US Army Corps of Engineers
Baltimore District

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

BALTIMORE HARBOR ANCHORAGES AND CHANNELS (BHAC) MODIFICATION OF SEAGIRT LOOP CHANNEL FEASIBILITY STUDY

FINAL INTEGRATED FEASIBILITY REPORT & ENVIRONMENTAL ASSESSMENT

APPENDIX A:

ENVIRONMENTAL AND CULTURAL RESOURCES

FEBRUARY 2023

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APPENDIX A1:

Clean Water Act Section 404(b)(1) Evaluation

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1. Introduction

This document provides a Section 404(b)(1) guidelines evaluation for the Baltimore Harbor Anchorages and Channels (BHAC) Project Modification of Seagirt Loop Channels (Seagirt Study), Maryland. The BHAC project was completed in 1998 and authorized for construction in Section 101(a)(22) of the Water Resources Development Act of 1999. The BHAC project consists of the main navigation access channels to the Port of Baltimore (Port) facilities at Dundalk, Seagirt, and South Locust Point Marine Terminals and the federally authorized anchorages serving vessels in Baltimore Harbor. The Seagirt Study is being completed to determine whether improvements to the BHAC project channels would result in improved navigation efficiencies at the Port to meet future demand capacity at the Port facilities, including efficient handling of increased container volume at Seagirt Marine Terminal and faster and safer movement of vessels transiting the channels.

The Seagirt Study Recommended Plan will ensure that any turbidity or sedimentation caused by the project will be limited to the immediate project area and will be as minimal as possible. This evaluation is derived from the regulations in 40 CFR 230, Section 404(b)(1): Guidelines for Specification of Disposal Sites for Dredged or Fill Material (Guidelines), which implement Sections 404(b) and 401(1) of the Clean Water Act (CWA).

Section 230.10(a)(4) states that:

> *For actions subject to NEPA, where the U.S. Army Corps of Engineers (USACE) is the permitting agency, the analysis of alternatives required for NEPA documents, will in most cases provide the information for the evaluation of alternatives under these Guidelines.*

This analysis and the corresponding Final Integrated Feasibility Report and Environmental Assessment (Final Feasibility Report/EA) serve as documentation that the Seagirt Study project is in full compliance with the Guidelines. The following section will demonstrate that the Recommended Plan will not cause or contribute to significant degradation of the waters of the United States.

2. Project Description

2.1. Location

The Seagirt Loop Feasibility study area includes the 32-square mile area of the Port including the navigable parts of the Patapsco River below Hanover Street, the Northwest and Middle Branches, and the Curtis Bay and its tributary, Curtis Creek. The study initially considered the South Locust Point Branch Channel and Turning Basin as an alternative measure; however, this measure was eliminated from further review early in the study process. The study also considered modification

of a federally authorized Anchorage that serve the public terminals in the Port, however, the Anchorage modification alternative was screened out of the study due to an unfavorable economic evaluation. The final study area focuses on the modification of the Seagirt Loop Channel (which includes the West Dundalk Branch and West Seagirt Branch Channels).

2.2. General Description of Recommended Plan

The Recommended Plan is both the National Economic Development (NED) plan and the comprehensive benefits plan following optimization; specifically deepening and widening of the West Seagirt Branch Channel to a federally authorized depth of -50 feet mean lower low water (MLLW) with 2 feet of allowable overdepth and channel length of 1 mile with widening to an authorized dimension of 760 feet in average width, with additional widening at bends necessary for the safe handling of vessels.

2.3. Authority and Purpose.

This review of the operations of the BHAC is conducted pursuant to §216 of the Rivers and Harbors Act of 1970 (PL. 91-611, 33U.S.C. §549a), which reads:

> *The Secretary of the Army, acting through the Chief of Engineers, is authorized to review the operation of projects the construction of which has been completed and which were constructed by the Corps of Engineers in the interest of navigation, flood control, water supply, and related purposes, when found advisable due to the significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest.*

The BHAC project is the constructed USACE project that will be reviewed for modification as part of this study. The study for the BHAC project was authorized on June 23, 1988, by the Committee on Environment and Public Works, U.S. Senate. The resolution authorizing that this study follows:

> *RESOLVED BY THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS OF THE UNITED STATES SENATE, that the Board of Engineers for Rivers and Harbors is hereby requested to review the reports of the Chief of Engineers on Baltimore Harbor and Channels, Maryland, and Virginia, contained in House Documents Number 94-181, 94th Congress, 1st Session, and Number 86, 85th Congress, 1st Session, and prior reports, with a view to determining if further improvements for navigation, including anchorages and branch channels, are advisable at this time.*

The study, conducted pursuant to this authority, resulted in a Chief of Engineer's Report dated June 8, 1998, and in federal authority for construction of the BHAC Project in §101(a)(22) of WRDA 1999 (PL. 106-53). As discussed in the Chief of Engineer's Report, the project included

improvements to access channels serving the public terminals of Dundalk, Seagirt, and South Locust Point. The federal government assumed maintenance of these channels at their authorized depth.

3. General Construction and Material Descriptions

Components of the project design include deepening the existing -42-foot MLLW West Seagirt Branch Channel to up to -50 feet MLLW with 2 feet of allowable overdepth at 5:1 slope and adding channel wideners. Dredging volumes to complete the deepening and widening of the channel is a total of approximately 1.9 million cubic yards (MCY) of dredged material, with 100,000 CY of maintenance dredging and 1.8 MCY of new work. The removal of the 1.9 MCY of dredged material from the channel will be performed mechanically with clamshell dredge equipment.

3.1. General Characteristics of Fill Material

Bottom sediments in the Chesapeake Bay and approach channels to the Baltimore Harbor are predominantly clayey silt, with some locations containing a fraction of sandy material (BHAC 1997). MDOT MPA has performed sediment sampling in support of various activities, which recently included sampling of the Seagirt Loop Channel and Dundalk Loop Channel. Under contract with the MDOT MPA and Gahagan & Bryant and Associates (GBA), Soil and Land Use Technology, Inc. (SaLUT) performed an extensive sediment sampling program in 2019 in support of a study to deepen the Seagirt Loop Channel. Fifty-six (56) borings were drilled to an elevation of approximately -60 feet MLLW. Borings were located afront Berth 1, Berth 2, Berth 3, in the Seagirt–Dundalk Connecting Channel, and in the Seagirt West Access Channel. In nearly all boreholes, dark gray to grayish-brown and black silt and clay was encountered to the full depth of the borings. Natural water contents generally exceeded 100%, indicating that the samples were in a liquid state.

Information about chemical contamination in Baltimore Harbor sediments was collected from several sources, including searches of Federal and State environment databases, the 1997 BHAC EIS, and triennial sediment evaluations by USACE. USEPA Region 3 has recommended reevaluation of sediments within the Baltimore Harbor every three years. Analysis includes bulk sediment analysis, effluent elutriate analytical testing, and toxicity characteristics leaching procedure testing (TCLP). This testing began in 1995 and is projected to continue. The most recent evaluation of the chemical testing in 2019 indicated that the samples did not exceed Federal and State hazardous waste limits (EA 2019).

3.2. Quantity of Material

The estimate of the total volume of material being dredged from the Baltimore Harbor channel improvements is approximately 1.9 MCY (5H:1V slope). The dredged material will be placed at the Cox Creek DMCF when site improvements are completed, as described in Section 3.4.1. The nonfederal sponsor manages the placement of material using field data and models to predict the capacity requirements of the State DMCFs. These volumes are included in this study, assuring there is available capacity.

3.3. Sources of Dredged Material

- West Seagirt Branch Channel

3.4. Description of Proposed Discharge Sites

All dredged material will be disposed of, placed, or innovatively or beneficially reused in accordance with the projects Dredged Material Management Plan (DMMP), as presented in the Environmental Assessment. All discharge from the facilities is released through a dedicated spillway and monitored via an Individual Discharge Permit through the National Pollutant Discharge Elimination System (NPDES) as authorized by the Environmental Protection Agency and managed through the State of Maryland Department of the Environment. Although not expected, if any dredged material exceeds the acceptance criteria of the dredged material containment facility (DMCF), it would be deposited at an approved alternative upland disposal site. Material is currently projected to be placed at the Cox Creek DMCF.

3.4.1. Cox Creek DMCF

The Cox Creek DMCF is located approximately one mile south of the Francis Scott Key Bridge, on the western shore of the Patapsco River in the upper Chesapeake Bay in Anne Arundel County, Maryland. It is designed to accept dredged material from the Baltimore Harbor. The Cox Creek DMCF includes a 144-acre DMCF footprint, a 4-acre stormwater management pond, and 93 acres of upland. The DMCF dikes are at elevation of +36 feet MLLW. The facility is currently being expanded into the upland portion of the property with raising of the existing dikes to +60 feet MLLW. The estimated completion date for this current expansion work is 2024, and this current expansion and dike raising will be completed prior to the start of the dredged material placement activities discussed in this study. It is anticipated that the dikes will continue to be raised as needed (to accommodate demand) to +80 feet MLLW. This additional dike raising work is currently estimated to be completed by State Fiscal Year (SFY) 2033.

3.5. Time and Duration of Disposal

The dredging and placement of material will occur during the fall/winter time frame, with inflows occurring when dredging occurs. A time of year restriction for dredge activities will be implemented from March 1 to June 15 to avoid and minimize negative impacts to anadromous fish in the Baltimore Harbor. There will be two dredging phases between 2025 and 2027.

3.6. Disposal Method

Excavated material will be moved via watertight barge to the permitted areas and placed onsite via hydraulic unloader.

3.7. Construction Sequence

The project construction sequence will be determined during the Pre-engineering and Design (PED) phase of the project, post-authorization. Dredging will need to be spread out over a minimum of two inflows due to capacity restraints. It is estimated that the dredging will be performed in two phases crossing three calendar years:

- Phase 1: 918,250 CY dredged in 2025/2026
- Phase 2: 918,250 CY dredged in 2026/2027

4. Factual Determination

As outlined below and pursuant to 40 CFR 230.10[a], the project represents the least environmentally damaging practicable alternative and does not violate State or Federal standards or contribute to significant degradation of waters of the U.S. The USACE, Baltimore District Baltimore Harbor and Channels DMMP of 2017 established the Federal standard for the placement of sediment dredged from the channels serving the Port. The Federal standard is defined as the least costly, environmentally acceptable method of discharging the dredged material, consistent with sound engineering practices (33 CFR Part 335). Currently, the Federal standard for placement of material dredged from the Harbor area is Cox Creek and Masonville DMCFs; for sediment from the Bay channels, it is open water placement. Additionally, Title 8, Section 8-1602, Subsection (a) of the Annotated Maryland Code prohibits the placement of any dredged material from the Baltimore Harbor into any portion of the water or bottomland of the Chesapeake Bay.

4.1. Additional Restrictions on Discharge (40 CFR 230.10[b])

The second compliance test under the 40 CFR 230.10 Guidelines for Specification of Disposal Sites for Dredged or Fill Material considers specific impacts that may warrant additional restrictions on discharge. Specifically, the Guidelines state that no discharge of dredged or fill material may be permitted if it will:

1. Cause or contribute to violations of any applicable State or Federal water quality standard.
2. Violate any applicable toxic effluent standard or prohibition under Section 307 of the CWA.
3. Jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act (ESA) of 1973 or result in the potential for adverse impacts (destruction or adverse modification) of a habitat which is determined by the Secretary of the Interior or Commerce to be a critical habitat under the ESA of 1973. If an exemption has been granted by the Endangered Species Committee, the terms of the exemption shall apply, in lieu of this paragraph.
4. Violate any requirement imposed by the Secretary of Commerce to protect any marine State or Federal sanctuary designated under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972.

The proposed use of Cox Creek DMCF, and the larger effort of which it is a part, does not violate applicable State water quality standards or Section 307 prohibitions or effluent standards, per NPDES Permit No. MDDRG3424. The proposed activity does not jeopardize the continued existence of federally listed threatened or endangered species or affect their critical habitat. The proposed activity does not violate the requirements of a federally designated marine sanctuary, as there are no marine sanctuaries in the project area (BHAC 1997). Accordingly, the proposed discharge is in compliance with the requirements of Section 230.10(b) of the Guidelines.

4.2. Finding of No Significant Degradation (40 CFR 230.10[c])

The third compliance test under the Guidelines considers the potential for the proposed discharge to cause or contribute to the degradation of waters of the U.S. The Guidelines state that except as provided under Section 404(b)(2), the discharge of dredged or fill material that will cause or contribute to significant degradation of waters of the U.S. may not be authorized. The Guidelines further define the types of effects that may, either individually or collectively, contribute to the significant degradation of waters of the U.S. These include:

1. Significant adverse effects of discharge of pollutants on human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife and special aquatic sites;

2. significant adverse effects of discharge of pollutants on life stages of aquatic wildlife and other wildlife dependent on aquatic ecosystems, to include the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and/or chemical processes;
3. significant adverse effects of discharge of pollutants on aquatic ecosystem diversity, productivity, and stability including but not limited to the loss of fish and wildlife habitat, or the loss of the capacity of wetlands to assimilate nutrients, purify water, or reduce wave energy; and
4. significant adverse effects of discharge of pollutants on recreational, aesthetic, and/or economic values.

The proposed disposal of dredged material at Cox Creek DMCF will not cause or contribute to significant degradation of waters of the United States. This finding of no significant degradation is based on the following: sampling, testing, and evaluation of the Baltimore Harbor maintenance material sediments consistent with Subpart G of the Guidelines; and additional findings and determinations pursuant to Subparts C through F of the Guidelines, with special emphasis on the persistence and permanence of the effects (BHAC 1997). Accordingly, the proposed discharge is in compliance with the requirements of Section 230.10(c) of the Guidelines.

4.3. Minimization of Potential Adverse Impacts (40 CFR 230.10[d])

The fourth compliance test under the Guidelines considers the extent to which steps have been taken to minimize potential adverse effects. The Guidelines state that, except as provided under Section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken that will minimize potential adverse impacts of the discharge on the aquatic ecosystem.

All appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem. Cox Creek DMCF is routinely used for both new work and maintenance dredging of the Baltimore Harbor Channels. Accordingly, the proposed discharge is in compliance with the requirements of Section 230.10(d) of the Guidelines.

Table 1: Review of Compliance – Section 230.10(a)-(d)

	YES	NO
a. The discharge represents the least environmentally damaging practicable alternative and, if in a special aquatic site, the activity associated with the discharge must have direct access or proximity to or be located in the aquatic ecosystem to fulfill its basic purpose.	X	

b. The activity does not appear to: 1) violate applicable state water quality standards or effluent standards prohibited under Section 307 of the CWA; 2) jeopardize the existence of Federally- listed threatened and endangered species or their habitat; and 3) violate requirements of any Federally designated marine sanctuary.	X	
c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic and economic values.	X	
d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.	X	

5. Specific Categories for Evaluation Under the 404 (b)(1) Guidelines

5.1. Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)

There are no significant changes in aquatic ecosystems, special aquatic sites, or human uses anticipated as outlined in Table 2 below.

The potential impacts on the physical and chemical characteristics are not expected to be significant. Discharge from the DMCFs meets all permit requirements (see Appendix A2a), therefore does not have a negative impact on the aquatic ecosystem. Dredging operations may have temporary, localized effects on substrate, suspended particles, and general water flow/quality; the amounts are insignificant to current Baltimore Harbor water conditions.

5.2. Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (Subpart D)

As described in the EA, there are five species for which essential fish habitats (EFH) have been designated in the Baltimore Harbor: windowpane flounder (*Scophthalmus aquosus*), summer flounder (*Paralichthys dentatus*), bluefish (*Pomatomus saltatrix*), Atlantic butterfish (*Peprilus tricanthus),* and black sea bass (*Centropristis striata*). The National Marine Fisheries Service (NMFS) has been consulted to ensure activities will not cause harm to these species. NMFS provided recommendations to minimize impacts to the anadromous fish including implementing a time-of-year restriction from March 1 to June 15, and to use a clamshell bucket for mechanical dredging.

Also described in the EA, two federally listed sturgeon species: Atlantic sturgeon (*Acipenser oxyrhynchus*) and shortnose sturgeon (*Acipenser brevirostrum*) could occur in the project area. Both the spawning and early life stages of the Atlantic sturgeon and shortnose sturgeon occur exclusively in freshwater habitats. Therefore, no life stages besides salinity-tolerant adults should occur in the project area. It is possible that migrating or opportunistically feeding shortnose sturgeon may be present in the project area for short periods of time, but lack of established populations in and adjacent to the project area presumably make this less likely than in areas of the Chesapeake Bay closer to where established populations occur, including the Susquehanna and Potomac Rivers in Maryland and the James River in Virginia (NOAA 2021(b)).

A biological assessment of potential impacts of dredging and dredged material placement operations on Atlantic sturgeon and shortnose sturgeon in the Maryland portion of the Chesapeake Bay was completed in May 2013. Upon completion of the biological assessment, USACE Baltimore District determined that the proposed dredging and dredged material placement activities may affect but are not likely to adversely affect shortnose sturgeon and Atlantic sturgeon within the Chesapeake Bay or its tributaries. In August 2013, NOAA issued a Letter of Concurrence covering a 12-year period stating that they concur with the USACE determination and that no further consultation pursuant to Section 7 of the Endangered Species Act was required. It was agreed between the USACE-Baltimore District and NOAA,that dredging in the deep draft navigation channels within the Maryland portion of the 50-Foot Project would occur from June 1 through November 30 of any given calendar year, to be protective of adult shortnose and Atlantic sturgeon. Dredging was then further restricted in the Baltimore Harbor Approach Channels to August 1 to November 30, with observers used from December through March if dredging is proposed during this time frame.

5.3. Potential Impacts on Special Aquatic Sites (Subpart E)

There are no special aquatic sites located near the proposed activities, so no significant adverse impact is expected.

5.4. Potential Effects on Human Use Characteristics (Subpart F)

There are no municipal or private water supplies or preserves located in the project area. Recreational and commercial fishermen do not typically use the areas, but discharge from DMCFs and dredging activities will have no impact on these opportunities. There is also no anticipated impact on water related activities within the Baltimore Harbor and no impacts to aesthetics. There are also no architectural resources in the direct area of potential effect (APE). No known archeological resources are located in the project area. A Programmatic Agreement with SHPO and other consulting parties is being developed to conduct archeological surveys of the project

area after the feasibility study, in the Pre-Construction, Engineering, and Design Phase. Fort McHenry National Monument and Historic Shrine is listed in the indirect APE, but impacts by the proposed project will be minor. Due to their importance as cultural resources, impacts to the Star-Spangled Banner National Historic Trail and the Captain John Smither Chesapeake National Historic Trail were assessed; neither resource will be impacted by the project.

Table 2: Technical Evaluation Factors (Subparts C-F)

	N/A	NOT SIGNIFICANT	SIGNIFICANT
a. Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)			
1) Substrate		X	
2) Suspended particulates/turbidity		X	
3) Water column impacts		X	
4) Current patterns and water circulation		X	
5) Normal water circulations		X	
6) Salinity gradients		X	
b. Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (Subpart D)			
1) Threatened and endangered species		X	
2) Fish, crustaceans, mollusks, and other organisms in the aquatic food web		X	
3) Other wildlife (mammals, birds, reptiles and amphibians)		X	
c. Potential Impacts on Special Aquatic Sites (Subpart E)			
1) Sanctuaries and refuges	X		
2) Wetlands	X		
3) Mud Flats	X		
4) Vegetated Shallows	X		
5) Coral Reefs	X		
6) Riffle and pool complexes	X		
d. Potential Effects on Human Use Characteristics (Subpart F)			

	1) Municipal and private water supplies	X		
	2) Recreational and commercial fisheries		X	
	3) Water-related recreation		X	
	4) Aesthetic impacts		X	
	5) Parks, national and historic monuments, national seashores, wilderness areas, research sites and similar preserves		X	

5.5. Evaluation and Testing (Subpart G)

In accordance with the USACE Manual, Evaluation of Dredged Material Proposed for Disposal at Island, Nearshore, or Upland Confined Disposal Facilities- Testing Manual (2003), material will be tested and placed in the appropriate facility. As stated in section 3.1, USEPA Region 3 recommends triennial reevaluation of sediments within the Baltimore Harbor and is projected to continue. Material will be disposed at a DMCF nearby to the source material that is of similar in substrate and composition (Table 3).

Table 3: Evaluation and Testing (Subpart G)

A. THE FOLLOWING INFORMATION HAS BEEN CONSIDERED IN EVALUATING THE BIOLOGICAL AVAILABILITY OF POSSIBLE CONTAMINANTS IN DREDGED OR FILL MATERIAL. (CHECK ONLY THOSE APPROPRIATE).		
	1) Physical characteristics	X
	2) Hydrography in relation to known or anticipated sources of contaminants	X
	3) Results from previous testing of the material or similar material in the vicinity of the project.	X
	4) Known, significant sources of persistent pesticides from land runoff or percolation	X
	5) Spill records for petroleum products or designated hazardous substances (Section 311 of CWA)	X
	6) Public records of significant introduction of contaminants from industries, municipalities, or other sources	X
	7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	X
	8) Other sources (specify)	N/A
List appropriate references – See Environmental Assessment		
	YES	**NO**
b. An evaluation of the appropriate information factors in 3a above indicates that there is reason to believe the proposed dredge material is not a carrier of contaminants, or that levels of contaminants are substantively similar at extraction and disposal sites and not likely to require constraints.	X	

5.6. Disposal Site Delineation [Section 230.11(f)]

As mentioned above, dredged material from the Baltimore Harbor is to be reevaluated every three years for potential contaminants. Disposal site will be in a DMCF where material is contained within a diked perimeter and discharge is strictly regulated. Table 4 below is included for reference; however, there will be no open water placement of discharged material, so the items under section A are not applicable.

Table 4: Disposal Site Delineation - Section 230.11(f)

A. THE FOLLOWING INFORMATION HAS BEEN CONSIDERED IN EVALUATING THE BIOLOGICAL AVAILABILITY OF POSSIBLE CONTAMINANTS IN DREDGED OR FILL MATERIAL. (CHECK ONLY THOSE APPROPRIATE).		
	1) Depth of water at disposal site	N/A
	2) Current velocity, direction, variability at disposal site	N/A
	3) Degree of turbulence	N/A
	4) Water column stratification	N/A
	5) Discharge of vessel speed and direction	N/A
	6) Rate of discharge	N/A
	7) Dredged material characteristics (constituents, amount, and type of material, settling velocities)	N/A
	8) Number of discharges per unit of time	N/A
	9) Other factors affecting rates and patterns of mixing (specify)	N/A
List appropriate references – See Environmental Assessment		
	YES	**NO**
b. An evaluation of the appropriate information factors in 4a above indicated that the disposal sites and/or size of mixing zones are acceptable.	N/A	

5.7. Actions to minimize adverse effects (Subpart H)

Actions to minimize potential adverse effects have been outlined in the appropriate sections above. They include analysis of the location of the proposed discharge, controlling the material

after discharge, monitoring effluent discharge from the DMCF, those related to technology, plant and animal populations, spawning or migration seasons and other biologically critical time periods were considered. In evaluating this Section 404(b)(1) analysis, the impact to waters of the U.S. has been minimized to the maximum extent practicable.

The special conditions detailed below will be included in the contract specifications to protect the integrity of the aquatic environment and protect fish and wildlife resources:

1. The USACE Baltimore District will ensure that the dredging contractor is aware that the USACE expects environmentally responsible dredging to take place at all times. It is also a requirement of the contract that the disposal site have an on-site inspector (this inspector can be an employee of the dredging contractor or the "engineer") monitoring the disposal site and outfall at a minimum of 24 hours per day throughout the dredging activity to ensure that the disposal site and outfall are properly maintained and all the requirements of the "Dredging and Disposal Plan" (with all revisions addressed above) are adhered to. It is noted that increased turbidity will occur with heavy overflow from the disposal area that contains high levels of suspended solids. Therefore, it is essential that care and diligence is taken to assure that the disposal area embankments are not breached, material overflow does not occur, and the spillway is properly and carefully maintained. The material should be pumped into the disposal area at such a rate as to allow settling at the spillway thereby minimizing suspended solids. The contractor is not allowed to pump into the disposal area whereby the effluent from the disposal area is mud or water with high levels of suspended solids. If this occurs the inspector should require that dredging operations halt immediately, take pictures immediately of the area in the immediate vicinity of the discharge pipe, and contact the USACE immediately. The District agrees that dredging shall be conducted with a mechanical or hydraulic dredge with the dredged material placed in Cox Creek DMCF.

2. The contractors working in Maryland waters for placement at Cox Creek DMCF shall perform the following actions throughout the life of the dredging project to minimize and contain any re-suspended sediments during dredging: Constant monitoring of the pipeline at the proposed dredge site to the DMCFs to ensure that there are no leaks in the pipeline. Monitoring is required 24 hours per day, seven days per week throughout the life of the dredging project. Should any leaks occur or if the pipeline breaks, all dredging will cease until the leak/break is repaired. The condition of the pipeline will be recorded on the "Daily Construction Quality Control Report" (Daily Log). Constant monitoring of the dewatering area onsite will be conducted to ensure that the structural stability of the dikes is not compromised. Should the structural stability of the dikes be compromised, all dredging shall cease, and the contractor shall notify the Corps of Engineers immediately to determine a course of action to stabilize the dikes. Dredging shall not resume until the dikes are stabilized.

The contractor will visually monitor the water return structure to ensure that the return water does not contain elevated levels of suspended solids. Should elevated suspended solids levels occur, the contractor shall add boards to the outfall structure, as needed to allow for more settling time. If adding boards does not reduce the level of suspended solids in the effluent, all dredging shall cease until the suspended solids levels are satisfactorily reduced. Should any of the above conditions occur where dredging must cease, the contractor shall notify USACE within 24 hours of the occurrence or by 9:00 AM the following Monday morning if the incident occurs on the weekend and the Daily Log shall accurately reflect all events.

Table 5: Actions to Minimize Adverse Effects (Subpart H)

	YES	NO
All appropriate and practicable steps have been taken, through application of recommendation of Section 230.70-230.77 to ensure minimal adverse effects of the proposed discharge.	X	

6. Factual Determinations Review

As discussed previously in Section 3.1, the dredged material in the project area is mostly silt and clay. The dredged material will be placed at a nearby DMCF with substrate very similar to the material being placed. Water will not be released unless it meets State water quality standards, therefore there will be minimal amounts of sediment suspended in the effluent that are not expected to accumulate at the discharge point. A negligible effect on the physical substrate in the immediate vicinity of the discharge point or the surrounding substrate in the Baltimore Harbor is expected (Table 6).

The amount of effluent to be discharged into the Baltimore Harbor from the DMCF will be insignificant compared to the volume of water in the Patapsco River. The proposed channel deepening and widening are located in an estuarine landscape and the material and associated water is of similar salinity to what occurs at the DMCF; therefore, the discharge of the effluent will have a no effect on the salinity regime of the water in or near the DMCF. In addition, it is anticipated that the effluent being released from the DMCF will have no effect on the water circulation and fluctuation in the areas surrounding the facility.

There is potential that suspended solids within the effluent discharged from the DMCF could minimally affect turbidity within the Baltimore Harbor area. However, once the material is placed within a DMCF, the sediments are allowed to settle out to meet NPDES permit limits before the effluent is discharged into the Bay. As a result, the majority of the sediment will be contained within the DMCF and will not be discharged into the water column. Any suspended solids within

the effluent would be diluted into the water column and immediately dispersed. Once the project discharge is complete, turbidity levels at the discharge point will return to normal levels. Therefore, the proposed discharge will have a minimal, short-term effect on turbidity.

As described above, dredged material is tested every three years. Material will also be placed at a nearby DMCF with site conditions similar to the location where the material was dredged.

The effluent discharged as a part of this project into the Baltimore Harbor is insignificant compared to the water existing within the system. Sediment testing concluded that pollutants were found to be within acceptable parameters, will not be harmful to the aquatic environment or organisms therein; therefore, impacts to the aquatic ecosystem and organisms are expected to be nonexistent to negligible.

A close evaluation of 40 CFR 230.11(f)(1) states that each disposal site shall be specified through the application of the Guidelines defined within this section. These guidelines relate specifically to disposal sites in open waters and the factors to consider when determining the acceptability of a proposed mixing zone.

The DMCF where material is to be placed is a well-established, closed dredged material management site. The facility is designed to minimize the direct and secondary impacts of discharging dredged material. Even under the No Action alternative, the DMCF will continue to occupy the same footprint and continue to receive regular maintenance material. There is no expected secondary impact due to leaching of material discharged into the DMCF and/or nearby locations, as it already contains material similar to what is being placed. Based on the well-established ability of the DMCF to limit secondary effects, the USACE has determined that the proposed discharge into these facilities will have a negligible effect.

Table 6: Factual Determination - Section 230.11

A REVIEW OF APPROPRIATE INFORMATION, AS IDENTIFIED IN ITEMS 2-5 ABOVE, INDICATES THERE IS MINIMAL POTENTIAL FOR SHORT OR LONG- TERM ENVIRONMENTAL EFFECTS OF THE PROPOSED DISCHARGE AS RELATED TO:		
	YES	**NO**
a. Physical substrate at the disposal site	X	
b. Water circulation, fluctuation, and salinity	X	
c. Suspended particulates/turbidity	X	

d. Contaminant availability	X	
e. Aquatic ecosystem structure, function, and organisms	X	
f. Proposed disposal site	X	
g. Cumulative effects on the aquatic ecosystem	X	
h. Secondary effects on the aquatic ecosystem	X	

7. Finding of compliance or non-compliance

The USACE considered public comments during the Draft Integrated Feasibility Study and Environmental Assessment review period. The USACE's finding is that the proposed use of the existing DMCF for the discharge of dredged material is in compliance with the requirements of the guidelines.

Table 7: Findings of Compliance or Non-Compliance

	YES	NO
The proposed disposal site for discharge of dredged or fill material complies with Section 404(b)(1) guidelines	X	

8. References

EA Engineering, Science, and Technology, Inc. 2019. FY19 Sediment Sampling and Chemical Analysis for Baltimore Harbor and Chesapeake Bay, Maryland. Prepared for U.S. Army Corps of Engineers Baltimore District.

U.S. Army Corps of Engineers (USACE). 1997. Baltimore Harbor Anchorages and Channels, Maryland.

USACE. 2003. Evaluation of Dredged Material Proposed for Disposal at Island, Nearshore, or Upland Confined Disposal Facilities – Testing Manual. ERDC/EL TR-03-1.

USACE. 2001. Baltimore Harbor Anchorages and Channels, Maryland Limited Re-evaluation Report.

USACE. 2017. Baltimore Harbor and Channels Dredged Material Management Plan Update.

Clean Water Act Section 404(b)(1) Guidelines. 2010. 40 CFR 230.

Draft Baltimore Harbor and Channels Dredged Material Management Plan and Tiered Environmental Impact Statement. 2005.

National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service. 2021(b). "Section 7 Species Presence Table: Shortnose Sturgeon in the Greater Atlantic Region." Accessed October 19, 2021. https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-presence-table-shortnose-sturgeon-greater

Rivers and Harbors Act of 1970. PL. 91-611, 33U.S.C. §549a.

Report of the USACE Chief of Engineers. 1998. Harbor Anchorages and Channels, Maryland and Virginia.

Title 33 - Navigation and Navigable Waters. Chapter II – Corps of Engineers, Department of the Army, Department of Defense Part 335-Operation and maintenance of Army Corps of Engineers civil works projects involving the discharge of dredged or fill material into waters of the U.S. or ocean waters. 33 CFR 335. 2012.

BALTIMORE HARBOR ANCHORAGES AND CHANNELS (BHAC)

MODIFICATION OF SEAGIRT LOOP CHANNEL

FEASIBILITY STUDY

FINAL INTEGRATED FEASIBILITY REPORT & ENVIRONMENTAL ASSESSMENT

APPENDIX A1a:

Cox Creek Dredged Material Containment Facility

NPDES Permit No. MDDRG3424

Feb 11, 2021

CERTIFIED MAIL

Kristen Fidler, Director Harbor Development
Maryland Port Administration
World Trade Center
401 East Pratt Street, Suite 1900
Baltimore, Maryland 21202

Re: State Discharge Permit No. 19-DP-3424 MD, NPDES Permit No. MDDRG3424

Dear Ms. Fidler:

Enclosed is the issued discharge permit referenced above with the effective date indicated on the cover page. The permittee is responsible for complying with all permit conditions. You are therefore advised to read the permit carefully and become thoroughly familiar with the requirements.

The U.S. Environmental Protection Agency (EPA) recently promulgated a final rule to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system (see 40 CFR 127.16). Under the final rule, any Discharge Monitoring Reports (DMRs) to be submitted must now be electronically reported to the Department.

Thus Maryland Department of the Environment now requires use of NetDMR for filing your required NPDES DMRs. NetDMR is a freely available Web based tool that allows NPDES permittees to electronically sign and submit their DMRs to EPA via a secure internet connection. NetDMR is designed to improve data quality, reduce reporting liabilities, save paper, and provide cost savings. It allows participants to discontinue mailing in hard copy forms under 40 CFR 122.41 and 403.12. For more information go to the EPA website (www.epa.gov/netdmr) or call the MDE Water and Science Administration, Compliance Program, at 410-537-3520 and ask to speak to a NetDMR coordinator.

As indicated in Condition II.A.2 of your permit, before you can submit official DMRs using NetDMR you must attend a training Webinar and successfully set-up and submit test monitoring results electronically. If you do not attend the required training in a timely manner, you will be at risk of violating the new U.S. EPA NPDES electronic reporting rule.

Enclosed is also a copy of the Federal Register, Part 136 - "Guidelines Establishing Test

Procedures for Analysis of Pollutants". Unless otherwise specified, these guidelines are to be used for the analyses required by this permit. The most current version of 40 C.F.R. Part 136 can be found online at EPA's website (www.epa.gov/epahome/cfr40.htm). Finally you'll find enclosed a brochure for NetDMRs.

Please direct all future correspondence regarding permit compliance to the following address:

Attention: Discharge Monitoring Reports
Water and Science Administration – Compliance Program
Maryland Department of the Environment
1800 Washington Boulevard, Suite 425
Baltimore, Maryland 21230-1708

If you have any other questions, please do not hesitate to contact Paul Hlavinka, Industrial Stormwater Permits Division, at 410-537-3323 or at paul.hlavinka@maryland.gov .

Sincerely,

D. Lee Currey, Director
Water and Science Administration

Enclosures (3)

Cc: WSA-Compliance Division- Central

Maryland
Department of the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

STATE DISCHARGE PERMIT NUMBER	19-DP-3424	NPDES PERMIT NUMBER	MDDRG3424
APPROVAL DATE		EFFECTIVE DATE	March 1, 2021
EXPIRATION DATE	February 28, 2026	REAPPLICATION DATE	February 28, 2025
MODIFICATION DATE:	N/A		

Pursuant to the provisions of Title 9 of the Environment Article, Annotated Code of Maryland, and regulations promulgated thereunder, and the provisions of the Clean Water Act, 33 U.S.C. § 1251 et seq. and implementing regulations 40 CFR Parts 122, 123, 124, and 125, the Department of the Environment, hereinafter referred to as the "Department," hereby authorizes

Maryland Port Administration
World Trade Center, Suite 1900
401 East Pratt Street
Baltimore, MD 21202

TO DISCHARGE FROM

Cox Creek Dredged Material Containment Facility

LOCATED AT

at 1000 Kembo Road, Pasadena, Anne Arundel County, Maryland

VIA OUTFALLS

001 and 002 as identified and described herein

TO

the Patapsco River, a designated Use II water body under COMAR 26.08.02.02 protected for water contact recreation, fishing, aquatic life, wildlife, and support of shellfish harvesting in accordance with the following special and general conditions and map(s) made a part hereof.

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge sedimentation basin supernatant and storm water runoff via Outfall 001 (Maryland Coordinates 1446.41 E and 557.39 N) and 002 (Maryland Coordinates 1445.57 E and 559.62 N).

Discharges authorized from this outfall shall be limited and monitored by the permittee immediately prior to each outfall structure weir as specified in the table below:.

PARAMETER		QUANTITY OR LOADING				QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
		MONTHLY AVERAGE	DAILY MAXIMUM	ANNUAL MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow		Report	Report		MGD					1/Day	Measured	(1)
Total Suspended Solids							75	150	mg/l	1/Day	8-Hour Composite	(3), (8), (9)
Copper							.038	.038	mg/l	1/Month	8-Hour Composite	(2), (3)
Zinc							.57	.57	mg/l	1/Month	8-Hour Composite	(2), (3)
Total Ammonia (as N)	May through October						12	35	mg/l	1/Month	8-Hour Composite	(3)
Total Ammonia (as N)	November through April						Report	Report	mg/l	1/Month	8-Hour Composite	(3)
Nitrogen, ammonia total (as N)							Report	Report	mg/l	1/Week	8-Hour Composite	(4), (7)
Nitrogen, organic total							Report	Report	mg/l	1/Week	8-Hour Composite	(4), (7)
(Nitrite + Nitrate)-N							Report	Report	mg/l	1/Week	8-Hour Composite	(4), (7)
Total Phosphorus							Report	Report	mg/l	1/Week	8-Hour Composite	(7)

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Continued from previous page

PARAMETER	QUANTITY OR LOADING				QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	ANNUAL MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
(Gross)											
Total Nitrogen (as N) (Calendar Year)	Report		Report	See Note (5)					1/Month	Calculated	(5), (6), (7), (10)
Total Nitrogen (as N) (Growing Season)	Report		Report	See Note (5)					1/Month	Calculated	(5), (6), (7)
Total Phosphorus (Calendar Year)	Report		Report	See Note (5)					1/Month	Calculated	(6), (7), (10)
Total Phosphorus (Growing Season)	Report		Report	See Note (5)					1/Month	Calculated	(6), (7)
PCB							Report	mg/l	1/Year	8-Hour Composite	(2), (3)
Chlordane							Report	mg/l	1/Year	8-Hour Composite	(3)
pH					6.0		9.0		1/Day	Grab	

There shall be no discharge of floating solids or persistent foam in other than trace amounts. Persistent foam is foam that does not dissipate within one half-hour from the point of discharge.

All metals shall be analyzed as total metals.

The permittee shall alert the Department when its annual average flow exceeds 32.0 million gallons per day (MGD). The permittee shall evaluate any change in annual average flow each year and, in accordance with General Condition B.1, notify the Department by May 1 if the annual average flow is expected to exceed this level. This requirement is not a flow limit.

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Continued from previous page

(1) See Special Condition G.

(2) To be measured using EPA test procedure number 200.8 ICP-MS. Other NPDES approved methods may be used provided they have detection limits equal to or lower than the Method 200.8 or when a pollutant concentration can be measured and reported with less sensitive methods.

(3) If discharge is of less duration than eight-hours, but at least one hour, permittee shall composite aliquots taken at 20-minute intervals over the entire discharge period. For periods of less than one hour, grab samples shall be composited with no less than three time-proportioned aliquots over the discharge period.

(4) Testing for all forms of nitrogen must be performed on the same sample.

(5) The permittee shall report in the Monthly Loading Rate in units of lbs per month in the "Monthly Average" column; to be calculated by summing the daily determination of discharge of constituents by mass loading (daily determination) for the month. Since concentrations are measured weekly at a minimum, calculation of the daily determination will use flow (MGD) for that day times the nutrient concentration as measured that day (if available) or week, times 8.34. The daily determination will be zero (0) for days with no discharge.

The Calendar Year "Annual Maximum" value is an Annual Loading Rate. The Annual Loading Rate is a calculated parameter, in units of pounds per year, determined by summing the Monthly Loading Rates from January through December of the current calendar year. At the end of each quarter, the permittee shall report and comply with the Annual Maximum Loading Rate as required in Special Condition S.

The Growing Season "Annual Maximum" value is a Loading Rate for the season, where the growing season is defined as the period from May 1st through October 31st of each year. The Growing Season Loading Rate is a calculated parameter, in units of pounds per season, determined by summing the Monthly Loading Rates from May through October of the current calendar year. At the end of each growing season quarter, the permittee shall report and comply with the load limit as provided in Special Condition S.

(6) The loading represents a calculation of the sum of the effluent loads from Outfall 001 and Outfall 002 for total nitrogen or total phosphorus.

(7) Once per week monitoring frequency is required through the first 12 months where supernatant is being discharged. After this initial monitoring period the permittee may request a reduction in monitoring down to a minimum of once per month upon a demonstration that there is little variability in the discharge with respect to total nitrogen and total phosphorus concentrations. Once per week monitoring shall continue until such a request is granted.

(8) Measured using the standard method 2540 E for Fixed and Volatile Solids.

I. SPECIAL CONDITIONS

A.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Continued from previous page

(9) The monthly average statistic is to be reported based on the average concentration of the effluent over a period of four (4) days. The permittee shall collect a minimum of one (1) representative sample per day for any day on which a discharge occurs. The days during which no discharge occurs shall be recorded as an effluent concentration of zero. If there are multiple 4 day averaging periods evaluated over a month, the average reported in monthly Discharge Monitoring Report would be the maximum of those values.

(10) Limits are in conformance with the Chesapeake Bay Total Maximum Daily Load (TMDL) for Nitrogen, Phosphorus and Sediment issued December 29, 2010 by the United States Environmental Protection Agency (76 Fed. Reg.549, January 5, 2011).

I. SPECIAL CONDITIONS

A.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit the permittee is authorized to discharge dewatering water from "Cox Creek Expansion" construction activity via Monitoring Point MP102 (558.82N, 1443.69E).

Discharges authorized from this outfall shall be limited and monitored by the permittee immediately at the discharge from the sediment pond as specified in the table below:

PARAMETER	QUANTITY OR LOADING				QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	ANNUAL MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Flow	Report	Report		GPD					1/Week	Measured	(1)
Total Suspended Solids						30	60	mg/l	1/Week	Grab	(1)
pH					6.0		9.0		1/Week	Grab	(1)
Purgeable Organic Compounds							0.1	mg/l	1/Month	Grab	(1), (2)
Copper							0.038	mg/l	1/Month	Grab	(1), (3)
Nickel						0.164	0.466	mg/l	1/Month	Grab	(1), (3)
Zinc							0.57	mg/l	1/Month	Grab	(1), (3)
Nitrogen, ammonia total (as N)						Report	Report	mg/l	1/Week	Grab	(4)
Nitrogen, organic total						Report	Report	mg/l	1/Week	Grab	(4)
(Nitrite + Nitrate)-N						Report	Report	mg/l	1/Week	Grab	(4)
Total Phosphorus (Gross)						Report	Report	mg/l	1/Week	Grab	
Total Nitrogen (as N) (Calendar Year)	Report		Report	See Note (6)					1/Month	Calculated	(5), (6), (7), (8)

I. SPECIAL CONDITIONS

A.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Continued from previous page

PARAMETER	QUANTITY OR LOADING				QUALITY OR CONCENTRATION				FREQUENCY OF ANALYSIS	SAMPLE TYPE	NOTES
	MONTHLY AVERAGE	DAILY MAXIMUM	ANNUAL MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS			
Total Nitrogen (as N) (Growing Season)	Report		Report	See Note (6)					1/Month	Calculated	(5), (6), (7), (8)
Total Phosphorus (Calendar Year)	Report		Report	See Note (6)					1/Month	Calculated	(5), (6), (7), (8)
Total Phosphorus (Growing Season)	Report		Report	See Note (6)					1/Month	Calculated	(5), (6), (7), (8)

There shall be no discharge of floating solids or persistent foam in other than trace amounts. Persistent foam is foam that does not dissipate within one half-hour from the point of discharge.

(1) See Special Conditions G and S.

(2) Total Purgeable Organics is defined as the sum of all volatile organic compounds detected by EPA Method 624. The permittee shall also attach a copy of the test results for each individual component to each discharge monitoring report submitted in NetDMR.

(3) Monitoring required for 3 months. After 3 months (3 values collected) the permittee may petition the Department to have the monitoring reduced or eliminated.

(4) Testing for all forms of nitrogen must be performed on the same sample.

(5) The permittee shall report in the Monthly Loading Rate in units of lbs per month in the "Monthly Average" column; to be calculated by summing the daily determination of discharge of constituents by mass loading (daily determination) for the month. Since concentrations are measured weekly at a minimum, calculation of the daily determination will use flow (MGD) for that day times the nutrient concentration as measured that day (if available) or week, times 8.34. The daily determination will be zero (0) for days with no discharge.

I. SPECIAL CONDITIONS

A.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS – Continued from previous page

(6) The Calendar Year "Annual Maximum" value is an Annual Loading Rate. The Annual Loading Rate is a calculated parameter, in units of pounds per year, determined by summing the Monthly Loading Rates from January through December of the current calendar year. At the end of each quarter, the permittee shall report and comply with the Annual Maximum Loading Rate as required in Special Condition S.

(7) The Growing Season "Annual Maximum" value is a Loading Rate for the season, where the growing season is defined as the period from May 1st through October 31st of each year. The Growing Season Loading Rate is a calculated parameter, in units of pounds per season, determined by summing the Monthly Loading Rates from May through October of the current calendar year. At the end of each growing season quarter, the permittee shall report and comply with the load limit as provided in Special Condition S.

(8) The loading is calculated only for direct discharges through the diffuser, which are not first discharged into the DMCF, which are accounted for under Outfall 002. The loading is added to and reported with the effluent loads from Outfall 001 and Outfall 002 for total nitrogen or total phosphorus.

I. SPECIAL CONDITIONS

B. DEFINITIONS

1. "Annual Maximum Loading Rate (in pounds/year)" means the highest allowable total load of a parameter calculated for a calendar year. It is calculated as the sum of the individual Total Monthly Loading Rates from January through December of the current calendar year.

2. "Bypass" means the intentional diversion of wastes from any portion of a treatment facility.

3. "Composite sample" means a combination of individual samples obtained at a minimum of hourly intervals over a specified time period, where the volume of each individual sample (or the sampling interval when using constant volume samples) is proportional to discharge flow rates recorded during the sampling period.

4. "Daily determination of concentration" means an analysis performed on an effluent sample representative of flow for that calendar day, with concentration expressed in mg/l or other appropriate unit of measurement.

5. "Daily determination of discharge of constituents by mass loading" means a value calculated by multiplying the daily determination of concentration times flow in millions of gallons per day times 8.34. The product is mass loading expressed in pounds per day.

6. "Daily maximum effluent concentration" means the highest reading of any daily determination of concentration.

7. "Daily maximum effluent limitation by mass loading" means the highest allowable daily determination of discharge of a constituent by mass loading during a 24-hour period.

8. "Department" means the Maryland Department of the Environment (MDE).

9. "Grab sample" means an individual sample collected over a period of time not exceeding 15 minutes. Grab samples collected for pH and total residual chlorine must be analyzed within 15 minutes from the time of collection.

10. "Immersion Stabilization (i-s)"means a calibrated device used to measure temperature. It is immersed in the effluent stream until the temperature reading is stabilized.

11. "Measured flow" means any method of liquid volume measurement for which accuracy has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

12. "Minimum value" means the lowest value measured during a 24-hour period.

13. "Monthly, quarterly, semi-annual, or annual average effluent concentration" means the value calculated by computing the arithmetic mean of all daily determinations of concentration made during any respective calendar-month, 3-month, 6-month, or 12-month period.

14. The "Annual Maximum" effluent limitation by mass loading means the sum of the calculated monthly mass loadings for that calendar year.

15. "National Pollutant Discharge Elimination System (NPDES)" means the national system for issuing permits established under §402 of the Clean Water Act (1972).

16. "NetDMR" means a nationally-available electronic reporting tool, initially designed by states and later adapted for national use by EPA, which can be used by NPDES-regulated facilities to submit discharge monitoring reports (DMRs) electronically to EPA through a secure Internet application over the National Environmental Information Exchange Network (NEIEN). EPA can then share this information with authorized states, tribes, and territories.

17. "Nitrogen, Total" means the sum of organic nitrogen, ammonia nitrogen, and (nitrate and nitrite) nitrogen, where all values are reported as nitrogen (as N).

18. "Outfall" means the location where effluent is discharged into receiving waters.

19. "Permittee" means an individual or organization holding a discharge permit issued by the Department.

20. "Sampling Point" means the effluent sampling location in the outfall line(s) downstream from the last addition point or as otherwise specified.

21. "Total Maximum Daily Load (TMDL)" means the maximum amount of a pollutant a waterbody can receive and still meet water quality standards, calculated using the formula (TMDL = ΣWLA + ΣLA + MOS) where WLA is the sum of wasteload allocations (point sources), LA is the sum of load allocations (nonpoint sources and background), and MOS is the margin of safety.

22. "Total monthly loading rate (in pounds/month)" means the total load of a parameter calculated for each calendar month using the formula (monthly average concentration in mg/l x (total monthly flow in millions of gallons) x 8.34).

23. "TSS (Total Suspended Solids)" means the residue that results when the filtered effluent's suspended solids (using Standard Methods SM 2540 D) are ignited at 550 degrees C (using Standard Method 2540 E for Fixed and Volatile Solids).

24. "Upset" means an exceptional incident where unintentional and temporary noncompliance with technology-based permit effluent limitations occurs due to factors beyond the reasonable control of the permittee. An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

25. "Year-to-date Cumulative load (in pounds)" means the sum of individual total monthly loads for a parameter calculated from January through the current reporting month in a calendar year.

26. "Inflow Period" means periods of operation during which the facility is receiving dredged material, either mechanically or hydraulically.

27. "Dewatering Period" means all periods of operation which are not inflow periods.

C. TOXIC POLLUTANT REPORTING

The permittee shall notify the Department as soon as it is known or suspected that any toxic pollutants which are not specifically limited by this permit have been discharged in excess of notification levels specified in 40 CFR Part 122.42(a).

D. REMOVED SUBSTANCES

1. Within 30 days after notification the permittee shall provide the Department with information on the disposal of any removed substances defined above under General Condition B.7. Requested information may include, but may not be limited to:

   a. A map clearly showing all areas used for disposal of removed substances.

   b. A description of physical, chemical, and biological characteristics of any removed substances as well as their quantities and methods of disposal.

   c. The identity of any contractor or subcontractor, their mailing address and information specified in a and b above, if disposal is handled by persons other than the permittee.

2. The Department's notification may also require the permittee to provide the above information prior to use of new or additional disposal areas, contractors, or subcontractors.

E. ANALYTICAL LABORATORY

Within 30 days after the effective date of this permit, the permittee shall submit to the Department the name and address of the analytical laboratory (including the permittee's own laboratory) used to perform the monitoring required by this permit.

If the laboratory changes during the effective period of this permit, the permittee shall notify the Department of the new laboratory within 30 days after the change.

F. WASTEWATER OPERATOR CERTIFICATION

As of the effective date of this permit, the permittee's facility shall be operated by an industrial wastewater operator duly certified by the Maryland Board of Waterworks and Waste Systems Operators. The certification shall be for the operation of a Class 2 industrial wastewater works.

G. FLOW MONITORING

In lieu of providing measured flow (defined under Special Conditions in section B above) at Outfalls 001, 002 and MP102, the permittee may estimate flows and submit the following information when submitting the initial discharge monitoring report and/or upon any change in methodology:

1. A description of the methodology used to estimate flow at each outfall where flow measurement equipment is not present.

2. Documentation appropriate to the methodology utilized which provides information to support the validity of the reported flow estimate. If actual measurements or observations are made, a description of typical sampling times, locations, and persons performing the measurements/observations must also be provided.

3. A description of factors (e.g., batch discharges, intermittent operation, etc.) which caused flow at the outfall to fluctuate significantly from the previously provided estimate.

H. FLOW BASIS FOR ANNUAL DISCHARGE PERMIT FEE – [Reserved]

I. REAPPLICATION FOR A PERMIT 2/28/2025

The Department is implementing a revised schedule for issuance of discharge permits grouped by geographical areas (watersheds). To implement the new watershed-based schedule the Department may revoke and reissue this permit concurrently with other permits in the watershed.

Unless the Department grants permission for a later date the permittee shall submit a permit renewal application no later than 12 months prior to the expiration date of the current permit, or notify the Department of their intent to cease discharging by the permit's expiration date.

In the event that a timely and sufficient reapplication has been submitted and through no fault of the permittee the Department is unable to issue a new permit before the expiration date, the terms and conditions of this permit are automatically continued and remain in full force and effect.

J. PERMIT REOPENER FOR TOTAL MAXIMUM DAILY LOAD (TMDL)

This permit may be reopened as a major modification to implement any applicable requirements associated with a Total Maximum Daily Load (TMDL) issued or approved for (Baltimore Harbor, 02.13.09.03), including but not limited to: nutrients.

This permit is consistent with the terms and conditions of the Chesapeake Bay Total Maximum Daily Load (TMDL) for Sediments, Nitrogen and Phosphorus established December 29, 2010 (76 Fed. Reg.549, January 5, 2011).

Based on facility operations and/or discharge characteristics this permit limits discharges of total suspended solids, total nitrogen and total phosphorus to prevent water quality degradation of receiving waters and ultimately the Chesapeake Bay, but does not impose limits for total suspended solids, total nitrogen and total phosphorus.

To ensure the Chesapeake Bay and its tributaries are protected from discharges of sediments, nitrogen and phosphorus this permit may be reopened as a major modification to implement any future requirements associated with the Chesapeake Bay TMDL. At that time the permittee may become subject to a Department-issued General Permit for the discharge of such pollutants.

K. BIOMONITORING PROGRAM

1. Within three months of the effective date of the permit, the permittee shall submit to the Department for approval a study plan to evaluate wastewater toxicity at Outfall 001 or 002 (whichever outfall is in use) by using biomonitoring. The study plan should include at a minimum a discussion of:

a. wastewater and production variability
b. sampling & sample handling
c. source & age of test organisms
d. source of dilution water
e. testing procedures/experimental design
f. data analysis
g. quality control/quality assurance
h. report preparation
i. testing schedule

2. The testing program shall consist of two definitive acute testing events, three months apart. This testing shall be initiated no later than three months following the Department's acceptance of the study plan.

   a. Each of the two testing events shall include a 48-hour static renewal test using fathead minnow and a 48-hour static renewal test using a daphnid species.

   b. If the receiving water is estuarine the permittee may substitute estuarine species for those species specified above. Approved estuarine species for acute testing are sheepshead minnows, silversides, grass shrimp, and mysid shrimp. In all cases, testing must include one vertebrate species and one invertebrate species.

3. The samples used for biomonitoring shall be collected at the same time and location as the samples analyzed for the effluent limitations and monitoring requirements for this outfall.

4. Testing shall be conducted in accordance with the procedures described in Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002.

5. Test results shall be submitted to the Department within one month of completion of each set of tests.

6. Test results shall be reported in accordance with MDE/WMA "Reporting Requirements for Effluent Biomonitoring Data," 3/21/03.

7. If testing is not performed in accordance with MDE-approved study plan, additional testing shall be required by the Department.

8. If the test results of any two consecutive valid toxicity tests conducted within any 12-month period show acute toxicity, the permittee shall repeat the test within 30 days to confirm the findings of acute toxicity. If acute toxicity is confirmed, the permittee shall:

   a. Eliminate the source of toxicity through operational changes as soon as possible but in any case not longer than within three months, or

   b. Perform a TRE. If the permittee repeats the toxicity testing as stated above and the results of the repeat test do not confirm the acute toxicity, the Department will require the permittee to repeat the toxicity testing as stated above to reconfirm a finding of no acute toxicity. After reconfirmation, the permittee shall complete any remaining quarterly testing required.

9. If DMCF operations change so that there is a significant change in the nature of the wastewater, the Department may require the permittee to conduct a new set of tests.

10. Submit all Biomonitoring related materials to:

Maryland Department of the Environment
Water Management Administration
Compliance Program
1800 Washington Boulevard, Suite 420
Baltimore, Maryland 21230-1708

L. TOXICITY REDUCTION EVALUATION

A Toxicity Reduction Evaluation (TRE) is an investigation conducted to identify the causative agents of effluent toxicity, isolate the source(s), determine the effectiveness of control options, implement necessary control measures and confirm the reduction in toxicity. The permittee shall conduct a TRE when a review of toxicity test data by the Department indicates unacceptable, acute, or chronic effluent toxicity.

1. Within 90 days following notification by the Department that a TRE is required the permittee shall submit a study plan and schedule for conducting the TRE. The permittee shall conduct the TRE in a manner consistent with the plan and schedule submitted to the Department.

2. The plan should follow the framework set forth in *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, April 1989).

3. Beginning 60 days following the date of the Department's acceptance of a TRE study plan and every 60 days thereafter the permittee shall submit progress reports including all relevant test data to the Department. The permittee shall continue to submit progress reports every 60 days until the toxicity reduction confirmation is completed.

   All TRE-related materials shall be submitted electronically to the Department if the permittee has already been approved for the NetDMR tool. The material shall be attached as a separate single file and labeled as "TRE" in the NetDMR tool. Otherwise, the permittee shall submit all pertinent physical documents to:

   Attention: Whole Effluent Toxicity Coordinator
   Compliance Program
   Water and Science Administration
   Maryland Department of the Environment
   Montgomery Park Business Center
   1800 Washington Boulevard, Suite 420
   Baltimore, MD 21230-1708

   The permittee shall notify the Department at the above address or via email at mde.biomonitoring@maryland.gov immediately upon electronic submission of TRE material through NetDMR tool.

4. Within 60 days following completion of the toxicity identification (source isolation) phase of the TRE the permittee shall submit a plan and schedule to the Department for implementing measures necessary to eliminate acute toxicity and/or reduce chronic toxicity to acceptable

levels. Implementation of the measures identified shall begin immediately upon submission of this plan.

5. Within 60 days after completing the implementation of control measures to eliminate or reduce toxicity the permittee shall submit a study plan to the Department for approval, to confirm the elimination or reduction of toxicity using biomonitoring.

6. If for any reason the implemented measures do not result in compliance with the Department's toxicity limitations the permittee shall continue the TRE.

M. MIXING ZONES AND POLLUTION PREVENTION

"Chesapeake 2000" is a comprehensive Agreement for the restoration of the Chesapeake Bay signed June 28, 2000 by the State of Maryland, Commonwealths of Virginia and Pennsylvania, the District of Columbia, U.S. Environmental Protection Agency and Chesapeake Bay Commission. Among its goals the Agreement includes the following:

> "Through continual improvement of pollution measures and other voluntary means, strive for zero release of chemical contaminants from point sources, … Particular emphasis shall be placed on achieving elimination… of mixing zones for persistent or bioaccumulative toxics."

To support attainment of this goal the permittee shall strive to meet water quality standards (WQS) for toxic substances at the point of discharge, including WQS for (including COPPER and ZINC) through continual improvement of pollution prevention measures and other means. The permittee shall report to the Department annually on progress made toward the elimination of mixing zones for persistent or bioaccumulative toxics.

N. PROTECTION OF WATER QUALITY

It is a violation of this permit to discharge any substance not otherwise listed under this permit's "Effluent Limitations and Monitoring Requirements" at levels which would cause or contribute to any exceedance of the numerical water quality standards set forth in COMAR 26.08.02.03, unless the level and substance were disclosed in writing in the permit application prior to issuance of the permit. If a discharge regulated by this permit causes or contributes to an exceedance of water quality standards in COMAR 26.08.02.03, including but not limited to general water quality standards, or if the discharge includes a pollutant not disclosed or addressed in the public record for the permit determination; the Department is authorized to modify, suspend or revoke this permit or take enforcement action to address unlawful discharges.

O. SPECIFIC OPERATION AND MAINTENANCE REQUIREMENTS

1. Barge Unloading: The permittee shall ensure that procedures to minimize the release of dredged material into the Patapsco River are utilized during the unloading of barges.
2. Inspection of Outfall Weir Structures: The permittee shall perform daily inspection of each outfall weir structure and once per hour inspections during periods of discharge.
3. The permittee shall notify the Department in writing 30 days prior to making any significant changes to the facility operations from those specified in the permit application.

P. PROHIBITION ON THE DISCHARGE OF SANITARY AND LABORATORY WASTEWATER

The permittee is prohibited from discharging sanitary or laboratory wastewater to surface water outfalls.

Q. GROUNDWATER STUDY

The permittee shall verifying expectation that off-site groundwater conditions will not be impacted from operation of the Cox Creek Dredged Material Containment Facility, by sampling Well SB-29A, located on the eastern edge of the Cox Creek DMCF exterior dike be monitored at least once every 5 years. The permittee shall submit an update of the "Groundwater Study" plan and provide the results of Well SB-29A monitoring with the permit renewal application.

R. NUTRIENT REQUIREMENTS

1. The permittee shall implement best management practices including, but not limited to, mechanical placement of dredge material and the use and recirculation of containment structure pond water for hydraulic unloading.
2. The permittee must report and be in compliance with the permit limits for TN and TP as required in Overlay Permit 13DP3796 or its successor.

S. CONSTRUCTION DEWATERING

The permittee shall notify the Department 30 days prior to completion of the dewatering activity from the upper "Cox Creek Expanded" in the upland portion of the property. Upon, completion the Department will be remove the MP102 monitoring point.

T. STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY – [Reserved]

II. GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. REPRESENTATIVE SAMPLING

Samples and measurements taken as required herein shall be taken at such times as to be representative of the quantity and quality of the discharges during the specified monitoring periods.

2. REPORTING-MONITORING RESULTS SUBMITTED QUARTERLY

Monitoring results obtained during each calendar quarter shall be summarized and submitted electronically using NetDMR. For each effluent characteristic monitored at a frequency of less than once per month the results obtained during the reporting period shall be summarized on a single report for each quarter. More frequently monitored effluent characteristics and effluent characteristics limited as a monthly average shall be reported on a separate report for each calendar month of the reporting period. Results shall be submitted to the Department via NetDMR no later than the 28th of the month following the end of the reporting period. Specific requirements regarding submittal of data and reports using NetDMR are described below:

a. NetDMR is a U.S. EPA tool allowing regulated Clean Water Act permittees to submit monitoring reports electronically via a secure Internet application. The permittee must apply for access to NetDMR at www.epa.gov/netdmr and register for a NetDMR Webinar. Before the permittee can submit official DMRs using NetDMR the permittee must attend a training Webinar and successfully set-up and submit test monitoring results electronically.

b. The permittee may be eligible for a temporary waiver by MDE from NPDES electronic reporting requirements if the permittee has no current internet access and is physically located in a geographic area (i.e., zip code) that is identified as under-served for broadband internet access in the most recent National Broadband Map from the Federal Communications Commission (FCC); or if the permittee can demonstrate that such electronic reporting of the monitoring data and reports would pose an unreasonable burden or expense to the NPDES-permitted facility. Waiver requests must be submitted in writing to the Department for written approval at least 120 days prior to the date the permittee would be required under this permit to begin using NetDMR. This demonstration shall be valid for one (1) year from the date of the Department approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to the Department unless the permittee submits a renewed waiver request and such request is approved by the Department.

3. SAMPLING AND ANALYSIS METHODS

The analytical and sampling methods used shall conform to procedures for the analysis of pollutants as identified in Title 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants" unless otherwise specified.

4. DATA RECORDING REQUIREMENTS

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. the exact place, date, and time of sampling or measurement;
b. the person(s) who performed the sampling or measurement;
c. the dates and times the analyses were performed;
d. the person(s) who performed the analyses;
e. the analytical techniques or methods used; and
f. the results of all required analyses.

5. MONITORING EQUIPMENT MAINTENANCE

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation to insure accuracy of measurements.

6. ADDITIONAL MONITORING BY PERMITTEE

If the permittee monitors any pollutant, using approved analytical methods as specified above, at the locations designated herein more frequently than required by this permit, the results of such monitoring, including the increased frequency, shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report form (EPA No. 3320-1).

7. RECORDS RETENTION

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, calibration and maintenance of instrumentation, and original recordings from continuous monitoring instrumentation shall be retained for a minimum of three years. This period shall be automatically extended during the course of litigation, or when requested by the Department.

B. MANAGEMENT REQUIREMENTS

1. CHANGE IN DISCHARGE

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit at a level in excess of that authorized shall constitute a violation of the terms and conditions of this permit. The permittee shall report any anticipated facility expansions, production increases, or process modifications which will result in new, different or an increased discharge of pollutants by submitting a new application at least 180 days prior to the commencement of the changed discharge except that if the change only affects a listed pollutant and will not violate the effluent limitations specified in this permit, by providing written notice to the Department. Following such notice, the permit may be modified by the Department to include new effluent limitations on those pollutants.

2. NONCOMPLIANCE WITH EFFLUENT LIMITATIONS

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum or daily minimum effluent limitation specified in this permit, the permittee shall notify the Inspection and Compliance Program by telephone at (410) 537-3510 within 24 hours of becoming aware of the noncompliance. Within five calendar days, the permittee shall provide the Department with the following information in writing:

a. a description of the non-complying discharge including its impact upon the receiving waters;

b. cause of noncompliance;

c. anticipated time the condition of noncompliance is expected to continue or if such condition has been corrected, the duration of the period of noncompliance;

d. steps taken by the permittee to reduce and eliminate the non-complying discharge;

e. steps to be taken by the permittee to prevent recurrence of the condition of noncompliance; and

f. a description of the accelerated or additional monitoring by the permittee to determine the nature and impact of the noncomplying discharge.

3. FACILITIES OPERATION

All treatment, control and monitoring facilities, or systems installed or used by the permittee, are to be maintained in good working order and operated efficiently.

4. ADVERSE IMPACT

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to waters of the State or to human health resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. BYPASSING

Any bypass of treatment facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited unless:

a. the bypass is unavoidable to prevent a loss of life, personal injury or substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources;

b. there are no feasible alternatives;

c. notification is received by the Department within 24 hours (if orally notified, then followed by a written submission within five calendar days of the permittee's becoming aware of the bypass). Where the need for a bypass is known (or should have been known) in advance, this notification shall be submitted to the Department for approval at least ten calendar days before the date of bypass or at the earliest possible date if the period of advance knowledge is less than ten calendar days; and

d. the bypass is allowed under conditions determined by the Department to be necessary to minimize adverse effects.

6. CONDITIONS NECESSARY FOR DEMONSTRATION OF AN UPSET

An upset shall constitute an affirmative defense to an action brought for noncompliance with technology-based effluent limitations only if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence, that:

a. an upset occurred and that the permittee can identify the specific cause(s) of the upset;

b. the permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;

c. the permittee submitted a 24-hour notification of upset in accordance with the reporting requirements of General Condition II.B.2 above;

d. the permittee submitted, within five (5) calendar days of becoming aware of the upset, documentation to support and justify the upset; and

e. the permittee complied with any remedial measures required to minimize adverse impact.

7. REMOVED SUBSTANCES

Wastes such as solids, sludges, or other pollutants removed from or resulting from treatment or control of wastewaters, or facility operations, shall be disposed of in a manner to prevent any removed substances or runoff from such substances from entering or from being placed in a location where they may enter the waters of the State.

8. POWER FAILURE

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. provide an alternative power source sufficient to operate the wastewater collection and treatment facilities or,

b. halt, reduce or otherwise control production and all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater collection and treatment facilities.

C. RESPONSIBILITIES

1. RIGHT OF ENTRY

The permittee shall permit the Secretary of the Department, the Regional Administrator for the Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials to:

a. enter upon the permittee's premises where an effluent source is located or where any records are required to be kept under the terms and conditions of this permit;

b. access and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;

c. inspect, at reasonable times, any monitoring equipment or monitoring method required in this permit;

d. inspect, at reasonable times, any collection, treatment, pollution management, or discharge facilities required under this permit; and

e. sample, at reasonable times, any discharge of pollutants.

2. TRANSFER OF OWNERSHIP OR CONTROL OF FACILITIES

In the event of any change in ownership or control of facilities from which the authorized discharge emanates, the permit may be transferred to another person if:

a. the permittee notifies the Department in writing, of the proposed transfer;

b. a written agreement, indicating the specific date of proposed transfer of permit coverage and acknowledging responsibilities of current and new permittees for compliance with the liability for the terms and conditions of this permit, is submitted to the Department; and

c. neither the current permittee nor the new permittee receive notification from the Department, within 30 calendar days, of intent to modify, revoke, reissue or terminate the existing permit.

3. REAPPLICATION FOR A PERMIT –[Reserved]

4. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Section 308 of the Clean Water Act, 33 U.S.C. § 1318, all submitted data shall be available for public inspection at the offices of the Department and the Regional Administrator of the Environmental Protection Agency.

5. PERMIT MODIFICATION

A permit may be modified by the Department upon written request of the permittee and after notice and opportunity for a public hearing in accordance with and for the reasons set forth in 40 CFR § 122.62 and 122.63.

6. PERMIT MODIFICATION, SUSPENSION, OR REVOCATION

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked and reissued in whole or in part during its term, in accordance with the provisions set forth in COMAR 26.08.04.10, for causes including, but not limited to, the following:

a. violation of any terms or conditions of this permit;

b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

d. a determination that the permitted discharge poses a threat to human health or welfare or to the environment and can only be regulated to acceptable levels by permit modification or termination.

e. upon a final, unreviewable determination that the permittee lacks, or is in violation, of any federal, state, or local approval necessary to conduct the activities by this permit.

7. TOXIC POLLUTANTS

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such toxic effluent standard or prohibition) is established by the U.S. Environmental Protection Agency, or pursuant to Section 9-314 of the Environment Article, Annotated Code of Maryland, for a toxic pollutant which is present in the discharges authorized herein and such standard is more stringent than any limitation upon such pollutant in this permit, this permit shall be revoked and reissued or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified. Any effluent standard established in this case for a pollutant which is injurious to human health is effective and enforceable by the time set forth in the promulgated standard, even absent permit modification.

8. OIL AND HAZARDOUS SUBSTANCES PROHIBITED

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibility, liability, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act (33. U.S.C. § 1321), or under the Annotated Code of Maryland.

9. CIVIL AND CRIMINAL LIABILITY

Except as provided in permit conditions on "bypassing," "upset," and "power failure," nothing in this permit shall be construed to preclude the institution of any legal action nor relieve the permittee from civil or criminal responsibilities and/or penalties for noncompliance with Title 9 of the Environment Article, Annotated Code of Maryland or any federal, local, or other State law or regulation.

10. PROPERTY RIGHTS/COMPLIANCE WITH OTHER REQUIREMENTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State or local laws or regulations.

11. SEVERABILITY

The provisions of this permit are severable. If any provisions of this permit shall be held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this permit to any circumstances is held invalid, its application to other circumstances shall not be affected.

12. WATER CONSTRUCTION AND OBSTRUCTION

This permit does not authorize the construction or placing of physical structures, facilities, or debris, or the undertaking of related activities in any waters of the State.

13. COMPLIANCE WITH WATER POLLUTION ABATEMENT STATUTES

The permittee shall comply at all times with the provisions of the Environment Article, Title 7, Subtitle 2 and Title 9, Subtitle 3 of the Annotated Code of Maryland and the Clean Water Act, 33 U.S.C. § 1251 et seq.

14. ACTION ON VIOLATIONS

The issue or reissue of this permit does not constitute a decision by the State not to proceed in administrative, civil, or criminal action for any violations of State law or regulations occurring before the issue or reissue of this permit, nor a waiver of the State's right to do so.

15. CIVIL PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

In addition to civil penalties for violations of State water pollution control laws set forth in Section 9-342 of the Environment Article, Annotated Code of Maryland, the Permittee shall be subject to civil penalty set forth in 33 U.S.C. § 1319 (d) of the Clean Water Act as adjusted for inflation according to 40 CFR, §19.4.

16. CRIMINAL PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

In addition to criminal penalties for violations of State water pollution control laws set forth in Section 9-343 of the Environment Article, Annotated Code of Maryland, the Permittee shall be subjected to criminal penalty set forth in 33 U.S.C. § 1319 (c).

17. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

18. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Director shall be signed and certified as required by 40 CFR 122.22.

19. REOPENER CLAUSE FOR PERMITS

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301, 304, and 307 of the Clean Water Act [33 USCS §§ 1311, 1314, 1317] if the effluent standard or limitation so issued or approved:

a. contains different conditions or is otherwise more stringent than any effluent limitation in this permit or

b. controls any pollutant not limited in this permit. This permit, as modified or reissued under this paragraph, shall also contain any other requirements of the Act then applicable.

D. AUTHORITY TO ISSUE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS

On September 5, 1974, the Administrator of the U.S. Environmental Protection Agency approved the proposal submitted by the State of Maryland for the operation of a permit program for discharges into navigable waters pursuant to Section 402 of the Clean Water Act, 33 U.S.C. Section 1342.

Pursuant to the aforementioned approval, this discharge permit is both a State of Maryland discharge permit and a NPDES permit.

This permit and the authorization to discharge shall expire at midnight on the expiration date. The permittee shall not discharge after that date unless a new application has been submitted to the Department in accordance with the renewal application provisions of this permit.

Heather W. Barthel (Feb 11, 2021 11:04 EST)

D. Lee Currey, Director
Water and Science Administration

Figure 1 - Cox Creek Aerial - October 2019

BALTIMORE HARBOR ANCHORAGES AND CHANNELS (BHAC)

MODIFICATION OF SEAGIRT LOOP CHANNEL

FEASIBILITY STUDY

FINAL INTEGRATED FEASIBILITY REPORT & ENVIRONMENTAL ASSESSMENT

APPENDIX A2:

Coastal Zone Management Act Evaluation

Table of Contents

1. Introduction

This document provides a Coastal Zone Management Act (CZMA) evaluation for the Baltimore Harbor Anchorages and Channels (BHAC) Project Modification of the Seagirt Loop Channel (Seagirt Study), Maryland. The BHAC project was completed in 1998 and authorized for construction in Section 101(a)(22) of the Water Resources Development Act of 1999. The BHAC project consists of the main navigation access channels to the Port of Baltimore (Port) facilities at Dundalk, Seagirt, and South Locust Point Marine Terminals and the federally authorized anchorages serving vessels in Baltimore Harbor. The Seagirt Study is being completed to determine whether improvements to the BHAC project channels would result in improved navigation efficiencies at the Port to meet future demand capacity at the Port facilities, including efficient handling of increased container volume at Seagirt Marine Terminal and faster and safer movement of vessels transiting the channels.

This analysis and the corresponding Final Integrated Feasibility Report and Environmental Assessment (Final Feasibility Report/EA) serve as documentation that the Recommended Plan is in full compliance with the CZMA.

1.1. Location

The Seagirt Loop Feasibility study area includes the 32-square mile area of the Port including the navigable parts of the Patapsco River below Hanover Street, the Northwest and Middle Branches, and the Curtis Bay and its tributary, Curtis Creek. The study initially considered the South Locust Point Branch Channel and Turning Basin as an alternative measure; however, this measure was eliminated from further review early in the study process. The study also considered modification of a federally authorized Anchorage that serves the public terminals in the Port; however, the Anchorage modification alternative was screened out for further study due to an unfavorable economic evaluation. The final study area focuses on the modification of the Seagirt Loop Channel (which includes the West Dundalk Branch and West Seagirt Branch Channels).

2. Federal Coastal Zone Management Act, 16 U.S.C. 1451 et seq.

The Federal Coastal Zone Management Act (CZMA) of 1972, as amended in 1990, aims to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone" (CZMA 1972). To achieve this directive, CZMA requires that all federal agency activity affecting land or water use, or natural resources of the coastal zone (whether the activity is performed within or outside of the coastal zone), be carried out in a manner that is consistent with the enforceable policies of state management programs, consistent with the minimum Federal standards. To implement the CZMA and establish procedures for compliance with its federal consistency provisions, NOAA promulgated regulations in 15 CFR Part 930. As per 15 CFR 930.37, a federal agency may use its NEPA documents as a vehicle for its consistency determination.

2.1. Maryland Coastal Zone Management Program

The Maryland Coastal Zone Management Program (CZMP) was approved by NOAA in 1978, with the Maryland Department of Natural Resources (MDDNR) acting as the lead agency. The CZMP is composed of several state planning and regulatory programs that enforce policies to protect coastal resources and manage coastal uses, including the Chesapeake Bay Critical Area Protection Program (CBCA). Maryland's coastal zone follows the inland boundary of the counties and Baltimore City bordering the Atlantic Ocean, Chesapeake Bay, and the Potomac River (as far as the municipal limits of Washington, D.C), and includes all local jurisdictions within the counties and Baltimore City (NOAA 2012).

2.2. Findings of the Coastal Zone Consistency Evaluation

In accordance with the CZMA, an assessment was completed to determine that the proposed BHAC modification of the West Seagirt Loop Channel would be carried out in a manner that is fully consistent with the enforceable policies of the CZMP and the CBCA.

On July 11, 2022, USACE received a letter from MDE stating that the agency had no significant concerns for USACE moving forward with the design of the project with regard to the CZMA. Coordination with MDE will continue as the project progresses. The table below includes information about project compliance with all CZMA Enforceable Policies. Completed CZMA Coastal Resources and Coastal Uses forms relevant to the project are also included in this Appendix.

Table 1: CZMA Enforceable Policies and Status of Compliance

TITLE OF ENFORCEABLE POLICY	STATUS OF COMPLIANCE
Core Policies	Full. See appended form.
The Chesapeake and Atlantic Coastal Bays Critical Area	Full. See appended form.
Tidal Wetlands	Not applicable.
Non-Tidal Wetlands	Not applicable.
Forests	Not applicable.
Historical and Archaeological Sites	Full. See appended form.
Living Aquatic Resources	Full. See appended form.
Mineral Extraction	Not applicable.
Electrical Generation and Transmission	Not applicable.
Tidal Shore Erosion Control	Not applicable.
Oil and Natural Gas Facilities	Not applicable.
Dredging and Disposal of Dredged Material	Full. See appended form.
Navigation	Full. See appended form.
Transportation	Not applicable.
Agriculture	Not applicable.
Development	Not applicable.
Sewage Treatment	Not applicable.

Coastal Zone Management Program - Core Policies Checklist

Name of Project:

Baltimore Harbor Anchorages and Channels Project Modification of Seagirt Loop Channels

5.1. CORE POLICIES

5.1.1. Quality of Life

Quality of Life Policy 1- Air Quality. It is State policy to maintain that degree of purity of air resources which will protect the health, general welfare, and property of the people of the State. MDE (C9) Md. Code Ann., Envir. §§ 2-102 to -103.

Select appropriate response:

- (●) Project will be consistent with Air Quality policy.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The Air Quality Analysis completed for the project determined that when following the planned construction schedule, the project will not result in emissions exceeding the NOx emission threshold of 100 tpy.

Quality of Life Policy 2 – Noise. The environment shall be free from noise which may jeopardize health, general welfare, or property, or which degrades the quality of life. MDE (C9) COMAR 26.02.03.02.

Select appropriate response:

- (●) Project will be consistent with Noise policy.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The dredging is consistent with the maintenance dredging that occurs within Baltimore Harbor and will comply with all State and Federal regulations.

Quality of Life Policy 3– Protection of State Wild Lands. The unique ecological, geological, scenic, and contemplative aspects of State wild lands shall not be affected in a manner that would jeopardize the future use and enjoyment of those lands as wild. DNR (C7) Md. Code Ann., Nat. Res. §§ 5-1201, -1203.

Select appropriate response:

- (●) Project will be consistent with State Wild Lands Protection policy.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not impact State Wild Lands as it is limited to in-water dredging and placement at a Cox Creek Dredged Material Containment Facility.

Quality of Life Policy 4 – Protection of State Lands & Cultural Resources. The safety, order, and natural beauty of State parks and forests, State reserves, scenic preserves, parkways, historical monuments and recreational areas shall be preserved. DNR (B1) Md. Code. Ann., Nat. Res. § 5-209.

Select appropriate response:

- (●) Project will be consistent with Protection of State Lands & Cultural Resources policy.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Under Section 106 of the National Historic Preservation Act and its implementing regulations at 36 Code of Federal Regulations Part 800, the USACE assessed potential effects historic properties that are within the proposed project's APE. Coordination with SHPO/NPS will continue through the study period.

Quality of Life Policy 5 – Natural Character & Scenic Value of Rivers & Waterways. The natural character and scenic value of a river or waterway must be given full consideration before the development of any water or related land resources including construction of improvements, diversions, roadways, crossings, or channelization. MDE/DNR (C7) Md. Code Ann., Nat. Res. § 8-405; COMAR 26.17.04.11.

Select appropriate response:

- (●) Project will be consistent with policy protecting Natural Character & Scenic Value of Rivers & Waterways.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

A viewshed analysis was completed for the project is included in the Environmental Assessment and coordination with SHPO and NPS is ongoing.

Quality of Life Policy 6 –Natural Flow of Scenic & Wild Rivers. A dam or other structure that impedes the natural flow of a scenic or wild river may not be constructed, operated, or maintained, and channelization may not be undertaken, until the applicant considers alternatives less harmful to the scenic and wild resource. Construction of an impoundment upon a scenic or wild river is contrary to the public interest, if that project floods an area of unusual beauty, blocks the access to the public of a view previously enjoyed, or alters the stream's wild qualities. MDE/DNR (C7) Md. Code Ann., Nat. Res. § 8-406; COMAR 26.17.04.11.

Select appropriate response:

- ○ Project will be consistent with policy protecting Natural Flow of Scenic & Wild Rivers.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

THE BHAC will not create any dams or impoundments related to natural flow of Scenic and Wild Rivers.

Quality of Life Policy 7 – Atlantic Coast Development. Any land clearing, construction activity, or the construction or placement of permanent structures is prohibited within the Beach Erosion Control District except the construction and installation of a qualified submerged renewable energy line, if the project does not result in any significant permanent environmental damage to the Beach Erosion Control District and is not constructed or installed within the Assateague State Park, and any project or activity specifically for storm control, beach erosion and sediment control, or maintenance projects designed to benefit the Beach Erosion Control District. MDE/DNR (B1) Md. Code Ann., Nat. Res. § 8-1102.

Select appropriate response:

- ○ Project will be consistent with policy ensuring Environmentally Beneficial Atlantic Shoreline Development.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC does not take place in a Beach Erosion Control District.

Quality of Life Policy 8 – Integrity & Natural Character of Assateague Island. Activities which will adversely affect the integrity and natural character of Assateague Island will be inconsistent with the State's Coastal Management Program, and will be prohibited. MDE/DNR (B1) Md. Code. Ann., Nat. Res. §§ 5-209, 8-1102.

Select appropriate response:

- ○ Project will be consistent with policy protecting the Integrity & Natural Character of Assateague Island.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC does not take place on Assateague Island

Quality of Life Policy 9 – Public Outreach. An opportunity for a public hearing shall be provided for projects in non-tidal waters that dredge, fill, bulkhead, or change the shoreline; construct or reconstruct a dam; or create a waterway, except in emergency situations. MDE (A3) COMAR 26.17.04.13A.

Select appropriate response:

- ◉ Project will be consistent with Public Outreach policy for relevant projects.
- ○ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

A public meeting was held during the public review period of the Draft Feasibility Report and Environmental Assessment.

Quality of Life Policy 10 – Erosion & Sediment Control. Soil erosion shall be prevented to preserve natural resources and wildlife; control floods; prevent impairment of dams and reservoirs; maintain the navigability of rivers and harbors; protect the tax base, the public lands, and the health, safety and general welfare of the people of the State, and to enhance their living environment. MDA (C4) Md. Code Ann., Agric. § 8-102(d).

Select appropriate response:

- ○ Project will be consistent with Erosion & Sediment Control policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC is a dredging project and will comply with all pertinent permit requirements. An Erosion and Sediment Control permit is not required for the BHAC project.

Quality of Life Policy 11 – Safeguards for Outer Continental Shelf Development. Operations on the Outer Continental Shelf must be conducted in a safe manner by well-trained personnel using technology, precautions, and techniques sufficient to prevent or minimize the likelihood of blowouts, loss of well control, fires, spillages, physical obstruction to other users of the waters or subsoil and seabed, or other occurrences which may cause damage to the environment or property, or which may endanger life or health. (B2) Md. Code Ann., Envir. §§ 17-101 to -403; COMAR 26.24.01.01; COMAR 26.24.02.01, .03; COMAR 26.24.05.01.

Select appropriate response:

- ○ Project will be consistent with policy ensuring Safeguards for Outer Continental Shelf Development.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC does not occur in the Outer Continental Shelf.

5.1.2. Waste & Debris Management

Waste & Debris Management Policy 1 – Hazardous Waste Management. Controlled hazardous substances may not be stored, treated, dumped, discharged, abandoned, or otherwise disposed anywhere other than a permitted controlled hazardous substance facility or a facility that provides an equivalent level of environmental protection. MDE (D4) Md. Code Ann., Envir. § 7-265(a).

Select appropriate response:

- (●) Project will be consistent with Hazardous Waste Management policy.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

In accordance with USACE Engineering Regulation 1165-2-132 guidance, dredged materials from the project area will be evaluated under dredged material placement criteria for HTRW. Evaluations will be conducted in accordance with all appropriate guidelines and criteria, including Section 404 of the Clean Water Act. All dredged materials will be placed in the Cox Creek DMCF.

Waste & Debris Management Policy 2 – Hazardous Waste Management in Port of Baltimore. A person may not introduce in the Port of Baltimore any hazardous materials, unless the cargo is properly classed, described, packaged, marked, labeled, placarded, and approved for highway, rail, or water transportation. MDOT (D3) COMAR 11.05.02.04A.

Select appropriate response:

- ( ) Project will be consistent with Hazardous Waste Management in Port of Baltimore policy.
- (●) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

No hazardous materials will be introduced at the Port of Baltimore.

5.1.3. Water Resources Protection & Management

Water Resources Protection & Management Policy 1 – Pollution Discharge Permit. No one may add, introduce, leak, spill, or emit any liquid, gaseous, solid, or other substance that will pollute any waters of the State without State authorization. MDE (A5) Md. Code Ann., Envir. §§ 4-402, 9-101, 9-322.

Select appropriate response:

- (●) Project will be consistent with water policy requiring a Pollution Discharge Permit.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC dredging and placement will comply with the project NPDES permit and WQC. MDE is a participating agency and permit applications will be submitted during the plan and development phase.

Water Resources Protection & Management Policy 2 – Protection of Designated Uses. All waters of the State shall be protected for water contact recreation, fish, and other aquatic life and wildlife. Shellfish harvesting and recreational trout waters and waters worthy of protection because of their unspoiled character shall receive additional protection. MDE (A1) COMAR 26.08.02.02.

Select appropriate response:

- (●) Project will be consistent with Protection of Designated Uses policy.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Work will occur in the Baltimore Harbor (Class II) The study area is highly developed city and port with substantial navigation and shipping operations, with recreational boating and few nearshore parks. Continuing maintenance dredging operations would not cause any significant impacts to these recreational resources and associated placement and discharge will occur in compliance with the NPDES permit and WQC.

Water Resources Protection & Management Policy 3 – Prohibition of Harmful Toxic Impacts. The discharge of any pollutant which will accumulate to toxic amounts during the expected life of aquatic organisms or produce deleterious behavioral effects on aquatic organisms is prohibited. MDE (A4) COMAR 26.08.03.01.

Select appropriate response:

- (●) Project will be consistent with water policy Prohibiting Harmful Toxic Impacts.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

As specified in the NPDES discharge permit for Cox Creek Dredged Material Containment Facility discharge will occur following required biomonitoring. Sediments to be dredged as part of the BHAC project will be tested triennually as described in the USACE Dredged Material Management Plan.

Water Resources Protection & Management Policy 4 – Pre-Development Discharge Permit Requirement. Before constructing, installing, modifying, extending, or altering an outlet or establishment that could cause or increase the discharge of pollutants into the waters of the State, the proponent must hold a discharge permit issued by the Department of the Environment or provide an equivalent level of water quality protection. MDE (D6) Md. Code Ann., Envir. § 9-323(a).

Select appropriate response:

- ○ Project will be consistent with water policy requiring a Pre-Development Discharge Permit.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not require development but all placement and discharge of water from the placement site will comply with NPDES permit and WQC.

Water Resources Protection & Management Policy 5 – Use of Best Available Technology or Treat to Meet Standards. The use of best available technology is required for all permitted discharges into State waters, but if this is insufficient to comply with the established water quality standards, additional treatment shall be required and based on waste load allocation. MDE (D4) COMAR 26.08.03.01C.

Select appropriate response:

- ◉ Project will be consistent with Use of Best Available Technology or Treat to Meet Standards water policy.
- ○ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will place dredged material in Cox Creek Dredged Material Containment Facility and best technologies are used to ensure compliance. Cox Creek remains compliant with the Baltimore Harbor Overlay permit restricting nutrients. BMPs include the use of recirculated water from inside the DMCF to reduce nutrients discharged to the Bay.

Water Resources Protection & Management Policy 6 – Control of Thermal Discharges. Thermal discharges shall be controlled so that the temperature outside the mixing zone (50 feet radially from the point of discharge) meets the applicable water quality criteria or discharges comply with the thermal mixing zone criteria. MDE (D4) COMAR 26.08.03.03C.

Select appropriate response:

- ○ Project will be consistent with Control of Thermal Discharges water policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC operations will not require control of thermal discharges.

Water Resources Protection & Management Policy 7 – Pesticide Storage. Pesticides shall be stored in an area located at least 50 feet from any water well or stored in secondary containment approved by the Department of the Environment. MDA (C4) COMAR 15.05.01.06.

Select appropriate response:

- ○ Project will be consistent with Pesticides Storage water policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC does not require the use of pesticides.

Water Resources Protection & Management Policy 8 – Stormwater Management. Any development or redevelopment of land for residential, commercial, industrial, or institutional purposes shall use small-scale non-structural stormwater management practices and site planning that mimics natural hydrologic conditions, to the maximum extent practicable. Development or redevelopment will be consistent with this policy when channel stability and 100 percent of the average annual predevelopment groundwater recharge are maintained, nonpoint source pollution is minimized, and structural stormwater management practices are used only if determined to be absolutely necessary. MDE (C9) Md. Code Ann., Envir. § 4-203; COMAR 26.17.02.01, .06.

Select appropriate response:

- ○ Project will be consistent with Stormwater Management policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC dredging does not require Stormwater Management Permits.

Water Resources Protection & Management Policy 9 – Unpermitted Dumping of Used Oil. Unless otherwise permitted, used oil may not be dumped into sewers, drainage systems, or any waters of the State or onto any public or private land. MDE (D4) Md. Code Ann., Envir. § 5-1001(f).

Select appropriate response:

- ○ Project will be consistent with Unpermitted Dumping of Used Oil water policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

No unpermitted dumping of oil will occur. A spill plan will be required before construction begins.

Water Resources Protection & Management Policy 10 – Toxicity Monitoring. If material being dumped into Maryland waters or waters off Maryland's coastline has demonstrated actual toxicity or potential for being toxic, the discharger must perform biological or chemical monitoring to test for toxicity in the water. MDE (A5) COMAR 26.08.03.07(D); COMAR 26.08.04.01.

Select appropriate response:

- ○ Project will be consistent with Toxicity Monitoring water policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not result in material being dumped in Maryland waters or coastline.

Water Resources Protection & Management Policy 11 – Public Outreach. Public meetings and citizen education shall be encouraged as a necessary function of water quality regulation. MDE (A2) COMAR 26.08.01.02E(3).

Select appropriate response:

- (●) Project will be consistent with Public Outreach water policy.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

A public meeting will be planned during permitting, if requested.

Water Resources Protection & Management Policy 12 - No Adverse Impact from Water Appropriation. Any water appropriation must be reasonable in relation to the anticipated level of use and may not have an unreasonable adverse impact on water resources or other users of the waters of the State. MDE (C9) COMAR 26.17.06.02.

Select appropriate response:

- ( ) Project will be consistent with policy ensuring No Adverse Impact from Water Appropriations.
- (●) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

A water appropriations permits is not required.

5.1.4. Flood Hazards & Community Resilience

Flood Hazards & Community Resilience Policy 1 – No Adverse Impact. Projects in coastal tidal and non-tidal flood plains which would create additional flooding upstream or downstream, or which would have an adverse impact upon water quality or other environmental factors, are contrary to State policy. MDE (C2) Md. Code Ann., Envir. § 5-803; COMAR 26.17.05.04A.

Select appropriate response:

- ○ Project will be consistent with No Adverse Impact flood hazard policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not create flooding or impact flood risks.

Flood Hazards & Community Resilience Policy 2 – Non-Tidal Waters and Non-Tidal Floodplains. The following policies apply to projects in non-tidal waters and non-tidal floodplains, but not non-tidal wetlands. MDE (C2) COMAR 26.17.04.01, .07,.11.

Flood Hazards & Community Resilience Policy 2a – 1-Foot Freeboard Above 100-year Flood. Proposed floodplain encroachments, except for roadways, culverts, and bridges, shall be designed to provide a minimum of 1 foot of freeboard above the elevation of the 100-year frequency flood event. In addition, the elevation of the lowest floor of all new or substantially improved residential, commercial, or industrial structures shall also be at least 1 foot above the elevation of the 100-year frequency flood event.

Select appropriate response:

- ○ Project will be consistent with policy requiring a 1-Foot Freeboard Above 100-Year Flood for Construction in flood hazard areas.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not create flooding or impact flood risks.

Flood Hazards & Community Resilience Policy 2b – Stability of Unlined Earth Channels. Proposed unlined earth channels may not change the tractive force associated with the 2-year and the 10-year frequency flood events, by more than 10 percent, throughout their length unless it can be demonstrated that the stream channel will remain stable.

Select appropriate response:

- ○ Project will be consistent with policy ensuring Stability of Unlined Earth Channels.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not create flooding or impact flood risks.

Flood Hazards & Community Resilience Policy 2c – Stability of Lined Channels. Proposed lined channels may not change the tractive force associated with the 2-year and the 10-year frequency flood events, by more than 10 percent, at their downstream terminus unless it can be demonstrated that the stream channel will remain stable.

Select appropriate response:

- ○ Project will be consistent with policy ensuring Stability of Line Channels.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not create flooding or impact flood risks.

Flood Hazards & Community Resilience Policy 2d – Prohibition of Dam Construction in High Risk Areas. Category II, III, or IV dams may not be built or allowed to impound water in any location where a failure is likely to result in the loss of human life or severe damage to streets, major roads, public utilities, or other high value property.

Select appropriate response:

- ○ Project will be consistent with policy Prohibiting Dam Construction in High Risk Areas.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not result in dams and placement will be in an approved dredged material containment facility.

Flood Hazards & Community Resilience Policy 2e – Prohibition of Projects That Increase Risk Unless Mitigation Requirements Are Met. Projects that increase the risk of flooding to other property owners are generally prohibited, unless the area subject to additional risk of flooding is purchased, placed in designated flood easement, or protected by other means acceptable to the Maryland Department of the Environment.

Select appropriate response:

- ○ Project will be consistent with policy Prohibiting Projects That Increase Flood Risk Unless Mitigation Requirements Are Met.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not create flooding or impact flood risks.

Flood Hazards & Community Resilience Policy 2f – Prohibition of Construction or Substantial Improvements in 100-Year Floodplain. The construction or substantial improvement of any residential, commercial, or industrial structures in the 100-year frequency floodplain and below the water surface elevation of the 100-year frequency flood may not be permitted. Minor maintenance and repair may be permitted. The modifications of existing structures for flood-proofing purposes may be permitted. Flood-proofing modifications shall be designed and constructed in accordance with specifications approved by the Maryland Department of the Environment.

Select appropriate response:

- ○ Project will be consistent with policy Prohibiting Construction or Substantial Improvements in 100-Year Floodplain.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not create flooding or impact flood risks.

Flood Hazards & Community Resilience Policy 2g – Channelization Is Discouraged. Channelization shall be the least favored flood control technique.

Select appropriate response:

- ○ Project will be consistent with policy Discouraging Channelization.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not create flooding or impact flood risks.

Flood Hazards & Community Resilience Policy 2h – Preference of Multi-Purpose Use Projects, Project Accountability, & 50% Reduction in Damages. Multiple purpose use shall be preferred over single purpose use, the proposed project shall achieve the purposes intended, and, at a minimum, project shall provide for a 50 percent reduction of the average annual flood damages.

Select appropriate response:

- ○ Project will be consistent with policy that ensures a Preference to Multi-Purpose Use Projects, Project Accountability & 50% Reduction in Damages.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not create flooding or impact flood risks.

Flood Hazards & Community Resilience Policy 3 – Development-Related Runoff Restrictions for the Gwynne Falls and Jones Falls Watersheds. Development may not increase the downstream peak discharge for the 100-year frequency storm event in the following watersheds and all their tributaries: Gwynns Falls in Baltimore City and Baltimore County; and Jones Falls in Baltimore City and Baltimore County. MDE (C2) COMAR 26.17.02.07.

Select appropriate response:

- ○ Project will be consistent with policy that Restricts Development-Related Runoff in the Gwynne Falls & Jones Falls Watersheds.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC will not create flooding or impact flood risks.

Coastal Zone Management Program - Critical Area Policies Checklist

Name of Project:

Baltimore Harbor Anchorages and Channels Project Modification of Seagirt Loop Channels

5.2 COASTAL RESOURCES

5.2.1 The Chesapeake and Atlantic Coastal Bays Critical Area

In addition to the policies in this section, the laws approved by NOAA implementing the Chesapeake and Atlantic Coastal Bays Critical Area Protection Program are enforceable policies.

Critical Area Policy 1 – Scope of the Buffer. In the Critical Area, a minimum 100-foot vegetated buffer shall be maintained landward from the mean high water line of tidal waters, the edge of each bank of tributary streams, and the landward edge of tidal wetlands. The buffer shall be expanded in sensitive areas in accordance with standards adopted by the Critical Area Commission. The buffer is not required for agricultural drainage ditches if the adjacent agricultural land has in place best management practices that protect water quality. Mitigation or other measures for achieving water quality and habitat protection objectives may be necessary in buffer areas for which the Critical Area Commission has modified the minimum applicable requirements due to the existing pattern of development. CAC (C9) COMAR 27.01.09.01, .01-6, .01-8.

Select appropriate response:

- ○ Project will be consistent with Scope of Buffer policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The CAC has been notified of the project; however, work is located outside the 100' buffer in tidal waters.

Critical Area Policy 2 – Buffer Disturbance. Disturbance to a buffer in the Critical Area is only authorized for a shore erosion control measure or for new development or redevelopment that is water-dependent; meets a recognized private right or public need; minimizes the adverse effects on water quality and fish, plant, and wildlife habitat; and, insofar as possible, locates nonwater-dependent structures or operations associated with water-dependent projects or activities outside the buffer. Disturbance to a buffer may only be authorized in conjunction with mitigation performed in accordance with an approved buffer management plan. CAC (C9) COMAR 27.01.03.03; COMAR 27.01.09.01, .01-2, .01-3.

- ○ Project will be consistent with Buffer Disturbance policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There is no disturbance to the Critical Area Buffer.

Critical Area Policy 3 - Protection of Bird Nesting Areas. Colonial water bird nesting sites in the Critical Area may not be disturbed during breeding season. CAC (C9) COMAR 27.01.09.04.

Select appropriate response:

- ○ Project will be consistent with policy Protecting Bird Nesting Areas.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no colonial water bird nesting sites located in the action area.

Critical Area Policy 4 - Protection of Waterfowl. New facilities in the Critical Area shall not interfere with historic waterfowl concentration and staging areas. CAC (C9) COMAR 27.01.09.04.

Select appropriate response:

- ○ Project will be consistent with the Protection of Waterfowl policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no waterfowl staging areas within the action area.

Critical Area Policy 5 -Restrictions on Stream Alterations. Physical alterations to streams in the Critical Area shall not affect the movement of fish. CAC (C9) COMAR 27.01.09.05.

Select appropriate response:

- ○ Project will be consistent with the Restrictions on Stream Alterations policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no streams located within the action area.

Critical Area Policy 6 - Prohibition of Riprap and Artificial Surfaces. The installation or introduction of concrete riprap or other artificial surfaces onto the bottom of natural streams in the Critical Area is prohibited unless water quality and fisheries habitat will be improved. CAC (C9) COMAR 27.01.09.05.

Select appropriate response:

- ○ Project will be consistent with the Prohibition of Riprap and Artificial Surfaces policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Riprap and/or artificial surfaces are not proposed for this project.

Critical Area Policy 7 - Prohibition of Dams and Structures. The construction or placement of dams or other structures in the Critical Area that would interfere with or prevent the movement of spawning fish or larval forms in streams is prohibited. CAC (C9) COMAR 27.01.09.05.

Select appropriate response:

- ○ Project will be consistent with the Prohibition of Dams and Structures policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no dams or structures planned for installation with this project.

Critical Area Policy 8 - Restrictions on Stream Crossings and Impacts. Development may not cross or affect a stream in the Critical Area, unless there is no feasible alternative and the design and construction of the development prevents increases in flood frequency and severity that are attributable to development; retains tree canopy and maintains stream water temperature within normal variation; provides a natural substrate for affected streambeds; and minimizes adverse water quality and quantity impacts of stormwater. CAC (C9) COMAR 27.01.02.04.

Select appropriate response:

- ○ Project will be consistent with the Restrictions on Stream Crossings and Impacts policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

No streams will be crossed within the Critical Area for this project.

Critical Area Policy 9 - Time of Year Restrictions for Construction in Streams. The construction, repair, or maintenance activities associated with bridges or other stream crossings or with utilities and roads, which involve disturbance within the buffer or which occur in stream are prohibited between March 1 and May 15. CAC (C9) COMAR 27.01.09.05.

Select appropriate response:

- (●) Project will be consistent with the Stream Construction Time-of-Year Restrictions policy.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

This project will follow all time of year restrictions for anadromous fish in the Baltimore Harbor.

Critical Area Policy 10 - Avoid & Minimize Construction Impacts in Habitat Areas. Roads, bridges, or utilities may not be constructed in any areas designated to protect habitat, including buffers, in the Critical Area, unless there is no feasible alternative and the road, bridge, or utility is located, designed, constructed, and maintained in a manner that maximizes erosion protection; minimizes negative impacts to wildlife, aquatic life, and their habitats; and maintains hydrologic processes and water quality. CAC (C9) COMAR 27.01.02.03C, .04C, .05C.

Select appropriate response:

- ( ) Project will be consistent with the Avoid or Minimize Habitat Area Impacts policy.
- (●) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no roads, bridges or utilities planned for this project.

Critical Area Policy 11 – Intensely Developed Areas. The following policies apply in those areas of the Critical Area that are determined to be areas of intense development.

- To the extent possible, fish, wildlife, and plant habitats should be conserved.
- Development and redevelopment shall improve the quality of runoff from developed areas that enters the Chesapeake or Atlantic Coastal Bays or their tributary streams.
- At the time of development or redevelopment, appropriate actions must be taken to reduce stormwater pollution by 10%. Retrofitting measures are encouraged to address existing water quality and water quantity problems from stormwater.
- Development activities may cross or affect a stream only if there is no feasible alternative, and those activities must be constructed to prevent increases in flood frequency and severity attributable to development, retain tree canopy, maintain stream water temperatures within normal variation, and provide a natural substrate for affected streambeds.
- Areas of public access to the shoreline, such as foot paths, scenic drives, and other public recreational facilities, shall be maintained and, if possible, are encouraged to be established.
- Ports and industries which use water for transportation and derive economic benefits from shore access, shall be located near existing port facilities or in areas identified by local jurisdictions for planned future port facility development and use if this use will provide significant economic benefit to the State or local jurisdiction.
- Development shall be clustered to reduce lot coverage and maximize areas of natural vegetation.
- Development shall minimize the destruction of forest and woodland vegetation.

CAC (C9) COMAR 27.01.02.03.

Select appropriate response:

- ○ Project will be consistent with the Intensely Developed Areas policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project is not located in the IDA.

Critical Area Policy 12 – Limited Development Areas & Resource Conservation Areas. The following policies apply in those portions of the Critical Area that are not areas of intense development.

- Development shall maintain, and if possible, improve the quality of runoff and ground water entering the Chesapeake and Coastal Bays.
- To the extent practicable, development shall maintain existing levels of natural habitat.
- All development sites shall incorporate a wildlife corridor system that connects undeveloped vegetated tracts onsite with undeveloped vegetated tracts offsite.
- All forests and developed woodlands that are cleared or developed shall be replaced on not less than an equal area basis.
- If there are no forests on a proposed development site, the site shall be planted to provide a forest or developed woodland cover of at least 15 percent.
- Development on slopes equal to or greater than 15 percent, as measured before development, shall be prohibited unless the project is the only effective way to maintain the slope and is consistent with other policies.
- To the extent practicable, development shall be clustered to reduce lot coverage and maximize areas of natural vegetation.
- Lot coverage is limited to 15 percent of the site.

CAC (C9) COMAR 27.01.02.04.

Select appropriate response:

- ○ Project will be consistent with policy regarding Limited Development Areas and Resource Conservation Areas.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project is not located in the LDA or RCA.

Critical Area Policy 13 - Public Facilities Allowed With Restrictions in Buffer. Public beaches or other public water-oriented recreation or education areas including, but not limited to, publicly owned boat launching and docking facilities and fishing piers may be permitted in the buffer in portions of the Critical Area not designated as intensely developed areas only if adequate sanitary facilities exist; service facilities are, to the extent possible, located outside the Buffer; permeable surfaces are used to the extent practicable, if no degradation of ground water would result; and disturbance to natural vegetation is minimized. CAC (C9) COMAR 27.01.03.08.

Select appropriate response:

- ○ Project will be consistent with policy allowing Public Facilities within Buffer with Restrictions.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no public facilities planned for this project.

Critical Area Policy 14 - Water-Dependent Research Facilities. Water-dependent research facilities or activities may be permitted in the buffer, if nonwater-dependent structures or facilities associated with these projects are, to the extent possible, located outside the buffer. CAC (C9) COMAR 27.01.03.09.

Select appropriate response:

- ○ Project will be consistent with the Water-Dependent Research Facilities policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no water dependent research facilities planned for this project.

Critical Area Policy 15 – Siting Industrial & Port-Related Facilities. Water-dependent industrial and port-related facilities may only be located in the portions of areas of intense development designated as modified buffer areas. CAC (C9) COMAR 27.01.03.05.

Select appropriate response:

- ○ Project will be consistent with policy regarding Siting Industrial and Port-Related Facilities.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

This is a water dependent project involving the dredging of shipping channels to a depth that allows safe passage of Post Panamax ships. However, there are no landside industrial or port related facilities planned for this project.

Critical Area Policy 16 -Restrictions on Waste Facilities. Solid or hazardous waste collection or disposal facilities and sanitary landfills are not permitted in the Critical Area unless no environmentally acceptable alternative exists outside the Critical Area, and these facilities are needed in order to correct an existing water quality or wastewater management problem. CAC (C9) COMAR 27.01.02.02.

Select appropriate response:

- ○ Project will be consistent with policy Restricting Waste Facilities.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

No solid or hazardous waste collection or disposal facilities or sanitary landfills are proposed for this project.

Critical Area Policy 17 – Buffer Management Plan. If a development or redevelopment activity occurs on a lot or parcel that includes a buffer or if issuance of a permit, variance, or approval would disturb the buffer, the proponents of that activity must develop a buffer management plan that clearly indicates that all applicable planting standards developed by the Critical Area Commission will be met and that appropriate measures are in place for the protection and maintenance of the buffer. CAC (C9) COMAR 27.01.09.01-1, .01-3.

Select appropriate response:

- ○ Project will be consistent with the Buffer Management Plan policy.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There is no development proposed within the buffer.

Critical Area Policy 18 – Protection of Critical Area from Surface Mining Pollution. All available measures must be taken to protect the Critical Area from all sources of pollution from surface mining operations, including but not limited to sedimentation and siltation, chemical and petrochemical use and spillage, and storage or disposal of wastes, dusts, and spoils. CAC (D5) COMAR 27.01.07.02A.

Select appropriate response:

- ○ Project will be consistent with policy Protecting Critical Area from Surface Mining Pollution.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no surface mining operations planned for this project.

Critical Area Policy 19 – Reclamation Requirements for Mining. In the Critical Area, mining must be conducted in a way that allows the reclamation of the site as soon as possible and to the extent possible. CAC (D5) COMAR 27.01.07.02B.

Select appropriate response:

- ○ Project will be consistent with policy that requires Reclamation for Mining.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

No mining is proposed for this project.

Critical Area Policy 20 – Restrictions on Sand & Gravel Operations. Sand and gravel operations shall not occur within 100 feet of the mean high water line of tidal waters or the edge of streams or in areas with scientific value, important natural resources such as threatened and endangered species, rare assemblages of species, or highly erodible soils. Sand and gravel operations also may not occur where the use of renewable resource lands would result in the substantial loss of forest and agricultural productivity for 25 years or more or would result in a degrading of water quality or a loss of vital habitat. CAC (D5) COMAR 27.01.07.03D.

Select appropriate response:

- ○ Project will be consistent with policy regarding Restrictions on Sand & Gravel Operations
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no sand and/or gravel mining operations planned for this project.

Critical Area Policy 21 - Prohibition of Wash Plants in Buffer. Wash plants including ponds, spoil piles, and equipment may not be located in the 100-foot buffer. CAC (D5) COMAR 27.01.07.03E.

Select appropriate response:

- ○ Project will be consistent with policy Prohibiting Wash Plants in Buffer.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no wash plants planned for this project.

Critical Area Policy 22 – Requirements for Agriculture in the Buffer. Agricultural activities are permitted in the buffer, if, as a minimum best management practice, a 25-foot vegetated filter strip measured landward from the mean high water line of tidal waters or tributary streams (excluding drainage ditches), or from the edge of tidal wetlands, whichever is further inland, is established in trees with a dense ground cover or a thick sod of grass. CAC (C4) COMAR 27.01.09.01-6.

Select appropriate response:

- ○ Project will be consistent with policy regarding Requirements for Agriculture in the Buffer.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There is no agricultural activities associated with this project.

Critical Area Policy 23 – Geographical Limits for Feeding or Watering Livestock. The feeding or watering of livestock is not permitted within 50 feet of the mean high water line of tidal waters and tributaries. CAC (C4) COMAR 27.01.09.01-6.

Select appropriate response:

- ○ Project will be consistent with policy regarding Geographical Limits for Feeding or Watering Livestock.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

No livestock are associated with this project.

Critical Area Policy 24 – Creating New Agricultural Lands. In the Critical Area, the creation of new agricultural lands shall not be accomplished by diking, draining, or filling of non-tidal wetlands, without appropriate mitigation; by clearing of forests or woodland on soils with a slope greater than 15 percent or on soils with a "K" value greater than 0.35 and slope greater than 5 percent; by clearing that will adversely affect water quality or will destroy plant and wildlife habitat; or by clearing existing natural vegetation within the 100-foot buffer. CAC (C4) COMAR 27.01.06.02C.

Select appropriate response:

- ○ Project will be consistent with policy regarding Creating New Agricultural Lands.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

No new agricultural lands will be created with this project.

Critical Area Policy 25 - Best Management Practices for Agriculture. Agricultural activity permitted within the Critical Area shall use best management practices in accordance with a soil conservation and water quality plan approved or reviewed by the local soil conservation district. CAC (C4) COMAR 27.01.06.02G.

Select appropriate response:

- ○ Project will be consistent with policy requiring Best Management Practices for Agriculture.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

No agricultural practices planned for this project.

Critical Area Policy 26 - Cutting or Clearing Trees in the Buffer. Cutting or clearing of trees within the buffer is prohibited except that commercial harvesting of trees by selection or by the clearcutting of loblolly pine and tulip poplar may be permitted to within 50 feet of the landward edge of the mean high water line of tidal waters and perennial tributary streams, or the edge of tidal wetlands if the buffer is not subject to additional habitat protection. Commercial harvests must be in compliance with a buffer management plan that is prepared by a registered professional forester and is approved by the Department of Natural Resources. CAC (C5) Md. Code Ann., Nat. Res. § 8-1808.7; COMAR 27.01.09.01-7

Select appropriate response:

- ○ Project will be consistent with policy regarding Restrictions on Cutting or Clearing of Trees in the Buffer.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

No trees will be cut or cleared as a result of this project.

Critical Area Policy 27 - Requirements for Commercial Tree Harvesting in the Buffer. Commercial tree harvesting in the buffer may not involve the creation of logging roads and skid trails within the buffer and must avoid disturbing stream banks and shorelines as well as include replanting or allowing regeneration of the areas disturbed or cut in a manner that assures the availability of cover and breeding sites for wildlife and reestablishes the wildlife corridor function of the buffer. CAC (C5) Md. Code Ann., Nat. Res. § 8-1808.7; COMAR 27.01.09.01-7

Select appropriate response:

- ○ Project will be consistent with policy regarding Requirements for Commercial Tree Harvesting in the Buffer.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Commercial harvesting of trees is not proposed in this project.

Critical Area Policy 28 - General Restrictions to Intense Development. Intense development should be directed outside the Critical Area. Future intense development activities, when proposed in the Critical Area, shall be directed towards the intensely developed areas. CAC (D1) Md. Code Ann., Natural Res. § 8-1807(b); COMAR 27.01.02.02B.

Select appropriate response:

- ○ Project will be consistent with policy regarding General Restrictions on Intense Development.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Intense development is not a part of this project.

Critical Area Policy 29 – Development Restrictions in Critical Area. The following development activities and facilities are not permitted in the Critical Area except in intensely developed areas and only after the activity or facility has demonstrated that there will be a net improvement in water quality to the adjacent body of water.

• Non-maritime heavy industry

• Transportation facilities and utility transmission facilities, except those necessary to serve permitted uses, or where regional or interstate facilities must cross tidal waters

• Permanent sludge handling, storage, and disposal facilities, other than those associated with wastewater treatment facilities. However, agricultural or horticultural use of sludge when applied by an approved method at approved application rates may be permitted in the Critical Area, but not in the 100-foot Buffer

CAC (C9) COMAR 27.01.02.02.

Select appropriate response:

- ○ Project will be consistent with policy Restricting Development in Critical Area.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Development activities are not included in this proposed project.

Coastal Zone Management Program - Tidal Wetlands Policy Checklist

Name of Project:

Baltimore Harbor Anchorages and Channels Project Modification of Seagirt Loop Channels

5.2 COASTAL RESOURCES

5.2.2 Tidal Wetlands

Tidal Wetlands Policy 1 – Projects That Alter Natural Character Shall Avoid Dredging & Filling, Be Water-Dependent and Provide Appropriate Mitigation. Any action which alters the natural character in, on, or over tidal wetlands; tidal marshes; and tidal waters of Chesapeake Bay and its tributaries, the coastal bays adjacent to Maryland's coastal barrier islands, and the Atlantic Ocean shall avoid dredging and filling, be water-dependent, and provide appropriate mitigation for any necessary and unavoidable adverse impacts on these areas or the resources associated with these areas. A proponent of an action described above shall explain the actions impact on: habitat for finfish, crustaceans, mollusks, and wildlife of significant economic or ecologic value; potential habitat areas such as historic spawning and nursery grounds for anadromous and semi-anadromous fisheries species and shallow water areas suitable to support populations of submerged aquatic vegetation; marine commerce, recreation, and aesthetic enjoyment; flooding; siltation; natural water flow, water temperature, water quality, and natural tidal circulation; littoral drift; local, regional, and State economic conditions; historic property; storm water runoff; disposal of sanitary waste; sea level rise and other determinable and periodically recurring natural hazards; navigational safety; shore erosion; access to beaches and waters of the State; scenic and wild qualities of a designated State scenic or wild river; and historic waterfowl staging areas and colonial bird-nesting sites. MDE (B2) COMAR 26.24.01.01, COMAR 26.24.02.01, .03; COMAR 26.24.05.01.

Select appropriate response:

- (●) Project will be consistent with Tidal Wetlands policy.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The proposed project includes a full Environmental Assessment that reviews the impacts to tidal wetlands.

Coastal Zone Management Program - Historical & Archaeological Policies Checklist

Name of Project:

Baltimore Harbor Anchorages and Channels Project Modification of Seagirt Loop Channels

5.2 COASTAL RESOURCES

5.2.5 Historical and Archaeological Sites

Historical and Archaeological Policy 1 – Protection of Submerged Historic Resources. Unless permission is granted by the Maryland Historical Trust, activities that excavate, remove, destroy, injure, deface, or disturb submerged archaeological historic property are generally prohibited. MDP (C8) Md. Code Ann., State Fin. & Proc. §§ 5A-341, -333.

Select appropriate response:

- (●) Project will be consistent with historical & archaeological policy Protecting Submerged Historic Resources.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Widening the undisturbed portions of the Seagirt Loop Channel may have the potential to adversely affect underwater archaeological resources, especially since these areas have not been subjected to past archaeological survey. For this reason, the areas proposed for deepening and widening would need to be surveyed for their potential to contain cultural resources. Due to funding and scheduling constraints, a Phase I investigation and any additional NRHP evaluations cannot take place during the feasibility planning phase of the project. To satisfy the requirements under Section 106 of the NHPA, USACE developed a Programmatic Agreement pursuant to 36 CFR 800.14 (b)(ii). The PA allows the Feasibility Report to move forward, while stipulating Phase I archaeological investigation requirements during Pre-Construction Engineering and Design of the project when funding can be obtained for this effort. MHT agreed with this methodology via e-mail correspondence dated August 12th, 2021. As of January 2023, the FInal PA has been signed.

Historical and Archaeological Policy 2 – Protection of Caves & Archaeological Sites. Unless permission is granted by the Maryland Historical Trust, activities that excavate, remove, destroy, injure, deface, or disturb cave features or archeological sites under State control are generally prohibited. MDP (C8) Md. Code Ann., State Fin. & Proc. §§ 5A-342 to -343.

Select appropriate response:

- ( ) Project will be consistent with historical & archaeological policy Protecting Caves & Archaeological Sites
- (●) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no caves or archaeological sites within the action area.

Coastal Zone Management Program - Historical & Archaeological Policies Checklist

Historical and Archaeological Policy 3 – Protection of Burial Sites & Cemeteries. Neither human remains nor funerary objects may be removed from a burial site or cemetery, unless permission is granted by the local State's Attorney. Funerary objects may not be willfully destroyed, damaged, or defaced. MDP (C8) Md. Code Ann., Crim. Law §§ 10-401 to -404.

Select appropriate response:

- ○ Project will be consistent with historical & archaeological policy Protecting Burial Sites & Cemeteries.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no burial sites or cemeteries in the action area.

Coastal Zone Management Program - Living Aquatic Resources Policies Checklist

Name of Project:

Baltimore Harbor Anchorages and Channels Modification of Seagirt Loop Channel Feasibility Study

5.2 COASTAL RESOURCES

5.2.6 Living Aquatic Resources

Living Aquatic Resources Policy 1 – Protection of Rare, Threatened or Endangered Fish or Wildlife. Unless authorized by an Incidental Take Permit, no one may take a State listed endangered or threatened species of fish or wildlife. DNR (A4) Md. Code Ann., Nat. Res. §§ 4-2A-01 to -09; Md. Code Ann., Nat. Res. §§ 10-2A-01 to -09.

Select appropriate response:

- (●) Project will be consistent with policy Protecting Rare, Threatened or Endangered Fish or Wildlife.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Dredging of the Baltimore Harbor Approach Channels (including the Seagirt West Channel) will be restricted from March 1 to June 15. Spawning migrations are likely to occur in March/April/May, and no dredging occurs during this timeframe. NMFS concurred with the USACE determination that these activities are not likely to adversely affect any species listed as threatened or endangered including sea turtles, Atlantic sturgeon, and shortnose sturgeon under the ESA of 1973, as amended.

Living Aquatic Resources Policy 2 – Sustainable Harvesting of Fisheries. Fisheries shall be sustainably harvested. DNR (A4) Md. Code Ann., Nat. Res. § 4-215.

Select appropriate response:

- ( ) Project will be consistent with Sustainable Harvesting of Fisheries policy.
- (●) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

No fish shall be harvested during the project.

Coastal Zone Management Program - Living Aquatic Resources Policies Checklist

Living Aquatic Resources Policy 3 – Protection of State Fishery Sanctuaries & Management Resources. Any land or water resource acquired by the State to protect, propagate, or manage fish shall not be damaged. DNR (A4) Md. Code Ann., Nat. Res. § 4-410.**Select appropriate response:**

- ○ Project will be consistent with policy Protecting State Fishery Sanctuaries & Fishery Management Resources.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project will not occur in a State fishery sanctuary.

Living Aquatic Resources Policy 4 – Fish Passage. No activity will be permitted that impedes or prevents the free passage of any finfish, migratory or resident, up or down stream. DNR (A4) Md. Code Ann., Nat. Res. § 4-501 to -502.

Select appropriate response:

- ○ Project will be consistent with Fish Passage policy.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project will not impede fish passage.

Living Aquatic Resources Policy 5 – Time-of-Year Restrictions for Construction in Non-Tidal Waters. All in-stream construction in non-tidal waters is prohibited from October through April, inclusive, for natural trout waters and from March through May, inclusive, for recreational trout waters. In addition, the construction of proposed projects, which may adversely affect anadromous fish spawning areas, shall be prohibited in non-tidal waters from March 15 through June 15, inclusive. MDE (C2) COMAR 26.17.04.11B(5).

Select appropriate response:

- ○ Project will be consistent with policy regarding Time-of-Year Restrictions for Construction in Non-Tidal Waters.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project does not occur in non-tidal waters.

Coastal Zone Management Program - Living Aquatic Resources Policies Checklist

Living Aquatic Resources Policy 6 – Protection of Forest Buffers Along Trout Streams. Riparian forest buffers adjacent to waters that are suitable for the growth and propagation of self-sustaining trout populations shall be retained whenever possible. MDE (C5) COMAR 26.08.02.03-3F.

Select appropriate response:

- ○ Project will be consistent with policy Protecting Forest Buffers Along Trout Streams.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project will not occur in non-tidal waters with trout populations.

Living Aquatic Resources Policy 7 –Non-Tidal Habitat Protection & Mitigation. Projects in or adjacent to non-tidal waters shall not adversely affect aquatic or terrestrial habitat unless there is no reasonable alternative and mitigation is provided. MDE (C2) COMAR 26.17.04.11B(5).

Select appropriate response:

- ○ Project will be consistent with policy regarding Non-Tidal Habitat Protection & Mitigation.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project will not occur in non-tidal waters or impact any non-tidal aquatic or terrestrial habitat.

Coastal Zone Management Program - Living Aquatic Resources Policies Checklist

Living Aquatic Resources Policy 8 – Protection & Management of Submerged Aquatic Vegetation (SAV). The harvest, cutting, or other removal or eradication of submerged aquatic vegetation may only occur in a strip up to 60 feet wide surrounding a pier, dock, ramp, utility crossing, or boat slip to point of ingress in a marina, otherwise the activity must receive the approval of the Department of Natural Resources. No chemical may be used for this purpose, and the timing and method of the activity shall minimize the adverse impact on water quality and on the growth and proliferation of fish and aquatic grasses. MDE (A4) Md. Code Ann., Nat. Res. § 4-213.

Select appropriate response:

- ○ Project will be consistent with policy regarding Protection & Management of Submerged Aquatic Vegetation (SAV).
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project will not require harvesting, cutting, or removal of SAV.

Living Aquatic Resources Policy 9 – Protection of Natural Oyster Bars. Natural oyster bars in the Chesapeake Bay shall not be destroyed, damaged, or injured. DNR (A4) Md. Code Ann., Nat. Res. § 4-1118.1.

Select appropriate response:

- ○ Project will be consistent with policy Protecting Natural Oyster Bars.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no oyster bars in the project area.

Coastal Zone Management Program - Living Aquatic Resources Policies Checklist

Living Aquatic Resources Policy 10 – Protection of Oyster Aquaculture Leases. A person, other than the leaseholder, may not willfully and without authority catch oysters on any aquaculture or submerged land lease area, or willfully destroy or transfer oysters on this land in any manner. DNR (A4) Md. Code Ann., Nat. Res. § 4-11A-16(a).

Select appropriate response:

- ○ Project will be consistent with policy Protecting Oyster Aquaculture Leases.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no oyster bars in the project area.

Living Aquatic Resources Policy 11 – Genetically Modified Organisms (GMOs) Are Prohibited in State Waters. An organism into which genetic material from another organism has been experimentally transferred so that the host acquires the genetic traits of the transferred genes may not be introduced into State waters. DNR (A4) COMAR 08.02.19.03.

Select appropriate response:

- ○ Project will be consistent with policy Controlling Nonnative Aquatic Organisms.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project will not introduce any GMOs to State waters.

Living Aquatic Resources Policy 12 – Control of Nonnative Aquatic Organisms. Vectors for the introduction of nonnative aquatic organisms must be appropriately controlled to prevent adverse impacts on aquatic ecosystems. DNR (A4) Md. Code Ann., Nat. Res. § 4-205.1.

Select appropriate response:

- ○ Project will be consistent with policy Controlling Nonnative Aquatic Organisms in State Waters.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project will not introduce any nonnative aquatic organisms to State waters.

Living Aquatic Resources Policy 13 – Control of Snakehead Fish. Except as authorized by federal law, any live snakehead fish or viable eggs of snakehead fish of the Family Channidae may not be imported, transported, or introduced into the State. DNR (A4) COMAR 08.02.19.06.

Select appropriate response:

- ○ Project will be consistent with policy Controlling Snakehead Fish.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project will not import, transport, or introduce snakehead fish into the State.

Living Aquatic Resources Policy 14 – Nonnative Oysters Prohibited in State Waters. Nonnative oysters may not be introduced into State waters. DNR (A4) Md. Code Ann., Nat. Res. § 4-1008.**Living Aquatic**

Select appropriate response:

- ○ Project will be consistent with policy Prohibiting Nonnative Oysters in State Waters.
- ● Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project will not introduce any nonnative oysters to State waters.

Coastal Zone Management Program - Dredging & Disposal of Dredge Material Policy Checklist

Name of Project:

Baltimore Harbor Anchorages and Channels Modification of Seagirt Loop Channel Feasibility Study

5.3 COASTAL USES

5.3.5 Dredging and Disposal of Dredged Material

Dredging and Disposal of Dredged Material Policy 1 – Dredging for Non-Water Dependent Projects is Discouraged. A person may not dredge for projects that are non-water-dependent unless there is no practicable alternative. MDE (A3) Md. Code Ann., Envir. § 5-907(a); COMAR 26.24.03.02D.

Select appropriate response:

- ○ Project will be consistent with policy Discouraging Dredging for Non-Water Dependent Projects.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The project is water dependent.

Dredging and Disposal of Dredged Material Policy 2 – Dredging Requires An Environmental Analysis and Is Generally Discouraged. Dredging for sand, gravel, or fill material, including material for beach nourishment, is prohibited unless an environmental analysis determines that there will be no adverse impact on the environment and no alternative material is available. MDE (A3) COMAR 26.24.03.02C.

Select appropriate response:

- ○ Project will be consistent with policy requiring An Environmental Analysis for Dredging.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The environmental analysis shows the material is currently unsuitable for reuse however, the dredging proposed is for the access of large Post Panamax container ships to safely and efficiently enter and exit the Seagirt Loop.

Dredging and Disposal of Dredged Material Policy 3 – Dredging Shall Allow Flushing & Make Maximum Use of Existing Channels. Dredging of channels, canals, and boat basins shall be designed to provide adequate flushing and elimination of stagnant water pockets, and channel alignment shall make maximum use of natural or existing channels and bottom contours. MDE (B2) COMAR 26.24.03.02.

Select appropriate response:

- (●) Project will be consistent with policy requiring Dredging to Allow for Flushing & to Make Maximum Use of Existing Channels.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The proposed project area focuses on widening and deepening the West Seagirt Branch Channel of the existing Seagirt Loop Channel.

Dredging and Disposal of Dredged Material Policy 4 – Dredging Shall First Avoid & Then Minimize Habitat Impacts. The alignment of a channel shall first avoid and then minimize impacts to shellfish beds, submerged aquatic vegetation, and vegetated tidal wetlands. When feasible, the alignment shall be located the maximum distance feasible from shellfish beds, submerged aquatic vegetation, and other vegetated tidal wetlands. MDE (C6) COMAR 26.24.03.02.

Select appropriate response:

- ( ) Project will be consistent with policy requiring Dredging to First Avoid, & Then Minimize, Habitat Impacts.
- (●) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no shellfish beds, submerged aquatic vegetation and/or vegetated tidal wetlands within the action area.

Dredging and Disposal of Dredged Material Policy 5 – Dredging Time-of-Year Restrictions. Dredging is prohibited from February 15 through June 15 in areas where yellow perch have been documented to spawn and from March 1 through June 15 in areas where other important finfish species have been documented to spawn. MDE (A3) COMAR 26.24.02.06G.

Select appropriate response:

- (●) Project will be consistent with policy requiring Time-of-Year Restrictions for Dredging.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The proposed project will follow the Time of Year restrictions associated with anadromous fish.

Dredging and Disposal of Dredged Material Policy 6 – 500 –Yard Setback Restriction for Dredging Near Submerged Aquatic Vegetation (SAV). Dredging is prohibited within 500 yards of submerged aquatic vegetation from April 15 through October 15. MDE (A3) COMAR 26.24.02.06H.

Select appropriate response:

- ( ) Project will be consistent with policy requiring a 500-Yard Setback Restriction for Dredging near SAV.
- (●) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no SAV beds within 500 yards of the action area.

Dredging and Disposal of Dredged Material Policy 7 – Restrictions on Mechanical & Hydraulic Dredging Near Shellfish Areas. Within 500 yards of shellfish areas, mechanical and hydraulic dredging is prohibited from June 1 through September 30 and mechanical dredging is also prohibited from December 16 through March 14. MDE (A3) COMAR 26.24.02.06E.

Select appropriate response:

- ( ) Project will be consistent with policy Prohibiting Mechanical & Hydraulic Dredging within 500 Yards of Shellfish Areas.
- (●) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

There are no shellfish areas within 500 yards of the action area.

Coastal Zone Management Program - Dredging & Disposal of Dredge Material Policy Checklist

Dredging and Disposal of Dredged Material Policy 8 –Dredge Disposal Site Selection Criteria. New disposal sites for dredged material shall be selected based on the following hierarchy of criteria: (i) beneficial use and innovative reuse of dredged material; (ii) upland sites and other environmentally sound confined capacity; (iii) expansion of existing dredged material disposal capacity other than the Hart-Miller Island Dredged Material Containment Facility and areas collectively known as Pooles Island. MDE (A3) Md. Code Ann., Envir. § 5-1104.2(d).

Select appropriate response:

- (●) Project will be consistent with policy defining Dredge Disposal Site Selection Criteria.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Dredged material will be placed at the approved upland disposal site, Cox Creek DMCF.

Dredging and Disposal of Dredged Material Policy 9 – Dredge Material Disposal Facilities Shall Minimize Impacts. Disposal facilities for dredged material shall be designed to have the least impact on public safety, adjacent properties, and the environment. MDE (A3) COMAR 26.24.03.04A.

Select appropriate response:

- (●) Project will be consistent with policy requiring Dredge Material Disposal Facilities to Minimize Impacts.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Dredged material will be placed at the approved upland disposal site, Cox Creek DMCF.

Coastal Zone Management Program - Dredging & Disposal of Dredge Material Policy Checklist

Dredging and Disposal of Dredged Material Policy 10 – Sediment & Erosion Control Plan Shall Be Developed & Approved Prior to Upland Dredge Disposal. Prior to disposing of dredged material on upland areas, a sediment and erosion control plan must be developed and approved by the local soil conservation district or the Department of the Environment and the methods for protecting water quality and quantity must be identified in detail. MDE (A3) COMAR 26.24.03.03B.

Select appropriate response:

- ○ Project will be consistent with policy requiring Sediment & Erosion Control Plans to Be Developed & Approved Prior to Upland Dredge Disposal.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Dredged material will be placed at the approved upland disposal site, Cox Creek DMCF.

Dredging and Disposal of Dredged Material Policy 11 – Restrictions on Open Water Disposal of Dredge Material in Chesapeake Bay & Its Tributaries. A person may not redeposit in an unconfined manner dredged material into or onto any portion of the water or bottomland of the Chesapeake Bay or of the tidewater portion of any of the Chesapeake Bay's tributaries except when the project is undertaken to restore islands or underwater grasses, stabilize eroding shorelines, or create or restore wetlands or fish and shellfish habitats. MDE (A3) Md. Code Ann., Envir. § 5-1101(a), 5-1102.

Select appropriate response:

- ○ Project will be consistent with policy Restricting Open Water Disposal of Dredge Material in Chesapeake Bay and Its Tributaries.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Dredged material will be placed at the approved upland disposal site, Cox Creek DMCF.

Coastal Zone Management Program - Dredging & Disposal of Dredge Material Policy Checklist

Dredging and Disposal of Dredged Material Policy 12 – No Open Water Disposal of Dredge Material in Deep Trough of Chesapeake Bay. A person may not redeposit in an unconfined manner dredged material into or onto any portion of the bottomlands or waters of the Chesapeake Bay known as the deep trough. MDE (A3) Md. Code Ann., Envir. §§ 5-1101(a), -1102.

Select appropriate response:

- ○ Project will be consistent with policy Prohibiting Open Water Disposal of Dredge Material in Deep Trough of Chesapeake Bay.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Dredged material will be placed at the approved upland disposal site, Cox Creek DMCF.

Dredging and Disposal of Dredged Material Policy 13 – Restrictions on Open Water Disposal of Dredge Material from Baltimore Harbor. No material dredged from Baltimore Harbor shall be disposed of in an unconfined manner in the open water portion of Chesapeake Bay, or the tidal portions of its tributaries outside of Baltimore Harbor. MDE (A3) Md. Code Ann., Envir. § 5-1102(a).

Select appropriate response:

- ○ Project will be consistent with policy Restricting Open Water Disposal of Dredge Material from Baltimore Harbor.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

Dredged material will be placed at the approved upland disposal site, Cox Creek DMCF.

Name of Project:

Baltimore Harbor Anchorages and Channels Project Modification of Seagirt Loop Channels

5.3 COASTAL USES

5.3.6 Navigation

Navigation Policy 1 – Piers Are Preferred to Dredging in Providing Access to Deep Waters. Navigational access projects shall when possible be designed to use piers to reach deep waters rather than dredging. MDE (B2) COMAR 26.24.03.02.

Select appropriate response:

- ○ Project will be consistent with policy Preferring Piers to Dredging in Providing Access to Deep Waters.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC project involves dredging of shipping channels to maintain depth for larger ships and not access to deeper water from the land.

Navigation Policy 2 – Central Access Channels with Short Spurs Are Preferred to Multiple Separate Channels. Navigational access channels to serve individual or small groups of riparian landowners shall be designed to prevent unnecessary channels**.** A central access channel with short spur channels shall be considered over separate access channels for each landowner. MDE (B2) COMAR 26.24.03.02.

Select appropriate response:

- ○ Project will be consistent with policy that Prefers Central Access Channels with Short Spurs to Multiple Separate Channels.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC projects is for the larger Post Panamax container ships and not smaller vessels. These ships use the Baltimore Harbor access channels to the Port of Baltimore.

Navigation Policy 3 – Channels Shall Minimize Impacts to Tidal Wetlands & Underwater Topography. Navigational access channels shall be designed to minimize alteration of tidal wetlands and underwater topography. MDE (B2) COMAR 26.24.03.02.

Select appropriate response:

- (●) Project will be consistent with policy requiring that Channels Minimize Impacts to Tidal Wetlands & Underwater Topography.
- ( ) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC project design team investigated geotechnical characteristics in the existing shipping channels and made design recommendations based on stability analyses.

Navigation Policy 4 - New & Expanded Marinas, with a Preference Given to Expansion of Existing Facilities, Shall Be Located in Strongly Flushed Waters More Than 4.5 Feet Deep at Mean Low Tide & Not Adversely Impact Habitat. New or expanded facilities for the mooring, docking, or storing of more than ten vessels on tidal navigable waters shall be located on waters with strong flushing characteristics and may not be located in areas where the natural depth is 4.5 feet or less at mean low water, and any of the following will be adversely affected: aquatic vegetation, productive macroinvertebrate communities, shellfish beds, fish spawning or nursery areas, rare, threatened, or endangered species, species in need of conservation, or historic waterfowl staging areas. Expansion of existing facilities is favored over new development. MDE (A1) COMAR 26.24.04.03.

Select appropriate response:

- ( ) Project will be consistent with policy requiring that New & Expanded Marinas, with a Preference Given to Expansion of Existing Facilities, Be Located in Strongly Flushed Waters More Than 4.5 Feet Deep at Mean Low Tide & Avoid Adverse Impacts to Habitat.
- (●) Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC does not propose any construction of marinas.

Navigation Policy 5 – Restrictions on Placement of Mooring Buoys. The location of buoys for the mooring of boats shall not be located in designated private or public shellfish areas, cable-crossing areas, navigational channels, in other places in where general navigation would be impeded or obstructed, or public ship anchorage. The location of mooring buoys should not obstruct the riparian access of adjacent property owners or hinder the orderly access to or use of the waterways by the general public. DNR (A1) COMAR 08.04.13.02.

Select appropriate response:

- ○ Project will be consistent with policy Restricting Placement of Mooring Buoys.
- ◉ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The BHAC does not propose the placement of mooring buoys.

Navigation Policy 6 – Noise Limit for Vessels on State Waters. Vessels operated on state waters should not exceed a noise level of 90dB(a). DNR (A1) COMAR 08.18.03.03.

Select appropriate response:

- ◉ Project will be consistent with policy Setting Noise Limit for Vessels on State Waters.
- ○ Not Applicable.

Describe situation and/or actions to make project or activity consistent with the above policy:

The environment shall be free from noise which may jeopardize health, general welfare, or property, or which degrades the quality of life. MDE (C9) COMAR 26.02.03.02.

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BALTIMORE HARBOR ANCHORAGES AND CHANNELS (BHAC)

MODIFICATION OF SEAGIRT LOOP CHANNEL

FEASIBILITY STUDY

FINAL INTEGRATED FEASIBILITY REPORT & ENVIRONMENTAL ASSESSMENT

APPENDIX A3:

Essential Fish Habitat (EFH) and Fish and Wildlife Coordination Act (FWCA) Assessment

Table of Contents

List of Tables

1. Introduction

This document provides an essential fish habitat (EFH) evaluation for the Baltimore Harbor Anchorages and Channels (BHAC) Project Modification of Seagirt Loop Channels (Seagirt Study), Maryland. The BHAC project was completed in 1998 and authorized for construction in Section 101(a)(22) of the Water Resources Development Act of 1999. The BHAC project consists of the main navigation access channels to the Port of Baltimore (Port) facilities at Dundalk, Seagirt, and South Locust Point Marine Terminals and the federally authorized anchorages serving vessels in Baltimore Harbor. The Seagirt Study is being completed to determine whether improvements to the BHAC project channels would result in improved navigation efficiencies at the Port to meet future demand capacity at the Port facilities, including efficient handling of increased container volume at Seagirt Marine Terminal and faster and safer movement of vessels transiting the channels.

This analysis and the corresponding Final Integrated Feasibility Report and Environmental Assessment (Final Feasibility Report/EA) will demonstrate that the project will not cause significant impacts to EFH in Baltimore Harbor.

2. Location

The study area consists of 32-square miles of Baltimore Harbor and the associated Port of Baltimore (Port). The study area is a highly developed industrial area zoned as a Marine Industrial District, an area where maritime shipping can be conducted without intrusion of non-industrial uses and where investment in maritime infrastructure and related jobs is encouraged. The Port marine facilities include various private and public terminals. The Port is one of only two U.S. East Coast ports with both a 50-foot-deep channel and 50-foot-deep berth, allowing it to accommodate some of the largest container ships in the world. Ships reach the Port by traveling one of two routes along the Chesapeake Bay navigational channel system: the C&D Canal linking the Delaware River with the northern end of the Chesapeake Bay, or the 50-Foot Channel, which extends 150 nautical miles from the mouth of the Chesapeake Bay to the Port. The final study area focuses on the modification of the Seagirt Loop Channel (which includes the West Dundalk Branch and West Seagirt Branch Channels).

3. Essential Fish Habitat

An EFH is defined under the Magnuson-Stevens Fishery Conservation and Management Act (Public Law 94-265), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The Sustainable Fisheries Act requires that EFH be identified for those species actively

managed under federal fishery management plans. This includes species managed by the eight regional Fishery Management Councils, established under the Magnuson-Stevens Fishery Conservation and Management Act, as well as those managed by the NMFS under fishery management plans developed by the Secretary of Commerce.

EFH designations emphasize the importance of habitat protection to healthy fisheries and serve to protect and conserve the habitat of marine, estuarine, and anadromous finfish; mollusks; and crustaceans. EFH includes both the water column (including its physical, chemical, and biological growth properties) and its underlying substrate (including sediment, hard bottom, and other submerged structures). EFH is designated for a species' complete life cycle, including spawning, feeding, and growth to maturity, and may be specific to each life stage (e.g., eggs, larvae).

3.1. Essential Fish Habitat in Baltimore Harbor

Species for which EFH have been designated in Baltimore Harbor are shown in the table below. These designations are based on the NOAA Estuarine Living Marine Resource program, the EFH habitat mapper tool and accompanying text descriptions, and NOAA EFH source documents.

Table 1: Essential Fish Habitat Species and Life Stage

SPECIES	LIFE STAGE			
	EGGS	LARVAE	JUVENILES	ADULTS
Windowpane flounder (*Scophthalmus aquosus*)			X	X
Bluefish (*Pomatomus saltatrix*)			X	
Atlantic butterfish (*Peprilus triacanthus*)	X	X	X	X
Black sea bass (*Centropristis striata*)			X	X

X = EFH has been designated for a given species and life stage.

In addition, several important prey species also use this area including spot (*Leiostomus xanthurus*), bay anchovy (*Anchoa mitchilli*), and blue crab (*Callinectes sapidus*). Prey species are a component of EFH because impacts to their populations can influence the productivity of commercially important species (VIMS 2021).

3.2. Impacts to Essential Fish Habitat

Under the Recommended Plan, the following impacts to EFH are anticipated:

- Dredging is scheduled to occur over two events, with both occurring over a three-month duration, increasing the likelihood of direct impacts to EFH species. Direct impacts

include mortality or injury of individual fishes (adults, sub-adults, juveniles, larvae, and/or eggs, depending on species, time of year, location, etc.); however, due to the nature of the study area and the timing of the planned dredging (fall/winter), impacts are expected to be minimal.

- Approximately 1.9 million cubic yards of material will be removed, causing temporary degradation on EFH from increased turbidity (extending 2,400 feet) and underwater noise during dredging operations that would occur over approximately 150 nonconsecutive workdays scheduled over three calendar years.
    - Total suspended solids (TSS) levels expected for mechanical dredging (up to 445.0 mg/L) are below those shown to have adverse effects on fish (typically up to 1,000.0 mg/L) (NOAA 2021).
    - Although noise can also cause acoustically induced stress to fish in their habitats, increases in noise associated with dredging activities, increased ship traffic, and work at Port facilities are expected to occur over time with or without the proposed project (CENAB 2001). Efficiencies in ship design and handling could potentially result in a decrease in noise impacts related to vessels (CENAB 2001).
- Increased channel depths have the potential to result in permanent localized decreases in dissolved oxygen (DO); however, since new work will be occurring in deep draft channels, additional DO impacts are expected to be minimal.
- The project is not expected to have a significant impact on the number of ships calling but is focused on navigation improvements to ensure safety and efficiency of the post-Panamax vessels that do to call at the Seagirt Marine Terminal; therefore, vessel strikes are not expected to increase significantly from the Future Without Project Condition (FWOP).
- Impacts to benthic habitats will involve the potential loss and displacement of non-motile benthic organisms at the dredging site. Past studies have indicated that benthic organisms recolonize disturbed areas relatively quickly; therefore, new work dredging will have additional temporary and minor impacts.
- Impacts to benthos may further impact other trophic levels within the food chain, including prey species. However, since the actual channel widths encompass a fraction of the entire water body, and similar habitat occurs immediately adjacent to the channels, overall impacts to prey species in the region during maintenance dredging are temporary and minor (CENAB 2016).

3.3. Findings of the Essential Fish Habitat Evaluation

The U.S. Army Corps of Engineers has determined that adverse effects on EFH and EFH species from implementation of the Recommended Plan are not substantial and are generally similar to those recognized under the No Action Alternative/FWOP. The study area is considered degraded with limited habitat value for EFH. Impacts can be minimized by continuing to dredge (both maintenance and new work) for short durations and during the fall/winter timeframe. For detailed information on impacts to EFH, refer to the attached NOAA Fisheries Greater Atlantic Regional Fisheries Office Essential Fish Habitat (EFH) Assessment & Fish and Wildlife Coordination Act (FWCA) Consultation Worksheet (Worksheet) and Section 6.5 of the Draft Feasibility Report/EA. Information on fish usage in the attached Worksheet is derived from monitoring data in the Baltimore Harbor - Major Modification Request for Seagirt Terminal Berth 3 (MDOT MPA 2018).

4. References

U.S. Army Corps of Engineers, Baltimore District (CENAB). 2001. Baltimore Harbor Anchorages and Channels, Maryland Limited Re-evaluation Report.

CENAB. 2016. Baltimore Harbor and Channels Dredged Material Management Plan Update Draft Final Report.

Maryland Department of Transportation Maryland Port Administration (MDOT MPA). 2018. Tidal Wetlands License (TWL) Number 14-0371 (R3): Harbor Wide Permit for multiple MDOT MPA sites within the Baltimore Harbor - Major Modification Request (Baltimore Harbor - Major Modification Request for Seagirt Terminal Berth 3).

National Oceanic and Atmospheric Administration (NOAA). 2020. "Sea Level Rise." Accessed October 31, 2021. https://coast.noaa.gov/slr/#/layer/slr/3/9072961.784207689/3649887.751760149/13/satellite/33/0.36/2050/high/midAccretion

NOAA National Marine Fisheries Service (NMFS). 1996. Magnuson-Stevens Fishery Conservation and Management Act. 16 U.S.C. §§ 1801.

NOAA NMFS. 2013. Determination from NOAA Re: Dredging of Deep Draft Navigation Channels and Material Placement in Chesapeake Bay, Maryland.

NOAA NMFS. 2021. “Section 7 Effect Analysis: Turbidity in the Greater Atlantic Region.” Accessed October 18, 2021. https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-effect-analysis-turbidity-greater-atlantic-region

U.S. Army Corps of Engineers (USACE). Baltimore Harbor Anchorages and Channels, Maryland. January 1997.

USACE. Baltimore Harbor Anchorages and Channels, Maryland. Limited Re-evaluation Report. November 2001.

USACE. Draft Baltimore Harbor and Channels Dredged Material Management Plan and Tiered Environmental Impact Statement. February 2005.

Virginia Institute of Marine Science (VIMS). 2021. “Interactive SAV Map.” Accessed on October 18, 2021. https://www.vims.edu/research/units/programs/sav/access/maps/index.php

NOAA Fisheries Greater Atlantic Regional Fisheries Office Essential Fish Habitat (EFH) Assessment & Fish and Wildlife Coordination Act (FWCA) Consultation Worksheet

August 2021 rev.

Authorities

The Magnuson Stevens Fishery Conservation and Management Act (MSA) requires federal agencies to consult with NOAA Fisheries on any action or proposed action authorized, funded, or undertaken by such agency that may adversely affect essential fish habitat (EFH) identified under the MSA. This process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in the consultation process.

The Fish and Wildlife Coordination Act (FWCA) requires that all federal agencies consult with NOAA Fisheries when proposed actions might result in modifications to a natural stream or body of water. The FWCA also requires that federal agencies consider the effects that these projects would have on fish and wildlife and must also provide for improvement of these resources. Under the FWCA, 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 federally managed and do not have designated EFH.

It is important to note that these consultations take place between NOAA Fisheries and federal action agencies. **As a result, EFH assessments, including this worksheet, must be provided to us by the federal agency, not by permit applicants or consultants.**

Use of the Worksheet

This worksheet can serve as an EFH assessment for **Abbreviated EFH Consultations**, and as a means to provide information on potential effects to other NOAA trust resources considered under the FWCA. An abbreviated consultation allows us to determine quickly whether, and to what degree, a federal action may adversely affect EFH. Abbreviated consultation procedures can be used when federal actions do not have the potential to cause substantial adverse effects on EFH and when adverse effects could be alleviated through minor modifications.

The intent of the EFH worksheet is to provide a guide for determining the information needed to fully assess the effects of a proposed action on EFH. In addition, the worksheet may be used as a tool to assist you in developing a more comprehensive EFH assessment for larger projects that may have more substantial adverse effects to EFH. However, for large, complex projects that have the potential for significant adverse effects, an **Expanded EFH Consultation** may be warranted and the use of this worksheet alone is not appropriate as your EFH assessment.

An **adverse effect** is any impact that reduces the quality and/or quantity of EFH. Adverse effects 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. 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.

Consultation under the MSA is not required if there is no adverse effect on EFH or if no EFH has been designated in the project area. However, because the definition of "adverse effect" is very broad, most in-water work will result in some level of adverse effect requiring consultation with us, even if the impact is temporary or the overall result of the project is habitat restoration or enhancement. It is important to remember that an adverse effect determination is a trigger to consult with us. It does not mean that a project cannot proceed as proposed, or that project modifications are necessary. An adverse effect determination under the EFH provisions of the MSA simply means that the effects of the proposed action on EFH must be evaluated to determine if there are ways to avoid, minimize, or offset adverse effects. Additional details on EFH consultations, tools, and resources, including frequently asked questions can be found on our website.

Instructions

This worksheet should be used as your EFH assessment for **Abbreviated EFH Consultations** or as a guide to develop your EFH assessment. It is not appropriate to use this worksheet as your EFH assessment for large, complex projects, or those requiring an Expanded EFH Consultation.

When completed fully and with sufficient information to clearly describe the activities proposed, habitats affected, and project impacts, as well as the measures taken to avoid, minimize or offset any unavoidable adverse effects, this worksheet provides us with required components of an EFH assessment including:

1. A description of the proposed action.
2. An analysis of the potential adverse effects on EFH and the federally managed species.
3. The federal agency's conclusions regarding the effects of the action on EFH.
4. Proposed mitigation, if applicable.

When completing this worksheet and submitting information to us, it is important to ensure that sufficient information is provided to clearly describe the proposed project and the activities proposed. At a minimum, this should include the public notice (if applicable) or project application and project plans showing:

- location map of the project site with area of impact.
- existing and proposed conditions.
- all in-water work and the location of all proposed structures and/or fill.
- all waters of the U.S. on the project site with mean low water (MLW), mean high water (MHW), high tide line (HTL), and water depths clearly marked.
- Habitat Areas of Particular Concern (HAPCs).
- sensitive habitats mapped, including special aquatic sites (submerged aquatic vegetation, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), hard bottom or natural rocky habitat areas, and shellfish beds.
- site photographs, if available.

Your analysis of effects **should focus on impacts that reduce the quality and/or quantity of the habitat or result in conversion to a different habitat type** for all life stages of species with designated EFH within the action area. Simply stating that fish will move away or that the project

will only affect a small percentage of the overall population is not a sufficient analysis of the effects of an action on EFH. Also, since the intent of the EFH consultation is to evaluate the direct, indirect, individual and cumulative effects of a particular federal action on EFH and to identify options to avoid, minimize or offset the adverse effects of that action, is it not appropriate to conclude that an impact is minimal just because the area affected is a small percentage of the total area of EFH designated. The focus of the consultation is to reduce impacts resulting from the activities evaluated in the assessment. Similarly, a large area of distribution or range of the fish species is also not appropriate rationale for concluding the impacts of a particular project are minimal.

Use the information on the our EFH consultation website and NOAA's EFH Mapper to complete this worksheet. The mapper is a useful tool for viewing the spatial distribution of designated EFH and HAPCs. Because summer flounder HAPC (defined 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") does not have region-wide mapping, local sources and on-site surveys may be needed to identify submerged aquatic vegetation beds within the project area. The full designations for each species may be viewed as PDF links provided for each species within the Mapper, or via our website links to the New England Fishery Management Councils Omnibus Habitat Amendment 2 (Omnibus EFH Amendment), the Mid-Atlantic Fishery Management Councils FMPs (MAMFC - Fish Habitat), or the Highly Migratory Species website. Additional information on species specific life histories can be found in the EFH source documents accessible through the Habitat and Ecosystem Services Division website. This information can be useful in evaluating the effects of a proposed action. Habitat and Ecosystem Services Division (HESD) staff have also developed a technical memorandum *Impacts to Marine Fisheries Habitat from Non-fishing Activities in the Northeastern United States,* NOAA Technical Memorandum NMFS-NE-209 to assist in evaluating the effects of non-fishing activities on EFH. If you have questions, please contact the HESD staff member in your area to assist you.

Federal agencies or their non-federal designated lead agency should email the completed worksheet and necessary attachments to the HESD New England (ME, NH, MA, CT, RI) or Mid- Atlantic (NY, NJ, PA, DE, MD, VA) Branch Chief and the regional biologist listed on the Contact Regional Office Staff section on our EFH consultation website and listed below.

We will provide our EFH conservation recommendations under the MSA, and recommendations under the FWCA, as appropriate, within 30 days of receipt of a **complete** EFH assessment for an abbreviated consultation. Please ensure that the EFH worksheet is completed in full and includes detail to minimize delays in completing the consultation. If we are unable to assess potential impacts based on the information provided, we may request additional information necessary to assess the effects of the proposed action on our trust resources before we can begin a consultation. If the worksheet is not completely filled out, it may be returned to you for completion. **The EFH consultation and our response clock does not begin until we have sufficient information upon which to consult**.

If this worksheet is not used, you should include all the information required to complete this worksheet in your EFH assessment. The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. You may need to prepare a more detailed EFH assessment for more substantial or complex projects to fully characterize the effects of the project and the avoidance and minimization of impacts to EFH. The format of the EFH worksheet may not be sufficient to incorporate the extent of detail required for large-scale projects, and a separate EFH assessment may be required.

Regardless of the format, you should include an analysis as outlined in this worksheet for an expanded EFH assessment, along with any additional necessary information including:

- the results of on-site inspections to evaluate habitat and site-specific effects.
- the views of recognized experts on habitat or the species that may be affected.
- a review of pertinent literature and related information.
- an analysis of alternatives that could avoid or minimize adverse effects on EFH.

For these larger scale projects, interagency coordination meetings should be scheduled to discuss the contents of the EFH consultation and the site-specific information that may be needed in order to initiate the consultation.

Please contact our Greater Atlantic Regional Fisheries Office, Protected Resources Division regarding potential impacts to marine mammals or threatened and endangered species and the appropriate consultation procedures.

HESD Contacts*

New England - ME, NH, MA, RI, CT

Chris Boelke, Branch Chief	christopher.boelke@noaa.gov
Mike Johnson - ME, NH	mike.r.johnson@noaa.gov
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Mid-Atlantic - NY, NJ, PA, MD, VA

Karen Greene, Branch Chief	karen.greene@noaa.gov
Jessie Murray - NY, Northern NJ (Monmouth Co. and north)	jessie.murray@noaa.gov
Keith Hanson - NJ (Ocean Co. and south), DE and PA, Mid-Altantic wind	keith.hanson@noaa.gov
Maggie Sager - NJ (Ocean Co. and south), DE and PA	lauren.m.sager@noaa.gov
Jonathan Watson - MD, DC	jonathan.watson@noaa.gov
David O'Brien - VA	david.l.obrien@noaa.gov

Ecosystem Management (Wind/Aquaculture)

Peter Burns, Branch Chief	peter.burns@noaa.gov
Alison Verkade (NE Wind)	alison.verkade@noaa.gov
Susan Tuxbury (wind coordinator)	susan.tuxbury@noaa.gov

***Please check for the most current staffing list on our contact us page prior to submitting your assessment.**

EFH Assessment Worksheet rev. August 2021

Please read and follow all of the directions provided when filling out this form.

1. General Project Information

Date Submitted: July 2022

Project/Application Number: N/A

Project Name: Baltimore Harbor Anchorages and Channels, Modification of Seagirt Loop Channel Feasibility Study

Project Sponsor/Applicant: U.S. Army Corps of Engineers, Baltimore District and the Maryland Port Administration (non-federal sponsor)

Federal Action Agency (or state agency if the federal agency has provided written notice delegating the authority[1]): U.S. Army Corps of Engineers, Baltimore District

Fast-41: Yes ☐ No ☑

Action Agency Contact Name: Kristina May

Contact Phone: 410-962-6100 Contact Email: kristina.k.may@usace.army.mil

Address, City/Town, State:

U.S. Army Corps of Engineers, Baltimore District
2 Hopkins Plaza
Planning Division, 10th Floor
Baltimore, MD 21201

2. Project Description

[2]Latitude: 39°15'20.3"N Longitude: 76°33'19.7"W

Body of Water (e.g., HUC 6 name): Patapsco River

Project Purpose:

The purpose of the Baltimore Harbor Anchorages and Channels (BHAC) Modification of Seagirt Loop Channel Feasibility Study is to identify technically feasible, economically justifiable, and environmentally acceptable recommendations for a federal navigation improvement project in Baltimore Harbor.

Project Description:

The study is being completed to determine whether improvements to the West Seagirt Loop Branch channel (deepening and widening) would result in improved navigation efficiencies at the Port to meet future demand capacity at the Port facilities, including efficient handling of increased container volume at Seagirt Marine Terminal (SMT) and faster and safer movement of vessels transiting the channels.

Anticipated Duration of In-Water Work including planned Start/End Dates and any seasonal restrictions proposed to be included in the schedule:

In-water work will occur for approximately 150 nonconsecutive workdays scheduled over three calendar years. Additional periodic maintenance dredging will also occur. All work will occur during the fall/winter time frame.

[1] A federal agency may designate a non-Federal representative to conduct an EFH consultation by giving written notice of such designation to NMFS. If a non-federal representative is used, the Federal action agency remains ultimately responsible for compliance with sections 305(b)(2) and 305(b)(4)(B) of the Magnuson-Stevens Act. [2] Provide the decimal, or the degrees, minutes, seconds values for latitude and longitude using the World Geodetic System 1984 (WGS84) and negative degree values where applicable.

3. Site Description

EFH includes the biological, chemical, and physical components of the habitat. This includes the substrate and associated biological resources (e.g., benthic organisms, submerged aquatic vegetation, shellfish beds, salt marsh wetlands), the water column, and prey species.

Is the project in designated EFH[3]? ☑ Yes ☐ No

Is the project in designated HAPC? ☐ Yes ☑ No

Does the project contain any Special Aquatic Sites[4]? ☐ Yes ☑ No

Is this coordination under FWCA only? ☐ Yes ☑ No

Total area of impact to EFH (indicate sq ft or acres): 5,525,806 sq ft

Total area of impact to HAPC (indicate sq ft or acres): N/A

Current range of water depths at MLW	Salinity range (PPT):	Water temperature range (°F):
-45 MLLW	7.6 - 10	34 - 84

[3]Use the tables in Sections 5 and 6 to list species within designated EFH or the type of designated HAPC present. See the worksheet instructions to find out where EFH and HAPC designations can be found. [4] Special aquatic sites (SAS) are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. They include sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle and pool complexes (40 CFR Subpart E). If the project area contains SAS (i.e. sanctuaries and refuges, wetlands, mudflats, vegetated shallows/SAV, coral reefs, and/or riffle and pool complexes, describe the SAS, species or habitat present, and area of impact.

4. Habitat Types

In the table below, select the location and type(s) for each habitat your project overlaps. For each habitat type selected, indicate the total area of expected impacts, then what portion of the total is expected to be temporary (less than 12 months) and what portion is expected to be permanent (habitat conversion), and if the portion of temporary impacts will be actively restored to pre- construction conditions by the project proponent or not. A project may overlap with multiple habitat types.

Habitat Location	Habitat Type	Total impacts (lf/ft²/ft³)	Temporary impacts (lf/ft²/ft³)	Permanent impacts (lf/ft²/ft³)	Restored to pre-existing conditions?*
Estuarine	Substrate (silt/mud)	5,525,806 ft²	0	5,525,806 ft²	No
Estuarine	Water column	2,400 lf	2,400 lf	0	Yes
Select one	Select One				Select one
Select one	Select One				Select one
Select one	Select One				Select one
Select one	Select One				Select one
Select one	Select One				Select one
Select one	Select One				Select one

*Restored to pre-existing conditions means that as part of the project, the temporary impacts will be actively restored,such as restoring the project elevations to pre-existing conditions and replanting. It does not include natural restoration or compensatory mitigation.

Submerged Aquatic Vegetation (SAV) Present?:

Yes: ☐ No: ☑

If the project area contains SAV, or has historically contained SAV, list SAV species and provide survey results including plans showing its location, years present and densities if available. Refer to Section 12 below to determine if local SAV mapping resources are available for your project area.

The depth of the site does not support SAV.

Sediment Characteristics:

The level of detail required is dependent on your project – e.g., a grain size analysis may be necessary for dredging. In addition, if the project area contains rocky/hard bottom habitat [6](pebble, cobble, boulder, bedrock outcrop/ledge) identified as Rocky (coral/rock), Substrate (cobble/gravel), or Substrate (rock) above, describe the composition of the habitat using the following table.

Substrate Type* (grain size)	Present at Site? (Y/N)	Approximate Percentage of Total Substrate on Site
Silt/Mud (<0.063mm)	Yes	100
Sand (0.063-2mm)	Select one	
Rocky: Pebble/Gravel /Cobble(2-256mm)**	Select one	
Rocky: Boulder (256-4096mm)**	Select one	
Rocky: Coral	Select one	
Bedrock**	Select one	

[6]The type(s) of rocky habitat will help you determine if the area is cod HAPC.

* Grain sizes are based on Wentworth grain size classification scale for granules, pebbles, cobbles, and boulders.

** Sediment samples with a content of 10% or more of pebble-gravel-cobble and/or boulder in the top layer (6-12 inches) should be delineated and material with epifauna/macroalgae should be differentiated from bare pebble-gravel-cobble and boulder.

If no grain size analysis has been conducted, please provide a general description of the composition of the sediment. If available please attach images of the substrate.

The site is characterized by very fine silt and clay sediments consisting of 90 to 95 percent silts and clays. Natural water contents generally exceed 100 percent, indicating that sediments are in a liquid state.

Diadromous Fish (migratory or spawning habitat- identify species under Section 10 below):

Yes: ☑ No: ☐

5. EFH and HAPC Designations

Within the Greater Atlantic Region, EFH has been designated by the New England, Mid-Atlantic, and South Atlantic Fisheries Management Councils and NOAA Fisheries. Use the EFH mapper to determine if EFH may be present in the project area and enter all species and life stages that have designated EFH. Optionally, you may review the EFH text descriptions linked to each species in the EFH mapper and use them to determine if the described habitat is present at your project site. If the habitat characteristics described in the text descriptions do not exist at your site, you may be able to exclude some species or life stages from additional consideration. For example, the water depths at your site are shallower that those described in the text description for a particular species or life stage. We recommend this for larger projects to help you determine what your impacts are.

Species Present	EFH is designated/mapped for:				What is the source of the EFH information included?
	EFH: eggs	EFH: larvae	EFH: juvenile	EFH: adults/ spawning adults	
Atlantic butterfish	☑	☑	☑	☑	EFH Mapper
Black sea bass	☐	☐	☑	☑	EFH Mapper
bluefish	☐	☐	☑	☐	EFH Mapper
windowpane flounder	☐	☐	☑	☑	EFH Mapper
Select One	☐	☐	☐	☐	Select One
Select One	☐	☐	☐	☐	Select One
Select One	☐	☐	☐	☐	Select One
Select One	☐	☐	☐	☐	Select One
Select One	☐	☐	☐	☐	Select One
Select One	☐	☐	☐	☐	Select One
Select One	☐	☐	☐	☐	Select One

6. Habitat Areas of Particular Concern (HAPCs)

HAPCs are subsets of EFH that are important for long-term productivity of federally managed species. HAPCs merit special consideration based their ecological function (current or historic), sensitivity to human-induced degradation, stresses from development, and/or rarity of the habitat.While many HAPC designations have geographic boundaries, there are also habitat specific HAPC designations for certain species, see note below. Use the EFH mapper to identify HAPCs within your project area. Select all that apply.

☐	Summer flounder: SAV[7]	☐	Alvin & Atlantis Canyons
☐	Sandbar shark	☐	Baltimore Canyon
☐	Sand Tiger Shark (Delaware Bay)	☐	Bear Seamount
☐	Sand Tiger Shark (Plymouth-Duxbury-Kingston Bay)	☐	Heezen Canyon
☐	Inshore 20m Juvenile Cod[8]	☐	Hudson Canyon
☐	Great South Channel Juvenile Cod	☐	Hydrographer Canyon
☐	Northern Edge Juvenile Cod	☐	Jeffreys & Stellwagen
☐	Lydonia Canyon	☐	Lydonia, Gilbert & Oceanographer Canyons
☐	Norfolk Canyon (Mid-Atlantic)	☐	Norfolk Canyon (New England)
☐	Oceanographer Canyon	☐	Retriever Seamount
☐	Veatch Canyon (Mid-Atlantic)	☐	Toms, Middle Toms & Hendrickson Canyons
☐	Veatch Canyon (New England)	☐	Washington Canyon
☐	Cashes Ledge	☐	Wilmington Canyon
☐	Atlantic Salmon		

[7] Summer flounder HAPC is defined 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. In locations where native species have been eliminated from an area, then exotic species are included. Use local information to determine the locations of HAPC.

[8] The purpose of this HAPC is to recognize the importance of inshore areas to juvenile Atlantic cod. The coastal areas of the Gulf of Maine and Southern New England contain structurally complex rocky-bottom habitat that supports a wide variety of emergent epifauna and benthic invertebrates. Although this habitat type is not rare in the coastal Gulf of Maine, it provides two key ecological functions for juvenile cod: protection from predation, and readily available prey. See EFH mapper for links to text descriptions for HAPCs.

7. Activity Details

Select all that apply	Project Type/Category
☐	Agriculture
☐	Aquaculture - List species here:
☐	Bank/shoreline stabilization (e.g., living shoreline, groin, breakwater, bulkhead)
☐	Beach renourishment
☑	Dredging/excavation
☐	Energy development/use e.g., hydropower, oil and gas, pipeline, transmission line, tidal or wave power, wind
☐	Fill
☐	Forestry
☐	Infrastructure/transportation (e.g., culvert construction, bridge repair, highway, port, railroad)
☐	Intake/outfall
☐	Military (e.g., acoustic testing, training exercises)
☐	Mining (e.g., sand, gravel)
☐	Overboard dredged material placement
☐	Piers, ramps, floats, and other structures
☐	Restoration or fish/wildlife enhancement (e.g., fish passage, wetlands, mitigation bank/ILF creation)
☐	Survey (e.g., geotechnical, geophysical, habitat, fisheries)
☐	Water quality (e.g., storm water drainage, NPDES, TMDL, wastewater, sediment remediation)
☐	Other:

8. Effects Evaluation

Select all that apply	Potential Stressors Caused by the Activity	Select all that apply and if temporary[9] or permanent		Habitat alterations caused by the activity
		Temp	Perm	
☑	Underwater noise	☐	☑	Water depth change
☑	Water quality/turbidity/ contaminant release	☐	☐	Tidal flow change
☑	Vessel traffic/barge grounding	☐	☐	Fill
☐	Impingement/entrainment	☐	☐	Habitat type conversion
☐	Prevent fish passage/spawning	☐	☐	Other:
☑	Benthic community disturbance	☐	☐	Other:
☑	Impacts to prey species			

[9] Temporary in this instance means during construction. [10] Entrainment is the voluntary or involuntary movement of aquatic organisms from a water body into a surface diversion or through, under, or around screens and results in the loss of the organisms from the population. Impingement is the involuntary contact and entrapment of aquatic organisms on the surface of intake screens caused when the approach velocity exceeds the swimming capability of the organism.

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Details - project impacts and mitigation

Briefly describe how the project would impact each of the habitat types selected above and the amount (i.e., acreage or sf) of each habitat impacted. Include temporary and permanent impact descriptions and direct and indirect impacts. For example, dredging has a direct impact on bottom sediments and associated benthic communities. The turbidity generated can result in a temporary impact to water quality which may have an indirect effect on some species and habitats such as winter flounder eggs, SAV or rocky habitats. The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. Attach supplemental information if necessary.

Dredging activity in the study area has the potential to directly impact EFH species through mortality or injury of individual fishes (adults, sub-adults, juveniles, larvae, and/or eggs, depending on species, time of year, location, etc.). Approximately 1.8 million cubic yards of new dredged material will be removed causing temporary degradation on EFH from increased turbidity and underwater noise generated from the dredge during dredging operations. Work is scheduled to occur over 150 nonconsecutive workdays scheduled over three calendar years. Increased channel depths have the potential to result in permanent localized decreases in DO; however, since new work will be occurring in deep draft channels, additional impacts will be minimal. It is anticipated that impacts to benthic habitats will involve the potential loss and displacement of non-motile benthic organisms at the dredging site, so dredging will have additional temporary and minor impacts. As construction and routine maintenance dredging may suppress recolonization of certain benthic organisms, impacts to to other trophic levels within the food chain may occur, including prey species.

What specific measures will be used to avoid and minimize impacts, including project design, turbidity controls, acoustic controls, and time of year restrictions? If impacts cannot be avoided or minimized, why not?

Impacts can be minimized by continuing to dredge (both maintenance and new work) for short durations and during the fall/winter time frame.

Is compensatory mitigation proposed? Yes ☐ No ☑

If compensatory mitigation is not proposed, why not? If yes, describe plans for compensatory mitigation (e.g. permittee responsible, mitigation bank, in-lieu fee) and how this will offset impacts to EFH and other aquatic resources. Include a proposed compensatory mitigation and monitoring plan as applicable.

The area to be dredged is immediately adjacent to the Seagirt Marine Terminal access channel and holds no strong habitat value for the Patapsco River. Impacts will be minor as compared to the the FWOP and temporary to permanent. Therefore, no mitigation or monitoring is proposed.

9. Effects of Climate Change

Effects of climate change should be included in the EFH assessment if the effects of climate change may amplify or exacerbate the adverse effects of the proposed action on EFH. Use the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways (RCP) 8.5/high greenhouse gas emission scenario (IPCC 2014), at a minimum, to evaluate the future effects of climate change on the proposed projections. For sea level rise effects, use the intermediate-high and extreme scenario projections as defined in Sweet et al. (2017). For more information on climate change effects to species and habitats relative to NMFS trust resources, see Guidance for Integrating Climate Change Information in Greater Atlantic Region Habitat Conservation Division Consultation Processes.

1. Could species or habitats be adversely affected by the proposed action due to projected changes in the climate?If yes, please describe how:

No. The proposed channel modifications will not change water levels from the existing water level and therefore sea level rise (SLR) will have the same effect on any structural alternatives, or the No

2. Is the expected lifespan of the action greater than 10 years? If yes, please describe project lifespan:

Yes. The proposed in-water work will occur for approximately 150 nonconsecutive workdays scheduled over three calendar years. Additional periodic maintenance dredging will also occur in

3. Is climate change currently affecting vulnerable species or habitats, and would the effects of a proposed action be amplified by climate change? If yes, please describe how:

No. USACE has determined that adverse effects on EFH and EFH species from implementation of the proposed action are not substantial, so the effects of the action would not be amplified by

4. Do the results of the assessment indicate the effects of the action on habitats and species will be amplified by climate change? If yes, please describe how:

No. USACE has determined that adverse effects on EFH and EFH species from implementation of the proposed action are not substantial, so the effects of the action would not be amplified by

5. Can adaptive management strategies (AMS) be integrated into the action to avoid or minimize adverse effects of the proposed action as a result of climate? If yes, please describe how:

Yes. Impacts to EFH can be minimized by continuing to dredge (both maintenance and new work) for short durations and during the fall/winter time frame.

10. Federal Agency Determination

Federal Action Agency's EFH determination (select one)	
☐	There is no adverse effect[7] on EFH or EFH is not designated at the project site. EFH Consultation is not required. This is a FWCA only request.
☑	The adverse effect[7] on EFH is not substantial. This means that the adverse effects are no more than minimal, temporary, or can be alleviated with minor project modifications or conservation recommendations. This is a request for an abbreviated EFH consultation.
☐	The adverse effect[7] on EFH is substantial. This is a request for an expanded EFH consultation. We will provide more detailed information, including an alternatives analysis and NEPA documents, if applicable.

[7] An adverse effect is any impact that reduces the quality and/or quantity of EFH. Adverse effects 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. 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.

11. Fish and Wildlife Coordination Act

Under the FWCA, federal agencies are required to consult with us if actions that the authorize, fund, or undertake will result in modifications to a natural stream or body of water. Federal agencies are required to consider the effects these modifications may have on fish and wildlife resources, as well as provide for the improvement of those resources. Under this authority, we consider the effects of actions on NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats, that are not managed under a federal fisheries management plan. Some examples of other NOAA-trust resources are listed below. Some of these species, including diadromous fishes, serve as prey for a number of federally-managed species and are therefore considered a component of EFH pursuant to the MSA. We will be considering the effects of your project on these species and their habitats as part of the EFH/FWCA consultation process and may make recommendations to avoid, minimize or offset and adverse effects concurrently with our EFH conservation recommendations.

Please contact our Greater Atlantic Regional Fisheries Office, Protected Resources Division regarding potential impacts to marine mammals or species listed under the Endangered Species Act and the appropriate consultation procedures.

Fish and Wildlife Coordination Act Resources

Species known to occur at site (list others that may apply)	Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat). Please note, impacts to federally listed species of fish, sea turtles, and marine mammals must be coordinated with the GARFO Protected Resources Division.
alewife	Mostly common to abundant in salinities from 0.5-25 ppt. This includes eggs, larvae, juveniles and adults. Based on seining events that occurred in the vicinity
American eel	Based on seining events that occurred in the vicinity of the Masonville Marine Terminal, it can be concluded that most of the areas adjacent to the Seagirt
American shad	Mostly rare in salinities from 0.5-25 ppt which includes eggs, larvae, juveniles and adults however, adults can be more common within these salinity ranges. Based
Atlantic menhaden	Based on seining events that occured in the vicinity of the Masonville Marine Terminal, it can be concluded that most of the areas adjacent to the Seagirt
blue crab	Blue Crab adults, juveniles,and larve are common to highly abundant in salinities of 0.5 to 25 ppt. Eggs are abundant to highly abundant in salinites of greater than
blue mussel	This species is generally abundant at the mouth of the Bay. Occasionally, the larvae are carried to the northern portion of the Bay where they set on harden
blueback herring	Mostly rare to abundant in salinities from 0.5-25 ppt. This includes eggs, larvae, juveniles and adults. Based on seining events that occurred in the vicinity of the
Eastern oyster	There are no Natural Oyster Bars (NOBs) and currently no commercial shell fishing in the Patapsco River. A 5-acre oyster restoration project is located near Fort Carroll, but this site lies approximately 2.5 miles from the Seagirt dredging
horseshoe crab	Required habitat does not exist within the vicinity of the project.
quahog	In Chesapeake Bay the hard clam is restricted to salinities above approximately 12 ppt. Where the salinities within the project area fall well below this threshold.
soft-shell clams	The soft-shell clam population is believed to be minimal adjacent to the Seagirt Marine Terminal as it lacks the preferred habitat types. A NOAA survey
striped bass	Striped bass are expected to easily move out of or generally avoid the areas of dredging activities. Ichthyoplankton density and diversity was limited near
other species:	
other species:	
other species:	

12. Useful Links

National Wetland Inventory Maps
EPA's National Estuary Program (NEP)
Northeast Regional Ocean Council (NROC) Data Portal
Mid-Atlantic Regional Council on the Ocean (MARCO) Data Portal

Resources by State

Maine
Maine Office of GIS Data Catalog
Town shellfish information including shellfish conservation area maps
State of Maine Shellfish Sanitation and Management
Eelgrass maps
Casco Bay Estuary Partnership
Maine GIS Stream Habitat Viewer

New Hampshire
NH Statewide GIS Clearinghouse, NH GRANIT
NH Coastal Viewer
State of NH Shellfish Program

Massachusetts
MA DMF Shellfish Sanitation and Management Program
MassGIS Data (Including Eelgrass Maps)
MA DMF Recommended TOY Restrictions Document Massachusetts
Bays National Estuary Program
Buzzards Bay National Estuary Program
Massachusetts Division of Marine Fisheries
Massachusetts Office of Coastal Zone Management

Rhode Island
RI Shellfish and Aquaculture
RI Shellfish Management Plan
RI Eelgrass Maps
Narragansett Bay Estuary Program
Rhode Island Division of Marine Fisheries
Rhode Island Coastal Resources Management Council

Connecticut

CT Bureau of Aquaculture

Natural Shellfish Beds in CT

Eelgrass Maps

Long Island Sound Study

CT GIS Resources

CT DEEP Office of Long Island Sound Programs and Fisheries

CT River Watershed Council

New York

Eelgrass Report

Peconic Estuary Program

NY/NJ Harbor Estuary Program

New York GIS Clearinghouse

New Jersey

Submerged Aquatic Vegetation Mapping

Barnegat Bay Partnership

NJ GeoWeb

NJ DEP Shellfish Maps

Pennsylvania

Delaware River Management Plan

PA DEP Coastal Resources Management Program

PA DEP GIS Mapping Tools

Delaware

Partnership for the Delaware Estuary

Center for Delaware Inland Bays

Delaware FirstMap

Maryland

Submerged Aquatic Vegetation Mapping

MERLIN (Maryland's Environmental Resources and Land Information Network)

Maryland Coastal Atlas

Maryland Coastal Bays Program

Virginia

VMRC Habitat Management Division

Submerged Aquatic Vegetation mapping

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BALTIMORE HARBOR ANCHORAGES AND CHANNELS (BHAC)

MODIFICATION OF SEAGIRT LOOP CHANNEL

FEASIBILITY STUDY

FINAL INTEGRATED FEASIBILITY REPORT & ENVIRONMENTAL ASSESSMENT

APPENDIX A4:

Cultural Resources and Final Programmatic Agreement

PROGRAMMATIC AGREEMENT
AMONG THE
UNITED STATES ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT AND
THE MARYLAND STATE HISTORIC PRESERVATION OFFICE
REGARDING
THE BALTIMORE HARBOR ANCHORAGES AND CHANNELS MODIFICATION OF SEAGIRT LOOP CHANNEL FEASIBILITY STUDY IN BALTIMORE CITY, MARYLAND

WHEREAS, the U.S. Army Corps of Engineers, Baltimore District (USACE) Baltimore Harbor Anchorages and Channels (BHAC) Study was completed in 1998 and included authorized improvements to the access channels leading to the Port of Baltimore (Port); and,

WHEREAS, USACE constructed the original BHAC Project, which encompassed the 32-square-mile area of the Port's facilities including navigable parts of the Patapsco River below Hanover Street, the Northwest and Middle Branches, and the Curtis Bay and its tributary Curtis Creek; and,

WHEREAS, the USACE, through its statutory authority under §216 of the Rivers and Harbors Act of 1970 (Public Law No. 91-611, 33 U.S.C. §549a), is proposing to modify the original BHAC Project to decrease transportation delays, improve navigability, increase maneuverability, and increase transportation safety and efficiency (Project); and,

WHEREAS, the USACE is completing a Feasibility Study to determine whether the proposed Project is economically feasible and environmentally acceptable; and,

WHEREAS, the Project proposes to deepen the West Seagirt Branch Channel to a proposed depth of down to -50 feet mean lower low water and widen approximately 1 mile of the West Seagirt Branch Channel to a minimum of 600 feet (Appendix A); and,

WHEREAS, the USACE has defined the Project's direct area of potential effects (APE) as the areas of proposed channel deepening and widening and a visual APE as one-mile around the direct APE that represents the areas in which vessels can be seen on standby and moving through the existing access channels (Appendix A); and,

WHEREAS, the USACE has determined that implementation of the proposed Project constitutes an 'undertaking' pursuant to the provisions of Section 106 of the National Historic Preservation Act of 1966, 54 U.S.C §306108, and its implementing regulations at 36 CFR §800; and,

WHEREAS, the Feasibility Study must be approved by a USACE higher authority prior to the receipt of additional project funding and advancement of the Project to the Pre-Construction Engineering and Design (PED) Phase; and,

WHEREAS, implementation of the proposed Project will involve some level of disturbance to submerged lands in the direct APE through potential dredging and widening activities in areas that have not been dredged in the past; and,

WHEREAS, the USACE has elected to phase the identification, evaluation, and effects assessment of certain portions of the APE for submerged historic properties, as provided in 36 CFR 800.4(b)(2) and 36 CFR 800.5(a)(3), since Project design information precluded such identification, evaluation, and assessment during the Feasibility Study phase of the Project; and

WHEREAS, pursuant to 36 CFR §800.14(b)(1)(ii), the USACE has determined that development of this Programmatic Agreement (PA) is appropriate to establish the procedures that the USACE will follow to comply with the requirements of 36 CFR §800.4 through 800.13 for the Project, including identification of historic properties in the Project's Area of Potential Effects (APE), evaluation of the effect of the undertaking on historic properties, and resolution of adverse effects, if applicable, thereby completing the Section 106 process and satisfying applicable State and Federal historic preservation laws, and allowing the USACE to approve the Feasibility Report and advance the Project to the next project phase; and,

WHEREAS, the USACE will ensure that the identification, evaluation, and effects assessment of submerged cultural resources is completed in a timely manner prior to construction, to allow practical opportunities to avoid, minimize, or mitigate for any potential adverse effects to historic properties as stipulated in this PA; and

WHEREAS, the USACE has initiated consultation with the Maryland State Historic Preservation Office (MD SHPO), pursuant to 36 CFR §800.3(c) and will continue to consult with the MD SHPO under the terms of this PA; and,

WHEREAS, the USACE has conducted a preliminary and limited review of the Project's direct APE, and has determined that some of the direct APE has the potential to contain historic properties, particularly submerged archaeological resources, in areas that have never been subject to prior cultural resources investigations; and,

WHEREAS, the USACE conducted a viewshed assessment in May 2022 to assess the Project's effects on historic properties within the visual APE and determined that the Project would have no adverse effect to historic properties within the visual APE; and,

WHEREAS, the USACE invited the Advisory Council on Historic Preservation (Council) to participate in the development of this PA in accordance with 36 CFR §800, and by correspondence dated August 1, 2022, the Council declined to participate in the development of the PA; and,

WHEREAS, the USACE has consulted with the National Park Service (NPS) regarding the effects of the Project on historic properties and has invited them to participate in the development of this PA and sign the PA as a concurring party, and by correspondence dated

September 30, 2022, NPS declined to participate in the development of this PA and sign as a concurring party; and,

WHEREAS, the USACE invited the Delaware Nation, the Delaware Tribe of Indians, the Pamunkey Indian Nation, and the Seneca-Cayuga Nation to participate in the development of this PA regarding the effects of the Project on historic properties in accordance with 36 CFR §800, and by correspondence dated August 25, 2022, the Pamunkey Indian Nation declined, and the remaining Tribes did not respond, to participate in the development of this PA; and,

WHEREAS, the Feasibility Study underwent public review in February of 2022 and was advertised in local newspapers and on the USACE public website; and,

WHEREAS, in accordance with 36 CFR §800.6(b)(1)(iv), the USACE will submit this PA, along with the appropriate documentation specified in 36 CFR 800.11(f), to the Council prior to approving the undertaking in order to meet the requirements of Section 106 and 36 CFR §800;

NOW, THEREFORE, the USACE and MD SHPO agree that the Project shall be administered in accordance with the following stipulations in order to take into account the effects of the Project on historic properties.

Stipulations

The USACE shall ensure that the following measures are carried out prior to implementation of the Project:

I. Identification of Historic Properties

When the Project advances to Pre-Construction Engineering and Design (PED) Phase, the USACE shall consult with the MD SHPO to review any additions, subtractions, or other changes to the Project subsequent to the execution of this PA and consult on the need to modify the PA accordingly to ensure that identification investigations are implemented as necessary and appropriate to identify any historic properties that may be impacted by the Project or ancillary activity.

A. Phase I Archaeological Investigation

The USACE shall conduct a Phase I archaeological investigation of the Project's direct APE in order to identify resources potentially eligible for inclusion in the National Register of Historic Places (NRHP) that may be affected by the Project. The investigation will be performed by a qualified professional archaeologist in accordance the performance standards specified in Stipulation IV.

Prior to the start of the Phase I archaeological investigation, the USACE, in consultation with the MD SHPO, shall prepare a scope of work (SOW) for the investigation and provide a draft copy of the SOW to the MD SHPO will for review and comment prior to its implementation.
For underwater survey, the Phase I investigation shall employ electronic remote sensing devices including magnetometer, high-resolution side scan sonar, and sub-bottom profiler in all areas of expected substrate disturbance to identify contacts, anomalies, features, objects, and/or locations with the potential to represent or contain historic properties. Details related to electronic remote sensing data acquisition, such as instrument specifications, settings, deployment parameters, transect spacing, data analyses, interpretation, and presentation will be determined through consultation with the MD SHPO. Additional work involving electronic remote sensing and/or inspections by diving archaeologists shall be conducted as necessary to determine if contacts, anomalies, features, objects, and/or locations represent properties that may be eligible for the NRHP; details related to such efforts will be determined through consultation with the MD SHPO.

The USACE will consult with the MD SHPO regarding the results of the Phase I investigation. Should the USACE and MD SHPO agree that the results of the Phase I investigation show that no archaeological resources are located in the Project's APE, or that archaeological resources are in the APE but will not be affected by the Project, or that archaeological resources are in the APE but are not historic properties in accordance with the definition provided at 36 CFR

§800.16(1)(1), no additional cultural resources investigations will be undertaken, and the Section 106 process will be complete.

B. Evaluation of Potential Historic Properties

If potential historic properties are identified in the APE after completion of the survey efforts described in Stipulation I.A, and the USACE determines that it is infeasible to avoid impacting such historic properties but intends to continue with the proposed Project, the USACE, in consultation with the MD SHPO , will evaluate each of the identified resources for their eligibility for listing in the NRHP by applying the NRHP criteria for evaluation in accordance with 36 CFR §60.4 (a-d) and 36 CFR §800.4(c). The USACE will ensure that NRHP eligibility evaluations are completed for each of the identified resources in accordance with the performance standards specified in Stipulation IV. The NRHP eligibility evaluations will include, as applicable, additional documentary research, field investigation, analysis, and reporting.

The USACE will provide the results of any eligibility evaluations to the MD SHPO with its determinations of eligibility for review and comment. If the MD SHPO does not provide comments within thirty (30) calendar days of receipt, the USACE may assume concurrence with its eligibility determinations.

II. Treatment of Historic Properties

A. Should any property eligible for inclusion in the NRHP be identified under Stipulations I or II, the USACE shall make a reasonable and good-faith effort to avoid adversely affecting the resource by relocating or modifying the proposed action. If the USACE intends to continue with the proposed Project and if adverse effects are unavoidable, the USACE will consult with the MD SHPO in accordance with 36 CFR §800.6 to develop and implement appropriate treatment options to resolve adverse effects in accordance with the performance standards identified in Stipulation V, including minimization or mitigation of adverse effects. The USACE will ensure that appropriate plans to involve the public and identify interested parties are developed and implemented, in consultation with the MD SHPO.

III. Unexpected Discovery of Historic Properties

A. In accordance with procedures provided for post-review discoveries at 36 CFR §800.13, in the event that a previously unidentified archaeological resource is discovered during implementation of the Project, the USACE will notify the MD SHPO within 48 hours of the discovery and protect it by minimizing, to the maximum extent possible, all work in the area of the discovery until it can be

inspected by a qualified archaeologist (see Stipulation IV.A – Professional Qualifications) to determine its boundaries and the extent to which damage, if any, has occurred. Work may then continue in the project area outside of those boundaries and the USACE, in consultation with the MD SHPO, shall assess the NRHP eligibility of the discovered resource in accordance with Stipulation I.B. If the resource is determined to possess the qualities of significance identified in the NRHP criteria, the USACE will ensure that appropriate measures are implemented in accordance with Stipulation II.

IV. Performance Standards

A. Professionally Qualifications

The USACE will ensure that all historic property investigations carried out by the Government or its contractors pursuant to this PA will be conducted under the supervision of a qualified individual or individuals who meet the appropriate qualifications for the activity they are tasked with performing. A qualified individual is one who meets, at a minimum, the Secretary of the Interior's "Professional Qualifications Standards" in "Archaeology and Historic Preservation: Standards and Guidelines," as amended and annotated (available at https://www.nps.gov/history/local-law/arch_stnds_9.htm, previously published at *48 FR 44738-9* (September 29, 1983) and *36 CFR Part 61, Appendix A*.

B. Standards and Guidelines

The USACE will ensure that all historic property investigations and work performed pursuant to this PA will be conducted in a manner consistent with the standards and principles contained in the documents (and any subsequent revisions thereof) listed below:

i. Secretary of the Interior's Archeology and Historic Preservation: Standards and Guidelines, as amended and annotated (available at https://www.nps.gov/history/local-law/arch_stnds_9.htm, 48 FR44716-44742); and.
ii. Advisory Council on Historic Preservation – Section 106 Archeology Guidance (https://www.achp.gov/protecting-historic-properties/Section_106_Archaeology_Guidance); and,
iii. Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR Part 68); and,
iv. Standards and Guidelines for Archeological Investigations in Maryland (Shaffer and Cole 1994); and,
v. Collections and Conservation Standards, Technical Update No. 1 of the Standards and Guidelines for Archeological Investigations in Maryland (Maryland Historical Trust Revised 2022); and

vi. Standards and Guidelines for Architectural and Historical Investigations in Maryland (Maryland Historical Trust 2019); and,
vii. Standards for Submission of Digital Images to the Maryland Inventory of Historic Properties (Maryland Historical Trust 2019).

C. Curation

i. Any collection resulting from the investigations undertaken as part of the agreement are the property of the landowner at the time the collection was made. The USACE does not retain ownership of any collection removed from land(s)/submerged lands it does not own. Materials recovered from investigations of submerged lands are the property of the State of Maryland.

ii. The USACE shall ensure that all collections resulting from the identification and evaluation of surveys, data recovery operations, or other investigations pursuant to this PA are maintained in accordance with 36 CFR Part 79 and that State of Maryland-owned collections are curated at the Maryland Archaeological Conservation Laboratory.

D. Reports

All historic property investigations performed pursuant to this PA will conclude with a written report drafted in accordance with the performance standards identified in Stipulation IV.B. The USACE will submit a draft of each report to the MD SHPO for review and comment and will ensure that the MD SHPO's comments are addressed in the final report. The USACE will provide two hard copies and one electronic copy of each final report to the MD SHPO.

V. MD SHPO Review and Comment

The MD SHPO will review and provide written comments within (30) calendar days after receipt of all plans and reports that the USACE submits for review pursuant to the terms of this PA. If the MD SHPO fails to provide written comments on any item within thirty (30) calendar days of receipt, the USACE may assume that the MD SHPO agrees with the specific plan or report submitted for review.

VI. Review of Implementation

If Stipulations I through III have not been implemented within five years from the date of this PA, the USACE shall consult with the MD SHPO to review the PA to

determine whether revisions are needed. If revisions are needed the parties to this agreement will consult in accordance with 36 CFR §800 to make such revisions.

VII. Amendment

Should any party to this PA request an amendment, the requesting party shall notify all other parties in writing. The written notification shall include a statement of purpose of the required modification and the proposed wording to amend the PA. All parties shall review the proposed amendment and, if necessary, consult in accordance with 36 CFR §800.13 to discuss the amendment. If, after consultation, it is agreed that the amendment is necessary or desirable, all parties to the original PA shall have the opportunity to sign the amended PA. The USACE will file any amended PA with the Council in accordance with 36 CFR §800.6(c)(7). If necessary, dispute resolution will follow Stipulation VIII.

VIII. Dispute Resolution

Should any party to this PA object in writing to the USACE regarding any actions carried out or proposed with respect to the Project or implementation of this PA, the USACE shall consult with the objecting party to resolve the objection. If, after initiating such consultation, the USACE determines that the objection cannot be resolved through consultation, the USACE shall forward all documentation relevant to the objection to the Council, including the USACE's proposed response to the objection.

Within thirty (30) days after receipt of all pertinent documentation, the Council will exercise one of the following options:

i. Advise the USACE that the Council concurs with the USACE's proposed response to the objection, where upon the USACE shall respond to the objection accordingly; or

ii. Provide the USACE with recommendations, which the USACE will consider when reaching a final decision regarding its response to the objection; or

iii. Notify the USACE that the objection will be referred for comment pursuant to 36 CFR §800.7 and proceed to refer the objection and comment. The resulting comment shall be taken into account by the USACE in accordance with 36 CFR §800.7(c)(4).

Should the Council fail to exercise one of the above options within forty-five (45) days after receipt of all pertinent documentation, the USACE may assume the Council's concurrence in its proposed response to the objection.

The USACE will take into account any Council recommendations or comments provided in accordance with this stipulation with reference only to the subject of the dispute; the USACE's responsibility to carry out all actions under this PA that are not the subject of the dispute will remain unchanged.

IX. Termination

If the signatories determine that they cannot implement the terms of this PA, or if the MD SHPO determines that the PA is not being properly implemented, the USACE or the MD SHPO may propose to the other parties to terminate this PA. The party proposing to terminate the PA will notify all parties to this PA explaining the reasons for termination and affording them at least thirty (30) days to consult and seek alternatives to termination, such as an amendment to this PA. Should consultation fail, the USACE or the MD SHPO may terminate the PA by notifying the other parties.

Should this PA be terminated, the USACE will follow the procedures at 36 CFR §800.6(c)(8) and either:

i. Consult in accordance with 36 CFR §800.6(c)(1) to develop a new PA; or

ii. Request the comments of the Council pursuant to 36 CFR §800.7(a).

The USACE and the Council may conclude the Section 106 process with a PA between them if the MD SHPO terminates consultation in accordance with 36 CFR §800.7(a)(2).

X. Failure to Comply with Terms

In the event that the USACE does not carry out the terms of this PA, the USACE will comply with 36 CFR §800.4 through 800.6 with regard to undertakings covered by this PA.

XI. Notice to Parties

Any notices required to be sent in accordance with this PA shall be mailed to the parties by certified mail as follows:

U.S. Army Corps of Engineers
Attn: Cultural Resources Specialist, Planning Division
2 Hopkins Plaza
Baltimore, MD 21201

Maryland State Historic Preservation Officer
Maryland Historical Trust
100 Community Place
Crownsville, MD 21032

XII. Duration

This Agreement shall expire if its terms are not carried out within ten (10) years from the date of execution unless the signatories agree in writing to an extension for carrying out its terms. Prior to the expiration, the USACE may consult with the other signatories to reconsider the terms of this PA and amend it.

Execution of this PA by the USACE and the MD SHPO, implementation of its terms by the USACE, and submittal of the PA to the Council provides evidence that the USACE has afforded the Council an opportunity to comment on the undertaking and its potential effects on historic properties, and that the USACE has taken into account the effects of the undertaking on historic properties.

Appendix A – Area of Potential Effect
Appendix B – Contact Information

Signatures follow on separate pages.

SIGNATORY:

U.S. Army Corps of Engineers, Baltimore District

PINCHASIN.ESTHER.SARAH.1020943676 Digitally signed by PINCHASIN.ESTHER.SARAH.1020943676 Date: 2023.01.09 14:35:47 -05'00'

ESTHER S. PINCHASIN
Colonel, U.S. Army
Commander and District Engineer

Date

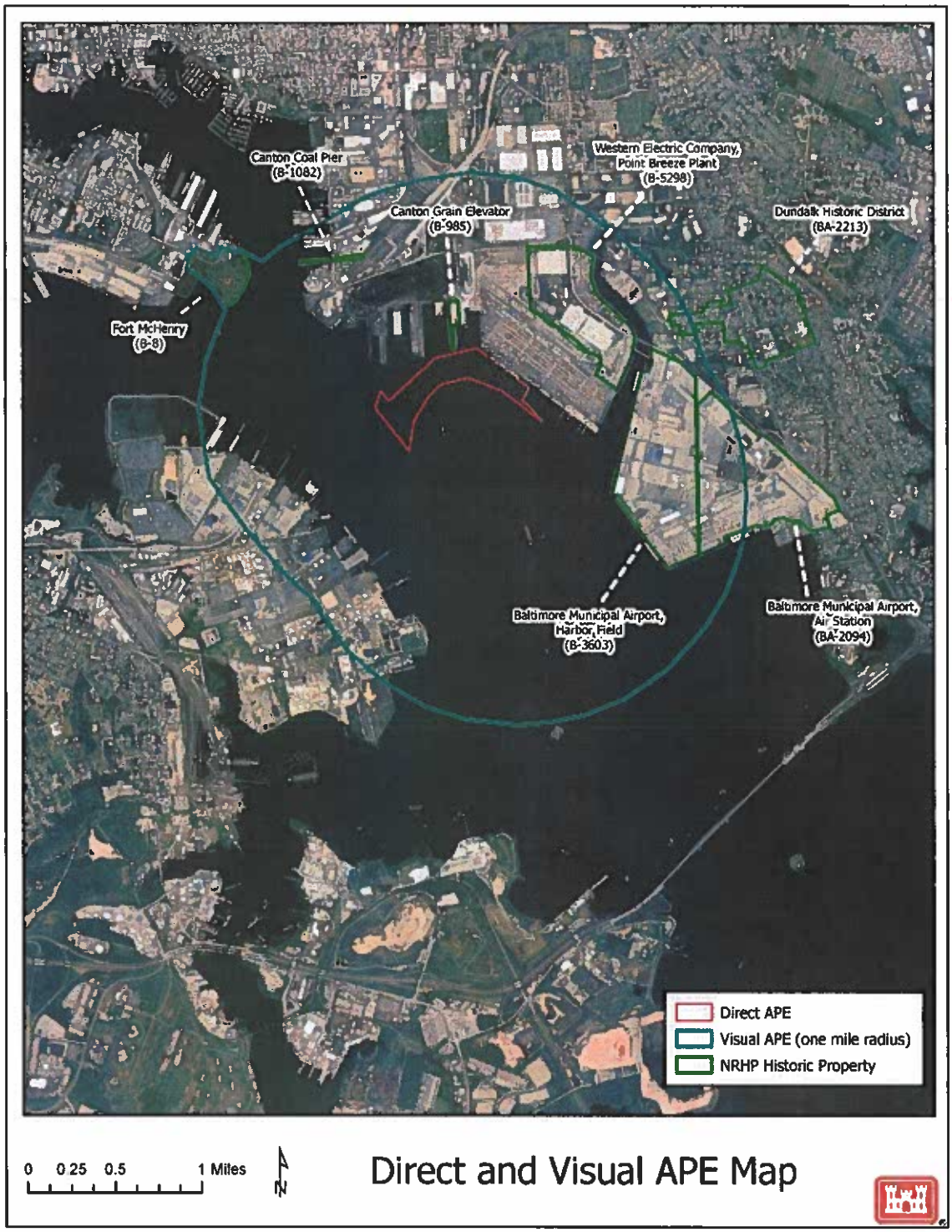
SIGNATORY:

Maryland State Historic Preservation Officer

Elizabeth Hughes
Director / State Historic Preservation Officer
Maryland Historical Trust

1. 10. 2023
Date

Appendix A – Area of Potential Effects



Proposed Project Alternative – Deepening and Widening of the West Seagirt Branch Channel (yellow).

Appendix B – Contact Information

U.S. Army Corps of Engineers, Baltimore District (as of January 2023)

Luis Santiago
Study Manager
U.S. Army Corps of Engineers, Baltimore District (NAB)
2 Hopkins Plaza, Baltimore, MD 21201
Office:
Luis.E.Santiago@usace.army.mil

Ethan A. Bean
Cultural Resources Specialist
U.S. Army Corps of Engineers, Baltimore District (NAB)
2 Hopkins Plaza, Baltimore, MD 21201
Office: (410) 962-2173
Ethan.A.Bean@usace.army.mil

Maryland Historical Trust

100 Community Place, 3rd Floor
Crownsville, MD 21032
Office: (410) 697-9591

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BALTIMORE HARBOR ANCHORAGES AND CHANNELS (BHAC)

MODIFICATION OF SEAGIRT LOOP CHANNEL

FEASIBILITY STUDY

FINAL INTEGRATED FEASIBILITY REPORT & ENVIRONMENTAL ASSESSMENT

APPENDIX A4a:

Cultural Resources Viewshed Analysis

Baltimore Harbor Anchorages and Channels (BHAC)
Modification of Seagirt Loop Channel Feasibility Study

FINAL VIEWSHED ANALYSIS
FOR THE BALTIMORE HARBOR ANCHORAGES AND CHANNELS MODIFICATION OF SEAGIRT LOOP PROJECT

Prepared By:

U.S. Army Corps of Engineers
Baltimore District

May 2022

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Table of Contents

Figures

Tables

ACRONYMS

ACHP – Advisory Council on Historic Preservation
APE – Area of Potential Effect
BHAC – Baltimore Harbor Anchorages and Channels
CMA CGM – Compagnie Maritime d'Affrètement Compagnie Générale Maritime
FWOP – Future without Project
MDOT MPA – Maryland Department of Transportation Maryland Port Administration
MES – Maryland Environmental Service
MHT – Maryland Historical Trust
MLLW – Mean Lower Low Water
NHPA – National Historic Preservation Act
NMHS – National Monument and Historic Shrine
NRHP – National Register of Historic Places
NPS – National Park Service
USACE – United States Army Corps of Engineers, Baltimore District

1. Project Description

The Port of Baltimore is comprised of three projects: the 42-foot Project, the 50-foot Project, and the Baltimore Harbor Anchorages and Channels (BHAC) Project (Figure 1). As a result of these varying projects and their separate authorizations, the Port of Baltimore and its access channels have a variety of authorized depths. The BHAC project was operationally complete by 2003 and resulted in subsequent authorization of federal navigation improvements in Baltimore Harbor. These included deepening and widening of Anchorages 3 and 4 and deepening and widening of branch channels serving Port of Baltimore facilities such as the access channels to the Seagirt, Dundalk, and South Locust Point Marine Terminals. A detailed list of improvements is provided in Table 1. The U.S. Army Corps of Engineers (USACE) and the Maryland Department of Transportation Maryland Port Administration (MDOT MPA) are completing a feasibility study to evaluate modifications to the BHAC project's authority including authorized dimensions and depths for existing navigation improvements.

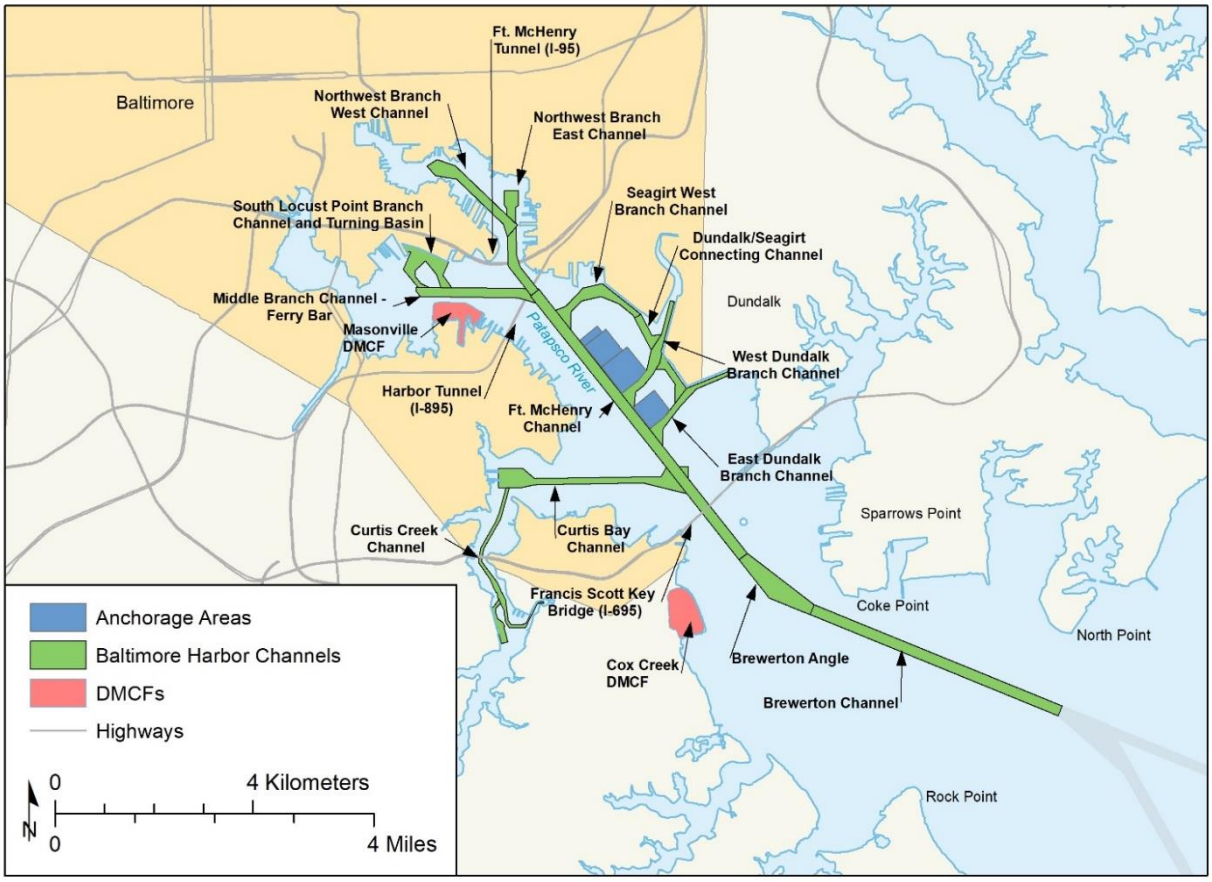

Figure 1. Overview of Baltimore Harbor Channels, Anchorages, and Material Placement Sites.

Table 1. BHAC Project components and federally authorized dimensions.

Project Component	Depth	Dimensions
Anchorage 3	3A and 3B – 42 feet; 3C – 35 feet	3A – 2,200 by 2,200 feet; 3B – 1,800 by 1,800 feet;
Anchorage 4	35 feet	1,800 feet by 1,800 feet
East Dundalk Channel	42 feet	400 feet wide
Dundalk-Seagirt Connecting Channel	42 feet	500 feet wide
West Dundalk Channel	42 feet	500 feet wide
South Locust Point Branch Channel and Turning Basin	36 feet	400 feet wide
Turning Basin at Fort McHenry Channel	50 feet	1,200 feet by 1,200 feet
Anchorage 1	Deauthorized	Deauthorized

When the original BHAC project feasibility study was completed in 1998, the design vessel used for the branch channels was a Panamax container vessel that measured 965 feet long with a 106-foot beam, with design consideration for larger beam vessels (135 to 145-foot beam) that were already in service at the time. Since the completion of the original study, the expansion of the Panama Canal has allowed for the larger fleet to call on East Coast ports. Larger container vessels that have started using Baltimore Harbor, termed post-Panamax vessels, can carry twice the cargo capacity and require deeper drafts than the ships that were used to design the current 42-foot access channels to the Seagirt Marine Terminal. As a result, the vessels routinely calling on Baltimore Harbor today are longer, wider, and have drafts deeper than the existing channel design vessel. As a result of these changes in the future vessel fleet calling at the Port of Baltimore, the MDOT MPA submitted a letter, dated March 16, 2018, requesting that USACE consider deepening the entire Seagirt-Dundalk access channel system to promote safe and efficient navigation.

Currently, the Seagirt Marine Terminal and access channels are maintained to -50 feet mean lower low water (MLLW) to allow for vessels to call at Berth 4, following improvements completed by the State of Maryland. Improvements to Berth 3 were completed in 2021 and included deepening to -50 feet MLLW and installation of new Super Post-Panamax cranes that accommodate similar sized vessels.

Now that there are more regular calls from Post-Panamax vessels to the Port of Baltimore, the current channel configuration results in inefficiencies in transit due to insufficient channel width at turns. Currently, vessels transiting to or from Seagirt Berths 1 through 3 must proceed with great caution to avoid collisions or allisions (the running of one ship into a stationary ship) while Berth 4 is occupied with a large vessel. Furthermore, vessels with a sailing draft in excess of -42 feet MLLW must be backed out of the berthing areas or turned because the West Seagirt Branch Channel is maintained by the State of Maryland to -45 feet MLLW. The current channel configuration results in transportation delays for vessels unloading cargo at Dundalk Marine Terminal Berths 1 through 6 as they must exit using the West Dundalk Branch Channel, which

may be occupied by a turning vessel exiting the Seagirt Marine Terminal's Berth 4. This is considered as the Future without Project (FWOP) alternative. The scope of the current feasibility study seeks to address these inefficiencies and includes the proposed deepening and widening of the West Seagirt Branch Channel up to -50 feet MLLW to allow 50-foot draft vessels to standby within Baltimore Harbor (Figure 2). This is considered as the Future with Project alternative. For the Future with Project alternative, the channel design will be optimized for Post-Panamax III and Post-Panamax III Max vessels with consideration for the Compagnie Maritime d'Affrètement Compagnie Générale Maritime (CMA CGM) Marco Polo as the largest vessel that can call at the Port of Baltimore with the new Supermax cranes.

Figure 2. Proposed deepening and widening of the West Seagirt Branch Channel.

2. Area of Potential Effects

The area of potential effects (APE) as defined by 36 CFR 800.16(d) is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." The APE may be considered as the extent of direct impacts and visual and audible effects that a project may have on resources eligible for or listed on the National Register of Historic Properties (NRHP).

The BHAC Study has a direct APE for proposed deepening and widening actions, and an indirect APE for possible visual effects caused by the introduction of larger container vessels (Figure 3). No historic properties are currently identified within the direct APE; however, since the direct APE has not been archaeologically surveyed, USACE is recommending conducting a Phase I archaeological investigation for submerged resources during the project's Pre-Construction Engineering and Design phase. Section 106 of the National Historic Preservation Act (NHPA) requirements will be met through the development of a Programmatic Agreement pursuant to 36 CFR 800.14(b)(ii).

The indirect APE includes a one-mile radius around the areas proposed for deepening and widening, which are the areas in which vessels standby and move through the existing access channels. A one-mile radius was selected because visual effects within open water areas diminish beyond this distance. This can be seen in a comparison between the Fort McHenry National Monument and Historic Shrine (NMHS) and Port Covington viewpoints in Section 4. Although the project area is either not visible or barely visible from the majority of areas beyond the marine terminals on either side of the Patapsco River (e.g., Dundalk Historic District, Fairfield, etc.), the one-mile radius continues around the entire project area for consistency. The exception to this is an expansion of the indirect APE in its northwestern portion to include the Fort McHenry NMHS.

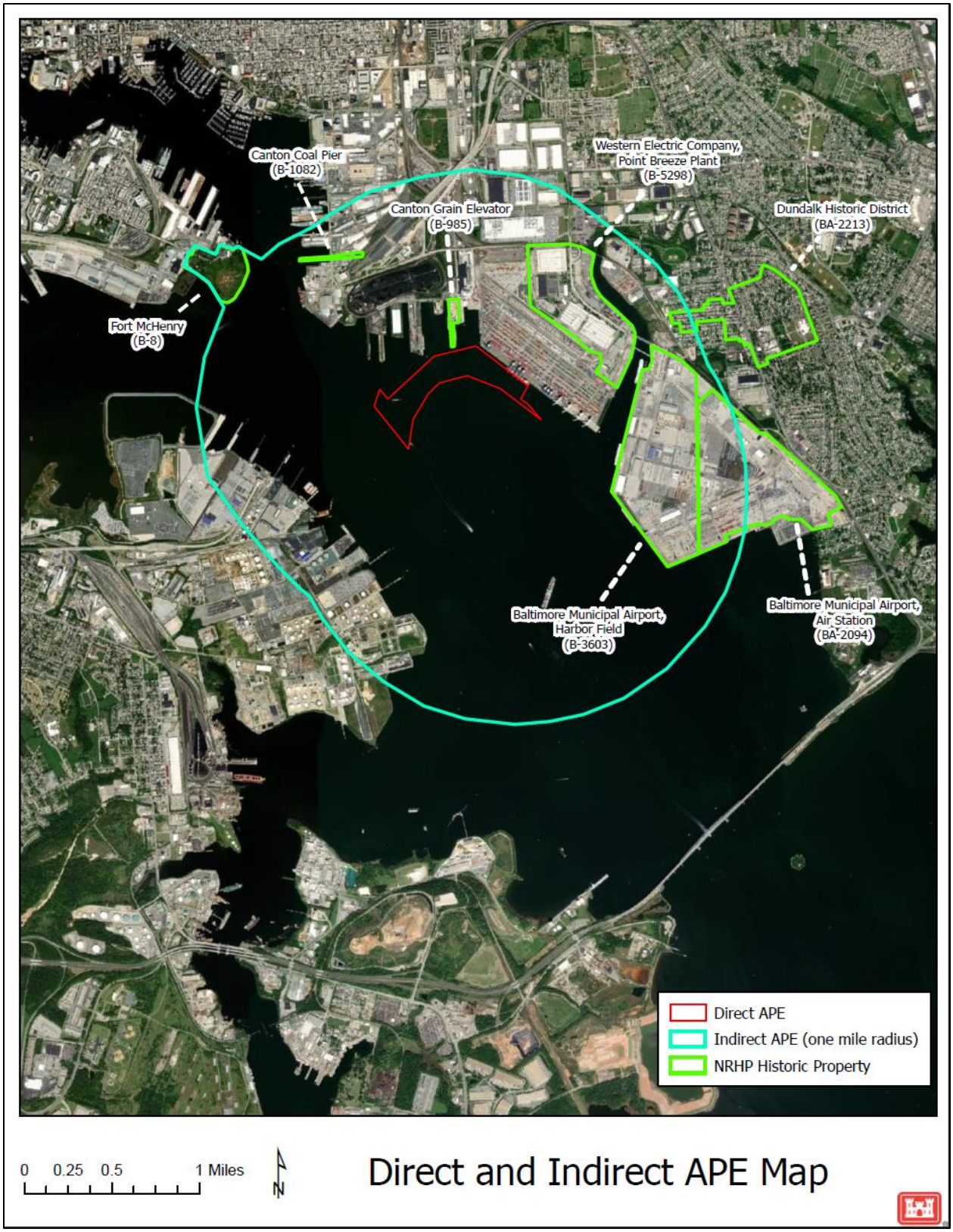

Figure 3. Direct and indirect APE map for the proposed project.

3. Viewpoints Showing Without and With Project Alternatives

In consultation with the National Park Service (NPS) and the Maryland Historical Trust (MHT), the Project Development Team contracted Moffat & Nichol to take photographs from six viewpoints around the area of the West Seagirt Branch Channel proposed for deepening and widening (Figure 4). Viewpoint one was selected to assess the visual impacts the project may have on the Fort McHenry NMHS and the Star-Spangled Banner National Historic Trail. Viewpoints two through six were selected to assess the visual impacts the project may have on the Star-Spangled Banner and Captain John Smith Chesapeake National Historic Trails. Moffat & Nichol then created three corresponding viewshed renderings (base photograph, FWOP, and Future with Project) for each viewpoint. To show busier conditions that exist beyond the base photograph and what the FWOP and Future with Project alternatives would resemble, Moffatt & Nichol three-dimensionally rendered the CMA CGM Pegasus and CMA CGM Marco Polo container vessels within the West Seagirt Branch Channel. Further explanations of the viewshed renderings and the dimensions for these vessels are provided in Table 2 and Table 3, respectively.

Table 2. Explanation of viewshed renderings.

Viewshed Rendering	Explanation
Base Photograph	The base photograph is an existing condition as experienced by Moffatt & Nichol the day they took the photograph.
FWOP	The FWOP rendering shows the three-dimensionally rendered CMA CGM Pegasus vessel within the viewshed. This is an existing condition that represents a busier time of day than the base photograph and it would occur with or without the proposed project since Post-Panamax III vessels represent the largest class of vessels currently calling at the Port of Baltimore. It should be noted that without the proposed project larger Post-Panamax III Max vessels will still call at the Port of Baltimore, but they would need to enter and back out of the Dundalk-Seagirt Access Channel rather than continue through the West Seagirt Branch Channel.
Future with Project	The Future with Project rendering shows the three-dimensionally rendered CMA CGM Marco Polo vessel within the viewshed. The CMA CGM Marco Polo currently has the ability to call at the Port of Baltimore but would need to enter and back out of the Dundalk-Seagirt Access Channel. The Future with Project alternative would allow the CMA CGMA Marco Polo (and other vessels) to enter the Dundalk-Seagirt Access Channel and exit through the West Seagirt Branch Channel.

Table 3. Rendered vessel dimensions.

Parameter	CMA CGM Pegasus	CMA CGM Marco Polo
Vessel Class	Post-Panamax III	Post-Panamax III Max
Nominal TEU Capacity	14,000	16,000
Length Overall	1,199 feet	1,296 feet
Beam	168 feet	176 feet
Design Draft	43 feet	48 feet
Keel to Masthead	222 feet	230 feet

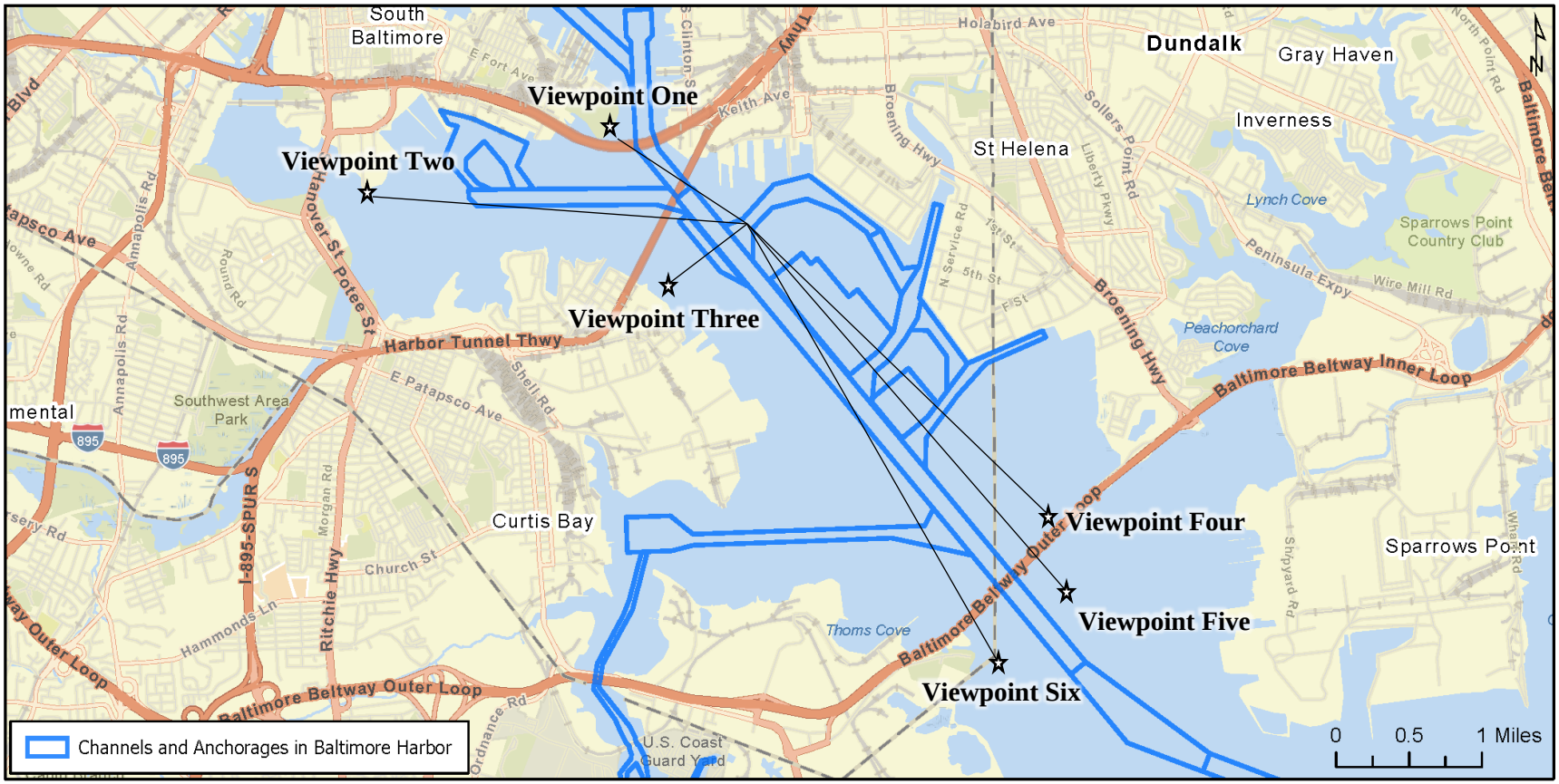

Figure 4. Viewpoint locations and sight lines.

3.1. Viewpoint One – Fort McHenry NMHS

Approximately one mile from the proposed project area, viewpoint one was taken along the pedestrian walkway in the southeastern section of the Fort McHenry NMHS. It is directed towards the southeast and is focused on the West Seagirt Branch Channel proposed for deepening and widening (Figure 5). Figure 6 shows the base photograph, which is an existing condition as experienced by Moffatt & Nichol the day they were in the field. The left and left-central portions of the photograph feature a vessel standing by at the Seagirt Marine Terminal with cranes just beyond it. The right side of the photograph features an outgoing vessel within the Fort McHenry Channel moving towards the Key Bridge.

Figure 7 shows the FWOP alternative, which is an existing condition that represents a busier time of day than the base photograph. In addition to what is featured in the base photograph, the CMA CGM Pegasus has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel. A three-dimensional rendering of the Pride of Baltimore II was added to the southwest of the CMA CGM Pegasus to better clarify the scale of the FWOP alternative.

Figure 8 shows the Future with Project alternative, which is a condition that would allow vessels with a sailing draft in excess of -42 feet MLLW to exit the terminal through the West Seagirt Branch Channel. In addition to what is featured in the base photograph, the CMA CGM Marco Polo has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel. A three-dimensional rendering of the Pride of Baltimore II was added to the southwest of the CMA CGM Marco Polo to better clarify the scale of the Future with Project alternative.

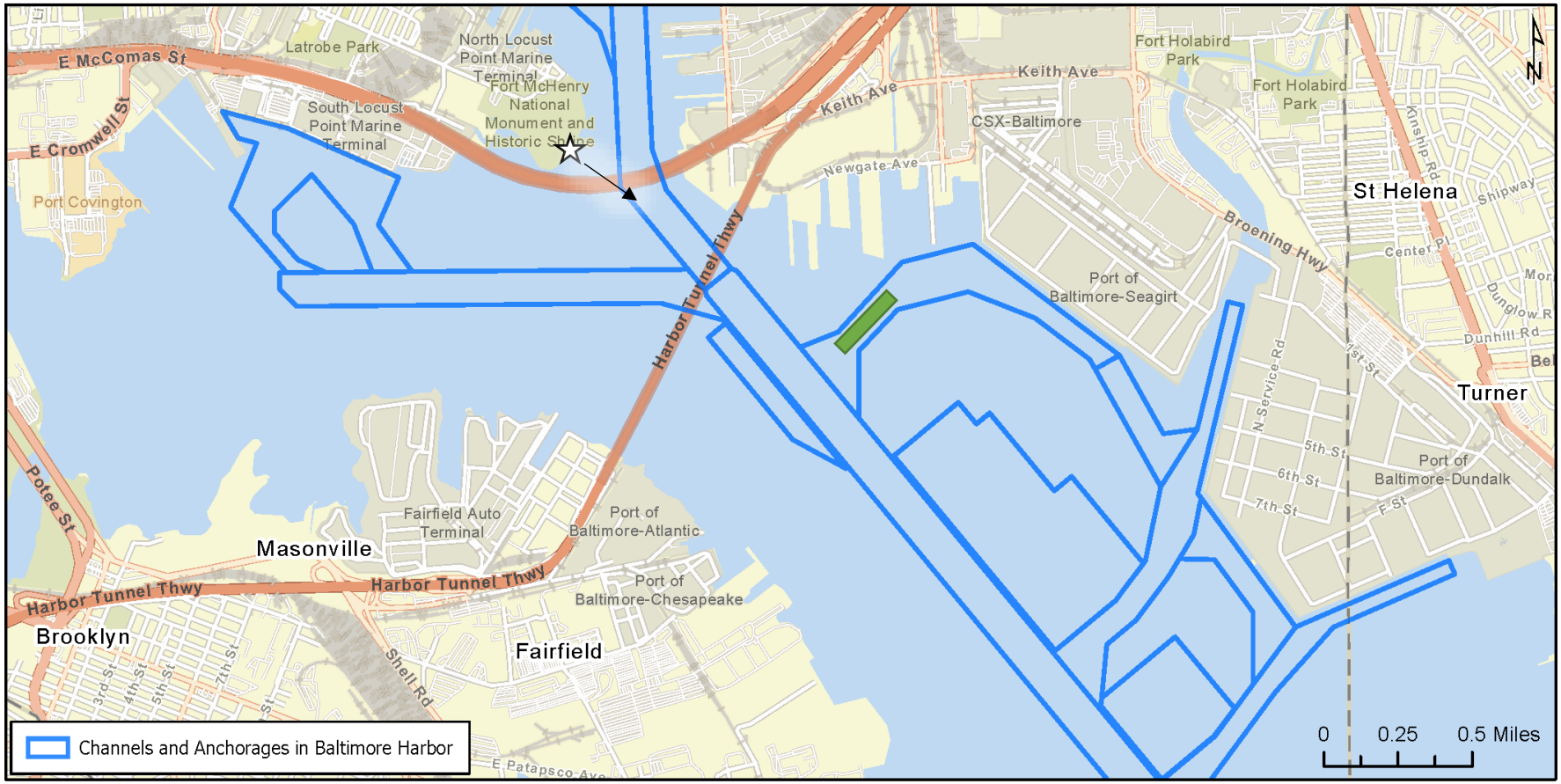

Figure 5. Viewpoint one photograph location and direction.

Figure 6. Viewpoint one base photograph.

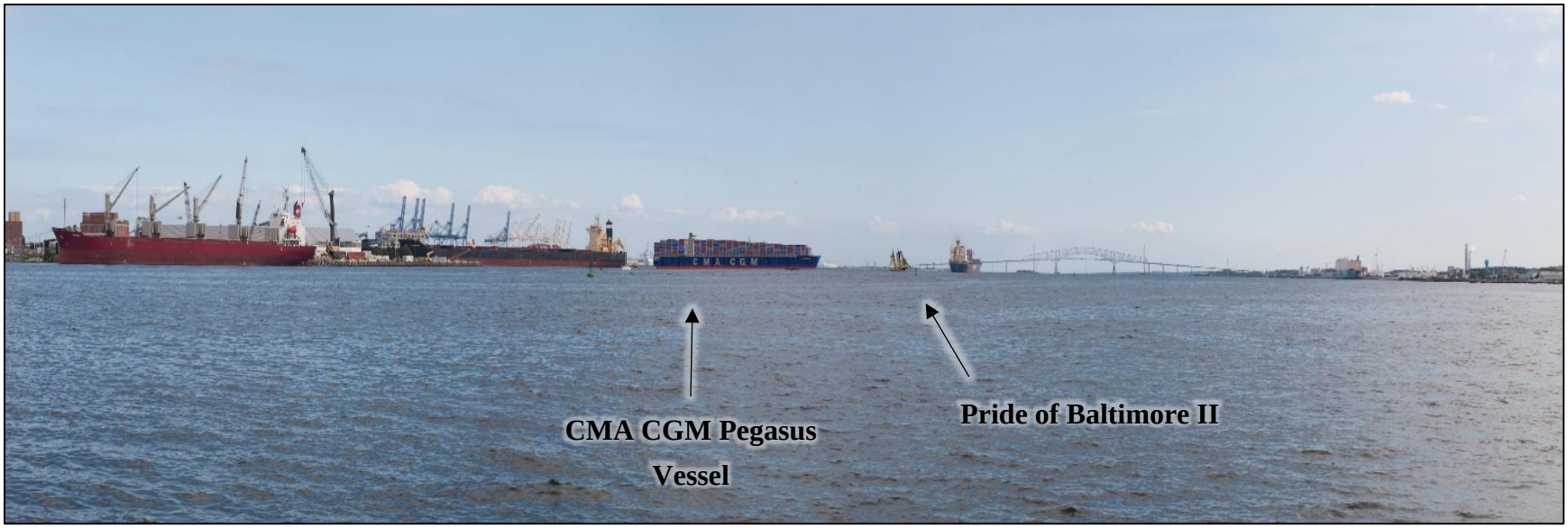

Figure 7. Viewpoint one FWOP rendering.

Figure 8. Viewpoint one Future with Project rendering.

3.2. Viewpoint Two – Port Covington

Approximately two and a half miles from the proposed project area, viewpoint two was taken along the shoreline at Port Covington. It is directed towards the east and is focused on the West Seagirt Branch Channel proposed for deepening and widening (Figure 9). Figure 10 shows the base photograph, which is an existing condition as experienced by Moffatt & Nichol the day they were in the field. The Fort McHenry NMHS is visible on the left side of the photograph. Moving from left to right are vessels standing by at terminals along Newgate Avenue and the Seagirt Marine Terminal, and the strip of land at the right side of the photograph is the Masonville Dredged Material Containment Facility.

Figure 11 shows the FWOP alternative, which is an existing condition that represents a busier time of day than the base photograph. In addition to what is featured in the base photograph, the CMA CGM Pegasus has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel. A three-dimensional rendering of the Pride of Baltimore II was added to the southwest of the CMA CGM Pegasus to better clarify the scale of the FWOP alternative.

Figure 12 shows the Future with Project alternative, which is a condition that would allow vessels with a sailing draft in excess of -42 feet MLLW to exit the terminal through the West Seagirt Branch Channel. In addition to what is featured in the base photograph, the CMA CGM Marco Polo has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel. A three-dimensional rendering of the Pride of Baltimore II was added to the southwest of the CMA CGM Marco Polo to better clarify the scale of the Future with Project alternative.

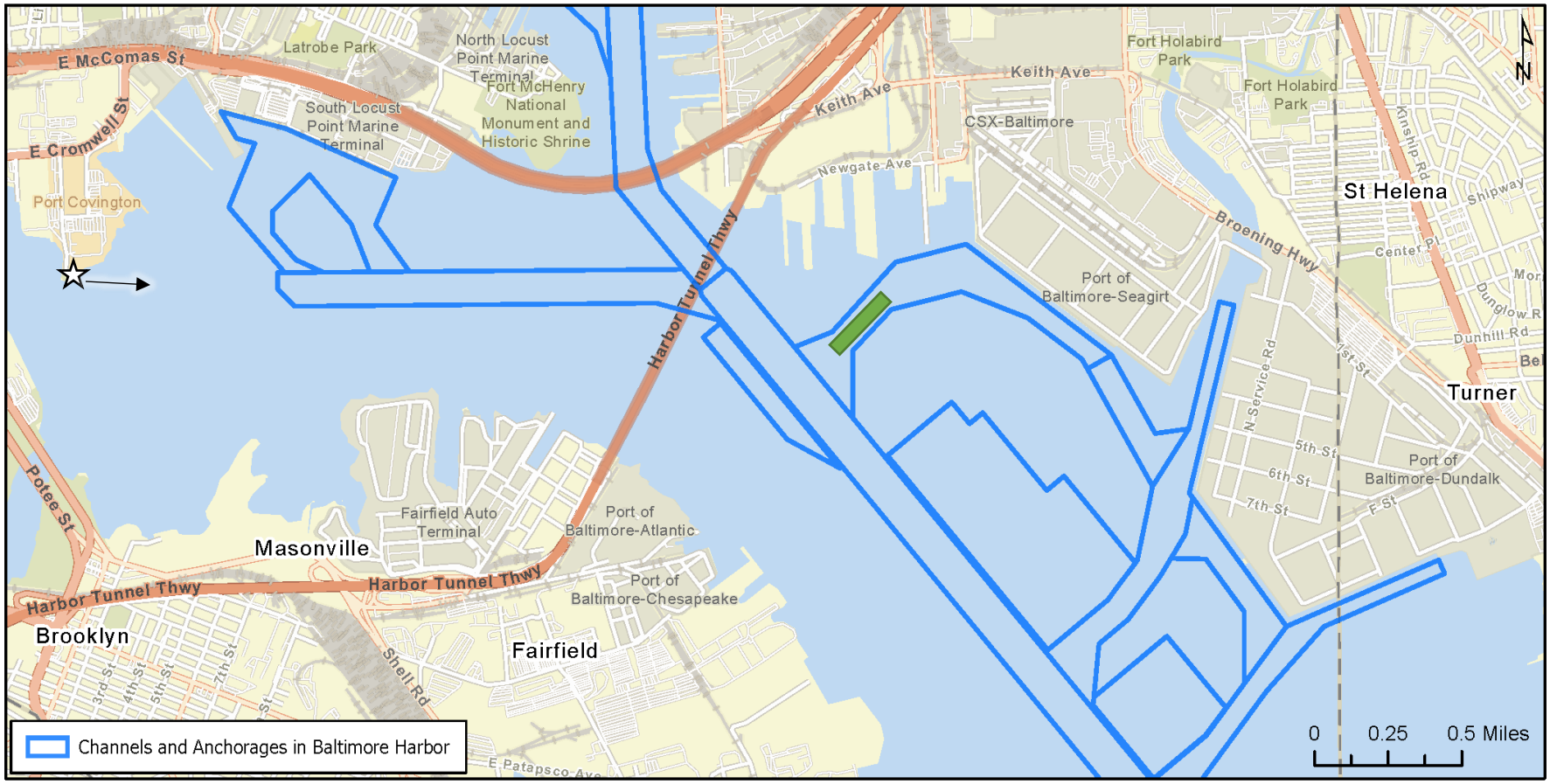

Figure 9. Viewpoint two photograph location and direction.

Figure 10. Viewpoint two base photograph.

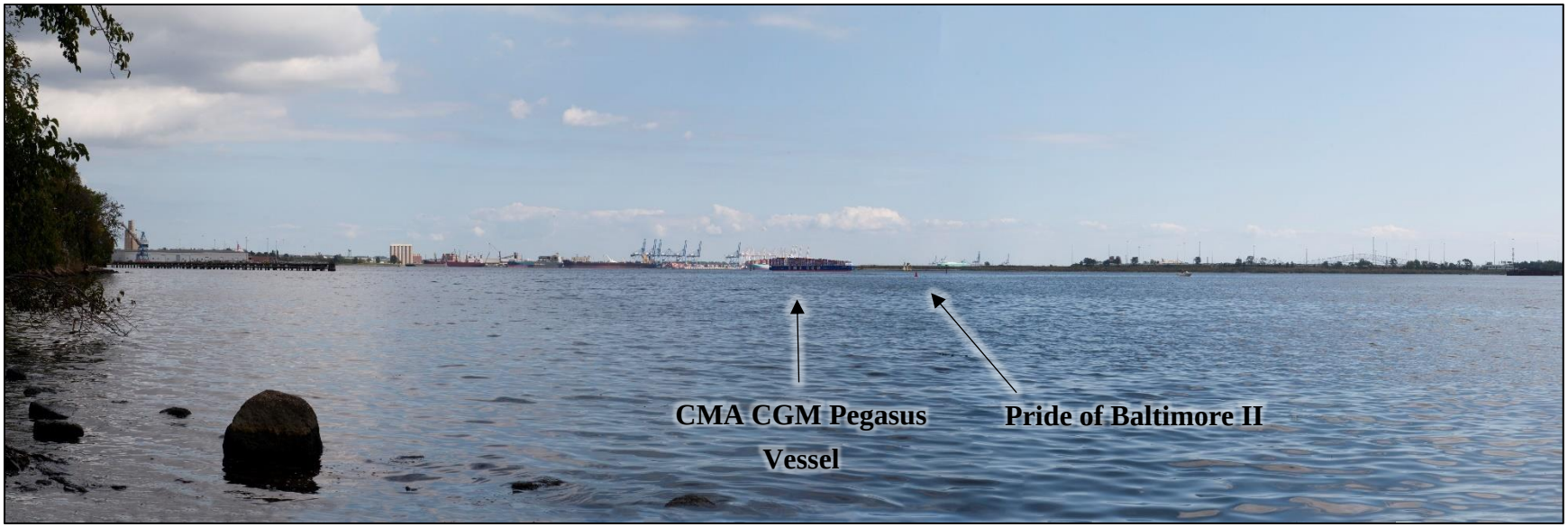

Figure 11. Viewpoint two FWOP rendering.

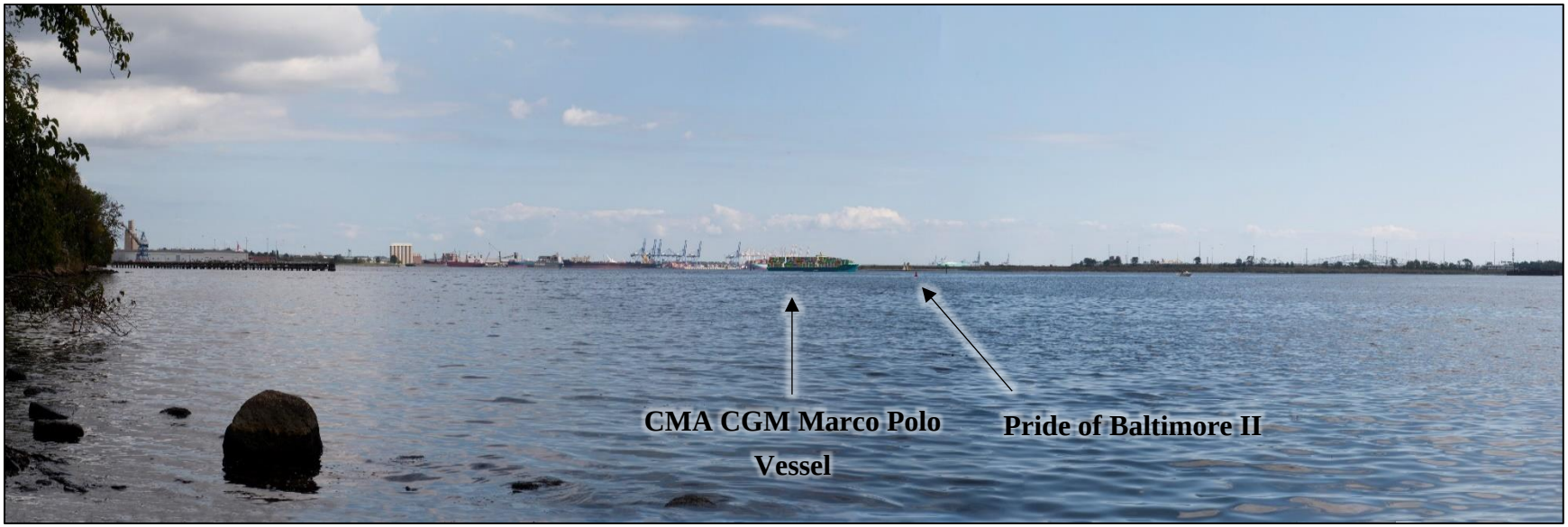

Figure 12. Viewpoint two Future with Project rendering.

3.3. Viewpoint Three – Fairfield Marine Terminal

Approximately 0.75 miles away from the proposed project area, viewpoint three was taken from a boat at a location just north of the Fairfield Marine Terminal. It is directed towards the northeast and is focused on the West Seagirt Branch Channel proposed for deepening and widening (Figure 13). Figure 14 shows the base photograph, which is an existing condition as experienced by Moffatt & Nichol the day they were in the field. The majority of the photograph is comprised of vessels standing by at the Seagirt Marine Terminal. Beyond the vessels are cranes for loading and unloading cargo.

Figure 15 shows the FWOP alternative, which is an existing condition that represents a busier time of day than the base photograph. In addition to what is featured in the base photograph, the CMA CGM Pegasus has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel. A three-dimensional rendering of the Pride of Baltimore II was added to the north of the CMA CGM Pegasus to better clarify the scale of the FWOP alternative.

Figure 16 shows the Future with Project alternative, which is a condition that would allow vessels with a sailing draft in excess of -42 feet MLLW to exit the terminal through the West Seagirt Branch Channel. In addition to what is featured in the base photograph, the CMA CGM Marco Polo has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel. A three-dimensional rendering of the Pride of Baltimore II was added to the north of the CMA CGM Marco Polo to better clarify the scale of the Future with Project alternative.

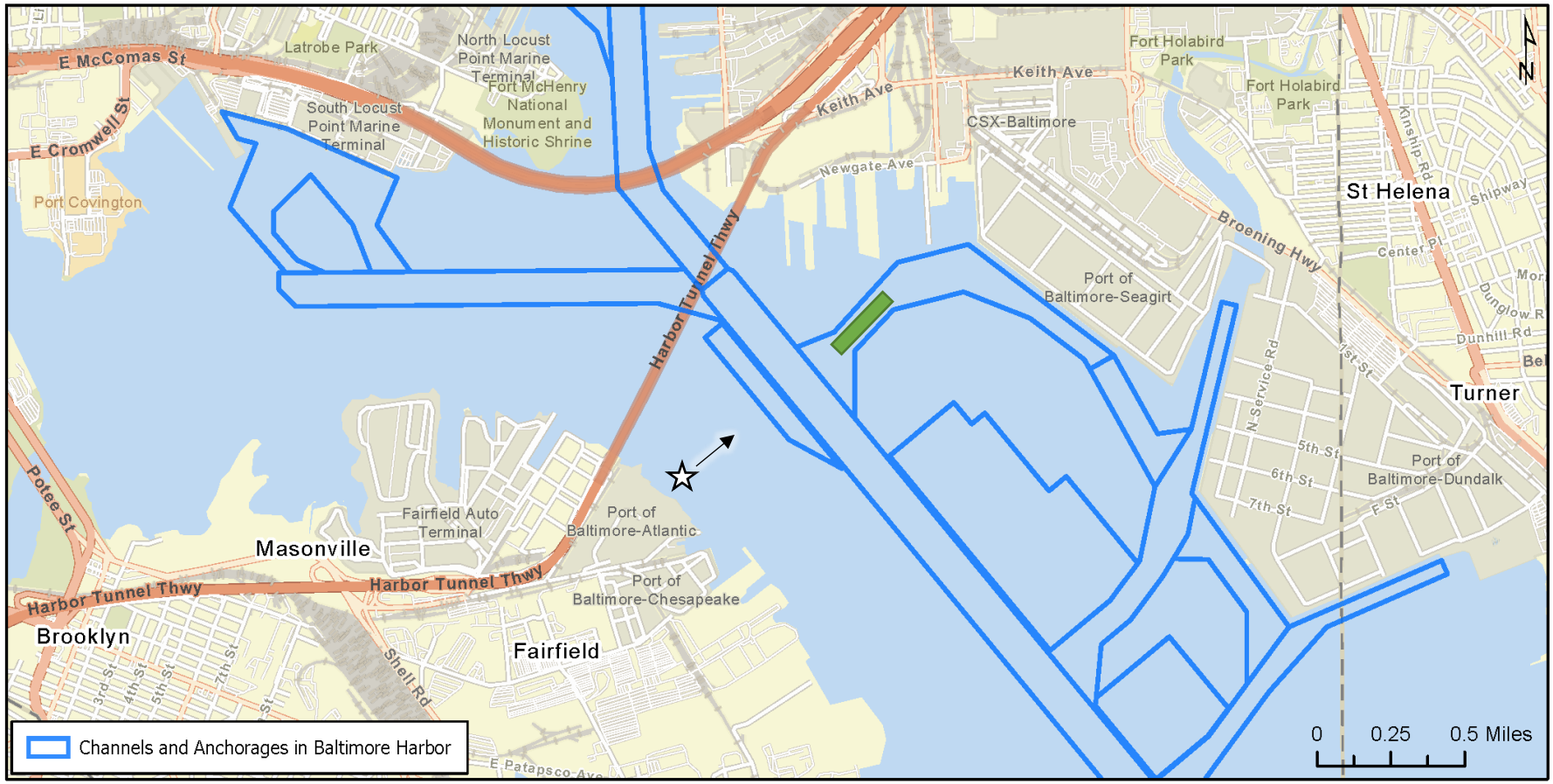

Figure 13. Viewpoint three photograph location and direction.

Figure 14. Viewpoint three base photograph.

Figure 15. Viewpoint three FWOP rendering.

Figure 16. Viewpoint three Future with Project rendering.

3.4. Viewpoint Four – Key Bridge

Approximately three miles from the proposed project area, viewpoint four was taken from a boat at a location near the Key Bridge. It is directed towards the northwest and is focused on the West Seagirt Branch Channel proposed for deepening and widening (Figure 17). Figure 18 shows the base photograph, which is an existing condition as experienced by Moffatt & Nichol the day they were in the field. From left to right, the photograph features Baltimore City, the Seagirt and Dundalk Marine Terminals, and portions of Dundalk.

Figure 19 shows the FWOP alternative, which is an existing condition that represents a busier time of day than the base photograph. In addition to what is featured in the base photograph, the CMA CGM Pegasus has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel.

Figure 20 shows the Future with Project alternative, which is a condition that would allow vessels with a sailing draft in excess of -42 feet MLLW to exit the terminal through the West Seagirt Branch Channel. In addition to what is featured in the base photograph, the CMA CGM Marco Polo has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel.

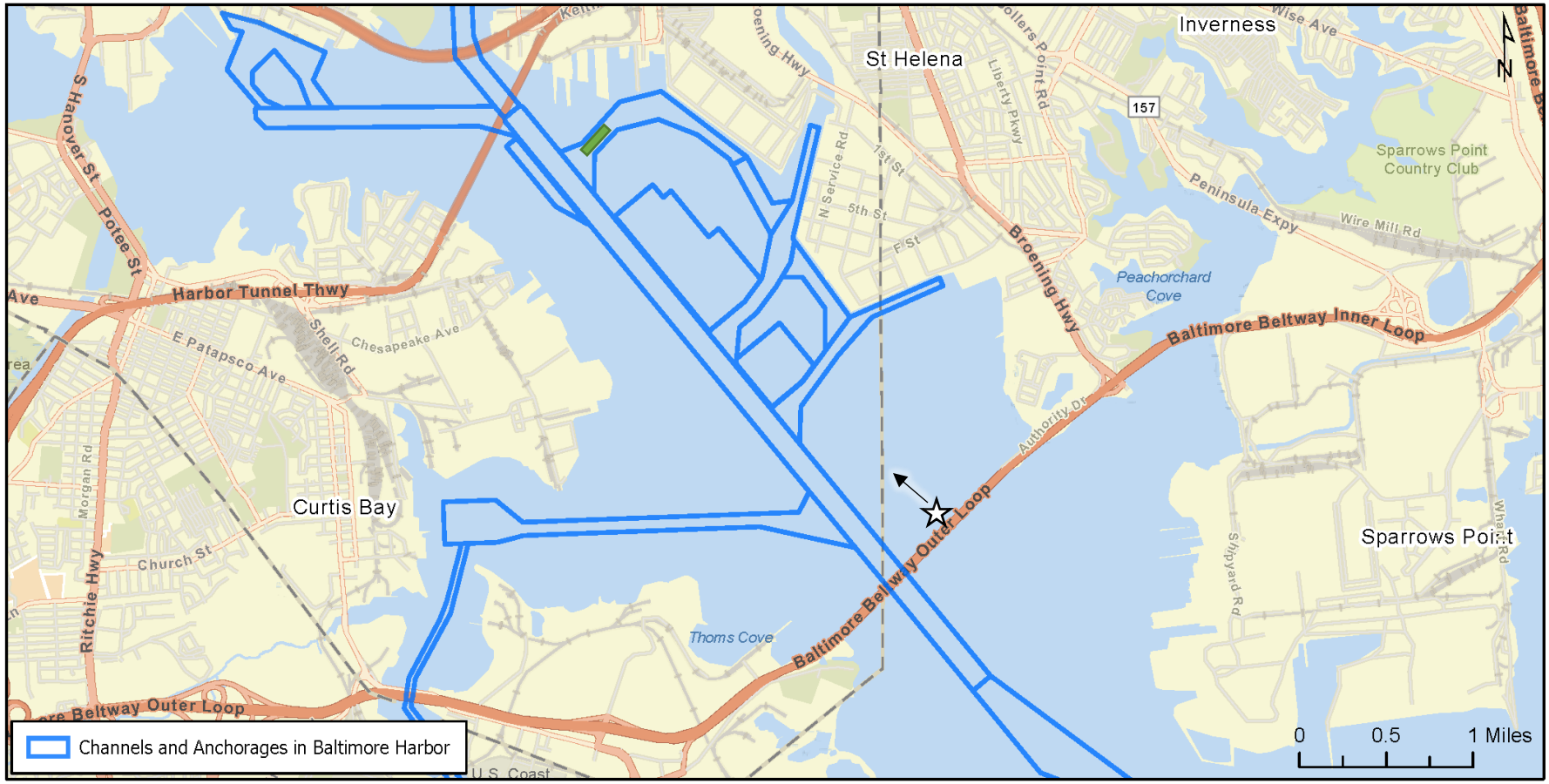

Figure 17. Viewpoint four photograph location and direction.

Figure 18. Viewpoint four base photograph.

Figure 19. Viewpoint four FWOP rendering.

Figure 20. Viewpoint four Future with Project rendering.

3.5. Viewpoint Five – Fort Carroll

Approximately 3.3 miles from the proposed project area, viewpoint five was taken from a boat at a location near Fort Carroll. It is directed towards the northwest and is focused on the West Seagirt Branch Channel proposed for deepening and widening (Figure 21). Figure 22 shows the base photograph, which is an existing condition as experiences by Moffatt & Nichol the day they were in the field. The Key Bridge is in the forefront, while Baltimore City and the Seagirt and Dundalk Marine Terminals can be seen in the central and right-hand portions of the photograph.

Figure 23 shows the FWOP alternative, which is an existing condition that represents a busier time of day than the base photograph. In addition to what is featured in the base photograph, the CMA CGM Pegasus has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel.

Figure 24 shows the Future with Project alternative, which is a condition that would allow vessels with a sailing draft in excess of -42 feet MLLW to exit the terminal through the West Seagirt Branch Channel. In addition to what is featured in the base photograph, the CMA CGM Marco Polo has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel.

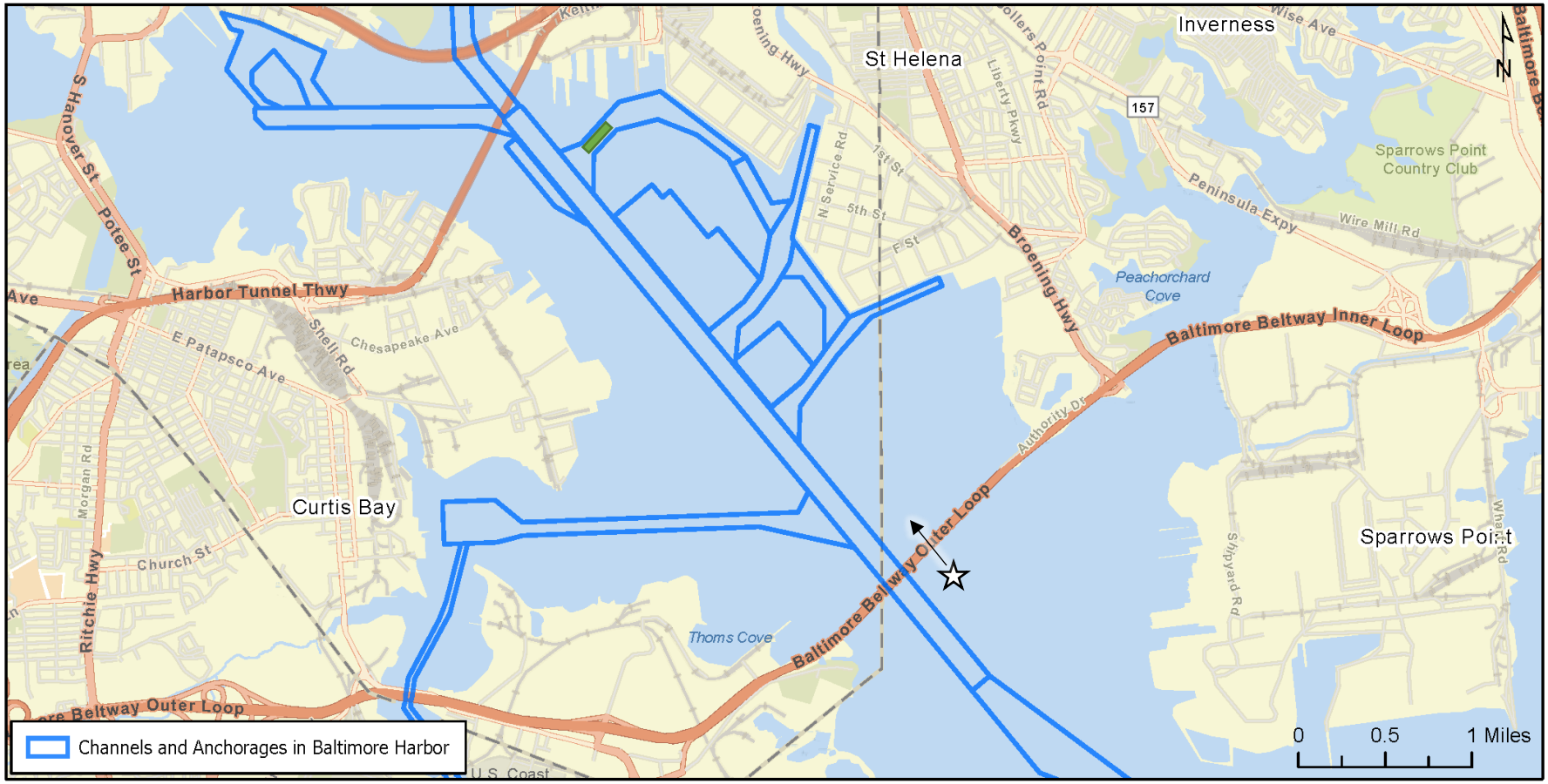

Figure 21. Viewpoint five photograph location and direction.

Figure 22. Viewpoint five base photograph.

Figure 23. Viewpoint five FWOP rendering.

3.6. Viewpoint Six – Hawkins Point

Approximately 3.4 miles from the proposed project area, viewpoint six was taken from a boat at a location near Hawkins Point. It is directed towards the northwest and is focused on the West Seagirt Branch Channel proposed for deepening and widening (Figure 25). Figure 26 shows the base photograph, which is an existing condition as experienced by Moffatt & Nichol the day they were in the field. The Key Bridge is in the forefront, while Baltimore City and the Seagirt and Dundalk Marine Terminals can be seen in the left-central and right-hand portions of the photograph.

Figure 27 shows the FWOP alternative, which is an existing condition that represents a busier time of day than the base photograph. In addition to what is featured in the base photograph, the CMA CGM Pegasus has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel.

Figure 28 shows the Future with Project alternative, which is a condition that would allow vessels with a sailing draft in excess of -42 feet MLLW to exit the terminal through the West Seagirt Branch Channel. In addition to what is featured in the base photograph, the CMA CGM Marco Polo has been three-dimensionally rendered and placed in the West Seagirt Branch Channel to represent the vessel moving through the access channel.

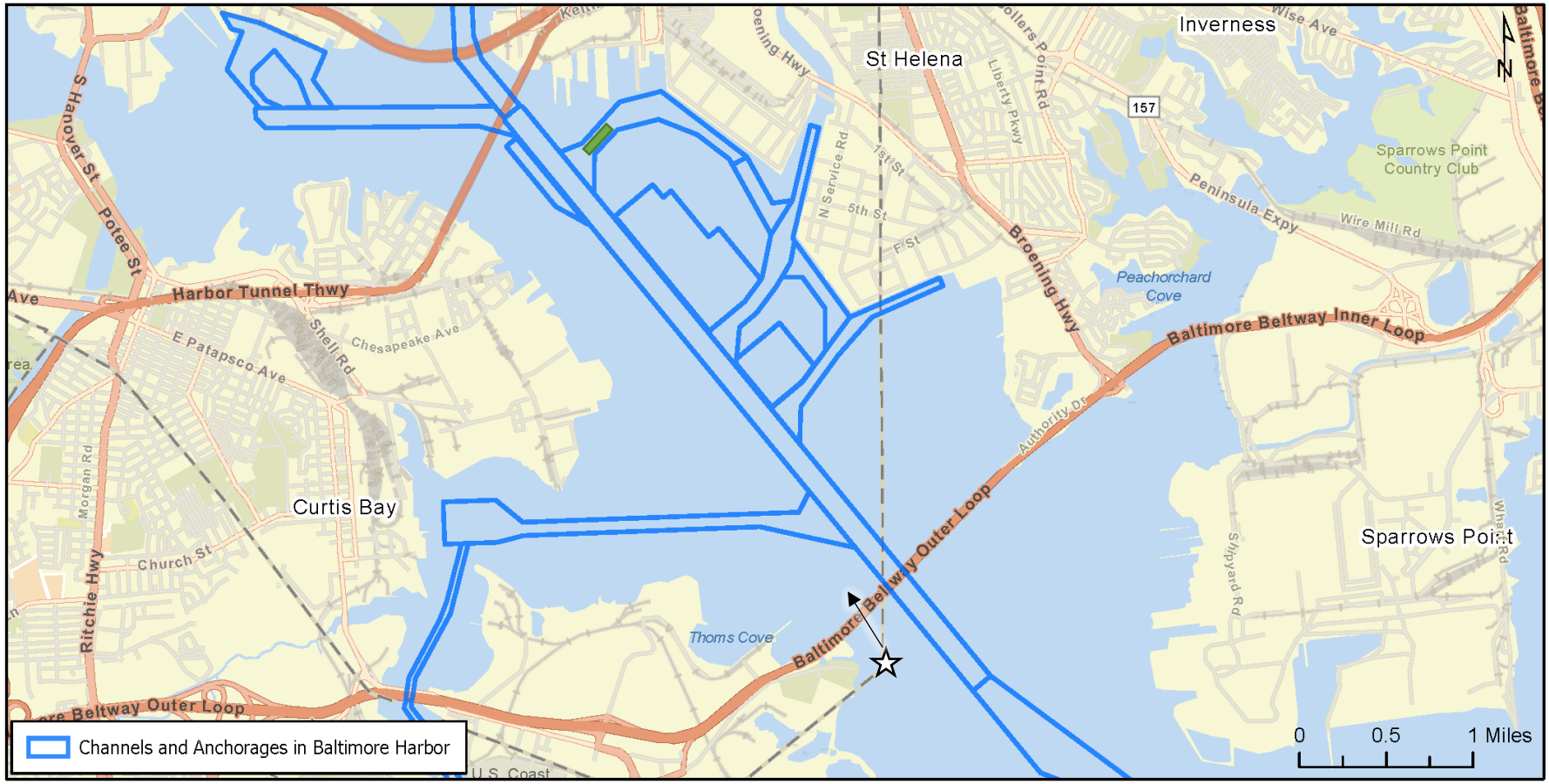

Figure 25. Viewpoint six photograph location and direction.

Figure 26. Viewpoint six base photograph.

Figure 27. Viewpoint six FWOP rendering.

Figure 28. Viewpoint six Future with Project rendering.

4. Evaluation of Potential Effects on NRHP Eligible and Listed Resources Within the Project APE

Section 106 of the NHPA requires that a federal agency must consider its proposed actions' potential to affect resources eligible for or listed in the NRHP. Guidelines for evaluating a project's effects on historic properties are found in the regulations of the Advisory Council on Historic Preservation (ACHP) at 36 CFR Part 800, published in the Federal Register, Volume 51, No. 109, September 2nd, 1986, and revised as published in the Federal Register, August 5th, 2004. The guidelines are presented below.

4.1. Assessment of Effects (35 CFR 800.16(i))

An undertaking has an effect on a historic property when the undertaking alters the characteristics of the historic property that qualify it for inclusion in or its eligibility for inclusion in the NRHP.

4.2. Criteria of Adverse Effect (36 CFR 800.5(a)(1) and (2))

An undertaking is considered to have an adverse effect when the undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration will be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the NRHP. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

Examples of adverse effects on historic properties include, but are not limited to:

- Physical destruction of or damage to all or part of the property; or,
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary of Interior's Standards for the Treatment of Historic Properties and applicable guidelines; or,
- Removal of a property from its historic location; or,
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance; or,
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features; or,

- Neglect of a property which causes its deterioration; or,

- Transfer, lease, or sale of a property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

Based on the definition and examples of adverse effects given in 36 CFR 800.5(a)(1) and (2), those that may apply to the NRHP eligible or listed resources within the APE are:

- Change the character of any property's use; or,

- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features; or,

- Reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

5. Analysis of Effects

Seven historic properties are entirely or partially located within the APE. Five resources are eligible for the NRHP and include: the Baltimore Municipal Airport, Air Station (BA-2094), Baltimore Municipal Airport, Harbor Field (B-3603), Canton Coal Pier (B-1082), Canton Grain Elevator (B-985), and Western Electric Company, Point Breeze Plant Historic District (B-5298). Two resources are listed in the NRHP and include the Dundalk Historic District (BA-2213) and Fort McHenry NMHS (B-8).

Overall, the proposed deepening and widening of the West Seagirt Branch Channel would not:

- Result in the physical destruction of or damage to any part of any property; or,

- Alter a property in a manner that is not consistent with the Secretary of Interior's Standards for the Treatment of Historic Properties and applicable guidelines; or,

- Remove any property from its historic location; or,

- Cause the neglect of any property, leading to its deterioration; or,

- Result in the transfer, lease, or sale of any property out of Federal ownership or control.

As discussed in Section 4, USACE completed viewshed renderings to evaluate the proposed project's potential to cause effects or adverse effects to historic properties within the APE, more specifically evaluating the potential to introduce new visual elements that could diminish the

integrity of a property's significant historic features. Renderings were not created from the viewpoint of six of the resources because they were determined as having compromised integrity, lacking visibility of the proposed project, or were located in settings that would not be diminished by the proposed project (Table 4). Due to the national significance of the Fort McHenry NMHS and its location within the landscape, USACE developed renderings of existing conditions and of what the proposed project alternative would resemble from that resource.

Table 4. No adverse effect determinations for resources within the APE.

Resource Name	MIHP No.	Justification of No Adverse Effect
Baltimore Municipal Airport, Air Station	BA-2094	The resource has always been located in an industrial setting and adjacent to an active port. Additionally, the resource's integrity has been extensively compromised by development and the project alternative will not introduce any elements that compromise any remaining aspects of integrity.
Baltimore Municipal Airport, Harbor Field	B-3603	The resource has always been located in an industrial setting and adjacent to an active port. Additionally, the resource's integrity has been extensively compromised by development and the project alternative will not introduce any elements that compromise any remaining aspects of integrity.
Canton Coal Pier	B-1082	The proposed project alternative is predominately obscured by the CNX Marine Terminal and other commercial and industrial businesses.
Canton Grain Elevator	B-985	The introduction of Post-Panamax class vessels is in line with the industrial associations of material processing and port-side activities that make the resource eligible under Criterion A. Additionally, setting and view are not part of the resource's character-defining features. The project alternative will not affect any of the resource's character-defining features, which are its design, materials, workmanship, feeling, and association.
Dundalk Historic District	BA-2213	Only a small portion of the Dundalk Historic District is within the indirect APE, and the project alternative is not visible from the resource.
Western Electric Company, Point Breeze Plant Historic District	B-5298	The project alternative is predominantly obscured by Port of Baltimore – Seagirt Marine Terminal activities and features (e.g., presence of semi-trailers, stacked container crates, crane operations, etc.). Additionally, any portions of the project alternative that may be visible from the resource will not introduce any new visual elements that would diminish the integrity of the property's significant features.

5.1. Analysis of the Effect and Adverse Effect on the Fort McHenry NMHS (B-8)

Situated on the Patapsco River at the mouth of Baltimore's Inner Harbor, the Fort McHenry NMHS is a 43.3-acre property consisting of a pentagonal star fort, ravelin, and numerous other associated buildings, structures, and objects. Although known for its association with a British bombardment during the War of 1812, the Fort McHenry NMHS has a period of significance ranging from 1794 to 1945 and includes other developments such as its use as a receiving hospital during World War I and as a U.S. Coast Guard training facility during World War II (Whissen 1996; Davison and Foulds 2004).

The Fort McHenry NMHS gained its current designation as both a national monument and historic shrine when the National Park Service designated it as such in 1939. Following passage of the NHPA in 1966, the property was listed in the NRHP pursuant to the four criteria for listing. The Fort McHenry NMHS meets NRHP Criterion A for military for its association with its role in the defense of Baltimore during the War of 1812. It meets Criterion B for literature and poetry for its association with Francis Scott Key and the writing of the "Star Spangled Banner." It meets Criterion C for military, engineering, conservation, historic preservation and art, and sculpture for its association with late eighteenth to late nineteenth century defense engineering and for its collection of statues and commemorative plaques installed during period of memorialization. It meets Criterion D for historic/non-aboriginal archaeology for its ability to yield information about the fort's buildings, structures, and the lives of its inhabitants (Davison and Foulds 2004).

The Fort McHenry NMHS Cultural Landscape Report states that one of the major existing views is from the fort out across the channel of the Patapsco River, which represented an important approach to attacking enemy vessels during the War of 1812; however, both the cultural landscape report and the NRHP registration form discuss that, although it still retains its relationship with open water, modern urban and industrial development has altered the resource's viewshed. This includes the Key Bridge, inbound and outbound vessels within State and Federal channels, vessels on standby, and marine terminals with cranes for loading and unloading maritime freight, as shown in Figures 6 through 8.

The proposed Future with Project alternative consists of deepening and widening the West Seagirt Branch Channel up to -50 feet MLLW to allow 50-foot draft vessels to standby within Baltimore Harbor. A comparison between Figures 7 and 8 shows that the proposed deepening and widening and optimization of the West Seagirt Branch Channel for the CMA CGM Marco Polo vessel would cause minimal visual change to the existing viewshed. Additionally, any visual changes associated with vessel traffic would be temporary because vessels calling at the Port of Baltimore are mobile in nature and do not permanently anchor at any of the terminals.

Because the changes to the viewshed are minimal and temporary, and because it is located within an active industrial port, the proposed project would not change the character of the Fort McHenry NMHS or the physical features within its setting that contribute to its historic significance. The proposed project also would not introduce visual elements that diminish the integrity of the resource's significant historic features, nor would it lead to reasonably foreseeable effects that may occur later in time, be farther removed in distance, or be cumulative. The proposed project will have no adverse effect on the Fort McHenry NMHS.

5.2. Analysis of the Effect on National Historic Trails

In accordance with the National Trails System Act, a trail will qualify as a National Historic Trail when it meets three criteria:

- The National Historic Trail must be a trail or route established by historic use, must be historically significant as a result of that use, and must follow as closely as possible to the historic route; and,
- The National Historic Trail must be nationally significant; and,
- The National Historic Trail must have significant potential for public recreational use or historical interest based on historic interpretation and appreciation.

5.2.1. Captain John Smith Chesapeake National Historic Trail

The Captain John Smith Chesapeake National Historic Trail is a series of water trails spanning approximately 3,000 miles along the Chesapeake Bay and its tributaries. Designated in 2007, the historic trail includes portions of Maryland, Virginia, Delaware, Pennsylvania, and the District of Columbia. In the Baltimore area, the trail moves from Baltimore Harbor and the Patapsco River and converges at a point southeast of the Fort McHenry NMHS. From there it follows the existing federal shipping channel as it moves beyond the Key Bridge and into the Chesapeake Bay. The National Historic Trail commemorates John Smith's voyages between 1607 and 1609. It also recognizes the interactions between his crew and seventeenth-century American Indian communities and highlights the Chesapeake Bay's natural history (National Park Service 2022).

In 2006, the NPS prepared an Environmental Assessment and Feasibility Study to evaluate the designation of the Captain John Smith Chesapeake Trail as a National Historic Trail. The NPS determined that the trail met all three criteria established by the National Trails System Act, and its significance is linked with the three main themes of Native American Ethnic Heritage, Exploration and Settlement, and Commerce and Trade (National Park Service 2006).

The proposed Future with Project alternative consists of deepening and widening the West Seagirt Branch Channel up to -50 feet MLLW to allow 50-foot draft vessels to standby within Baltimore Harbor. Modern urban and industrial development existed when the Captain John Smith Chesapeake National Historic Trail was designated. This includes the Key Bridge, inbound and outbound vessels within State and Federal channels, vessels on standby, and marine terminals for loading and unloading maritime freight, as shown in Figures 6 through 8, Figures 10 through 12, and Figures 14 through 16. These figures show that the proposed project and West Seagirt Branch Channel optimization for the CMA CGM Marco Polo vessel would cause

minimal visual change to the existing viewshed. Any visual changes associated with vessel traffic would be temporary because vessels calling at the Port of Baltimore are mobile in nature and do not permanently anchor at any of the terminals.

Because the changes to the viewshed are minimal and temporary, because it is located within an active industrial port, and because there are no proposed changes to channel alignments, the proposed undertaking would not adversely affect the characteristics of the Captain John Smith Chesapeake National Historic Trail that qualify it as a National Historic Trail under the National Trails System Act. The proposed undertaking would not alter the trail's historic route; it would not adversely affect any of the historical themes that contribute to its national significance; and it would not alter or adversely affect its use as a recreational resource.

5.2.2. Star-Spangled Banner National Historic Trail

The Star-Spangled Banner National Historic Trail is an approximately 600-mile land and water route connecting various sites in Maryland, Virginia, and the District of Columbia that commemorate the events leading up to the writing of "The Star-Spangled Banner" during the 1814 Chesapeake Campaign of the War of 1812. In the Baltimore area, the trail diverges at the Fort McHenry NMHS, with one direction moving across Locust Point towards Baltimore and the other following the existing federal shipping channel to the southeast. It is at this point that it moves beyond the Key Bridge and into the Chesapeake Bay (National Park Service 2022).

In 2004, the NPS prepared an Environmental Impact Statement and Feasibility Study to evaluate the designation of the Star-Spangled Banner Trail as a National Historic Trail. The NPS determined that the trail met all three criteria established by the National Trails System Act, and its significance is linked with United States military, social, economic, commercial, and political history (National Park Service 2004).

The proposed Future with Project alternative consists of deepening and widening the West Seagirt Branch Channel up to -50 feet MLLW to allow 50-foot draft vessels to standby within Baltimore Harbor. Similar to the Captain John Smith Chesapeake National Historic Trail, modern urban and industrial development existed when the Star-Spangled Banner National Historic Trail was designated. This includes the Key Bridge, inbound and outbound vessels within State and Federal channels, vessels on standby, and marine terminals for loading and unloading maritime freight, as shown in Figures 6 through 8, Figures 10 through 12, and Figures 14 through 16. These figures show that the proposed project and West Seagirt Branch Channel optimization for the CMA CGM Marco Polo vessel would cause minimal visual change to the existing viewshed. Any visual changes associated with vessel traffic would be temporary because vessels calling at the Port of Baltimore are mobile in nature and do not permanently anchor at any of the terminals.

Because the changes to the viewshed are minimal and temporary, because it is located within an active industrial port, and because there are no proposed changes to channel alignments, the proposed undertaking would not adversely affect the characteristics of the Star-Spangled Banner National Historic Trail that qualify it as a National Historic Trail under the National Trail Systems Act. The proposed undertaking would not alter the trail's historic route; it would not

adversely affect any of the historical themes that contribute to its national significance; and it would not alter or adversely affect its use as a recreational resource.

6. References

Davison, Mark and Eliot Foulds. *Cultural Landscape Report for the Fort McHenry National Monument and Historic Shrine.* Brookline, MA: Olmstead Center for Landscape Architecture, 2004.

National Park Service. *Captain John Smith Chesapeake National Historic Trail*. U.S. Department of the Interior, 2022. https://www.nps.gov/cajo/planyourvisit/captain-john-smith-chesapeake-nht.htm.

National Park Service. *Captain John Smith Chesapeake National Historic Trail Feasibility Study and Environmental Assessment*. U.S. Department of the Interior, 2006.

National Park Service. *Star-Spangled Banner National Historic Trail*. U.S. Department of the Interior, 2022. https://www.nps.gov/stsp/planyourvisit/maps.htm.

Whissen, Steve. *National Register of Historic Places Registration: Fort McHenry National Monument and Historic Shrine.* Washington, D.C.: National Park Service, 1996.

BALTIMORE HARBOR ANCHORAGES AND CHANNELS (BHAC)

MODIFICATION OF SEAGIRT LOOP CHANNEL

FEASIBILITY STUDY

FINAL INTEGRATED FEASIBILITY REPORT & ENVIRONMENTAL ASSESSMENT

APPENDIX A5:

Biological Assessment

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

September 28, 2022

CENAB-PL-P

Jennifer Anderson
Assistant Regional Administrator
NOAA Fisheries
Greater Atlantic Regional Fisheries Office
Protected Resources Division
55 Great Republic Drive
Gloucester, MA 01930

Re: Request for Concurrence of a "may affect, but not likely to adversely affect" determination for the Baltimore Harbor Anchorages and Channels Modification of the Seagirt Loop Channel Feasibility Study

Dear Ms. Anderson,

The U.S. Army Corps of Engineers, Baltimore District (USACE) has made the determination under Section 7 of the Endangered Species Act (ESA) that the Recommended Plan "may affect but is not likely to adversely affect" those species listed as threatened or endangered by National Oceanic and Atmospheric Administration (NOAA) Fisheries. This letter is to request your concurrence on our "may affect but is not likely to adversely affect" determination for the Baltimore Harbor Anchorages and Channels Modification of the Seagirt Loop Channel Feasibility Study Recommended Plan. This Biological Assessment documents our conclusions and the rationale to support those conclusions regarding the effects of the Recommended Plan on protected resources.

I. Introduction

Study Purpose

The Baltimore Harbor Anchorages and Channels Project (BHAC project) is the primary focus of this study and includes the Seagirt Loop Channel, the Dundalk Access Channels, the South Locust Point Branch Channel and Turning Basin, and Anchorages 3 and 4. The Seagirt Loop Channel includes all channels that provide access to the Seagirt Marine Terminal (SMT): the West Seagirt Branch Channel (WSBC), the West Dundalk Branch Channel (WDBC), and the Dundalk-Seagirt Connecting Channel (DSCC) (Figure 1). The project area is a highly developed industrial area zoned as a marine industrial district, an area where maritime shipping can be conducted without intrusion of non-industrial uses and where investment in maritime infrastructure and related jobs is encouraged. The Port of Baltimore (Port) marine facilities include various private and public terminals and ranks first nationally for volume of autos and light trucks, roll-on roll-off (RORO) heavy farm and construction machinery and imported gypsum. The Port is one of only four U.S. East Coast ports with both a 50-foot-deep channel and two 50-foot-deep berths (SMT Berths 3 and 4), allowing it to accommodate some of the largest container ships (1,299-foot length, 175.9-foot beam) in the world and has experienced an increase in the number of calls from these larger, post-

Panamax class container vessels since 2016. Ships reach the Port located on the Patapsco River by traveling one of two routes along the Chesapeake Bay navigational channel system: the Chesapeake and Delaware (C&D) Canal linking the Delaware River with the northern end of the Chesapeake Bay, or the 50-Foot Channel, which extends 150 nautical miles from the mouth of the Chesapeake Bay to the Port.

The Port's future commerce, for the 10 and 20 year period of analysis, is linked to the Port's hinterland and the extent to which it shares commodity flows with other ports and projected over the next 50 years with or without the proposed project. The deepening of the Seagirt Loop will allow shippers to take advantage of larger vessels, load vessels more efficiently and move vessels through the system faster to gain efficiency and reduce delays. Under the future with project conditions (FWP), the volume of cargo is projected to increase as the proposed action would allow for the Ultra Large Container Vessels (ULCV) to call more frequently at the Port. According to the vessel forecast in the future without project (FWOP) conditions, expected vessel traffic to Seagirt Marine Terminal in 2030 is 554 vessels per year or approximately 11 vessels per week, increasing to 706 vessels in 2040 or 14 vessels per week. In the future with project conditions (FWP), these volumes are expected to decrease to 549 vessels in 2030 and 701 vessels in 2040, since more cargo can be consolidated on larger vessels. Vessel calls will decrease slightly in FWP but on a weekly basis will remain approximately the same.

The Action Area and surrounding transit areas serve one of the country's busiest ports with over 400 cargo vessels using the Seagirt Loop Channel to call at SMT each year. The Port has experienced an increase in the number of calls from larger, post-Panamax class container vessels since 2016. Post-Panamax vessels are longer, wider, and have deeper drafts than the federally-authorized dimensions of the Baltimore Harbor branch channels in the BHAC authority. The channel design in the Recommended Plan has been optimized during ship simulation modeling to the selected design vessel, the CMA CGM Marco Polo – with a length of 1,299 feet, a beam of 175.9 feet, and a sailing draft of -50 feet MLLW including gross under keel clearance (UKC). It is expected that over the next 10-20 years shipping at the Port will increase in volume to 554-706 vessels. Using the same model and accounting for the proposed action, those numbers would decrease slightly to 549-701, but basically remain the same rate of 11-14 ships per week.

The purpose of the BHAC study is to demonstrate that improvements to the BHAC project channels and anchorages would result in improved navigation efficiencies at the Port to meet future demand capacity at the Port facilities, including efficient handling of larger container vessels with increased cargo capacity at the SMT and faster and safer movement of vessels transiting the channels. This study is being completed by USACE in partnership with the Maryland Department of Transportation Maryland Port Administration (MDOT MPA), the non-federal sponsor of the study.

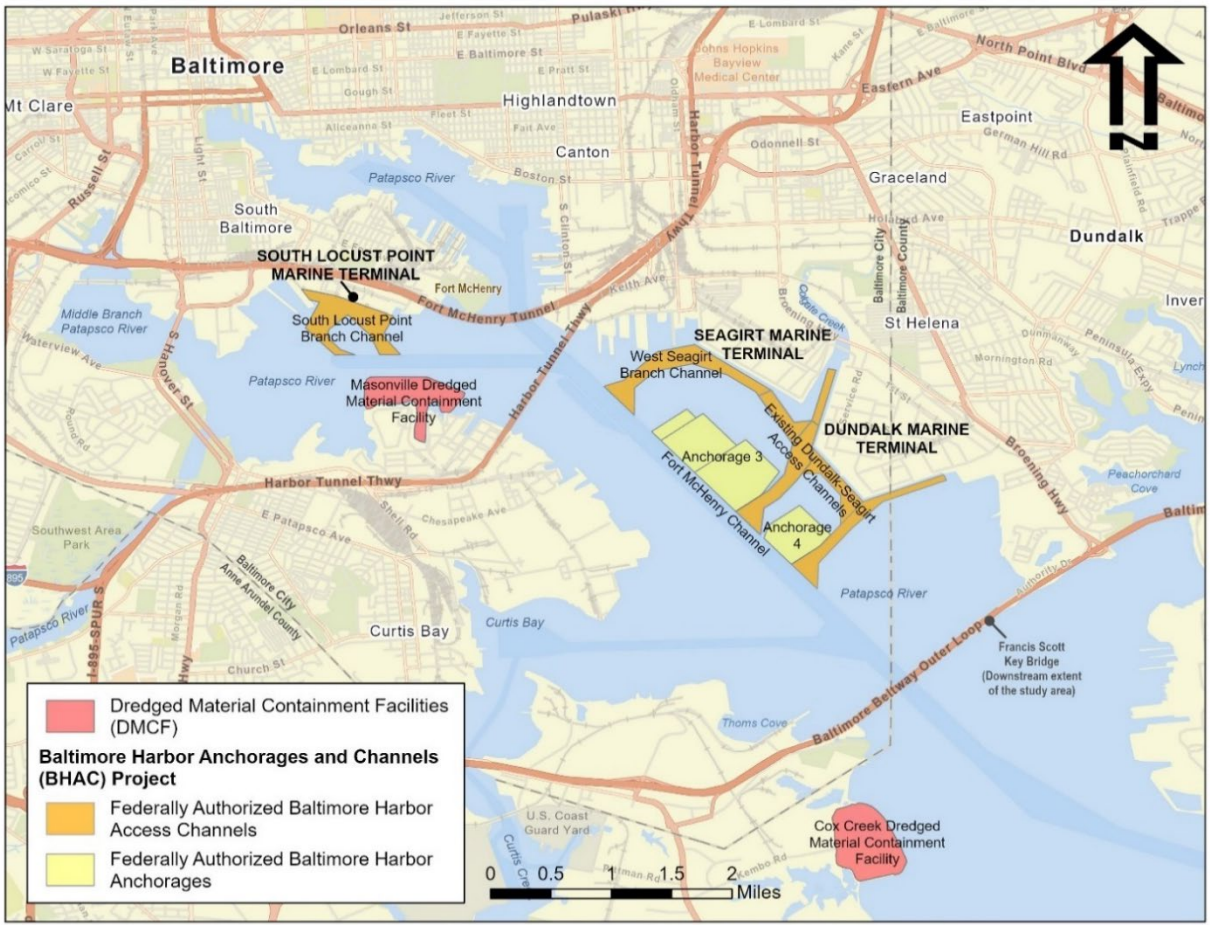

FIGURE 1: BALTIMORE HARBOR ANCHORAGES AND CHANNELS PROJECT STUDY AREA

II. Proposed Project (USACE Recommended Plan)

As a result of the BHAC study, the Recommended Plan for the BHAC project is the National Economic Development (NED) Plan; the plan that reasonably maximizes benefits. The Recommended Plan is to complete the Seagirt Loop Channel through deepening of the West Seagirt Branch Channel to a federally-authorized depth of -50 feet mean lower low water (MLLW) over 5,200 feet in length and an authorized dimension of 760 feet in average width with additional widening at bends necessary for the safe handling of vessels (Figure 2). An additional 2 feet of allowable overdepth has been assumed for purposes of dredged material volume and cost purposes. The West Seagirt Branch Channel is currently maintained at a depth of -45 feet MLLW with a minimum width of 500 feet.

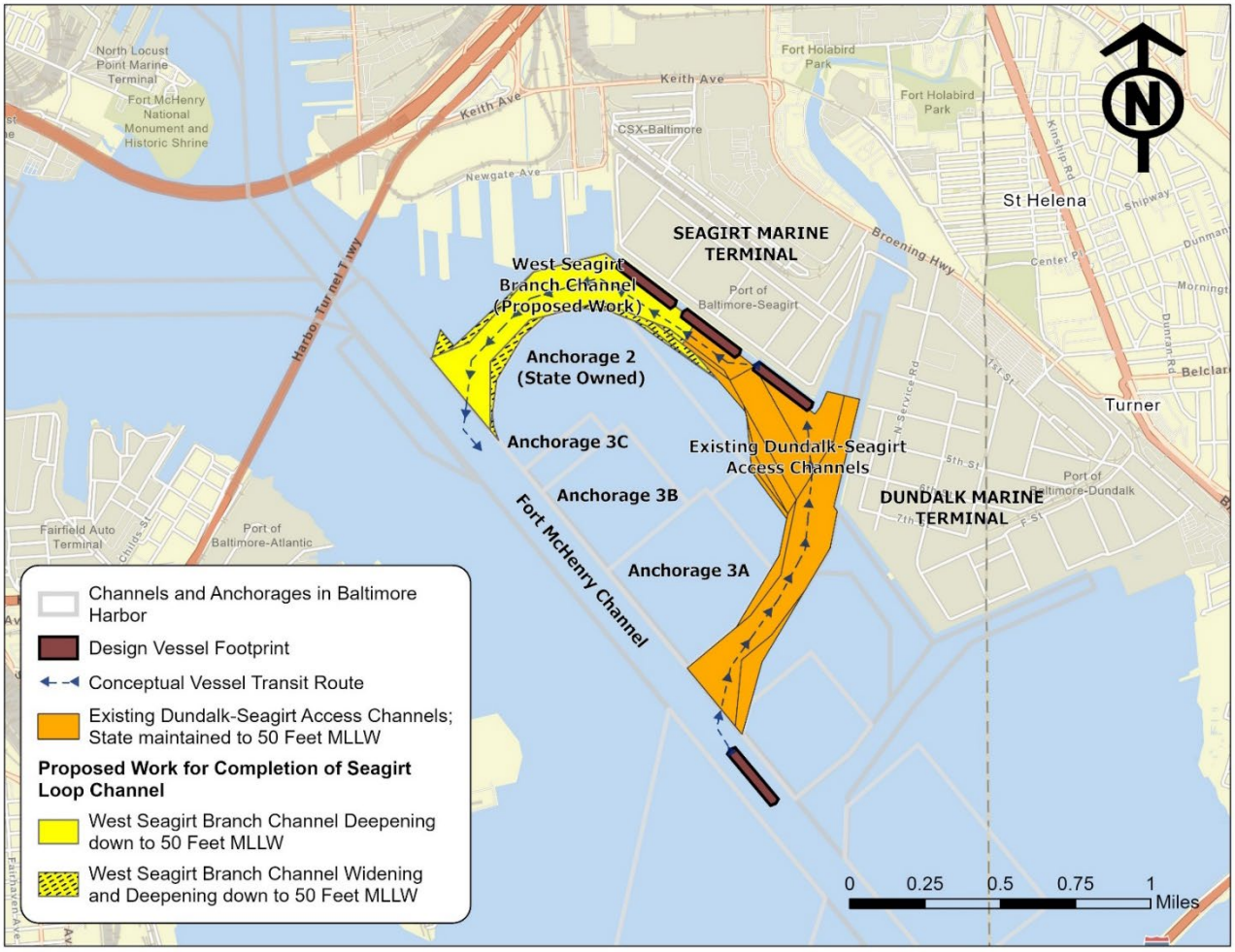

FIGURE 2: THE RECOMMENDED PLAN- DEEPENING AND WIDENING OF THE WSBC TO -50 FEET MLLW

Dredging volumes to complete the deepening and widening of the channel are expected to be approximately 1.9 million cubic yards (MCY) of total dredged material, with 100,000 CY of maintenance dredging and 1.8 MCY of new work (Table 1). The removal of the 1.9 MCY of dredged material will be performed mechanically with clamshell dredge equipment from a barge. A clamshell bucket will be used to reduce leaking of water and sediments from the bucket. Excavated material will be moved via watertight barge to the Cox Creek Dredged Material Containment Facility (DMCF) 5.6 miles from the dredge site and placed onsite via hydraulic unloader. The barge will make approximately four trips per day during dredging operations to and from the DMCF. Additional vessels used during dredging will include tending tugs, transport tugs that move scows to the placement site, and crew and survey boats. During mobilization, the dredging contractor will need extra towing tugs to transport all of its equipment to the project site. One towing tug, four hired towing tugs, one tending tug, and one crew/survey boat are assumed for the mobilization phase. Once mobilization is complete, the hired towing tugs will depart and one tending tug, one towing tug, and one crew boat/survey boat will remain onsite during dredging operations. During demobilization, removal of equipment from the project site will occur, so one towing tug, four hired towing tugs, one tending tug, and one crew/survey boat are assumed for the demobilization phase.

The project construction sequence will be determined during the Pre-engineering and Design (PED) phase of the project, post-authorization. Dredging will need to be spread out over a minimum of two inflows due to capacity constraints. The dredging and placement of material will occur during the fall/winter. In coordination with the NOAA Fisheries Greater Atlantic Habitat and Ecosystem Services Division, a time of year restriction for dredge activities will be implemented from March 1 to June 15 to minimize adverse impacts from turbidity to anadromous fish in Baltimore Harbor (windowpane flounder, bluefish, Atlantic butterfish, black sea bass). It is estimated that the dredging will be performed in two phases crossing three calendar years:

- Phase 1: 918,250 CY dredged in 2025/2026
- Phase 2: 918,250 CY dredged in 2026/2027

Dredged material will be placed at the Cox Creek DMCF, in accordance with the project's Dredged Material Management Plan (DMMP). The Cox Creek DMCF is located approximately one mile south of the Francis Scott Key Bridge, on the western shore of the Patapsco River in the upper Chesapeake Bay in Anne Arundel County, Maryland. It is designed to accept dredged material from Baltimore Harbor. The Cox Creek DMCF includes a 144-acre DMCF footprint, a 4-acre stormwater management pond, and 93 acres of upland. The DMCF dikes are at elevation of 36 feet MLLW. Figure 3 shows the route from the West Seagirt Branch Channel to the Cox Creek DMCF. The Cox Creek DMCF is currently being expanded into the upland portion of the property and raising of the existing dikes to 60 feet MLLW is underway. The estimated completion date for this current expansion work is 2024; this expansion and dike raising will be completed prior to the start of the dredged material placement activities for this project. All discharge from the facilities is released through a dedicated spillway and monitored via an Individual Discharge Permit through the National Pollutant Discharge Elimination System (NPDES) as authorized by the Environmental Protection Agency and managed through the State of Maryland Department of the Environment. Although not expected, if any dredged material exceeds the acceptance criteria of the DMCF, it would be deposited at an approved alternative upland disposal site.

No turbidity control measures (e.g., turbidity curtains) are proposed to be used, as turbidity curtains are not operationally feasible for this project. Turbidity generated by the proposed dredging may extend up to 2,400 feet from the dredge location (ACOE 2015a). No species observers are planned to be used during dredging operations because there are few reported interactions with anadromous species due to time of year restrictions for dredging operations.

TABLE 1: SUMMARY OF CHARACTERISTICS AND DIMENSIONS OF THE RECOMMENDED PLAN

	RECOMMENDED PLAN
Proposed Authorized Channel Depth (feet MLLW)	-50
Length of Improvement (feet)	5200
Channel Width (feet)	760
Quantity to be dredged (cy)	1,942,180
Predominant Channel Side Slope	5:1
Predominant Channel Bottom Material	Mud/silt with various contaminants
Total area of impact (acres)	126.86

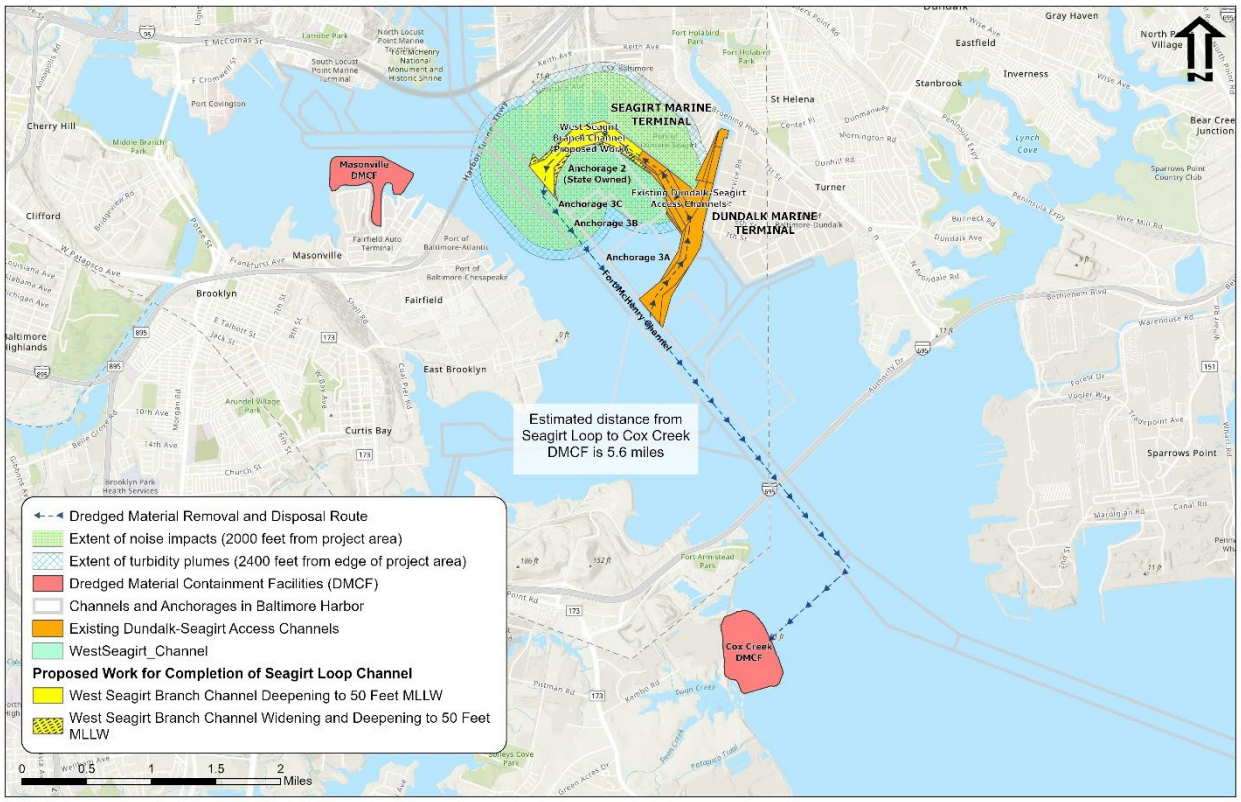

FIGURE 3: ROUTE FROM WSBC TO COX CREEK DMCF

III. Action Area

The Port of Baltimore has five terminal areas, two of which are serviced by the Seagirt Loop Channel, with over 400 cargo vessels using the Seagirt Loop Channel to call at Seagirt Marine Terminal (SMT) each year. The Action Area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50CFR§402.02). The Action Area includes all channels that provide access to the SMT: the West Seagirt Branch Channel (39.2513483°, -076.5628717º)(39.2514410°, -076.5463457°) the WDBC, and the DSCC (Figure 2). The Action Area also includes a 2400 foot zone around the dredging boundary where effects of the action may extend to, and the routes to and from the Cox Creek DMCF (39.20004°, -76.53282°) disposal site (Figure 3). Dredging of the WDBC and DSCC has already been completed, but they remain in the Action Area as they provide access to the West Seagirt Branch Channel.

The Action Area is a highly developed industrial area zoned as a marine industrial district, an area where maritime shipping can be conducted without intrusion of non-industrial uses and where investment in maritime infrastructure and related jobs is encouraged. Ships reach the Port by traveling one of two routes along the Chesapeake Bay navigational channel system: the C&D Canal linking the Delaware River with the northern end of the Chesapeake Bay, or the 50-Foot Channel, which extends 150 nautical miles from the mouth of the Chesapeake Bay to the Port. The mean tidal range of the Action Area is 1.14 feet (NOAA 2022).

The West Seagirt Branch Channel is a deep draft navigation channel leading to the SMT and is currently maintained at a depth of -45 feet MLLW with a minimum width of 500 feet. The Recommended Plan is the completion of the Seagirt Loop Channel through deepening of the West Seagirt Branch Channel to a federally-authorized depth of -50 feet MLLW and authorized dimension of 760 feet in average width with additional widening at bends necessary for the safe handling of vessels. An additional 2 feet of allowable overdepth has been assumed for purposes of dredged material volume and cost purposes. The Recommended Plan assumes that an area of 126.86 acres will be impacted by dredging. In addition to the West Seagirt Branch Channel, the extent of effects is included in the Action Area. Figure 3 shows the extent of the maximum distance potential impacts from dredging to -50 feet MLLW from stressors like turbidity.

Salinity in the Action Area typically ranges from 7.6-10 ppt (Chesapeake Bay Program 2019). Noise levels within and around the Action Area are consistent with an urban, industrial setting. The substrate in the Action Area is comprised of soft mud/silt. No hard substrate (i.e., rock, pebbles, gravel cobble, limestone or boulders) is present in the Action Area. No submerged aquatic vegetation is present in the Action Area. Currently, the benthic macroinvertebrate community in Baltimore Harbor is substantially poorer in biomass and species diversity compared to historical conditions and to other areas in the Chesapeake Bay. The layer of fluid mud that exists in most of the Action Area constitutes a poor substrate for many benthic species. Few mollusks and crustaceans can be found in the Action Area, and no oyster bars are known to exist in the Harbor today. The benthic communities that survive in the Action Area are not well developed and are made up of mostly pollution-tolerant species (EA EST 2003). The low biomass and diversity of benthic organisms indicate that conditions in the area can be characterized as semi-polluted to polluted (Versar 2017).

IV. Listed Species in the Action Area

Threatened and endangered species under the purview of NOAA National Marine Fisheries Service (NMFS) as having the potential to occur in the Action Area are the endangered Atlantic sturgeon (*Acipenser oxyrinchus*) (77 FR 5880 and 77 FR 5914) and the endangered shortnose sturgeon (*Acipenser brevirostrum*) (32 FR 4001; Recovery plan: NMFS 1998a) (NOAA 2022). Both species are also listed as endangered by the State of Maryland.

TABLE 2: THREATENED AND ENDANGERED SPECIES UNDER THE PURVIEW OF NMFS WITH THE POTENTIAL TO OCCUR IN THE ACTION AREA

COMMON NAME	SCIENTIFIC NAME	FEDERAL STATUS	MARYLAND STATE STATUS	CRITICAL HABITAT IN ACTION AREA Y/N
Atlantic Sturgeon	*Acipenser oxyrinchus oxyrinchus*	Endangered (LE)	Endangered (S1)	N
Shortnose Sturgeon	*Acipenser brevirostrum*	Endangered (LE)	Endangered (S1)	N

Federal Status Endangered LE - indicates that the Taxa listed as Endangered under the federal ESA; in danger of extinction throughout all or a significant portion of its range.
Maryland State Status Endangered S1 - indicates that the species continued existence as a viable component of Maryland's fauna is determined to be in jeopardy and is not only rare and at risk of elimination from within Maryland but also rare throughout its entire range and at risk of extinction.

Atlantic Sturgeon

There are five distinct population segments (DPSs) of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*): the New York Bight, Chesapeake Bay, Carolina and South Atlantic DPSs are listed as endangered under the ESA, and the Gulf of Maine DPS is listed as threatened under the ESA (77 FR 5880 and 77 FR 5914). The range of all five DPSs extends along the Atlantic coast from Canada to Cape Canaveral, Florida. Atlantic sturgeon from all five DPSs could occur within the Patapsco River/Baltimore Harbor and may forage throughout it if appropriate habitat conditions exist (NOAA 2013).

Atlantic sturgeon are well distributed throughout the Chesapeake Bay, typically from spring to fall. Atlantic sturgeon spawn and develop within freshwater portions (0.0 - 0.5 ppt salinity) of large natal rivers. Baltimore Harbor is brackish and can range in salinity from 1 to 15 ppt, therefore eggs and larvae of Atlantic sturgeon would not survive in the Action Area. No known spawning occurs in the Patapsco River or any of its tributaries. Additionally, with a substrate comprised of soft mud/silt, the Action Area does not provide the adequate conditions for Atlantic sturgeon spawning, which occurs on hard substrate comprised of rock, pebbles, gravel cobble, limestone or boulders (Gilbert, 1989; Smith and Clugston, 1997).

Adult Atlantic sturgeon may be present from March 15 to November 30. Although juvenile Atlantic sturgeon could occasionally venture into the Action Area year-round, they generally remain within natal rivers or seek winter refuge in overwintering areas, neither of which are known to occur in the Action Area (NOAA 2018). After emigration from the natal river, subadults and adults travel within the marine environment. Atlantic sturgeon may occur where suitable forage and appropriate habitat conditions are present. Atlantic sturgeon are benthic foragers, and the Action Area has inadequate substrate habitat for benthic species. The layer of fluid mud that exists in most of the Action Area constitutes a poor substrate for many benthic species. The benthic communities that survive in the Action Area are not well developed and are made up of mostly pollution-tolerant species (EA EST 2003). Subadult and adult Atlantic sturgeon could be found occasionally in the Patapsco River/Baltimore Harbor where the action is proposed to take place from spring through fall, although the Action Area lacks both suitable spawning substrate and foraging habitat, so any Atlantic sturgeon in the Action Area would likely be transiting. Transiting Atlantic sturgeon would be expected primarily in the main channel of the Patapsco River where turbidity effects from the dredging could occur; however, Atlantic sturgeon in the area during spring and summer would not be impacted as time of year restriction for dredge activities will be implemented from March 1 to June 15. The Action Area is not designated as critical habitat for the Atlantic sturgeon.

Shortnose Sturgeon

The shortnose sturgeon is listed as endangered under the ESA throughout its range (32 FR 4001; March 8, 1967) (Recovery plan: NMFS 1998a). Shortnose sturgeon (*Acipenser brevirostrum*) occur in large coastal rivers and estuaries along the east coast of North America and Canada. They are benthic and mainly occupy the deep channel sections of large rivers but will forage where food is accessible. Similar to Atlantic sturgeon, shortnose sturgeon will forage if appropriate habitat conditions exist (NOAA 2013). Shortnose sturgeon are rare in the upper Chesapeake Bay and extremely rare in the lower Chesapeake Bay. From 1996 to 2006, research programs that focused on Atlantic sturgeon throughout the Chesapeake Bay provided evidence of the capture of shortnose

sturgeon. Only one genetically verified shortnose sturgeon was documented in the lower Chesapeake Bay at the mouth of the Rappahannock River, and 72 shortnose sturgeon were documented in the upper Chesapeake Bay from 1996 to 2006 (Balazik 2017). Adult shortnose sturgeon occasionally use the C&D Canal to move from the Chesapeake Bay to the Delaware River. Adults may also occur in the Susquehanna River (up to the Conowingo Dam), foraging and potentially overwintering; in the Potomac River (up to Little Falls Dam) foraging, overwintering, and potentially spawning; and foraging in the Rappahannock River (NOAA 2021(b)).

The layer of fluid mud that exists in most of the Action Area constitutes a poor substrate for many benthic species. The benthic communities that survive in the Action Area are not well developed and are made up of mostly pollution-tolerant species (EA EST 2003). It is possible that migrating, transient, or opportunistically foraging juvenile, sub-adult and adult shortnose sturgeon may be present in the Action Area for short periods of time; however, shortnose sturgeon are benthic foragers, and the Action Area has inadequate substrate habitat for benthic species. Additionally, the soft mud/silt substrate of the Patapsco River/Baltimore Harbor where the action is proposed to take place is unsuitable for shortnose sturgeon spawning, which occurs in low salinity (0.0 – 0.5 ppt), and on hard substrate comprised of rock, pebbles, gravel cobble, limestone or boulders (Gilbert 1989; Smith and Clugston 1997). Therefore, no early life stages are expected to be present. Thereis no designated critical habitat for the shortnose sturgeon.

V. Effects of the Proposed Action on Protected Resources

Effects from the continued maintenance dredging of the Seagirt Loop Channel on NMFS-trust threatened and endangered species was assessed in the NMFS Letter of Concurrence for the "Dredging of Deep-Draft Navigation Channels and Material Placement in Chesapeake Bay, Maryland" dated August 30, 2013. Activities covered under the Letter of Concurrence included the dredging of the deep-draft navigation channels and associated anchorages in the Maryland portion of the Chesapeake Bay. In the Letter of Concurrence, NOAA NMFS agreed with the USACE determination that these activities are not likely to adversely affect any species listed as threatened or endangered including sea turtles, Atlantic sturgeon, and shortnose sturgeon under the ESA of 1973, as amended.

Water Quality Effects

Water quality conditions in the Chesapeake Bay area vary due to many factors including proximity to urban areas, type and extent of industrial activity, streamflow characteristics, and amount and type of upstream land and water usage. Water quality in the Action Area is poor. Baltimore Harbor is impacted by a heavy volume of urban runoff, in combination with industrial and commercial discharges. Polluted discharge and runoff from land activities have degraded the overall water quality as well as the bottom habitat. Nutrient levels are relatively high, and algae blooms are frequent. During summer months, Harbor waters separate into warm surface waters with lower salinity and cool, deeper waters with higher salinity. Saline waters at greater depths frequently become hypoxic (dissolved oxygen less than 2 mg/L) during the summer months.

Project impacts to water quality in the Patapsco River, including increased total suspended solids (TSS), turbidity, and nutrient levels, are expected to be localized, temporary, and minor during dredging operations in the Action Area. Mechanical dredges include many different bucket designs (e.g., clamshell, closed versus open bucket, level-cut bucket) and backhoe dredges, representing a

wide range of bucket sizes. TSS concentrations associated with mechanical clamshell bucket dredging operations have been shown to range from 105 mg/L in the middle of the water column to 445 mg/L near the bottom (210 mg/L, depth-averaged) (ACOE 2001). Furthermore, a study by Burton (1993) measured TSS concentrations at distances of 500, 1,000, 2,000, and 3,300 feet (152, 305, 610, and 1006 meters) from dredge sites in the Delaware River and were able to detect concentrations between 15 mg/L and 191 mg/L up to 2,000 feet (610 meters) from the dredge site. In support of the New York/New Jersey Harbor Deepening Project, the U.S. Army Corps of Engineers conducted extensive monitoring of mechanical dredge plumes (ACOE 2015a). The dredge sites included Arthur Kill, Kill Van Kull, Newark Bay, and Upper New York Bay. Although briefly addressed in the report, the effect of currents and tides on the dispersal of suspended sediment were not thoroughly examined or documented. Independent of bucket type or size, plumes dissipated to background levels within 600 feet (183 meters) of the source in the upper water column and 2,400 feet (732 meters) in the lower water column. Based on these studies, elevated suspended sediment concentrations at several hundreds of mg/L above background may be present in the immediate vicinity of the bucket but would settle rapidly within a 2,400- foot (732 meter) radius of the dredge location. The TSS levels expected for mechanical dredging (up to 445.0 mg/L) are below those shown to have adverse effect on fish (typically up to 1,000.0 mg/L; see summary of scientific literature in Burton 1993; Wilber and Clarke 2001).

High TSS levels can cause a reduction in DO levels. Both Atlantic and shortnose sturgeon may become stressed when dissolved oxygen falls below certain levels. Jenkins et al. (1993) observed that younger shortnose sturgeon experienced high levels of mortality at low dissolved oxygen levels while older individuals tolerated those reduced levels for short periods of time. Tolerances may decline if chronic exposure to low dissolved oxygen levels occurs. Johnson (2018) recommends that sturgeon should not be exposed to TSS levels of 1,000 mg/L above ambient for longer than 14 days at a time to avoid behavioral and physiological effects. During times when early life stages could be present in an action area, it is recommended that they be exposed to less than 50 mg/L of TSS. While the increase in suspended sediments may cause Atlantic and shortnose sturgeon to alter their normal movements, these minor movements will be too small to be meaningfully measured or detected. TSS is most likely to affect sturgeon if a plume causes a barrier to normal behaviors. However, we expect sturgeon to swim through the plume to avoid the area with no adverse effects.

Disposal of material at the Cox Creek DMCF and discharge of supernatant water from this site will continue to occur. Planning for water quality issues associated with the short-term increase in placement volume from new work dredging for the proposed project and long-term increases in volume associated with increased maintenance dredged material is expected to be addressed in a modification to the DMCF's water quality permit. Placement and associated discharge of the new work dredged material and the associated long-term maintenance material is not expected to result in water quality limits being revised for the DMCF.

The life stages of Atlantic and shortnose sturgeon most vulnerable to increased sedimentation are eggs and non-mobile larvae, which are subject to burial and suffocation. As noted above, no sturgeon eggs and/or larvae would be present in the Action Area. Adult, sub-adult or juvenile sturgeon in the Action Area during dredging activities may avoid a sediment plume by swimming around it. However, if sturgeon do interact with the plume, expected TSS levels (up to 500 mg/L)

are below those shown to have an adverse effect on fish (580 mg/L for the most sensitive species, with 1,000 mg/L more typical) (Burton 1993). Based on this information, the effects of suspended sediment resulting from dredging activities on Atlantic and shortnose sturgeon would be too small to be meaningfully measured; therefore, effects to Atlantic and shortnose sturgeon from turbidity related to dredging activities are insignificant.

Impacts to Atlantic and shortnose sturgeon due to increased release of contaminants during dredging are not expected to have an effect. Studies of sediments in Baltimore Harbor have shown that the highest concentrations of organic and inorganic contaminants tend to be present in the top 20–25 feet (below sediment surface) of the sediment column. Since most of the dredging related to the study is deepening existing channels that are maintained to -45 feet MLLW, the new work sediments are expected to be representative of native materials that are free of anthropogenic contaminants (EA EST 2009d and 2010b). Additional widening may cause a temporary increase in the release of contaminants but its impact on sturgeon would be too small to be meaningfully measured, and therefore insignificant.

Habitat Modification

The Atlantic and shortnose sturgeon are primarily benthic feeders. Sturgeon generally feed when the water temperature is greater than 10°C and in general, feeding is heavy immediately after spawning in the spring, and during the summer and fall, and lighter in the winter. The benthic community within Baltimore Harbor is considered degraded and the foraging potential is low, particularly around the Action Area. A 2017 study reviewing benthic data from 1985-2016 concluded that abundance, number of species, and the biomass of large benthic species have declined in the Chesapeake Bay, and specifically in the Baltimore Harbor, due to hypoxia. Although hypoxia and other factors such as turbidity and nutrient runoff have resulted in degradation to benthic communities, the study suggests that year to year variability in benthic assessments shows benthic community resilience to stress and response to improvements in water quality. Improvements in water quality can be attributed to recent environmental laws and regulations (Versar 2017).

Dredging would result in a temporary reduction in the amount of benthic prey in the dredging area. Benthic or bottom-dwelling organisms would be removed in the immediate area of dredging, locally reducing the sturgeons' food supply. In addition, some organisms immediately down current of the working dredge may be covered as a result of the transport and resettling of suspended solids. However, these impacts are not expected to be significant since: the benthic population that would be most affected within the dredging areas in the channel is less abundant and diverse than the near-shore population; and, over time the disturbed areas will recolonize by means of down current organism drift and migration from adjacent undisturbed areas. Furthermore, sturgeon opportunistically foraging in or near the Action Area would be able to forage in other areas of the harbor and the Chesapeake Bay where benthic communities are more abundant.

Based on this information, changes to foraging behavior and effects to Atlantic sturgeon and shortnose sturgeon as a result of the localized removal of benthic prey in the dredging area would be too small to be meaningfully measured, and therefore insignificant.

Vessel Traffic Effects

In the analysis three elements were considered; (1) the existing baseline conditions, (2) the action and what it adds to existing baseline conditions, and (3) new baseline conditions (the existing baseline conditions and the action together). It was determined that vessel traffic added to baseline conditions as a result of the proposed project is not likely to adversely affect ESA-listed species.

The new dredging will increase the vessel capacity of the navigation channel, allowing for safe passage of larger container ships and, as a result, additional vessels may transit through the action area in the future. Although the baseline risk of vessel interaction is unknown, any increases in vessel capacity may not directly correlate to more vessels in the action area since active vessels in the Action Area may move elsewhere or be retired from use. At this time, we assume there will only be a slight increase in risk from the minimal number of additional vessels added to baseline activity in the action area and that any associated increase in risk of a vessel strike would be too small to be detected or measured and effects are therefore insignificant.

Risk of Impingement or Capture During Dredging

The potential adverse impacts to the Atlantic and shortnose sturgeon may involve impingement or capture of individuals by dredge equipment. The proposed project will utilize a mechanical dredge outfitted with a clamshell bucket. The bucket operates without suction or hydraulic intake, moves relatively slowly through the water column, and impacts only a small area of the aquatic bottom at any time. In order to be captured in a dredge bucket, an animal must be on the bottom directly below the dredge bucket as it impacts the substrate and remain stationary as the bucket closes. In general, impingement or capture by mechanical dredges is rare. However, several factors, including the density of the species within the area, are thought to contribute to the likelihood of dredge entrapment or capture. When species are present in high density (e.g., foraging and spawning grounds), the risk of contact is greater because more animals are exposed to the potential for impingement or capture. Therefore, the risk to sturgeon would be most likely to occur during the March 15 through November 30 time period. As stated in the assessment above, it is not anticipated for Atlantic or shortnose sturgeon to be present in the proposed dredge areas outside of these time periods. Any such individuals would likely use adjacent areas in the waterway that provide for sufficient safe passage to avoid the work area during construction. As a result, it is extremely unlikely that any Atlantic or shortnose sturgeon would be at risk of impingement or capture by a dredge bucket operating in-water during the designated dredging period.

In 2012, the Corps provided NMFS with a list of all documented interactions between dredges and sturgeon reported along the U.S. East Coast. The reports dated as far back as 1990 (USACE, 2012). This list included four incidents of sturgeon captured in dredge buckets. These include the capture of a decomposed Atlantic sturgeon in Wilmington Harbor in 2001. The condition of this fish indicated it was not killed during the dredging operation and was likely dead on the bottom or in the water column and merely scooped up by the dredge bucket. Another record was of the capture of an Atlantic sturgeon in Wilmington Harbor in 1998; however, this record is not verified and not considered reliable. The report also listed the live capture of an Atlantic sturgeon at the Bath Iron Works (BIW) facility in the Kennebec River, Maine in 2001 as well as a shortnose sturgeon captured at BIW in 2003 that was observed to have suffered death recently at the time of capture. One report of a live shortnose sturgeon captured in a dredge

bucket at BIW in 2009 was not included in the report. Similarly, a shortnose sturgeon fatality at BIW in 2017 was not reported (suspected to be attributable to a cutterhead dredge). Observer coverage at dredging operations at the BIW facility has been 100% for approximately 15 years, with dredging occurring every one to two years. Hundreds of mechanical dredging projects occur along the U.S. Atlantic coast each year and USACE is not aware of any other captures of sturgeon in mechanical dredges anywhere in the U.S prior to or after 2012.

The NOAA NMFS and the USACE have both concluded that "potential impacts from in-water dredge operations may be avoided by imposing work restrictions during sensitive time periods (i.e., spawning, migration, feeding) when sturgeon are most vulnerable to mortalities from dredging activity." Time of year restrictions from March 1 to June 15, which would be in place to mitigate any adverse impacts to spawning and nursery intervals for anadromous fishes, would also be effective in reducing the risk of and impact from impingement or capture of juvenile, subadult and adult sturgeon.

Based on this information, the potential effects from impingement or capture of sturgeon during dredging on this project would be extremely unlikely to occur and are, therefore, discountable.

VI. Conclusions

Based on the analysis of all of the effects described above, USACE has determined that the proposed dredging activities within the West Seagirt Branch Channel of Baltimore Harbor may affect but are not likely to adversely affect ESA protected species. Project related potential impacts are either insignificant or discountable and are generally similar to those recognized under the without-project conditions. The USACE will continue to utilize existing best management practices to ensure minimal impacts to ESA protected species. We certify that we have used appropriate scientific and commercial data available to complete this analysis. We request that NMFS concur with this determination.

If you have any questions regarding this matter, please contact Ms. Kristina May by phone at (410) 962-6100 or by email at Kristina.K.May@usace.army.mil.

Sincerely,

Daniel M. Bierly
Chief, Civil Project Development Branch
Planning Division

cc: Brian Hopper, NMFS – Protected Resources Division

References

Army Corps of Engineers (ACOE). 2001. Monitoring of Boston Harbor confined aquatic disposal cells. Compiled by L.Z. Hales, ACOE Coastal and Hydraulics Laboratory. ERDC/CHL TR-01-27.

Army Corps of Engineers (ACOE). 2015a. Dredging and dredged material management. Engineer Manual. Washington D.C.

Balazik, M. 2017. "First Verified Occurrence of the Shortnose Sturgeon (Acipenser brevirostrum) in the James River, Virginia." NOAA Fisheries Bulletin. Accessed October 19, 2021. https://spo.nmfs.noaa.gov/sites/default/files/pdf-content/fish-bull/balazik.pdf

Bay Journal. 2021. "Anglers hook rare sturgeon in Potomac." Accessed November 17, 2021. https://www.bayjournal.com/news/fisheries/anglers-hook-rare-sturgeon-in-potomac/article_8b3f1510-ac3f-11eb-81c0-875bc669fc31.html

Burton, W. H. 1993. Effects of bucket dredging on water quality in the Delaware River and the potential for effects on fisheries resources. Versar, Inc., 9200 Rumsey Road, Columbia, Maryland 21045.

CENAB. 2001. Baltimore Harbor Anchorages and Channels, Maryland Limited Re-evaluation Report.

Chesapeake Bay Program. 2019. "Chesapeake Bay Mean Surface Salinity: 1985-2018." Accessed August 31, 2022. https://www.chesapeakebay.net/what/maps/chesapeake_bay_mean_surface_salinity_1985_2018

EA Engineering, Science, and Technology, Inc. (EA EST). 2003. Reconnaissance Study of Baltimore Harbor Sites for Upland, Confined Placement of Harbor Dredged Material: Environmental Conditions. Prepared for Maryland Environmental Service.

EA EST. 2009d. Site Assessment of the Proposed Coke Point Dredged Material Containment Facility at Sparrows Point. Prepared for the Maryland Port Administration and Maryland Environmental Service.

EA EST. 2010b. Additional Offshore Delineation: Proposed Coke Point Dredged Material Containment Facility at Sparrows Point. Prepared for the Maryland Port Administration and Maryland Environmental Service.

Gilbert, C.R. 1989. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (Mid-Atlantic Bight)—Atlantic and shortnose sturgeons. U.S. Fish Wild]. Serv. Biol. Rep. 82(11.122). U.S. Army Corps of Engineers TR EL-82-4.

Jenkins W.E., Smith T.I.J., Heyward L.D., and D.M. Knott. 1993. Tolerance of shortnose sturgeon, Acipenser brevirostrum, juveniles to different salinity and dissolved oxygen concentrations. Proceedings of the Annual Conference of the Southeast Association of Fish and Wildlife Agencies 47: 476-484.

Johnson, A. 2018. The Effects of Turbidity and Suspended Sediments on ESA-Listed Species from Projects Occurring in the Greater Atlantic Region. Greater Atlantic Region Policy Series 18-02. NOAA Fisheries Greater Atlantic Regional Fisheries Office. www.greateratlantic.fisheries.noaa.gov/policyseries/. 106p.

NOAA National Marine Fisheries Service (NMFS). 1998a. Final Recovery Plan for the Shortnose Sturgeon (*Acipenser brevirostrum*).

NOAA NMFS. 2010. "Biological Assessment of Shortnose Sturgeon Acipenser Brevirostrum." Accessed October 19, 2021. https://www.fisheries.noaa.gov/resource/document/biological-assessment-shortnose-sturgeon-acipenser-brevirostrum

NOAA NMFS. 2013. Determination from NOAA Re: Dredging of Deep Draft Navigation Channels and Material Placement in Chesapeake Bay, Maryland.

NOAA NMFS. 2018. Endangered Species Act Biological Opinion. Construction and Maintenance of Chesapeake Bay Entrance Channels and Use of Sand Borrow Areas for Beach Nourishment (F/NER/2018/14816).

NOAA NMFS. 2019. "ESA Section 7 Mapper." Accessed October 18, 2021. https://docs.google.com/document/d/1r7-YDU6ARVL8cYPl0DIB3a3i6LhGCIG1urLE-7yUqMc/edit#

NOAA. 2020. "Sea Level Rise." Accessed October 31, 2021. https://coast.noaa.gov/slr/#/layer/slr/3/9072961.784207689/3649887.751760149/13/satellite/33/0.36/2050/high/midAccretion

NOAA NMFS. 2022. "Section 7: Citations and References for All Species in the Greater Atlantic Region." Accessed August 17, 2022. https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-citations-and-references-all-species-greater

NOAA NMFS. 2021. "Section 7 Effect Analysis: Turbidity in the Greater Atlantic Region." Accessed October 18, 2021. https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-effect-analysis-turbidity-greater-atlantic-region

NOAA NMFS. 2021(a). "Section 7 Species Presence Table: Atlantic Sturgeon in the Greater Atlantic Region." Accessed October 18, 2021. https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-presence-table-atlantic-sturgeon-greater

NOAA NMFS 2021(b). “Section 7 Species Presence Table: Shortnose Sturgeon in the Greater Atlantic Region.” Accessed October 19, 2021. https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-presence-table-shortnose-sturgeon-greater

NOAA Tides and Currents. 2022. “Baltimore, MD Station ID 8574680.” Accessed August 31, 2022.https://tidesandcurrents.noaa.gov/stationhome.html?id=8574680#:~:text=Baltimore%2C%20MD%20%2D%20Station%20ID%3A%208574680&text=Mean%20Range%3A,1.66%20ft.

Rivers and Harbors Act of 1970. PL. 91-611, 33U.S.C. §549a.

Smith, T.I.J. and Clugston, J.P. 1997 Status and management of Atlantic sturgeon, Acipenser oxyrinchus, in North America. In: Sturgeon Biodiversity and Conservation (eds V.J. Birstein, J.R. Waldman and W.E. Bemis). Kluwer Academic Publishers, Dordrecht.

USACE. 2012. Sturgeon Take Records from Dredging Operations 1990-2010. Unpublished Report submitted to NMFS Northeast Regional Office. May 2012. 5 pp.

Versar, Inc. 2017. Chesapeake Bay Water Quality Monitoring Program: Long-Term Benthic Monitoring and Assessment Component Level I Comprehensive Report July 1984 –December 2016. Report to Maryland Department of Natural Resources, Annapolis, Maryland.

Water Resources Development Act of 1999. P.L 106-53.

Wilber, D.H., and Clarke, D.G. 2001. Biological effects of suspended sediments: A review of suspended sediment impacts on fish and shellfish with relation to dredging activities in estuaries. North American Journal of Fisheries Management 21(4):855-875.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
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November 9, 2022

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Chief, Civil Project Development Branch
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Re: Baltimore Harbor Anchorages and Channels Modification of the Seagirt Loop Channel Feasibility Study

Dear Mr. Bierly:

We have completed our consultation under section 7 of the Endangered Species Act (ESA) in response to your letter received on September 28, 2022, regarding the above-referenced proposed project. We reviewed your consultation request document and related materials. Based on our knowledge, expertise, and your materials, we concur with your conclusion that the proposed action is not likely to adversely affect any National Marine Fisheries Service ESA-listed species or designated critical habitat. Therefore, no further consultation pursuant to section 7 of the ESA is required.

We would like to offer the following information and clarifications to complement your incoming request for consultation. In addition to the vessel route to and from Cox Creek DMCF, the action area also includes all routes traveled by the project vessels, such as from the homeport of the project vessels to the project site, which may be unknown at this time. Impacts to Atlantic sturgeon will be avoided during the time of year restrictions (March 1 to June 15) as is stated in your species section, however, from June 15 to Nov 30 adult and sub-adult Atlantic sturgeon, and from June 15 to February 28 juvenile Atlantic sturgeon could still be present when in-water work is occurring. Also, it should be noted that only adult shortnose sturgeon may be migrating and foraging year round and overwintering from Nov 1 to Feb 28 in and around the action area; no juvenile shortnose sturgeon are expected within the action area. In the habitat modification analysis, it is mentioned that individual sturgeon opportunistically foraging in or near the action area may forage in other areas of the harbor and the greater Chesapeake Bay. Given the action area is approximately 127 acres and the area to be dredged is approximately 90 acres, sturgeon may continue to forage in the action area where dredging will not occur (approximately 37 acres).

Based on the Baltimore Harbor background information in the introduction and the project description you provided, adding project vessels to the existing baseline will not increase the risk that any vessel in the area will strike an individual sturgeon, or will increase it to such a small extent that the effect of the action (*i.e.*, any increase in risk of a strike caused by the project)

cannot be meaningfully measured or detected. The baseline risk of a vessel strike within Patapsco River is unknown and any increase in traffic associated with the proposed project would be extremely small. During the project activities, seven vessels during mobilization and demobilization, and only three vessels during project work will be added to the baseline. The addition of project vessels will also be intermittent, temporary, and restricted to a small portion of the overall action area on any given day. It is understood that the projections of increases to vessel traffic described in the introduction would occur regardless of completing the project. The dredging itself will match the depth of West Seagirt Branch Channel with the surrounding channels of the harbor, allowing for improved navigation within the Seagirt Marine Terminal of Baltimore Harbor, as a result, it is expected to enable vessels to travel safely in and out of the area. Allowing safe passage in the navigation channel is not expected to change the number of vessels that use the action area; thus, preserving the status quo with regard to vessel routes and vessel numbers will not change the risk of a vessel strike. Any slight increase in risk from altered patterns of use would be too small to be detected or measured. As a result of these analyses, the effect of the action on the increased risk of a vessel strike in the action area is insignificant.

In your analysis of impingement and capture you write "the risk to sturgeon would be most likely to occur during the March 15 through November 30 time period… it is not anticipated for Atlantic or shortnose sturgeon to be present in the proposed dredge areas outside of [this] time period…". We would like to emphasize that adult and sub-adult Atlantic sturgeon may be present from March 15 to Nov 30, but additional juvenile Atlantic sturgeon and adult shortnose sturgeon may be present year round. However, based on your analysis of risk of impingement or capture by mechanical clamshell dredge and the fact that the action area is not known to support high density aggregations of spawning or overwintering sturgeon, we agree that it is extremely unlikely any sturgeon will be captured, injured, or killed during mechanical dredging activities. Thus, any effects of entrapment from the proposed dredging activities on sturgeon are discountable.

On July 5, 2022, the U.S. District Court for the Northern District of California issued an order vacating the 2019 regulations that were revised or added to 50 CFR part 402 in 2019 ("2019 Regulations," see 84 FR 44976, August 27, 2019) without making a finding on the merits. On September 21, 2022, the U.S. Court of Appeals for the Ninth Circuit granted a temporary stay of the district court's July 5 order. As a result, the 2019 regulations are once again in effect, and we are applying the 2019 regulations here. For purposes of this consultation, we considered whether the substantive analysis and conclusions articulated in the letter of concurrence would be any different under the pre-2019 regulations. We have determined that our analysis and conclusions would not be any different.

Reinitiation of consultation is required and shall be requested by the lead federal agency or by us, where discretionary federal involvement or control over the action has been retained or is authorized by law and: (a) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or, (c) If a new species is listed or critical habitat designated that may be affected by the identified action.

No take is anticipated or exempted. If there is any incidental take of a listed species, reinitiation would be required. Should you have any questions about this correspondence please contact Darcie Webb at darcie.webb@noaa.gov or (978) 281-9316. For questions related to Essential Fish Habitat, please contact Jonathan Watson, with our Habitat and Ecosystem Services Division at jonathan.watson@noaa.gov or (978) 675-2180.

Sincerely,

Jennifer Anderson

Jennifer Anderson
Assistant Regional Administrator
for Protected Resources

ec: Watson, NMFS/HESD; May, USACE
ECO: GARFO-2022-02393
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