSSS0	SHARKFIN SHOAL	UPPER TANGIER SOUND	DO
5	UTSLA0	LAMBSTONE	UPPER TANGIER SOUND	DO
6	FIBSS1	SAND SHOAL ADD 1	FISHING BAY	DO
7	FIBCI0	CLAY ISLAND	FISHING BAY	DO
8	FIBCI1	CLAY ISLAND ADD 1	FISHING BAY	DO
9	NWRFP1	FROG POINT ADD 1	NANTICOKE & WICOMICO RIVERS	DO
10	NWRFP0	FROG POINT	NANTICOKE & WICOMICO RIVERS	DO
11	NWRBE0	BERTH HILL	NANTICOKE & WICOMICO RIVERS	DO
12	NWRBH0	BIG HILL	NANTICOKE & WICOMICO RIVERS	SO
13	NWRHP0	HALLS POINT	NANTICOKE & WICOMICO RIVERS	SO
14	UTSHA0	HAINES	UPPER TANGIER SOUND	SO
15	UTSOO0	OLD ORCHARD	UPPER TANGIER SOUND	SO
16	MTSDI0	DEAL ISLAND	MIDDLE TANGIER SOUND	SO
17	MARLS0	LAWS THOROFARE SOUTH	MANOKIN RIVER	SO
18	MARMI0	MARSH ISLAND	MANOKIN RIVER	SO
19	MARST0	ST. PIERRE	MANOKIN RIVER	SO
20	MARGQ0	GEANQUAKIN	MANOKIN RIVER	SO
21	MARGE0	GEORGES	MANOKIN RIVER	SO
22	MARCO0	CORMAL	MANOKIN RIVER	SO
23	MARSP0	SANDY POINT	MANOKIN RIVER	SO
24	NWRHO0	HOLLAND	NANTICOKE & WICOMICO RIVERS	SO
25	NWRWG0	WINGATE	NANTICOKE & WICOMICO RIVERS	SO
26	NWRIS0	INGRAM SHOAL	NANTICOKE & WICOMICO RIVERS	WI
27	NWRBU0	BUOY	NANTICOKE & WICOMICO RIVERS	SO
28	NWRGS0	GREAT SHOAL	NANTICOKE & WICOMICO RIVERS	WI
29	NWRSP0	STUMP POINT	NANTICOKE & WICOMICO RIVERS	WI
30	NWREV0	EVANS	NANTICOKE & WICOMICO RIVERS	SO
31	NWRWS0	WHITE SHOAL	NANTICOKE & WICOMICO RIVERS	SO
32	NWRRC0	ROCK CREEK	NANTICOKE & WICOMICO RIVERS	SO
33	NWRMI0	MIDDLEGROUND	NANTICOKE & WICOMICO RIVERS	WI

Appendix E-29

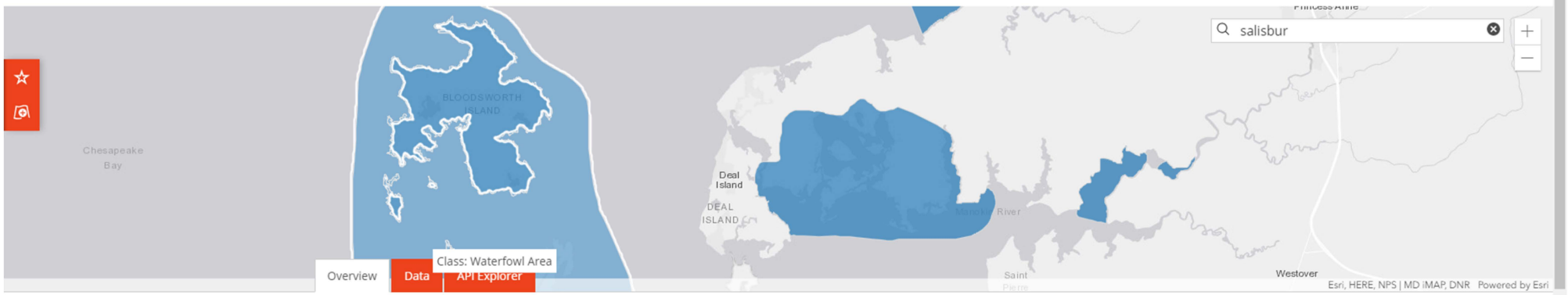


Map 12: Waterfowl areas

Maryland.gov

Maryland Living Resources - Waterfowl Areas

Last updated 9 months ago | 172 Records



8/27/2019 Feature Layer Custom License

Download APIs

Map 13: Coastal Barrier Resources System Units

JOHN H. CHAFEE COASTAL BARRIER RESOURCES SYSTEM

This map has been produced by the U.S. Fish and Wildlife Service as authorized by Section 4(c) of the Coastal Barrier Resources Act (CBRA) of 1982 (Pub. L. 97-348), as amended by the Coastal Barrier Improvement Act of 1990 (Pub. L. 101-591). The CBRA requires the Secretary of the Interior to review the maps of the Coastal Barrier Resources System (CBRS) at least once every 5 years and make any minor and technical modifications to the boundaries of the CBRS units as are necessary solely to reflect changes that have occurred in the size or location of any CBRS unit as a result of natural forces.

The seaward side of the CBRS unit includes the entire sand-sharing system, including the beach and nearshore area. The sand-sharing system of coastal barriers is normally defined by the 30-ft bathymetric contour. In large coastal embayments, the sand-sharing system is defined by the 20-ft bathymetric contour or a line approximately one mile seaward of the shoreline, whichever is nearer the coastal barrier.

For additional information about the CBRA or CBRS, please visit www.fws.gov/cbra.

Little Deal Island Unit MD-11
Deal Island Unit MD-12, Franks Island Unit MD-14/14P
Long Point Unit MD-15

N

1:24,000

0 0.25 0.5 1 1.5 2 Miles

0 1,000 2,000 4,000 6,000 8,000 Feet

0 0.25 0.5 1 1.5 2 Kilometers

System Unit Boundary

Otherwise Protected Area (OPA) Boundary; OPAs are identified on the map by the letter "P" following the unit number

Approximate State Boundary

$^{36}54^{000m}$N 2000- meter Universal Transverse Mercator grid values, Zone 18 North

Imagery Date: 2011

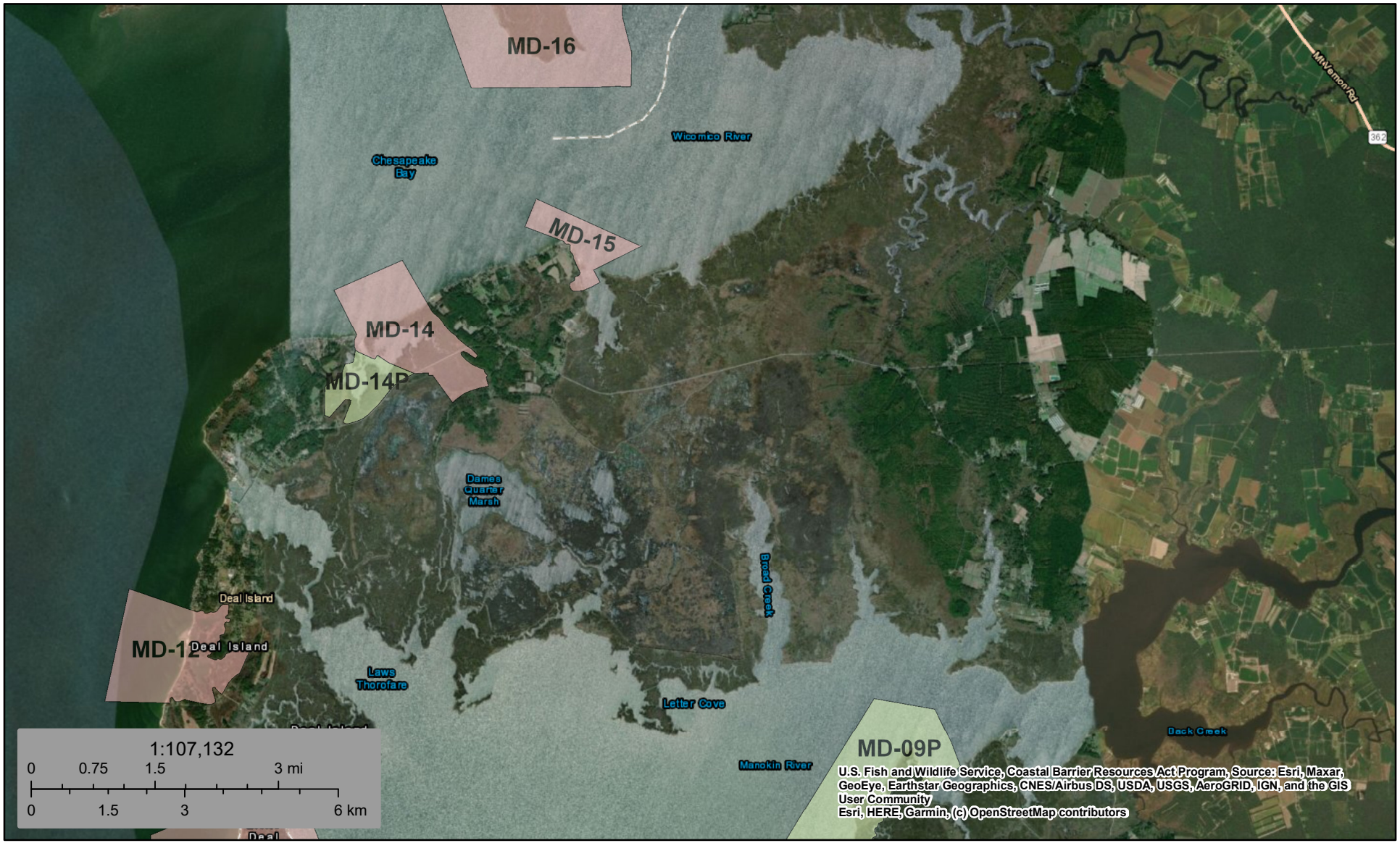
Imagery Source: United States Department of Agriculture National Agriculture Imagery Program

Coordinate System: North American Datum 1983 Universal Transverse Mercator Zone 18 North

Map 24-007A **August 1, 2014**

U.S. Fish and Wildlife Service
Coastal Barrier Resources System

Lower Wicomico River Maintenan



June 11, 2020

CBRS Buffer Zone

System Unit

CBRS Units

Otherwise Protected Area

This map is for general reference only. The Coastal Barrier Resources System (CBRS) boundaries depicted on this map are representations of the controlling CBRS boundaries, which are shown on the official maps, accessible at https://www.fws.gov/cbra/maps/index.html. All CBRS related data should be used in accordance with the layer metadata found on the CBRS Mapper website.

The CBRS Buffer Zone represents the area immediately adjacent to the CBRS boundary where users are advised to contact the Service for an official determination (http://www.fws.gov/cbra/Determinations.html) as to whether the property or project site is located "in" or "out" of the CBRS.

CBRS Units normally extend seaward out to the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS mapper.

APPENDIX B

SECTION 404(b)(1) EVALUATION

CLEAN WATER ACT

SECTION 404(b)(1) EVALUATION

WICOMICO RIVER MAINTENANCE DREDGING,

WICOMICO AND SOMERSET COUNTIES, MARYLAND

September 2022

I. PROJECT DESCRIPTION

a. Location – The Wicomico River Federal Navigation Channel project is located on the Eastern Shore of the Chesapeake Bay in Wicomico County, Maryland. The Wicomico River project provides for a channel 14 feet deep and 150 feet wide, with turning basins on the north and south prongs, and a 6-foot deep, 60-foot wide channel from deep water in the main river channel to Webster Cove. In the cove there is a T-shaped basin that is 100 feet wide and 400 feet long with extensions 200 feet long and 100 feet wide on each side. The total length of the Federal navigation project is 37 miles and it was completed in 1956. The lower part of the project channel was last dredged in 2017; the upper part of the channel was last dredged in 2020.

b. General Description – The proposed work consists of dredging the lower portion of the Wicomico River channel to its authorized depth of 14 feet mean lower low water, plus two feet of allowable overdepth, and a width of 75 feet. Approximately 140,000 cubic yards (CY) of material consisting of clay, mud, sand, silt and combinations thereof will be hydraulically dredged from the lower reach of the Wicomico River from Monie Bay to just south of Mount Vernon Wharf. The dredged material will be pumped through a pipeline in the Wicomico River to Dames Quarter, and then overland to Deal Island Wildlife Management Area (WMA) where it will be beneficially used. The material will be placed on failing tidal wetlands to restore brackish marsh. The material will be contained with biodegradable materials and planted/seeded to restore native vegetation.

c. Purpose – The purpose of the proposed action is to maintain full navigational use of the existing Federal navigation channel to the port of Salisbury which has the third highest commercial port traffic in Maryland, principally consisting of petroleum products and grain.. The purpose of the proposed placement is to make beneficial use of the dredged material to restore tidal wetlands and protect the Deal Island WMA impoundment from erosion. The tidal wetlands to be restored are designed based on nesting habitat requirements of saltmarsh sparrow, a regionally declining species.

d. General Description of Discharge Material – Dredged material from the channel will be a mixture of mud (clay and silt) and sand.

e. Description of the Proposed Discharge Sites –Straw bales and tidal ditch plugs would be placed to establish containment (placement) areas at the southern end of Deal Island WMA on the Manokin River. The WMA impoundment berm lies adjacent to the proposed placement area on its north side. The containment areas consist of failing irregularly-flooded tidal wetlands and associated shallow open water formed from recent tidal wetland failure. The remnant tidal wetlands contain a mixture

of needle rush, cord grass, and other typical brackish marsh species. The substrate is peaty.

f. Description of Discharge Method – Dredged material would be conveyed in a slurry to the placement site from the hydraulic dredge via a temporary pipeline in the Wicomico River that makes landfall at Dames Quarter Creek. The pipeline would run overland to the containment areas in Deal Island WMA. The pipe would run along the existing WMA impoundment berm immediately north of the containment area. The material would discharge from outflow points on the pipe southward into the containment area. Releasing material from the pipeline on the berm would induce restoration of higher marsh along the existing impoundment berm, and lower marsh further south near the Manokin River.

g. Alternatives Considered – Alternatives analyzed for practicability included the use of a previous upland disposal site versus beneficial use to restore tidal wetlands, mechanical versus hydraulic dredging, dredged material transport and placement (barge or truck or pipeline), material outfall from the pipe location, and type of tidal wetlands to restore. The previous upland disposal site was no longer available for use. Mechanical dredging would be impracticable for the proposed beneficial use envisioned and more costly. Transport of material over road or by barge was determined to be impracticable. Dispersing material further into the containment cells and moving the pipe within the cells was rejected because it could further disturb the failing tidal wetland substrate. Irregularly-flooded tidal wetlands are the predominant natural wetland type in the area, would support valued wildlife resources, and are hoped to be more resistant to rising sea level and have a longer lifespan.

This proposed action meets the need to provide a site(s) for material dredged from the navigation channel while at the same time providing a means to maintain tidal wetlands that would otherwise fail from inadequate sediment and organic matter accretion. Actions undertaken to maintain existing tidal wetlands are inherently water-dependent because tidal wetlands require intertidal elevations.

II. FACTUAL DETERMINATIONS

a. Physical Substrate Determinations

(1) Substrate Elevation and Slope – The navigation channel would be deepened to its authorized depth, plus up to 2 ft allowable overdredge. Side slopes on the channel would be steeper than natural bottom. The placement site over most of its area would be increased in elevation from shallow subtidal to intertidal. Locally, elevations of the placed material would vary from subtidal to supratidal.

(2) Sediment Type – The dredged material from the channel will be a mixture of mud (clay and silt) and sand.

(3) Material Movement – The proposed action would remove approximately 140,000 CY of sediment from the Wicomico River Federal Navigation Channel, transport it via pipeline, and place it beneficially in Deal Island WMA. The side slopes of the navigation channel would gradually slump somewhat into the channel. The placed material would be contained within straw bales.

Negligible to minimal movement of the placed material outside of the containment site is anticipated. Solids would settle out within the containment site and water decant through and over the straw bales.

(4) Physical Effects on Benthos – Dredging of the channel will disturb and destroy benthos. It is anticipated that the newly exposed channel substrate will be repopulated by comparable benthic organisms via migration from adjacent areas within about 2 years. Benthos at the containment site would be buried by placed material. Benthic organisms typical of intertidal conditions would colonize the placement site.

(5) Other Effects – N/A

(6) Actions Taken to Minimize Impacts – The pipeline would be placed and marked to minimize risk of it being struck by vessels. A breach contingency plan may be developed in coordination with resource agencies for unlikely but possible pipeline breaches within sensitive resource areas. The straw bales at the containment site would minimize escape of placed material, although during very high water events turbid water could escape the site. Construction specifications will state that compliance is mandatory for all applicable environmental protection regulations for pollution control and abatement.

b. Water Circulation, Fluctuation, and Salinity Determinations

(1) Water

(a) Salinity – No change expected at the dredging site. Any local areas in the containment site restored with supratidal elevations may have lower salinities from reduced tidal flooding frequency.

(b) Chemistry – No change expected at dredging site. At the placement site, local areas with supratidal elevations could develop temporary acidic soil conditions that would persist until such time as precipitation flushes that out.

(c) Clarity – Minor and temporary change expected due to turbidity during dredging in the river channel and within the containment site.

(d) Color – Minor and temporary change expected due to turbidity during dredging in the river channel and within the containment site.

(e) Odor – No change expected.

(f) Taste – N/A

(g) Dissolved Gas Levels – Temporary decrease in dissolved oxygen anticipated during dredging and placement water return.

(h) Nutrients – Minor, temporary elevations in nutrients are expected as a result of newly exposed

sediments in the channel and elutriation of sediments at the placement site. All are expected to be within state guidelines.

(i) Eutrophication – Not expected to occur.

(j) Others as Appropriate – None.

(2) Current Patterns and Circulation

(a) Current Patterns and Flow – Minimal effects are expected at the dredging site. At the placement site, tidal exchange would be prevented during the placement period. Following completion of placement, the placement site would convert from subtidal to intertidal with reduced currents and flows.

(b) Velocity – No significant change is anticipated at the dredging site. Velocities at the placement site are slow. Following placement of material and restoration of intertidal conditions, tidal velocities would be reduced in the restored wetlands. Tidal velocities may locally increase through tidal guts in the vicinity.

(c) Stratification – No change expected.

(d) Hydrologic Regime – No change expected at the dredging or placement sites; both would remain tidal.

(3) Normal Water Level Fluctuations – No change expected at the dredging site. The proposed placement site would convert from subtidal (permanently flooded) to irregularly flooded.

(4) Salinity Gradients – No change at dredging site. Placement site salinities would be altered by reduced flushing from bay water. Salinities in cooler months of year could decrease from slow exchange of precipitation with tidal waters. Salinities in late summer/early fall could increase locally in pannes.

(5) Actions to Minimize Impacts – No actions were considered to manage impacts to water circulation, fluctuation and salinity. The proposed action is compatible with inherently tidal wetlands.

c. Suspended Particulate/Turbidity Determinations

(1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Project Site – Minor and short-term impacts are expected to occur in the immediate vicinity of the dredging and placement sites during operations and while placed materials are settling. Turbidity is anticipated to subside to normal levels within a few days of dredging and placement cessation.

(2) Effects on Chemical and Physical Properties of the Water Column

(a) Light Penetration – A minor, temporary decrease may occur during dredging and placement

from turbidity.

(b) Dissolved Oxygen – A minor, localized and temporary depression of dissolved oxygen may occur during dredging and placement activities.

(c) Toxic Metals and Organics – No evidence exists to suggest the presence of toxic metals or organics in the dredged material or in the vicinity of proposed dredging or placement.

(d) Pathogens – N/A

(e) Aesthetics – At the placement site, the pipeline, equipment, and vehicles would be present during the placement process would adversely impact the appearance of the tidal wetlands and open water. No permanent adverse impacts are anticipated.

(f) Others as Appropriate – N/A

d. Contaminant Determinations – River channel materials proposed to be dredged are periodically tested for contaminants, with the most recent testing completed in 2009/2010. Testing has found low contaminant levels that did not pose a concern. The water quality certificates USACE has received for previous maintenance dredging for both the lower and upper portion of the river have not stated that testing results demonstrated a contamination problem. Material dredged from the channel in 2017 was also beneficially used, and placed in the aquatic environment (Ellis Bay WMA) because it was perceived to be acceptable for such use.

e. Aquatic Ecosystem and Organism Determinations

(1) Effects on Plankton – Some plankton will be entrained by the hydraulic dredge and destroyed. No long-term effect expected.

(2) Effects on Benthos – Non-mobile and poorly mobile benthic organisms would be destroyed in the dredged channel. However, data collected from other routine dredging projects demonstrates that re-colonization usually occurs within the first year following dredging. Benthos at the placement site would convert from subtidal organisms that inhabit peaty substrates to intertidal organisms that utilize mud substrates.

(3) Effects on Nekton – Nekton in the dredging area would be disturbed during dredging, and may choose to temporarily relocate elsewhere. At the placement site, nekton trapped within the straw bales could be buried. Following placement, nekton typical of intertidal conditions would utilize the restored tidal wetlands. An Essential Fish Habitat (EFH) Assessment was prepared and concluded that no substantial impacts to EFH or fishery species covered under the Magnuson-Stevens Act is expected.

(4) Effects on Food Web – Some temporary reduction in benthic food sources is expected from the destruction of benthos in the navigation channel. At the placement site, placement of material on failing tidal wetlands would cause an initial temporary disturbance to the foodweb. The restored

tidal wetlands would provide food web support, compensating for loss of failing tidal wetlands and associated open water.

(5) Effects on Special Aquatic Sites

(a) Sanctuaries and Refuges – Approximately 2,700 feet of channel at the southern end of the Federal channel to be dredged are located within the designated NOB 29-1. Portions of the Federal channel are also within 500 yards of NOB 29-1, as well as NOB 24-11. The proposed pipeline may cross Webster Oyster Sanctuary and lie in close proximity to leased aquaculture sites. In the Wicomico River, the pipeline would likely cross the Webster Oyster Sanctuary. The proposed pipeline may cross waters of Unit 15 of the Coastal Barrier Resources System. A breach contingency plan may be developed to minimize impacts in the event of an unlikely pipeline breach. The pipeline would cross Deal Island WMA. Impacts of the pipeline would be local and limited to the time when it is present.

(b) Wetlands – Approximately 0.8 acre of tidal wetlands may be temporarily impacted by pipeline placement, primarily at Dames Quarter Creek but some minor impacts in Deal Island WMA. Following completion of piping, disturbed soils and vegetation would be restored to pre-project conditions. Approximately 0.05 acres of tidal wetlands would be permanently lost at Route 363 where a permanent conduit pipe would be installed. Remnant failing tidal wetlands at Deal Island in the proposed placement area would be disturbed by establishment of containment cells and dredged material placement. Dredged material will be beneficially used to restore approximately 100 acres of tidal wetlands in Deal Island WMA. Tidal wetlands are failing on a landscape scale from effects of accelerating sea-level rise in the region.

(c) Tidal flats – N/A

(d) Vegetated Shallows – Dredging and pipeline placement would occur in areas where no SAV is mapped to occur. No mapped SAV occurs at the proposed placement site, however SAV habitat does occur in the Manokin River immediately south of the proposed placement site. Containment of placed material within straw bales or other biodegradable material would minimize risk of turbidity impacts to SAV. Barges travelling to the Deal Island WMA boat ramp on the Manokin River may disturb SAV in the boat ramp vicinity. Bottom disturbance could cause temporary loss of SAV until the sites are recolonized. However, SAV beds in the boat ramp vicinity are presumably already regularly disturbed by boat traffic.

(e) Coral Reefs – N/A

(f) Riffle and Pool Complexes - N/A

(6) Threatened and Endangered Species – No impacts expected. USACE submitted a Trust Resource Report on the U.S. Fish and Wildlife Service Information for Planning and Conservation website in June 2020 and received a preliminary species list stating there are no USFWS-trust listed species identified for the vicinity of the project. Several NMFS-trust endangered species could potentially be present in the project area including two species of sturgeon (Atlantic and shortnose), and four species of sea turtle (Green, Kemp's ridley, leatherback, loggerhead). Coordination with NMFS during preparation of the 2017 EA resulted in USACE making a determination that the

proposed action would have no adverse effect on any listed species. It is anticipated that coordination with NMFS during public/agency review will result in USACE making a determination of no effect for proposed 2021 dredging.

(7) Other Wildlife –Waterfowl present in the proposed action area would be temporarily disturbed during construction and relocate to adjacent areas. Following completion of placement and tidal wetlands restoration, it is anticipated that waterfowl would return. The proposed action would prevent imminent loss of Deal Island WMA impoundment, and thus maintain its suitability to provide invertebrate food to waterfowl and waterbirds. The restored salt marsh is anticipated to provide nesting habitat for saltmarsh sparrow.

(8) Actions to Minimize Impacts – To protect and minimize impacts to oyster resources within the NOBs, oyster sanctuary, and leased areas, it is anticipated that time of year restrictions would be imposed by MD DNR, MDE, and NMFS. Previously, no dredging or placement of dredged material has been allowed during the periods of 15 April through 30 September and 16 December through 14 March of any year. Because of the numerous sensitive resources present, TOY restrictions for the proposed action may need to be adjusted. These restrictions would help minimize impacts to spawning anadromous fish, oyster and waterfowl resources. Therefore, a short-term, minor impact is anticipated as a result of the Proposed Action.

f. Proposed Disposal Site Determinations

(1) Mixing Zone Determinations – N/A

(2) Determination of Compliance with Applicable Water Quality Standards – Work will be performed in accordance with all applicable State water quality standards. USACE received a provisional Water Quality Certificate (WQC) from the Maryland Department of the Environment (MDE) on July 27, 2022 for the proposed action. USACE received a revised (and final) WQC from MDE on August 19, 2022. USACE will conduct all work in accordance with the WQC.

(3) Potential Effects on Human Use Characteristics

(a) Municipal and Private Water Supply – No impacts expected.

(b) Recreational and Commercial Fisheries – Temporary effects are expected as fishing and boating is restricted in the project area during the dredging. Dredging of the channel is expected to enhance commercial and recreational boating and fishing activities.

(c) Water Related Recreation – Temporary disturbance to recreational boating and fishing during dredging activities. Dredging will improve access to recreational boating.

(d) Aesthetics – Minor, temporary impacts may be expected.

(e) Parks, National and Historical Monuments, National Seashore, Wilderness Areas, Research Sites and Similar Preserves – Depending on final route chosen, proposed pipeline would likely cross Webster Oyster Sanctuary at Dames Quarter Creek, and MD Coastal Barrier

Resources System Units 15 (Long Point) and possibly 14 (Franks Island). The pipeline would cross Deal Island WMA and placement of dredged material would occur there. Long-term benefits would occur to the Deal Island WMA through the restoration of wetlands that would otherwise erode/drown. Negligible impacts would occur to the oyster sanctuary and CBRS system units associated with temporary deployment of the pipe across bottom sediment.

g. Determination of Cumulative Effects on the Aquatic Ecosystem – This project is not expected to contribute to cumulative impacts to the aquatic ecosystem. This area does not contribute significantly to the food chain or to the nursery function of the surrounding shoals; does not have SAV; and is not used exclusively by anadromous fish. The effects, such as turbidity, are minor and temporary.

h. Determination of Secondary Effects on the Aquatic Ecosystem – The proposed dredging will allow the continued use of the area for crabbing, oystering, fishing, boating and other water-based commerce and recreation.

III. FINDING OF COMPLIANCE

a. No adaptations of the Section 404(b)(1) Guidelines were made relative to this evaluation.

b. The planned dredging of the Federal Navigation Channel and placement site will comply with State water quality standards.

c. The proposed placement of material will not violate the Toxic Effluent Standard of Section 307 of the Clean Water Act.

d. The proposed project will not negatively affect any rare, threatened or endangered species.

e. No Marine Sanctuaries, as designated in the Marine Protection, Research and Sanctuaries Act of 1972, are in the project area.

f. The proposed project will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing, plankton, fish, wildlife and special aquatic sites. The life stages of aquatic life and other wildlife will not be adversely affected.

g. Appropriate steps to minimize potential impacts of the dredging and placement in aquatic systems will be followed.

h. On the basis of the guidelines, the Proposed Action is specified as complying with the inclusion of appropriate and practical conditions to minimize contamination or adverse effects to the aquatic ecosystem.

APPENDIX C

ESSENTIAL FISH HABITAT IMPACTS ASSESSMENT

ESSENTIAL FISH HABITAT IMPACTS ASSESSMENT
Wicomico River Federal Navigation Channel Maintenance Dredging
Wicomico and Somerset Counties, Maryland

September 2022

IDENTIFICATION OF SPECIES OF CONCERN

USACE previously assessed impacts to EFH for dredging of the lower portion of the Wicomico River Federal Channel in 2017 and 2014 (see references). Because a placement site not evaluated in previous EFH impact assessments is proposed for use (failing tidal wetlands at Deal Island WMA), it is necessary to prepare an updated EFH impacts assessment. Because the area of effect is different and EFH designations change over time, it is necessary to re-verify which species the channel and proposed new placement site is currently designated as EFH.

USACE consulted the NMFS EFH mapper website in May 2020, considering both the channel to be dredged and the proposed Deal Island WMA placement site, to verify which species the impacts assessment should consider. EFH mapper generated identical preliminary lists of 9 species and associated life history stages, including one Habitat Area of Particular Concern (HAPC) designation, for both areas. USACE coordinated with NMFS in July 2020 to review the preliminarily species and life history stages list generated using EFH mapper. The EFH description for two species in the preliminary list from EFH mapper don't align with environmental conditions in the area of effect, so these two species were screened from further consideration. Table 1 presents an alphabetical list by common name of seven species and life history stages that NMFS recommended evaluating.

Table 1: EFH mapper species list for navigation channel and proposed placement site.

Tally	Common Name	Life History Stage	HAPC?
1	Clearnose Skate	Adult, Juvenile	No
2	Little Skate	Adult	No
3	Winter Skate	Adult	No
4	Black Sea Bass	Juvenile, Adult	No
5	Bluefish	Adult, Juvenile	No
6	Summer Flounder	Juvenile, Adult	Yes*
7	Windowpane Flounder	Juvenile	No

*HAPC for summer flounder is defined as any SAV beds within designated summer flounder EFH.

DESCRIPTION OF THE PROPOSED ACTION

The proposed action would involve hydraulically dredging approximately 7 miles of the Wicomico River navigation channel in its lower reaches from Monie Bay upstream to about Mount Vernon Wharf to reestablish authorized depth of 14 ft. plus up to 2 feet of allowable overdepth dredging. Approximately 140,000 cubic yards of material consisting of mixed mud and sand would be dredged, then pumped through a pipeline in the Wicomico River to Dames Quarter Creek, from whence it

would be piped approximately 4 miles overland to the southern end of Deal Island Wildlife Management Area (WMA) and utilized to restore failing tidal wetlands. Material would be placed within a containment area bounded by the existing WMA waterfowl impoundment berm to the north and project-emplaced straw bales and tidal ditch plugs to the west, south, and east. It is anticipated that O&M dredging would occur next in 2022.

This Essential Fish Habitat (EFH) impacts assessment was prepared as an integral part of the Environmental Assessment (EA) prepared for this proposed action. The EA contains a detailed description of the proposed action, environmental conditions of the area, and potential environmental effects. However, a brief summary of several environmental conditions pertinent to this EFH impacts assessment excerpted from the EA is provided. Salinities in waters of Tangier Sound adjacent to the Wicomico River range from about 8 to 20 ppt during the year. The highest monthly salinity average of above 16 ppt occurs in fall, while the lowest monthly salinity average is below 13 ppt and occurs in spring. Water quality in the lower Wicomico River is impaired seasonally by low dissolved oxygen and poor water clarity because of anthropogenic nutrient loading. No SAV occurs in or close to the navigation channel. The regularly maintained Wicomico River navigation channel likely supports predominantly opportunistic and short-lived benthos typical of periodically disturbed mud and sand bottom, with organisms also likely limited somewhat by low oxygen levels in warm water months. The proposed placement site lies within drowning and eroding tidal wetlands undergoing landscape-scale failure as a consequence of accelerating sea-level rise. The proposed Deal Island WMA placement site presumably has a peaty substrate. Waters offshore of these wetlands are habitat for SAV in many years. Widgeon grass, which occurs in the area, forms ephemeral beds from seed that vary in area and coverage substantially interannually depending on water quality conditions.

SPECIES INFORMATION AND IMPACTS OF THE PROPOSED ACTION

NMFS requires that an EFH impacts assessment contain an analysis of the potential adverse effects of the action on EFH, and the managed species. EFH for managed species includes the habitat itself, and their prey and predators.

Text below first provides natural history information on migration and movements, as well as prey and predators, for the listed EFH species. Tables 2-3 provide additional summary information on habitat preferences of the managed species and life history stages of interest with respect to salinity, temperature, and substrate. Impacts of the proposed action upon individuals of the managed species, and their habitat, prey, and predators is then evaluated.

1 Clearnose Skate

Natural History

Clearnose skate has been the most abundant inshore skate in the mid-Atlantic in inshore waters from late spring to early fall (Robins et al., 1986). North of Cape Hatteras, it moves inshore and northward along the Continental Shelf during the spring and early summer, and offshore and southward during autumn and early winter. In estuaries, clearnose skate occur mostly in mainstem channels and near the mouth. In trawl surveys of Chesapeake Bay, most juvenile and adult clearnose skate appear in catches between April and December with peak catch per unit effort between May and August. They

were most abundant near the Bay mouth during spring and summer, but appeared throughout the Bay mainstem during all four seasons, although rarely appeared in the tributaries (Packer et al., 2003). Clearnose skates are common in the lower Chesapeake Bay from mid-spring to mid-autumn, but may move into deeper bay waters or into nearshore coastal waters in mid-summer when water temperatures are high. They are rare or absent in Chesapeake Bay in winter (Murdy et al., 2013).

Clearnose skate is a bottom-dweller. Clearnose skate feed on polychaetes, amphipods, shrimp, crabs, bivalves, squids, and small fish such as soles, weakfish, butterfish, and scup. Sharks, such as the sand tiger, regularly prey on the clearnose skate (Packer et al., 2003). Cownose rays forage on oyster and disrupt the bottom, impacting SAV (Blankenship, 1998). No information was located documenting whether clearnose skate forage on oyster or disrupt SAV.

Effects

It is anticipated that effects of the proposed action on clearnose skate numbers/population, habitat, prey, and predators would be negligible.

Channel

Based on salinity preferences, clearnose skate would presumably most likely be present in the channel in summer and fall. However, it appears unlikely that clearnose skate would be present in substantial numbers in the channel to be dredged at any time of the year, as they appear to minimally use Bay tributaries. If skates are present, juvenile and adults are good swimmers and should easily be able to avoid disturbance from dredging in warm weather months, although perhaps would be less able to physically avoid disturbance in cold water months if they are present. Overall, direct impacts to clearnose skate individuals appear to be unlikely to occur, with no harm to their population overall.

Bottom habitat conditions (substrates, depths, bed forms) are impacted periodically by dredging, but then readjust to currents and sediment supply for a period of years until the next dredging cycle. Following dredging, water depth would be increased in the navigation channel where dredging is done, but then gradually shoal in over a period of years. Substrate conditions would remain mud and sand. Thus, habitat conditions for clearnose skate would remain within the range of conditions that have occurred in the navigation channel for decades.

Dredging would destroy poorly mobile benthos, including potential forage organisms that clearnose skate may prey upon. It is anticipated that benthos in the channel would largely recover with opportunistic organisms to approximately pre-dredging conditions within a couple of years following dredging. Skate that make use of the channel would temporarily lose prey within the dredged area until recovery of benthos occurs. As there are presumably few clearnose skate making use of the channel and there is substantial comparable unconsolidated bottom habitat elsewhere in the region that would remain unimpacted, skate would presumably just forage elsewhere with no ill consequence to individuals or the population.

Placement Site

The proposed Deal Island WMA placement site is probably minimally used by clearnose skate as they appear to prefer mineral substrates and greater depths (Table 2), and are minimally present in Bay tributaries. Thus, it is unlikely that any clearnose skate would be physically present during dredged material placement, nor that the filling of the placement area to intertidal elevations would cause a loss of habitat nor a loss of benthic prey. Restored/maintained tidal wetlands would provide

foodweb support that would benefit numerous fish species, including prey of skate and skate themselves.

2 Little Skate

Natural History
Little skate is one of the dominant members of the demersal fish community of the northwest Atlantic. It occurs year-round over almost the entire range of temperatures recorded for this area. Little skate make no extensive migrations, although where it occurs inshore the species moves onshore and offshore seasonally with temperature changes. In the Chesapeake Bight and Delaware Bay, juveniles and adults are most abundant during the winter; those that remain in the Chesapeake Bight during the summer move into deeper water. It also moves north and south with seasonal temperature changes along the southern fringe of its range (Packer et al., 2003).

Little skate is a bottom-dweller and feeds largely on epifauna. Generally the most important prey for little skate are invertebrates such as decapod crustaceans (including crabs, shrimp), amphipods, and polychaetes. Isopods, bivalves, hydroids, and fishes are also eaten. The fishes that were eaten included sand lance, alewives, herring, cunners, silversides, tomcod, and silver hake (Packer et al., 2003). Cownose rays forage on oyster and disrupt the bottom, impacting SAV (Blankenship, 1998). No information was located documenting whether clearnose skate also do this.

Juveniles and adults are preyed upon by sharks, other skates (including winter skates), bony fishes (including cod, goosefish, sea raven, longhorn sculpin, bluefish, summer flounder), gray seals, and rock crabs. (Packer et al., 2003)

Effects
It is anticipated that effects of the proposed action on little skate numbers/population, habitat, prey, and predators would be negligible.

<u>Channel</u>
Little skate could be present in the channel to be dredged during fall based on their salinity preferences, but more likely would be there in cooler water months based on their Chesapeake Bay distribution patterns. If skates are present, juvenile and adults are good swimmers and should easily be able to avoid disturbance and turbidity from dredging done in warm water months. During cooler water months direct physical impacts to skate individuals could be possible from dredging because the fish may be more sluggish. Overall, direct impacts to skate individuals appear to be unlikely to minimal, with no harm to their population overall.

Bottom habitat conditions (substrates, depths, bed forms) are impacted periodically by dredging, but then readjust to currents and sediment supply for a period of years until the next dredging cycle. Following dredging, water depth would be increased in the navigation channel where dredging is done, but then gradually shoal in over a period of years. Substrate conditions would remain mud and sand. Thus, habitat conditions for little skate would remain within the range of conditions that have occurred in the navigation channel for decades.

Dredging would destroy poorly mobile benthos, including potential forage organisms that little skate may prey upon. It is anticipated that benthos in the channel would largely recover with opportunistic organisms to approximately pre-dredging conditions within a couple of years following dredging. Skate that do make use of the channel would lose forage within the dredged area temporarily until recovery of benthos occurs. Although numbers of little skate making use of the channel is unknown, there is substantial comparable unconsolidated bottom habitat elsewhere in the region that would remain unimpacted. Little skate would presumably just forage elsewhere with no ill consequence to individuals or the population from the temporary loss of foraging opportunities in the channel.

Placement Site

The proposed Deal Island WMA placement site is probably minimally used by little skate as they appear to prefer mineral substrates (Table 2). Thus, it is unlikely that any little skate would be physically present during dredged material placement, nor that the filling of the placement area to intertidal elevations would cause a loss of habitat nor a loss of benthic prey. If any minor open water areas with mud bottoms are produced within the restored intertidal wetlands by placement, these could possibly be utilized by skate for foraging. Restored/maintained tidal wetlands would provide foodweb support that would benefit numerous fish species, including prey of skate and skate themselves.

3 Winter Skate

Natural History

Winter skate is common inshore south of Cape Cod along the US Atlantic coast during the winter (Robins et al., 1986). Winter skate is an occasional visitor to lower Chesapeake Bay in winter and early spring (Murdy et al., 2013).

Winter skate predominately feeds on infaunal organisms. Generally for winter skate, polychaetes and amphipods are the most important prey items in terms of numbers or occurrence, followed by decapods (crabs, shrimp), isopods, bivalves, and fishes. Hydroids are also ingested. Fish are especially important in larger winter skate, other items include razor clams. The fishes eaten include smaller skates, eels, alewives, blueback herring, menhaden, smelt, sand lance, chub mackerel, butterfish, cunners, sculpins, silver hake, and tomcod (Packer et al., 2003). Cownose rays forage on oyster and disrupt the bottom, impacting SAV (Blankenship, 1998). No information was located documenting whether winter skate also do this.

Winter skate is preyed upon by sharks, other skates, gray seals, and gulls (Packer et al., 2003).

Effects

It is anticipated that effects of the proposed action on winter skate numbers/population, habitat, prey, and predators would be negligible.

Channel

Based on salinity preferences and seasonal distribution of winter skate in the Bay versus Bay salinity patterns, winter skate would presumably not likely be present in the channel to be dredged, although perhaps would most likely be present in late Fall. If skates are present, juvenile and adults are good swimmers and should easily be able to avoid disturbance and turbidity from dredging done in warm

water months. During cooler water months direct physical impacts to skate individuals could be possible from dredging because the fish may be more sluggish. Overall, direct impacts to skate individuals appear to be unlikely to minimal, with no harm to their population overall.

Bottom habitat conditions (substrates, depths, bed forms) are impacted periodically by dredging, but then readjust to currents and sediment supply for a period of years until the next dredging cycle. Following dredging, water depth would be increased in the navigation channel where dredging is done, but then gradually shoal in over a period of years. Substrate conditions would remain mud and sand. Thus, habitat conditions for winter skate would remain within the range of conditions that have occurred in the navigation channel for decades.

Dredging would destroy poorly mobile benthos, including potential forage organisms that winter skate may prey upon. It is anticipated that benthos in the channel would largely recover with opportunistic organisms to approximately pre-dredging conditions within a couple of years following dredging. Skate that do make use of the channel would lose forage within the dredged area temporarily until recovery of benthos occurs. Although numbers of winter skate making use of the channel is unknown, there is substantial comparable unconsolidated bottom habitat elsewhere in the region that would remain unimpacted. Winter skate would presumably just forage elsewhere with no ill consequence to individuals or the population from the temporary loss of foraging opportunities in the channel.

Placement Site

The proposed Deal Island WMA placement site is probably minimally used by winter skate as they appear to prefer mineral substrates (Table 2). Thus, it is unlikely that any little skate would be physically present during dredged material placement, nor that the filling of the placement area to intertidal elevations would cause a loss of habitat nor a loss of benthic prey. If any minor open water areas with mud bottoms are produced within the restored intertidal wetlands by placement, these could possibly be utilized by skate for foraging. Restored/maintained tidal wetlands would provide foodweb support that would benefit numerous fish species, including prey of skate and skate themselves.

4 Black Sea Bass (Centropristus striata)

Natural History

Black sea bass is a warm temperate, demersal (bottom) species. Their distribution changes seasonally as they migrate from coastal areas to the outer continental shelf while water temperatures decline in the fall, and migrate from the outer shelf to inshore areas as temperature warms in the spring (Steimle et al., 1999). Black sea bass occur commonly in Chesapeake Bay from spring through late fall, ranging as far north as the Chester River (Murdy et al., 2013).

Juveniles in estuaries prey upon small epibenthic invertebrates, especially crustaceans and molluscs. Crustaceans eaten include shrimp, isopods, and amphipods. Adults in estuaries prey upon benthic and near-bottom invertebrates and small fish. Invertebrates eaten by adults include crabs, mussels, and razor clams (Murdy et al., 2013; Steimle et al., 1999).

Impacts
It is anticipated that effects of the proposed action on black sea bass juvenile EFH would be temporarily adverse at the dredging and placement site. Effects of the proposed action on adult EFH would be negligible. Effects on numbers/population of juveniles and adults would be negligible.

Channel
Juvenile and adult black sea bass are good swimmers and should easily be able to avoid disturbance and turbidity from any dredging in warm water months. During cold water months no direct physical impacts to individuals are expected because they are unlikely to be present.

Bottom habitat conditions (substrates, depths, bed forms) are impacted periodically by dredging, but then readjust to currents and sediment supply for a period of years until the next dredging cycle. Following dredging, water depth would be increased in the navigation channel where dredging is done, but then gradually shoal in over a period of years. Substrate conditions would remain mud and sand. Thus, habitat conditions for black sea bass would remain within the range of conditions that have occurred in the navigation channel for decades. Minimal structure is present within the navigation channel that would favor black sea bass.

Dredging would destroy poorly mobile benthos, including potential forage organisms that black sea bass may prey upon. It is anticipated that benthos in the channel would largely recover with opportunistic organisms to approximately pre-dredging conditions within a couple of years following dredging. Black sea bass that forage on the channel bottom would lose prey within the dredged area temporarily until recovery of benthos occurs. Although numbers of black sea bass making use of the channel is unknown, there is substantial comparable unconsolidated bottom habitat elsewhere in the region that would remain unimpacted. Black sea bass would presumably just forage elsewhere with no ill consequence to individuals or the population from the temporary loss of foraging opportunities in the channel.

Periodic maintenance dredging of the channel maintains somewhat deeper water habitat that would otherwise convert to shallower water via shoaling. Thus, the project serves to maintain open water EFH for adult black sea bass that would otherwise be less extensive in the region.

Placement Site
Adult black sea bass would not likely be present in the proposed placement area at any time. Juvenile black sea bass may inhabit tidal wetland creeks and flats within the proposed Deal Island WMA placement site in warmer water months, but if disturbed by any project activities occurring during that time could relocate elsewhere (Table 3). However, because dredged material placement would occur during cold water months, juveniles would not likely be present or physically impacted.

Filling of the placement area, which includes open water ponds and creeks within the failing tidal wetlands, to intertidal elevations would cause a loss of that habitat for juvenile black sea bass. However, maintained/restored tidal wetlands habitats would also likely contain some minor open water habitats that black sea bass juvenile could utilize. Restored/maintained tidal wetlands would provide foodweb support that would benefit numerous fish species, including prey of black sea bass and black sea bass themselves. Subtidal habitat potentially usable by black sea bass juveniles is presumably increasing in area regionally as tidal wetlands undergo landscape-scale failure and convert to tidal pond and creek habitat.

5 Bluefish *(Pomatomus saltatrix)* – (Juveniles & Adults)

Natural History
Bluefish travel in schools of like-sized individuals and undertake seasonal migrations, moving into the mid-Atlantic Bight during spring, and south or farther offshore during fall. Juveniles have been recorded from all mid-Atlantic Bight estuaries surveyed (Fahay et al., 1999). Bluefish visit Chesapeake Bay waters from spring to fall and are typically abundant in the lower Bay and common in the middle Bay, ranging as far north as Baltimore. In early fall, bluefish migrate out of the Bay and move south along the Atlantic coast (Murdy et al., 2013). Large population fluctuations are common (Fahay et al., 1999). In contrast to adults, the young have a wide range of salinity tolerance and penetrate much farther up the Bay and its tributaries, where they can be found in shallow waters of very low salinity (Murdy et al., 1997).

Smaller individual bluefish prey upon a wide variety of fish and invertebrates. Large bluefish feed exclusively on fish (Murdy et al., 2013). Fish preyed upon by bluefish include Atlantic silversides (Menidia menidia), herrings, striped bass (Morone saxatilis), bay anchovy, and other fish (Fahay et al., 1999).

Impacts
It is anticipated that effects of the proposed action on bluefish juvenile EFH would be temporarily adverse at the dredging and placement site. Effects of the proposed action would serve to maintain adult EFH habitat in the channel, but be negligible at the placement site. Effects on numbers/population of juveniles and adults would be negligible.

Channel
Juvenile and adult bluefish are good swimmers and should easily be able to avoid disturbance and turbidity from any dredging activities in warm water months. During cooler water months no direct physical impacts to individuals are expected because they are unlikely to be present.

Dredging would destroy infauna and poorly mobile benthos typical of unconsolidated bottom in the Wicomico River navigation channel that bluefish juvenile may prey upon. Because many of these infaunal species are opportunistic and short-lived, it is anticipated that benthos in the channel would largely recover to pre-dredging conditions within a couple of years following dredging. Juvenile bluefish that do forage on channel benthos would temporarily lose prey within the dredged area until recovery of benthos occurs. As there is substantial bottom habitat in the region that would remain unimpacted, juvenile bluefish would presumably just forage elsewhere with minimal ill consequence. Open water prey of adult bluefish would be negligibly impacted by the proposed dredging, thus negligible loss of forage for adult bluefish would be expected.

Maintenance of deeper water within the channel would likely serve to maintain EFH for and benefit pelagic adult bluefish who might make less use of a shallow natural channel.

Placement Site
Placement would convert unconsolidated bottom to brackish marsh. This conversion could cause a loss of unconsolidated bottom foraging habitat for young bluefish. Bluefish prey of unconsolidated

bottom habitat would also be lost. Brackish marsh would generate detritus to support the foodweb, as well as support a variety of forage species that bluefish could also consume. No impact to adults would be expected as they forage in open water. Because of the great abundance of open water habitat in Chesapeake Bay, and likely provision of forage by brackish marsh restoration, no detrimental impacts to bluefish populations are expected as ample foraging habitat for juveniles would remain.

6 Summer Flounder *(Paralicthys dentatus)* – (Juveniles & Adults)

Natural History
Summer flounder exhibit strong seasonal inshore-offshore movements. Adult and juvenile summer flounder normally inhabit shallow coastal and estuarine waters during the warmer months of the year, and remain offshore during the fall and winter (Packer et al., 1999). Summer flounder occur in the Chesapeake Bay from spring through fall. They generally migrate offshore in the winter months, but some overwinter in Chesapeake Bay. Summer flounder occur most commonly in the lower Chesapeake Bay, but range as far north as the Elk and Sassafras Rivers at the head of the Bay. Larvae enter Chesapeake Bay from October through May (Murdy et al., 2013).

Summer flounder smaller juveniles feed upon infauna such as polychaetes; larger juveniles feed upon fish, shrimp, and crabs in relation to their environmental abundance. Adults feed opportunistically on fish, crustaceans, and squid (Murdy et al., 2013; NMFS, 2000 [Summary Tables]; Packer et al., 1999).

Effects
Summer flounder juvenile may be temporarily adversely impacted by loss of prey in the navigation channel following dredging, and impacted over a longer term by loss of tidal wetland creek habitat at the placement site. Juveniles and adult summer flounder may be temporarily adversely impacted if placement impairs water clarity to the detriment of SAV beds in the vicinity. However, over the longer term, maintenance/restoration of tidal wetlands would be advantageous to summer flounder, particularly because of ongoing landscape-scale habitat loss accompanying accelerating sea-level rise rate.

<u>Channel</u>
Juvenile and adult summer flounder are good swimmers and should easily be able to avoid disturbance from dredging in warm water months. However, because they are demersal, individual summer flounder may remain on the bottom during dredging. Any summer flounder remaining on the bottom or venturing too close to the dredge intake could be entrained and destroyed; juveniles would probably be more vulnerable than adults because of their slower swimming speed. During cold water months no direct physical impacts to bluefish juvenile or adult individuals are expected because they are unlikely to be present.

Bottom habitat conditions (substrates, depths, bed forms) are impacted periodically by dredging, but then readjust to currents and sediment supply for a period of years until the next dredging cycle. Following dredging, water depth would be increased in the navigation channel where dredging is done, but then gradually shoal in over a period of years. Substrate conditions would remain mud and

sand. Thus, habitat conditions for summer flounder would remain within the range of conditions that have occurred in the navigation channel for decades.

Dredging would destroy infauna and poorly mobile benthos typical of unconsolidated bottom in the Wicomico River navigation channel that summer flounder juvenile may prey upon. Because many of these infaunal species are opportunistic and short-lived, it is anticipated that benthos in the channel would largely recover to pre-dredging conditions within a couple of years following dredging. Juvenile summer flounder that do forage on channel benthos would temporarily lose prey within the dredged area until recovery of benthos occurs. As there is substantial bottom habitat in the region that would remain unimpacted, juvenile summer flounder would presumably just forage elsewhere with minimal ill consequence. Prey of adult summer flounder would be negligibly impacted by the proposed dredging, thus negligible loss of forage for adult summer flounder would be expected.

Placement Site

Juvenile summer flounder likely inhabit tidal wetland creeks and flats within the proposed Deal Island WMA placement site in warmer water months, and could be disturbed by any project activities occurring during that time (Table 3). However, because dredged material placement would occur during cold water months, juveniles would not likely be present or physically impacted.

Filling of the placement area, which includes open water ponds and creeks within the failing tidal wetlands, to intertidal elevations would cause a loss of that habitat for juvenile summer flounder. However, maintained/restored tidal wetlands habitats would also likely contain some minor open water habitats with mud bottom (rather than peaty substrate) that summer flounder juvenile could utilize. Restored/maintained tidal wetlands would provide foodweb support that would benefit numerous fish species, including prey of summer flounder and summer flounder themselves. Subtidal habitat potentially usable by summer flounder is increasing in area regionally as tidal wetlands undergo landscape-scale failure. Habitat for summer flounder juvenile may be undergoing a regional increase as tidal wetlands convert to tidal pond and creek habitat. However, the peaty substrate of these habitats may be suboptimal for summer flounder.

Placement would not directly occur into SAV habitat. Material containment would serve to minimize escape of dredged material. However, some minor temporary detrimental impacts to water quality could occur from escape of dredged material or associated turbid water that could have a temporary detrimental impact upon SAV. Regionally SAV bed areal coverage is controlled by anthropogenic nutrient loading to the Bay and consequent algal growth and impaired water clarity. How expansive SAV beds are in the vicinity of the placement site would thus instead be determined by whether or not precipitation patterns in the Bay Watershed deliver high nutrient loads during times that would promote algal growth detrimental to SAV. Thus, even if temporary impaired water clarity impacts were to occur locally, it is anticipated that widgeon grass would re-occupy suitable habitat the following growing season if regional water clarity conditions support it.

7 Windowpane Flounder *(Scophthalmus aquosus*) – (Juveniles)

Natural History

Windowpane inhabit estuaries, nearshore waters, and the Continental Shelf. Windowpane juveniles that settle in shallow inshore waters move to deeper waters as they grow. Juveniles and adults may

migrate to nearshore or estuarine habitats in the southern mid-Atlantic Bight in the autumn (Chang et al., 1999). Windowpane reside year-round in Chesapeake Bay. Windowpane occur commonly to abundantly in the lower Bay, occasionally to commonly in the middle Bay, and range as far north as the Choptank River (Murdy et al., 2013).

Windowpane feed on small fish, shrimp, and other crustaceans (Murdy et al., 2013). Major predators of windowpane include spiny dogfish, thorny skate, goosefish, Atlantic cod, black sea bass, weakfish and summer flounder, although these fish prey primarily upon juvenile windowpane (Chang et al., 1999).

Effects
Dredging would have a temporary adverse impact to windowpane juvenile EFH in the navigation channel.

Channel
Juvenile windowpane may be physically present in the channel to be dredged at any time of year, but are good swimmers and should easily be able to avoid disturbance and relocate elsewhere. However, during cooler water months direct physical impacts to individuals may be possible because the fish would be more sluggish. While there may be individual takes, the project would not be expected to impact the species at a population level.

Bottom habitat conditions (substrates, depths, bed forms) are impacted periodically by dredging, but then readjust to currents and sediment supply for a period of years until the next dredging cycle. Following dredging, water depth would be increased in the navigation channel where dredging is done, but then gradually shoal in over a period of years. Substrate conditions would remain mud and sand. Thus, habitat conditions for windowpane flounder would remain within the range of conditions that have occurred in the navigation channel for decades.

Dredging would destroy infauna and poorly mobile benthos typical of unconsolidated bottom in the Wicomico River navigation channel that windowpane flounder juvenile may prey upon. Because many of these infaunal species are opportunistic and short-lived, it is anticipated that benthos in the channel would largely recover to pre-dredging conditions within a couple of years following dredging. Juvenile windowpane flounder that do forage on channel benthos would temporarily lose prey within the dredged area until recovery of benthos occurs. As there is substantial bottom habitat in the region that would remain unimpacted, juvenile windowpane flounder would presumably just forage elsewhere with minimal ill consequence.

Placement Site
Juvenile windowpane flounder presumably only minimally utilize the tidal wetland creeks and flats with peaty substrates within the proposed Deal Island WMA placement site based on substrate conditions and extreme shallow depths (Table 3). Accordingly, juveniles would not likely be physically impacted or disturbed.

Restored/maintained tidal wetlands would provide foodweb support that would benefit numerous fish species, including prey of windowpane flounder and windowpane flounder themselves. Shallow subtidal habitat is increasing in area regionally as tidal wetlands undergo landscape-scale failure.

However, the peaty substrate and shallow depths of these habitats may be suboptimal for juvenile windowpane flounder.

PROPOSED MITIGATION MEASURES

USACE has engaged resource agency and private conservation organization partners regarding the design and how to minimize negative environmental impacts to fish and wildlife while maximizing environmental benefits that would accrue by restoring/maintaining tidal wetlands habitat. USACE will be performing pre and post placement monitoring via the partners that measure outcomes at the restoration placement site.

USACE has determined that the proposed placement component of the project is inherently mitigational by virtue of restoring/maintaining tidal wetlands, and will not create substantial adverse EFH impacts (see below). The project will incorporate measures required by federal and state review agencies to mitigate impacts to water quality and organisms through best management practices (BMPs) including time-of-year restrictions on dredging and placement, and appropriate containment, management, and monitoring of placed material. BMPs were developed with MD DNR, NMFS, and MDE in 2021 and 2022 during coordination following the public notice of availability in February 2021. The proposed failing tidal wetland placement area has minimal direct exposure to waves, which should reduce risk of placed material being eroded or escaping and impacting water quality.

FEDERAL AGENCY'S VIEWS REGARDING THE PROPOSED ACTION

With dredging and placement projects, impacts to managed species that are demersal/benthic is a general concern. Of the seven species evaluated, other than for blue fish, all (three skates, two flounder, and black sea bass) are demersal/benthic for some of their life history stages.

Maintenance dredging would occur within the Wicomico River navigational channel that has been periodically maintained for decades. Poorly mobile benthos (likely predominantly opportunistic species as consequence of dredging, but also regional water quality problems) are periodically destroyed then recover. Water depths increase by dredging then reshoal in, eliciting need to maintenance dredge. The substrate remains mud and sand in this disturbed channel condition. Consequently, impacts to EFH in the channel would be temporarily adverse until channel benthos recover to their average condition. The regularly dredged channel better meets depth requirements for adult black sea bass and bluefish than would a natural shallower channel, likely being advantageous to adults of both species. There is abundant comparable foraging opportunity available elsewhere in the Chesapeake Bay and its tidal tributaries, and loss of forage in the navigation channel would not be anticipated to detrimentally impact populations of the managed species of interest to this document.

BMPs required by MDE, MD DNR and NMFS would minimize detrimental impacts to water quality and SAV habitat. This would minimize negative impacts to summer flounder HAPC. However, SAV success is predominantly due to regional rather than local conditions (i.e., nutrient loading and watershed precipitation patterns). Thus, it is anticipated that the project would have minimal impact upon SAV habitat anyway.

Tidal wetlands failure driven by accelerating sea-level rise is occurring at a landscape-scale in the lower Eastern Shore. The proposed action appears to be an optimal means to engineer tidal wetlands continuation at Deal Island WMA as it would make beneficial use of material that would be dredged anyway from the navigation channel. This engineering action would temporarily offset a portion of tidal wetlands losses occurring in the vicinity.

The proposed action will temporarily adversely impact EFH in the navigation channel in the Wicomico River. At Deal Island WMA, the proposed action would cause a long-term resource trade-off where failing tidal wetlands and associated open water are restored/maintained tidal wetlands. As brackish marsh constitutes EFH, this trade-off is inherently mitigational. Habitat impacts would not reduce the carrying capacity of the projected area for managed fish species. Impacts to summer flounder HAPC (SAV beds) are anticipated to be minimal through implementation of avoidance and minimization measures required by MD DNR and NMFS. Consequently, the proposed project complies with the provisions of the Magnuson Stevens Fishery Conservation and Management Act, as amended.

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Table 2: Occurrence of skate juveniles and adults in estuarine and coastal ocean waters of the mid-Atlantic.									
Information presented pertinent to mid-Atlantic.									
Tally	**Common Name**	**Scientific Name**	**Depth (m)**	**Depth (ft)**	**Water Temper-ature C**	**Water Temper-ature F**	**Salinity**	**Substrate**	**References**
1	Clearnose skate	(*Raja eglanteria*)	1-33 m, most 7-15 m	3-110 ft, most 20-50 ft	8-20C	46-68F	Range > 12 ppt, most at >22 ppt.	Sand	Packer et al., 2003
2	Little skate	(*Leucoraja erinacea*)	Greatest abundance in Spring<9 m depth, Summer and Fall greatest abundance >9 m	Greatest abundance in Spring<30 ft depth, greatest abundance Spring-Fall> 30 ft	2-15C	36-59F	Range >15 ppt, mean 32 ppt	Sand, gravel, also mud	Packer et al., 2003
3	Winter skate	(*Leucoraja ocellata*)	Most abundant 0-110 m, Winter 33-113 m	Most abundant 0-360 ft, Winter 110-370 ft	-1 to 19 C	30 to 66F	Range 15-35 ppt	Mud, sand shell, rocks, boulders	Packer et al., 2003

Table 3: Occurrence and habitat preferences by life-stage in the mid-Atlantic, with focus on preferences applicable or potentially applicable to estuaries.											
Tallly	**Species Common Name**	**Regulated EFH Life Stages**	**Habitat, Geomorphic Features**	**Substrate**	**Salinity (ppt) a**	**Depth (m)**	**Depth (ft)**	**Water Temperature (C)**	**Water Temperature (F)**	**Time of Year**	**References (except a)**
4	Black sea bass	juvenile	YOY: Estuarine - coastal; salt marsh edges & channels; high habitat fidelity. Winter: Continental Shelf	YOY: Rough bottom, shellfish, sponge, eelgrass beds, nearshore shell patches, manmade objects. Winter: nearshore shell patches, other shelter on sandy bottoms	YOY: prefer 18-20. Winter: prefer>18	1 to 38	3 to 125	>6, prefer 17 to 25	>43, prefer 63 to 77	YOY: April - Dec., most settle June - Nov. Winter: offshore	Steimle et al., 1999
		adult	Summer: Larger fish stay in deeper water. Winter: Continental Shelf	Summer: Mussel beds, rock, artificial reefs, wrecks and other structures. Winter: poorly known.	Summer: >20. Winter: 30 to 35	2 to 38	6 to 125	>6, prefer 13 to 21	>43, prefer 55 to 70	Apr. - Dec.	"
5	Bluefish	juvenile	Day: shorelines, tidal creeks; night: open waters, channels	Sand, mud, sea lettuce patches, eelgrass beds, salt marshes	23 to 36			>20 immigrate into estuaries; 15 emigrate from estuaries	>68 immigrate into estuaries; 59 emigrate from estuaries	May - October	Fahay et al., 1999;
		adult	Oceanic, Not uncommon in bays		Oceanic			>14 to 16	>57 to 61		Shepherd and Packer, 2006
6	Summer flounder	juvenile	Lower estuary flats, channels, salt marsh creeks, eelgrass beds.	Mud and sand	10 to 30	0.5 to 5	1.5 to 15	>11	>52		NMFS 2000 (Summary Tables); Packer et al., 1999
		adult				0 to 25	0 to 80			Warmer months	"
7	Windowpane flounder	juvenile	Nearshore bays and estuaries	Fine sandy sediment	5.5 to 36	1 to 75	3 to 250	<25	<77	May - July, Oct - Nov.	Chang et al., 1999
a NMFS, 2002. Some taken from table: "Summary of essential fish habitat (EFH) and general habitat parameters for Federally managed species."											

APPENDIX D

COORDINATION RECORDS

Coordination Prior to Release of Project Public Notice

Date	Agency	Topic
June 2019	Audubon Society, USFWS	Proposed Placement Site
Sept 2019	USFWS	Letter of Support for Proposed Placement Site
Jan 2020	Interagency Joint Evaluation	Scoping Meeting
June 2020	NOAA NMFS	Endangered Species Report
June 2020	USFWS	IPaC Trust Resources Report
July 2020	MD DNR	Oyster Sanctuaries
July 2020	MD DNR	Oyster Beds (PSFA, NOB)
July 2020	NOAA NMFS	EFH impacts assessment

Spaur, Christopher C CIV USARMY CENAB (USA)

From: Curson, David <dcurson@audubon.org>
Sent: Friday, June 28, 2019 11:38 AM
To: Szimanski, Danielle M CIV USARMY CENAB (USA); Guy, Chris; John Moulis -DNR-; Bill Harvey -DNR-
Subject: RE: [Non-DoD Source] June 21, 2019 Wiccomico River Dredge disposal site field visit
Attachments: Deal Island BUDM proposed site.docx

Hi Danielle,

As you know, John, Bill, Chris and I looked at a couple of potential sites at Deal Island last Friday and we arrived at a likely preferred option at the south end of the impoundment. I am attaching an account of that site, and would appreciate your feedback on its feasibility. We realise that it is at the upper limit of distance from the dredging operation, but it has a dual objective of protecting the integrity of the dyke as well as building high marsh.

Thanks,

Dave

-----Original Message-----
From: Szimanski, Danielle M CIV USARMY CENAB (USA) <Danielle.M.Szimanski@usace.army.mil>
Sent: Thursday, June 20, 2019 8:11 AM
To: Guy, Chris <chris_guy@fws.gov>; Curson, David <dcurson@audubon.org>; John Moulis -DNR- <john.moulis@maryland.gov>; Bill Harvey -DNR- <bill.harvey@maryland.gov>
Subject: RE: [Non-DoD Source] June 21, 2019 Wiccomico River Dredge disposal site field visit

Morning again,

Looking at my schedule again this morning I am afraid I will not be able to make it to the site visit tomorrow. We are making headway this week in wrapping up the Twitch Cove/Smith Island project and that has caused a great deal of other project work to be pushed back.

Even though I won't be able to make it tomorrow please keep a few items in the back of your mind while looking at the site.

- Ease of access for pipeline to get in site and be move around at site
- Ease of access to survey crew to access site to get accurate elevation surveys
- What is the distance from the channel (White Haven Ferry is about the northern most point)
- How many acres are available for placement. What would the thickness be for placement?
- TLP will cause a high increase in cost to the project, and not all material will be used unless we have a large enough area, what are the other placement ideas for the remaining material?
- Our tentative schedule is to have the dredging occur next fall/winter (2020)

Thanks and I apologizing again for not being able to make it to the visit tomorrow.

-Danielle

Danielle Szimanski
Biologist
Navigation Branch- Operations Division
U.S. Army Corps of Engineers, Baltimore District
(410) 962-6064

-----Original Message-----
From: Guy, Chris [mailto:chris_guy@fws.gov]
Sent: Thursday, June 20, 2019 7:06 AM
To: Curson, David <dcurson@audubon.org>; Szimanski, Danielle M CIV USARMY CENAB (USA) <Danielle.M.Szimanski@usace.army.mil>; John Moulis -DNR- <john.moulis@maryland.gov>; Bill Harvey -DNR- <bill.harvey@maryland.gov>
Subject: [Non-DoD Source] June 21, 2019 Wiccomico River Dredge disposal site field visit

For those on the Western Shore, We will be meeting at 7:00 am at my office and can car pool from Annapolis. The address is in my signature line below. For those of you on the Eastern Shore, We will meet you at the Dames Quarter Creek Boat Ramp on Messick Rd somewhere between 9::15 and 9:45.

Can you please send me your cell phone information and where you plan on meeting me, so that we can be in contact and not forget anyone.

my Cell: 443-758-8628

The plan is to look at proposed dredge sites for thin layer placement on the WMA . Prepare to have a hat, sunscreen, sunglasses, bug spray, food and plenty of water. Plan to bring shoes that can get wet or waders as we may have an opportunity to jump out of the boat and explore the sites.Let me know if you have any questions?

See you tomorrow.

Christopher P. Guy

Branch Chief, Conservation Planning and Assistance
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Chesapeake Bay Field Office e-newsletter at BlockedBlockedhttp://chesapeakebay.fws.gov

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
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Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

September 17, 2019

Patrick Findlay
Chief, Operations Division
U.S. Army Corps of Engineers
2 Hopkins Plaza
Baltimore, MD 21201

Re: Lower Wicomico River dredging placement sites

Dear Mr. Findlay:

The U.S. Fish and Wildlife Service (Service) is engaged in dialogue with the U.S Army Corps of Engineers Baltimore District (Corps), Maryland Department of the Environment (MDE), Maryland Department of Natural Resources (MDDNR), Wicomico County government, National Audubon Society (Audubon), and the Chesapeake Bay Foundation (CBF) about appropriate placement sites for dredge material from the lower Wicomico River. This letter constitutes the Service's understanding of the dredge placement options to date. These comments are submitted under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq*.).

Project Description
The Corps is proposing to dredge the lower Wicomico River in Wicomico County, Maryland. This dredging is done on an approximate 2-year cycle, with the next cycle proposed for 2020. There is a need to find appropriate long-term placement sites for this material due to the frequency of dredging. Discussions about upland placement sites have been ongoing for years, and an appropriate upland site has not been found. In the last dredging cycle, the material was placed, as beneficial reuse, on Ellis Bay shoreline in an effort to stabilize some of the eroding shoreline. Unfortunately, the material was too fine and did not stay in place (see Attachment 1, Service trip report on dredge placement in Ellis Bay).

In an effort to find solutions to help solve this problem, the Service, along with Audubon, MDDNR, the Corps, and CBF have made several trips to the marshes around the lower Wicomico River searching for appropriate placement sites that would have sufficient capacity to support several dredge cycles, has sediment that will stay in place until grasses can establish, and would be beneficial habitat for fish and wildlife resources.

General Comments
Chesapeake Bay marshes and islands are rapidly disappearing due to sea level rise. The Service

supports using dredge material to ameliorate this process and restore these marshes. Wicomico County has some of the most biologically rich and pristine tidal marshes in the Maryland portion of the Chesapeake Bay. These marshes provide high quality habitat for many species, including the black rail (*Laterallus jamaicensis*) and saltmarsh sparrow (*Ammodramus caudacutus*). Both black rail and saltmarsh sparrow are proposed for listing on the Endangered Species List. A final rule listing black rail as threatened is expected in October 2019. The marshes of Wicomico County are one of the last remaining strongholds for these species. Although sea level rise is a known stressor on the wetlands of the lower Wicomico River, the wetlands that occur north of Deal Island Road (Route 363) are largely intact and functioning, providing substantial habitat for Salt Marsh Sparrow and black rail. Placement of the dredge material in these wetlands would likely diminish function of these wetlands displacing or eliminating valuable high marsh habitat for these species.

South of Deal Island Road is the Deal Wildlife Management Area impoundment surrounded by the tidal wetlands of the Manokin River. During the June 21, 2019 site visit, the Service accompanied the Corps, MDDNR and Audubon to examine the marshes west of the Deal Island impoundment. These marshes were showing signs of severe degradation and break up. In some areas the marsh was just a few feet away from the impoundment dikes. Although they still provide high ecological function, they are clearly showing degradation, and turning into open water, with very little high marsh available for nesting habitat for black rail and saltmarsh sparrow. In addition, these marshes provide a critical buffer to the impoundment infrastructure for the Deal Island Wildlife Management Area. Loss of these marshes would compromise the integrity of the impoundment habitat and the recreational infrastructure that the impoundment represents. Finally, these marshes are large enough to provide for long-term dredge placement (see Attachment 2, Audubon trip report). To date, this is the only site that all parties agree would benefit from receiving dredged material. The Service has communicated this as a recommendation to the Corps as a potential placement site (see Attachment 3, June 25, 2019 e-mail from Guy to Szimanski).

Service Recommendations

The Service recommends that the Corps, along with Wicomico County, continue to use Geographic Information System (GIS) and ground truth the extent of tidal wetland areas to be bounded by dredge material and provide a detailed summary of the wetland loss that the beneficial reuse program will offset. The Service is willing to provide in kind services for field evaluation to support this effort. The Corps should include detailed designs including the average width and depth of material to be placed on these wetlands.

The Service recommends that the Corps develop a detailed description of how the material will be spread and how the Corps will prevent dredge overfill. If dredge overfill occurs, a plan to correct the problem should be implemented. In addition, the Service recommends that the Corps develop a dredge containment plan, along with a strategy on what to do should the containment fail.

Phragmites australis (Phragmites) is one of the largest problems in establishing and maintaining marsh habitat in restorations using dredge material. Phragmites in high marsh along with sea level rise are reducing the nesting habitat available for black rail and saltmarsh sparrow in these marshes. The Service recommends that the Corps develop and implement a long term Phragmites

management strategy for the restored marsh.

On June 26, 2019 the Corps sent an e-mail to the Service citing concerns about the cost and impacts of the project if the marshes west of Deal Island Road are chosen as the dredge placement site (see Attachment 4, June 26, 2019 e-mail from Szimanski to Guy). The Service recommends that the Corps and Wicomico County develop a stakeholder group to further discuss these issues and identify potential solutions, including resource tradeoffs where appropriate. We recommend forming this stakeholder group regardless of the final disposal site chosen.

The Service recommends that if the project does go forward, only highly qualified contractors with extensive experience in marsh restoration and thin spread of dredge material be considered. Considerable problems with contractors managing material and containment occurred at the Elis Bay beneficial reuse site (See Attachment 1). Many of these problems could be avoided using contractors experienced with shoreline and marsh restoration.

Summary

The Service understands that dredging of the Wicomico River is necessary to sustain commerce and does not have any objection to the maintenance dredging being proposed. The Service supports beneficial reuse of dredged material to restore marshes and provide habitat for migratory birds and listed and proposed threatened and endangered species, and to support recreational infrastructure in the Deal Wildlife Management Area. The Service also understands that there will be tradeoffs in this beneficial reuse plan, including short and long-term marsh impacts. Evaluating these trade-offs and making sound, informed decisions about the best placement site for the material will require that we continue to have good communication and are transparent with each other.

The Service appreciates the opportunity to review this project and will continue to work with the Corps to ensure that the goals of this navigation dredge disposal and habitat restoration project are achieved, while minimizing and offsetting any environmental impacts. If you have any further questions or concerns, please contact Chris Guy of my staff at (410) 573-4529 or chris_guy@fws.gov.

Sincerely,

Genevieve LaRouche
Field Supervisor

cc: Roland Limpert, Maryland Department of Natural Resources
Jonathan Stewart, Maryland Department of the Environment
Kristy Beard, National Marine Fisheries
Mike Mansolino, Environmental Protection Agency

Attachment 1

Wicomico River, Ellis Bay Beneficial Use of Dredge Material Site Visit

By:
Chris Guy,
Pete McGowan and Carl Callahan
U.S. Fish and Wildlife Service
Chesapeake Bay Field Office

Introduction

The use of dredge material is becoming more common in restoring shorelines and marshes in the Mid-Atlantic Region. Projects like the Prime Hook Marsh restoration at the Prime Hook National Wildlife Refuge in Delaware and the Shorter's Wharf and Martin Island projects at Blackwater National Wildlife Refuge in Maryland are examples of successful use of dredge material to restore and enhance saltmarsh habitat for fish and wildlife resources. These projects can extend the life of the marsh in the face of sea level rise and climate change (USFWS, 2018). Done correctly, these projects result in an overall benefit to fish and wildlife resources and could offset some of the impacts of climate change, sea level rise, and subsidence that are occurring in the Chesapeake Bay. However, designing and implementing a project correctly requires an experienced contractor. If the project is not designed correctly or the wrong material is used it can actually degrade rather than improve habitat. (USFWS, 2018).

The mechanisms contributing to erosion and fragmentation of tidal marshes are generally attributed to the combination of sea level rise and subsidence. Subsidence and rising sea levels can lead to marsh loss because salt marsh plants, though well adapted to life in the intertidal zone, can only tolerate a certain frequency, depth, and duration of flooding before plant vigor declines and drowning occurs. The higher the marsh surface elevation relative to the growth range for these intertidal plants, the more elevation capital and the longer a marsh can exist with an elevation deficit. Elevation capital in a marsh system refers to the elevation of the marsh surface relative to the lowest elevation the native marsh plants can survive within the local tidal range (Cahoon and Guntenspergen, 2010).

In 2017, the Baltimore District, Army Corps of Engineers (Corps) dredged 120,000 cubic feet of material from the Wicomico River in Wicomico County, Maryland. The dredge material was placed in front of tidal wetlands in Ellis Bay and contained biodegradable materials (Coir logs). This area was stabilized using seeded/planted tidal wetland species.

The primary purpose of the Elis Bay beneficial dredge site project is to use dredged material from the navigation channel in Wicomico River to enhance, expand, and protect Elis Bay shoreline wetlands and marsh while providing a cost effective place to dispose of navigation dredge material. Proposed benefits of this project include:

- Reducing the current rate of tidal wetland shoreline and marsh degradation and loss;
- Expanding and enhancing the existing wetlands and marsh to enhance fish habitat, fishery resources, and wildlife habitat;
- Increasing the area of intertidal mudflat habitat to provide increased foraging opportunities for avian fauna;
- Creating more suitable elevations for shoreline tidal wetlands and marsh to provide more tidal inundation ranges for a cordgrass-dominated vegetation community; and
- Managing the dredged material environmental use project sites in response to the constantly fluxing ecosystem that is under the continual threats such of erosion, subsidence, and sea level rise.

In a letter from U.S. Fish and Wildlife Service (Service) to the Corps (USFWS, 2016) dated July 06, 2016, the Service expressed concerns about the design and implementation of this project and

made the following recommendations:

1. Provide the location of the tidal wetland areas to be bounded by dredge material and a detailed summary of the wetland loss that the beneficial reuse program will offset. The Corps should include the average width and depth of material to be placed on these wetlands.

2. Identify the location of tidal wetlands to receive a thin layer placement of dredge material. Provide a detailed description of how the material will be spread and how the Corps will prevent depositing dredge at depths that promote the invasive common reed, *Phragmites australis*.

3. Develop and implement a long term monitoring and maintenance plan to control the spread of common reed on the restored wetland, and to ensure that the material placed behind the bio-logs will not wash back into the system in normal weather events.

4. If the project does go forward, only highly qualified contractors with extensive experience in marsh restoration and thin spread of dredge material should be considered.

Site Visit

On August 28, 2018 Service biologists from the Chesapeake Bay Field Office (Robbie Callahan and Peter McGowan) and former Service biologist Bill Schultz conducted a site visit by boat to the project site. The purpose of this site visit was to determine if sediment retention and stabilization was successful. The site was stabilized with coir logs (2017) and seeding of the placed dredge material (2017 and 2018).

Upon arrival to the site, which was at mid-tide, the site visit team approached the area of interest and noticed the wooden stakes designed to support and hold the coir logs in place were still in place. However, none of the coir logs designed to hold back placed sediments were in place and the coir logs had been washed away from their supports (Figures 1 and 2). Due to the low tide at the time of the site visit, only the southern portion of the project site was evaluated since the shallowness made it difficult to get to the remaining areas of the project site. A cursory view (via binoculars) of the remainder of the site appeared similar to that observed at the southern area of the project site.

On November 30, 2018 a second site visit was made by Service biologists from the Chesapeake Bay Field Office (Chris Guy and Peter McGowan) when tidal conditions where more favorable than the first visit described earlier. Upon arrival to the site, it was obvious that none of the coir logs that were set in place to hold back dredged sediments had accomplished their task. Based on our observations during this second site visit it was clear that the sediments behind the coir logs had washed out to the seaward side of the coir log supports creating an extensive shallow water mudflat area. Discussions with the Corps (Danielle Szimanski) and Maryland Department of Natural Resources personnel familiar with the project indicated that the site was reseeded in 2018. However, based on observations it was not evident that any reseeding had occurred. A

review of images taken at the south end of the project site after planting in 2017 compared to the same area in 2018 showed a decline in vegetation coverage (Figures 3a and 3b).

In addition, while at the boat ramp the Service team ran into a Maryland Department of Environment (MDE) team conducting shellfish monitoring. The MDE team confirmed that they had observed plumes of sediment escaping the site. The MDE team suggested that the wooden stakes used to hold the coir logs were square and that the squared edge was fraying and breaking the rope meant to hold the coir logs in place (Figure 4). They recommended that rounded posts might work better to prevent chaffing of the support ropes.

Conclusion and Recommendations:
In summary, the Service does not consider the Ellis Bay dredge disposal project site as successful beneficial reuse of dredge material. The sediment was not contained as designed, and areas that were supposed to be seeded and/or planted, failed. It is likely that this project had a negative effect to fish and wildlife resources due to the adverse impacts to water quality and the smothering of the benthic communities as part of the uncontrolled release of sediment into Ellis Bay from the coir log failure.

Chesapeake Bay marshes and islands are rapidly disappearing due to sea level rise. The Service supports using dredge material to reverse this process and restore marshes that are succumbing to sea level rise. Ellis Bay has some of the most biologically rich and pristine tidal marshes in the Maryland portion of the Chesapeake Bay. We encourage the Corps to pursue these types of beneficial reuse projects in the future, but recommend the following to ensure success.

- Future dredged material projects that use a similar approach for marsh restoration projects should consider the use of a rock sill or similar type stable structures, along with vegetation plugs and seeds to aid and hold sediments in place.
- Plantings should also take place earlier in the growing season (April/May) rather than later (August in this case) to allow plants to develop a healthy rootstock prior to the fall season.
- Thin layer placement on the existing marsh plain can and should be considered as an option. The Corps should document the loss they are replacing and pay strict attention to the elevation where the dredge material is being placed. The contractor should constantly be moving the pipe so as not to "overfill" the marsh.
- Stakes used to support coir logs should be round in shape, thereby minimizing the chaffing effect of cordage material holding coir logs in place.
- Monitoring of the project is essential such that there are immediate corrections before catastrophic failure occurs.
- Lastly, and maybe most important, only highly qualified contractors with extensive experience in marsh restoration and thin spread of dredge material is considered.

References:
Cahoon, D. R. and G. R. Guntenspergen. 2010. Climate change, sea-level rise, and coastal wetlands. National Wetlands Newsletter 32(1): 8-12.

USFWS, 2016. Letter from Genevieve Larouche, USFWS to Dianne B. Edwards, USACOE

regarding Public Notice CENAB-OP-N-16-04, Wicomico River Dredging, Wicomico County, Maryland

USFWS, 2018. Fish and Wildlife Planning Aid Report on Cedar Island Project, Wachapreague, Virginia. U. S. Fish and Wildlife Service, Chesapeake Bay Field Office, Annapolis, Maryland.

Figure 1. View looking east from southern end of project site; note exposed coir log stakes without coir logs attached.

Figure 2. View looking south at southern end of project site showing exposed coir log stakes.

Figure 3a. 2017 view of backshore area planted behind coir log stakes.

Figure 3b. 2018 view of same area in Figure 4. Note lowered spatial coverage of vegetation.

Figure 4. View showing square stakes used to hold coir logs in place. Square edges of stakes can result in chaffing of coir log cordage material holding logs in place.

Attachment 2

Author Dave Curoson, Audobon

Deal Island WMA – proposed BUDM site

South impoundment. Site visited by David Curson, John Moulis, Bill Harvey and Chris Guy, June 21.

Visit: We drove down the dyke road on the western side of the Deal Island WMA impoundment, and walked east across the water control structure at the southern end. DNR site managers consider the marshes outside the impoundment (between impoundment and Manokin River) a priority for sediment placement because erosion of these marshes in recent years has removed the marsh buffer along the dyke road and threatens its integrity

Observations: The marsh outside the southern edge of the impoundment is dominated by black needlerush with small areas of *Spartina alterniflora,* i.e. low marsh. It is being lost to shoreline erosion from the Manokin River and the impoundment dyke is exposed to open water in several places. These areas of open water are shallow embayments in the marsh that had some exposed mudflat at the time of our visit.

Assessment: This site would benefit from sediment placement to build out the eroded shoreline to its former extent (would need to determine this from historical photos), and also to thin-layer to raise surface to high marsh level, with a target of achieving *Spartina patens* high marsh habitat to benefit Saltmarsh Sparrow. Acreage includes about 245 acres of priority marsh (blue line on map), and another 425 acres of secondary priority marsh. Distance is 5 miles from center of Wicomico River to the closest part of this site, by water control structure – pipeline could be taken up Dames Quarter Creek and through channels in impoundment. Survey crew could access site via the dyke road.

A BUDM project at this site would include components of thin layering and open water fill. The open water fill would be fairly shallow (1-2 feet) on top of a mudflat (at low tide) base and amount to approx. 5 acres out of a 100-acre project. Containment would be needed

across the mouth of each small bay/inlet but would be 50 long or less in each case.

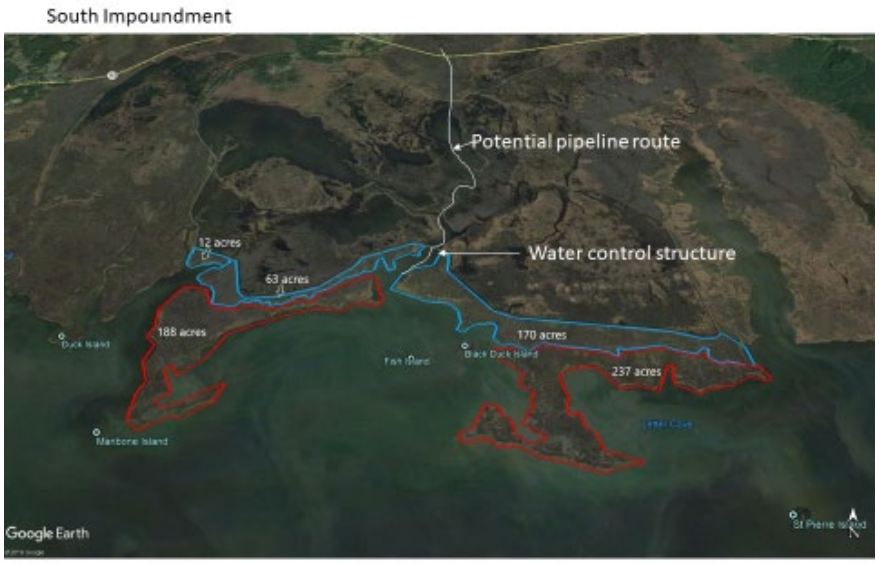

Figure 1 View looking east from water control structure. Proposed site includes marsh on the right of the photo. The embayment at center of photo is one of 3-5 to be filled by open water placement.

Figure 2 Low marsh of needlerush and Spartina alterniflora between the impoundment dyke and Manokin River.

Attachment 3

Guy, Chris <chris_guy@fws.gov>

Fwd: [EXTERNAL] Deal Island map

1 message

Guy, Chris <chris_guy@fws.gov> Tue, Jun 25, 2019 at 7:02 AM
To: "Szimanski, Danielle NAB" <danielle.m.szimanski@usace.army.mil>, "Brennan, Kevin M NAB" <Kevin.M.Brennan@usace.army.mil>

We visited this area last week. It appears to be on the outer edge of the 5 mile dredge area. but it fits what we need for true beneficial reuse. Including long term disposal option. We would have to figure out how to keep the material in place at the shore line.

sea level rise, errosion were obvious here. protecting these marshes provides a much needed buffer to the impounded area that DNR is managing for recreation . We are putting a trip report together proposing this area for beneficial reuse.

Christopher P. Guy

Branch Chief, Conservation Planning and Assistance
177 Admiral Cochrane Dr
Annapolis, MD 21401
4410-573-4529 Office
443-758-8628 Cell
chris_guy@fws.gov

Chesapeake Bay Field Office e-newsletter at http://chesapeakebay.fws.gov

---------- Forwarded message ---------
From: **Bill Harvey -DNR-** <bill.harvey@maryland.gov>
Date: Mon, Jun 24, 2019 at 2:21 PM
Subject: [EXTERNAL] Deal Island map
To: Chris Guy <chris_guy@fws.gov>, David Curson <dcurson@audubon.org>, Moulis, John <john.moulis@maryland.gov>

See attached for a map of what we looked at last Friday at Deal Island WMA. The blue areas represent what would be the highest priority for us and total about 245 acres. The secondary areas total about 425 acres for a grand total of about 670 acres.

Bill

CHANGING Maryland for the Better
dnr.maryland.gov

Bill Harvey
Game Bird Section Leader
Wildlife and Heritage Service
Department of Natural Resources
828B Airpax Road, Suite 500
Cambridge, Maryland 21613
410-221-8838 x108 (office)
410-490-7623 (cell)
bill.harvey@maryland.gov

Attachment 4

Guy, Chris <chris_guy@fws.gov>

RE: [Non-DoD Source] Fwd: [EXTERNAL] Deal Island map

1 message

Szimanski, Danielle M CIV USARMY CENAB (USA) <Danielle.M.Szimanski@usace.army.mil> Wed, Jun 26, 2019 at 4:21 PM
To: "Guy, Chris" <chris_guy@fws.gov>, "Brennan, Kevin M CIV USARMY CENAB (USA)" <Kevin.M.Brennan@usace.army.mil>

Hi Chris,

Thanks for sending over the information about the site. After looking at the location I do have a few reservations about the site. First is the pumping distance. Because this site is on the far south side of Deal Island, this would be a pumping distance between 8 and 13 miles (Marsh Pipeline Map), depending on where the channel is being dredged. This is on the short end of the distance estimate because it depends on how the pipeline would travel through the marsh. If the pipeline just over through water it would be about a 12-17 mile pump (Open Water Pipeline Map).

The pipeline/marsh situation is my second reservation. I see on Google Earth that there is a creek and culvert under Rt. 363, but bringing the pipe on the south side of Rt. 363 would be challenge. There doesn't seem to be a culvert under the roads just south of Rt. 363 (specifically near the boat ramp which would be the best location). Are the tidal creeks deep enough to float pipe through there? If it could not be floated the whole way across then the pipe would have to be dragged along the marsh with heavy equipment. Heavy equipment would cause damage to the marsh just like what was brought up in the 11 June meeting with MDE and DNR. From that conversation there were a lot of concerns about that happening again.

Also, finding containment would be an issue. This would not be suitable for coir logs, and stone may even be too expensive this time around depending on the design. A-jacks may work like we are using at Smith Island (Swan Island), but a bigger size would be needed so we would need to make sure they can be barged to the location. Do you happen to know the depths at the placement locations?

For long term placement: Would this be a partial placement or would we be able to put all ~100k cy here each cycle? If this is partial the cost for ongoing cycles may be too much to combine with earthwork at an upland site and traditional upland dredging all at once. And due to the nature of the Wicomico we have to dredge as much as possible each cycle to make sure the Port of Salisbury remains open and keep getting the proper funding.

If you have any more details about the site please feel free to pass them along.

Thanks,
Danielle

Danielle Szimanski
Biologist
Navigation Branch- Operations Division
U.S. Army Corps of Engineers, Baltimore District
(410) 962-6064

-----Original Message-----
From: Guy, Chris [mailto:chris_guy@fws.gov]
Sent: Tuesday, June 25, 2019 7:02 AM
To: Szimanski, Danielle M CIV USARMY CENAB (USA) <Danielle.M.Szimanski@usace.army.mil>; Brennan, Kevin M CIV USARMY CENAB (USA) <Kevin.M.Brennan@usace.army.mil>
Subject: [Non-DoD Source] Fwd: [EXTERNAL] Deal Island map

We visited this area last week. It appears to be on the outer edge of the 5 mile dredge area. but it fits what we need for true beneficial reuse. Including long term disposal option. We would have to figure out how to keep the material in place at the shore line.

Lower Wicomico Preliminary Meeting Agenda

Date: January 7, 2020; 1:30 PM
Location: 2 Hopkins Plaza
Baltimore, MD 21201

1. Greetings and Introductions
2. Background on Lower Wicomico Dredging
3. Background on Farm Creek/Deal Island Site
4. Parameters for dredging/placement
5. Open Discussion of design

Notes:

Matt Whitbeck: Where does +2' MLLW compare to MHW
Matt Curson: How does it relate to NAVD 88?
Chris Guy:
-Black rail – Not yet, but will and was supposed to be in Oct 2019
-Salt Marsh Sparrow – goal is to keep her off list
---Less 50K birds total and between ME and VA
-What is high marsh elevation that those two birds want to use?
-Can we get topo survey for reference marsh data?
-How much compaction should you expect for silty material?
---Blackwater compaction (Al McCullough & Dave Curson)
---Dallas Baker: Can it be part of pilot project (i.e. get expected compaction for future projects)
---Reach out to Rich Ortt at MGS? Bucket method for compaction?

Environmental:
-SAV at southern shoreline of area 3 (Kristy's concern)
-Natural Oyster Bar (NOB)
---500 ft buffer – summer restrictions
-Oyster Leases on WMA???

---Pipeline placement concern (DNR POC: Kim Larney). Talk to Katie Wainwright
-NOAA Protected Resources Division for sturgeon, etc. impacts
-Water-level monitoring? Sulfides? pH?

Planting:
-No native patens, so planting may be required to get high marsh grass
---Mix seeding with dredged material? USFWS doesn't like idea
---4 ft? 6 ft? on center for planted plugs
-Phrag management - Can County take on that responsibility?

Logistics:
-Bridge may not be able to support heavy equipment
-Pipeline through gut, then inside of Messick Rd (DNR property)
-SHA coordination – will go through Co (LERRD)

Containment:
-Not needed for berm to north of 1 and 2
-Do need for remainder of marsh edge
-USFWS fine with filling in rivulets acknowledging that sculpting of material is not feasible
***MDE comment on state/function of marsh
-Site visit reports
-Governor's mandate

USACE
1. Delineation for containment
2. Length/cost of containment
3. Dredging cost
4. Planting? Vegetation management?

Drawn Action Area & Overlapping S7 Consultation Areas

Area of Interest (AOI) Information

Area : 13,771.73 acres

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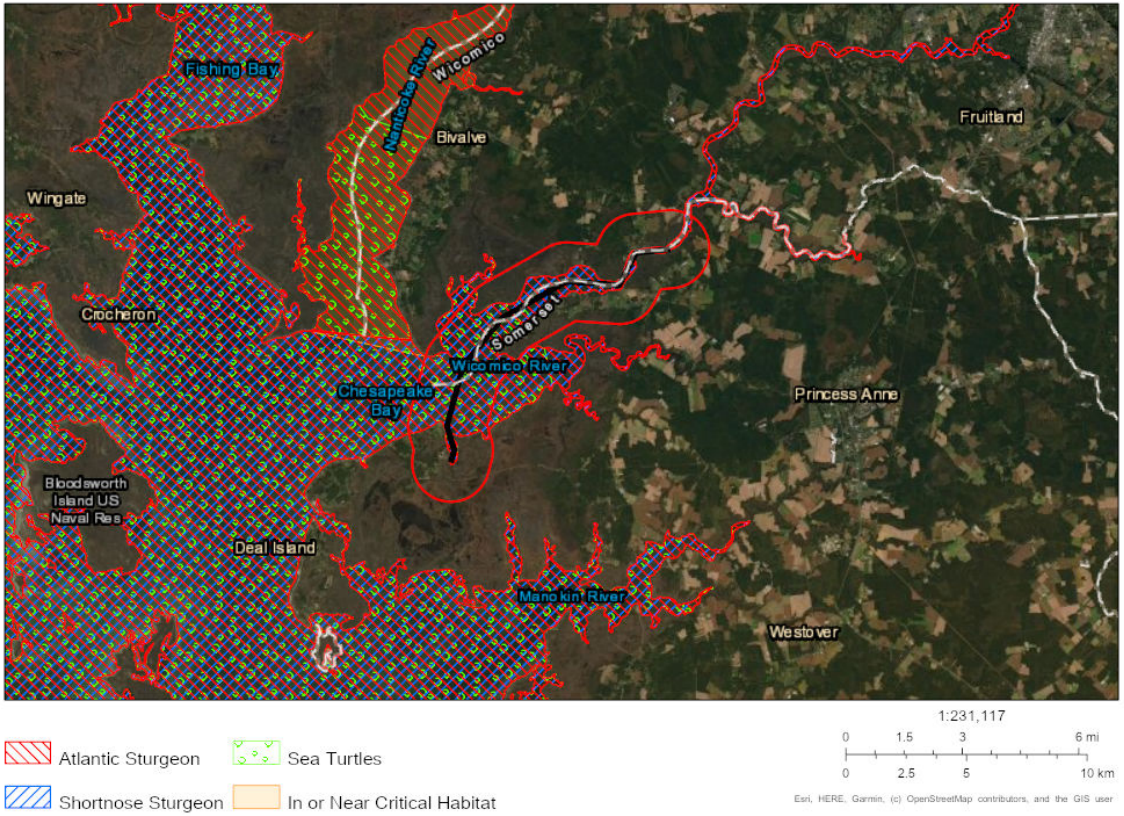

Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	3	16,325.07	N/A
Shortnose Sturgeon	2	10,883.38	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	4	16,731.48	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	1	0.78	N/A

Atlantic Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	ANS_CHB_JUV_MAF	Atlantic sturgeon	Juvenile	Migrating & Foraging	Chesapeake Bay	01/01	12/31	N/A	N/A	5,441.69
2	ANS_CHB_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	Chesapeake Bay	03/15	11/30	N/A	N/A	5,441.69
3	ANS_CHB_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	Chesapeake Bay	03/15	11/30	N/A	N/A	5,441.69

Shortnose Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	SNS_CHB_ADU_WIN	Shortnose sturgeon	Adult	Overwintering	Chesapeake Bay	11/01	02/28	N/A	N/A	5,441.69
2	SNS_CHB_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	Chesapeake Bay	01/01	12/31	N/A	N/A	5,441.69

Sea Turtles

Drawn Action Area & Overlapping S7 Consultation Areas

Area of Interest (AOI) Information

Area : 2,009.02 acres

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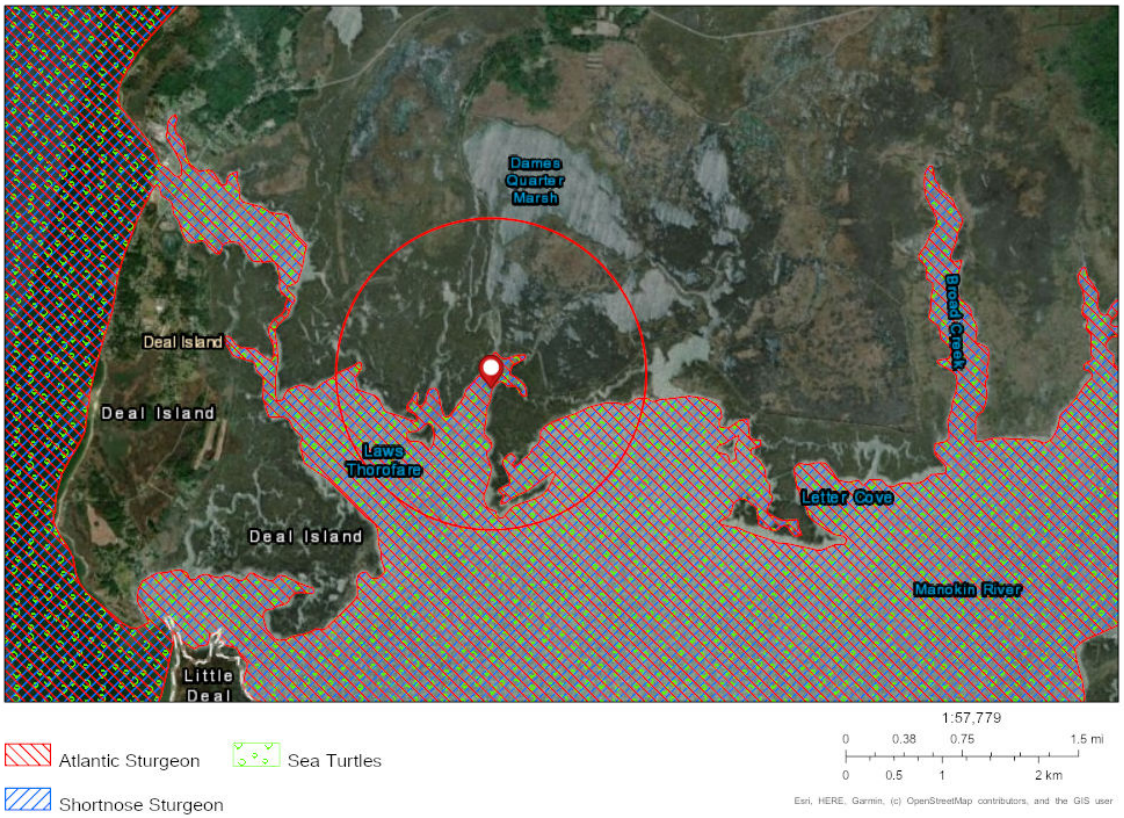

Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	3	2,030.90	N/A
Shortnose Sturgeon	2	1,353.94	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	4	2,707.87	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	0	0	N/A

Atlantic Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	ANS_CHB_JUV_MAF	Atlantic sturgeon	Juvenile	Migrating & Foraging	Chesapeake Bay	01/01	12/31	N/A	N/A	676.97
2	ANS_CHB_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	Chesapeake Bay	03/15	11/30	N/A	N/A	676.97
3	ANS_CHB_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	Chesapeake Bay	03/15	11/30	N/A	N/A	676.97

Shortnose Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	SNS_CHB_ADU_WIN	Shortnose sturgeon	Adult	Overwintering	Chesapeake Bay	11/01	02/28	N/A	N/A	676.97
2	SNS_CHB_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	Chesapeake Bay	01/01	12/31	N/A	N/A	676.97

Sea Turtles

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	GRN_STS_AJV_MAF	Green sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	676.97
2	KMP_STS_AJV_MAF	Kemp's ridley sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	676.97
3	LTR_STS_AJV_MAF	Leatherback sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	676.97
4	LOG_STS_AJV_MAF	Loggerhead sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	676.97

DISCLAIMER: Use of this App does NOT replace the Endangered Species Act (ESA) Section 7 consultation process; it is a first step in determining if a proposed Federal action overlaps with listed species or critical habitat presence. Because the data provided through this App are updated regularly, reporting results must include the date they were generated. The report outputs (map/tables) depend on the options picked by the user, including the shape and size of the action area drawn, the layers marked as visible or selectable, and the buffer distance specified when using the "Draw your Action Area" function. Area calculations represent the size of overlap between the user-drawn Area of Interest (with buffer) and the specified S7 Consultation Area. Summary table areas represent the sum of these overlapping areas for each species group.

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	GRN_STS_AJV_MAF	Green sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	4,182.87
2	KMP_STS_AJV_MAF	Kemp's ridley sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	4,182.87
3	LTR_STS_AJV_MAF	Leatherback sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	4,182.87
4	LOG_STS_AJV_MAF	Loggerhead sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	4,182.87

In or Near Critical Habitat

#	Species	In or Near Critical Habitat Unit	Area(acres)
1	Atlantic Sturgeon	Chesapeake Bay Unit 1: Nanticoke River and Marshyhope Creek	0.78

DISCLAIMER: Use of this App does NOT replace the Endangered Species Act (ESA) Section 7 consultation process; it is a first step in determining if a proposed Federal action overlaps with listed species or critical habitat presence. Because the data provided through this App are updated regularly, reporting results must include the date they were generated. The report outputs (map/tables) depend on the options picked by the user, including the shape and size of the action area drawn, the layers marked as visible or selectable, and the buffer distance specified when using the "Draw your Action Area" function. Area calculations represent the size of overlap between the user-drawn Area of Interest (with buffer) and the specified S7 Consultation Area. Summary table areas represent the sum of these overlapping areas for each species group.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127
http://www.fws.gov/chesapeakebay/
http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

In Reply Refer To: December 01, 2020
Consultation Code: 05E2CB00-2020-SLI-1298
Event Code: 05E2CB00-2021-E-00692
Project Name: Lower Wicomico River Maintenance Dredging

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2020-SLI-1298

Event Code: 05E2CB00-2021-E-00692

Project Name: Lower Wicomico River Maintenance Dredging

Project Type: DREDGE / EXCAVATION

Project Description: Maintenance dredging of the lower Federal channel in the Wicomico River from Ellis Bay upstream to about Webster Cove. The dredge material would be pumped through a pipeline in the Wicomico River channel to Dames Quarter Creek, and then piped approximately 4 miles overland to the southern end of Deal Island Wildlife Management Area (WMA) on Manokin Creek. The dredged material would be placed within a containment area in the WMA and used to restore tidal wetlands. Approximately 130 acres of tidal wetland would be restored. After dredged material placement, native vegetation will be planted and seeded to restore tidal wetland vegetation over the two growing seasons from dredged material placement.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.19833596338189N75.88399343148501W

Counties: Somerset, MD | Wicomico, MD

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

ESTUARINE AND MARINE DEEPWATER

- E1UBL
- E1UBLx
- E1UBLh

ESTUARINE AND MARINE WETLAND

- E2EM1N
- E2EM1Nh
- E2EM1Nx
- E2EM1P
- E2EM1Pd
- E2EM1Ph
- E2US2P
- E2USN
- E2SS1P

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1/3R

FRESHWATER POND

- PABH
- PABHh
- PUBHh

RIVERINE

- R5UBH

Spaur, Christopher C CIV USARMY CENAB (USA)

From: Roland Limpert -DNR- <roland.limpert@maryland.gov>
Sent: Friday, July 31, 2020 12:17 PM
To: Ciaramellano Campbell, Vanessa M CIV USARMY (USA)
Cc: Spaur, Christopher C CIV USARMY CENAB (USA); Chris Judy -DNR-; Karl Roscher -DNR-
Subject: [Non-DoD Source] Re: Wicomico River Federal Channel Maintenance Dredging (UNCLASSIFIED)

Hi Vanessa,

A portion of the proposed maintenance dredging for the lower Wicomico River will be within the borders of the Natural Oyster Bar (NOB) which is also a Public Shellfish Fishing Area (PSFA) and within 500 yards of the border of the NOB. When I spoke with Danielle Szimanski she said that the dredging within the NOB and within the 500 yard buffer to the NOB is expected to be completed outside of the oyster time of restriction periods. The time of year restriction periods for the dredging within the NOB would be no dredging 16 December through 14 March and 1 June through 30 September. Since the proposed dredging would be done hydraulically the dredging in the 500 yard buffer to the NOB and any dredging with 500 yards of the leased aquaculture sites in the lower Wicomico River would only have the 1 June through 30 September time of year restriction.

With regard to the placement of pipeline carrying the dredge material to the disposal area for dredging within the NOB/PSFA, that would be covered by the time of year restriction on the dredging within the NOB/PSFA and the 500 yard buffer. The placement of the pipeline over a leased aquaculture site would require the leaseholder to provide their consent. Natural Resources Article §4-11A-16 establishes that a person, other than the leaseholder, may not willfully and without authority catch, willfully destroy, remove, alter or transfer any marker, shellfish, equipment, or structures on any aquaculture or submerged land lease area. The placement of the pipeline over a lease area could disrupt the leaseholder's activities on the lease. In addition, the pipeline could have a serious impact on the lease if it were to have an inadvertent release of dredge material due to a break. I have included Karl Roscher in this email. Karl is the Director of DNR's Aquaculture Division and would be able to provide you with more information regarding the leaseholders and their operations in the lower Wicomico River.

If you have any additional questions please let me know.

Roland Limpert

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Roland Limpert

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Website <Blockedhttp://dnr.maryland.gov> | Facebook <Blockedhttps://www.facebook.com/MarylandDNR/> | Twitter <Blockedhttp://twitter.com/MarylandDNR>

Click here <Blockedhttp://www.doit.state.md.us/selectsurvey/TakeSurvey.aspx?agencycode=DNR&SurveyID=86M2956#> to complete a three question customer experience survey.

On Thu, Jul 30, 2020 at 3:13 PM Chris Judy -DNR- <chris.judy@maryland.gov <mailto:chris.judy@maryland.gov> > wrote:

Thank you for writing and for the concern for these resources. A first good contact is Roland Limpert who leads the Environmental Review section. Cc'd above.

Chris
Chris.judy@maryland.gov <mailto:Chris.judy@maryland.gov>

Sent from my iPhone
443-223-0472

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Christopher Judy

Director

Shellfish Division

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On Jul 30, 2020, at 2:48 PM, Ciaramellano Campbell, Vanessa M CIV USARMY (USA) <Vanessa.M.Campbell@usace.army.mil <mailto:Vanessa.M.Campbell@usace.army.mil> > wrote:

CLASSIFICATION: UNCLASSIFIED

Good afternoon Mr. Judy,

The US Army Corps of Engineers (USACE), Baltimore District, is proposing the maintenance dredging of the Wicomico River Federal Navigation Channel project located in Wicomico County, Maryland. The proposed action would conduct operations and maintenance dredging on approximately 15 miles of the lower Wicomico River Federal Navigation Channel from Monie Bay upstream to about Mount Vernon Wharf. The channel would be hydraulically dredged and the material would be pumped through a pipeline temporarily laid in the Wicomico River channel into Dames Quarter Creek, and then temporarily laid overland for placement to restore tidal wetlands at the southern end of Deal Island Wildlife Management Area (WMA) (see attached map).

Based on a review of the Maryland Shellfish Aquaculture Siting Tool, public shellfish fishery areas, oyster sanctuaries, and oyster lease areas are mapped within or in the vicinity of the proposed project. Are there any restrictions on temporarily laying a pipeline through PSFAs or oyster sanctuaries?

Please let me know if you need any additional information.

Thank you,

Vanessa Campbell
Biologist
US Army Corps of Engineers
Baltimore District, Planning Division
410-962-6704

CLASSIFICATION: UNCLASSIFIED

<Wicomico River Maintenance Dredging_Pipeline Route_Placement Area Map.pdf>

Spaur, Christopher C CIV USARMY CENAB (USA)

From: Roland Limpert -DNR- <roland.limpert@maryland.gov>
Sent: Friday, July 31, 2020 1:15 PM
To: Ciaramellano Campbell, Vanessa M CIV USARMY (USA)
Cc: Spaur, Christopher C CIV USARMY CENAB (USA); Chris Judy -DNR-; Karl Roscher -DNR-
Subject: Re: [Non-DoD Source] Re: Wicomico River Federal Channel Maintenance Dredging (UNCLASSIFIED)

There are no restrictions that I know of for running the pipeline through an oyster sanctuary to an approved disposal site. It has been done at other locations in the Bay.

Roland

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Roland Limpert

Natural Resources Planner,

Environmental Review Program

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roland.limpert@maryland.gov <mailto:roland.limpert@maryland.gov>

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On Fri, Jul 31, 2020 at 1:09 PM Ciaramellano Campbell, Vanessa M CIV USARMY (USA) <Vanessa.M.Campbell@usace.army.mil <mailto:Vanessa.M.Campbell@usace.army.mil> > wrote:

CLASSIFICATION: UNCLASSIFIED

Hi Roland,

Thank you for the information. This is very helpful.

The Webster sanctuary boundary is mapped within areas we may be running the pipe over. Based on a preliminary review of the MD DNR Oyster Sanctuary Characterization report for the 2010-2015 Oyster Management Review, the Webster sanctuary was surveyed during the Bay Bottom Survey (1974 to 1983) and of the 224 acres surveyed, only 36 acres (16%) were classified as oyster reef habitat. The oyster reef habitat looks to be mapped outside of the areas we would plan to lay the pipe over. However, I'm not sure if there are any more recent surveys of the sanctuary. Are there any restrictions or requirements for laying the pipe over an oyster sanctuary?

I appreciate your help!

Vanessa

-----Original Message-----
From: Roland Limpert -DNR- [mailto:roland.limpert@maryland.gov <mailto:roland.limpert@maryland.gov>]
Sent: Friday, July 31, 2020 12:17 PM
To: Ciaramellano Campbell, Vanessa M CIV USARMY (USA) <Vanessa.M.Campbell@usace.army.mil <mailto:Vanessa.M.Campbell@usace.army.mil> >
Cc: Spaur, Christopher C CIV USARMY CENAB (USA) <Christopher.C.Spaur@usace.army.mil <mailto:Christopher.C.Spaur@usace.army.mil> >; Chris Judy -DNR- <chris.judy@maryland.gov <mailto:chris.judy@maryland.gov> >; Karl Roscher -DNR- <karl.roscher@maryland.gov <mailto:karl.roscher@maryland.gov> >
Subject: [Non-DoD Source] Re: Wicomico River Federal Channel Maintenance Dredging (UNCLASSIFIED)

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Christopher Judy

Director

Shellfish Division

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(443) 223-0472 <tel:(443)%20223-0472> (M)

Website <Blockedhttp://dnr.maryland.gov/ <Blockedhttp://dnr.maryland.gov/> > | Facebook <Blockedhttps://Blockedwww.facebook.com/MarylandDNR/ <Blockedhttp://www.facebook.com/MarylandDNR/> > | Twitter <Blockedhttp://twitter.com/MarylandDNR <Blockedhttp://twitter.com/MarylandDNR> >

Click here <Blockedhttp://Blockedwww.doit.state.md.us/selectsurvey/TakeSurvey.aspx?agencycode=DNR&SurveyID=86M2956# <Blockedhttp://www.doit.state.md.us/selectsurvey/TakeSurvey.aspx?agencycode=DNR&SurveyID=86M2956#> > to complete a three question customer experience survey

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CLASSIFICATION: UNCLASSIFIED

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Based on a review of the Maryland Shellfish Aquaculture Siting Tool, public shellfish fishery areas, oyster sanctuaries, and oyster lease areas are mapped within or in the vicinity of the proposed project. Are there any restrictions on temporarily laying a pipeline through PSFAs or oyster sanctuaries?

Please let me know if you need any additional information.

Thank you,

Vanessa Campbell
Biologist
US Army Corps of Engineers
Baltimore District, Planning Division
410-962-6704

CLASSIFICATION: UNCLASSIFIED

<Wicomico River Maintenance Dredging_Pipeline Route_Placement Area Map.pdf>

CLASSIFICATION: UNCLASSIFIED

Spaur, Christopher C CIV USARMY CENAB (USA)

From: Jonathan Watson - NOAA Affiliate <jonathan.watson@noaa.gov>
Sent: Thursday, July 16, 2020 2:47 PM
To: Ciaramellano Campbell, Vanessa M CIV USARMY (USA)
Cc: Spaur, Christopher C CIV USARMY CENAB (USA); Karen Greene - NOAA Federal; Brian D Hopper - NOAA Federal
Subject: Re: [Non-DoD Source] Re: Wicomico River Federal Channel Maintenance Dredging (UNCLASSIFIED)

Hi Vanessa,

Thanks for following up on this. I looked over the ASMFC supporting literature for these two species and the habitat descriptions provided in those documents indicate that they are unlikely to be found in the Wicomico River or in the Deale Island WMA dredge placement site. However, after reviewing the draft EFH assessment and speaking with other HCD biologists, I wanted to point out some potential shortcomings of this document. Essentially, the EFH assessment should contain a greater description of the impacts to habitats rather than solely focusing on what federally managed species may be present and how they may be directly impacted by dredging activities. Due to the significant potential impacts to NOAA trust resources, I would like to ensure that we can establish a common understanding of the information required to complete this EFH assessment. I have attempted to create a comprehensive description of relevant regulatory requirements and project questions/considerations that should inform the creation of the draft EA document as well as future discussions.

The Magnuson Stevens Act and EFH Assessments

The Magnuson Stevens Act (MSA) requires federal agencies, such as the Army Corps of Engineers to consult with us on any action or proposed action that is authorized, funded, or undertaken that may adversely affect EFH identified under the MSA. This process is guided by the requirements of our EFH regulation at 50 CFR 600.905. The EFH final rule published in the Federal Register on January 17, 2002 defines an adverse effect as: “any impact which reduces the quality and/or quantity of EFH.” The rule further states that:

An adverse effect may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

The EFH assessment document should provide sufficient information so that it is possible for NOAA Fisheries HCD staff to evaluate potential adverse effects as defined above. This information should be largely centered on impacts to habitats that are important for sustaining ecological integrity, rather than simply a tally of the organisms that may be present and a description of how they might be directly affected. The EFH assessment document must include the following information, as stipulated in the EFH Regulations:

(i) A description of the action. (ii) An analysis of the potential adverse effects of the action on EFH and the managed species. (iii) The Federal agency’s conclusions regarding the effects of the action on EFH. (iv) Proposed mitigation, if applicable. If appropriate, the assessment should also include: (i) The results of an on-site inspection to evaluate the habitat and the site specific effects of the project. (ii) The views of recognized experts on the habitat or species that may be affected. (iii) A review of pertinent literature and related information. (iv) An analysis of alternatives to the action. Such analysis should include alternatives that could avoid or minimize adverse effects on EFH. (v) Other relevant information. The assessment may incorporate by reference a completed EFH Assessment prepared for a similar action,

supplemented with any relevant new project specific information, provided the proposed action involves similar impacts to EFH in the same geographic area or a similar ecological setting. It may also incorporate by reference other relevant environmental assessment documents. These documents must be provided to NMFS with the EFH Assessment.

The current draft document is lacking much of the required information required for a project of this scale and complexity. Sediment addition (i.e., TLP) using dredged material is a relatively novel approach to marsh degradation intervention. This action represents a large ecological disturbance that will likely have long-term implications for marsh function, including a large temporal loss of habitat value (e.g., ecological function). As such, special attention should be given to current conditions of the placement site as well as potential direct (e.g., habitat fill) and indirect (e.g., sediment mobilization/ turbidity) effects of this proposed action on aquatic resources.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA), as amended in 1964, requires that all federal agencies consult with us when proposed actions might result in modifications to a natural stream or body of water. It also requires that they consider effects that these projects would have on fish and wildlife and must also provide for improvement of these resources. Under this authority, we work to protect, conserve and enhance species and habitats for a wide range of aquatic resources such as shellfish, diadromous species, and other commercially and recreationally important species that are not managed by the federal fishery management councils and do not have designated EFH. The Wicomico River and the Manokin River serve as important habitat for many aquatic species and their forage that we seek to conserve, protect, and improve under the FWCA, including American shad, alewife, blueback herring, hickory shad, striped bass, white perch, and other assorted baitfishes (e.g., Atlantic silverside, mummichog) and invertebrates (e.g., blue crab, eastern oyster, soft shell clam). Potential impacts to these species should also be addressed as part of the EA document.

Recommended Topics to Address in the EFH Assessment

We understand that information will be added to the provided draft EFH assessment document and that it will ultimately be appended to a larger EA document which may contain some of the requested information below. At this point, we want to ensure that all aspects of this proposed project are adequately addressed in the forthcoming EA document(s). Topics and questions that should be addressed in a complete EFH assessment include:

* What are the benthic conditions along the 15 miles of proposed dredging? Is there existing data regarding the sediment composition and benthic infauna/epifauna in the dredge footprint? Will such data be collected during the proposed dredging activity to inform future actions? Are there any special aquatic resources in the project vicinity (e.g., SAV, shellfish beds) that could be affected by the proposed dredging activities and associated turbidity? What measures will be taken to avoid and minimize impacts to these areas? How might juvenile/egg stages of managed species be affected by proposed dredging activities (e.g., impingement, entrainment)?

* The purpose and need of the proposed TLP project should be clearly defined in this document. How was the TLP site chosen? If marsh loss is a significant problem at this site, what are the causes and rates of marsh loss currently occurring in the placement area? The location and design should be based upon the ecological needs of the subject marsh, as well as the surrounding ecosystem. Is there any indication of ecological impairment (e.g., survey data) in the receiving marsh?

* What is the current habitat composition in the site (e.g., acres of low marsh, high marsh, tidal creeks, etc.)? How will this change following the placement of dredged material? How will the addition of dredged material improve the functioning of the marsh?

* What are the goals for the TLP project? How will success/performance criteria be defined? What monitoring will be conducted to ensure that these goals are met? Will the monitoring plan include reference sites? What will be included in an adaptive management plan? Performance monitoring based upon the project goals, objectives and

success criteria is needed to collect data to assess progress towards meeting performance measures and to inform potential adaptive management decisions.

* We have many questions regarding the dredge material to be used, and these should be addressed. These include the following: How will dredge material be handled? Will it be dewatered prior to placement? If so, what measures will be used to ensure that water quality standards are met during the dewatering process? Will the dredge material be evaluated prior to placement? If so, what parameters will be measured? Information regarding dredged sediment (e.g., sand, silt, and clay composition) and soil bearing capacity of the receiving site should be required to allow for project evaluation. If sediments are not of the correct composition this can result in excessive compaction which can alter marsh hydrology and impair long-term function. Such challenges can require extensive adaptive management and potentially lead to the project failing to meet stated goals.

* The proposed TLP action should be thoroughly described. For example, what actions will be taken during the placement of dredge material to limit disturbance outside of the placement area? What actions will be taken to ensure that the material is stable once placed? Are there special aquatic sites located adjacent to the TLP site that could be affected? If so, how will impacts to these areas be avoided/minimized? How will material be moved around the placement site? Will machinery (e.g., excavators, dozers, skid-steers, etc.) be deployed on the marsh platform? Will a series of pipelines be used to divert dredge material to different locations?

* How will the temporary pipeline be constructed/ aligned to avoid and minimize impacts to emergent tidal vegetation and other special aquatic sites (e.g., SAV)? Will the project include a spill response plan?

* While we can appreciate the purpose of restoring high marsh to improve its resilience to sea level rise and provide habitat for certain species (e.g., saltmarsh sparrow, black rail), high marsh creation will presumably result in the loss of low marsh/ tidal creek habitat for federally managed fish and their prey. The notion of “self mitigation” from the perspective of EFH is fundamentally flawed. Further, the term itself is not widely used by NMFS (and other Federal Resource Agencies), nor does it appear in the 2008 Mitigation Rule, so we would recommend it not be included. Both adverse and beneficial effects can, and should, be discussed.

Conclusion

Finally, I want to be sure that you are aware that you should also consult with the NOAA Fisheries Protected Resources Division (PRD) regarding potential impacts to endangered aquatic species in the project area. Brian Hopper (cc'd) is the field office representative who handles Section 7 consultations in the Chesapeake Bay region.

Thanks again for your early coordination on this project. I hope that this email will provide guidance for the forthcoming EFH assessment and future discussions. I am happy and more than willing to be involved in meetings, review preliminary data, and provide technical assistance for this project. Please contact me if you have any questions.

Sincerely,

Jonathan Watson

On Fri, Jul 10, 2020 at 11:28 AM Ciaramellano Campbell, Vanessa M CIV USARMY (USA) <Vanessa.M.Campbell@usace.army.mil <mailto:Vanessa.M.Campbell@usace.army.mil> > wrote:

CLASSIFICATION: UNCLASSIFIED

Hi Jonathan,

Attached is the EFH impacts assessment prepared for the Wicomico River Maintenance dredging in 2017 (Appendix D). We would of course be improving and expanding on this one to reflect changes in the proposed action.

I have also included a working draft of the EFH impacts assessment for the proposed action in case you would like to take a look at what we have so far. Any comments are welcome. Chris Spaur (copied on this email) is the lead Biologist for this project.

Based on some initial assessment and review of species descriptions by Chris, can we remove the following species from further consideration?

- Red Hake of all life history stages generally occur in northern Atlantic Ocean marine (not estuarine) waters based on EFH description. Murdy and Musick (2013) state that juveniles are a frequent visitor to the lower Bay and may occasionally move into the mid Bay. Murdy and Musick (2013) make no mention of other life history stages in Chesapeake Bay. The Wicomico River connects to Tangier Sound which connects to the mid Bay. So, it's hard to see why the project area would be considered EFH (as opposed to just FH), even for juveniles. Additionally, with a warming climate, we'd expect their occurrence in Chesapeake Bay to diminish in the future.

- Atlantic Herring, also a northern Atlantic Ocean fish (not estuarine) and in deeper water than proposed action (>15 m) based on EFH description. Murdy and Musick (2013) state that they may occur in Chesapeake Bay in winter/early Spring as far north as Susquehanna Flats in the upper Bay. However, they are more abundant in the lower Bay. With a warming climate, we'd expect their occurrence in the Bay also to diminish in the future.

Are there any of the species identified that you would be particularly concerned with and that we should provide a more thorough level of analysis for?

Please feel free to reach out with any questions.

Thank you!

Vanessa

Reference:

Murdy, E.O., J.A. Musick, and V. Kells. 2013. Field Guide to the Fishes of the Chesapeake Bay. The Johns Hopkins University Press, Baltimore, MD. 341 pages.

-----Original Message-----

From: Jonathan Watson - NOAA Affiliate [mailto:jonathan.watson@noaa.gov <mailto:jonathan.watson@noaa.gov>]

Sent: Tuesday, July 7, 2020 8:57 AM

To: Ciaramellano Campbell, Vanessa M CIV USARMY (USA) <Vanessa.M.Campbell@usace.army.mil <mailto:Vanessa.M.Campbell@usace.army.mil> >

Cc: Karen Greene - NOAA Federal <karen.greene@noaa.gov <mailto:karen.greene@noaa.gov> >; Spaur, Christopher C CIV USARMY CENAB (USA) <Christopher.C.Spaur@usace.army.mil <mailto:Christopher.C.Spaur@usace.army.mil> >

Subject: [Non-DoD Source] Re: Wicomico River Federal Channel Maintenance Dredging (UNCLASSIFIED)

Hi Vanessa,

I am the biologist working on EFH consultations in Maryland and will be evaluating this proposed dredging project. I re-ran the point query for the Wicomico in the EFH mapper and it matched the report that you attached to the previous email, so that is a good starting point. In order to complete our EFH consultation we will require additional information, likely similar to what has been provided in past years. A complete EFH assessment worksheet (blank form attached) provides us with much of the information required. This includes (1) Project Description, (2) Timing and duration of in-water work, (3) proposed impacts to EFH, (4) proposed impacts to HAPC, (5) Site characteristics, (6) avoidance/minimization measures, and (7) EFH species present. While some of this information may have been included in your previous email, it does not provide a complete picture of the proposed action. Project plans are also helpful and should depict the proposed activity locations along with (1) current and proposed water depths, including dredge slopes, (2) any SAV mapped by VIMS in the last 5 years of available data, and (3) proximity to emergent tidal vegetation in areas where effects are possible (e.g., dredging close to wetlands, temporary pipeline installed in wetlands). Together, this information should be sufficient for me to make an assessment of the proposed action and provide recommendations to protect our trust resources. I have not encountered the "Other Trust Resources" worksheet to which you refer, but as long as we receive project plans and a complete EFH worksheet we should have all the information we need to begin consultation. Please don't hesitate to contact me if you have any questions.

Thanks,

Jonathan Watson

On Thu, Jul 2, 2020 at 2:35 PM Ciaramellano Campbell, Vanessa M CIV USARMY (USA) <Vanessa.M.Campbell@usace.army.mil <mailto:Vanessa.M.Campbell@usace.army.mil> <mailto:Vanessa.M.Campbell@usace.army.mil <mailto:Vanessa.M.Campbell@usace.army.mil> > > wrote:

CLASSIFICATION: UNCLASSIFIED

Hi Karen,

The US Army Corps of Engineers (USACE), Baltimore District, is proposing the maintenance dredging of the Wicomico River Federal Navigation Channel project located in Wicomico County, Maryland. The proposed action would conduct operations and maintenance dredging on approximately 15 miles of the lower Wicomico River Federal Navigation Channel from Monie Bay upstream to about Mount Vernon Wharf. The channel would by hydraulically dredged and the material would be pumped through a pipeline temporarily laid in the Wicomico River channel into Dames Quarter Creek, and then temporarily laid overland for placement to restore tidal wetlands at the southern end of Deal Island Wildlife Management Area (WMA) (see attached map).

The NOAA EFH mapper was used to identify EFH mapped within the project area. The following EFH and corresponding life stages were identified for the lower Wicomico River channel (dredging area) and the placement area along Manokin Creek:

-Little Skate (adult)
-Atlantic Herring (juvenile, adult)
-Red Hake (eggs/larvae/juvenile, adult)
-Winter Skate (adult)
-Clearnose Skate (juvenile, adult)
-Windowpane Flounder (juvenile)
-Bluefish (juvenile, adult)
-Summer Flounder (juvenile, adult)
-Black Sea Bass (juvenile, adult)

HAPC were also mapped for the following species:

-Summer Flounder

Attached are the EFH location query results for both the dredging area and placement site. I would like to confirm with you that EFH for all applicable species was correctly mapped.

EFH Impacts Assessments have been prepared for previous maintenance dredging of the Wicomico River channel (the latest was in 2017). Would a similar effort be needed for this project and should the NMFS "Other Trust Resources" worksheet or checklist be submitted as well?

Please let me know if you need any additional information.

Hope all is well!

Thank you,

Vanessa Campbell
Biologist
US Army Corps of Engineers
Baltimore District, Planning Division
410-962-6704

CLASSIFICATION: UNCLASSIFIED

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Environmental Specialist, Integrated Statistics NOAA/National Marine Fisheries Service Affiliate Habitat and Ecosystem Services Division
200 Harry S Truman Pkwy., Ste. 460
Annapolis, MD 21401
(410)-295-3152 (office)
CLASSIFICATION: UNCLASSIFIED

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Environmental Specialist, Integrated Statistics NOAA/National Marine Fisheries Service Affiliate Habitat and Ecosystem Services Division
200 Harry S Truman Pkwy., Ste. 460
Annapolis, MD 21401
(410)-295-3152 (office)

Public Notice of Proposed Project and Availability of Draft EA

Date	Document
Feb 19, 2021	Public Notice of Proposed Channel Dredging and Material Placement
Feb 19, 2021	Letter to Coordinating Agencies

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, BALTIMORE DISTRICT
2 HOPKINS PLAZA
BALTIMORE, MD 21201

Operations Division February 19, 2021

SUBJECT: Maintenance Dredging, Wicomico River, Wicomico County, Maryland

PUBLIC NOTICE CENAB-OP-N-21-01

TO WHOM IT MAY CONCERN:

NOTICE IS HEREBY GIVEN THAT The U.S. Army Corps of Engineers, Baltimore District (Corps), is planning to perform maintenance dredging for the Federal navigation channel on the Wicomico River, Wicomico County, Maryland. Please be advised that implementation of this maintenance dredging is dependent on available funds. The Corps' notification and review procedures for dredging in Federal navigation channels is found under Section 313 and 404 of the Clean Water Act of 1977 (33USC 1323 and 1344).

The proposed work consists of dredging the Wicomico River channel to its authorized depth of 14 feet mean lower low water (MLLW), plus one foot of allowable overdepth, and a width of 75 feet. The Corps plans to hydraulically dredge approximately 130,000 cubic yards of material consisting of clay, mud, sand, silt, and shell and combinations thereof from the lower reach of the Wicomico River from Monie Bay to just south of Mt. Vernon Wharf (Map 1). The dredged material will be beneficially used to restore wetlands at the Deal Island Wildlife Management Area (WMA) in Somerset County, Maryland (Map 2). The WMA is owned and operated by Maryland Department of Natural Resources. Dredged material will be transported via pipeline from Wicomico River to the WMA. Material will be placed to an elevation of 1.5 ft MLLW above existing grade to restore saltmarsh sparrow and black rail nesting habitat. The restored wetland will also provide critical protection to the impoundment infrastructure of the WMA. The pipeline will be moved throughout the restoration area to ensure proper elevations are reached during placement.

Material will be contained with straw bales and tidal plugs to the south while using the existing impoundment berm as containment to the north. Straw bales will be staked, secured, and stacked two-to-three high to ensure proper elevation of the dredged material can be achieved while still being contained. Material will also be planted over the course of two growing seasons to ensure stabilization and habitat creation. Aerial seeding will occur the first growing season with a salt tolerant barnyard grass, with hand planting of *Spartina alterniflora* only occurring closest to the perimeter of the containment to cause minimal disturbance to the newly placed dredged material. Some *Spartina alterniflora* seeds may be mixed into the aerial seeding for additional root

growth support in the first year. Hand planting of *Spartina patens* and *Distichlis spicata* will occur the second growing season post dredged material placement. Approximately 72 acres of wetland are to be restored. Pre- and post-monitoring, as well as the creation of an adaptive management plan, will be conducted by affiliating state, federal and NGO agencies. The beneficial use of the project supports Executive Order 13653 (Preparing the U.S. for the Impacts of Climate Change).

A review of data generated for preparation of the Environmental Assessment, including a preliminary 404(b)(1) evaluation, indicates that no significant environmental impacts are expected. A preparation of an Environmental Impact Statement is not warranted. National Environmental Policy Act (NEPA) documentation addressing the environmental issues of the placement site construction is being prepared. The proposed placement site construction complies with and will be conducted in a manner consistent with the approved Maryland Coastal Zone Management Program. The proposed action will temporarily adversely impact Essential Fish Habitat (EFH) in the navigation channel in the Wicomico River. At the Deal Island WMA, the proposed action would cause a resource tradeoff where failing tidal wetlands and associated open water are temporarily impacted but will be restored as tidal wetlands with a targeted elevation to provide nesting habitat for the saltmarsh sparrow and black rail species as requested by project partners. As brackish marsh constitutes EFH, this trade-off is inherently mitigational. Habitat impacts would not reduce the carrying capacity of the projected area for managed fish species. Impacts to submerged aquatic vegetation beds are anticipated to be minimal through implementation of avoidance and minimization measures required by Maryland Department of Natural Resources and National Marine Fisheries Service. Consequently, the proposed project complies with the provisions of the Magnuson-Stevens Fishery Conservation and Management Act, as amended.

The Corps will coordinate the project with the following federal, state and local agencies: U.S. Environmental Protection Agency; U.S. Department of Interior, Fish and Wildlife Service; U.S. Department of Commerce, National Oceanic and Atmospheric Association, National Marine Fisheries Service; Maryland Department of the Environment; Maryland Department of Natural Resources; and Maryland Historical Trust; National Audubon Society; Wicomico County, Maryland and Somerset County, Maryland.

The decision whether to accomplish the work proposed in this public notice will be based on an evaluation of the probable impact of the proposed work on the public interest. The decision will reflect the national concern for the protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered; for example conservation, aesthetics, fish and wildlife values, general environmental concerns, economics, historic

values, navigation, energy needs, recreation, resiliency, safety, water quality, food production, and public welfare. The work will not be accomplished unless it is found to be in the public's interest.

Designation of the proposed placement site for dredged material associated with this Federal project shall be made through the application of guidelines promulgated by the Administrator, Environmental Protection Agency, in conjunction with the Secretary of the Army. If these guidelines alone prohibit the designation of the proposed placement site, any potential impairment to the maintenance of navigation, including any economic impact on navigation and anchorage, which would result from the failure to use the placement site, will also be considered.

Any person who has an interest that may be affected by the placement of this dredged material may request a public hearing. The request must be submitted in writing to the District Engineer, US Army Corps of Engineers, Baltimore District, 2 Hopkins Plaza, Baltimore, Maryland 21201, within 30 days of the date of this notice and must clearly set forth the interest that may be affected and the manner in which the interest may be affected by this activity. The Corps will complete environmental documentation for this project, which will be available upon request.

The U.S. Army Corps of Engineers, Baltimore District, will apply for Water Quality Certification from the State of Maryland, which is required by Section 401 of the Clean Water Act. Any comments relating to water quality concerns should also be forwarded to the Maryland Department of the Environment, Standards and Certification, Montgomery Park Business Center, 1800 Washington Boulevard, Suite 430, Baltimore, Maryland 21230.

Since we are not aware of all persons interested in the project, we request that you provide this information to anyone whom has interest. If you have any questions, please contact Ms. Danielle Szimanski at Danielle.m.Szimanski@usace.army.mil.

William P. Seib

William P. Seib
Chief, Operations Division

Enclosures

WICOMICO RIVER, DORCHESTER, WICOMICO, AND SOMERSET COUNTIES, MARYLAND

Existing Project: The project provides for a channel 14 feet deep and 150 feet wide from Chesapeake Bay to Salisbury including 100-foot-wide channels with turning basins all 14 feet deep in the north and south prongs, and a 60-foot-wide channel 6 feet deep from deep water in the river to Webster Cove, with a T-shaped basin in the cove 100 feet wide and 400 feet long and extension of basin 200 feet long and 100 feet wide on each side. The total project length is 37 miles.

Range of Tide: 3.0 feet.

NAVD 88 (Adjustment to MLLW for the '83-'01 Tidal Epoch = approximately 1.3048'. Adjustment obtained using VDATUM.)

Soundings are in feet
Datum Plane is Local M.L.L.W.

0 15,000 30,000 45,000 60,000 Feet

MAP 1

BALTIMORE DISTRICT, BALTIMORE, MD

MAP 2

Legend

Wicomico River

Dames Quarter Dames Quarter

Oriole Oriole

363

Chance Chance

Deal Island Wildlife
Management Area

Deal Island Deal Island

Placement Locations

Google Earth

N

2 mi

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
2 HOPKINS PLAZA
BALTIMORE, MD 21201

February 19, 2021

Operations Division

SUBJECT: Coordination for maintenance dredging of the Federal navigation channel in Wicomico River, Wicomico County, Maryland.

Dear Coordinating Agencies:

The Baltimore District, U.S. Army Corps of Engineers (Corps) is planning to perform maintenance dredging of the Federal navigation channel in the Wicomico River, Wicomico County, Maryland. The proposed work consists of dredging the Wicomico River channel to its authorized depth of 14 feet mean lower low water (MLLW), plus one foot of allowable overdepth, and a width of 150 feet. However, due to the inaccuracies of dredging some material may be removed beyond the allowable overdepth. The Corps plans to hydraulically dredge approximately 130,000 cubic yards of material consisting of clay, mud, sand, silt, and shell and combinations thereof from the lower reach of the Wicomico River from Monie Bay to just south of Mt. Vernon Wharf (Map 1). The dredged material will be beneficially used to restore wetlands at the Deal Island Wildlife Management Area (WMA) in Somerset County, Maryland (Map 2). The WMA is owned and operated by Maryland Department of Natural Resources (MDNR).

Dredged material will be transported via pipeline from Wicomico River to the WMA. Material will be placed to an elevation of 1.5 ft MLLW above existing grade to restore saltmarsh sparrow and black rail nesting habitat. The restored wetland will also provide critical protection to the impoundment infrastructure of the WMA (Map 2). The pipeline will be moved throughout the restoration area to ensure proper elevations are reached during placement. Material will be contained with straw bales and tidal plugs to the south while using the existing impoundment berm as containment to the north. Straw bales will be staked, secured, and stacked two-to-three high to ensure proper elevation of the dredged material can be achieved while still being contained.

Material will also be planted over the course of two growing seasons to ensure stabilization and habitat creation. Aerial seeding will occur the first growing season with a salt tolerant barnyard grass, with hand planting of *Spartina alterniflora* only occurring closest to the containment to cause minimal disturbance. Some *Spartina alterniflora* seeds may be mixed into the aerial seeding for additional root growth support in the first year. Hand planting of *Spartina patens* and *Distichlis spicata* will occur the second growing season post dredged material placement. Approximately 72 acres of wetland are to be restored. Pre- and post-monitoring, as well as the creation of an adaptive management plan, will be conducted by affiliating state, federal and NGO agencies. The beneficial use of the project supports Executive Order 13653 (Preparing the U.S. for the Impacts of Climate Change).

The proposed placement site construction complies with and will be conducted in a manner consistent with the approved Maryland Coastal Zone Management Program. The proposed action will temporarily adversely impact Essential Fish Habitat (EFH) in the navigation channel in the Wicomico River. At the Deal Island WMA, the proposed action would cause a resource tradeoff where failing tidal wetlands and associated open water are temporarily impacted but will be restored as tidal wetlands with a targeted elevation to provide nesting habitat for the saltmarsh sparrow and black rail species as requested by project partners. As brackish marsh constitutes EFH, this trade-off is inherently mitigational. Habitat impacts would not reduce the carrying capacity of the projected area for managed fish species. Impacts to submerged aquatic vegetation beds are anticipated to be minimal through implementation of avoidance and minimization measures required by Maryland Department of Natural Resources and National Marine Fisheries Service. Consequently, the proposed project complies with the provisions of the Magnuson-Stevens Fishery Conservation and Management Act, as amended, and as such, we will not have any adverse effect on endangered species or essential fish habitat for federally managed species.

In accordance with the National Environmental Policy Act of 1969, we request that you submit comments within your agency's area of expertise to assist in the preparation of the environmental documentation for our project. Information concerning the proposed project and comments are requested by March 19, 2021. We are coordinating this work with the U.S. Environmental Protection Agency; U.S. Department of Interior, Fish and Wildlife Service; U.S. Department of Commerce, National Marine Fisheries Service; Maryland Department of Natural Resources; Maryland Department of the Environment; Maryland Historical Trust; Somerset County, Maryland and Wicomico County, Maryland.

If there are any questions, please contact Ms. Danielle Szimanski, Navigation Branch, at Danielle.m.szimanski@usace.army.mil.

Sincerely,

William P. Seib

William P. Seib
Chief, Operations Division

Enclosures

Coordination Following Public Notice

Summary of Coordination Efforts Subsequent to Public Notice

Date	Agency/Organization	Summary
February 23, 2021	MD Dept of Planning, State Clearinghouse, Myra Barnes	Letter to USACE. MDP forwarded project information to multiple state and county agencies for review.
February 25, 2021	USFWS, Genevieve Pullis	Letter to USACE. Support proposed project. Would benefit salt marsh sparrow, black rail, and tidal wetlands. Would also protect WMA waterfowl impoundment. Additional attention to managing invasive Phragmites needed during/following construction.
March 16, 2021	MD DNR, Environmental Review Program, Tony Redman	Letter to USACE. Provided multiple concerns and recommendations on Wicomico River channel dredging related to NOBs, shellfish aquaculture, anadromous fish, waterfowl, boater safety. Provided multiple concerns and recommendations on Deal Island WMA placement site on real estate and required agreements, tidal wetland health, oyster restoration, SAV, as well as project monitoring and partnerships.
March 17, 2021	Deal Island Peninsula Partnership, Coordination Committee	Letter to USACE. Community members involved in DIPP unaware of project and potential effects. Request public hearing so USACE can engage in dialogue with people who live and work in vicinity.
March 18, 2021	NOAA, NMFS, Karen Greene	Letter to USACE. Comments on NOA. Noted that NMFS did not have complete information at that time. Provided initial comments/recommendations under MSA and FWCA. Would continue working with USACE as the project moves forward.
March 18, 2021	Chesapeake Bay Foundation, Josh Kurtz	Letter to USACE. Project could result in net decrease in greenhouse gases via "Blue Carbon." Monitoring needed to ensure material stabilizes and is successfully planted. USACE should demonstrate whether the project would delay loss of tidal marshes near the placement site. CBF concerned over potential impacts to Manokin River large scale oyster reef restoration project. CBF requests public hearing to address stakeholder concerns.
March 24, 2021	MDE, Tammy Roberson	Comment letter regarding proposed project. Reviewed project purpose, resource characterization, avoidance and minimization, secondary and cumulative impacts, monitoring and compensatory mitigation

Date	Agency/Organization	Summary
April 1, 2021	USEPA, Megan Fitzgerald	Email with Attachment to USACE. Support beneficial use of dredged material for habitat restoration. Adequate future monitoring needed to assess long term patterns. USEPA would like to participate in future meetings regarding beneficial use within the WMA. Additional information needed from USACE to ensure compliance with CWA 404b1 Guidelines.
April 6, 2021 (file date; no date on letter)	MDE, Tidal Wetlands Division, Tammy Roberson	Letter to USACE. Responding to PN CENAB-OP-N-21-01. MDE has concerns about proposed thickness of placed material. Request additional detailed information. MDE has not received request from USACE for WQC.
April 14, 2021	Public Meeting	Virtual hosted by USACE. The purpose of the meeting was to provide stakeholders and the public the opportunity to learn more about the placement site history, efforts to identify suitable new placement sites, and factors that led to the selection of the Deal Island WMA for this cycle. During the meeting the overall project design, goals, and monitoring framework were presented to the public. A question and answer period was held as well. The meeting was attended by members of the public along with representatives of MD DNR, USFWS, Audubon, MDE, NOAA, Wicomico County, Somerset County, Deal Island Peninsula Partnership, and the Chesapeake Bay Foundation. A video recording of the meeting is available at: https://www.nab.usace.army.mil/Missions/Civil-Works/Wicomico-River-Maintenance-Dredging-Project/
May 26, 2021	USEPA/ Megan Fitzgerald	Letter from USACE responding to five USEPA comments received April 1, 2021. Letter addressed project purpose, characterizing baseline resources, impact avoidance/minimization, secondary/cumulative impacts, monitoring/compensatory mitigation.

Date	Agency/Organization	Summary
May 27, 2021	NOAA, NMFS/ Karen Greene for Lou Chiarella	Letter to USACE. Provided review comments on draft EA and its EFH impacts assessment. Noted some inconsistencies between PN and EA, requested additional remaining information/clarification be provided. Provided recommendations regarding dredging/temporary pipeline installation, placement site selection/design, monitoring/adaptive management, future dredged material placement. Also, under MSA provided conservation recommendations on dredging operations, dredged material placement, anticipated future maintenance dredging operations.
Sept 15, 2021	Commissioners for Somerset County	Letter to USACE expressing dismay that maintenance dredging of Webster's Cove Basin and spur channel not scheduled this cycle. Harbor is heavily utilized.
Oct 26, 2021	MDNR, MDE, NOAA/NMFS, Wicomico County, Somerset County, NOAA/NCCOSS, Audubon.	Meeting (Virtual). Bids came in too high to award in September solicitation. Will resolicit as one contract. Due to environmental windows, this will push construction to the late summer/early fall 2022. Will allow for one more year of pre-placement monitoring by agencies. Discussion about mechanical dredging vs hydraulic. Determined to stick with hydraulic pipeline. Discussion on submittal of TWL without signed Real Estate MOU from DNR and Wicomico Co. Audubon discussed status of monitoring plan formulation and completion.
Jan 7, 2022	NOAA, NMFS/ Karen Greene	Letter to USACE. Expressed concerns that several EFH conservation recommendations from May 27, 2021 letter have not been addressed. Several specific elements remain unclear including extent of use of floating pipelines to avoid sensitive aquatic habitats and extent to which dredged material would spread through site. Concerned about loss of habitats for NOAA trust resources via conversion to high marsh and possibly uplands. Encouraged USACE to develop suite of alternative placement sites for future in event project fails to attain goals or impacts adjacent habitats of concern. Provided criteria for structured decision-making framework.

Date	Agency/Organization	Summary
March 7, 2022	MDE/ Tammy Roberson	Letter from USACE requesting WQC within two months. Provided summary information on mitigation measures and considerations, as well as results of sediment testing.
March 24, 2022	MDE/ Danielle Spendiff	Letter to USACE. Request for WQC does not constitute a complete request. Provided list of additional documentation/information needed.
April 12, 2022	MDE/ Danielle Spendiff	Letter to MDE. Provided additional project information. Requested WQC within 2 months of letter.
May 13, 2022	MDE/ Mary Phipps Dickerson	Letter to USACE. USACE required to request WQC in accordance with CWA. Project requires Wicomico County to apply for a wetland license from MD DNR, and formal agreement with MD DNR to use site for placement of dredged material. Current WQC request is missing information. MDE requesting an extension to process WQC request to Oct 9, 2022 to obtain this information. Letter provided list of information needed.
May 26, 2022	MDE/ Mary Phipps Dickerson	Letter to MDE. USACE can't support an extension of the request for WQC beyond July 29, 2022 (previously discussed date was July 13, 2022). Extension would pose unacceptable risk to safe navigation on the Wicomico River because TOY restrictions limit dredging to between October and February. Substantial work remains to be completed to accomplish this, and project award must be made no later than Aug 31, 2022. USACE has made efforts for 2.5 years to incorporate input from numerous federal, state, local, and other partners.
July 27, 2022	MDE/ Tammy Roberson	Letter to USACE with provisional WQC attached. Letter notes that a Wetlands License are required for dredged material placement and Route 363 conduit placement. Applications are currently under review, and a report for each will be forwarded to MD Board of Public Works for review.
Aug 19, 2022	MDE/ Tammy Roberson	Letter to USACE with revised WQC attached. Wicomico County now listed as co-certificate holder, and special conditions modified.

February 23, 2021

Ms. Danielle Szimanski
U.S. Army Corps of Engineers, Baltimore District
2 Hopkins Plaza
Baltimore, MD 21201

STATE CLEARINGHOUSE REVIEW PROCESS

State Application Identifier: **MD20210223-0131**
Reply Due Date: 03/30/2021
Project Description: Coordination for Maintenance Dredging of the Federal Navigation Channel in Wicomico River
Project Location: Dorchester, Somerset and Wicomico Counties
Clearinghouse Contact: Rita Pritchett

Dear Ms. Szimanski:

Thank you for submitting your project for intergovernmental review. Your participation in the Maryland Intergovernmental Review and Coordination (MIRC) process helps to ensure that your project will be consistent with the plans, programs, and objectives of State agencies and local governments.

We have forwarded your project to the following agencies and/or jurisdictions for their review and comments: the Maryland Departments of the Environment, Transportation, and Natural Resources; Dorchester, Somerset, and Wicomico Counties; and the Maryland Department of Planning including the Maryland Historical Trust. A composite review and recommendation letter will be sent to you by the reply due date. Your project has been assigned a unique State Application Identifier that you should use on all documents and correspondence.

Please be assured that we will expeditiously process your project. The issues resolved through the MIRC process enhance the opportunities for project funding and minimize delays during project implementation.

If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at rita.pritchett@maryland.gov. Thank you for your cooperation with the MIRC process.

Sincerely,

Myra Barnes, Lead Clearinghouse Coordinator

MB:RP

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

February 25, 2021

Attn: Danielle Szimanski
William P. Seib
Chief, Operations Division
U.S. Army Corps of Engineers
2 Hopkins Plaza
Baltimore, MD 21203-1715

RE: Maintenance Dredging, Wicomico River, Wicomico County, Maryland Public Notice CENAB-OP-N-21-01

Dear Mr. Seib:

This project is being evaluated by the U.S. Army Corps of Engineers (Corps) for a permit pursuant to Section 313 and 404 of the Clean Water Act (33 U.S.C. 1323 and1344) to discharge fill material and to conduct dredging and disposal activities within, and adjacent to, navigable waters of the United States. The U. S. Fish and Wildlife Service (Service) offers the following comments pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq*.), National Environmental Policy Act (83 Stat. 852, 42 U.S.C. 4321 *et seq*.), and Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C., 1531 *et seq*.) for your consideration.

Project Description
The Corps is proposing to hydraulically dredge 130,000 cubic feet of material from the lower Wicomico River channel located in Wicomico County, Maryland in the fall of 2021 and winter of 2022. The final dredged channel is expected to meet its authorized depth of 14 feet mean lower low water (MLLW), and a width of 75 feet. The dredged material will be beneficially used to restore wetlands at the Deal Island Wildlife Management Area (WMA) in Somerset County, Maryland. Dredge material will be transported via pipeline from the lower Wicomico River to the WMA. Material will be paced to an elevation of 1.5 feet MLLW above existing grade to restore saltmarsh sparrow (*Ammodramus caudacutus*) and black rail (*Laterallus jamaicensis*) nesting habitat. The restored wetland will also provide critical protection to the impoundment infrastructure in the WMA. The pipeline will be moved throughout the restoration area to ensure proper elevation is reached during placement.

Material will be contained with straw bales and tidal plugs. Material will be planted during two growing seasons to ensure stabilization and habitat creation. Aerial planting and hand planting

will occur the first season using barnyardgrass (*Echinochloa crus-galli*) and smooth cordgrass (*Spartina alterniflora*). The barnyardgrass is intended to be sacrificial and assist in dewatering the dredge material while providing some stability. The smooth cordgrass will be hand-planted near the hay bales to stabilize the dredge along the leading edge. Hand planting of saltmeadow cordgrass (*Spartina patens*) and saltgrass (*Distichlis spicata*) will occur in the second year to establish high marsh habitat.

Dredge Placement History

The lower Wicomico River is dredged every 2 to 3 years on average. This has created a need to find an adequate long-term disposal site for this material. Discussion about upland disposal sites have been ongoing for years, and an appropriate upland site has not been found. In the last dredging cycle, the material was placed, as beneficial reuse, on Ellis Bay shoreline in an effort to stabilize some of the eroding shoreline. Unfortunately, the material was too fine and did not stay in place. The general conclusion from this effort was that beach stabilization is not a viable option for this material in the future (USFWS 2019).

In an effort to solve this problem, the Service along with the Corps' Baltimore District, National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Maryland Department of the Environment (MDE), Maryland Department of Natural Resources (MDDNR), Wicomico County Government, Somerset County Government, National Audubon Society (Audubon), and the Chesapeake Bay Foundation (CBF) formed a partnership to find an appropriate beneficial use placement site for dredge material from the lower Wicomico River.

The partnership has made several trips to the marshes around the lower Wicomico River looking for an appropriate placement site that would have sufficient capacity to support several dredge cycles and sediment would stay in place until grasses could establish and be clearly identified as beneficial habitat. Ultimately, the marsh to the south of the WMA Impoundment (Figure 1) was identified as the most appropriate site to place dredge material for the following reasons: this marsh is degrading at a higher rate than other marshes in the Wicomico River watershed and has lost most of its high marsh function; this marsh provides a crucial infrastructure buffer from storms and floods for the berm around the WMA Impoundment; and the marsh area is several hundred acres in size and has the capacity to hold dredge material for several dredge cycles.

In the initial dredge cycle, the Corps is proposing to create containment and fill the 12-acre parcel and the 63-acre parcel immediately to the south of the existing impoundment berm (Figure 1). Dredge material will be placed in these parcels at a depth of approximately 1.5 feet (46 cm) above MLLW. After dewatering and consolidation/compression, the dredge material is expected to raise the marsh by 1.2 feet (36 cm) MLLW. This elevation is within the bounds of high marsh, When planted, much of the high marsh function of this marsh is anticipated to be restored.

Supporting Comments

Chesapeake Bay marshes and islands are rapidly disappearing due to sea level rise (Raposa et al. 2020). The Service supports using dredge material to reverse this process and restore marshes that are succumbing to sea level rise. The marshes of Wicomico and Somerset Counties are some of the most biologically rich and pristine tidal marshes in the Maryland portion of the Chesapeake Bay. These marshes provide high quality habitat for many species including the

black rail and saltmarsh sparrow. The black rail was recently listed as threatened under the Endangered Species Act (USFW, 2020). Saltmarsh sparrow is proposed for listing and is considered one of the most at-risk species in the Northeast and Mid-Atlantic (USFWS 2021). The marshes of Wicomico and Somerset Counties are among the last remaining strong hold habitats for these species. Restoration of degraded marshes is part of the long-term strategy to recover both of these species.

Tidal marshes of the Wicomico River are threatened by multiple stressors including sea level rise; subsidence; manipulation of the marshes for waterfowl hunting and mosquito ditching; and invasion by Phragmites (*Phragmites australis*) (Raposa et al. 2020). Downstream seaward edge marshes, like the marshes south of the WMA Impoundment, tend to be the most vulnerable marshes to sea level rise and other stressors (Stevenson et al. 2002.). This was confirmed by a number of partner site visits where we observed little or no high marsh left, fragmentation, and conversion of low marsh to open water. Because the marsh south of the WMA Impoundment is disappearing so quickly, it is an ideal candidate for placement of dredge material.

In addition, this marsh has an important infrastructure role in protecting the berm surrounding the WMA Impoundment. The impoundment is a 2,800-acre area that provides recreational boating, hunting, birdwatching, and fishing opportunities (MDDNR 2021). If the marsh to the south of the impoundment disappears, it is unlikely that the impoundment would remain intact. Loss of the impoundment would result in a loss of recreational and economic benefits. Restoring the marsh is critical to maintaining the impoundment.

The marsh to the south of WMA Impoundment, although fragmented, is large. The approximately 600 acres of marsh should be adequate to support the next five to eight dredge cycles. If the Corps is dredging the lower Wicomico River every 3 years on average, this marsh has the ability to provide dredge capacity for the next 15 to 24 years. As dredge disposal site selection has been an extremely difficult process, having a long-term disposal site identified will ensure that future dredging cycles are not disrupted as we look for future placement sites.

Figure 1. Proposed long-term placement site for Wicomico River dredge materials. Blue parcels are critical to maintaining Deal Island Wildlife Management Area Impoundment infrastructure.

Service Recommendations

In a letter from to the Corps (USFWS 2019), the Service provided a series of recommendations we believe are essential to the success of this project. These recommendations included choosing an appropriate area and identifying the appropriate width and depth of the thin spread dredge material. We included a description of the steps the Corps will take to ensure the material stays on site and does not overfill the marsh. The Service also recommended that the Corps identify a way to keep the site from being dominated by invasive species including Phragmites. The Service has been working closely with the Corps and the other partners on these issues. Many of the design recommendations are based on best available science coupled with best professional judgement. However, basing designs on this process leaves us with inherent uncertainty. Because of this uncertainty, it is critical that we identify an adaptive management monitoring plan that enables the partnership to alter the design, if necessary, after each fill cycle.

The public notice addresses most of the concerns outlined in the Service's 2019 letter. However, the public notice does not specifically address how invasive species will be controlled. Disturbing the marsh tends to promote the establishment and spread of phragmites. The marshes around the WMA Impoundment are generally free from phragmites. However, wherever there is evidence of disturbance in the marsh, phragmites has taken over. Without control it is very likely that restoration will be displaced by invasive species. The Corps should address how invasive species will be controlled.

Ultimately, the success of this project will depend on the attention to detail given to the design from the dredge contractor. It remains crucial that the Corps identify and retain a highly qualified contractor with extensive experience in marsh restoration and thin spread of dredge material.

Summary

The Service understands that dredging of the Wicomico River is necessary to sustain commerce and does not have any objection to the maintenance dredging being proposed. The Service supports beneficial reuse of dredge material to restore marshes which may provide habitat for listed and proposed threatened and endangered species and recreational infrastructure in the WMA. The Service understands that in developing this beneficial reuse plan there will be tradeoffs, including short-term and long-term impacts.

The Service is committed to actively working with the Corps and the other partners to ensure success in restoring marsh with this project. If you have any further questions or concerns, please contact Chris Guy, of my staff, at 410/573-4529 or chris_guy@fws.gov.

Sincerely,

Genevieve LaRouche
Field Supervisor

cc: Karen Green, National Marine Fisheries Service
Johnathan, Watson, National Marine Fisheries Service
Roland Limpert, Maryland Department of Natural Resources
John Moulis, Maryland Department of Natural Resources
Jonathan Stewart, Maryland Department of the Environment
Mary Phipps-Dickerson, Maryland Department of the Environment
Paul Whitfield, National Oceanic and Atmospheric Administration
Chris Clasing, Wicomico County
Antonio Fascilli, Wicomico County
Woody Barnes, Somerset County
John Reddin, Somerset County
Dave Curson, National Audubon Society
Doug Myer, Chesapeake Bay Foundation

References

MDDNR, 2021. https://dnr.maryland.gov/wildlife/Pages/publiclands/eastern/dealisland.aspx

Raposa, K., K. Wasson, j. Nelson, M. Fountain, West, C. Endris and A. Woolfolk. 2020. Guidance for thin-layer sediment as a strategy to enhance tidal marsh resilience to sea level rise.

Published in collaboration with the National Estuarine Research Reserve System Science Collaborative.

Stevenson, J., M. Kearney, E.W. Koch. 2002. Impacts of sea level rise on tidal wetlands and shallow water habitats: A case study from Chesapeake Bay. 2002 American Fisheries Society Symposium.

USFWS. 2019. Letter from Genevieve LaRouche to Patrick Finnely, Re: Lower Wicomico River Dredge Placement Sites. September 17, 2019.

USFWS. 2020. Regulations.gov docket # FWS-R4-ES-2018-0057. Endangered and Threatened Wildlife and Plants; Threatened Species Status for Eastern Black Rail with a Section 4(d) Rule. Regulations.gov docket # FWS-R4-ES-2018-0057. October 08, 2020.

USFWS. 2021. Conserving Species at Risk in the North Atlantic-Appalachian Region https://doimspp.sharepoint.com/sites/fws-FF05D00000-at-risk-species-communication/SitePages/Saltmarsh-Sparrow.aspx

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Jeannie Haddaway-Riccio, Secretary

16 March 2021 21-MIS-113

Ms. William Seib, Chief
Operations Division
U.S. Army Corps of Engineers, Baltimore District
P.O. Box 1715
Baltimore, MD 21203-1715

Attn: Danielle Szimanski

Subject: Federal Navigation Channel Maintenance Dredging – Lower Wicomico River, Wicomico River, Nanticoke River Area; Wicomico County

Dear Mr. Seib:

The above referenced project has been reviewed by the Department of Natural Resources for associated ecological impacts. The Corps proposes to hydraulically maintenance dredge the southern end of the Federal navigation channel in the lower Wicomico River to the authorized width of 150 feet and to the authorized depth of 14 feet, plus one foot of allowable over-depth. Approximately 130,000 cubic yards of material consisting of mud, sands, silts, and shell will be dredged and are proposed to be beneficially used to restore tidal wetlands on the Deal Island Wildlife Management Area in Somerset County. The Deal Island Wildlife Management Area (WMA) is owned by the State of Maryland and managed by the Maryland Department of Natural Resources for the benefit of the general public. Dredged material will be conveyed from the dredging location in the navigation channel to the disposal site via a pipeline that will pass beneath MD Route 363 and then along the impoundment dike road on the WMA to the placement site on deteriorating tidal marsh located between the impoundment dike and the open waters of the Manokin River.

The wetland restoration is to be accomplished by hydraulically placing dredged material to an elevation of 1.5 feet mean lower low water above the existing grade to restore the degrading tidal wetlands and provide nesting habitat for the Saltmarsh Sparrow (*Ammospiza caudacuta*) and the Federal and State listed Black Rail (*Laterallus jamaicensis jamaicensis*). The dredged material will be contained behind a series of tidal ditch plugs and a sill structure of stacked and staked straw bales on the south side of the disposal area and will use the impoundment dike as the containment structure on the north side. The placed dredge material will be planted over two growing seasons. In the first growing season post-placement the placement area will be aerially seeded with salt tolerant barnyard grass with some limited hand planting of *Spartina alterniflora*. Some *S. alterniflora* seed may also be included in the first growing season aerial seeding. Hand planting of *Spartina patens* and *Distichlis spicata* for high marsh establishment will occur in the second growing season post-placement.

To ensure that impacts to resources of concern to the Department are first avoided, and then minimized to the maximum extent possible, the Department requests that the following concerns and recommendations be fully incorporated into the review and planning of the proposed activities:

Wicomico River Channel Dredging

1. The plans provided for our review indicate that approximately 5,400 feet of channel at the southern end of the Federal channel to be dredged would be located within a designated Natural Oyster Bar (NOB 29-1). NOB 29-1 has also been designated as a Public Shellfish Fishing Area and a portion of the NOB at the

proposed southern terminus of the dredging has been designated as a Harvest Reserve Area. The area within the boundaries of these NOBs is specifically established, reserved, and protected from activities and impacts considered detrimental to oyster populations or destruction of the bottom. Oysters spawn and subsequently set their spat during the period June through September in estuarine sections of rivers and the Bay. During this period, dredge units can entrain and destroy oyster eggs and larvae. In addition, sediments resuspended by dredging activities may affect oysters. Potentially, larval oysters could be starved by ingesting sediment particles which are the same size as prey organisms. Larval oysters could also delay metamorphosis to spat because the substrate is covered with loose sediments and is therefore unsuitable. Oysters also become inactive during the colder months of the year and are more liable to burial (inability to clear themselves of deposited sediment) during this period of reduced activity.

2. Seventeen shellfish aquaculture sites (WI607, WI697, WI715, WI716, WI718, WI719, WI720, WI721, WI723, SO512, SO785, SO788, SO789, SO797, SO799, SO805 and SO807) are located within 500 yards of the proposed dredging. Shell plantings and or oyster resources on these leased areas could be impacted by turbidity caused by the proposed dredging and/or conveyance of dredged material by pipeline. In addition to these lease areas there are other lease sites that while more than 500 yards from the channel could be crossed by the dredge pipeline. A map showing the locations of the leases in the Wicomico River is attached and can also be found on the Maryland Aquaculture Siting Tool (http://gisapps.dnr.state.md.us/Aquaculture/index.html). The leaseholders for the aquaculture operations in the Wicomico River must to be contacted regarding the proposed project. Contact information for all aquaculture leaseholders in the Wicomico River can be obtained from Ms. Rebecca Thur in the Department's Aquaculture Division. She may be reached by email at rebecca.thur@maryland.gov or(410) 260-8252.

3. Surveys by biologists from the Department's Fishing and Boating Services have identified the Wicomico River as a spawning area for anadromous fish including herring (*Alosa* sp.), hickory shad (*A. mediocris*), striped bass (*Morone saxatilis*), white perch (*M. americana*) and yellow perch (*Perca flavescens*).

4. The proposed channel dredging and the proposed placement site are located within areas that has been designated as Historic Waterfowl Concentration Areas under the State's Critical Area law.

5. The dredge pipeline and any booster pump(s) in the Wicomico River must be adequately marked to prevent boaters using the river from striking the pipeline.

6. To minimize potential impacts to spawning anadromous fish, oyster, waterfowl and submerged aquatic vegetation no dredging or placement of dredged material should be conducted during the periods 15 February through 15 October of any year. In addition to this restricted period, the portion of the channel within NOB 29-1 should not be dredged during the period 16 December through 14 March to minimize impacts to oyster resources on the designated Natural Oyster Bar.

Deal Island Wildlife Management Area Placement Site

1. The proposed pipeline delivery corridor upon exiting the Wicomico River and the intended placement site(s) for marsh elevation enhancement/marsh restoration activities are located on State-owned property managed by the Department as part of the Deal Island Wildlife Management Area (WMA). The local sponsor for the project, Wicomico County, is proposing to place a culvert under Maryland Route 363 as a permanent conduit to carry the dredge pipeline to the placement area in anticipation of being able to use the WMA for multiple dredging cycles of the lower Wicomico River Federal channel. The local sponsor would bury a capped conduit pipe five feet below the tidal marsh substrate and the road and excavate the ends of the pipe to provide pipeline access for each subsequent dredging cycle and restore the marsh after each use. In addition to any State and Federal permit approvals to install the culvert, the placement of this

culvert on the WMA will require the local sponsor to obtain approval from the Department. The local sponsor has submitted an application for the proposed work to the Department which is currently under review for approval and to determine the type of approval that may be required, including possibly the granting of an easement from the State of Maryland. If an easement is required, an additional review by other State agencies through the State Clearinghouse, and approval by the Board of Public Works, are required before the easement can be granted.

2. The use of the WMA as a placement site for the dredge material will also require approval by the Department. Once detailed design drawings are available (existing conditions/elevations, proposed structural components, targeted final conditions, typical planting strategies, etc.) the Corps and the local sponsor Wicomico County must contact Mr. Tim Larney in the Department's Wildlife and Heritage Service regarding the process to obtain the required Departmental approvals and conditions to place dredge materials for beneficial use on the WMA. The Deal Island WMA is an important public facility which provides opportunities for nature-based recreational activities, educational programs, and environmental research. If the proposed activities are permitted to occur, it is anticipated that an official agreement will be drafted to address concerns related to the temporary use of parts of the WMA by the Corps and Wicomico County for the stated purposes. These concerns may include, but are not limited to, the continuance of recreational access during construction/placement activities, the protection, maintenance and repair of any affected existing facilities and infrastructure (roads, berms, parking areas, ramps, gates, bridges, etc.), and the multi-year control of *Phragmites* in the placement area. *Phragmites* is known to invade and dominate similarly disturbed areas if control measures are not in place. These and other aspects of the project's use of the WMA will be reviewed through the Department's internal project review process that will be conducted by Mr. Larney once the required materials have been provided to him by the Corps and Wicomico County. Mr. Larney can be reached at tim.larney@maryland.gov or (410) 260-8567.

3. The Corps should document the health status of any marsh targeted for thin-layer disposal. Thin-layer disposal should not be conducted on a healthy marsh to avoid potential negative impacts to the existing marsh. In addition, care must be taken during the application of dredged material to the marsh to avoid creating conditions that would favor the invasion of the placement area by *Phragmites*. Any placement of dredged material for either marsh restoration or thin-layer disposal will need to have a long-term monitoring and maintenance plan to address any invasion of the placement areas by *Phragmites* and to determine that the marsh restoration and thin-layer disposal sites are performing as intended.

4. Impacts to vegetation in the Critical Area and the Critical Area minimum 100-foot Buffer from the dredge pipeline and placement activities appear likely to be temporary in nature. Actual impacts will be reviewed by the Critical Area Commission as part of the Department's internal review of the project's final design plans as per the Memorandum of Understanding between the Department and the Critical Area Commission for State agency actions resulting in development on State-owned lands in the Critical Area.

5. The Manokin River was selected in September 2018 as the fifth large-scale tributary for oyster restoration in Maryland waters. Restoration work is scheduled to begin in the summer of 2021 and restoration activity will occur in the deeper waters of the Manokin River approximately 4,000 meters from the placement area. The VIMS submerged aquatic vegetation surveys have documented the presence of persistent submerged aquatic vegetation beds in the shallow waters adjacent to the tidal marsh at the placement site. Although the proposed placement of the dredged material will likely not have a direct impact on the submerged aquatic vegetation or the oyster restoration project sites, sediment that escapes from the placement site through inadequate or defective containment structures into the Manokin River could negatively impact the adjacent submerged aquatic vegetation beds and potentially the oyster restoration sites further out in the river. Adequate containment and dewatering of the dredge material

within the placement area that prevents the release of suspended sediments from the site will be imperative to the success of the project.

6. The Department supports the beneficial use of dredge material for marsh restoration and/or enhancement. The placement of dredged material to restore tidal marsh on the WMA is a potentially useful disposal option for the lower Wicomico River Federal channel dredging where disposal options for the dredged material are very limited. The success or failure of the proposed placement will dictate the potential for the future use of the site as a placement area. For that reason the Department recommends that the Corps engage a dredging operator that is familiar with thin-layer placement of dredge material for tidal marsh restoration and/or enhancement. The Department also recommends that Corps engineer onsite have experience in the thin-layer placement of dredge material for marsh restoration. If that expertise is not available in-house, the Corps or the local sponsor should employ a consultant with that experience to provide the best possible outcome and chance of success for the project.

7. It is understood that many aspects of the proposed beneficial use of dredged materials are experimental, and the relative success of the proposed project will probably not be known for some time after initial placement. It is imperative that the Corps and Wicomico County remain engaged in the process of evaluating any approved placement activities over time, adapting management prescriptions, and assisting with the addressing of any unintentional outcomes. The overall success of the proposed project, and the viability of any future projects, will be in part related to maintaining a cooperative working relationship between the Federal, State, local sponsor (Wicomico County), and NGO project partners.

Should you require additional information regarding these comments, please feel free to contact Roland Limpert of my staff at roland.limpert@maryland.gov.

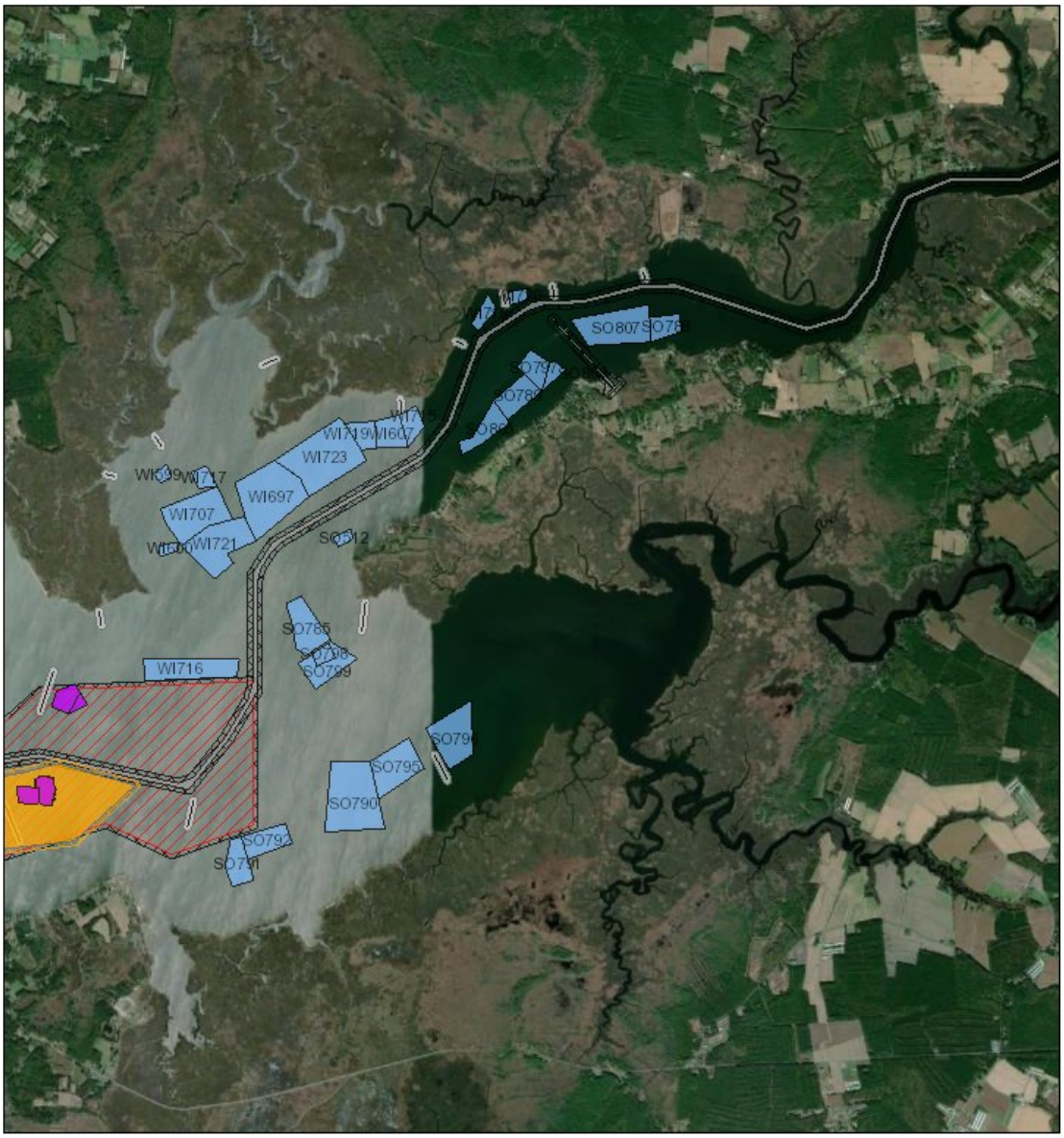
Sincerely,

Tony Redman, Director
Environmental Review Program

cc: Bruce Michael, DNR-RAS
Paul Peditto, DNR-WHS
Rebecca Thur, DNR-FABS
Chris Judy, DNR-FABS
Tim Larney, DNR-WHS
John Moulis, DNR-WHS
Heather Nelson, MDE-Wetland and Waterways

enclosure: Wicomico River aquaculture map

Aquaculture Siting Tool



March 12, 2021

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0 1 2 4 km

- Restoration Sites 2009 - 2018
- Restoration Sites 2009 - 2018
- Harvest Reserves
- Harvest Reserves 150ft Buffer

Federal navigational channel, with required 150 foot buffer

- BUFFER
- CHANNEL

- SAV 2019
- SAV 2018
- SAV 2017
- SAV 2016
- SAV 2015
- Active Oyster Lease
- Pound Net Line

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
MD IMAP, MDE
MD DNR Fisheries
MDNR

Deal Island Peninsula Partnership
Coordination Committee

March 17, 2021

Mr. William Seib
Chief of Operations Division
US Army Corps of Engineers
Baltimore District
2 Hopkins Plaza,
Baltimore, Maryland 21201

Dear Mr. Seib,

We are members of the Deal Island Peninsula Partnership's (DIPP) Coordination Committee, and are writing to you on behalf of the DIPP to request a public hearing about the proposed Wicomico River maintenance dredging and beneficial dredge-reuse project to be carried out in the Deal Island Wildlife Management Area (PUBLIC NOTICE CENAB-OP-N-21-01).

DIPP is a collaboration of local residents, watermen, faith leaders, governmental and nongovernmental practitioners, researchers, and non-governmental organizations whose mission is to enhance the social and ecological resilience of the Deal Island Peninsula. We carry out our work through collaborative initiatives that promote knowledge-sharing and facilitate decision-making to support the health and wellbeing of both the Deal Island Peninsula marshes and communities as they confront coastal changes, particularly those relating to climate change.

We are encouraged about the potential of the USACE's proposed dredge re-use project on the Deal Island Peninsula. However, through outreach to our local partners, we have learned that many community members involved in DIPP are unaware of this project and have questions about its potential impact, outputs, and contributions to the Peninsula's resilience -- particularly those aspects important to the local communities. We are requesting this public hearing to create an opportunity for the USACE to engage in dialogue with those who live and work around the proposed placement site, and who would benefit from a better understanding of the project's details and USACE's goals and expectations. We also think it is important to provide local community partners the chance to express any concerns and have those concerns considered for the project's implementation phase as well as for potential future dredge placement projects on the Deal Island Peninsula.

We believe that this public meeting and a willingness on the part of USACE to communicate with DIPP throughout the project's implementation will greatly benefit its success. Our experience through DIPP has proven time and again the value of investing in open dialogue and collaborative engagements. It not only presents the opportunity to address misunderstandings

and build rapport, but it also presents the opportunity to garner new insights that could lead to a project, such as this one, having a greater impact and more sustained support.

As you consider this request, we also ask that you consider hosting this public meeting in the evening or on a weekend day to allow for local residents to attend, as many will not be able to participate in a public hearing hosted during normal business hours. We also request that USACE inform DIPP in advance of when this meeting is likely to be scheduled so that we may advertise the event within the local communities.

Thank you for your consideration.

Sincerely,

The Deal Island Peninsula Partnership's Coordination Committee

- Elizabeth Van Dolah, DIPP Coordinator/University of Maryland (vandolah@terpmail.umd.edu)
- Astrid Caldas, Union of Concerned Scientists
- Jen Dindinger, Sea Grant Extensions
- Sasha Land, Maryland Department of Natural Resources
- Brian Needelman, University of Maryland
- Michael Paolisso, Local Resident/ University of Maryland
- Jenn Raulin, Maryland Department of Natural Resources
- Andrew Webster, Local Resident

- *Recused:* Mary Phipps-Dickerson, Maryland Department of the Environment; Adam Gibson, Somerset County Government; Gary Pusey, Somerset County Government

Copy:
David Curson, The Audubon Society Mid-Atlantic Chapter
Chris Guy, US Fish and Wildlife Service
John Moulis, Maryland Department of Natural Resources Wildlife and Heritage Service
Chris Snow, Chesapeake Bay National Estuarine Research Reserve - Maryland
Danielle Szimanski, US Army Corps of Engineers
Paula Whitfield, NOAA

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

March 18, 2021

William P. Seib, Chief
Operations Division
Baltimore District
U.S. Army Corps of Engineers
2 Hopkins Plaza
Baltimore, MD 21203-1715

Re: CENAB-OP-N-21-01, Maintenance Dredging, Wicomico River, Wicomico County, Maryland

Dear Mr. Sieb:

We have reviewed the information provided in Public Notice (PN) CENAB-OP-N-21-01 dated February 19, 2021, concerning proposed maintenance dredging for the federal navigation channel on the Wicomico River, Wicomico County, Maryland and subsequent placement of dredged material adjacent to the existing tidal impoundment located in Deal Island Wildlife Management Area, Somerset County, Maryland. The Baltimore District (the District) proposes to perform maintenance dredging along approximately 37 miles of existing federal navigation channel to a depth of 14 feet MLLW, plus one foot of allowable overdepth, and a width of 75 feet. Additional dredging activities include:

- maintenance dredging of the federal navigation channel from the Chesapeake Bay to Salisbury to widths ranging from 100-150 feet,
- maintenance dredging of unspecified turning basis,
- maintenance dredging of a channel extending from the federal navigation channel to Webster Cove to a width of 60 feet and depth of 6 feet,
- maintenance dredging of an existing basin in Webster Cove to an unspecified depth, and
- the extension of the Webster Cove basin.

The District proposes to place approximately 130,000 cy of dredged sediment into two potential cells identified as follows: Area 1 at 12.04 acres, Area 2 at 60.50 acres. Two additional sites have been identified for potential placement in the event that material is dredged in excess of capacity at the aforementioned areas. They are: Area 3 at 69.30 acres and Area 4 at 26.97 acres. The total area over which sediments are currently proposed to be placed is approximately 72 acres, or the sum of Area 1 and Area 2. Based on the information provided, it appears much of the areas proposed for filling are currently at +2.3 feet MLLW and colonized by *Juncus roemerianus* and *Spartina alterniflora* with an unquantified area of unvegetated intertidal areas and tidally influenced creeks.

Dredged material will be placed at depths of approximately 18 inches in order to achieve a marsh platform elevation that would provide suitable nesting habitat for saltmarsh sparrow (*Ammodramus caudacutus*) following the establishment of targeted high marsh vegetation to include *S. patens* and *Distichlis spicata*. During placement, dredged material will be contained using square straw bales and tidal plugs of undescribed quantity and construction materials. This material will subsequently be planted with sacrificial cover via aerial application (year 1) and target vegetation (year 2) during two growing seasons to facilitate stabilization. Wicomico County, the local non-federal sponsor, will be responsible for implementation of the adaptive management plan and other cooperating agencies/organizations will complete various monitoring activities associated with the placement of dredged material.

The U.S. Army Corps of Engineers is the lead federal agency for this action and has facilitated two interagency meetings in which we have participated. The first meeting was held on January 7, 2020, to solicit preliminary comments. A second meeting was held on January 20, 2021, in which brief updates were provided and subsequent discussions were primarily focused on dredged material containment methods and conduit installation under MD-363 to accommodate a pipeline to convey material to the placement site. As indicated in the PN, an environmental assessment (EA) is currently being produced pursuant to the National Environmental Policy Act (NEPA).

The Fish and Wildlife Coordination Act (FWCA) and the Magnuson-Stevens Fishery Conservation and Management Act (MSA) require federal agencies to consult with one another on projects such as this that may affect essential fish habitat (EFH) and other aquatic resources. Because this project affects EFH, this process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments, lists the required contents of EFH assessments, and generally outlines each agency's obligations in this consultation procedure. Currently, we have not yet received a final EFH assessment for review, though a draft was shared with us on January 27, 2021. Because this draft EFH assessment did not contain a substantive description of the proposed action, it cannot be considered complete and consultation has not yet been initiated. We anticipate that a complete EFH assessment will be sent to us in concert with the NEPA documentation. Once we have received and reviewed the complete EFH assessment we will issue any FH conservation recommendations (CRs) required to fulfill our mandates under the MSA. We offer the following comments for your consideration and are willing to work with you to address our concerns prior to the issuance of EFH CRs.

Magnuson Stevens Fishery Conservation and Management Act (MSA)

Based upon the information provided, the placement of dredged material on the marshes of Deal Island Wildlife Management Area will have an adverse effect on EFH for a number of species by converting low marsh and tidal creeks to high marsh. While low marsh at the placement site has been described as "failing" in the PN and the associated placement has been deemed a "restoration" of high marsh habitat, we have been provided with no empirical evidence to validate these statements or to identify the primary source of this degradation. However, we recognize that many areas of low marsh along the Chesapeake Bay on the lower Delmarva peninsula are not maintaining elevation relative to sea-level (Beckett et al., 2016; Kirwan et al.,

2016) which historically has led to extensive upland conversion to tidal marsh (Schieder et al., 2018). The ongoing loss of salt marsh due to anticipated sea-level rise (SLR) threatens the ecological integrity of the system and can have far-reaching, negative environmental effects. This includes the loss of vegetated wetlands which can dampen wave energies during storm events and reduce impacts to human infrastructure. As a result, we can accept some level of habitat conversion to ensure the long-term integrity of marshes that are demonstrated to be experiencing stress, provided the adverse effects to EFH and federally managed species are minimized. As part of the materials provided in the EFH assessment, baseline information that demonstrates that the placement marsh is losing vegetation and its elevation is not keeping pace with SLR should be provided.

Emergent Tidal Wetlands

We are concerned that the target habitat for this placement project is solely high marsh. Colonization by different species of emergent tidal marsh vegetation is dictated primarily by the frequency and duration of tidal inundation (hydroperiod). The assemblages of other primary producers (e.g., microalgae) and the associated benthic, epibenthic, and macrofaunal communities also exist along this continuum (Visser et al., 2019). The extent to which the productivity of these vegetative communities contributes to overall estuarine productivity is mediated in large part by the frequency of tidal flooding. Low marsh provides many ecological functions including fish and wildlife habitat, primary productivity via plant/microalgae/fungal growth, nutrient transformation, sediment retention, and carbon sequestration. The primary production in these intertidal wetlands forms the base of the food web that supports invertebrates and forage fish that are then prey for larger fish such as bluefish (*Pomatomus saltatrix*). The low marshes, creeks, and open waters within the project area also provide habitat for a number of federally managed species and their prey. Tidal creeks are an especially important habitat for juvenile summer flounder (*Paralichthys dentatus*). They also serve as conduits for the delivery of sediment-laden waters to the marsh platform, which is one mechanism that can facilitate marsh platform accretion and long-term marsh persistence relative to sea level (Pratolongo et al., 2019).

We recognize that high marsh performs many important ecological functions, and in the landscape context, they increase the diversity of habitats within the project area and support many avian species. However, when compared to tidal creeks and low marsh, their value as habitat for fish and general contribution to nektonic productivity is low (Visser et al., 2019). Less frequent tidal inundation of the high marsh limits fish access, so the conversion from open water and low marsh to high marsh will result in the loss of habitat for fish. In order to ensure that the ecological tradeoff that will result from the placement of dredged material on the marsh does not result in a disproportionate loss of fish habitat and EFH, the target elevations should include low marsh and design should consider how tidal creeks will be incorporated.

Restoration projects in Maryland (e.g. Poplar Island) and other parts of the mid-Atlantic have used a ratio of 80% low marsh to 20% high marsh. We understand that the District desires to create high marsh and that there are benefits to a diversity of topographies within the marsh system. However, our mandates under the MSA require us to protect, conserve and enhance EFH. Habitat conversions should minimize the loss and degradation of EFH. As a result, we recommend that the cells be designed to create a mix of high and low marsh, rather than all high marsh. Furthermore, a more gradual topography extending from the channel to the dyke will help

to dissipate wave energies and minimize erosion potential. We welcome additional coordination with the District to determine the appropriate low marsh to high marsh ratio for this project.

Monitoring

As you are aware, we are concerned about negative effects of the placement of dredged material on marshes and the risk of failure these projects present. So far, we have not seen evidence that the placement of relatively thick (i.e., approximately 18 inches) layers of dredged material on fringing tidal marshes in the Chesapeake Bay estuary has been successful in restoring marsh habitat. Typically, dredged material is deposited on low marsh habitat in relatively thin layers to maintain low marsh elevations relative to SLR. This proposed approach warrants further scrutiny due to its relative novelty and associated risks. Due to the placement site proposed, this method also poses substantial risks to adjacent sensitive aquatic habitats (e.g., submerged aquatic vegetation). We recognize that several project partners (e.g., USFWS, Maryland-DC Audubon, Wicomico County) intend to make every effort to ensure the success of this project. However, post-construction monitoring is essential to determine if the project is successful in both the short and long-term. We are concerned that the District has not allocated adequate resources to facilitate adequate monitoring and adaptive management to ensure long-term project success.

From the discussions held thus far, it does not appear that post-construction monitoring is being planned in a manner that will allow for the evaluation of success of the dredged material placement in improving the marsh condition since project goals, performance measures and success criteria have not been clearly established. Currently, it is unclear what specific questions are to be answered with post-construction monitoring, how these answers might trigger adaptive management action thresholds, and how success will be measured. The District should develop a post-construction monitoring and maintenance plan that includes monitoring of site elevations and compaction of the material places on the marsh, the vegetative and benthic community recovery, and use of the site by aquatic and avian species. If successful saltmarsh sparrow nesting (i.e., juveniles surviving to fledging) is the primary goal of this project, then this should be thoroughly documented to determine the suitability of this approach. Other performance measures and success criteria should also be established and adaptive management triggers with potential corrective actions should be identified. For example, the resilience of proximal submerged aquatic vegetation beds should be monitored to determine whether mobilized dredge material reduced the density or spatial extent of this sensitive habitat; adaptive management criteria should be established to ensure it persists. Invasive species monitoring and control measures should also be included in the plan, as high marshes adjacent to disturbed areas (e.g., existing berm infrastructure) can be particularly susceptible to invasion by *Phragmites* and other undesirable species. A minimum of five years of monitoring should be required. While we understand that different aspects of this plan may have been discussed at previously held meetings, we have yet to see a unified framework where specific performance-related questions are posed. Once developed, this plan should be provided to us for review and comment prior to issuance of the final EA/Finding of No Significant Impact (FONSI) and ideally as part of the EFH consultation documents.

Finally, monitoring will be a critical component to validate the relative success of this approach if it is anticipated that dredged material resulting from future maintenance dredging from the Wicomico River federal navigation channel is to be systematically placed on other areas

colonized by low marsh vegetation. An annual report of the monitoring results should be provided to all project partners and site visits should be scheduled as requested.

Future Dredged Material Placement
As indicated in the February 25, 2021, letter issued by USFWS, this site has been identified as a potential site for dredged material placement during future Wicomico River Federal navigation channel maintenance dredging cycles. However, no formal evaluation of the current state of the receiving marsh has been presented for our review, despite our July 16, 2020, recommendation that this be completed. All tidal marshes are not equally affected by SLR (Kirwan and Megonigal, 2013; Kirwan et al., 2016), and quantitative methods have been developed to objectively evaluate which marsh units may experience resilience benefits from sediment additions (see: Ganju et al., 2017; Defne et al., 2020). During the January 7, 2020, meeting the District indicated that efforts have been made to identify a "permanent placement site" for Wicomico River maintenance dredging material since 2010. It appears the methods by which the site currently considered was chosen were wholly reliant on best professional judgment (BPJ) and consideration of operational constraints (e.g., delivery pipe length). While we appreciate the value of BPJ for local context, the designation of a placement site for a substantial quantity (i.e., approximately 100,000 cubic yards every 2-5 years) of dredged material should be based upon the needs of the receiving marshes, which should be formally evaluated along with suitable alternatives. Once an appropriate long-term placement site is identified, a unified monitoring and adaptive management framework should be developed to ensure that project goals are met throughout the life of the project. Without these fundamental considerations, we will find difficulty fulfilling our mandates under the MSA to protect EFH.

Initial Recommendations
Because we have not yet received a complete EFH assessment, including a description of the proposed action, we offer the following comments to help guide project development:

- Incorporate low marsh into cell designs. An 80% low marsh to 20% high marsh ratio is suggested, but a higher percentage of high marsh may be acceptable if it is demonstrated to be ecologically beneficial. However, a complete low marsh to high marsh conversion will have significant adverse effects to EFH and other aquatic resources under our purview.
- Submit project plans for our review that depict all aspects of existing and proposed site conditions. This should include proposed dredging, dredged material analysis, placement site contours (e.g., MHW, MLW), proposed containment structure alignment, profile details, and planting plans.
- Develop a monitoring and maintenance plan that includes performance measures, success criteria, adaptive management plans, and invasive species monitoring and control. This plan should be provided to us for review prior to the issuance of the final EA/FONSI, and ideally as part of the EFH consultation.
- Develop an alternatives analysis for suitable placement sites in the vicinity of the Wicomico River Federal navigation channel to allow for selection of the Least Environmentally Damaging Practicable Alternative (LEDPA) for future placement of dredged materials.

Endangered Species Act (ESA)

Endangered species under the jurisdiction of NOAA Fisheries may be present in the project area. The federal action agency is responsible for determining whether the proposed action may affect these species. If you determine that the proposed action may affect a listed species, your determination of effects along with justification and a request for concurrence should be submitted to the Section 7 Program email account at nmfs.gar.esa.section7@noaa.gov. Guidance and tools to assist you in your effects determination are available on our website at: https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-consultations-greater-atlantic-region. Please contact Brian Hopper of our Protected Resources Division (brian.d.hopper@noaa.gov) if you have any questions or to discuss your project and obligations under Section 7 of the Endangered Species Act (ESA).

Conclusion

We look forward to working with you and your staff as the project moves forward. If you have any questions regarding EFH in the project area, please contact Jonathan Watson in our Annapolis, MD field office (jonathan.watson@noaa.gov).

Sincerely,

GREENE.KAREN.M.1365830785 Digitally signed by GREENE.KAREN.M.1365830785 Date: 2021.03.18 11:33:55 -04'00'

Karen M. Greene
Mid-Atlantic Field Branch Chief
Habitat and Ecosystem Services Division

cc: D. Szimanski (USACE)
B. Hopper (NMFS - PRD)
P Whitfield, J. Davis (NOAA NCCOS)
C. Guy, B. Wilson (USFWS)
M. Fitzgerald (USEPA)
J. Stewart, M. Phipps-Dickerson (MDE)
R. Limpert, J. Moulis (MDNR)
C. Clasing (WDPW)
W. Barnes (SDPW)
D. Courson (MD-DC Audubon)
D. Meyers (CBF)

Literature Cited

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CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

March 18, 2021

District Engineer
US Army Corps of Engineers
Baltimore District
2 Hopkins Plaza
Baltimore, Maryland 21201

Maryland Department of the Environment
Standards and Certification
Montgomery Park Business Center
1800 Washington Boulevard, Suite 430
Baltimore, Maryland 21230.

SUBJECT: Maintenance Dredging, Wicomico River, Wicomico County, Maryland

PUBLIC NOTICE CENAB-OP-N-21-01

Thank you for the opportunity to provide comments on this proposed action. Chesapeake Bay Foundation has had interest in the Wicomico River maintenance dredging project and dredged material placement options for several years. We would like to express our appreciation for Corps and other agency staff to include CBF in deliberations regarding the potential beneficial use of dredged material from the project. CBF still believes the project could result in a net decrease in greenhouse gases through the quantification of "Blue Carbon", the sequestration over time of carbon dioxide through the absorption and storage of carbon in the soils of tidal marshes. So much so, that in an earlier phase of the project, CBF employed an intern to investigate the potential for greenhouse gas sequestration from the previous material placement site of this project located at Ellis Bay. Unfortunately, that project failed due to poor design and maintenance of the confinement structure resulting in a catastrophic breach of the containment area, burial of shallow benthic habitats and completely unrealized greenhouse gas benefits. Throughout the project, CBF also fielded complaints about the navigational hazard posed by the dredge pipes along the Wicomico river itself.

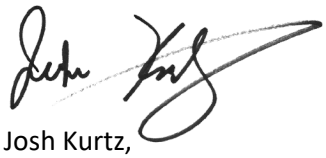
The public notice claims that beneficial use of the project supports Executive Order 13653 (Preparing the U.S. for the Impacts of Climate Change). The proposed new placement area at higher elevations and design incorporating some existing features of the landscape may prove more resistant to wave energy. However, CBF still has concerns that contractors may not provide sufficient monitoring of the containment structure and adaptively manage for changing weather and tide conditions until the material is sufficiently dewatered, stabilized and planted. The Corps should demonstrate through projected marsh conversion models such as Sea Level

Affecting Marshes and Mudflats (SLAMM)[1] or similar that the proposed placement project will significantly delay the loss of tidal marshes near the placement site. Also, methodologies exist to quantify the net greenhouse gas benefits of tidal marsh restoration and conservation projects[2]. Even a cursory estimate of the carbon sequestration benefit of this project should accompany documentation of the project so that future funding for beneficial use projects can utilize that benefit to justify federal funding.

Finally, the new placement site is directly adjacent to the Manokin River Targeted Tributary for large scale oyster reef restoration. This tributary will, once completed, be the largest oyster restoration project in the world. Our concerns about confinement of the dredged material cannot be overstated based on the significant state and federal investment about to take place here. For these reasons, CBF would like to request a public hearing to hear additional stakeholder concerns.

Again, we are pleased that this project has the potential to be a demonstration project for the beneficial use of dredged material with coastal resilience and Blue Carbon lessons learned for the nation. Taking this extra step of identifying and addressing concerns of the construction process through completion will be necessary to achieving that end.

Sincerely,



Josh Kurtz,
Maryland Executive Director
jkurtz@cbf.org

[1] http://warrenpinnacle.com/prof/SLAMM6/SLAMM_6.7_Technical_Documentation.pdf

[2] https://verra.org/wp-content/uploads/2018/03/VM0033-Tidal-Wetland-and-Seagrass-Restoration-v1.0.pdf

MDE: March 24, 2021

Spaur, Christopher C CIV USARMY CENAB (USA)

From: Szimanski, Danielle M CIV USARMY CENAB (USA)
Sent: Tuesday, April 6, 2021 2:21 PM
To: Spaur, Christopher C CIV USARMY CENAB (USA)
Subject: FW: [Non-DoD Source] Wicomico dredging OPN 21-01
Attachments: CENAB-OP-N-21-01 MDEComments.docx (1).pdf

Hi Chris,

I Can't remember if I sent this over or not the Wicomico EA.

I am dropping of the TWL documents to them this afternoon.

Thanks,
Danielle

From: Tammy Roberson -MDE- <tammy.roberson@maryland.gov>
Sent: Wednesday, March 24, 2021 4:32 PM
To: Szimanski, Danielle M CIV USARMY CENAB (USA) <Danielle.M.Szimanski@usace.army.mil>
Cc: Mary Phipps-Dickerson -MDE- <mary.phipps-dickerson@maryland.gov>
Subject: [Non-DoD Source] Wicomico dredging OPN 21-01

Hello Danielle - Attached is MDE's comment letter regarding the proposed work to dredge the Wicomico River channel. MDE is happy to discuss any of the comments if needed. Looking forward to continuing working with you on the project.

Tammy K. Roberson
Chief, Tidal Wetlands Division
Water and Science Administration
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230
tammy.roberson@maryland.gov
410-537-3522 (O)
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Website | Facebook | Twitter

Project Purpose

1. The PN contains two purposes (maintenance dredging and placement of dredged material). EPA recommends assessing each purpose independently to determine whether the combined project is the least environmentally damaging practicable alternative (LEDPA) that would meet each basic project purpose.
2. EPA recommends additional information be provided that demonstrates how the placement location requires enhancement and qualifies as a marsh restoration project, not a dredged disposal project. Information may include, but is not limited to, subsidence and elevation surveys, the use of aerial imagery, wildlife use, and vegetation surveys that demonstrates existing conditions and assesses degradation.
3. To better understand the project purpose, EPA also recommends including a summary of how 'wetland failure' was defined, including providing any functional and/or condition assessments that were conducted in an appendix.

Resource Characterization

4. Baseline information is important in not only assessing the impacted resources but also in guiding the standards for the proposed project mitigation. It is unclear if a baseline assessment on the quality and function of the aquatic resources proposed to be impacted has been completed. The design plan references sediment chemistry that was completed on the previously used upland disposal site. However, the Sediment Report was not made available for review, and it is unclear how it relates to the proposed project. Further, the material provided for review does not describe how the Inland Testing Manual was used to evaluate whether the dredged material is appropriate for BU at the WMA. EPA recommends clarifying this information to assist with the review of the project and to ensure the project is compliant with the 404(b)(1) Guidelines.
5. EPA also recommends baseline information be provided to aid in determining the function and condition of the wetland resources impacted. This information should include, but not limited to, hydrogeomorphic (HGM) classification, source(s) of hydrology, surface elevation tables (SETs), vegetative species diversity, ecological community groups(s), invasive cover, and disturbance history. EPA recommends additional information describing the sampling plan, analyses, and results of any planned or completed assessment of the dredged material be included in an appendix to evaluate the potential extent of environmental impacts from the proposal.
6. EPA also recommends identifying the reference sites used to inform the project design.

Avoidance and Minimization

7. The Guidelines state that an alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics, in light of the overall project purpose (230.3 (q)). The site selection analysis narrative does not include a detailed description of the offsite and onsite alternatives analysis (AA) or fully describe minimization opportunities to reduce unavoidable impacts to aquatic resources. This information, along with addressing the comments below, should be clarified and documented to make the alternatives analysis more transparent.
    a. EPA recommends the Corps provide a summary of upland disposal sites assessed, including a description of why they are not available for use as well as a description of how dredging and transport alternatives were determined to be impracticable.
    b. It is not clear how the AA considered the timing of placement activities and whether storage of dredged material would be needed to address seasonal restrictions. EPA requests the Corps include additional information detailing the expected timeline for

dredging and placement activities within the WMA, including the timeframe of proposed dredging and placement actions. Please also include a detailed description of seasonal limitations and any storage needs for dredged material prior to placement.

8. It is unclear if the existing 2,800-ac impoundment contributes to habitat degradation within the WMA and how the AA considered the impoundment. EPA recommends the material be updated to summarize how the AA assessed adverse effects on aquatic resources from the impoundment. Additionally, the material should address any alternative placement designs involving changes to the existing impoundment footprint that were considered.
9. The extent of impacts to waters resulting from the placement and route of the proposed pipeline are not clearly defined. EPA recommends the Corps summarize how the placement of pipe within the WMA was determined, including a discussion of alternative locations that were considered but not selected such as upland locations adjacent to the wetlands. Please include a description of how the pipe will be moved within the WMA, including potential pipe staging locations, figures depicting the preferred and alternative routes that were considered, as well as a comparison of impacts to waters for each route considered.
10. Per the evaluation document, approximately 0.8 ac of tidal marsh are expected to be temporarily impacted from pipeline placement and restored to pre-project conditions. Please include additional information detailing alternatives considered to minimize impacts to the tidal marsh and how conditions will be restored.
11. EPA recommends the Corps clarify if alternative staging is proposed such as cribbing pipes to avoid or minimize direct, secondary, and cumulative impacts in the marsh. Additionally, please provide information detailing the equipment (ex. marsh master, pontoon/floating excavator) needed to transport and place dredged material within the WMA to ensure impacts are minimized.

Secondary and Cumulative Impacts

12. The Guidelines direct that the project review should consider both the secondary and cumulative effects resulting from the project. The material provided for review does not fully describe the recurring impacts associated with placement of dredged material within the WMA over two decades or the proposed culvert under Route 363 (Deal Island Road). Filling wetlands is not only a direct impact but may lead to changes in ecosystem services potentially causing or contributing to significant degradation. EPA recommends the Corps thoroughly evaluate the project's potential to cause or contribute to significant degradation of the aquatic ecosystem and ensure that measures are undertaken to avoid and minimize the potential for secondary and cumulative impacts. EPA recommends examining potential water quality degradation, impacts to hydrology, habitat loss, and loss of biodiversity. The rationale used to support the conclusions of the assessment should be clearly documented and articulated.
13. Disposal sites for dredged material have extended beyond upland and ocean sites to include sites in need of restoration through thin layer placement (TLP) and BU. It is not clear how the results and monitoring data from previous TLP projects was used to inform the proposed design and to minimize the potential for significant degradation. EPA recommends providing this information to support the proposed design.
14. EPA recommends including a long-term placement plan for use of dredged material at the WMA, including information detailing how impacts to previously restored areas of the marsh will be minimized with future placement activities. Please also include the following items.

a. In a 2019 letter [1]to the Corps, the Fish and Wildlife Service (FWS) concluded they did not consider the use of dredged material at Ellis Bay to be an example of a successful beneficial reuse project. EPA requests the Corps address how the proposed design considered the six recommendations outlined in the 2019 FWS letter.
b. To better ensure a successful project, EPA recommends the Corps consider highly qualified contractors with extensive experience with shoreline and marsh restoration and thin layer placement of dredged material to complete the proposed activities.
c. EPA recommends the Corps clarify how elevation changes will be tracked over time.

15. Additionally, to ensure the project incorporates previous lessons learned to avoid the potential for significant degradation, EPA offers the following recommendations:
    a. Update the draft EA to include a summary of how best management practices (BMPs) and lessons learned informed the proposed design and monitoring plan and highlighting relevant TLP and BU projects such as Ellis Bay, Blackwater NWR, Prime Hook, and Poplar Island. Please highlight BMPs that are in place due to the recommendations or monitoring data that were developed from previous studies.
    b. Include a summary of BMPs that informed the design, monitoring, and adaptive management plans, including expected material movement, benthic recolonization timeline, changes to water quality through increased turbidity and suspended particulates, and reduced dissolved oxygen concentrations.
    c. Assess appropriate BMPs to avoid creating habitat that is too high, particularly elevations that may encourage the expansion of invasive species such as *Phragmites australis*.
    d. For methods taken from UMCES, include links to papers or other resources to support the methods included in the monitoring plan.

Monitoring and Compensatory Mitigation

16. Once it is determined that all appropriate and practicable steps to avoid and minimize adverse impacts have been taken, compensatory mitigation is then considered. EPA has concerns that the proposed project may not be consistent with 404(b)(1) Guidelines, specifically regarding the potential need for compensatory mitigation. To demonstrate that this project qualifies as a restoration project and to ensure the project is self-mitigating, EPA offers the following recommendations:
    a. The current proposal lacks a clear statement of the objectives and goals of the project, a detailed monitoring plan, and clear performance standards and success criteria. Specific, observable and measurable criteria should be included in the monitoring plan, so it is clear whether the project goals related to the chemical, physical, and biological functions of the tidal marsh have been met, or whether corrective actions are needed. Performance metrics can include but are not limited to: depth and extent of placement, characteristics of dredged material, changes in surface water elevation, vegetation metrics (such as stem count, density, diversity index), epifauna counts, changes in nekton use pre/post construction, and changes in bird use. EPA recommends the Corps provide additional details to better inform the goals and objectives of the BU project.

[1] U.S. Fish and Wildlife Service letter dated September 17, 2019 regarding *Lower Wicomico River dredging placement sites*. Recommendations include (1) use of rock sill to aid in holding sediment in place, (2) plantings to occur early in growing season, (3) TLP should be considered as an option and elevation should be strictly monitored, (4) use of round stakes to minimize chaffing, (5) monitoring is essential, and (6) use only highly qualified contractors with extensive appropriate experience.

b. EPA recommends monitoring the placement location to ensure that the habitat is restored to pre-construction conditions and that previous functions are successfully re-established. If it is found that the temporary impacts have lasting effects, then corrective actions should be implemented, or compensatory mitigation may be needed to offset those impacts. EPA recommends the monitoring plan include a table to help illustrate what will be monitored and when, as well as a map of monitoring locations.
c. Since elevation concerns have been documented in previous BU projects, it is not clear why pre-placement elevation data is not expected to be collected. EPA strongly recommends the Corps conduct pre-construction analyses to inform the placement plan.
d. To assist in the success of the project, EPA recommends the Corps review and incorporate appropriate guidance developed by the National Estuarine Research Reserves (NERRS)[2] addressing TLP of sediment in tidal marshes.
e. EPA recommends monitoring within WMA to continue (at minimum) 5-10 years after the BU activity. EPA recommends any requests to reduce the scope of monitoring or end monitoring early be supported by monitoring data that demonstrate attainment of performance metrics and show a trend toward restoration of lost functions/values from placement of dredged material.
f. EPA recommends that an adaptive management plan be developed to address what action would be taken if the site fails to meet the performance standards (i.e., target elevation). Corrective actions identified in the adaptive management plan should be specified for common problems at TLP sites.
g. While the monitoring plan directs Wicomico County to remove existing invasive species prior to placement of material within the WMA and to control species 3-5 years after placement, it is not clear how this will occur. EPA recommends providing additional details describing how the invasive species will be managed, reduced, and/or eradicated.
h. Per the draft EA, "NOAA, USFWS, Audubon Society, MDNR, Wicomico County are on board to conduct pre and post monitoring related to biomass/vegetation coverage/elevation (NOAA), invasive species (Phragmites) management (Wicomico County, USFWS), submerged aquatic vegetation (SAV) monitoring (NOAA and MDNR), and bird monitoring (Audubon Society, USFWS)." EPA recommends the monitoring plan be updated to reflect all agency agreements related to responsibilities associated with this placement plan.
i. EPA requests the Corps convene regular interagency meetings to review and discuss monitoring reports and adaptive management needs to ensure the proposed objectives and performance standards are being met.
j. Please explain how funding will be available to address adaptive management and remedial action needs within the WMA.

[2] https://www.nerra.org/01/wp-content/uploads/2020/02/TLP-Guidance-for-Thin-Layer-Placement-20200217-HRes.pdf and https://www.nerra.org/reserves/science-tools/tlp/

USEPA: April 1, 2021

Spaur, Christopher C CIV USARMY CENAB (USA)

From: Szimanski, Danielle M CIV USARMY CENAB (USA)
Sent: Monday, April 5, 2021 3:17 PM
To: Spaur, Christopher C CIV USARMY CENAB (USA)
Subject: FW: EPA comments for Wicomico Dredging, Deal Island Project (CENAB-OP-N-21-01)
Attachments: EPA comments for Wicomico Dredging, Deal Island (CENAB-OP-N-21-01).pdf

Hi Chris,

Attached is the response from EPA on the Wicomico project for the EA. We will be following up with them.

Thanks,
Danielle

From: Fitzgerald, Megan <fitzgerald.megan@epa.gov>
Sent: Thursday, April 1, 2021 4:19 PM
To: Szimanski, Danielle M CIV USARMY CENAB (USA) <Danielle.M.Szimanski@usace.army.mil>
Cc: Seib, William P CIV USARMY CENAB (USA) <William.Seib@usace.army.mil>; Swenson, Daniel P CIV USARMY CENAB (USA) <Daniel.P.Swenson@usace.army.mil>; Lapp, Jeffrey <lapp.jeffrey@epa.gov>; Mazzarella, Christine <Mazzarella.Christine@epa.gov>; Kubico, Stephanie <Kubico.Stephanie@epa.gov>
Subject: [Non-DoD Source] EPA comments for Wicomico Dredging, Deal Island Project (CENAB-OP-N-21-01)

Hi Danielle,
Thank you for the opportunity to review the Public Notice (PN) and supporting documentation for the proposed maintenance dredging within Wicomico River in Wicomico County, MD. The Corps proposes to beneficially reuse the dredged material at the Deal Island Wildlife Management Area (WMA), located in Somerset County. The proposed channel dredging will result in approximately 130,000 cubic yards of material largely made up of clay, mud, sand, silt, and shell. Per the PN, the dredged material will be transported via pipeline from Wicomico River to the WMA and placed to an elevation of 1.5 ft MLLW above existing grade to aid in the restoration of bird nesting habitat (for saltmarsh sparrow and black rail) as well as tidal marsh habitat; about 72 acres (ac) of wetlands will be restored.

EPA is supportive of beneficial use (BU) opportunities that demonstrate a need for habitat restoration and result in a net benefit to aquatic resources. EPA has an interest in ensuring that BU projects are adequately monitored to assess long term patterns. To ensure restoration of the WMA is successful, future BU placement should be informed by monitoring data (including pre-construction monitoring) that demonstrates previous placements have successfully attained the performance standards. It is EPA's understanding, previous discussions have occurred through planning, pre-application meetings, or other conversations between the Corps and other federal and state agencies regarding this project. However, EPA was not present for those discussions. EPA requests to be included in any future meetings or discussions regarding BU projects within the WMA.

EPA's review is intended to assure that the proposed project is consistent with the Clean Water Act (CWA) Section 404(b)(1) Guidelines (Guidelines) (40 C.F.R. Part 230), which provide the substantive environmental review criteria for CWA Section 404 project. Based on the information provided for review, EPA believes that additional information is necessary to assist the Corps in determining if the project, as proposed, complies with the Guidelines and offers the following comments on the proposal in the attached enclosure. Further,

considering the potential for long-term placement of dredged material at the WMA, and the failed containment of dredged material at Ellis Bay from a 2017 placement project, EPA recommends the Corps provide additional documentation detailing the decision to complete an EA for this project. EPA requests the Corps consider whether analyzing impacts at greater resolution then an EA would be appropriate to fully explore the impacts to the WMA from the proposed activity. Finally, EPA requests a meeting with the Corps in the next two weeks to discuss our comments.

Should you have any questions, please contact me.

Sincerely,
Megan

ENCLOSURE – Wicomico River Maintenance Dredging, Deal Island WMA

~~~~~~~~~~~~~~~~~~~~~~

Megan Fitzgerald
Wetlands Branch – Water Division
U.S. Environmental Protection Agency, Region 3
1650 Arch Street (3WD10)
Philadelphia, PA 19103
215-814-2721
Fitzgerald.Megan@epa.gov
(Pronouns she, her, hers)
~~~~~~~~~~~~~~~~~~~~~~

MDE Letter: File Date April 6, 2021

William P. Seib, Chief
Operations Division
Baltimore District
U.S. Army Corps of Engineers
2 Hopkins Plaza
Baltimore, MD 21203-1715

Re: CENAB-OP-N-21-01, Maintenance Dredging, Wicomico River, Wicomico County, Maryland

Dear Mr. Seib:

The Maryland Department of the Environment (MDE) has reviewed the information provided in Public Notice (PN) CENAB-OP-N-21-01 for proposed maintenance dredging of the federal navigation channel in the Wicomico River, Wicomico County, Maryland. Specifically the U.S. Army Corps of Engineers (ACOE) is proposing a project to dredge a 60-foot long by 6-foot deep channel from the federal navigation channel to Webster Cove and dredge and extend the Webster Cove basin. The dredged material is proposed to be hydraulically pumped to the Maryland Department of Natural Resources Deal Island Wildlife Management Area (WMA), Somerset County, Maryland. The dredged material is proposed to be placed at an elevation of 1.5 ft. above existing grade on existing vegetated tidal wetlands near a tidal impoundment. The elevation of fill is intended to restore the saltmarsh sparrow and the black rail nesting habitat and provide protection to the impoundment infrastructure of the WMA.

This project includes the dredging of a federal channel which will require a water quality certification as well as the placement of the pipeline which involves the installation of a conduit below Maryland Rt. 363; and finally the placement of the dredged material at the WMA site. The pipeline pathway and placement site require authorization through the state wetland license process and an individual water quality certification. MDE acknowledges the difficulty in identifying an upland site disposal or beneficial reuse of the dredge material for this federal navigational dredging project and has appreciated the early coordination on this project.

MDE has general concerns regarding the placement of 1.5 feet of dredged material on tidal marsh and transforming low marsh and open water areas to a high marsh. The proposed depth of 1.5 feet is thicker than other thin-layer placement projects that have been conducted . The existing marsh currently supports native marsh vegetation. Raising the elevation and disturbing the area may allow for colonization by Phragmites or other invasive species where it otherwise would not occur. Adequate monitoring and maintenance must be incorporated into this project, as well as, actions to remove Phragmites or other invasive species and restore the growth of native vegetation if necessary. Since other adjacent areas of marsh have been identified as potentially in need of restoration and will be proposed for future dredging cycles, the dredged material could be dispersed at a thinner elevation over more square footage incorporating these areas. Alternative depths of dredge disposal

fill should be evaluated at an elevation lower than 1.5 feet that would also be sufficient to provide restoration to the saltmarsh sparrow and the black rail nesting habitat and provide protection to the impoundment infrastructure of the WMA. Marsh restoration projects generally include areas of both low and high marsh and areas of low marsh should be included within this placement area. Continued use of the site for future dredging cycles should be based on the need for the marsh to be restored and success of the initial placement project, rather than the need to dispose of dredged material.

The public notice describes the project with general information. MDE is requesting more detailed information be provided for this project as listed below. Please provide information regarding:

1. The area and depths of the entrance channel and basin at Webster Cove.
2. The location, area and depths of other turning basins mentioned in the notice
3. Tide gauges or local information that supports the tidal range listed a 3 feet in the notice.
4. Evidence to support the proposed marsh area is in need of restoration.
5. Detailed plans (overview and cross sections) showing the existing conditions at the areas where the dredged material is proposed to be placed.
6. Detailed plans (overview and cross sections) showing the proposed conditions at the areas where the dredged material is proposed to be placed.
7. Location of the mean high and mean low water on all overviews and cross sections with elevations referenced to mlw = 0'.
8. The area where straw bales are proposed to be placed as well as how they will be secured.
9. A planting plan showing where and when the different marsh vegetation will be planted including square footage, planting methods and density/spacing. Please include more information about salt tolerant barnyard grass and examples of locations where this has been used.
10. The amount of wetland resources that will be transformed (for example-how many square feet of low marsh, or open water will be transformed into high marsh).
11. A plan sheet showing the pathway of the proposed pipeline and a list of property owners along the pathway.
12. Information about the type of material that will be dredged and placed at the site.
13. A Monitoring Plan signed by the responsible entity with a monitoring schedule, goals of the project, and actions to be taken if problems are encountered.
14. Typically marsh restoration using dredge material is designed to keep dredged material in place using containment dikes or similar controls to prevent movement of placed dredged materials. MDE typically regulates discharges through special conditions in the Tidal Wetlands License or Water Quality Certification to minimize turbidity, pH and associated metals excursions. Additionally, exterior community monitoring may be required to ensure that there are no adverse impacts to the exterior aquatic environment from the regulated discharge.

The public notice states the Army Corps of Engineers will apply for a Water Quality Certification from the State of Maryland and to provide comments relating to water quality concerns to MDE at 1800 Washington Boulevard, Suite 430, Baltimore, MD 21230. Please note a request for a Water Quality Certification has not been submitted to date. Once a Water Quality Certification is received

and determined to be complete MDE will place on public notice and take public comment and requests for a hearing on the project. For information and/or to provide project comments regarding Maryland Department of the Environment's Water Quality Certification, Mary Phipps-Dickerson should be contacted at 407 Race Street, Cambridge, MD 21613, by email at mary.phipps-dickerson@maryland.gov or telephone at (410) 901-4033. In addition, general information regarding the State's Water Quality Certificatin can be found at https://mde.maryland.gov/programs/Water/WetlandsandWaterways/Pages/WQC.aspx.

MDE is looking forward to continuing to work with the Army Corps of Engineers and Wicomico County to identify and authorize a beneficial use of the dredge disposal material. Please contact Mary Phipps-Dickerson at (410) 901-4033 or mary.phipps-dickerson@maryland.gov with any questions or concerns.

Sincerely,

Tammy Roberson, Chief
Tidal Wetlands Division

WICOMICO RIVER MAINTENANCE DREDGING & DEAL ISLAND WETLAND RESTORATION

U.S. Army Corps of Engineers
Baltimore District

April 14, 2021

Audubon

U.S. ARMY

US Army Corps of Engineers®

NOAA FISHERIES

AGENDA

- 6:00-6:05 – Welcome & Virtual Meeting Ground Rules (USACE)

- 6:05-6:15 – Project Manager, Non-Federal Sponsor and Project Partner Introductions (All)

- 6:15-7:15 – Presentation
  - Wicomico River Project Background & Benefits (USACE)
  - Placement Site History & Selection (Wicomico County)
  - Deal Island WMA Site (USACE, USFWS, Audubon)
  - Guidance, Regulations & Considerations (USACE)
  - Dredging Plan (USACE)
  - Placement & Vegetation Plan (USACE)
  - Monitoring & Measuring Success (Audubon, USFWS, NOAA)

- 7:15-7:50 – Question & Answer Period

- 7:50-8:00 – Wrap-up (USACE)

Image: USACE

VIRTUAL MEETING GROUND RULES

- Thank you for attending!
- All general attendees will be muted
- Please hold questions until the Q&A period
- Questions sent via chat will be addressed first, then opened to those participating by phone
- Slide presentation and recorded meeting will be posted on project web page: https://www.nab.usace.army.mil/Missions/Civil-Works/Wicomico-River-Maintenance-Dredging-Project/

INTRODUCTIONS

- U.S. Army Corps of Engineers, Baltimore District
- Wicomico County (Non-federal sponsor)
- U.S. Fish & Wildlife Service (USFWS)
- National Oceanic & Atmospheric Administration (NOAA)
- Maryland Department of Natural Resources (DNR)
- Audubon Mid-Atlantic

SPEAKERS

Graham McAllister
USACE, Baltimore District
Navigation program manager

Danielle Szimanski
USACE, Baltimore District
Wicomico River project manager

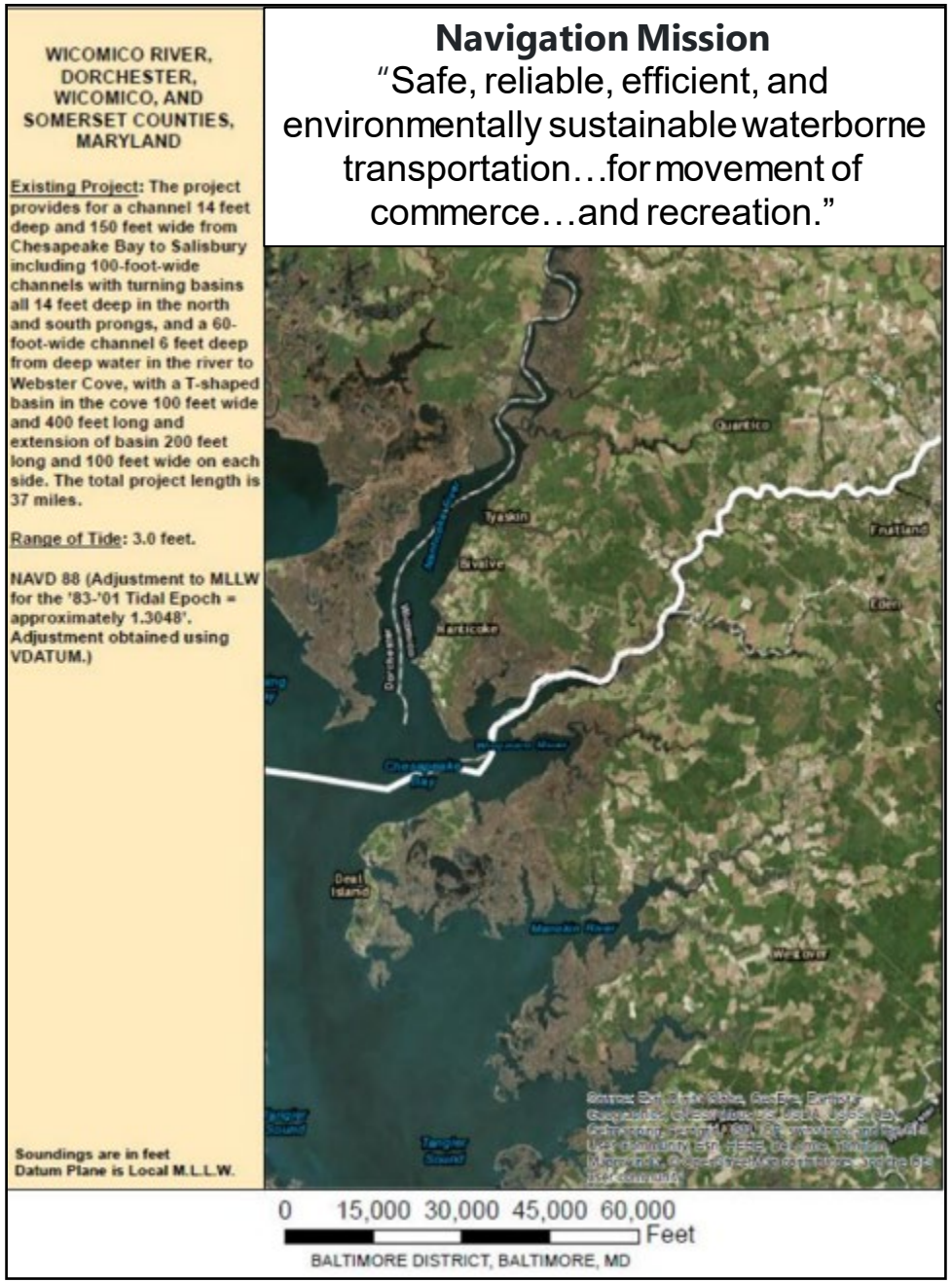
Mark Whitelock
Wicomico County
Deputy Director for Public Works

Bart Wilson
U.S. Fish and Wildlife Service
Restoration project manager

Dave Curson
Audubon Mid-Atlantic
Director of Bird Conservation

PROJECT BACKGROUND

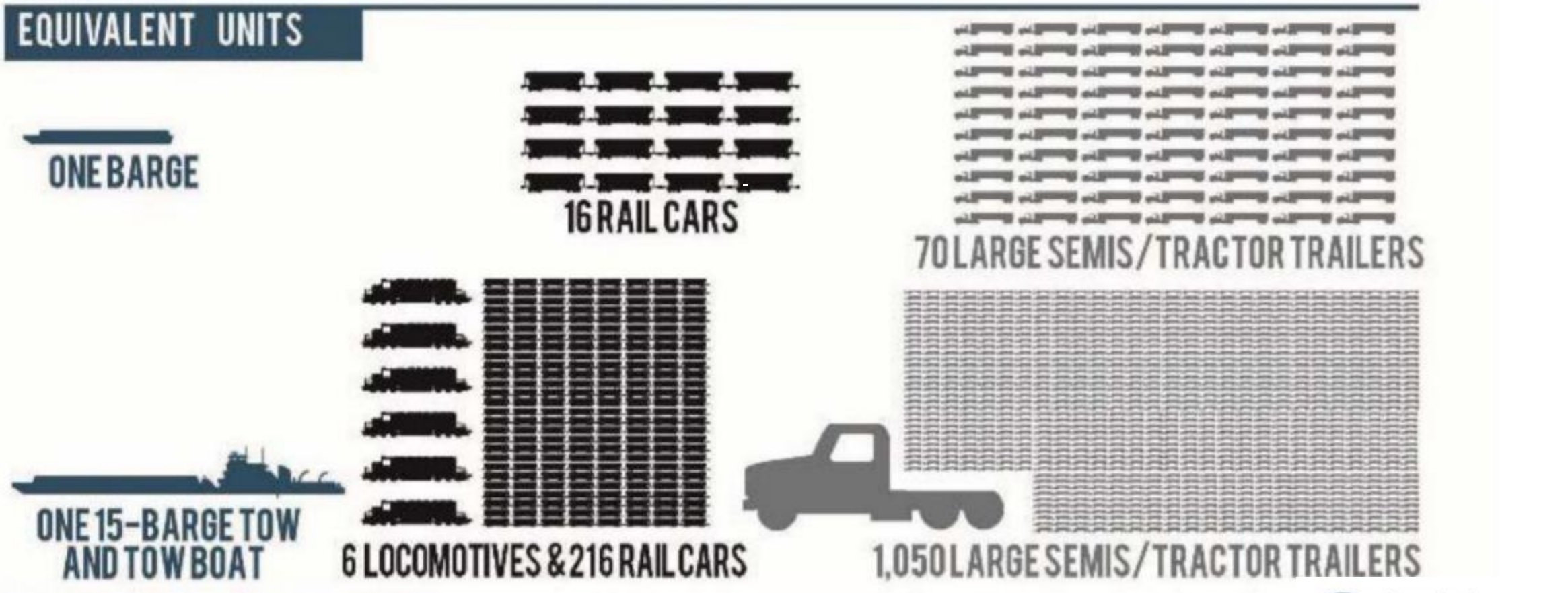
- Authorized in 1890, USACE Navigation Mission
- Commerce & Environmental impacts
  - ~1 million tons moved annually
  - 1 barge = 70 semis = 1,050 tractor-trailers
- Maintenance Phase
- ~100,000 cubic yards dredged annually
  - Alternate between upper and lower reaches
- Sediment Characterization
- Federal/Non-Federal Sponsor Responsibilities
  - Dredging 100% federally funded
  - Non-Federal Sponsor provides placement



EFFICIENT TRANSPORT

MARAD

Why Marine Highways



America's Marine Highways

ENVIRONMENTAL BENEFITS

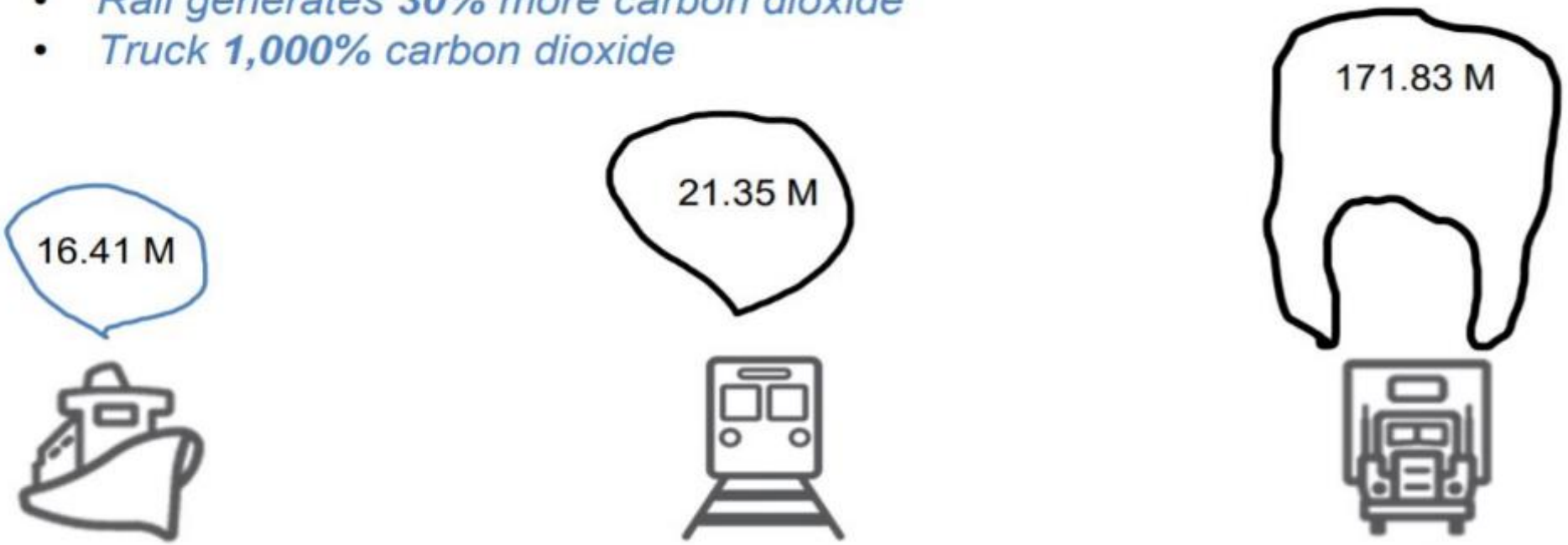
MARAD

Environmentally Friendly

Barges have the smallest carbon footprint among other transportation modes.

Moving an identical amount of cargo by barge:

- *Rail generates **30%** more carbon dioxide*
- *Truck **1,000%** carbon dioxide*



Tons of Co2 per Million Ton-miles

America's Marine Highways

PLACEMENT SITE HISTORY & SEARCH EFFORTS

- Challenge of placement capacity
  - Prevalence of wetlands
  - Need relatively large area
- Clara Road site last used 2013
- Future site search started 2008
- Evaluated/investigated 15+ sites
- Deal Island WMA
- Preference for beneficial use

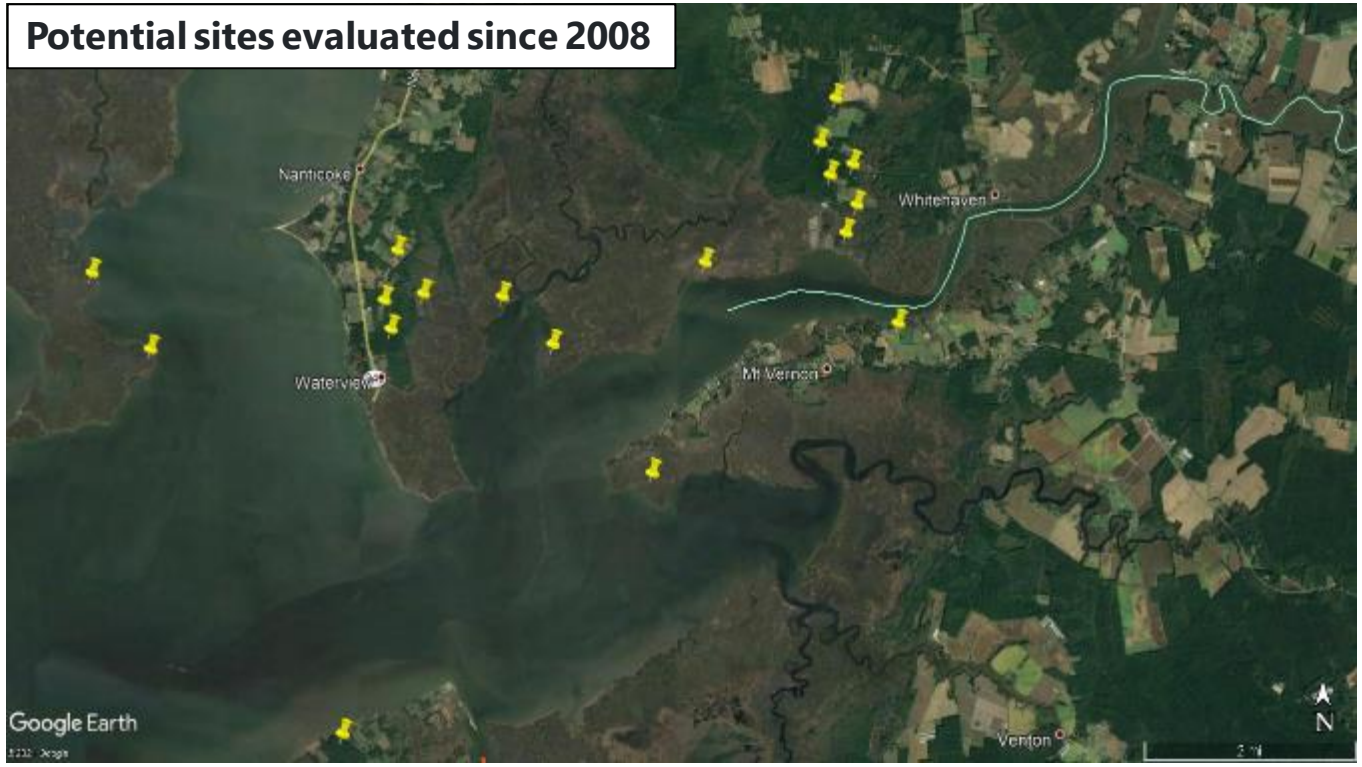


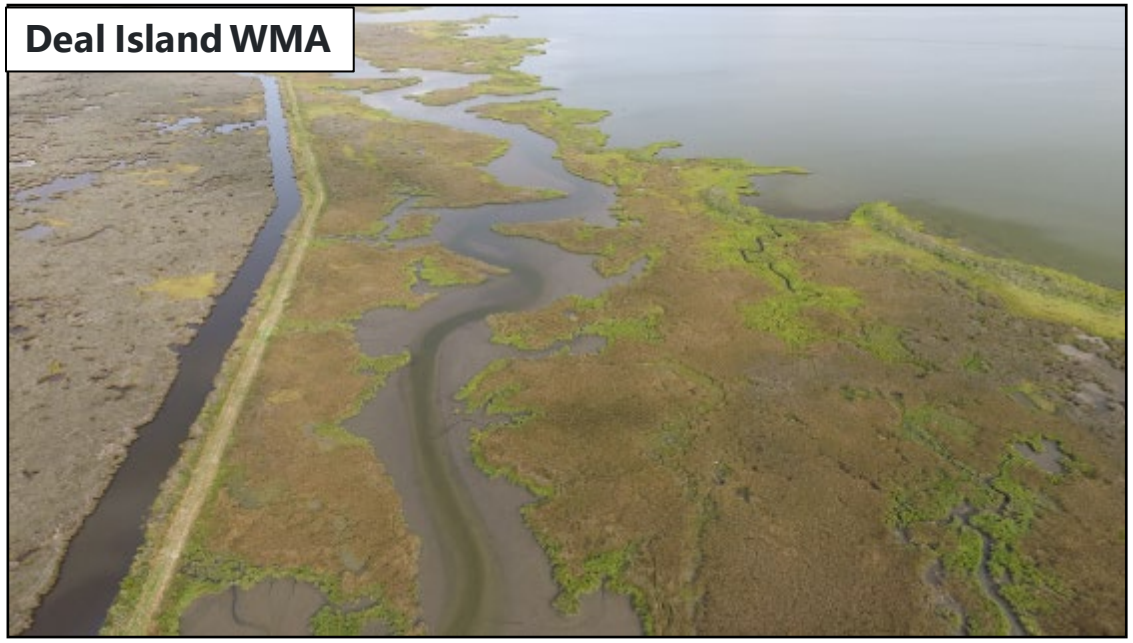
Image: Google Earth/USCE

DEAL ISLAND SITE (AUDUBON)

- Tidal marshes threatened by sea level rise. Ecosystem services at stake:
  - Nursery areas for fisheries.
  - Storm surge buffer.
  - Filter for sediment, N, P pollutants.
  - Recreation and tourism.

- Goals for this project:
  - Wicomico River shipping channel.
  - Protect impoundment berm
  - Create habitat for threatened species
    - Salt Marsh Sparrow (extinct by 2050?)
    - Black Rail (90% decline since 1990).

Partnership approach has great potential



Black Rail

Salt Marsh Sparrow

Images: DNR, Audubon

DEAL ISLAND SITE (USFWS)

- Project partners evaluated in 2019
  - Find degraded marsh in need of elevation
- Future potential
  - Building on current and past projects
    - MD, DE, RI, and NJ
- Containment
  - Straw bales, ditch plugs, sand berms
- Placement
  - Sediment sprayed in layers or lobes
  - Pipe moved as areas reach goal elevation
  - Can't be spread with equipment
- Recovery
  - –Marsh Vegetation – 2 to 5 years
    - Thicker areas will be seeded and/or planted

07/2015

06/2017

GUIDANCE, REGULATIONS & CONSIDERATIONS

- Federal Standard
- Beneficial Use of Dredged Material
  - Enhancing coastal resilience
- Governor's Executive Order (01.01.2017.13)
- Coordination
- Time-of-Year restrictions
  - Anadromous fish
  - Oysters
  - Waterfowl
  - Submerged Aquatic Vegetation
  - **Dredging mid-Oct through mid-Feb**
- Team effort from start to finish!

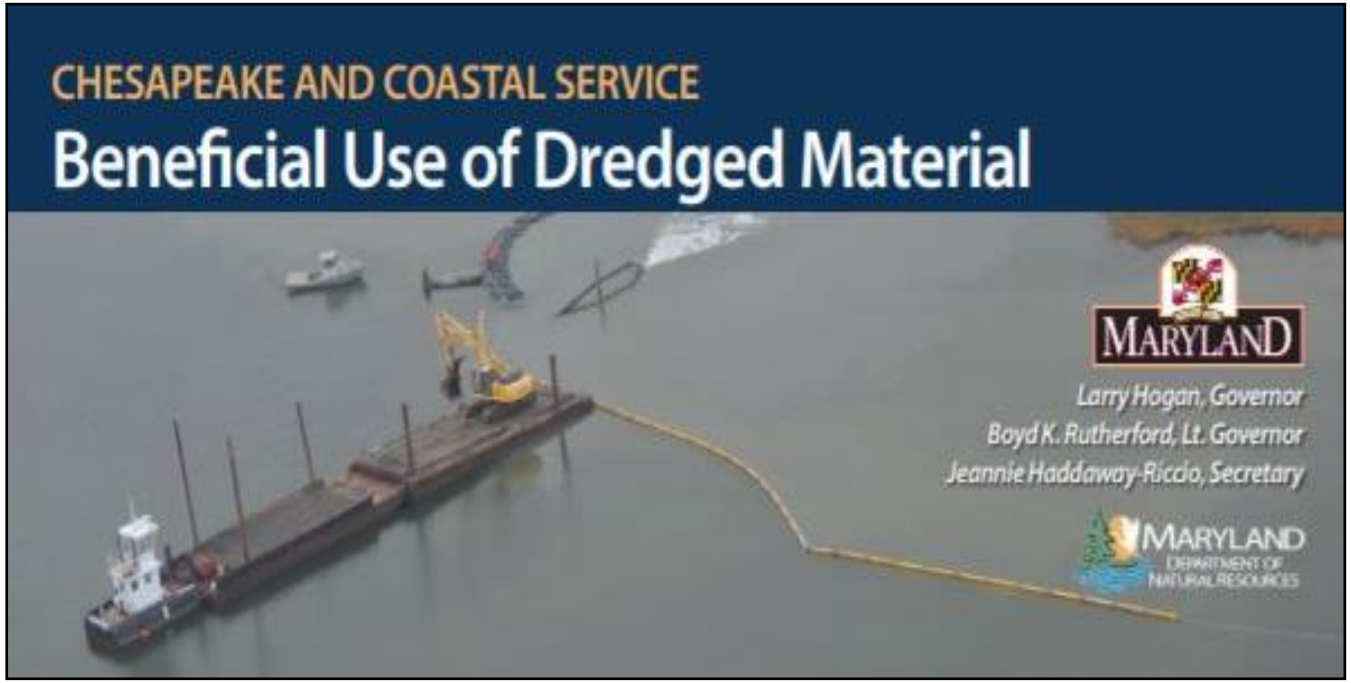


Image: DNR

DREDGING PLAN

- Authorized to 14 ft. deep MLLW and 150 ft. wide
- Lower half of Wicomico River dredged ~2 years
  - Operations and Maintenance (O&M) funding
  - Last dredged in 2017, placement at Ellis Bay
- Dredge from Shark Fin Shoal to Whitehaven
- ~130,000 cubic yards (cy) dredged this cycle
- Hydraulic (cutter-suction) method
- Safety
  - Dredging announced via USCG LNM
  - Pipeline routed to minimize impacts
  - Pipeline marked per USACE/USCG guidance

Image: Google Earth/USACE

PLACEMENT & VEGETATION PLAN

- ~72 acres of wetland to be used this cycle
- Containment
  - Impoundment & straw bales
  - Tidal ditch plugs at heavy erosion areas
  - 100-750 ft from marsh edge on Manokin River
- Placement
  - Target elevation 1.5 ft above existing
  - Estimate 2-4 in of compaction
  - Pipeline discharge from existing berm
  - Diffuser/spreader to reduce velocity
  - Contractor, USACE, Habitat Expert Observer
- Planting to occur over 2 growing seasons
  - Aerial seeding & planting by hand

Image: Google Earth/USACE

MONITORING & MEASURING SUCCESS

- Long-term effort and partnership
- Pre- and Post-Placement monitoring
  - Elevation – USACE/USFWS
  - Invasive control – Wicomico County
  - Vegetation type/coverage – USFWS/NOAA
  - Vegetation Biomass – NOAA
  - Bird populations – Audubon
  - Submerged Aquatic Veg – DNR/NOAA
  - Hydrodynamics – U.S. Naval Academy

	Monitoring*					
	Baseline (Year)	Post-placement (Year)				
	1	1	2	3	4	5
Elevation	X	x	X	x		
Invasive Species Control	X	x	X	x	x	x
Vegetation Type & Coverage	X	x	X	x	x	x
Vegetation Biomass	X	x	x			
Bird populations	X	x	X	x	x	x
Submerged Aquatic Vegetation	X	x	X			
Hydrodynamics	x	x	X			
Sediment Chemistry/Characterization	x	x	x	x		

*Monitoring Plan has not been finalized

PROJECT POINTS OF CONTACT

USACE
Danielle Szimanski
Project Manager
Navigation Section
Danielle.m.szimanski@usace.army.mil

Wicomico County
Chris Clasing
Chief Civil Engineer
Department of Public Works
cclasing@wicomicocounty.org

Project web page: https://www.nab.usace.army.mil/Missions/Civil-Works/Wicomico-River-Maintenance-Dredging-Project/

Wicomico River Project Q&As

Questions and Answers:

Q. *In the 2017 dredging projects, the containment failed and the material polluted Ellis Bay. Will that be happening again?*

a. There are significant differences between the characteristics of the Deal Island WMA and Ellis Bay placement sites. Ellis Bay was a shoreline restoration project, in which material was placed adjacent to the shoreline in open water. Whereas, placement at Deal Island will aim to restore eroding wetlands to provide habitat and improve resiliency. The multi-agency project team incorporated different design parameters and contributed to the overall site design, to include target elevation and containment features. A USACE representative will monitor the dredged material inflow and work closely with the contractor to ensure the target elevation of 1.5 feet above the existing grade is met. The placement site area is sufficient for the estimated amount of material to be placed, but operations will be shut down if any containment failures are identified.

Q. *What is the diameter of the pipe/hose you're using? Are there any impacts to animals?*

a. The diameter of the pipeline will depend on the winning contractor and the dredge and equipment they decide to use to meet the requirements of this work. Historically, this project has been dredged with equipment having a diameter between 16 - 24 inches. In coordination with our partner agencies, several environmental windows and time-of-year restrictions are set to avoid as much impact as possible to fish, other species and aquatic vegetation during both dredging and material placement. From February to June, we have listed the anadromous fish window. We will also avoid dredging during fish spawning timeframes in the Wicomico River.

Q. *What is the timeline for this project?*

a. The work is forecast to commence in fall 2021 with the construction of containment features. Dredging and placement will occur after the containment features have been installed and within the time of year allowed by coordinating agencies. Following placement, vegetation will be planted over two growing seasons and monitoring will occur for up to five years.

Q. *Is the dredged material toxic?*

a. The sediment was sampled and tested in 2010 and fell within acceptable ranges. Necessary water quality certifications were issued for the Wicomico River project from the Maryland Department of the Environment on previous maintenance dredging cycles. In February 2021, sediment samples were collected at the previously used upland placement site for the lower portion of the Wicomico River. These sediment samples also showed contamination levels within acceptable ranges and suitable to plant and grow similar species of vegetation to be planted at the Deal Island WMA.

Q. *How is the dredge material moved to its final location?*

a. The material will be dredged via a cutter suction dredge and hydraulically pumped through a pipeline from the dredge to the placement site. There will be no staging location or barges to move the material. The discharge end of the pipeline may be moved within the placement site to spread the dredged material.

Q. Where is the work starting, so waterway users can be prepared?

a. The work is planned to commence at the southern end of the Wicomico River. Three main sections will have visible buoys for the dredging location in the Wicomico River. Please see the below buoy locations for the general areas of dredging:

<u>Dredging Section 1</u>

- Start dredging after Green 9
- End dredging at Green 15

<u>Dredging Section 2</u>

- Start dredging before Green 17
- End dredging at Green 19

<u>Dredging Section 3</u>

- Start dredging before Green 23
- End dredging before Red 22

Q. Will the pipe be under water or on the surface during this dredging cycle? Will this impact oyster bars or vessels?

For the portion of work occurring on the river, the pipeline may be either submerged or floating but will be properly marked by the contractor in accordance with USACE and USCG regulations. A natural oyster bar is located near the southern end of the channel. Dredging for this section of the channel will be accomplished within the timeframe recommend by Maryland Department of Natural Resources in order to minimize potential impacts to the natural oyster bar. Additionally, USACE and its contractor will work with aquaculture leaseholders regarding the pipeline route to minimize impacts to leases near the federal channel to the maximum extent practicable.

Q. Will any flocculant be used?

a. No.

Q. What is the general project schedule?

a. The contract is anticipated to be awarded by the end of September 2021. With the environmental window, dredging should occur from October 2021 to February 2022.
    i. The first round of planting and seeding would occur in late spring or early summer 2022.
    ii. The remaining hand planting would occur in 2023.

Q. Will the newly placed material be in direct contact with wave action from the river?

a. Under normal wave conditions and habitat conditions, there should be no direct wave contact.

Q. *What is the price for this project?*

a. The estimated cost is under $10 million, which includes construction of the containment features, dredging, placement and vegetation planting.

Q. *How/why was the Deal Island WMA site selected for dredged material placement?*

a. USACE pumped the last dredging material to Clara Road in 2013. That site is now closed. A new suitable placement site for the dredged material from the Wicomico River needed to be found to ensure continued dredging and safe vessel passage.

   Since 2018, USACE and its partners have been looking for new placement sites. Other considered placement sites had wetland mitigation issues, owners who did not want to sell their property, or land that would not have the space available for the appropriate dredged material. After long research and testing, USACE and its partners picked Deal Island WMA. This placement site can take sediment from the Wicomico River, while also rebuilding degraded tidal marshes that provide habitat for local species, including two threatened bird species, and filter sediment.

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
2 HOPKINS PLAZA
BALTIMORE, MD 21201

May 26, 2021

SUBJECT: Coordination for maintenance dredging of the Federal navigation channel in Wicomico River, Wicomico County, Maryland

Megan Fitzgerald
Wetlands Branch – Water Division
U.S. Environmental Protection Agency, Region 3
1650 Arch Street (3WD10)
Philadelphia, PA 19103

Dear Ms. Fitzgerald:

This letter is in response to The US Environmental Protection Agency's (EPA) comments received April 1, 2021 regarding the Lower Wicomico maintenance dredging Public Notice. Many of the comments were addressed in a telephone call on April 12, 2021. The remaining comments not addressed in that meeting are discussed below.

Comment 1 (Regarding Project Purpose): To better understand the project purpose, EPA also recommends including a summary of how 'wetland failure' was defined, including providing any functional and/or condition assessments that were conducted in an appendix.

Response: U.S. Fish and Wildlife Service (USFWS) and Audubon Mid-Atlantic have addressed the degrading marsh in the two enclosed documents from 2019 and 2021. Maryland Department of Natural Resources (MDNR) shows (through the Maryland Coastal Atlas) that the impoundment berm of the Deal Island Wildlife Management Area (WMA) will become wetlands by 2050 and large areas of the wetlands currently proposed to be restored will become tidal flats or freshwater shoreline. Aside from the loss of habitat and storm protection these wetlands provide, there is also an infrastructure component that is addressed in the restoration of the wetlands adjacent to the impoundment berm (Enclosures 1 and 2 from USFWS).

Comment 2 (Regarding Resource Characterization): EPA also recommends baseline information be provided to aid in determining the function and condition of the wetland resources impacted. This information should include, but not limited to, hydrogeomorphic (HGM) classification, source(s) of hydrology, surface elevation tables (SETs), vegetative species diversity, ecological community groups(s), invasive cover, and disturbance history. EPA recommends additional information describing the

sampling plan, analyses, and results of any planned or completed assessment of the dredged material be included in an appendix to evaluate the potential extent of environmental impacts from the proposal.

Response: Sediment samples were collected in February 2021 from the previously used upland disposal site to assess the condition of the Wicomico River sediment. Results are enclosed (Enclosure 3). Baseline monitoring will be conducted in the spring and summer of 2021 prior to construction. Baseline monitoring will include the following: elevation (via cryogenic coring instead of SETs), invasive species control, vegetation type and coverage, vegetation biomass, bird populations (with reference site), submerged aquatic vegetation, hydrodynamics (tide gauge installed on site in December 2020). The monitoring plan is being finalized in coordination with partnering agencies with monitoring responsibilities. The plan will be shared with EPA once finalized.

Comment 3 (Regarding Avoidance and Minimization): Per the evaluation document, approximately 0.8 ac of tidal marsh are expected to be temporarily impacted from pipeline placement and restored to pre-project conditions. Please include additional information detailing alternatives considered to minimize impacts to the tidal marsh and how conditions will be restored.

Response: The pipeline route was selected by stakeholders as it was determined to be the least impactful to wetland resources and the most efficient from an operational perspective. In addition to pipeline route locations, techniques for avoiding landscape disturbance and restoring to pre-project conditions are laid out in the contract specifications and include:

1.20.8 Protection of Land Resources

1.20.8.1 General

It is intended that land resources within the project boundaries and outside the limits of the permanent work performed under this contract be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the appearance of the project. Insofar as possible, the Contractor shall confine their construction activities to areas defined by the plans and specifications or to be cleared for other operations. The following additional requirements are intended to supplement and clarify the requirements of the CONTRACT CLAUSES.

1.20.8.2 Protection of Trees Retained

(a) The Contractor shall be responsible for the protection of the tops, trunks, and roots of all existing trees that are to be retained on the site. Protection shall be maintained until all work in the vicinity has been completed and shall not be removed without the consent of the Contracting Officer or the authorized representative of the contracting officer. If the Contracting Officer or their authorized representative finds that the protective devices are insufficient, additional protection devices shall be installed.

(b) Heavy equipment, vehicular traffic, or stockpiling of any materials shall not be permitted within the drip line of trees to be retained.

(c) No toxic materials shall be stored within 100 feet from the drip line of trees to be retained.

(d) Except for areas shown on the contract drawings to be cleared, the Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without special authority. Existing nearby trees shall not be used for anchorage unless specifically authorized by the Contracting Officer or their authorized representative. Where such special emergency use is permitted, the Contractor or their authorized representative shall first adequately protect the trunk with a sufficient thickness of burlap over which softwood cleats shall be tied.

(e) No protective devices, signs, utility boxes or other objects shall be nailed to trees to be retained on the site.

1.20.9 Restoration of Landscape Damage

Any tree or other landscape feature scarred or damaged by the Contractor's operations shall be restored as nearly as possible to its original condition at the Contractor's expense. The Contracting Officer or their authorized representative will decide what method of restoration shall be used and whether damaged trees shall be treated and healed or removed and disposed of. All trimmings or pruning shall be performed in an approved manner by experienced workmen with saws or pruning shears. Tree trimming with axes will not be permitted. Where tree climbing is necessary, the use of climbing spurs will not be permitted. Trees that are to remain, both within or outside established clearing limits, that are subsequently damaged by the Contractor and are beyond saving in the opinion of the Contracting Officer or their authorized representative, shall be immediately removed and replaced with a nursery grown tree of the same species. Replacement trees shall measure no less than 2 inches in diameter at 6 inches above the ground level.

In addition, any equipment used in the vicinity of wetlands shall be low pressure equipment to minimize impacts. Protections mats shall also be placed to reduce direct impact of equipment on landscapes as well.

Comment 4 (Regarding Secondary and Cumulative Impacts): Additionally, to ensure the project incorporates previous lessons learned to avoid the potential for significant degradation, EPA offers the following recommendations: For methods taken from UMCES, include links to papers or other resources to support the methods included in the monitoring plan.

Response: Final monitoring plans will be provided to EPA once they are established (with necessary references).

Comment 5 (Regarding Monitoring and Compensatory Mitigation): Once it is determined that all appropriate and practicable steps to avoid and minimize adverse impacts have been taken, compensatory mitigation is then considered. EPA has concerns that the proposed project may not be consistent with 404(b)(1) Guidelines, specifically regarding the potential need for compensatory mitigation. To demonstrate that this project qualifies as a restoration project and to ensure the project is self-mitigating, EPA offers the following recommendations:

1. EPA recommends monitoring within WMA to continue (at minimum) 5-10 years after the BU activity. EPA recommends any requests to reduce the scope of monitoring or end monitoring early be supported by monitoring data that demonstrate attainment of performance metrics and show a trend toward restoration of lost functions/values from placement of dredged material.

Response: Monitoring partner agencies have agreed to post-placement monitoring for up to five years. There is a possibility that more dredged material may be placed at the site in future maintenance dredging cycles (approximately 2025), but placement at the site will be based on monitoring results and need for additional sediment to ensure functional habitats are maintained.

2. EPA recommends that an adaptive management plan be developed to address what action would be taken if the site fails to meet the performance standards (i.e., target elevation). Corrective actions identified in the adaptive management plan should be specified for common problems at TLP sites.

Response: An adaptive management plan is currently being created by the monitoring partnering agencies for this project.

3. EPA requests the Corps convene regular interagency meetings to review and discuss monitoring reports and adaptive management needs to ensure the proposed objectives and performance standards are being met.

Response: During the post-placement monitoring phase regular meetings will occur with all monitoring partners. Performance and objectives will be discussed during these meetings, along with adaptive management needs. It is anticipated that multiple reports will be created during this time based on the monitoring results.

If there are any questions, please contact Ms. Danielle Szimanski, Navigation Branch, at Danielle.m.szimanski@usace.army.mil.

Sincerely,

William P. Seib
Chief, Operations Division

Enclosures

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

May 27, 2021

William P. Seib, Chief
Operations Division
Baltimore District
U.S. Army Corps of Engineers
2 Hopkins Plaza
Baltimore, MD 21203-1715

Re: Wicomico River Maintenance Dredging and Deal Island Placement Project

Dear Mr. Sieb:

We have reviewed the Environmental Assessment (EA), including the enclosed essential fish habitat (EFH) assessment and associated materials, provided on April 27, 2021, concerning proposed maintenance dredging for the federal navigation channel on the Wicomico River, Wicomico County, Maryland and subsequent placement the dredged material adjacent to the existing tidal impoundment located in Deal Island Wildlife Management Area (WMA), Somerset County, Maryland. The Baltimore District (the District) prepared this EA in accordance with the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.) to assess the potential environmental impacts from performing maintenance dredging and placement of the resulting material on intertidal wetlands. In the EA, the District designated a Finding of No Significant Impact (FONSI) for the proposed activity. However, some of the project details and their effects on our resources remain unclear. There also appears to be inconsistencies between the EA and recent Public Notice (PN) CENAB-OP-N-21-01 and some project elements appear to have been changed without explanation. As a result, our comments and EFH conservation recommendations reflect that lack of clarity and missing or conflicting information. We hope that the responses you provide to our comments and EFH conservation recommendations will help resolve those inconsistencies and more clearly describe the proposed action. We may then be able to revisit our EFH conservation recommendations.

The proposed project includes maintenance dredging along approximately 37 miles of existing federal navigation channel to a depth of 14 feet MLLW, and variable widths ranging from 75 feet to 150 feet. The District proposes to deliver the resulting 130,000 CY of sediments through approximately 10 miles of temporary pipeline to areas of fringing intertidal vegetated wetlands adjacent to the Deal Island WMA impoundment. The areas where this material is proposed to be placed have been delineated as three potential cells identified as follows: Area 1 at 12.04 acres, Area 2 at 60.50 acres, Area 4 at 26.97 acres. One additional site (i.e., Area 3 at 69.30 acres) has been identified for potential placement in the event that material is dredged in excess of capacity

at the aforementioned areas. The total area over which sediments are currently proposed to be placed is approximately 100 acres, or the sum of Area 1, Area 2, and Area 4. Based on the information provided, it appears much of the areas proposed for filling are currently at +2.3 feet MLLW and colonized by *Juncus roemerianus* and *Spartina alterniflora* with an unquantified area of unvegetated intertidal areas and tidally influenced creeks.

Dredged material will be placed at depths of approximately 18 inches in order to achieve a marsh platform elevation that would provide suitable nesting habitat for saltmarsh sparrow (*Ammodramus caudacutus*) following the establishment of targeted high marsh vegetation to include *Spartina patens* and *Distichlis spicata*. This elevation is also intended to provide wave energy dissipation benefits to the adjacent impoundment structure and potentially provide for a marsh migration corridor to accommodate marsh transgression associated with sea-level rise (SLR). During placement, dredged material will be contained using 22,624 linear feet of staked straw bales and 15 tidal plugs constructed using clean sand, woodchips, geotextile fabric, and coir fabric. The dredged material will subsequently be planted with sacrificial cover via aerial application (year 1) and target vegetation (year 2) during two growing seasons to facilitate stabilization. Wicomico County, the local non-federal sponsor, will be responsible for implementation of the adaptive management plan and other cooperating agencies/organizations will complete various monitoring activities associated with the placement of dredged material.

Remaining Information to be Provided

Several fundamental aspects of the project remain unclear or have been changed without explanation. These include the following:

(1) Whether Webster Cove and the associated access channel is proposed to be dredged. This has been inconsistently described in the EA and elsewhere;
(2) The February 19, 2021, PN described dredging activities with one (1) foot of allowable overdepth. In the EA it is now described as two (2) feet of allowable overdepth. The reason for this change and the additional amount of dredged material this would generate is unclear;
(3) The total area of intertidal vegetated marsh to be filled is described as 100 acres, although plans provided indicate that an area of 72.54 acres will be planted with vegetation. It is unclear whether Area 4 is now considered for placement, what elevations will be proposed, and what containment measures will be employed;
(4) What range of elevations are targeted over what proportion of the project area and the associated slopes. Comprehensive plans have not been provided to indicate intended as-built conditions;
(5) How elevations of +3.5 feet MLLW were designated for high marsh, when the highest astronomical tide (HAT) described from the tidal datum generated at the nearest tide gauge (Bishops Head, 8571421) is +2.5 MLLW. Areas above the HAT are generally colonized by different vegetation communities (e.g., *Phragmites australis*);
(6) Whether ecologically relevant success criteria have been established, and if so, how they were established or how they will be measured;
(7) Whether an adaptive management plan has been developed and, if it has, what corrective measures will be taken to meet defined targets.

We are concerned that the proposed action does not rise to the standard that is expected of all applicants for the placement of dredged materials in waters of the US. Specifically, no formal site evaluation was conducted and no site plans detailing proposed post-construction site conditions (e.g., final elevations) have been made available for our review. Without this basic information, it is unlikely that applicants would be unable to receive authorization through the District's USACE regulatory process branch. We see no reason why projects undertaken by the Corps should be held to a lesser standard than those by non-Corps applicants seeking regulatory approval and we are concerned that it sets a troubling precedent for other applicants.

Authorities

The Fish and Wildlife Coordination Act (FWCA) and the Magnuson-Stevens Fishery Conservation and Management Act (MSA) require federal agencies to consult with one another on projects such as this that may affect essential fish habitat (EFH) and other aquatic resources. Because this project affects EFH, this process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments, lists the required contents of EFH assessments, and generally outlines each agency's obligations in this consultation procedure. Please see our website (https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/essential-fish-habitat-assessment-consultations) for further information regarding your agency's obligations in this process, including the required response to our EFH conservation recommendations (CRs).

Aquatic Resources and Anticipated Impacts from Proposed Actions

The project area presents a wide range of conditions and habitats suitable for a diverse suite of aquatic organisms. Several of these species are federally managed and have designated EFH. Since EFH also includes those waters, their associated qualities (e.g., turbidity, dissolved oxygen), and prevalent prey species, the proposed project will adversely impact EFH through a variety of complex and interacting pathways. Several additional species that are not federally managed but are of concern to our agency due to their ecological, economic, and/or historical value also occur in the project area. We briefly describe these resources and associated considerations in the subsections below.

Federally Managed Fish Species and Prey Species
As you are aware, the project area contains designated EFH for seven species of fish, including bluefish (*Pomatomus saltatrix*), summer founder (*Paralichthys dentatus*), black seabass (*Centropristis striata*), and windowpane (*Scophthalmus aqueous*). These species use the Wicomico River and the intertidal marshes around Deal Island as habitat for feeding, resting, and ranging behaviors. Most of these species leave the shallower waters of the Chesapeake Bay during the winter months to seek refuge in deeper waters of the lower Chesapeake Bay and the Atlantic Ocean. Because the dredging operations are currently proposed to be completed during winter months, it is unlikely that a substantial number of these species will interact directly with dredging or placement operations. However, the majority of the proposed dredging impacts will occur through the repeated dredging of benthic substrates in the Wicomico River channel. Impacts to EFH, including nursery habitat and prey species will also occur in association with

the conversion of intertidal low marsh and tidal creeks to irregularly flooded high marsh which is less productive for our resources.

Emergent Tidal Wetlands

Intertidal marshes of the Delmarva peninsula provide many ecological functions including fish and wildlife habitat, primary productivity via plant/microalgae/fungal growth, nutrient transformation, sediment retention, and carbon sequestration. Colonization by different species of emergent tidal marsh vegetation is dictated primarily by the frequency and duration of tidal inundation (hydroperiod). The assemblages of other primary producers (e.g., microalgae) and the associated benthic, epibenthic, and macrofaunal communities also exist along this continuum (Visser et al., 2019, Ziegler et al., 2020). The extent to which the productivity of these vegetative communities contributes to overall estuarine productivity is mediated in large part by the frequency of tidal flooding. The primary production of low marsh (i.e., regularly flooded) wetlands forms the base of the food web that supports invertebrates and forage fish that are then prey for larger fish such as bluefish. The low marshes, creeks, and open waters within the project area also provide habitat for a number of federally managed species and their prey. Tidal creeks and intertidal flats are an especially important habitat for juvenile summer flounder.

The surface elevation of intertidal emergent wetlands exists in dynamic equilibrium as influenced by a variety of factors including tidal inundation, plant growth, and sediment availability (Cahoon et al., 2009). For example, the mobilization of sediments from an eroding marsh edge allows for liberated sediments to be deposited on adjacent marshes, thus maintaining elevation relative to sea level (Ganju, 2019). Similarly, tidal creeks in stable marshes also exist in equilibrium whereby net sediment transport is at or near zero (Lazoni and Seminara, 2002; Ganju et al., 2017). They also serve as conduits for the delivery of sediment-laden waters to the marsh platform, which is one mechanism that can facilitate marsh platform accretion and long-term marsh persistence relative to sea level (Pratolongo et al., 2019). The dynamic nature of these systems points to the importance of establishing an understanding of the sediment budget for a particular site prior to the removal (e.g., dredging) or the addition (e.g., platform augmentation with dredged material) of sediment. No such effort has been demonstrated for this project.

Based upon the information provided, the placement of dredged material on the marshes of Deal Island WMA will have an adverse effect on EFH for a number of species by converting low marsh, tidal creeks, and intertidal flats to high marsh. We recognize that many areas of low marsh along the Chesapeake Bay on the lower Delmarva peninsula are not maintaining elevation relative to sea-level (Beckett et al., 2016; Kirwan et al., 2016) which historically has led to extensive upland conversion to tidal marsh (Schieder et al., 2018). However, marsh platform augmentation that preserves the plant species typical of regularly flooded low marsh would be a less damaging alternative to what is proposed here. The ongoing loss of salt marsh due to anticipated sea-level rise (SLR) threatens the ecological integrity of the system and can have far-reaching, negative environmental effects. This includes the loss of vegetated wetlands which can dampen wave energies during storm events and reduce impacts to human infrastructure. As a result, we can accept some level of disturbance to ensure the long-term integrity of marshes that are demonstrated to be experiencing stress, provided the adverse effects to EFH and federally managed species are minimized. Such an approach has not been demonstrated for this project.

Submerged Aquatic Vegetation

Areas in the vicinity of the proposed placement site are also annually colonized by submerged aquatic vegetation (SAV), primarily widgeon grass (*Ruppia maritima*). SAV is designated a habitat area of particular concern (HAPC) for summer flounder because it has been demonstrated to be preferred feeding and resting habitat (Orth and Heck, 1980; Lascara, 1981; Rogers and Van Den Avyle, 1983; Heck and Thoman, 1984) for this commercially valuable species. HAPCs are a subset of EFH that are either rare, particularly susceptible to human-induced degradation, especially important ecologically, or located in an environmentally stressed area. Because of this, cumulative and synergistic effects are a particular concern in these areas. The Mid-Atlantic Fishery Management Council has defined the summer flounder HAPC as all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH. Because SAV exhibits dynamic coverage from year to year, the accepted practice for determining if a project site is SAV habitat is to consider areas identified by the Virginia Institute of Marine Science (VIMS) as supporting SAV based on surveys conducted in the five most recent years. Any area mapped in those five years is considered to be habitat that supports SAV, even if SAV is not found there on a given date during the growing season.

Sediment placement on tidal marshes will likely adversely affect SAV through a variety of pathways. First, small vessel operation in the project area may result in the disturbance of subaqueous bottom which may cause the direct destruction of SAV during the growing season and inhibit recolonization during future growing seasons (Sagerman et al., 2020). Also, because the placement site will export sediment for a protracted period of time until it reaches equilibrium, turbidity in the immediate vicinity will likely be chronically high, which may inhibit growth over multiple years. For example, Thorne et al. (2019) documented localized chronically elevated turbidity relative to reference sites and found that eelgrass (*Zostera marina*) beds adjacent to their studied thin-layer placement site exhibited decreased coverage adjacent to the project area in the first year post-placement. While this study offered only an initial analysis and SAV species were different from those adjacent to this placement site, it does offer an indication of the potential adverse effects posed by placing dredged material immediately adjacent to areas that have been consistently colonized by SAV. It should also be noted that this study described loss of SAV despite the placement effort being an order of magnitude smaller (e.g., 13,500 CY of sediment placed to a depth of 25.4 cm across 4.05 ha) than what is proposed here. This combination of proposed disturbances will likely result in the temporary and possibly permanent loss of annually recurring SAV beds in the area immediately adjacent to the project placement site.

Oyster Reef

Oyster reef habitats have been identified as productive fish habitat in the Chesapeake Bay and throughout their range. In their analysis, McGinty et al. (2019) determined that almost all productive fishing grounds in the Maryland portion of Chesapeake Bay occur in the immediate vicinity of natural oyster bars and offer a review of the literature linking oyster bars with fish habitat in this region. The Wicomico and Manokin rivers present oyster reef habitat which is valuable for a variety of commercially (e.g., black sea bass, striped bass) and non-commercially important species of fish. These areas also host a variety of oyster aquaculture leases that support local watermen communities. Dredging the Wicomico channel and piping the resulting material

via submerged pipeline to fringing marshes of the Manokin River present multiple pathways to damage and/or diminish the productivity of these habitats. Of particular concern is the forthcoming restoration of 421 acres of oyster reef in the Manokin River (MIORW, 2020) which could be endangered by chronically elevated turbidity associated with mobilized dredged material from repeated placement cycles that may be planned.

Tidal Flats

Intertidal and subtidal unvegetated flats are vitally important habitats for various fish and invertebrates. Because of their landscape position and setting within the tidal frame, intertidal and subtidal unvegetated flats are by nature constrained, typically making up only a small portion of the habitat within a system. These areas play an important role in regard to primary production, secondary production and water quality. An extremely productive microalgal community typically occupies the surface sediments (MacIntyre et al., 1996) and primary production can represent a significant portion of overall primary productivity in a system (Pinckney and Zingmark 1993; Buzzelli et al., 2002). Benthic microalgal, bacterial production, and imported primary production in the form of phytoplankton and detritus support diverse and highly productive populations of infaunal and epibenthic animals in and on intertidal and subtidal un-vegetated flats. Important benthic animals (infauna and epifauna) in and on the sediments include ciliates, rotifers, nematodes, copepods, annelids, amphipods, bivalves and gastropods, which are preyed upon by mobile predators that move onto the flats with the flood tide. The flooding tide brings food and predators onto the flat while the ebb provides residents a temporal refuge from the mobile predators. This dynamic system provides various ecological functions, including: nursery grounds for early stages of development of many species; refuges and feeding grounds for a variety of forage species and juvenile fishes; significant trophic support to fish and shellfish (Sullivan and Currin 2000; Page and Lastra 2003; Currin et al., 2003); and, stabilization of sediments and modulation of nutrient fluxes (Sundback et al., 1991; Miller et al., 1996; Cerco and Seitzinger, 1997; Yallop et al., 1994, 2000).

Tidal flats are proposed to be filled to create irregularly flooded marsh and will also be impacted by the temporary pipeline that will convey material to the placement site. This represents both temporary and permanent losses to these productive habitats and the creation of irregularly flooded tidal marsh does not offset this loss of habitat for our resources.

Anadromous Fish

Diadromous fish use the Wicomico and Manokin rivers as migrating, spawning, nursery, resting, and feeding habitats at various points in their complex and diverse life histories. Both river systems are designated as anadromous fish use areas by both the Environmental Protection Agency (EPA) Chesapeake Bay Program (CBP) and the Maryland Department of Natural Resources (MDNR) and the Manokin River is designated as a "priority anadromous fisheries watershed" by the CBP. These species include anadromous fishes such as striped bass (*Morone saxatilis*), white perch (*Morone americana*), hickory shad (*Alosa mediocris*), American shad (*A. sapidissima*), alewife (*A. pseudoharengus*), blueback herring (*A. aestivalis*). The catadromous American eel (*Anguilla rostrata*) also uses the project area to complete similar life history stages, with the exception of spawning which occurs in the Sargasso Sea. All of these species are either currently commercially and recreationally valuable (e.g., striped bass) or formerly supported expansive coastal fisheries before populations (e.g., *Alosa* spp., American eel) reached historic

lows due to human activities. Due to their broad economic value, cultural significance, and need of conservation, we advocate for avoidance and minimization efforts to protect these species under the authority of the FWCA. Project activities, such as dredging may disturb these species during certain stages (e.g., spawning) of their complex life histories and certain avoidance and minimization measures are necessary.

Recommendations

Dredging and Temporary Pipeline Installation
Maintenance dredging occurs with relative frequency in the Wicomico River and certain avoidance measures have been implemented in previous cycles to minimize impacts to sensitive resources including natural oyster bars in the immediate vicinity and anadromous fish who use the project area as a migration corridor during certain times of the year. We recommend that previously implemented time of year restrictions continued to be observed during this dredging cycle to protect these sensitive species and their habitats.

Proposed dredging operations will employ an approximately 10-mile-long temporary pipeline to convey dredged materials to the placement site. Impacts to aquatic resources across this area should be avoided and minimized to the extent practicable. Pipeline alignment should be designed to avoid natural oyster bars, oyster aquaculture operations, intertidal vegetated wetlands, and tidal creeks to the extent practicable. Impacts to intertidal emergent vegetation are proposed in the vicinity of the MD-363 conduit installation. These areas should be restored to their pre-disturbance contours and vegetation following project completion and monitored for three years to ensure restoration. Finally, due to the length of this pipeline, the pressures at which material will be conveyed, and the associated risks to sensitive aquatic habitats, a routine inspection and maintenance plan should be developed to minimize the risk of failure and ensure pipeline stability. This plan should also include a spill management plan and reporting requirements to us and other resource agencies to ensure that any adverse environmental impacts resulting from pipeline failure are sufficiently minimized.

Placement Site Selection and Design
While low marsh at the placement site has been described as "failing" in the PN and EA and the associated placement has been deemed a "restoration" of high marsh habitat, we have been provided with no empirical evidence to validate these statements or to identify the primary source of this degradation despite our repeated recommendation that this information be collected and the possibility of using desktop tools to demonstrate marsh platform loss (e.g., UV/VR over time *sensu* Ganju et al., 2017). The selection of this site is based on the assumption that area marshes are uniformly failing and that modeling efforts (i.e., Sea Level Affecting Marshes Model 5.0) conducted by Glick et al. (2008) accurately predict marsh loss in the project area. While we acknowledge that much of the Chesapeake Bay marshes are experiencing stress related to SLR and subsidence (Beckett et al., 2016; Kirwan et al., 2016), a recent study completed by Qi et al. (2021) indicated that areas of interior ponding in the Deal Island area are losing elevation faster than those on the marsh edge, which would suggest that these areas may be more susceptible to permanent marsh loss. However, this project and subsequent placement efforts are focused on areas of fringing marsh that are likely not experiencing comparable elevation loss due to their position in the estuary. Finally, since no formal marsh evaluation was

conducted, it is not possible to verify the extent of marsh failure in the placement site, nor is it possible to determine what the causes of any failures are and, in turn, whether sediment addition is the appropriate solution. Dredged material should not be placed on tidal marshes without proper evaluation of the placement site.

We recognize that high marsh performs many important ecological functions, and in the landscape context, they increase the diversity of habitats within the project area and support many avian species. However, when compared to tidal creeks and low marsh, their value as habitat for fish and general contribution to nektonic productivity is low (Visser et al., 2019). Less frequent tidal inundation of the high marsh limits fish access, so the conversion from open water and low marsh to high marsh will result in the loss of habitat for fish. In order to ensure that the ecological tradeoff that will result from the placement of dredged material on the marsh does not result in a disproportionate loss of fish habitat and EFH, the target elevations should include low marsh and design should consider how tidal creeks will be incorporated. Furthermore, high marsh presents lower accretion rates relative to low marsh due to differences in productivity and location in the tidal frame. Also, while high marsh vegetation (e.g., *Spartina patens*) can effectively stabilize sediments, it offers less resistance to wave energies relative to the dense, stiff stems of *S. alterniflora*. These fundamental differences call into question whether the proposed approach is suitable to meet project goals while minimizing impacts to aquatic habitats.

The proposed target elevations (+3.5 feet MLLW) are not based on any ecological reference and increase the likelihood of adverse effects associated with project failure or a protracted sediment disequilibrium. We understand that the District desires to create high marsh and that there are benefits to a diversity of topographies within the marsh system. However, our mandates under the MSA require us to protect, conserve and enhance EFH. Habitat conversions should minimize the loss and degradation of EFH. As a result, we recommend that the cells be designed to create a mix of high and low marsh, rather than all high marsh. Proposed as-built site conditions have still not been provided for our review despite our requests. Spatial analysis completed by Correll et al. (2018) for the eastern Chesapeake Bay indicated that intertidal areas within this general study area present 33% low marsh and 66% high marsh. While ratios vary depending on position in the estuary (e.g., distance from marsh edge) and the identification of a reference site would be a preferred method to establish target elevation ranges, starting with the values presented in that study would represent some minimally defensible ecological target. What is currently presented is not ecologically relevant and should not be presented as a “restoration” or “beneficial.” Furthermore, a more gradual topography extending from the channel to the dyke will help to dissipate wave energies and minimize erosion potential, which is a primary project goal. We welcome additional coordination with the District to determine the appropriate low marsh to high marsh ratio for this project.

Given recent previous failed attempts to place dredged material from the Wicomico River channel on area marshes (e.g., Ellis Bay shoreline placement in 2018) and associated adverse effects, particular care must be taken to ensure the long-term stability of this project. Should such a failure be repeated at this site, it would have adverse effects on nearby sensitive aquatic habitats (e.g., SAV, oyster reef restoration sites). Setting ecologically/geomorphologically relevant final elevation/contour targets and monitoring/adaptive management of the placement site should help to ensure long-term site stability. So far, we have not seen evidence that the

placement of relatively thick (i.e., approximately 18 inches) layers of dredged material on fringing tidal marshes in the Chesapeake Bay estuary has been successful in restoring marsh habitat. In fact, Stagg and Mendelssohn (2010) indicated that the deposition of dredged material on degraded marshes in excess of approximately 11 inches actually resulted in depressed primary productivity comparable to degraded reference marshes whereas intermediate deposition depths successfully revegetated within one year. Typically, dredged material is deposited on low marsh habitat in relatively thin layers to maintain low marsh elevations relative to SLR. For these reasons, we are concerned that the proposed approach will not result in the achieving project goals or offset losses to aquatic habitats.

Monitoring and Adaptive Management

Post-construction monitoring is essential to determine if the project is successful in both the short and long-term. We recognize that several project partners (e.g., USFWS, Maryland-DC Audubon, Wicomico County) intend to make every effort to ensure the success of this project. However, we remain concerned that the District has not allocated adequate resources to facilitate adequate monitoring and adaptive management to ensure long-term project success. From the discussions held thus far, it does not appear that post-construction monitoring is being planned in a manner that will allow for the evaluation of success of the dredged material placement in improving the marsh condition since project goals, performance measures, and success criteria have not been clearly established. Currently, it is unclear what specific questions are to be answered with post-construction monitoring, how these answers might trigger adaptive management action thresholds, and how success will be measured. This information was not included in the EA nor provided to us for review prior to the issuance of a FONSI, despite our previous recommendations.

The District should develop a post-construction monitoring and maintenance plan that includes monitoring of site elevations and compaction of the material places on the marsh, the vegetative and benthic community recovery, and use of the site by aquatic and avian species. If successful saltmarsh sparrow nesting (i.e., juveniles surviving to fledging) is one primary goal of this project, then this should be thoroughly documented to determine the suitability of this approach. Other performance measures and success criteria should also be established and adaptive management triggers with potential corrective actions should be identified. For example, the resilience of proximal submerged aquatic vegetation beds should be monitored to determine whether mobilized dredge material reduced the density or spatial extent of this sensitive habitat; adaptive management criteria should be established to ensure it persists. Invasive species monitoring and control measures should also be included in the plan, as high marshes adjacent to disturbed areas (e.g., existing berm infrastructure) can be particularly susceptible to invasion by *Phragmites australis* and other undesirable species. A minimum of five years of monitoring should be required. While we understand that different aspects of this plan may have been discussed at previously held meetings, we have yet to see a unified framework where specific performance-related questions are posed. Once developed, this plan should be provided to us for review and comment prior to the initiation of in-water work.

Finally, monitoring will be a critical component to validate the relative success of this approach if it is anticipated that dredged material resulting from future maintenance dredging from the Wicomico River federal navigation channel is to be systematically placed on other areas

colonized by low marsh vegetation. An annual report of the monitoring results should be provided to all project partners and site visits should be scheduled as requested.

Future Dredged Material Placement
As indicated in the February 25, 2021, letter issued by USFWS, this site has been identified as a potential site for dredged material placement during future Wicomico River Federal navigation channel maintenance dredging cycles. This includes additional candidate marsh cells designated as Area 3 and Area 4 for this project as well as similar fringing emergent tidal vegetation located to the east of the current placement sites along the WMA impoundment berm. However, no formal evaluation of the current state of the receiving marsh has been completed, despite our previous recommendations. All tidal marshes in Chesapeake Bay are not equally affected by SLR (Kirwan and Megonigal, 2013; Kirwan et al., 2016; Ganju et al., 2017; Mitchell et al., 2017), and quantitative methods have been developed to objectively evaluate which marsh units may experience resilience benefits from sediment additions (see: Raposa et al., 2016; Ganju et al., 2017; Wasson et al., 2019; Defne et al., 2020). Future dredged material reuse should be based upon a site prioritization effort that should be undertaken simultaneously with the monitoring/adaptive management of this project. Future placement sites should be selected based on a comprehensive site prioritization (i.e., desktop analysis) and further site evaluations as necessary. The designation of a placement site for a substantial quantity (i.e., approximately 100,000 cubic yards every 2-5 years) of dredged material should be based upon the needs of the receiving marshes, which should be formally evaluated along with suitable alternatives. Recent work completed by Qi et al. (2021) seem to indicate that areas of interior ponding would be more appropriate for placement to ensure long term tidal marsh resilience to SLR.

Once an appropriate long-term placement site is identified, project designs should strive to achieve a healthy mix of regularly and intermittently flooded vegetated tidal wetlands that mimic ecologically healthy marshes in the project vicinity in their target elevations/configurations. While we acknowledge the value of irregularly flooded high marsh habitat, it does not serve equally valuable services for our resources, nor does it accrete sediment or attenuate waves as effectively as *Spartina alterniflora* marshes with tidal creeks/ flats. Without these fundamental considerations, we will find difficulty fulfilling our mandates under the MSA to conserve, protect, and enhance EFH. If this is not undertaken, then a continuation of the current approach will likely have significant adverse effects to EFH and higher level review under our EFH regulations at 50 CFR 600.920 (k)(2) may be necessary for future placement cycles.

Magnuson Stevens Fisheries Conservation and Management Act EFH Conservation Recommendations

As discussed above, the project as currently proposed will adversely affect EFH for federally managed species such as bluefish and summer flounder due to the loss and degradation of habitat for these species and their prey. Additional information as listed above is necessary to fully evaluate the adverse effects, and options for avoidance and minimization. As a result, we recommend pursuant to Section 305(b)(4)(A) of the MSA that you adopt the following EFH conservation recommendations to minimize adverse impacts on EFH and aquatic resources of national importance:

Dredging Operations

1. Develop a work plan that avoids dredging during certain times of year, including:
    a. the anadromous fish closure period (February 15 through June 15, in any year);
    b. the closure period for dredging activities within 500 feet of a designated natural oyster bar (June 1 through September 30, in any year).
2. Develop a pipeline work plan that avoids sensitive aquatic habitats, minimizes potential for inadvertent escape of dredged material, and includes a spill response plan. All dredge pipeline(s) located in shallow waters should be floating to avoid impacts to tidal flats/mudflats, and other sensitive benthic habitats (e.g., SAV/macroalgae) and should be secured with the minimum number of anchor points necessary.
3. Following completion of pipeline operations, restore all contours and replant disturbed areas with the same or similar vegetation that occupies that elevation. Monitor these areas for a period of at least three years to ensure successful establishment and minimize expansion of areas colonized by *Phragmites australis*.

To the maximum extent practicable:

4. The dredge intake (cutterhead) on the hydraulic dredge should not be turned on/activated until it is buried in the sediment, or within 1 foot of the bottom, to minimize entrainment of aquatic organisms.
5. The dredge intake (cutterhead) on the hydraulic dredge should be turned off/deactivated before it is lifted out of the sediment and through the water column to minimize entrainment of organisms.

Dredged Material Placement

6. Low marsh habitat in Chesapeake Bay marshes is vitally important habitat for numerous species and is generally eclipsed by high marsh at a ratio of 3 to 1 (Correll et al., 2018). As a result, the Corps should avoid and minimize conversion/elimination of low marsh habitat, typically found below Mean High Water (MHW), to other habitat types such as high marsh or upland. This may be accomplished in various ways, including avoiding placing material in low marsh habitat or placing only small amounts of material (i.e., 1 – 100 millimeters in depth while keeping elevations below MHHW).
7. Due to the high likelihood of drying out (experiencing only infrequent or stochastic inundation), converting to or creating upland, and developing acid soil conditions, ultimately leading to reduction in aquatic habitat quantity/quality, placement of material to maximum target elevations of + 3.5' MLLW should be avoided and minimized to the maximum extent practicable.
8. Provide us with information necessary to determine project impacts and anticipated outcomes, including the following:
    a. Submit project plans for our review that depict all aspects of existing and proposed site conditions. This should include dredged material analysis, placement site existing contours (e.g., MHW, MLW), and as-built profile details depicting anticipated final conditions/contours.
    b. Ecological performance standards should be developed to determine if the project is achieving its objectives of restoring and enhancing aquatic habitat that resembles an ecological reference. An ecological reference should be established

and be based on the characteristics of an intact aquatic habitat of the same type within the same watershed.

c. Develop a monitoring and maintenance plan that includes performance measures, success criteria, adaptive management plans, and invasive species monitoring and control. This plan should be provided to us for review prior to the initiation of in-water work.

9. Due to proximity to eroding marsh edge and associated wave energies, avoid placing material in Area 4 to the extent practicable. If this is truly unavoidable, placement should target elevations below MHW and should only occur near the centroid of this cell. An undisturbed buffer should be established between interior placement and marsh edge to minimize dredged sediment escapement.
10. Develop a project plan that avoids the placement of dredged material during the SAV growing season (April 15 through October 15) to reduce impacts to SAV, which is HAPC for summer flounder.
11. Avoid operating vessels in areas colonized by SAV and ensure that contractors are aware of necessary minimization measures (e.g., shallow-draft vessels, high-tide operations).
12. Barges and other vessels used for project operations should float at all stages of the tide to minimize impacts to benthic substrates.

Anticipated Future Maintenance Dredging Operations

13. Work with us and other resource agencies (e.g., MDNR, USFWS) to develop placement site prioritization dredging to allow for selection of the Least Environmentally Damaging Practicable Alternative (LEDPA) for placement of dredged materials produced from future Wicomico River Federal navigation channel maintenance. Failure to do so will result in a significant adverse effect to our resources and will be accordingly elevated for higher level review.

Endangered Species Act (ESA)

Endangered species under the jurisdiction of NOAA Fisheries may be present in the project area. The federal action agency is responsible for determining whether the proposed action may affect these species. If you determine that the proposed action may affect a listed species, your determination of effects along with justification and a request for concurrence should be submitted to the Section 7 Program email account at nmfs.gar.esa.section7@noaa.gov. Guidance and tools to assist you in your effects determination are available on our website at: https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-consultations-greater-atlantic-region. Please contact Brian Hopper of our Protected Resources Division (brian.d.hopper@noaa.gov) if you have any questions or to discuss your project and obligations under Section 7 of the Endangered Species Act (ESA).

Conclusion

We look forward to working with you and your staff as the project moves forward. If you have any questions regarding EFH in the project area, please contact Jonathan Watson in our Annapolis, MD field office (jonathan.watson@noaa.gov).

Sincerely,

GREENE.KAREN.M.1365830785 Digitally signed by GREENE.KAREN.M.1365830785 Date: 2021.05.27 17:01:28 -04'00'

Louis A. Chiarella
Assistant Regional Administrator
for Habitat Conservation

cc: D. Szimanski, G. Mcallister, C. Spaur (USACE)
B. Hopper (NMFS - PRD)
S. Corson, J. Lazaar (NCBO)
P Whitfield, J. Davis (NOAA NCCOS)
C. Guy, B.Wilson (USFWS)
M. Fitzgerald (USEPA)
J. Stewart, M. Phipps-Dickerson (MDE)
R. Limpert, J. Moulis (MDNR)
C. Clasing (WDPW)
W. Barnes (SDPW)
D. Courson (MD-DC Audubon)
D. Meyers (CBF)

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Spaur, Christopher C CIV USARMY CENAB (USA)

From: Jonathan Watson - NOAA Federal <jonathan.watson@noaa.gov>
Sent: Friday, May 28, 2021 10:06 AM
To: Szimanski, Danielle M CIV USARMY CENAB (USA)
Cc: Seib, William P CIV USARMY CENAB (USA); Mcallister, Graham K CIV USARMY CENAB (USA); Spaur, Christopher C CIV USARMY CENAB (USA); Brian D Hopper - NOAA Federal; Sean Corson - NOAA Federal; Karen Greene - NOAA Federal; Jay Lazar - NOAA Federal; Paula Whitfield - NOAA Federal; Jenny Davis - NOAA Federal; Wilson, Bartholomew D; Guy, Chris; Fitzgerald, Megan; Jon Stewart; Mary Phipps-Dickerson -MDE-; Roland Limpert -DNR-; John Moulis -DNR-; clasing@wicomicocounty.org; wbarnes@somersetmd.us; david.curson@audubon.org; Doug Myers
Subject: [Non-DoD Source] RE: Environmental Assessment for Wicomico Federal Navigational Channel Dredge and Deal Island Placement
Attachments: Wicomico Dredge_ Deal TLP_NMFS HESD EFH.pdf

Hi Danielle,

Please find attached our response to the environmental assessment (EA) and accompanying essential fish habitat (EFH) assessment you provided for the proposed Wicomico Federal navigation channel dredging and placement of the resulting material on intertidal areas of the Deal Island Wildlife Management Area. We are obviously concerned about the proposal to create 100% high (i.e., irregularly flooded) marsh in areas currently supporting intertidal vegetated wetlands and tidal creeks/flats. This is particularly concerning given that no formal evaluations were conducted to facilitate placement site selection or document marsh condition at the selected site(s). We have cited several publications in our letter that are intended to help facilitate discussion and guide similar projects in the future. We look forward to working with you and other state/federal partners on this project and others to ensure that such sediment augmentation efforts are conducted to enhance marsh resilience and minimize impacts to sensitive and/or productive aquatic habitats. Once you have had a chance to review our response, we would appreciate an opportunity to meet with your team to discuss a pathway forward. Please contact me (jonathan.watson@noaa.gov) with any questions, comments, or concerns.

Sincerely,

Jonathan Watson
--
Marine Habitat Resource Specialist
NOAA/National Marine Fisheries Service
Habitat and Ecosystem Services Division
200 Harry S Truman Pkwy., Ste. 460
Annapolis, MD 21401
(410) 295-3152 (office, forwarded to cell)

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September 15, 2021

Mr. Kevin Brennan
Chief Navigational Officer
United States Army Corps of Engineers
Baltimore District
PO Box 1715
Baltimore, MD 21203-1715

RE: Webster's Cove Dredging, Somerset County, MD

Dear Mr. Brennan:

After talking with our Waterways Manager, I was dismayed to say the least to hear that maintenance dredging of the Webster's Cove Basin and associated Approach "spur channel" was not scheduled this cycle. For many years, Somerset County has expressed a need for dredging at this heavily utilized harbor; furthermore, we were of the understanding that the Basin and Approach would always be dredged when the Channel Reach of the Wicomico River adjacent to Webster's Cove was scheduled. This is very alarming as we are certain that the there is significant deterioration along the spur channel and in the federal basin. This coupled with the fact that it will be many years before dredging occurs again is very concerning.

As you well know, contractors utilize Webster's Cove as a staging area for their equipment while working on this reach of the river. It seems that now would be the time to dredge Websters Cove and eliminate future mobilization costs. Somerset County asks that you consider any funding available to bring this request to fruition.

As always Somerset County appreciates all you do and looks forward to working with you on this project. If you should have any questions, please feel free to reach out to our Waterways Manager, Mr. George Barnes 410-651-1930 or myself at the above contact information. Thank you for your consideration.

Regards,

Ralph D. Taylor
County Administrator

Cc: Senator Ben Cardin
Senator Chris Van Hollen
Congressman Andy Harris
Mr. Graham Mcallister

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

January 7, 2022

William P. Seib, Chief
Operations Division
Baltimore District
U.S. Army Corps of Engineers
2 Hopkins Plaza
Baltimore, MD 21203-1715

Re: Wicomico River Maintenance Dredging and Deal Island Placement Project

Dear Mr. Seib:

Thank you for your December 20, 2021, response to our May 27, 2021, letter commenting on the environmental assessment (EA) and issuing essential fish habitat (EFH) conservation recommendations for the Wicomico River maintenance dredging and Deal Island placement project. Although your response does provide further clarification regarding the proposed dredging and placement activities, we remain concerned that the several of our EFH conservation recommendations have not been addressed and that design of the placement at Deal Island has an increased risk for failure relative to more typical thin-layer placement projects undertaken by the Baltimore District. This increased risk of failure is due to the existing placement site conditions, the elevations/slopes proposed, the fine-grained nature of the dredged material, the microtidal range, and the lack of specificity in the request for proposals for dredging/placement contractors.

We appreciate your consideration/incorporation of several of our EFH conservation recommendations into the project, including time of year restrictions for migratory fish and submerged aquatic vegetation (SAV). However, several specific elements of the proposed action remain unclear, including the extent to which floating pipelines will be used to avoid sensitive aquatic habitats and the extent to which the dredged material will be spread throughout the site. While we understand that you wish to maintain maximum flexibility for the contractors, these specific design/execution elements should be discussed with the relevant resource agencies once a contract has been awarded and project plans have been fully developed. Specifically, the contractor should be encouraged to spread the material evenly throughout areas 1 and 2, thus limiting placement thickness and maximizing slope stability. This should also increase the rebound potential of existing vegetation, avoid challenges associated with creating uplands (e.g., *Phragmites australis* colonization), and increase the long-term resilience of the marsh to wave energies. We also request that we be invited to site visits prior to, during, and following the placement of material.

We remain concerned that the complete conversion of existing low marsh, tidal flats, and tidally-influenced creeks to high marsh and potentially uplands represents a loss of habitat for NOAA trust resources that has not been adequately justified and that the ecological functions of the placement site will be diminished if the dredged material is placed on the site as currently proposed. In their 1992 article, Wilbur defined thin layer placement as "any disposal of dredged material involving the purposeful, planned placement of material at thicknesses that are generally believed to either greatly reduce the immediate impacts to biota or greatly hasten the recruitment of native biota to the material without transforming the habitat's ecological function." Furthermore, the National Research Council (1992) defined marsh restoration as the "return of a degraded or altered natural area or ecosystem to a close approximation of its condition prior to disturbance." The project as proposed does not meet these definitions.

Although the proposed placement of dredged material on Deal Island could be considered a marsh "enhancement" with the expressed purpose of increasing resilience of a dyke structure and habitat conversion to benefit a high-marsh nesting bird species threatened by sea-level rise (SLR), this project does not approach marsh platform enhancement from an ecosystem perspective. While protection of the existing dyke and improving habitat conditions for declining bird species are laudable goals in their own right, the approach proposed increases the impacts to existing habitats, as well as the potential for failure and/or indirect impacts to adjacent habitats. The existing dyke structure was constructed in the late 1960's in areas that appeared to support low marsh communities at the time of construction. This structure altered the hydrology of area marshes and likely has a limited life-span given its proximity to a high-energy shoreline and the rates of relative sea-level rise (RSLR) in the project area (4mm/yr; Kearney et al. 1994). The challenges facing this dyke structure were recently exemplified during the October 29, 2021, high-water event which inundated the fringing marsh and damaged the dyke. We are concerned that similar events may occur during the establishment of this project that would limit its ability to meet stated goals and damage sensitive aquatic habitats adjacent to the project area.

In our previous letter, we outlined a number of other shortcomings and issues with the design of the dredged material placement on Deal Island. While we understand that you intend to proceed with the project as proposed, we encourage you to work to develop a suite of alternative placement sites for future action based on the criteria listed below. In addition, several years of monitoring will be necessary to understand the success of the placement method currently proposed. Should the project fail to attain several fundamental goals or present impacts to adjacent habitats of concern (e.g., SAV, oyster reef), further placement at this location should not be pursued and alternative placement sites should be used.

Our recommended approach for identifying a placement site and developing goals/objectives for the reuse of fine-grained dredged material would ideally meet the following criteria:

- The site will exhibit demonstrable impairment that is appropriate to address through platform enhancement (e.g., areas of expanding open water rather than areas experiencing edge loss). This should be identified using objective measures (e.g., unvegetated:vegetated ratio over time *sensu* Ganju et al. 2015), rather than relying on best professional judgment. The Deal Island site was not identified using this approach.

- The project will enhance the resiliency of the existing marsh to RSLR with the greatest long-term outlook for marsh persistence and, if applicable, improve resilience of critical human infrastructure (e.g., primary access roads). The existing marsh edge channelward of the Deal Island Dames Quarter Impoundment is demonstrating signs of ongoing erosion. However, it is unclear that the addition of fine-grained material to the marsh platform at a depth of 40 cm will significantly decrease the rate of erosion considering the frequency of high-wave energy events and the time required to establish robust plant growth capable of withstanding such energies. For this reason, the potential future placement of material at areas 3 or 4 is particularly risky.

- The project will address underlying challenges to long-term marsh persistence, such as sediment limitation and altered hydrology. At the Deal Island site, the existing impoundment likely decreases the long-term persistence of marsh in the project vicinity because it restricts the marsh hydrology and limits the adaptive capacity of the fringing marsh. Maintenance will likely be required at increasing frequencies to address future environmental challenges to its structural integrity associated with RSLR, regardless of the measures proposed.

- The project will take a balanced approach to restoring or enhancing ecosystem function for the suite of species that regional marsh mosaics support. This should include a mix of habitats found in a comparable proportion relative to the local landscape. While it can and should include *Spartina patens* marshes, these projects should not be targeted to create solely high marsh, as this state does not naturally exist, especially in areas of fringing marsh. The target elevations should be dictated by values collected at relatively healthy reference sites, rather than biological requirements for a single species, as is the case with the current plan for Deal Island. Similarly, placement depths should be varied and ideally be limited to less than 30 cm in most areas to limit disturbance to existing vegetation and decrease recovery times.

- Those undertaking the action will provide funding and be responsible for the long-term monitoring, maintenance, and stewardship of the site to increase the likelihood of ecological success, as defined in the project goals. For the current project, the non-federal project sponsor is solely responsible for the long-term stewardship of the project location, which could prove challenging under certain budgetary circumstances.

- Structured decision making, informed by past successes/failures will be used to identify future potential uses of dredged material that can be reasonably anticipated to be targeted for reuse in restoration or enhancement projects.

The approach described above represents a structured decision making framework with the overall goal of keeping sediment in the system and enhancing the resilience of the Wicomico River salt marshes in the face of relative sea level rise (RSLR) with minimal adverse impacts to existing aquatic resources.

Finally, we appreciate the continued dedication of the participating agencies to ensure the success of this project. We understand that Audubon Mid-Atlantic is developing an adaptive

management framework and we will be providing feedback on this plan as it is developed. We will also work with state and federal resource agencies to identify potential sites that could present suitable conditions for future placement and encourage you to participate in those discussions. Finally, we look forward to working with you and your staff as the project moves forward. If you have any questions regarding EFH in the project area, please contact Jonathan Watson in our Annapolis, MD field office (jonathan.watson@noaa.gov).

Sincerely,

GREENE.KAREN.M.1365830785 Digitally signed by GREENE.KAREN.M.1365830785 Date: 2022.01.07 16:32:53 -05'00'

Karen Greene
Branch Chief, Mid-Atlantic
Habitat and Ecosystem Services Division

cc: D. Szimanski, G. Mcallister, C. Spaur (USACE)
B. Hopper (NMFS - PRD)
B. Wilson (USFWS)

Works Cited

Ganju, N.K, Z. Defne, M.L. Kirwan, S. Fagherazzi, A. D'Alpaos, L. Carniello. 2017. Spatially integrative metrics reveal hidden vulnerability of microtidal salt marshes. Nature Communications. DOI: 10.1038/ncomms14156

Kearney, M. S., J. C. Stevenson, and L. G. Ward. 1994. Spatial and temporal changes in marsh vertical accretion rates at Monie Bay: Implications for sea-level rise. Journal of Coastal Research 10: 1010–1020.

National Research Council (NRC). 1992. Restoration of aquatic ecosystems: Science, technology, and public policy. National Academy Press, Washington, D.C.

Wilber, P. 1992. Thin-layer disposal: Concepts and terminology. Environmental Effects of Dredging. Information Exchange Bulletin D-92-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
2 HOPKINS PLAZA
BALTIMORE MD 21203-1715

March 7, 2022

Operations Division

Ms. Tammy Roberson
Maryland Department of the Environment
Water and Science Administration, Wetlands and Waterways Program
Regulatory Services Section – ATTN: WQC
Montgomery Park Business Center – STE 430
1800 Washington Boulevard
Baltimore, Maryland 21230-1708

Dear Ms. Roberson:

The Baltimore District, U.S. Army Corps of Engineers (Corps) is planning to perform maintenance dredging of the Federal navigation channel in the Wicomico River, Wicomico County, Maryland. The proposed work consists of dredging the Wicomico River channel to its authorized depth of 14 feet mean lower low water (MLLW), plus one foot of allowable overdepth, and a width of 150 feet. However, due to the inaccuracies of dredging some material may be removed beyond the allowable overdepth. The Corps plans to hydraulically dredge approximately 130,000 cubic yards of material consisting of clay, mud, sand, silt, and shell and combinations thereof from the lower reach of the Wicomico River from Monie Bay to just south of Mt. Vernon Wharf (Map 1). The dredged material will be beneficially used to restore wetlands at the Deal Island Wildlife Management Area (WMA) in Somerset County, Maryland (Map 2). The WMA is owned and operated by Maryland Department of Natural Resources (MDNR).

Dredged material will be transported via pipeline from Wicomico River to the WMA. Material will be placed to an elevation not to exceed 1.5 ft MLLW above existing grade to restore saltmarsh sparrow and black rail nesting habitat. The restored wetland will also provide critical protection to the impoundment infrastructure of the WMA (Map 2). The pipeline will be moved throughout the restoration area to ensure proper elevations are reached during placement. Material will be contained with straw bales and tidal plugs to the south while using the existing impoundment berm as containment to the north. Straw bales will be staked, secured, and stacked two-to-three high to ensure proper elevation of the dredged material can be achieved while still being contained. A second single row of straw bales will be installed to provide additional containment to the site.

Material will also be planted over the course of two growing seasons to ensure stabilization and habitat creation. Aerial seeding will occur the first growing season with

a salt tolerant barnyard grass, with hand planting of *Spartina alterniflora* only occurring closest to the containment to cause minimal disturbance. Some *Spartina alterniflora* seeds may be mixed into the aerial seeding for additional root growth support in the first year. Hand planting of *Spartina patens* and *Distichlis spicata* will occur the second growing season post dredged material placement. Approximately 72 acres of wetland are to be restored. Pre- and post-monitoring, as well as the creation of an adaptive management plan, will be conducted by affiliating state, federal and NGO agencies.

The Corps requests the review of the proposed project for Water Quality Certification. The proposed action will temporarily adversely impact Essential Fish Habitat (EFH) in the navigation channel in the Wicomico River. At the Deal Island WMA, the proposed action would cause a resource tradeoff where failing tidal wetlands and associated open water are temporarily impacted but will be restored as tidal wetlands with a targeted elevation to provide nesting habitat for the saltmarsh sparrow and black rail species as requested by project partners. As brackish marsh constitutes EFH, this trade-off is inherently mitigational. Habitat impacts would not reduce the carrying capacity of the projected area for managed fish species. Impacts to submerged aquatic vegetation beds are anticipated to be minimal through implementation of avoidance and minimization measures required by Maryland Department of Natural Resources and National Marine Fisheries Service. Consequently, the proposed project complies with the provisions of the Magnuson-Stevens Fishery Conservation and Management Act, as amended, and as such, we will not have any adverse effect on endangered species or essential fish habitat for federally managed species.

Sediment testing of the dredged material from previously removed dredged material was performed in 2021. The results of these tests, as well as previous testing, show the material to be acceptable. The 2021 results are enclosed for reference, as is the 404(b)(1) analysis that Corps performed for this project. Since the last maintenance dredging of the lower Wicomico River channel, no spills have been reported. Therefore, we have no reason to believe that the sediment has become contaminated.

In accordance with 33 C.F.R.§ 336.1(b)(8), we request that you issue a Water Quality Certification for this project within two months from the date of this request.

If there are any questions, please contact Ms. Danielle Szimanski, Navigation Branch, at (410) 962-6064.

Sincerely,

Kevin M. Brennan
Chief, Navigation Branch

Enclosures

1. Public Notice
2. Map 1 – Lower Wicomico channel map
3. Map 2 – Deal Island Placement site location
4. 2021 Sampling Results
5. 404(b)(1) analysis

CF:
CENAB-PL
MDE – Mary Phipps-Dickerson

March 24, 2022

VIA ELECTRONIC MAIL

Department of the Army
Baltimore District, Corps of Engineers
Attn: Kevin Brennan
2 Hopkins Place
Baltimore, Maryland 21203-1715
Kevin.M.Brennan@usace.army.mil

Subject: Request for Water Quality Certification for the Wicomico River Dredging Project

Dear Mr. Brennan:

The Maryland Department of the Environment ("MDE") received your request for a state Water Quality Certification ("WQC") on March 10, 2022. The WQC is requested for the Wicomico River Dredging Project, which proposes to hydraulically dredge from the lower reach of the Wicomico River from Monie Bay to just south of Mt. Vernon Wharf, and to beneficially use the dredge material to restore wetlands at the Deal Island Wildlife Management Area (WMA) in Somerset County, Maryland. Because this is a USACE Civil Works project, it does not require a USACE regulatory program permit, however the USACE is required to request a WQC in accordance with the Clean Water Act.

The submission does not constitute a complete request as it is not in accordance with COMAR 26.08.02.10 and Section 401 of the Clean Water Act, which requires specific water quality information to be provided to the certifying agency with a WQC request to demonstrate the project will be operated or conducted so as not to violate water quality requirements of the state, and as such, it does not constitute a valid request under 33 C.F.R§ 336.1 (b)(8). Specifically, the following was not included or is insufficiently documented in the submission:

- The project site address, including coordinates in degrees, minutes, seconds, 12 digit HUC no., and watershed name;
- A plan showing the proposed activities to scale including:
    - The location(s) and boundaries of the activities;
    - The location(s), dimension(s), and type(s) of any existing and/or proposed structures; and
    - The location(s), name(s), identification number(s), and extent of all potentially affected surface water bodies, including wetlands.
- Identify the location and nature of any potential discharge that may result from the proposed project and the location of receiving waters;

- Include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge;
- The date on which the activity will begin or end, if known, and the date or dates on which any discharge may occur;
- A description, if applicable, of the methods proposed or employed to monitor the quality and characteristics of any discharge;
- Include a list of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received;
- Contain the following statement: 'The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief'; and
- Contain the following statement: 'The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.'

Additionally, the Maryland Department of Natural Resources (MDNR) and the National Marine Fisheries Service (NMFS) provided comments on the Environmental Assessment (EA) for the Wicomico River Maintenance Dredging and Deal Island Placement Project. MDE is aware of the comments that were provided to you by MDNR on March 16, 2021 and NMFS on May 27, 2021 that identified water quality concerns. These concerns were not addressed in the WQC request submission. The information summarized below is critical in order to incorporate appropriate special conditions into the WQC to address water quality standards and other appropriate requirements of state law:

- Adherence to applicable time-of-year restrictions to protect anadromous fish, oyster, waterfowl, and submerged aquatic vegetation (SAV) resources during dredging and material placement activities.
- Protection measures for natural oyster bars located within the dredging project area, and plans for coordination with aquaculture leaseholders located within/near the project.
- DNR approvals/easements for placement of the pipeline and material at the Deal Island Wildlife Management Area (WMA).
- Other requirements identified by both DNR and NMFS to ensure minimal impact to Deal Island WMA resources, including (but not limited to) measures to protect adjacent SAV, existing marshes and habitat, fisheries, oyster restoration, and assurances that selected dredging operators are familiar with placement of dredged material for marsh restoration.

For the reason(s) noted above, your request has been determined to be incomplete. MDE is not in receipt of a valid request for a state WQC on this project and as such, the time period for evaluating the WQC request has not been initiated. Complete information is required to be submitted before MDE can begin its review and issue a final determination on your request under Section 401 of the Clean Water Act. Should this information not be received, MDE would likely issue a denial of the WQC request. Please note if a denial is issued for this project, a new request for WQC will need to be submitted in the future in accordance with Section 401 of the Clean Water Act and Code of Maryland Regulations 26.08.02 should you decide to pursue this project.

MDE would like to help you successfully complete the WQC review process. Included is the WQC

Key Elements document to provide specific guidance on the required information. If you have any questions, please contact Ms. Mary Phipps-Dickerson at (410) 901-4033 or by email at mary.phipps-dickerson@maryland.gov or Tammy Roberson at (410) 537-3522 tammy.roberson@maryland.gov.

Sincerely,

Danielle A. Spendiff, Chief
Regulatory & Customer Service Division

Enclosures: WQC Key Elements
National Marine Fisheries Service - Environmental Assessment Comments
Department of Natural Resources Project Comments

cc: Danielle Szimanski, USACE
Tammy Roberson, MDE
Mary Phipps-Dickerson, MDE

Key Elements for a Request for a CWA Section 401 Water Quality Certification 40 C.F.R. § 121 and COMAR 26.08.02.10 (v.4 11/3/2021)

All requests for a Water Quality Certification (WQC) shall be in writing and mailed to:

Maryland Department of the Environment
Water and Science Administration
Wetlands and Waterways Program
1800 Washington Boulevard
Baltimore, MD 21230

Please call 410-537-3745 if you have any questions.

Each key element below should be addressed in your request as applicable and denoted not applicable (N/A) as appropriate for your project.

1. In accordance with 40 C.F.R. §121 and COMAR 26.08.02.10, you shall submit to the Department a request which includes:

(a) Identify the project proponent(s) and a point of contact. Name, address, phone number, email address of the applicant and as applicable the authorized agent.

(b) Identify the applicable federal license or permit. For example, include the assigned U.S. Army Corps of Engineers and Maryland Department of Environment tracking numbers along with a copy of the Joint Permit Application (JPA). The JPA shall be included with the Request for a Water Quality Certification, as well as any supplemental documents that address all of the following not contained in the JPA.

> (i) The complete WQC request should be submitted concurrently to the federal licensing or permitting agency.

(c) The project site address, including coordinates in degrees, minutes, seconds, 12 digit HUC no., Watershed name.

(d) The name(s) and address(es) of adjacent property owners.

(e) Signed Public Notice Billing Form.

(f) Identify the proposed project. Description of the facility or activity.

(g) A plan showing the proposed activities to scale including:
- o The location(s) and boundaries of the activities;
- o The location(s), dimension(s), and type(s) of any existing and/or proposed structures; and
- o The location(s), name(s), identification number(s), and extent of all potentially affected surface water bodies, including wetlands.

(h) Identify the location and nature of any potential discharge that may result from the proposed project and the location of receiving waters; A description of any discharge which **may result** from the conduct of any activity including:

(*i*) Biological, chemical, thermal or other characteristics of the potential discharge;

(a) A description of any other aspect of associated with construction and operation of the activity that would affect the chemical composition, temperature, flow, or physical aquatic habitat of the surface water.

(b) The characteristics of the discharge
- o Flow rate (cfs)
- o Potential chemical, physical, biological constituents
- o Frequency (e.g., daily, hourly,)
- o Duration
- o Temperature (Celsius)

(*ii*) The location or locations at which any discharge may enter navigable waters;

(a) Latitude and longitude (dd:mm:ss)
(b) An original or color copy/reproduction of a United States Geological Survey Quadrangle Map that clearly shows the location of the activity and all potential discharge points

(*iii*) Data supporting existing aquatic life use for each waterway; and

(*iv*) Antidegredation alternatives analysis as applicable to Tier II waters.

(*v*) The existing and designated use(s) that are potentially affected by the proposed activities.

(i) Include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge; A description, if applicable, of the function and operation of any equipment or facilities to treat any discharge and the degree of treatment to be attained. A description of any other aspect of associated with construction and operation of the activity that would affect the chemical composition, temperature, flow, or physical aquatic habitat of the surface water.

(j) The date on which the activity will begin or end, if known, and the date or dates on which any discharge may occur.

(k) A description, if applicable, of the methods proposed or employed to monitor the quality and characteristics of any discharge.

(l) A specific and detailed mitigation plan as applicable for projects requiring mitigation.

(m) Include a list of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received; Other related permits issued or required (Individual 404 Permit, Nationwide Permit No., Section 10 Permit, Erosion and Sediment Control Plan Approval, NPDES permit (including Stormwater Permits), Regional Permits.

(n) Any other information for evaluation of the impact of the activity on water quality. This may include quantitative analysis to demonstrate that the proposed activity may not violate State water quality standards.

(o) Contain the following statement: 'The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief'; and

(p) Contain the following statement: 'The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.'

2. <u>Discharges to Outstanding National Resource Waters will not be certified unless:</u>

a. there is minimal adverse impact;

b. the discharge will not impair water quality ncesssary to maintain the exceptional biological resource of the ONRW; and

c. all practical actions have been taken to avoid impacts.

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
2 HOPKINS PLAZA
BALTIMORE MD 21203-1715

April 12, 2022

Operations Division

Ms. Danielle Spendiff
Maryland Department of the Environment
Water and Science Administration, Wetlands and Waterways Program
Regulatory Services Section – ATTN: WQC
Montgomery Park Business Center – STE 430
1800 Washington Boulevard
Baltimore, Maryland 21230-1708

Dear Ms. Spendiff:

The Baltimore District, U.S. Army Corps of Engineers (Corps) is planning to perform maintenance dredging of the Federal navigation channel in the Wicomico River, Wicomico County, Maryland. The Corps Public Notice for this Project was issued on 19 February 2021 and is enclosed for your reference. Coordination with other federal, state, and local organizations also occurred in February 2021. A list of all contacted organizations is enclosed with this letter.

The proposed work consists of dredging the Wicomico River channel to its authorized depth of 14 feet mean lower low water (MLLW), plus one foot of allowable overdepth, and a width of 150 feet. However, due to the inaccuracies of dredging some material may be removed beyond the allowable overdepth. The Corps plans to hydraulically dredge approximately 130,000 cubic yards of material consisting of clay, mud, sand, silt, and shell and combinations thereof from the lower reach of the Wicomico River from Monie Bay to just south of Mt. Vernon Wharf (Map 1). The dredged material will be beneficially used to restore wetlands at the Deal Island Wildlife Management Area (WMA) in Somerset County, Maryland (Map 2). The WMA is owned and operated by Maryland Department of Natural Resources (MDNR).

Dredged material will be transported via pipeline from Wicomico River to the WMA. Material will be placed to an elevation not to exceed 1.5 ft MLLW above existing grade to restore saltmarsh sparrow and black rail nesting habitat. The restored wetland will also provide critical protection to the impoundment infrastructure of the WMA (Map 2). The pipeline will be located on the impoundment berm at the northern end of the placement site only to allow the most distance between discharge and the containment. This discharge location, along with the use of a diffuser to slow the velocity of the material leaving the pipeline, will allow material to fan out more slowly across the site and allow for better monitoring. Additionally, this minimizes impact to the containment structures by not having direct contact with the pipeline. The pipeline inflow location will

be moved across the impoundment berm road to ensure proper elevations are reached during placement. Material will be contained with straw bales and tidal plugs to the south while using the existing impoundment berm as containment to the north. Straw bales will be staked, secured, and stacked two-to-three high to ensure proper elevation of the dredged material can be achieved while still being contained. A second single row of straw bales will be installed to provide additional containment to the site. Any water discharge will occur through the tidal ditch plugs into the small creek between wetland fragments just south of the Deal Island Wildlife Management Area. This creek flows into Big Sound Creek leading into the Manokin River. Dredged sediment is to remain contained inside the site to raise the current elevation of the existing wetlands for threatened migratory bird species nesting habitat. Contractor quality control personnel will be on site the entire time dredging operations are ongoing to visually monitor the discharge. Corps quality control personnel and Maryland Department of Natural Resources biological quality personnel will be on site daily and available on call in case of emergencies.

Material will also be planted over the course of two growing seasons to ensure stabilization and habitat creation. Aerial seeding will occur the first growing season with a salt tolerant barnyard grass, with hand planting of *Spartina alterniflora* only occurring closest to the containment to cause minimal disturbance. Some *Spartina alterniflora* seeds may be mixed into the aerial seeding for additional root growth support in the first year. Hand planting of *Spartina patens* and *Distichlis spicata* will occur the second growing season post dredged material placement. Approximately 72 acres of wetland are to be restored. Pre- and post-monitoring, as well as the creation of an adaptive management plan, will be conducted by affiliating state, federal and NGO agencies.

At this time, it is anticipated that construction of the containment structures is to begin in the late summer/early fall of 2022. Dredging will occur in the environmental time of year restricted window of October to February. Vegetation plantings will occur the following two years post dredged material placement in the prescribed growing seasons.

The Corps requests the review of the proposed project for Water Quality Certification. The proposed action will temporarily adversely impact Essential Fish Habitat (EFH) in the navigation channel in the Wicomico River. At the Deal Island WMA, the proposed action would cause a resource tradeoff where failing tidal wetlands and associated open water are temporarily impacted but will be restored as tidal wetlands with a targeted elevation to provide nesting habitat for the saltmarsh sparrow and black rail species as requested by project partners. As brackish marsh constitutes EFH, this trade-off is inherently mitigational. Habitat impacts would not reduce the carrying capacity of the projected area for managed fish species. Impacts to submerged aquatic vegetation beds are anticipated to be minimal through implementation of avoidance and minimization measures required by Maryland Department of Natural Resources and National Marine Fisheries Service. Consequently, the proposed project complies with

the provisions of the Magnuson-Stevens Fishery Conservation and Management Act, as amended, and as such, we will not have any adverse effect on endangered species or essential fish habitat for federally managed species.

Sediment testing of the dredged material from previously removed dredged material was performed in 2021. The results of these tests, as well as previous testing, show the material to be acceptable. The 2021 results are enclosed for reference, as is the 404(b)(1) analysis that Corps performed for this project. Since the last maintenance dredging of the lower Wicomico River channel, no spills have been reported. Therefore, we have no reason to believe that the sediment has become contaminated.

In accordance with 33 C.F.R.§ 336.1(b)(8), we request that you issue a Water Quality Certification for this project within two months from the date of this request. The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief. The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

If there are any questions, please contact Ms. Danielle Szimanski, Navigation Branch, at (410) 962-6064.

Sincerely,

Kevin M. Brennan
Chief, Navigation Branch

Enclosures

1. Public Notice
2. Coordination List
3. Map 1 – Lower Wicomico channel map
4. Map 2 – Deal Island Placement site location
5. 2021 Sampling Results
6. 404(b)(1) Analysis
7. Plan Sheets
8. MDNR Coordination Response Letter
9. NMFS Coordination and Response Letters

CF:
CENAB-PL
MDE – Mary Phipps-Dickerson

May 13, 2022

VIA ELECTRONIC MAIL
Department of the Army
Baltimore District, Corps of Engineers
Attn: Kevin Brennan
2 Hopkins Place
Baltimore, Maryland 21203-1715
Kevin.M.Brennan@usace.army.mil

Subject: Request for Extension and Additional Information for the Water Quality Certification for the Wicomico River Dredging Project

Dear Mr. Brennan:

The Maryland Department of the Environment ("MDE") received your updated request for a state Water Quality Certification ("WQC") on April 12, 2022. The WQC is requested for the Wicomico River Dredging Project, which proposes to hydraulically dredge from the lower reach of the Wicomico River from Monie Bay to just south of Mt. Vernon Wharf, and to beneficially use the dredge material to restore wetlands at the Deal Island Wildlife Management Area (WMA) in Somerset County, Maryland. Because this is a USACE Civil Works project, it does not require a USACE regulatory program permit, however the USACE is required to request a WQC in accordance with the Clean Water Act. The placement site, which is owned by Maryland Department of Natural Resources, will require a wetland license application to be submitted by the non-federal sponsor, Wicomico County, as well as formal agreement with DNR to use the site for placement of the dredged material.

The current WQC request is missing information specified in COMAR 26.08.02.10 and Section 401 of the Clean Water Act, which requires specific water quality information to be provided to the certifying agency with a WQC request to demonstrate the project will be operated or conducted so as not to violate water quality requirements of the state. **MDE is requesting an extension for processing this WQC request to October 9, 2022 to work with the USACE and Wicomico County to obtain this information. Please reply by May 26, 2022 to inform us of your decision regarding this extension request.**

The following information that is required in order to complete an evaluation of the WQC request includes:
- The project proponents including the non-federal sponsor and point of contact.
- The placement project site address, including coordinates in degrees, minutes, seconds, and 12 digit HUC number;
- The names and addresses of adjacent property owners.
- Documentation of the existing health status of the marsh to verify that it is in need or restoration or enhancement.
- A plan showing the proposed activities to scale including:
    - The location(s), name(s), identification number(s), and extent of all potentially affected surface water bodies, including wetlands.
    - The mean high water line on all placement site overviews and the mean high water line including elevation on all placement site cross sections. Show or label the A—A cross section and show what vegetation will be planted where. The cross section that is included indicates a consistent

3.5 MLLW elevation, but the narrative indicates that there will be grading for low and high marsh. Please include a typical cross section with the different target elevations for low and high marsh.
- Information used to determine the 3-foot tidal range and the target elevation of the placement site Provide information to support 3.5 MLLW as an elevation that will support high marsh rather than upland vegetation. Was this based on a nearby reference site?
- Information to support the proposed thickness of fill. Thin layer spraying is generally done with thin layers significantly less than the 18 inches proposed.
- An impact chart identifying the area of each existing resource type that will be filled and converted into a different resource type – for example show the square feet of marsh being filled to elevations above the mhhwl, or the square feet of open water being filled to create high marsh.

● A description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge including a breach response plan;
● A list of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received;
● Information to show how the project will:
- Coordinate applicable time-of-year restrictions to protect anadromous fish, oyster, waterfowl, and submerged aquatic vegetation (SAV) resources during dredging and material placement activities.
- Avoid natural oyster bars located within the dredging project area, and
- Plans for coordination with aquaculture leaseholders located within/near the project.

● Copies of DNR approvals/easements for placement of the pipeline and material at the Deal Island Wildlife Management Area (WMA).
● Names and contact information of parties that will be responsible for the long term monitoring and maintenance, or remediation of the site if the restoration project is determined to be unsuccessful.

Additionally, we would like clarification of the statement included in the SECTION 404(b)(1) EVALUATION submitted with the WQC request on Page 7 under f. Proposed Disposal Site Determination, (2) Determination of Compliance with Applicable Water Quality Standards, where it is stated that the WQC was submitted and no response was received and that the WQC is presumed waived. MDE disagrees with this statement and has responded to the WQC request and does not intend to waive this WQC. MDE is requesting additional information in order to have adequate information to evaluate and create an appropriate WQC. Should this information not be received, MDE would likely issue a denial of the WQC request. Please note if a denial is issued for this project, a new request for WQC will need to be submitted in the future in accordance with Section 401 of the Clean Water Act and Code of Maryland Regulations 26.08.02 should you decide to pursue this project.

Please e-mail the revised plans and additional information to mary.phipps-dickerson@maryland.gov or send them to: MDE-Tidal Wetlands, 407 Race St., Cambridge, Md. 21613. MDE would like to help you successfully complete the WQC review process. If you have any questions, please contact Ms. Mary Phipps-Dickerson at (410) 901-4033 or by email at mary.phipps-dickerson@maryland.gov or Tammy Roberson at (410) 537-3522 tammy.roberson@maryland.gov.

Sincerely,

Mary Phipps-Dickerson

Mary Phipps-Dickerson
Tidal Wetlands Division
Wetlands and Waterways Division

CC: Danielle Szimanski, USACE
Heather Nelson, MDE
Danielle Spendiff, MDE

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
2 HOPKINS PLAZA
BALTIMORE MD 21203-1715

May 26, 2022

Operations Division

Ms. Mary Phipps-Dickerson
Maryland Department of the Environment
MDE - Tidal Wetlands Office
407 Race Street
Cambridge, Maryland 21613

Dear Ms. Phipps-Dickerson:

This letter is in reference to the Lower Wicomico maintenance Dredging Water Quality Certificate (WQC) request, which was submitted by The U.S. Army Corps of Engineers, Baltimore District (USACE) to the Maryland Department of the Environment (MDE) on April 12, 2022. USACE's submission included project plans, sediment testing of the dredged sediment from previously removed dredged sediment that was performed in 2021, 404(b)(1) analysis (dated March 2021), Public Notice (dated February 2021), and a list of those who received the Coordination Letter. A presentation was made on January 29, 2020 at the Joint Evaluation Meeting. USACE hosted a Public Meeting for this project on April 14, 2021. The Environmental Assessment (EA) was completed in June 2021. USACE received MDE's response letter on May 16, 2022, which included an extension request for processing the WQC, as well as requests for additional information related to the project.

MDE has requested an extension for the processing of the WQC until October 9, 2022. This extension request proposes a response date past the previously discussed date of July 13, 2022. USACE cannot support an extension beyond July 29, 2022, as doing so would pose an unacceptable risk to safe navigation on the Wicomico River. Due to time of year restrictions, dredging must be conducted between October and February of a given year. Prior to dredging commencing, substantial containment structures need to be installed and sections of pipeline must be fused together and routed from dredge location to the placement site. To facilitate the pre-dredging containment construction, an award must be made no later than August 31, 2022. MDE has been a partner in the development and refinement of this project dating back to January 2020. In the two and half years since the project initiation, USACE has made every effort to incorporate input from numerous federal, state, local and other partners into the plans and specifications for the contract. As such, USACE believes an extension to July 29, 2022, which is still more than 60 days from the date of this letter, is sufficient.

Supplemental information requested in MDE's May 13, 2022 letter is provided below:

- Non-Federal Sponsor: Wicomico County
- Non-Federal Sponsor Point of Contact:
  Tony Fascelli, Chief Civil Engineer
  Wicomico County Public Works
  125 N. Division St., Room 205
  Salisbury, Maryland 21801
  (Email: afascelli@wicomicocounty.org; Phone: 410-548-4927)

- Project Address, coordinates, and HUC number: This information can be found on plan sheet V-112. This information was previously submitted to MDE in April 2022.

- Adjacent Property owners: The property surrounding placement site is owned and operated by Maryland Department of Natural Resources (DNR).

- Existing health status of marsh: U.S. Fish and Wildlife Service (USFWS) and Audubon Mid-Atlantic have addressed the degrading marsh in the two enclosed documents from 2019 and 2021. DNR shows (through the Maryland Coastal Atlas) that the impoundment berm of the Deal Island Wildlife Management Area (WMA) will become wetlands by 2050 and large areas of the wetlands currently proposed to be restored will become tidal flats or freshwater shoreline. Aside from the loss of habitat and storm protection these wetlands provide, there is also an infrastructure component that is addressed in the restoration of the wetlands adjacent to the impoundment berm.

- Plan showing to scale proposed activities: The information can be found on plan sheets V-112 to V-114. This information was previously submitted to MDE in April 2022.

- Tidal Range: Tidal range data for the surrounding area was collected by the NOAA Bishop's Head tidal buoy and tidal gauges that were placed near the placement site in December 2020 specifically for monitoring conditions for this project.

- Elevation determination/Support of +3.5 ft MLLW elevation: While a specific reference site was not used, data from the nesting habits of saltmarsh sparrows was compiled by Audubon Mid-Atlantic to determine the required elevation for nesting habitat. These elevations were compared to the current tidal range the Deal Island Wildlife Management Area (WMA) and the current elevation of the existing marsh. It was agreed upon by multiple federal state and non-governmental organizations (NGOs), that to achieve the desired nesting habitat for the selected species, it was determined that a total average of 0.58 ft to 1.2 ft elevation will be added to the existing marsh. With the existing elevation at an average of +2.3 ft MLLW, this will but the highest possible elevation post placement at +3.5 ft MLLW. Please see the enclosed documents for further information on the elevation determination.

Please note that consolidation between two (2) to four (4) inches is anticipated to occur at the placement site. This may lead to even less acreage being needed (specifically in Area 2), depending on how fast the sediment consolidates and elevations are met. The consolidation rate will not be determined until operations are in progress and any potential modifications would be made at that time.

- Thin Layer Placement: As presented in the public meeting in April 2021, this project is not designed as a thin layer project. Instead, this project employs beneficial use of dredged material for the restoration of a degraded and fragmented marsh.

- Impact Chart: This information can be found on sheet V-114 of enclosed plans.

- Placement Monitoring: While placing sediment to control elevation, the plans and specifications provide for the contractor to place the sediment between +3.0 ft and + 3.5 ft MLLW (final elevation). This will allow between an average of 0.58 ft to 1.2 ft elevation gain from the existing elevation. The range in placement of sediment will allow for better microtopography of the habitat and a wider range of elevations, including a range of low marsh and high marsh in the system. In addition, placement of dredged sediment via pipeline will only occur from the existing berm at the north end of the placement site. This discharge location, along with the use of a diffuser to slow the velocity of the sediment leaving the pipeline, will allow sediment to fan out more slowly across the site and allow for better monitoring of the elevation. This will also reduce additional impacts to existing habitat. Keeping the pipeline on the existing berm will also allow for any higher marsh areas to be concentrated near the existing berm, with lower marsh elevations spreading out towards the containment structures. Additionally, this minimizes impact to the containment structures by not having direct contact with the pipeline. Target elevations will be properly and clearly staked out prior to the placement of dredged sediment at the site. This will ensure placement of dredged sediment does not exceed the target elevation at any time. Once the correct elevation is obtained in a section of an Area, it may be deemed necessary to move the pipeline and repeat the placement process.

- Discharge Monitoring: Dredged sediment is to remain contained inside the site to raise the current elevation of the existing wetlands for threatened migratory bird species nesting habitat. Sediment is to be contained with tidal ditch plugs and stacked strawbales. Any issues with containment during operations shall be addressed immediately by the contractor as stated in the contract specifications. Contractor quality control personnel will be on site the entire time dredging operations are ongoing to visually monitor the discharge. USACE quality control personnel and DNR biological quality personnel will be on site daily and available on call in case of emergencies.

  In response to a loss of integrity or a breach in the containment structures, the contract specifications lay out immediate response actions for restoring and replacing said impaired items. The contract specifications identify protection of water and land resources in case of spills, misplaced dredged sediment, or pipeline leaks. The contract specifications also outline the requirements for

environmental and quality control plans in adherence to all federal, state, and local laws. Prior to commencement of work on the project the contractor must also submit an Accident Prevention Plan, Quality Control Plan and Environmental Protection plan to USACE for review and approval.

- Agency Coordination: List of coordinated agencies and responses received provided with initial submission on April 12, 2022. Also provided for reference is a chronology of coordination meetings which MDE was invited to for this project.

- Time of Year Restrictions: DNR response letter (provided with April 12, 2022 WQC request) states "no dredging or placement of dredged sediment should be conducted during the periods 15 February through 15 October of any year. In addition to this restricted period, the portion of the channel within [Natural Oyster Bar] NOB 29-1 should not be dredged during the period 16 December through 14 March." USACE shall only allow the contractor to perform dredging during the available environmental window of 15 October to 15 February.

- Natural Oyster Bar Avoidance: Approximately 500 feet of the federal channel requires dredging in proximity to NOB 29-1. The specifications instruct the contractor to begin dredging at the southernmost location to allow proper time to avoid the time of year restriction (16 December through 14 March) for Natural Oyster Bar at the southern end of the Wicomico River.

- Aquaculture Lease Holders: General project information was distributed through the DNR Shellfish Aquaculture Program by USACE Regulatory office to those who may have leases in vicinity of the maintenance dredging location. A Public Notice was issued and Public Meeting held in relation to this project. Additionally, a Local Notice to Mariners will be promulgated prior to the dredging commencement. At this time, USACE does not foresee a need to have leaseholders remove or relocate their leases - a condition of the leaseholder's permit – to avoid impeding maintenance dredging. When lease agreements are authorized by USACE, permittees are informed that their lease location is in proximity to a federal navigation channel that is subject to periodic maintenance dredging.

- Easements from DNR: The easement for the pipeline culvert construction under State Route 363 has been completed (Maryland Board of Public Works approval March 23, 2022) and is included for reference. The Memorandum related to the use of the placement site has been approved by DNR and is currently with Wicomico County for review and signature.

- Post-Placement Monitoring Agencies and Points of Contact:
    - DNR: John Moulis (john.moulis@maryland.gov); Chris Snow (chris.snow@maryland.gov)
    - Audubon Society of the Mid-Atlantic: David Curson (David.Curson@audubon.org)
    - National Oceanic and Atmosphere Administration: Jenny Davis (jenny.davis@noaa.gov)

- US Naval Academy: Tori Johnson (vjohnson@usna.edu)
- US Fish and Wildlife Services: Bart Wilson (bartholomew_wilson@fws.gov)
- Wicomico County: Tony Fascelli (afascelli@wicomicocounty.org)
- University of Maryland Eastern Shore: Lori Staver (lstaver@umces.edu)

- Post Placement Responsible Party: Maryland Department of Natural Resources, Deal Island WMA offices

- Section 404(b)(1) Evaluation: Section (f) in the previously sent document appears to be a holdover from the previous Wicomico River maintenance dredging. During several of the previous Wicomico River maintenance dredging projects no WQC response was provided. USACE acknowledges that the process is ongoing currently for a WQC for the current lower Wicomico River maintenance dredging.

In accordance with 33 C.F.R.§ 336.1(b)(8), we request that you issue a Water Quality Certification for this project. The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief. The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

If there are any questions, please contact Ms. Danielle Szimanski, Navigation Branch, at (410) 962-6064.

Sincerely,

Kevin M. Brennan
Chief, Navigation Branch

Enclosures

1. Existing Marsh Determinations (USFWS and Audubon)
2. Plan Sheets
3. Elevation Determination Documents and Tables (Audubon and USACE)
4. Coordination List
5. Coordination Responses
6. Environmental Assessment
7. Real Estate Easement for Route 363 culvert between MDNR and Wicomico County

CF:
CENAB-PL
MDE – Danielle Spendiff
MDE – Tammy Roberson

August 19, 2022

Department of the Army
Baltimore District, Corps of Engineers
Attn: Danielle Szimanski
2 Hopkins Place
Baltimore, Maryland 21203-1715
Danielle.M.Szimanski@usace.army.mil

Re: Agency Interest Number: 127561
Tracking Number: 202260382
Water Quality Certification Number: 22-WQC-0014(R1)

Dear Ms. Szimanski:

The Maryland Department of the Environment (MDE) has reviewed the Water Quality Certification, 22-WQC-0014, which was issued on July 29, 2022, to evaluate concerns which were provided by the Army Corps of Engineers. In addition, a request has been received from Wicomico County, the non-federal sponsor, to become a co-certificate holder for this WQC. The attached Water Quality Certification has been revised to include Wicomico County as a co-certificate holder and to modify special conditions, where appropriate.

The dredge material placement site and the Route 363 conduit placement portions of this project will require a Wetlands License. They are currently under review will be forwarded to be reviewed, approved, and issued by the Maryland Board of Public Works (BPW). These Wetlands Licenses will be sent to Wicomico County by BPW's Wetlands Administrator.

The individual Water Quality Certification (WQC) for this project issued by the Maryland Department of the Environment is attached. Please review this WQC to ensure that you understand the limits of the authorized work and all of the general and special conditions.

You should not begin any work until you have obtained all necessary State, local, and federal authorizations. Please contact Mary Phipps-Dickerson at mary.phipps-dickerson@maryland.gov or 410-901-4033 with any questions.

Sincerely,

Tammy K. Roberson

Tammy K. Roberson
Chief
Tidal Wetlands Division

STATE OF MARYLAND
DEPARTMENT OF THE ENVIRONMENT
WATER AND SCIENCE ADMINISTRATION
WATER QUALITY CERTIFICATION

22-WQC-0014(R1)

EFFECTIVE DATE:	**August 19, 2022**
CERTIFICATION HOLDERS:	**Army Corps of Engineers or Wicomico County**
ADDRESS:	**US Army Corps of Engineers** **Attn: Danielle Szimanski** **2 Hopkins Plaza** **Baltimore, MD 21201** **Or** **Wicomico County** **Att: Mark Whitelock** **6948 Brick Kiln Road** **Salisbury, Maryland 21801**
PROJECT LOCATION:	**Dredging: Wicomico River, Monie Bay,** **Placement site: Deal Island Wildlife Management Area off Riley Roberts Road Deal Island, MD 21853 in the Manokin River Watershed**

UNDER AUTHORITY OF SECTION 401 OF THE FEDERAL WATER POLLUTION CONTROL ACT AND ITS AMENDMENTS AND IN ACCORDANCE WITH § 9-313 THROUGH § 9-323, INCLUSIVE, OF THE ENVIRONMENT ARTICLE, ANNOTATED CODE OF MARYLAND, THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, WATER AND SCIENCE ADMINISTRATION HAS DETERMINED THAT THE REGULATED ACTIVITIES DESCRIBED IN THE REQUEST FOR CERTIFICATION FOR THE PROPOSED LOWER WICOMICO RIVER DREDGING AND AS DESCRIBED IN THE ATTACHED PLAN SHEETS DATED August 19, 2022 AND ANY SUBSEQUENT MODIFICATIONS APPROVED BY THE DEPARTMENT WILL NOT VIOLATE MARYLAND'S WATER QUALITY STANDARDS, IF CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THIS CERTIFICATION.

THIS CERTIFICATION DOES NOT RELIEVE THE APPLICANT OF RESPONSIBILITY FOR OBTAINING ANY OTHER APPROVALS, LICENSES, OR PERMITS IN ACCORDANCE WITH FEDERAL, STATE, OR LOCAL REQUIREMENTS AND DOES NOT AUTHORIZE COMMENCEMENT OF THE PROPOSED PROJECT. THE CERTIFICATION HOLDER SHALL COMPLY WITH THE CONDITIONS LISTED BELOW.

DESCRIPTION OF CERTIFIED PROJECT

1. Maintenance dredging by hydraulic method a 10-mile Lower Wicomico River segment of the Federal Channel at 150 feet wide to a depth of 16 feet below the mean low water line (14 feet deep at MLW plus 2 feet of overdredge).

2. Remove approximately 140,000 cubic yards of sediment from the channel and pump through a 16-inch to 24-inch diameter weighted pipeline up to 6.7 miles from the dredged area where the pipelines will emerge on land near Messick Road at Fannys Gut. The pipeline will be placed adjacent to Messick Road for 0.2 miles and will cross below Md. Route 363 through a conduit to be authorized under 21-WL-0934 and continue approximately 6 miles from Rt.363 through the Deal Island Wildlife Refuge along the impoundment berm to the placement site.
3. Spray the dredged material onto two areas totaling 72.5 acres. The area will be staked with a maximum fill elevation of 3.5 feet at MLLW, resulting in a 0.58 foot to 1.2 foot increase in elevation.
4. Emplace straw bales which will be staked in place to a height of 3 feet above the existing elevation along the perimeter of the two areas and allowed to deteriorate naturally over time.
5. Install 19 tidal ditch plugs will be permanently installed and will allow water to exit the placement site, but not enter.
6. Enhance 64.3 acres of high marsh and 3.7 acres of low marsh.
7. Convert 4.6 acres of open water to low marsh.
8. Plant Spartina alterniflora and Spartina cynosuroides plugs near the perimeter and aerially disperse Barnyard grass to stabilize the area while it settles during the first year post-placement,
9. Plant Spartina patens and Distichlis spicata in during the second year post placement.

22-WQC-0014 was issued on July 29, 2022 certifying the activity described above. Since then, concerns were presented by the US Army Corps of Engineers (USACE) Baltimore District Navigation and Wicomico County, the non-federal sponsor, requested to become a co-certificate holder. As a result, the USACE provided Maryland with the opportunity to revise or reconsider the July 29, 2022 WQC decision. Maryland is hereby certifying the proposed work with Wicomico County added as a co-certificate holder and modifications to certain special conditions.

GENERAL CONDITIONS

1. This Certification does not obviate the need to obtain required authorizations or approvals from other State, federal or local agencies as required by law.

2. All additional authorizations or approvals, including self-certifying General Permits issued by the Department, shall be obtained and all conditions shall be completed in compliance with such authorizations.

3. The proposed project shall be constructed in accordance with the approved final plan by the Department, or, if Department approval is not required, the plan approved by the U.S. Army Corps of Engineers, and its approved revisions.

4. All fill and construction materials not used in the project shall be removed and disposed of in a manner which will prevent their entry into waters of this State.

5. This Certification does not authorize any injury to private property, any invasion of rights, or any infringement of federal, state, or local laws or regulations.

6. Authorized representatives of the Department shall be provided access to the site of authorized activities during normal business hours to conduct inspections and evaluations of the operations and records necessary to assure compliance with this Certification.

7. Authorized work under this Certification shall be performed in accordance with the required Soil Erosion and Sediment Control Plan as approved by the Maryland Department of the Environment.

8. No stockpiles of any material shall be placed in Waters of the U.S. or state or private tidal wetlands.

9. Temporary construction trailers or structures, staging areas and stockpiles shall not be located within tidal wetlands, nontidal wetlands, nontidal wetlands buffers, or the 100-year floodplain unless specifically included on the Approved Plan.

10. This Certification is valid for the project identified herein and the associated U.S. Army Corps of Engineers Lower Wicomico navigation.

SPECIAL CONDITIONS

1. All water quality-related performance standards and conditions required by the Department in any state issued authorization for activities in tidal wetlands, nontidal waterways, their 100-year floodplains, nontidal wetland buffers, or nontidal wetland expanded buffers to ensure that any discharges will not result in a failure to comply with water quality standards in COMAR 26.08.02. or other water quality requirements of state law or regulation shall be met.

2. All Critical Area requirements shall be followed and all necessary authorizations from the Critical Area Commission ("Commission") shall be obtained. This Certificate does not constitute authorization for disturbance in the 100-foot Critical Area Buffer. "Disturbance" in the Buffer means clearing, grading, construction activities, or removal of any size of tree or vegetation. Any anticipated Buffer disturbance requires prior written approval, before commencement of land disturbing activity, from the Commission in the form of a Buffer Management Plan.

3. All work performed under this Water Quality Certificate shall be conducted by a marine contractor licensed by the Marine Contractors Licensing Board (MCLB) in accordance with Title 17 of the Environment Article of Annotated Code of Maryland. Licensing by MCLB shall occur prior to the beginning of construction activities. A list of licensed marine contractors may be obtained by contacting the MCLB at 410-537- 3249, by e-mail at MDE.MCLB@maryland.gov or by accessing the Maryland Department of the Environment, Environmental Boards webpage.

4. A detailed plan for monitoring water quality parameters associated with construction and operation of the restoration site shall be submitted to the Maryland Department of the Environment, Tidal Wetlands Division, prior to project commencement. Written approval of the monitoring plan from the Tidal Wetlands Division shall be received prior to project commencement.

5. Monitoring required by any Department authorization shall be conducted in compliance with the approved monitoring plan to ensure that water quality standards and water quality requirements for waters of this State are met.

6. Monitoring of the suspended solids content in the discharge from the hydraulically dredged material placement areas shall be conducted. The suspended solids shall not exceed a monthly average of four hundred parts per million with a daily maximum of 800 parts per million.

7. Monitoring of the turbidity in the surface water resulting from any discharge or fill placement shall be conducted. Levels may not exceed 150 Nephelometer Turbidity Units (NTU) at any time or 50 NTU as a monthly average outside the "mixing zone" as established in the monitoring plan. A turbidity sample of the discharge water shall be performed every hour of active pumping to the DMP or when

there is an observed change in the clarity of the water. If turbidity readings exceed the identified thresholds, the Corps contractor shall cease pumping or deploy a turbidity curtain.

8. The Corps contractor's Environmental Protection Plan shall outline actions to be taken in the event of a breach in the containment. The plan shall be provided to MDE prior to commencement of any dredged material placement activities.

9. Prior to the start of work a copy of the final, approved Erosion and Sediment Control Plans shall be provided to the Wetlands and Waterways Program, Tidal Wetlands Division.

10. As-built plans will be provided to MDE Water and Science Division within 90 days of completion of the placement of dredge material.

11. The dredged material shall be sampled in accordance with the February 1998 EPA "Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. - Testing Manual: Inland Testing Manual". Results of these samples shall be provided to MDE. Dredged material that does not meet the criteria of the Inland Testing Manual shall not be placed on Deal Island. Additional testing may be required if there is a change in scope of work other than specified in this WQC.

12. When unloading dredged material, the dredger shall have a person at the discharge point of the DMP in constant radio communication. If a problem is incurred, the placement of dredged material shall be immediately shut down until the reason for the problem can be ascertained and rectified.

13. Inspections shall be conducted of the permitted area after the first earth disturbance occurs on the site, and thenceforth during the entire period of Certification coverage whether the site is active or inactive. The person(s) inspecting the site may be a person on the Certificate Holder staff or a third party hired or arranged to conduct inspections. The person conducting the inspection must hold a valid certificate of attendance at a training program for responsible personnel as required by Section 4-104(b) of the Environment Article, unless the erosion and sediment control plan approval authority has waived the requirement for a Certificate of Training in accordance with Section 4-104(c) of the Environment Article. During times that work is being conducted at the site, Inspections shall be conducted at the following intervals: a. Once each calendar week (Sunday to Saturday), except as in c; b. The next day after a rainfall event resulting in runoff, except as in c; c. For areas meeting stabilization requirements of COMAR 26. l7.0l.07.B.6 (f) and the erosion and sediment control plan, once per month. (If construction activity resumes in such a portion of the site at a later date, the inspection frequency immediately increases to that required in a and b. The beginning and ending dates of the period of stabilization shall be documented in its inspection records).

14. Written reports of all inspections conducted under Special Condition #13 of this Certification shall be kept on file and be made available to WSA within one business day of a request for the records. The report shall include: (l) the date and time of the inspection; (2) the name(s) of the individual(s) who performed the inspection; (3) an assessment of the condition of erosion and sediment controls and how any deficiencies were or are being addressed; (4) a description and date of any erosion and sediment control implementation and maintenance performed, including identification of any controls that have not been installed as required; and (5) a description of the site's present phase of construction.

15. Dredged material pipelines and pump stations shall be installed, marked and maintained in accordance with all U.S. Coast Guard requirements for navigational safety. Dredge material pipelines and associated equipment shall be removed as soon as practicable, upon completion of activities authorized under this License.

16. Activities involved in the restoration of the Deal Island Restoration Site shall follow enforceable state policies and related to fish passage, protection and management of submerged aquatic

vegetation, protection of oyster bars, protection of shellfish aquaculture leases, prohibition of genetically modified organisms, and control of nonnative aquatic organisms.

17. Adherence to the construction time of year restrictions, unless waived or amended by the Department, shall be followed.

18. The Certificate Holder shall not dredge or place dredge material at the placement site from February 15 through October 15 of any year to reduce impacts to spawning anadromous fish, oysters, waterfowl, and submerged aquatic vegetation.

19. The Certificate Holder shall not perform any dredging within natural oyster bar NOB 29-1 from December 16 through March 14 of any year.

20. The Certificate Holder shall coordinate with the Department of Natural Resources to determine whether proposed work will impact active oyster leases and notify any identified leaseholder(s) at least 30 days prior to commencement of work so that aquaculture gear and product may be relocated by the leaseholder as they determine necessary to avoid oyster loss or damage during construction. Natural Resources Article §4-11A-16 establishes that a person, other than the leaseholder, may not willfully and without authority catch, willfully destroy, remove, alter or transfer any marker, shellfish, equipment, or structures on any aquaculture or submerged land lease area. The current locations of leases are shown on Attachment A. Since these leases and leaseholders will change over time, the Aquaculture Siting Tool at http://dnrweb.dnr.state.md.us/fisheries/aquatool/aquatool.asp shall be utilized to obtain updated information regarding leaseholders and locations.

    For additional information on shellfish aquaculture leasing, please contact Rebecca Thur, MD DNR Leasing and Permitting Coordinator, at rebecca.thur@maryland.gov or at 410 260-8252.

21. The Certificate Holder shall coordinate with DNR to obtain all required Memorandums of Understanding and Use Agreements for work in and adjacent to the Deal Island Wildlife Management Area.

22. A marsh maintenance plan shall be submitted to and approved by the Tidal Wetlands Division, Water and Science Administration, and any alternative plan must be submitted to and approved by the Tidal Wetlands Division, Water and Science Administration, prior to commencement of any wetland restoration or planting activities. Any alternative plan must provide assurances of success that are at least equivalent to those of the standard plan, in terms of the extent of native marsh plant coverage, elimination of invasive species and timeframe for plant establishment.

23. Authorized work under this Certification shall be constructed in the marsh enhancement or establishment area in accordance with the following conditions:
    a) The marsh establishment area shall be planted within one year following completion of the dredge placement operations.
    b) The marsh establishment project shall be maintained as a wetland, with non-nuisance species' areal coverage of at least 85% of the planted areas for three consecutive years. If 85%coverage is not attained, the reasons for failure shall be determined, corrective measures shall be taken, and the area shall be revegetated in accordance with an approved plan.
    c) If the existing bank is to be cleared or graded:
    i)Any person or entity performing authorized work under this Certification shall perform all work under and in accordance with an approved Soil Erosion and Sediment Control Plan from the applicable sediment and erosion control agency; and

ii) Work authorized under this Certification shall perform all work under and in accordance with the Critical Area requirements of the Critical Area Commission in the form of an approved Buffer Management Plan.

d) Monitoring reports shall be submitted annually. The reports shall include the information listed in the Wicomico River/Deal Island Project: Monitoring Plan Details including the extent of native marsh plant coverage, elimination of invasive species and timeframe for plant establishment, and include photographs for the first five growing seasons in order to document the success of the project in terms of the extent of native marsh plant coverage. Photographs shall be taken from at least two directions, as necessary to fully depict the wetlands.

CITATIONS AND STATEMENTS OF NECESSITY

CITATIONS AND STATEMENTS OF NECESSITY

1) General Authorities; Need for Other Permits and Authorizations

a) General Conditions 1,2, 10; Special Conditions 2, 9, 21

Statement of Necessity for Condition: The condition is necessary to ensure that water quality standards are met under unique circumstances for discharges which may otherwise qualify under the certified Nationwide Permits and to maintain designated uses of waters.

Citation: Federal and state laws that authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.10G(3); COMAR 26.23.02.06; COMAR 26.17.01; COMAR 26.23; COMAR 26.24

b) General Condition 3

Statement of Necessity for Condition: The condition is necessary to ensure that water quality standards are met under unique circumstances for discharges which may otherwise qualify under the terms of the federal authorization and to maintain designated uses of waters. The Corps of Engineers authorization and plans include details about amount and location of discharges, as well as other conditions for reducing adverse effects to water quality, which ultimately supports maintaining designated uses. The Certification conditions and decision are based upon based on the details of the Corps of Engineers authorization and plans.

Citation: COMAR 26.08.02.01E(2)

c) General Condition 5

Statement of Necessity for Condition: The condition is necessary to clarify the scope of this certification to ensure compliance with water quality regulations, without limiting restrictions through other requirements.

Citation: Federal and state laws that authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md.

Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08, COMAR 26.08.02.10E; COMAR 26.23.02.06; COMAR 26.17.04; COMAR 26.23; COMAR 26.24

2) Unauthorized or Incidental Discharges - General Conditions 4, 8, 9, Special Condition 8

Statement of Necessity for Condition: Fill or construction material within or adjacent to regulated resources may cause discharges resulting in turbidity in excess of water quality standards and interfere with designated uses of growth and propagation of fish, other aquatic life, wildlife; and other designated uses; and fail to meet general water quality criteria that waters not be polluted by substances in amounts sufficient to be unsightly or create a nuisance.
Citation: 26.08.02.03B(1)-B(2); COMAR 26.23; COMAR 26.24; COMAR 26.17.04

3) Inspections and Compliance - General Condition 6, Special Conditions 10, 12, 13, 14

Statement of Necessity for Condition: Conditions of certification involve precise actions to comply with water quality standards. Site inspection may be necessary to ensure that limits, methods, and other requirements are met to ensure that water quality standards are met and designated uses are maintained. These conditions are necessary to ensure that the activity was conducted and project completed according to terms of the authorization/certification, while allowing for review of in-field modifications which may have resulted in discharges to ensure that water quality standards were met. Designated uses include support of estuarine and marine aquatic life and shellfish harvesting and for growth and propagation of fish, other aquatic life, and wildlife

Citation: Federal and state laws that authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.03B(1)(b); COMAR 26.08.02.03B(2); COMAR 26.23.02.06; COMAR 26.23; COMAR 26.24; COMAR 26.17.04

4) Erosion and Sediment Control – General Conditions 1, 2, 7; Special Conditions 8, 9

Statement of Necessity for Condition: Erosion and sediment control plans are necessary to ensure that sediment discharges from construction activities will not enter waters of the United States. Sediment discharges from earth disturbance or discharges at erosive rates within or adjacent to regulated resources may cause discharges resulting in turbidity in excess of water quality standards and interfere with designated uses of growth and propagation of fish, other aquatic life, wildlife; and other designated uses; and fail to meet general water quality criteria that waters not be polluted by substances in amounts sufficient to be unsightly or create a nuisance

Citation: Env. Article, Title 4, Subtitle 1 COMAR 26.17.01; 26.08.02.03B(1)-B(2)

5) Performance Standards for Water Quality - Special Condition 1

Statement of Necessity for Condition: This condition is necessary to ensure that discharges will be conducted in a manner which does not violate water quality criteria nor interfere with designated uses.

Citation: COMAR 26.08.02.03B(1)(b); 26.08.02.03B(2);

6) Licensed Marine Contractor - Special Condition 3

Statement of Necessity: Expertise for conducting certain activities is required to ensure that there is no violation of water quality standards nor interference with designated uses.

This condition is necessary to ensure that discharges will be conducted in a manner which does not violate water quality criteria nor interfere with designated uses.

Citation: COMAR 26.08.02.02B(2)- B(4); COMAR 26.08 02.03B(2)(d) – (e); COMAR 26.08.02.03B(1)(b); 26.08.02.03B(2); COMAR 23.02.04.04

7) Monitoring - Special Conditions 4-7, 11

Statement of Necessity: Activities which result or may result in a discharge to regulated waters, including replacement of wetland/water resources as an offset/mitigation may require monitoring to ensure that water quality standards are met and designated uses are maintained, and to determine if remedial measures are needed to restore compliance with water quality standards if they are not met as a result of the discharge. The condition is necessary to ensure that dredged material does not increase turbidity in violation of general and numeric water quality standards and interfere with designated uses and to ensure that offsets to regulated waters are successfully implemented.

Citation: COMAR 26.08.02.03-3A(5); COMAR 26.08.02.03-3(C(5); COMAR 26.08.02.01B(2); COMAR 26.08.02.02B(1) COMAR 26.08.02.02B(3); COMAR 26.08.02.03B; COMAR 26.08.02.02B(1);

26.08.02.03B(1)(b); 26.08.02.03B(2)(e); 26.08.02; 26.08.01.02A; 26.08.02.09A; 26.08.02.02B(1)(d); COMAR 26.24; 26.08.02.03-3C(9)(a); COMAR 26.08.02.03B(2); COMAR 26.08.02.02B(1)(d);

8) Inadvertent discharges - Special Conditions 8, 12

Unauthorized discharges may enter regulated waters as result of activity or structural failure. A plan to address inadvertent discharges will prevent or address further violations of water quality standards and failure of water to meet designated uses, including uses of growth and propagation of fish, other aquatic life, wildlife; and other designated uses; and fail to meet general water quality criteria that waters not be polluted by substances in amounts sufficient to be unsightly or create a nuisance.

Citation COMAR 26.08.02.02B(1)d; COMAR 26.08.02.02B(3); COMAR 26.08.02.03B(1) and B(2); 26.08.02.01B(2); 26.08.02.02B(1)

9) Prevention of Toxic Discharges - Special Conditions 11

Statement of Necessity for Condition: This condition is necessary to prevent contaminated sediments with toxic material in excess of numeric limits to enter regulated waters. Limits or prohibitions are necessary to protect all designated uses.

Citation: COMAR 26.08.02.03-1; COMAR 26.08.02.02

10) Navigational Safety - Special Condition 15

Statement of Necessity for Condition: The condition is necessary to ensure that the discharge does not interfere with designated uses for water contact recreation and fishing nor create a nuisance.

Citation: COMAR 26.08.02.01B(1) and B(2); COMAR 26.08.02.03B(1)(a); COMAR 26.08.02.03B(2)(d)

11) Nuisance and Non-Native Species; SAV, Fish passage; Protection of Oyster Bars and Shellfish Leases – Special Conditions 16, 19, 20

Statement of Necessity for Condition: Nuisance or non-native species may spread and disrupt and dislodge native species from their habitat, leading to declines in distribution, density, growth and propagation. SAV are a critical habitat for many aquatic species. Limitations on loss will sustain habitat for a variety of aquatic species, including anadromous fish and threatened or endangered species. Water quality regulations state minimum thresholds for SAV in tidal waterways. In addition to direct loss, turbidity created by construction or ongoing operation must be limited for support of aquatic life and meet water quality standards.

Oyster bar creation supports/expands designated use for growth and propagation of oyster bars in Support of designated uses for growth and propagation of fish, other aquatic life, and wildlife and the designated use for support of estuarine and marine aquatic life and shellfish harvesting.

The conditions are necessary to allow for continued oyster harvesting and propagation; and maintain and not interfere the designated use- support of estuarine and marine aquatic life and shellfish harvesting.

The conditions ensure that discharges will not result in failure to support designated uses for marine and estuarine aquatic life and submerged aquatic vegetation; and growth, propagation of fish, other aquatic life, and wildlife, and shellfish harvesting.

Citation: COMAR 26.08.02.02-1; COMAR 26.08.02.02B(1)(d); COMAR 26.08.02.03B; COMAR 26.08.02.03-3C; COMAR 26.08.02.02B(2)-B(4); COMAR 26.08 02.03B(2)(d) – (e); COMAR 26.08.02.03-3C; COMAR 26.08.02.02-1

12) Time of Year Restriction for Conducting Activities – Special Conditions 17, 18, 19

Statement of Necessity for Condition: The time of year restriction is necessary to maintain the designated use- support of estuarine and marine aquatic life and shellfish harvesting.

Citation: COMAR: 26.08.02.02B(1)(d); 26.08.02.02B(3); COMAR 26.08.02.02-1

13) Submerged Aquatic Vegetation – Special Condition 18

Statement of Necessity: SAV are a critical habitat for many aquatic species. Limitations on loss will sustain habitat for a variety of aquatic species, including anadromous fish and threatened or endangered species. Water quality regulations state minimum thresholds for SAV in tidal waterways. In addition to direct loss, turbidity created by construction or ongoing operation must be limited for support of aquatic life and meet water quality standards. Unmitigated loss of SAV may result in failure to meet SAV extents which are part of water quality standards, as well as designated use class for support of estuarine and marine aquatic life and shellfish harvesting.

Citations: COMAR 26.08.02.03-3C(9); COMAR 26.08.02.03B(1)(b); 26.08.02.03B(2)

14) Marsh Establishment, Maintenance, and Mitigation - Special Conditions 22, 23

Statement of Necessity for Condition: Tidal wetlands provide essential habitat, water quality, food, and movement corridors for wildlife, and support of estuarine and marine aquatic life and shellfish harvesting. Successful establishment is necessary to prevent discharges which interfere with designated uses, including growth and propagation of fish, other aquatic life, and wildlife through loss of stream channel habitat and wetlands. Required establishment, re-establishment, or enhancement and loss limits will maintain the designated use.

Citations: COMAR 26.08.02.02B(3); COMAR 26.08.02.03B(3) and B(4); COMAR 26.24.

CERTIFICATION APPROVED

8/19/2022

D. Lee Currey, Director
Water and Science Administration

Date

Tracking Number: 202260382
Agency Interest Number: 127561

Effective Date: **August 19, 2022**

Enclosure: Plan Sheets dated August 19, 2022

cc: WSA Inspection & Compliance Program

MAINTENANCE DREDGING

WICOMICO RIVER

WICOMICO COUNTY, MARYLAND

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22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 1 of 14

THIS PRODUCT WAS DESIGNED BY THE BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER 1110-1-8152.

SUBMITTED:
PROJECT MANAGER

RECOMMENDED:
DIRECTOR, DEPT. OF NATURAL RESOURES

RECOMMENDED:
CHIEF, NAVIGATION SECTION

RECOMMENDED:
CHIEF, NAVIGATION BRANCH

APPROVED:
CHIEF, OPERATIONS DIVISION

US Army Corps of Engineers
Baltimore District

Date
Designed by:
Drawn by: JAH
Checked by: AMB
Submitted by:
Chief, Nav. Branch
Date: Aug 22
Design File no.: FAC-5 MAP-21-001
Drawing scale
File name w.r.t. as-constructed drawings
Rev. scale
Rev.

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

WICOMICO COUNTY
MARYLAND

MAINTENANCE DREDGING
WICOMICO RIVER
COVER SHEET

Sheet reference number:
V-101
Sheet 1 of

WICOMICO RIVER CHANNEL COORDINATES

CENTERLINE FILE: CL042A8

RIGHT SIDE

EASTING	NORTHING
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1644053.59	215675.86
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1645846.76	216705.39
1647191.95	216780.98
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1650095.97	217340.39
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1668408.97	236271.83
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1678759.85	248681.84
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1679977.17	248618.89
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1681980.07	247988.99
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1683800.54	249139.42
1684205.55	248860.64
1684830.77	248006.45
1685063.89	247799.24
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1688064.55	248650.05
1688520.91	248569.59
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1700459.31	248894.30
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1711442.53	256545.68
1711979.85	256896.63
1712494.31	257271.43
1712535.33	257431.40
1712624.68	257894.86
1712679.49	257994.29
1712896.80	259121.53
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1713221.17	259773.92

CENTERLINE

STATION	EASTING	NORTHING
0+000.00	1597642.12	200874.36
8+391.27	1605956.13	199738.33
17+189.25	1614633.12	198284.28
21+202.80	1618601.12	197681.26
27+728.43	1624408.10	200658.30
32+459.33	1629074.09	201439.30
37+582.81	1634099.08	200439.54
39+725.53	1635414.08	202131.29
41+487.15	1636301.07	203653.31
45+443.51	1636252.07	207609.37
46+643.59	1636897.07	208621.39
52+431.17	1641865.06	211590.41
53+867.98	1642729.06	212738.42
56+843.24	1643721.04	215543.45
59+035.96	1645543.02	216763.44
60+675.54	1647180.02	216855.43
62+752.16	1649186.01	217392.42
63+860.52	1650294.01	217420.42
68+474.80	1654698.04	216043.40
69+846.33	1656009.03	216446.40
71+475.04	1657002.01	217737.39
72+858.85	1657369.98	219071.39
74+389.09	1657998.96	220466.38
76+023.24	1659505.95	221098.38
78+371.58	1661853.95	221138.37
80+203.35	1663493.93	221954.36
81+553.51	1664468.91	222888.35
82+793.74	1665067.89	223974.35
84+619.67	1664983.86	225798.35
86+075.19	1665469.84	227170.34
87+253.76	1666137.82	228141.34
88+657.19	1667423.81	228703.33
89+638.32	1667998.79	229498.33
91+467.05	1668576.76	231233.32
92+172.69	1668637.74	231936.32
93+123.60	1668487.73	232875.32
94+926.74	1667500.70	234384.32
95+710.16	1667408.69	235162.32
97+051.91	1668196.67	236248.31
97+790.71	1668855.66	236582.31
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99+628.92	1670494.64	237360.30
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101+852.89	1671852.61	239052.29
103+289.35	1671599.59	240466.29
104+380.06	1672451.58	241147.28
104+986.83	1673010.58	241383.28
106+720.66	1674718.60	241085.26
107+469.65	1675236.60	241626.26
108+985.59	1674899.57	243104.26
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110+593.83	1675263.54	244628.26
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112+667.79	1676801.53	245890.25
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114+927.38	1677543.50	247978.24
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116+538.67	1678893.50	248779.23
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139+791.19	1698453.70	247960.12
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141+879.84	1700263.71	248980.11
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143+793.04	1702002.73	248277.10
145+489.45	1703683.75	248505.09
146+031.85	1704012.31	248936.64
146+916.60	1704413.74	249725.09
147+776.15	1704852.73	250464.09
148+369.61	1705316.73	250834.09
149+809.73	1706668.74	251330.08
150+755.82	1707581.74	251578.08
151+237.92	1707992.74	251830.07
152+626.75	1708283.73	253188.08
153+462.72	1708740.72	253888.08
154+110.73	1709008.72	254478.08
155+018.59	1709570.72	255191.08
156+083.76	1710071.71	256131.08
156+812.29	1710721.71	256460.07
157+521.66	1711413.72	256616.07
158+147.70	1711945.72	256946.07
158+850.33	1712503.72	257373.07
161+850.33	1713071.61	260318.83

LEFT SIDE

EASTING	NORTHING
1597652.27	200948.68
1605967.41	199812.49
1614644.96	198358.34
1618315.79	197800.49
1618315.79	197800.49
1618833.87	197884.87
1624384.24	200730.35
1629075.25	201515.54
1633770.44	200581.40
1634254.66	200761.91
1635351.79	202173.38
1636085.22	203431.88
1636222.36	203952.37
1636176.80	207630.82
1636843.36	208676.66
1641813.97	211647.25
1642662.20	212774.31
1643658.63	215591.92
1645518.34	216837.17
1647168.09	216929.88
1649175.22	217467.17
1650304.54	217495.71
1654698.22	216121.92
1655964.15	216511.06
1656933.61	217771.48
1657299.23	219096.93
1657942.72	220524.13
1659490.24	221173.12
1661835.72	221213.07
1663450.30	222016.42
1664408.77	222934.60
1664992.00	223992.04
1664908.26	225809.56
1665402.44	227204.70
1666088.16	228201.49
1667375.02	228763.86
1667931.27	229532.95
1668502.80	231248.62
1668562.23	231933.61
1668416.19	232847.67
1667428.29	234358.01
1667330.76	235182.63
1668146.60	236307.02
1668827.74	236652.25
1669572.55	236874.88
1669905.87	237036.86
1670449.20	237420.03
1671167.72	238008.85
1671447.26	238367.42
1671774.58	239062.61
1671544.91	240346.03
1671637.70	240592.77
1671637.70	240592.77
1672412.85	241212.34
1673001.74	241460.95
1674529.54	241194.38
1674802.74	241281.59
1675009.53	241497.56
1675107.89	241853.33
1674824.00	243098.30
1674894.92	244161.38
1675211.41	244687.08
1675982.78	245032.86
1676351.56	245333.83
1676602.63	245721.24
1676781.86	246150.51
1677074.79	247485.46
1677487.69	248028.75
1678031.68	248534.91
1678526.40	248796.33
1678887.91	248854.29
1679777.26	248845.10
1680542.18	248585.63
1681305.61	247822.22
1681678.15	247845.92
1681851.02	248067.44
1682401.45	249268.22
1682899.68	249418.79
1683856.54	249282.98
1684311.56	248969.76
1684942.37	248107.94
1685123.26	247947.15
1685329.64	247939.57
1685634.14	248024.72
1686451.95	248627.84
1686944.37	248786.04
1688326.85	248803.35
1690061.12	248147.49
1690727.50	248114.31
1692604.52	248264.34
1693704.22	247813.60
1694070.88	247774.61
1694172.06	247812.76
1694479.30	248005.12
1694684.37	248199.34
1695067.59	248909.04
1695445.17	249344.47
1695900.98	249501.75
1696346.87	249515.26
1696797.49	249462.86
1697228.69	249217.53
1698040.76	248236.88
1698304.54	248113.02
1698622.09	248091.53
1698810.92	248150.75
1700243.88	249056.31
1700796.88	249026.06
1701863.64	248439.21
1702190.84	248378.30
1703475.48	248552.53
1703745.23	248709.65
1703801.20	248783.17
1704058.90	249193.46
1704348.01	249761.29
1704795.25	250514.18
1705279.48	250900.31
1706645.95	251401.61
1707551.71	251647.63
1707825.66	251815.61
1707950.83	251992.46
1708213.31	253217.41
1708674.80	253924.29
1708944.19	254517.37
1709507.67	255232.25
1710016.68	256187.28
1710635.46	256500.48
1710641.37	256503.47
1711445.26	256682.71
1711922.97	256979.03
1712241.16	257222.52
1712387.25	257359.50
1712500.98	257464.50
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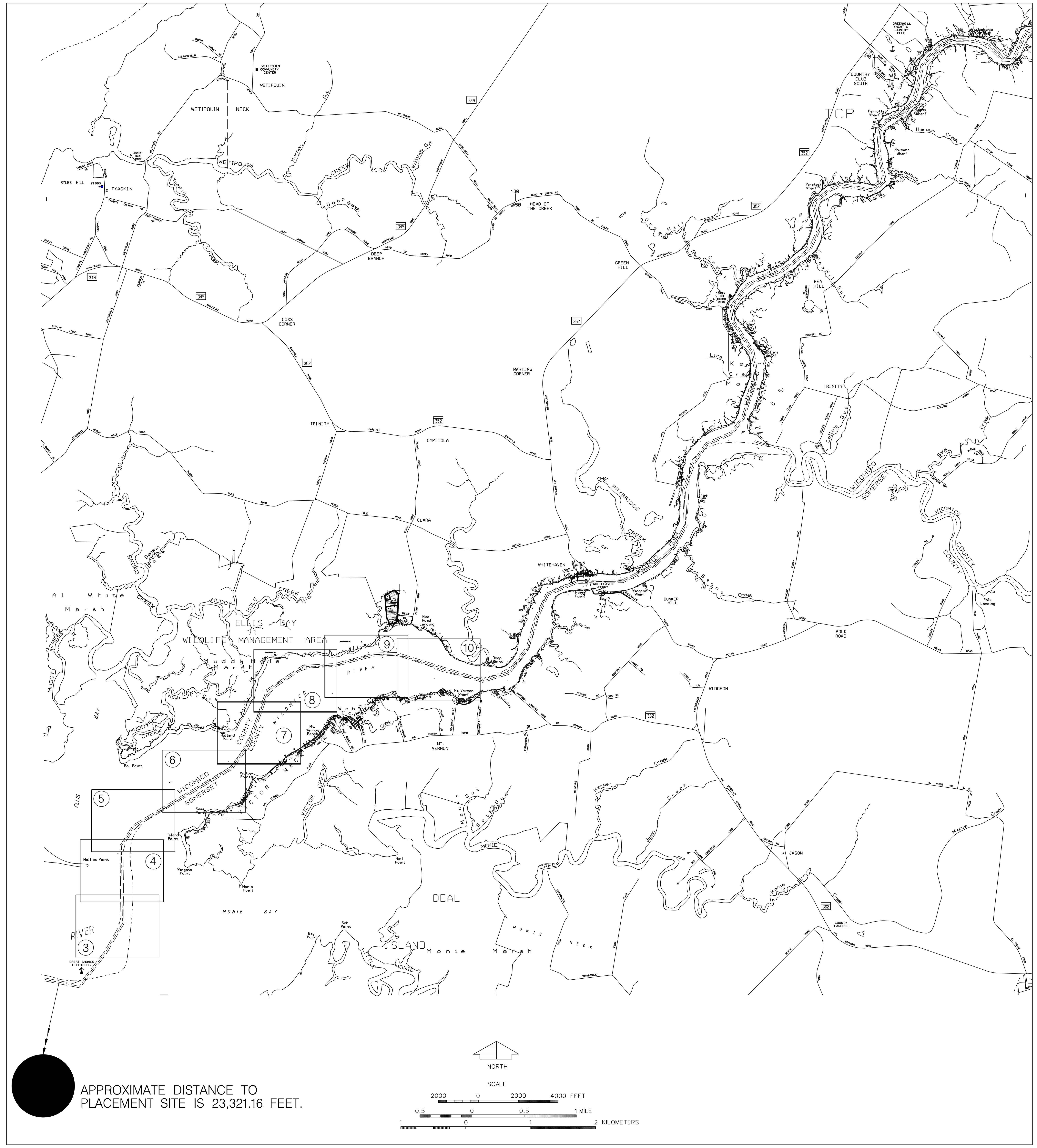
1712581.30	258013.22
1712848.21	259397.73
1712905.70	259590.32
1712914.46	259741.40



22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 2 of 14

US Army Corps of Engineers
Baltimore District

Mark	Description	Date	Appr.

Mark	Description	Date	Appr.

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

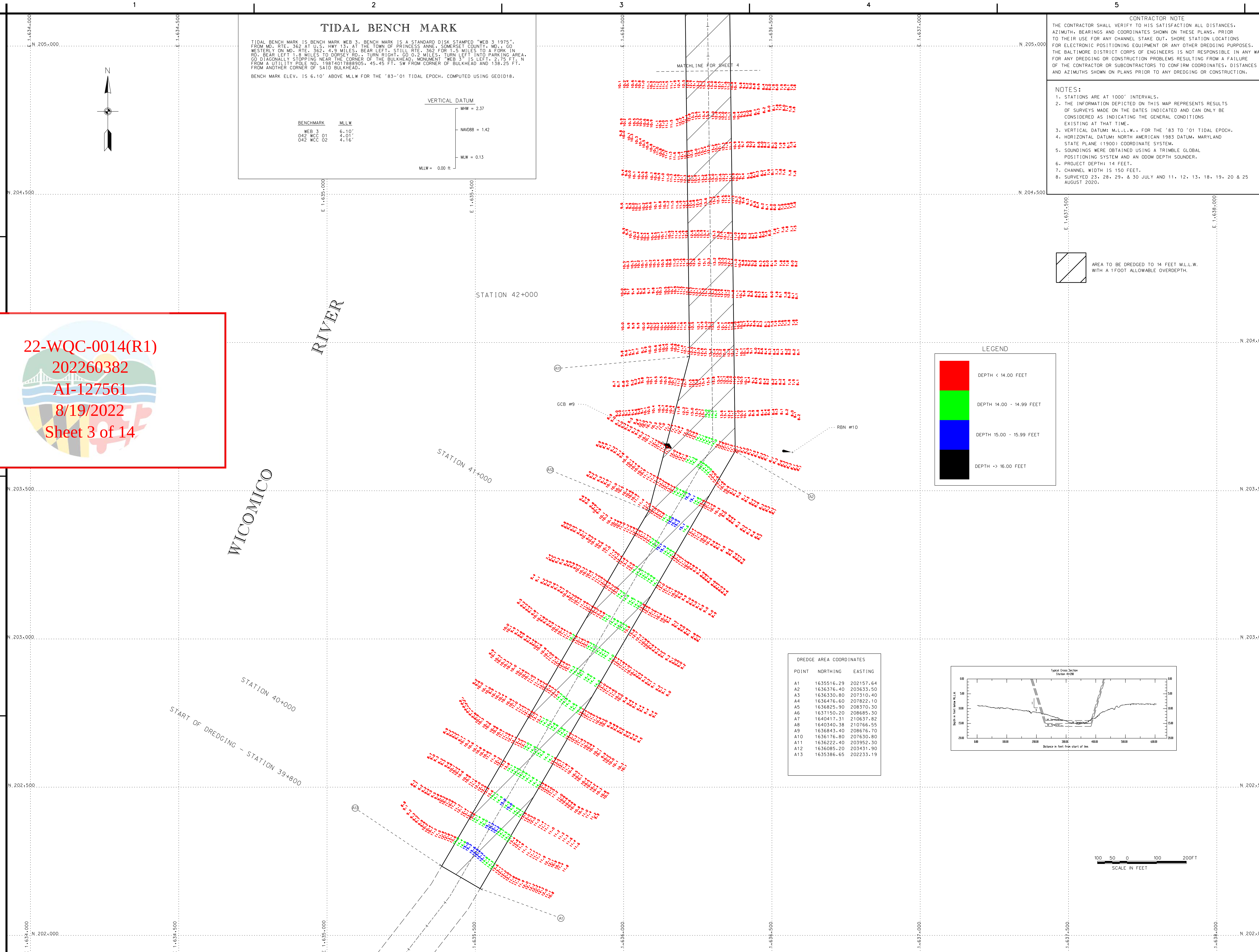
Designed by:
Dwn by: JAH
Ckd by: JAH
Reviewed by: AWP
Submitted by:
Chief, Nav. Branch
Date: APRIL '22
Rev.
Design file no. FILE: 5 MAP: 21-002
Drawing code:
Filename: MD_42_042_20210318_MD
Plot date:
Plot scale:

WICOMICO COUNTY
MARYLAND

MAINTENANCE DREDGING
WICOMICO RIVER
PLAN SHEET

Sheet reference number:
V-102
Sheet 2 of

22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 3 of 14



TIDAL BENCH MARK

TIDAL BENCH MARK IS BENCH MARK WEB 3. BENCH MARK IS A STANDARD DISK STAMPED "WEB 3 1975". FROM MD. RTE. 362 AT U.S. HWY 13, AT THE TOWN OF PRINCESS ANNE, SOMERSET COUNTY, MD., GO WESTERLY ON MD. RTE. 362, 4.9 MILES, BEAR LEFT, STILL RTE. 362 FOR 1.5 MILES TO A FORK IN RD. BEAR LEFT 1.8 MILES TO DORSEY RD., TURN RIGHT, GO 0.2 MILES, TURN LEFT INTO PARKING AREA. GO DIAGONALLY STOPPING NEAR THE CORNER OF THE BULKHEAD. MONUMENT "WEB 3" IS LEFT, 2.75 FT. N FROM A UTILITY POLE NO. 198T4017888905, 45.45 FT. SW FROM CORNER OF BULKHEAD AND 138.25 FT. FROM ANOTHER CORNER OF SAID BULKHEAD.

BENCH MARK ELEV. IS 6.10' ABOVE MLLW FOR THE '83-'01 TIDAL EPOCH. COMPUTED USING GEOID18.

BENCHMARK	MLLW
WEB 3	6.10'
042 WCC 01	4.01'
042 WCC 02	4.16'

VERTICAL DATUM
MHW = 2.37
NAVD88 = 1.42
MLW = 0.13
MLLW = 0.00 ft

CONTRACTOR NOTE

THE CONTRACTOR SHALL VERIFY TO HIS SATISFACTION ALL DISTANCES, AZIMUTH, BEARINGS AND COORDINATES SHOWN ON THESE PLANS, PRIOR TO THEIR USE FOR ANY CHANNEL STAKE OUT, SHORE STATION LOCATIONS FOR ELECTRONIC POSITIONING EQUIPMENT OR ANY OTHER DREDGING PURPOSES. THE BALTIMORE DISTRICT CORPS OF ENGINEERS IS NOT RESPONSIBLE IN ANY WAY FOR ANY DREDGING OR CONSTRUCTION PROBLEMS RESULTING FROM A FAILURE OF THE CONTRACTOR OR SUBCONTRACTORS TO CONFIRM COORDINATES, DISTANCES AND AZIMUTHS SHOWN ON PLANS PRIOR TO ANY DREDGING OR CONSTRUCTION.

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5. SOUNDINGS WERE OBTAINED USING A TRIMBLE GLOBAL POSITIONING SYSTEM AND AN ODOM DEPTH SOUNDER.
6. PROJECT DEPTH: 14 FEET.
7. CHANNEL WIDTH IS 150 FEET.
8. SURVEYED 23, 28, 29, & 30 JULY AND 11, 12, 13, 18, 19, 20 & 25 AUGUST 2020.

AREA TO BE DREDGED TO 14 FEET M.L.L.W. WITH A 1 FOOT ALLOWABLE OVERDEPTH.

LEGEND
- DEPTH < 14.00 FEET
- DEPTH 14.00 - 14.99 FEET
- DEPTH 15.00 - 15.99 FEET
- DEPTH => 16.00 FEET

DREDGE AREA COORDINATES

POINT	NORTHING	EASTING
A1	1635516.29	202157.64
A2	1636376.40	203633.50
A3	1636330.80	207310.40
A4	1636476.60	207822.10
A5	1636825.90	208370.30
A6	1637150.20	208685.30
A7	1640417.31	210637.82
A8	1640340.38	210766.55
A9	1636843.40	208676.70
A10	1636176.80	207630.80
A11	1636222.40	203952.30
A12	1636085.20	203431.90
A13	1635386.65	202233.19

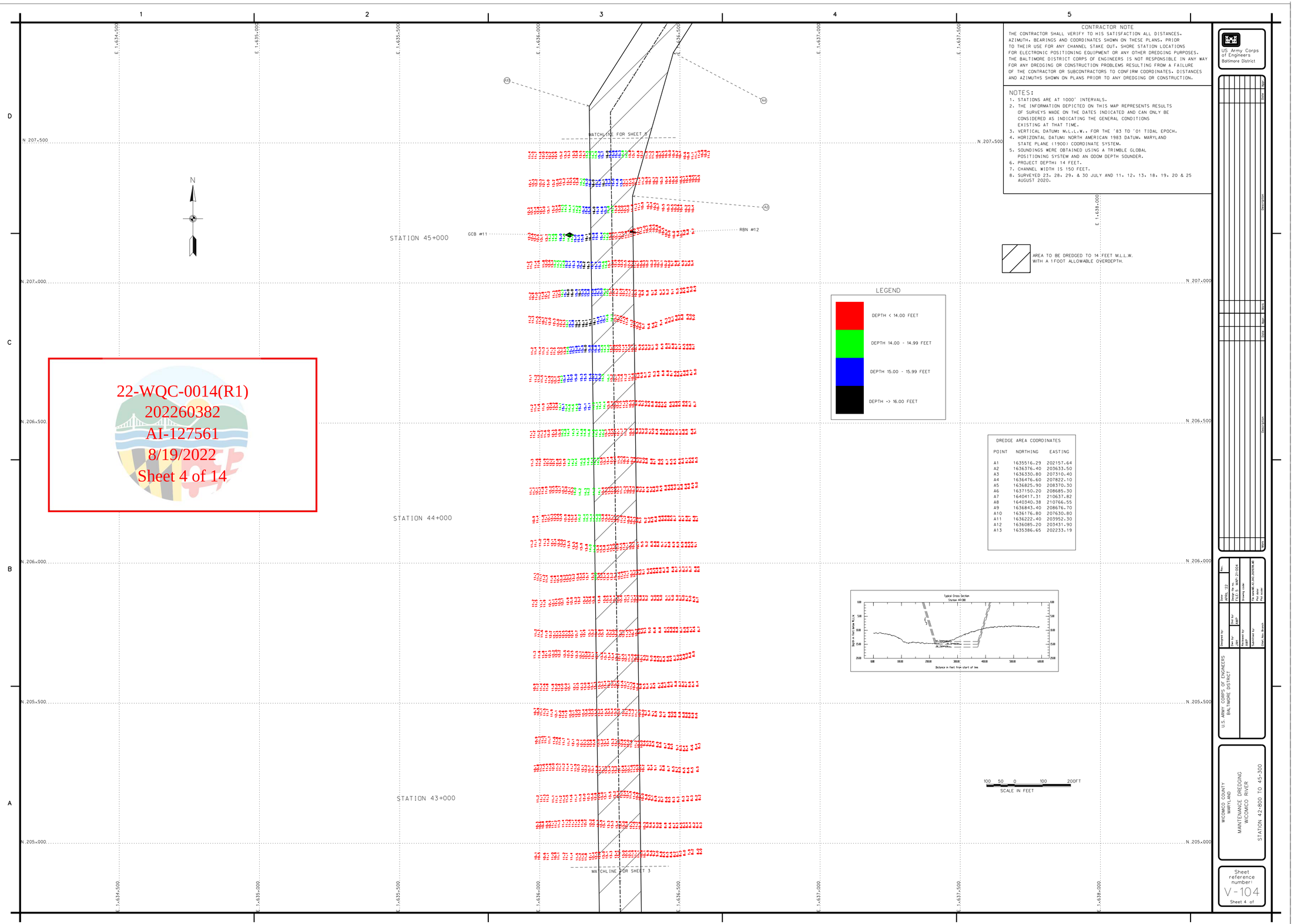
US Army Corps of Engineers
Baltimore District

Designed by: | Dwn by: JAH | Ckd by: AWP | Reviewed by: AWP | Submitted by: | Chief, Nav. Branch
Date: APRIL '22 | Design file no. FILE: 5 MAP: 21-003 | Drawing code: | File name: MD_42_042_20210318_MD | Plot date: | Plot scale:

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

WICOMICO COUNTY
MARYLAND
MAINTENANCE DREDGING
WICOMICO RIVER
STATION 39+800 TO 42+700

Sheet reference number:
V-103
Sheet 3 of



22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 4 of 14

CONTRACTOR NOTE

THE CONTRACTOR SHALL VERIFY TO HIS SATISFACTION ALL DISTANCES, AZIMUTH, BEARINGS AND COORDINATES SHOWN ON THESE PLANS, PRIOR TO THEIR USE FOR ANY CHANNEL STAKE OUT, SHORE STATION LOCATIONS FOR ELECTRONIC POSITIONING EQUIPMENT OR ANY OTHER DREDGING PURPOSES. THE BALTIMORE DISTRICT CORPS OF ENGINEERS IS NOT RESPONSIBLE IN ANY WAY FOR ANY DREDGING OR CONSTRUCTION PROBLEMS RESULTING FROM A FAILURE OF THE CONTRACTOR OR SUBCONTRACTORS TO CONFIRM COORDINATES, DISTANCES AND AZIMUTHS SHOWN ON PLANS PRIOR TO ANY DREDGING OR CONSTRUCTION.

NOTES:

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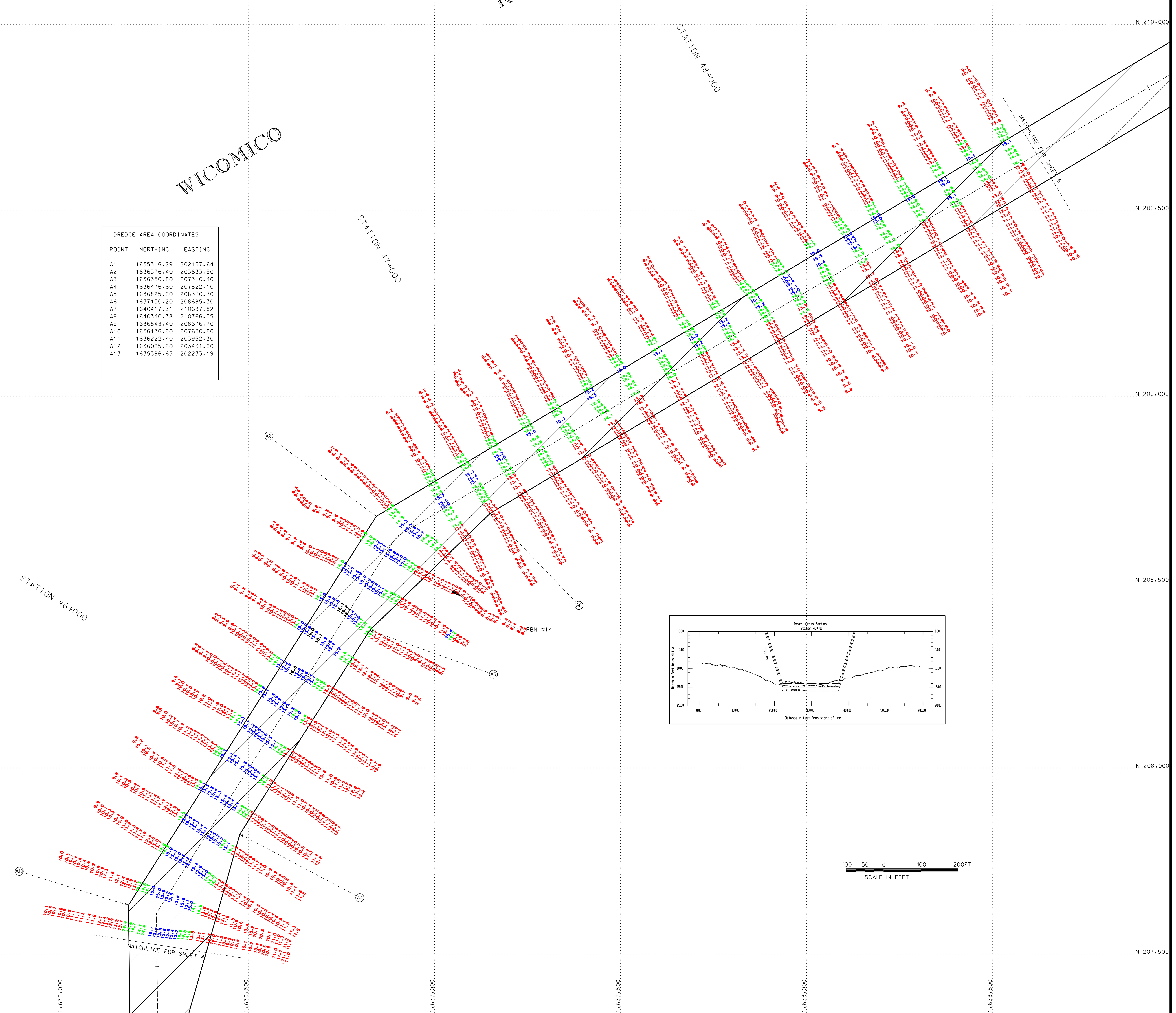
5. SOUNDINGS WERE OBTAINED USING A TRIMBLE GLOBAL POSITIONING SYSTEM AND AN ODOM DEPTH SOUNDER.
6. PROJECT DEPTH: 14 FEET.
7. CHANNEL WIDTH IS 150 FEET.
8. SURVEYED 23, 28, 29, & 30 JULY AND 11, 12, 13, 18, 19, 20 & 25 AUGUST 2020.

AREA TO BE DREDGED TO 14 FEET M.L.L.W WITH A 1 FOOT ALLOWABLE OVERDEPTH.

LEGEND

- DEPTH < 14.00 FEET
- DEPTH 14.00 - 14.99 FEET
- DEPTH 15.00 - 15.99 FEET
- DEPTH => 16.00 FEET



DREDGE AREA COORDINATES

POINT	NORTHING	EASTING
A1	1635516.29	202157.64
A2	1636376.40	203633.50
A3	1636330.80	207310.40
A4	1636476.60	207822.10
A5	1636825.90	208370.30
A6	1637150.20	208685.30
A7	1640417.31	210637.82
A8	1640340.38	210766.55
A9	1636843.40	208676.70
A10	1636176.80	207630.80
A11	1636222.40	203952.30
A12	1636085.20	203431.90
A13	1635386.65	202233.19

22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 5 of 14

100 50 0 100 200FT
SCALE IN FEET

US Army Corps of Engineers
Baltimore District

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

Date: APRIL '22
Design file no. FILE: 5 MAP: 21-005
Designed by:
Dwn by: JAH
Ckd by: AWP
Reviewed by: AWP
Submitted by:
Chief, Nav. Branch
File name: MD_42_042_20210318_MD

WICOMICO COUNTY
MARYLAND
MAINTENANCE DREDGING
WICOMICO RIVER
STATION 45+400 TO 48+600

Sheet reference number:
V-105
Sheet 5 of

CONTRACTOR NOTE

THE CONTRACTOR SHALL VERIFY TO HIS SATISFACTION ALL DISTANCES, AZIMUTH, BEARINGS AND COORDINATES SHOWN ON THESE PLANS, PRIOR TO THEIR USE FOR ANY CHANNEL STAKE OUT. SHORE STATION LOCATIONS FOR ELECTRONIC POSITIONING EQUIPMENT OR ANY OTHER DREDGING PURPOSES. THE BALTIMORE DISTRICT CORPS OF ENGINEERS IS NOT RESPONSIBLE IN ANY WAY FOR ANY DREDGING OR CONSTRUCTION PROBLEMS RESULTING FROM A FAILURE OF THE CONTRACTOR OR SUBCONTRACTORS TO CONFIRM COORDINATES, DISTANCES AND AZIMUTHS SHOWN ON PLANS PRIOR TO ANY DREDGING OR CONSTRUCTION.

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5. SOUNDINGS WERE OBTAINED USING A TRIMBLE GLOBAL POSITIONING SYSTEM AND AN ODOM DEPTH SOUNDER.
6. PROJECT DEPTH: 14 FEET.
7. CHANNEL WIDTH IS 150 FEET.
8. SURVEYED 23, 28, 29, & 30 JULY AND 11, 12, 13, 18, 19, 20 & 25 AUGUST 2020.
9. SHORELINE MAPPING IS DISPLAYED AS A GENERAL REFERENCE SINCE IT WAS COMPILED IN ACCORDANCE WITH THE NATIONAL MAP ACCURACY STANDARDS FROM AERIAL DATA DATED JULY 2007.

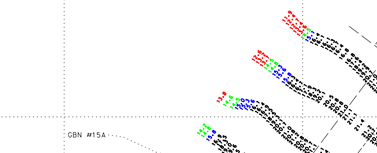
AREA TO BE DREDGED TO 14 FEET M.L.L.W. WITH A 1 FOOT ALLOWABLE OVERDEPTH.

LEGEND

- DEPTH < 14.00 FEET
- DEPTH 14.00 - 14.99 FEET
- DEPTH 15.00 - 15.99 FEET
- DEPTH -> 16.00 FEET

DREDGE AREA COORDINATES

POINT	NORTHING	EASTING
A1	1635516.29	202157.64
A2	1636376.40	203633.50
A3	1636330.80	207310.40
A4	1636476.60	207822.10
A5	1636825.90	208370.30
A6	1637150.20	208685.30
A7	1640417.31	210637.82
A8	1640340.38	210766.55
A9	1636843.40	208676.70
A10	1636176.80	207630.80
A11	1636222.40	203952.30
A12	1636085.20	203431.90
A13	1635386.65	202233.19



22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 6 of 14

US Army Corps of Engineers Baltimore District

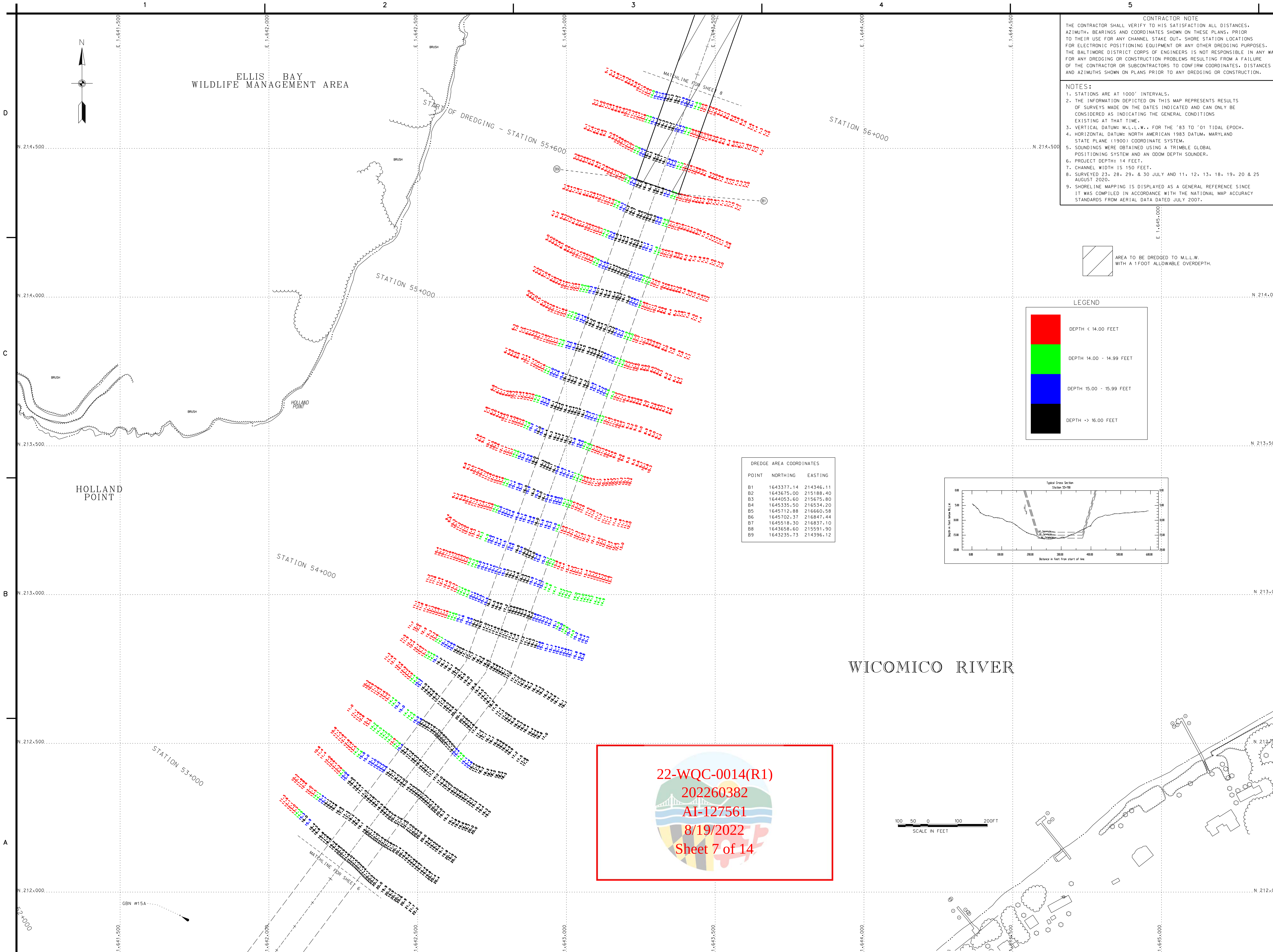
Date	Scale: 1" =
Designed by:	Drawn by:
Quantities by:	Submitted by:
Checked by:	Approved by:

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

WICOMICO COUNTY
MARYLAND
MAINTENANCE DREDGING
WICOMICO RIVER

STATION 48+700 TO 53+000

Sheet reference number: V-106
Sheet 6 of



CONTRACTOR NOTE

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AREA TO BE DREDGED TO M.L.L.W. WITH A 1 FOOT ALLOWABLE OVERDEPTH.

LEGEND

- DEPTH < 14.00 FEET
- DEPTH 14.00 - 14.99 FEET
- DEPTH 15.00 - 15.99 FEET
- DEPTH => 16.00 FEET

DREDGE AREA COORDINATES

POINT	NORTHING	EASTING
B1	1643377.14	214346.11
B2	1643675.00	215188.40
B3	1644053.60	215675.80
B4	1645335.50	216534.20
B5	1645712.88	216660.58
B6	1645702.37	216847.44
B7	1645518.30	216837.10
B8	1643658.60	215591.90
B9	1643235.73	214396.12

22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 7 of 14

US Army Corps of Engineers
Baltimore District

Mark | Appr. | Date | Description

Designed by: | Dwn by: JAH | Ckd by: AWP | Reviewed by: AWP | Submitted by: | Chief, Nav. Branch

Date: APRIL '22 | Rev. | Design file no. FILE: 5 MAP: 21-007 | Drawing code: | File name: MD_42_042_20210318_MD | Plot date: | Plot scale:

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

WICOMICO COUNTY
MARYLAND
MAINTENANCE DREDGING
WICOMICO RIVER
STATION 53+100 TO 55+900

Sheet reference number:
V-107
Sheet 7 of

CONTRACTOR NOTE

THE CONTRACTOR SHALL VERIFY TO HIS SATISFACTION ALL DISTANCES, AZIMUTH, BEARINGS AND COORDINATES SHOWN ON THESE PLANS, PRIOR TO THEIR USE FOR ANY CHANNEL STAKE OUT, SHORE STATION LOCATIONS FOR ELECTRONIC POSITIONING EQUIPMENT OR ANY OTHER DREDGING PURPOSES. THE BALTIMORE DISTRICT CORPS OF ENGINEERS IS NOT RESPONSIBLE IN ANY WAY FOR ANY DREDGING OR CONSTRUCTION PROBLEMS RESULTING FROM A FAILURE OF THE CONTRACTOR OR SUBCONTRACTORS TO CONFIRM COORDINATES, DISTANCES AND AZIMUTHS SHOWN ON PLANS PRIOR TO ANY DREDGING OR CONSTRUCTION.

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7. CHANNEL WIDTH IS 150 FEET.
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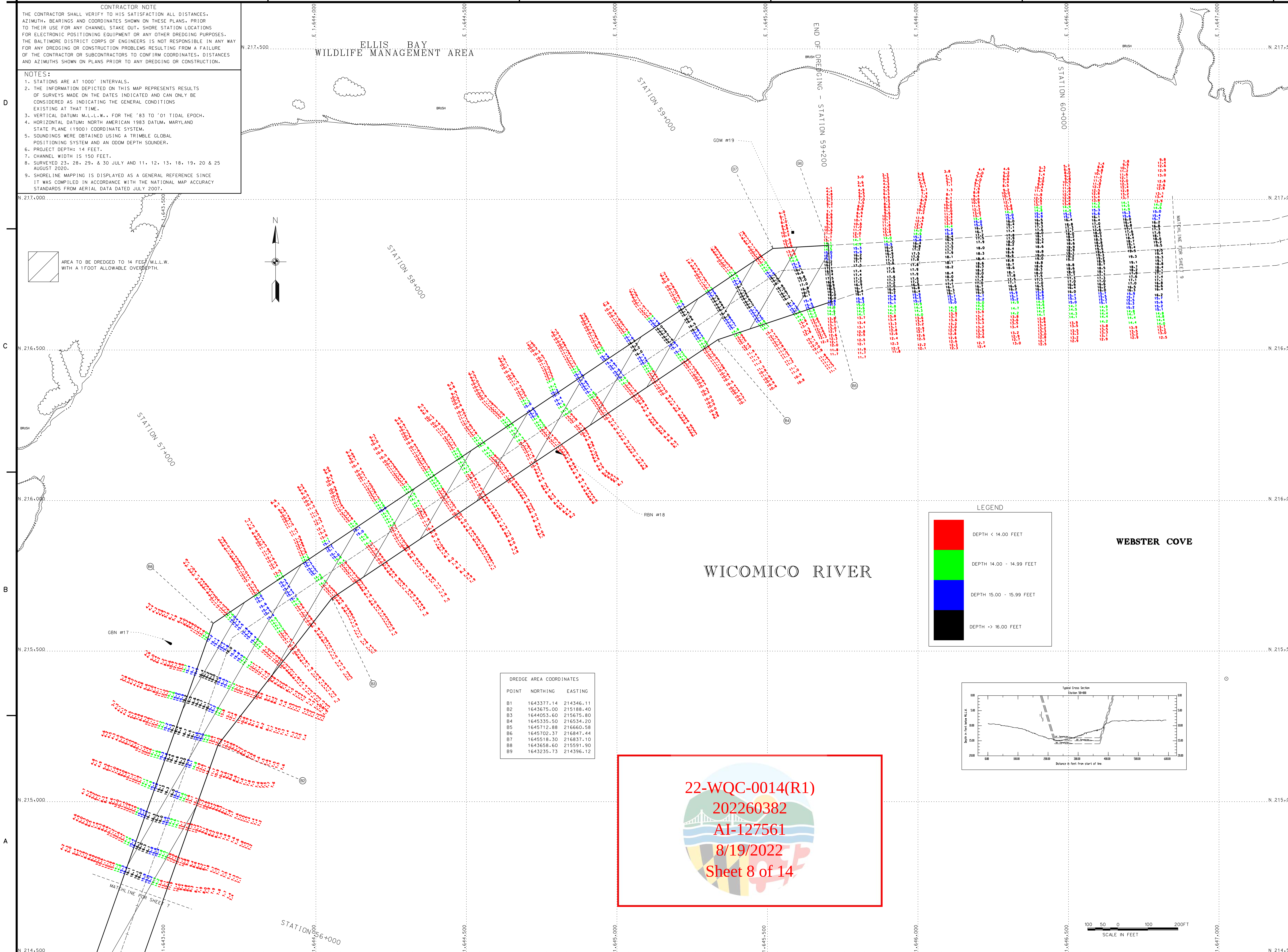
9. SHORELINE MAPPING IS DISPLAYED AS A GENERAL REFERENCE SINCE IT WAS COMPILED IN ACCORDANCE WITH THE NATIONAL MAP ACCURACY STANDARDS FROM AERIAL DATA DATED JULY 2007.

AREA TO BE DREDGED TO 14 FEET M.L.L.W. WITH A 1 FOOT ALLOWABLE OVERDEPTH.



DREDGE AREA COORDINATES

POINT	NORTHING	EASTING
B1	1643377.14	214346.11
B2	1643675.00	215188.40
B3	1644053.60	215675.80
B4	1645335.50	216534.20
B5	1645712.88	216660.58
B6	1645702.37	216847.44
B7	1645518.30	216837.10
B8	1643658.60	215591.90
B9	1643235.73	214396.12

LEGEND

- DEPTH < 14.00 FEET (red)
- DEPTH 14.00 - 14.99 FEET (green)
- DEPTH 15.00 - 15.99 FEET (blue)
- DEPTH => 16.00 FEET (black)

22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 8 of 14

100 50 0 100 200FT
SCALE IN FEET

US Army Corps of Engineers
Baltimore District

Date: APRIL '22
Design file no. FILE: 5 MAP: 21-008
Drawing code:
File name: MD_42_042_20210318_MD
Plot date:
Plot scale:
Designed by:
Dwn by: JAH
Ckd by: AWP
Reviewed by: AWP
Submitted by:
Chief, Nav. Branch

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

WICOMICO COUNTY
MARYLAND
MAINTENANCE DREDGING
WICOMICO RIVER
STATION 56+000 TO 60+300

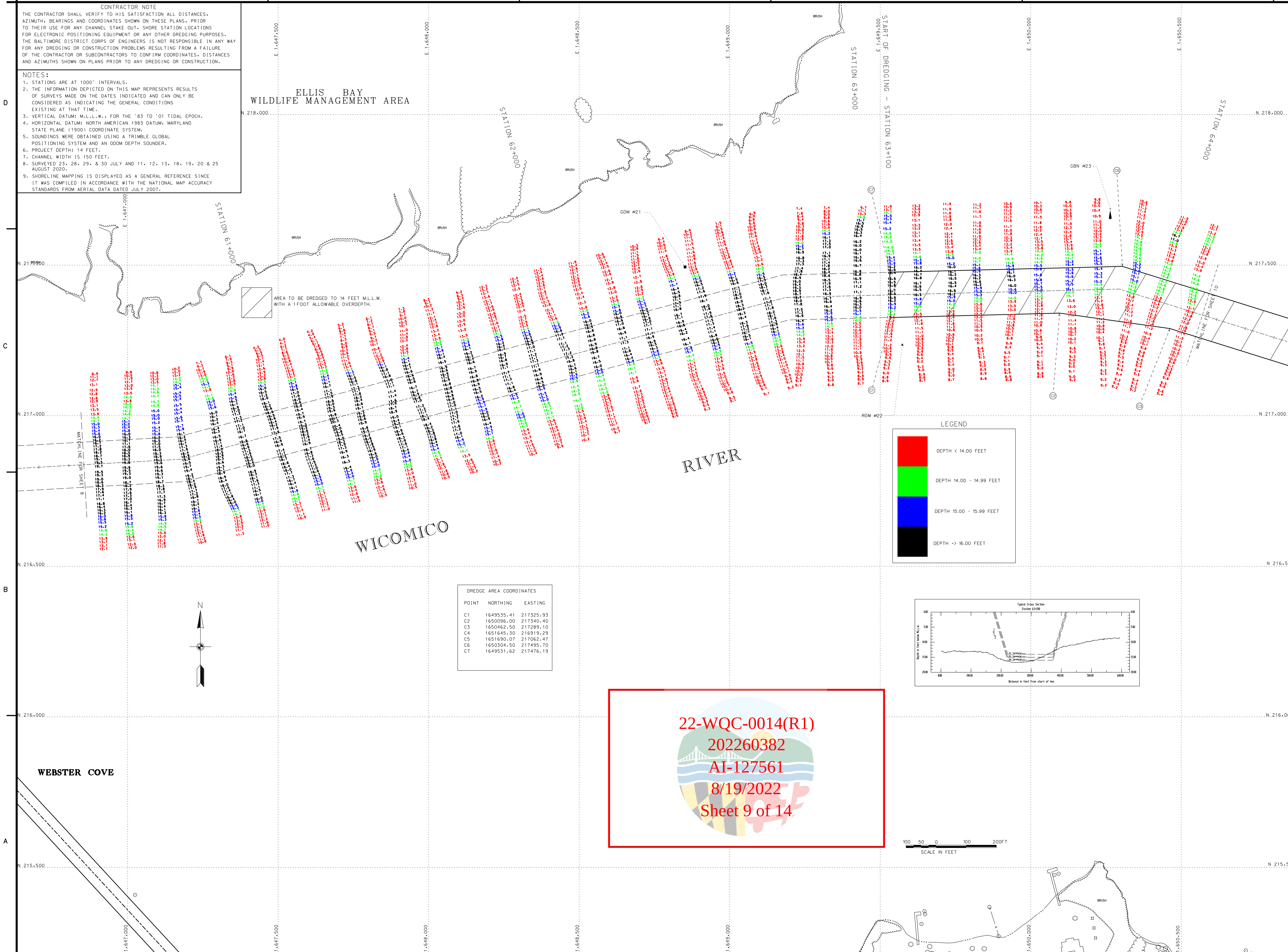
Sheet reference number:
V-108
Sheet 8 of

CONTRACTOR NOTE

THE CONTRACTOR SHALL VERIFY TO HIS SATISFACTION ALL DISTANCES, AZIMUTH, BEARINGS AND COORDINATES SHOWN ON THESE PLANS, PRIOR TO THEIR USE FOR ANY CHANNEL STAKE OUT, SHORE STATION LOCATIONS FOR ELECTRONIC POSITIONING EQUIPMENT OR ANY OTHER DREDGING PURPOSES. THE BALTIMORE DISTRICT CORPS OF ENGINEERS IS NOT RESPONSIBLE IN ANY WAY FOR ANY DREDGING OR CONSTRUCTION PROBLEMS RESULTING FROM A FAILURE OF THE CONTRACTOR OR SUBCONTRACTORS TO CONFIRM COORDINATES, DISTANCES AND AZIMUTHS SHOWN ON PLANS PRIOR TO ANY DREDGING OR CONSTRUCTION.

NOTES:

1. STATIONS ARE AT 1000' INTERVALS.
2. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS RESULTS OF SURVEYS MADE ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
3. VERTICAL DATUM: M.L.L.W., FOR THE '83 TO '01 TIDAL EPOCH.
4. HORIZONTAL DATUM: NORTH AMERICAN 1983 DATUM, MARYLAND STATE PLANE (1900) COORDINATE SYSTEM.
5. SOUNDINGS WERE OBTAINED USING A TRIMBLE GLOBAL POSITIONING SYSTEM AND AN ODOM DEPTH SOUNDER.
6. PROJECT DEPTH: 14 FEET.
7. CHANNEL WIDTH IS 150 FEET.
8. SURVEYED 23, 28, 29, & 30 JULY AND 11, 12, 13, 18, 19, 20 & 25 AUGUST 2020.
9. SHORELINE MAPPING IS DISPLAYED AS A GENERAL REFERENCE SINCE IT WAS COMPILED IN ACCORDANCE WITH THE NATIONAL MAP ACCURACY STANDARDS FROM AERIAL DATA DATED JULY 2007.



LEGEND

- DEPTH < 14.00 FEET
- DEPTH 14.00 - 14.99 FEET
- DEPTH 15.00 - 15.99 FEET
- DEPTH => 16.00 FEET

DREDGE AREA COORDINATES

POINT	NORTHING	EASTING
C1	1649535.41	217325.93
C2	1650096.00	217340.40
C3	1650462.50	217289.10
C4	1651645.30	216919.29
C5	1651690.07	217062.47
C6	1650304.50	217495.70
C7	1649531.62	217476.19

100 50 0 100 200FT
SCALE IN FEET

22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 9 of 14

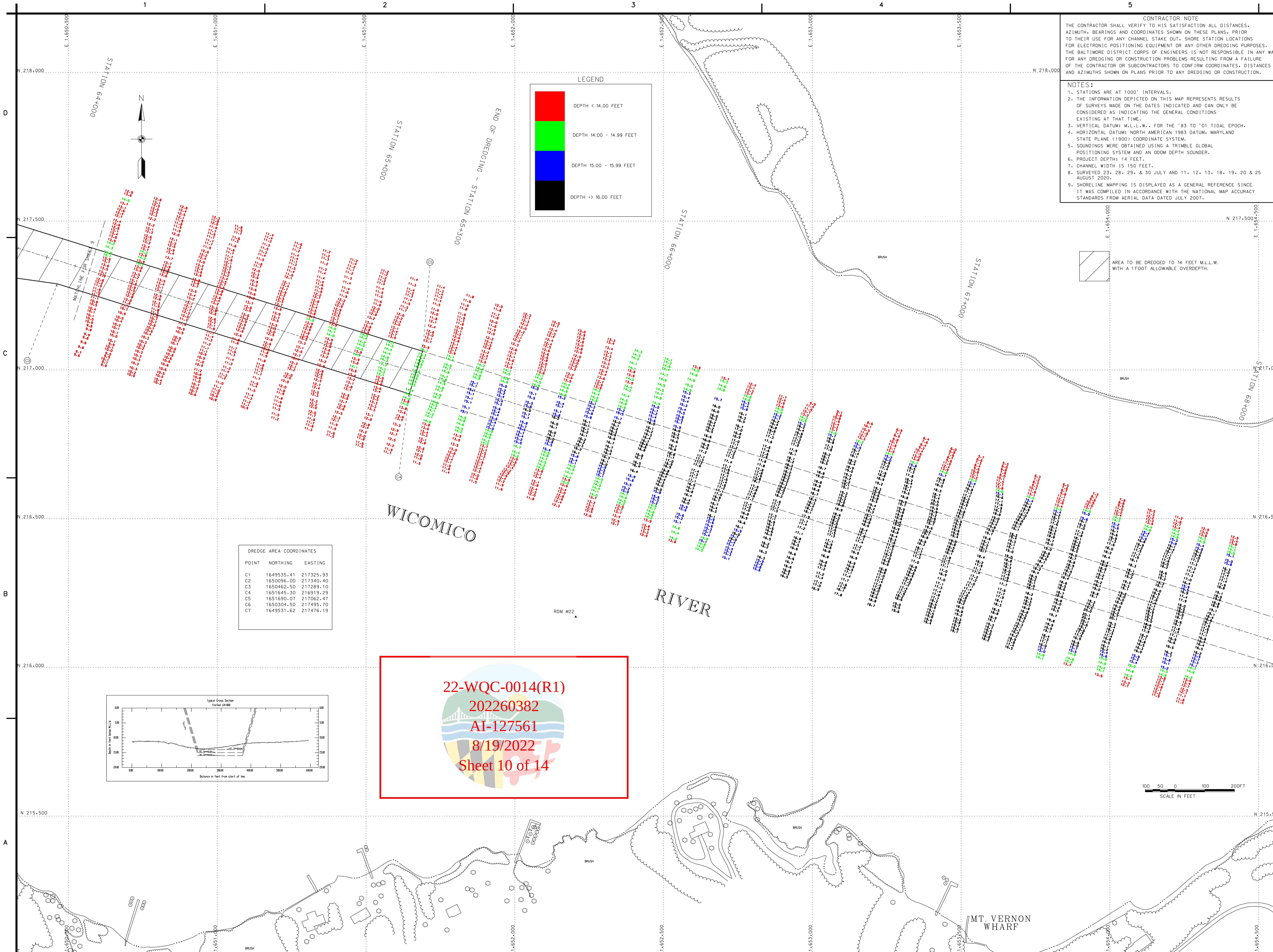
US Army Corps of Engineers
Baltimore District

Date: APRIL '22
Design file no. FILE: 5 MAP: 21-009
Drawing code:
File name: MD_42_042_20210318_MD
Plot date:
Plot scale:
Designed by:
Dwn by: JAH
Ckd by: AWP
Reviewed by: AWP
Submitted by:
Chief, Nav. Branch

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

WICOMICO COUNTY
MARYLAND
MAINTENANCE DREDGING
WICOMICO RIVER
WEBSTERS COVE
STATION 60+400 TO 64+100

Sheet reference number:
V-109
Sheet 9 of



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C5	1651690.07	217062.47
C6	1650304.50	217495.70
C7	1649531.62	217476.19

22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 10 of 14

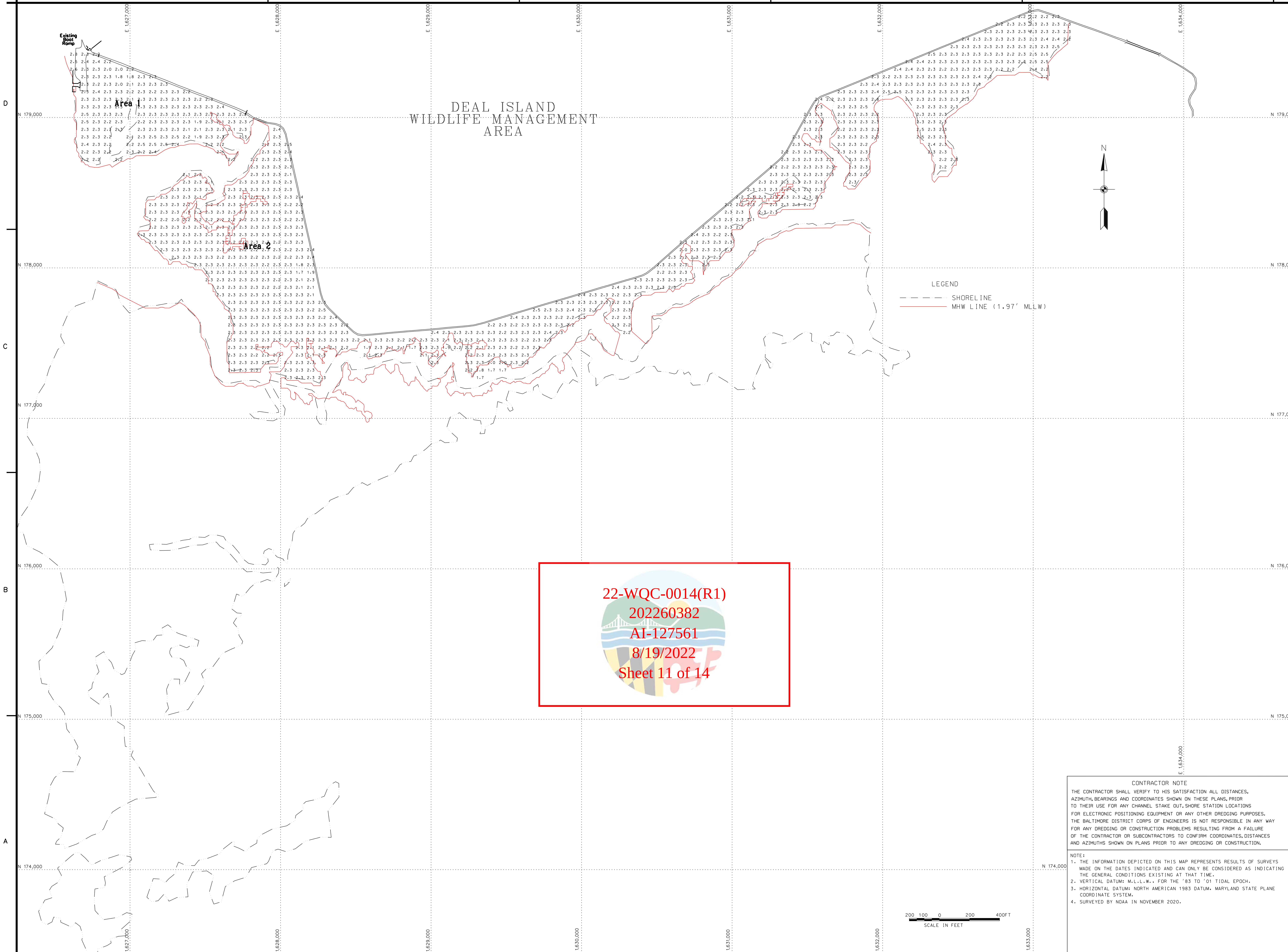
US Army Corps of Engineers
Baltimore District

Designed by:	Ckd by: AWP	Date: APRIL '22	Rev.
Dwn by: JAH	Reviewed by: AWP	Design file no. FILE: 5 MAP: 21-010	
	Submitted by: Chief, Nav. Branch	Drawing code:	
		File name: MD_42_042_20210318_MD Plot date: Plot scale:	

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

WICOMICO COUNTY
MARYLAND
MAINTENANCE DREDGING
WICOMICO RIVER
STATION 64+200 TO 68+100

Sheet reference number:
V-110
Sheet 10 of



22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 11 of 14

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4. SURVEYED BY NOAA IN NOVEMBER 2020.

US Army Corps of Engineers
Baltimore District

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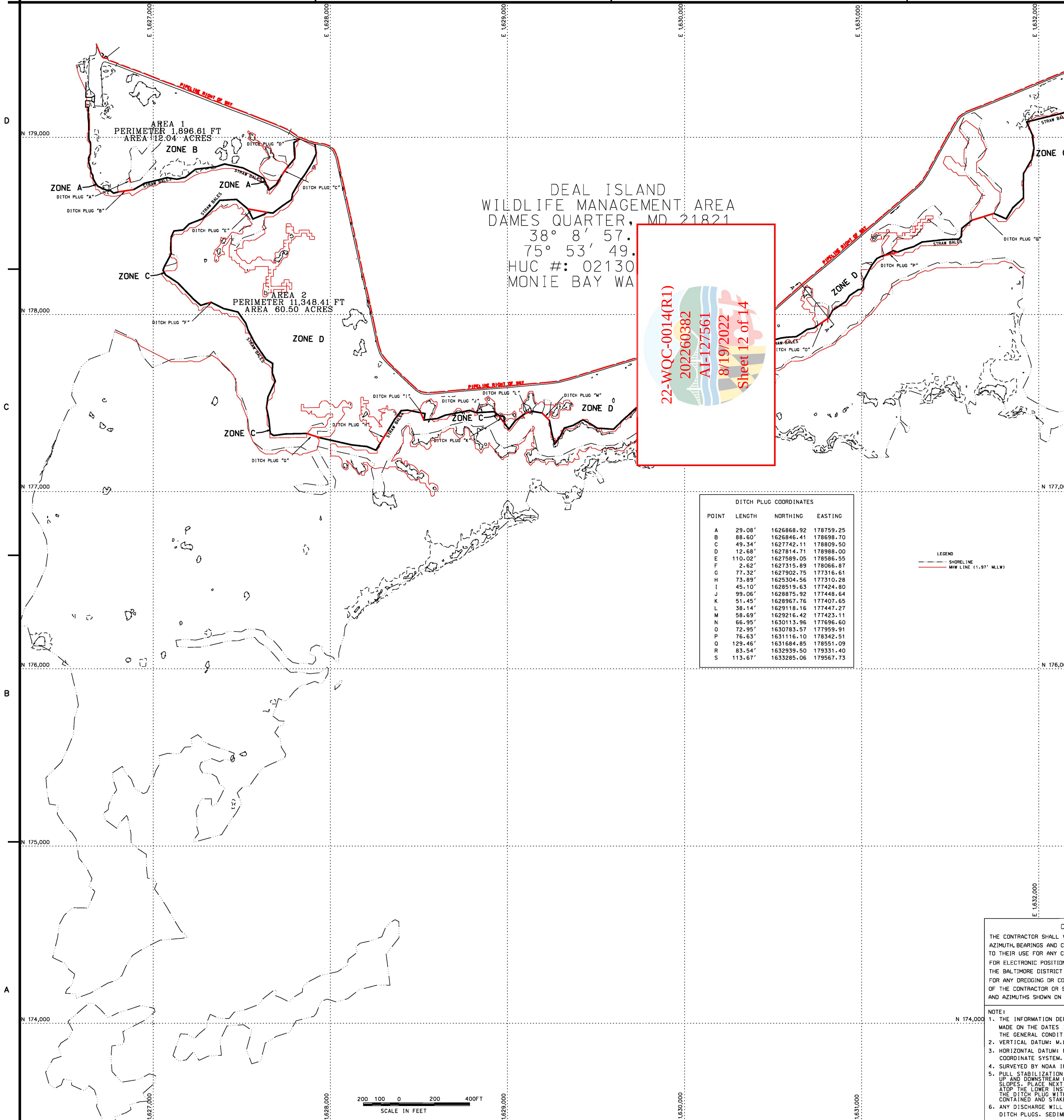
BALTIMORE DISTRICT

Designed by:	Dwn by: JAH	Ckd by: AWP	Reviewed by: AWP	Submitted by: Chief, Nav. Branch
Date: 2	Rev.	Design file no. FILE: 5 MAP: 21-011	Drawing code:	File name: MD_42_042_20210316_MO Plot date: Plot scale:

WICOMICO RIVER
MARYLAND

CONDITION SURVEY
DEAL ISLAND PLACEMENT SITE

Sheet reference number:
V-111
Sheet 11 of



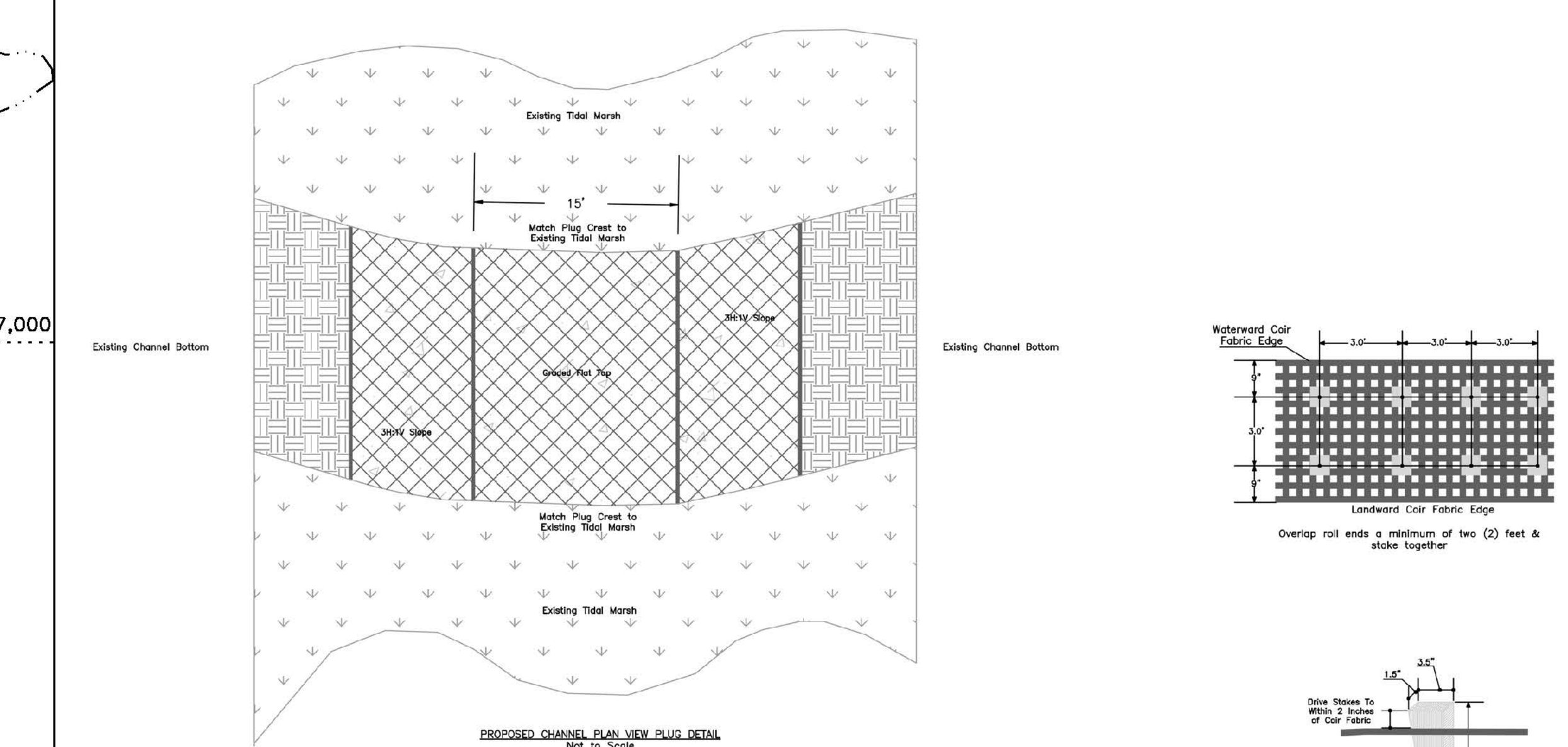
22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 12 of 14

DITCH PLUG COORDINATES

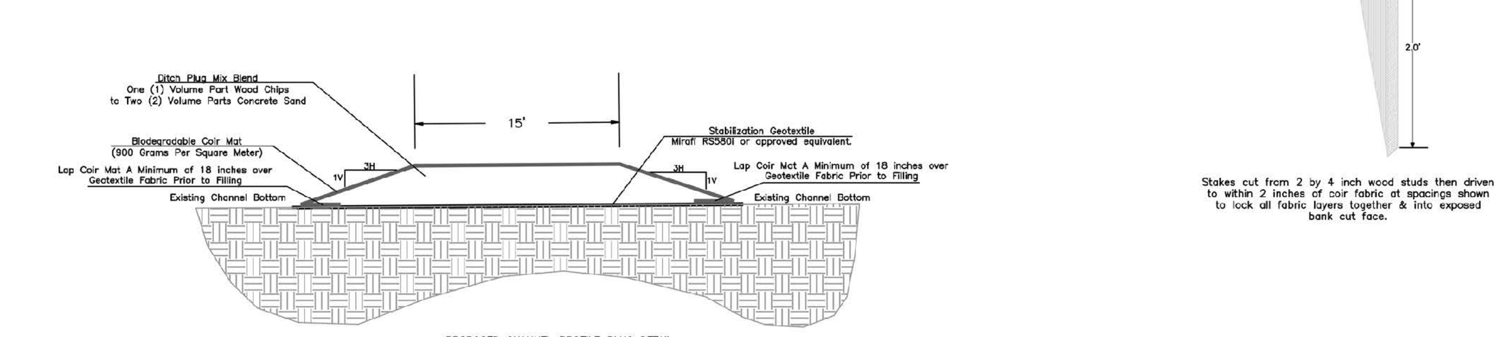
POINT	LENGTH	NORTHING	EASTING
A	29.08′	1626868.92	178759.25
B	88.60′	1626846.41	178698.70
C	49.34′	1627742.11	178809.50
D	12.68′	1627814.71	178988.00
E	110.02′	1627589.05	178586.55
F	2.62′	1627315.89	178066.87
G	77.32′	1627902.75	177316.61
H	73.89′	1625304.56	177310.28
I	45.10′	1628519.63	177424.80
J	99.06′	1628875.92	177448.64
K	51.45′	1628967.76	177407.65
L	38.14′	1629118.16	177447.27
M	58.69′	1629216.42	177423.11
N	66.95′	1630113.96	177696.60
O	72.95′	1630783.57	177959.91
P	76.63′	1631116.10	178342.51
Q	129.46′	1631684.85	178551.09
R	83.54′	1632939.50	179331.40
S	113.67′	1633285.06	179567.73

LEGEND
SHORELINE
MHW LINE (1.97′ MLLW)

TIDAL DITCH PLUG DESIGN



PROPOSED CHANNEL PLAN VIEW PLUG DETAIL
Not to Scale



PROPOSED CHANNEL PROFILE PLUG DETAIL
Not to Scale

CONSTRUCTION SEQUENCE NOTES:

1) Ditch Plug Mix Blend comprised of one (1) volume part of wood chips with two (2) parts of washed concrete sand with no more than ten (10) percent passing by weight the No. 100 sieve. Mix shall be thoroughly blended before placement.

2) Stabilization geotextile shall satisfy Mirafi RS580i or approved equivalent. Fabric shall be placed continuously along existing channel bottom throughout ditch plug footprint with a minimum of eighteen (18) inch overlap at ends and/or sides.

3) Biodegradable coir mat shall be constructed of coconut fiber with a tight weave and weight of 900 grams per square meter. Coir mat shall be placed a minimum of eighteen (18) inches along the upstream and downstream Ditch Plug Fill proposed toe of slope.

4) After stabilization geotextile and biodegradable coir mat fabrics are placed and stapled in place, initially install Ditch Plug Mix Blend as a minimum two (2) foot thick bridge lift then tracked thoroughly to a firm condition. The remaining fill shall then be placed to match the existing vegetated tidal elevations then graded to shown dimensions. Upstream & downstream slopes ditch plug practice to be graded at 3H:1V inclinations.

5) Pull taut and then stake as shown in place the up & downstream coir mat on the graded 3H:1V ditch plug slopes. Place next coir mat with a minimum eighteen (18) inch overlap over the lower installed coir mat and stake as shown. Continue covering the ditch plug with coir fabric until plug is entirely contained and staked in place.

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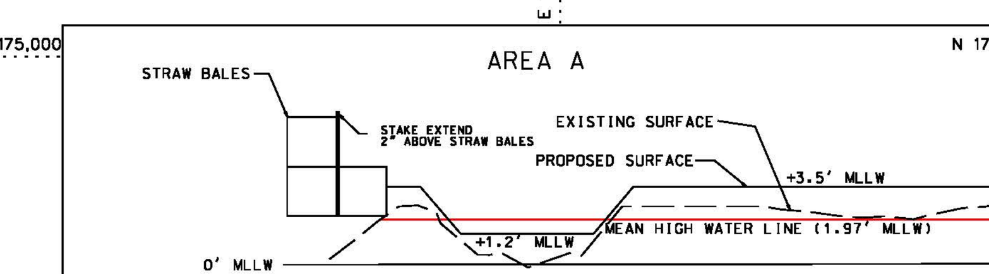
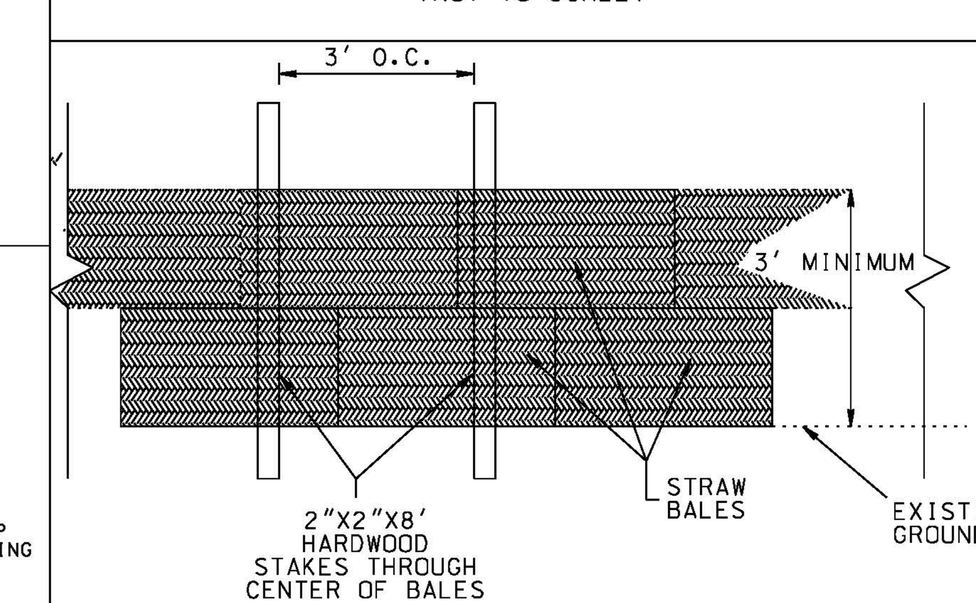
4. SURVEYED BY NOAA IN NOVEMBER 2020.
5. PULL STABILIZATION GEOTEXTILE TAUT AND STAKE AS SHOWN IN PLACE BOTH UP AND DOWNSTREAM OF THE COIR MAT ON THE GRADED 3H:1V DITCH PLUG SLOPES. PLACE NEXT COIR MAT WITH A MINIMUM OF EIGHTEEN(18) IN OVERLAP ATOP THE LOWER INSTALLED COIR MAT AND STAKE AS SHOWN. CONTINUE COVERING THE DITCH PLUG WITH COIR MAT FABRIC UNTIL THE DITCH PLUG IS ENTIRELY CONTAINED AND STAKED IN PLACE.
6. ANY DISCHARGE WILL BE SEEPAGE FROM THE STRAWBALES AND EACH OF THE DITCH PLUGS. SEDIMENT IS TO REMAIN AT THE SITE TO BUILD UP ELEVATION.



TYPICAL SECTION A-A
(NOT TO SCALE)



STRAW BALE CONTAINMENT DETAIL
(NOT TO SCALE)

US Army Corps of Engineers
Baltimore District

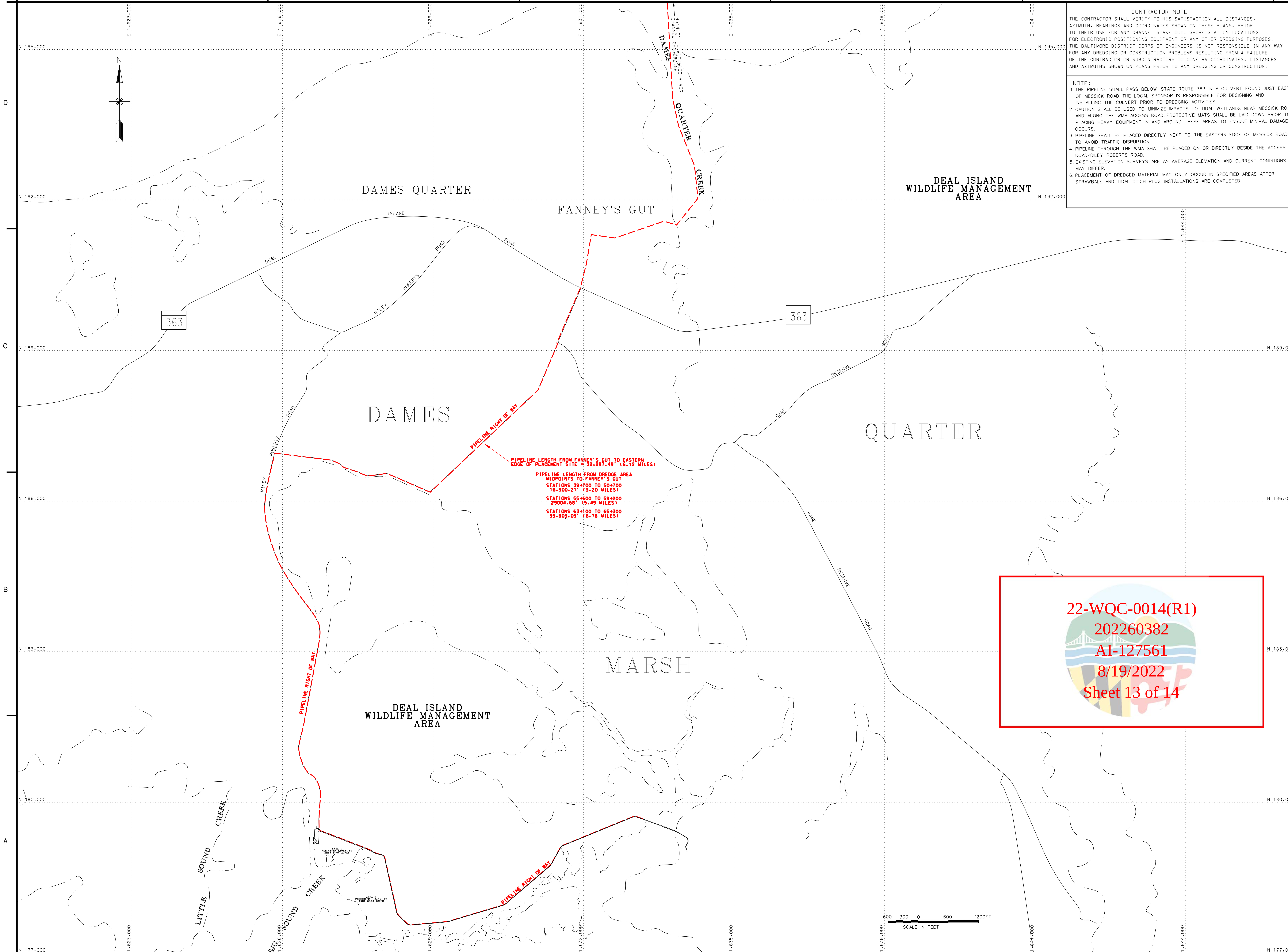
Designed by:	Date: APRIL '22	Rev.
Dwn by: JAH	Ckd by: AWP	Design file no. FILE: 5 MAP: 21-012
Reviewed by: AWP		Drawing code:
Submitted by: Chief, Nav. Branch		File name: Plot date: Plot scale:

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

WICOMICO RIVER
MARYLAND

MAINTENANCE DREDGING
DEAL ISLAND PLACEMENT SITE

Sheet reference number:
V-112
Sheet 12 of



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NOTE:

1. THE PIPELINE SHALL PASS BELOW STATE ROUTE 363 IN A CULVERT FOUND JUST EAST OF MESSICK ROAD. THE LOCAL SPONSOR IS RESPONSIBLE FOR DESIGNING AND INSTALLING THE CULVERT PRIOR TO DREDGING ACTIVITIES.
2. CAUTION SHALL BE USED TO MINIMIZE IMPACTS TO TIDAL WETLANDS NEAR MESSICK ROAD AND ALONG THE WMA ACCESS ROAD. PROTECTIVE MATS SHALL BE LAID DOWN PRIOR TO PLACING HEAVY EQUIPMENT IN AND AROUND THESE AREAS TO ENSURE MINIMAL DAMAGE OCCURS.
3. PIPELINE SHALL BE PLACED DIRECTLY NEXT TO THE EASTERN EDGE OF MESSICK ROAD TO AVOID TRAFFIC DISRUPTION.
4. PIPELINE THROUGH THE WMA SHALL BE PLACED ON OR DIRECTLY BESIDE THE ACCESS ROAD/RILEY ROBERTS ROAD.
5. EXISTING ELEVATION SURVEYS ARE AN AVERAGE ELEVATION AND CURRENT CONDITIONS MAY DIFFER.
6. PLACEMENT OF DREDGED MATERIAL MAY ONLY OCCUR IN SPECIFIED AREAS AFTER STRAWBALE AND TIDAL DITCH PLUG INSTALLATIONS ARE COMPLETED.

22-WQC-0014(R1)
202260382
AI-127561
8/19/2022
Sheet 13 of 14

US Army Corps of Engineers
Baltimore District

Mark	Date	Appr.	Description

Designed by: | Dwn by: JAH | Ckd by: AWP | Reviewed by: AWP | Submitted by: Chief, Nav. Branch

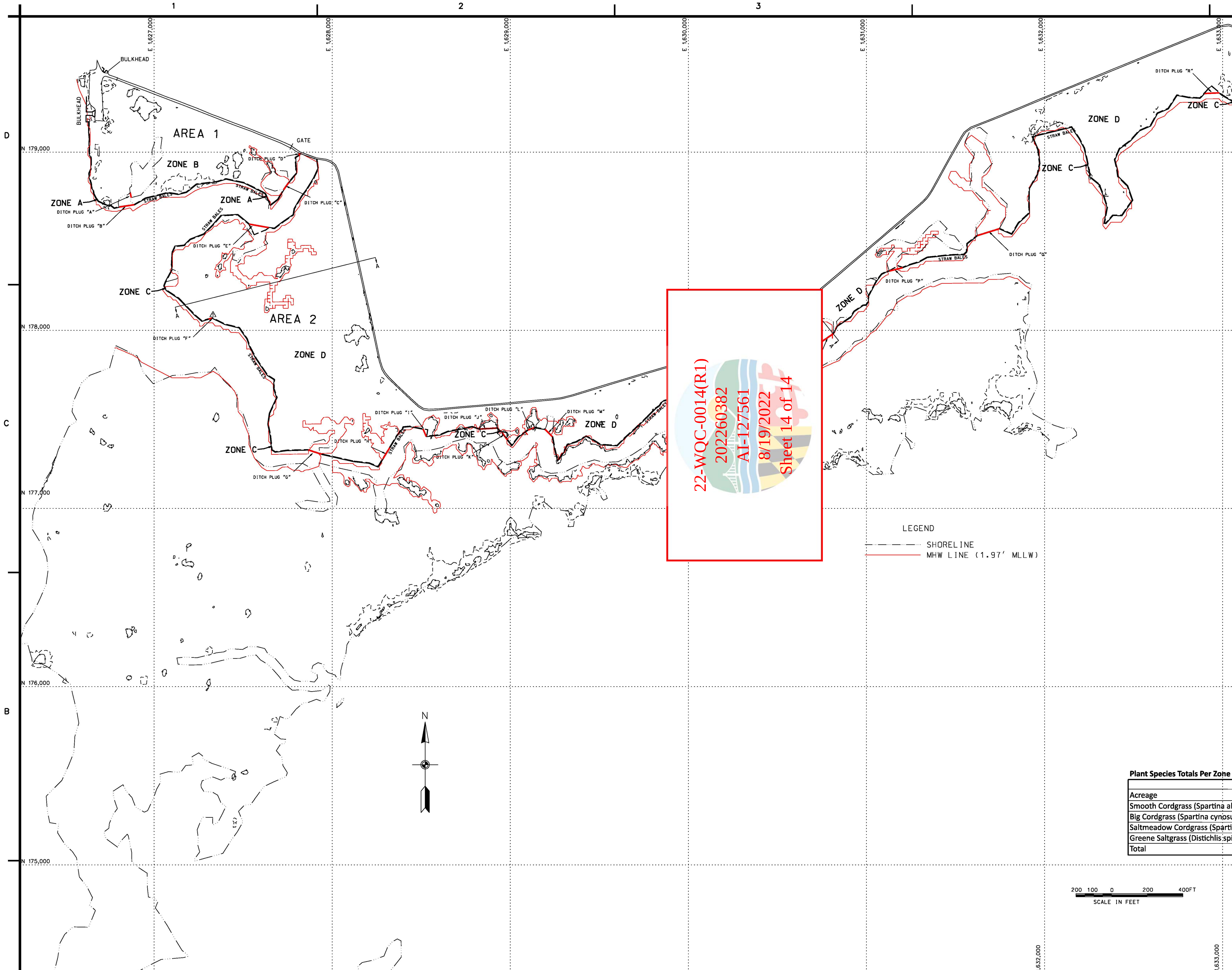
Date: APRIL '22 | Rev. | Design file no. FILE: 5 MAP: 21-013 | Drawing code: | File name: MD_42_042_20210318_MD | Plot date: | Plot scale:

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

WICOMICO COUNTY
MARYLAND

MAINTENANCE DREDGING
WICOMICO RIVER
PIPELINE RIGHT OF WAY
DEAL ISLAND PLACEMENT SITE

Sheet reference number:
V-113
Sheet 13 of



IMPACT CHART

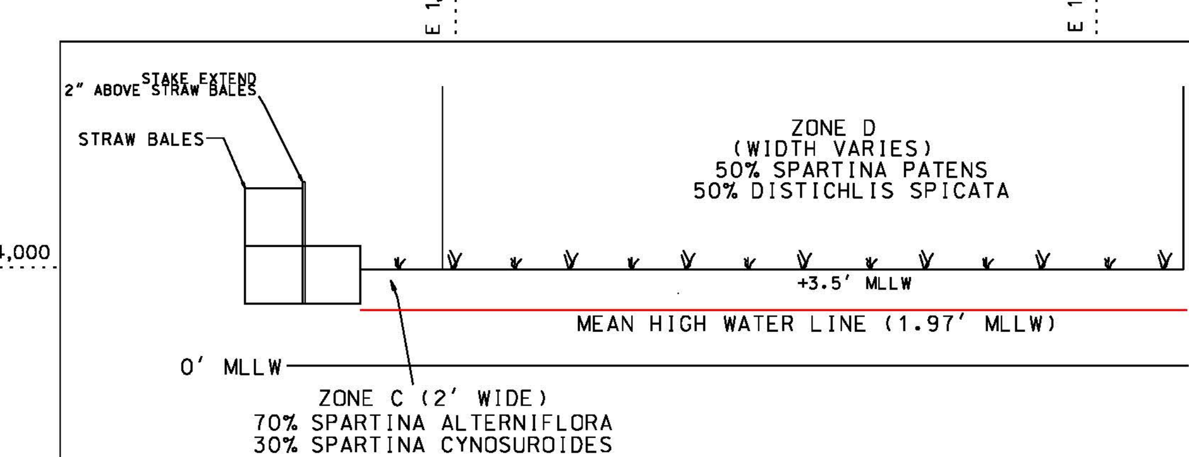
Total Area of Area 1	524,448.75 SF
Total Area of Area 2	2,635,516.25 SF
Total for Entire Site	3,159,965.00 SF
Existing Open Water in Area 1	44,914.02 SF
Existing Open Water in Area 2	153,794.78 SF
Total for Entire Site	193,701.34 SF
Existing Low Marsh in Area 1	7597.96 SF
Existing Low Marsh in Area 2	153,554.72 SF
Total for Entire Site	175,249.92 SF
Newly Restored Low Marsh for Area 1	52,511.98 SF
Newly Restored Low Marsh for Area 2	307,349.50 SF
Total for Entire Site	359,861.48 SF
Newly Restored High Marsh for Area 1	471,936.77 SF
Newly Restored High Marsh for Area 2	2,328,166.75 SF
Total for Entire Site	2,800,103.52 SF

Total Number of Plants Per Zone	
Zone A	980
Zone B	57,838
Zone C	5,663
Zone D	653,182
Total	717,663

Total Number of Plants Per Species	
Smooth Cordgrass *(Spartina alterniflora)*	4,650
Big Cordgrass (Spatina cynosuroides)	1,993
Saltmeadow Cordgrass *(Spartina patens)*	355,510
Greene Saltgrass *(Distichlis spicata)*	355,510
Total	717,663

Plant Species Totals Per Zone

	Area 1		Area 2	
	Zone A	Zone B	Zone C	Zone D
Acreage	0.09 acres	11.95 acres	0.52 acres	59.98 acres
Smooth Cordgrass (Spartina alterniflora)	686	0	3,964	0
Big Cordgrass (Spartina cynosuroides)	294	0	1,699	0
Saltmeadow Cordgrass (Spartina patens)	0	28,919	0	326,591
Greene Saltgrass (Distichlis spicata)	0	28,919	0	326,591
Total	980	57,838	5,663	653,182



PLANTING TYPICAL SECTION A-A
(NOT TO SCALE)

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US Army Corps of Engineers
Baltimore District

Mark	Description	Date	Appr.
1	ADDED DITCH PLUG LOCATION	8/25/2021	JAH

Designed by: | Dwn by: JAH | Ckd by: AWP | Reviewed by: AWP | Submitted by: Chief, Nav. Branch
Date: APRIL '22 | Rev. | Design file no. FILE: 5 MAP: 21-014 | Drawing code: | File name: | Plot date: | Plot scale:

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

SOMERSET COUNTY
MARYLAND

DEAL ISLAND PLACEMENT SITE
PLANTING PLAN

Sheet reference number:
V-114
Sheet 14 of

APPENDIX E

Acronyms and Abbreviations

BMP	Best management practice
CBRS	Coastal Barrier Resources System
CEQ CFR	Council on Environmental Quality, Code of Federal Regulation
CY	Cubic yard
dBA	A-Weighted Decibel
E2EM	Estuarine Intertidal Emergent
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
FONSI	Finding of No Significant Impact
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MHT	Maryland Historic Trust
MLW	Mean Low Water
MOU	Memorandum of Understanding
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NMFS	National Marine Fisheries Service
NOAA	National Ocean and Atmospheric Administration
NOB	Natural Oyster Bar
NOI	Notice of Intent
NWI	National Wetlands Inventory
O&M	Operations and Maintenance
PFO	Palustrine Forest
ppt	Parts per Thousand

PSFA	Public shellfish fishing area
PSS	Palustrine Scrub Shrub
REC	Record of Environmental Consideration
SAV	Submerged Aquatic Vegetation
SHPO	State Historic Preservation Officer
TMDL	Total Maximum Daily Load
TOY	Time of Year
TSS	Total Suspended Solids
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VIMS	Virginia Institute of Marine Science
WMA	Wildlife Management Area
WQC	Water Quality Certification