US Army Corps of Engineers®

Baltimore District
2 Hopkins Plaza, Baltimore, MD 21201

Final Environmental Impact Statement

Sparrows Point Container Terminal

September 2025

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Executive Summary

ES-1. Introduction and Authority

The US Army Corps of Engineers, Baltimore District (Corps), received an application for a Department of the Army permit (NAB–2023–61200) on August 25, 2023, for the proposed Sparrows Point Container Terminal (SPCT) project to construct a new container terminal in the Port of Baltimore (the Port). The application was submitted by Tradepoint TiL Terminal, LLC (TTT or applicant), a joint venture between Tradepoint Atlantic (TPA) and Terminal Investment Limited. The proposed project requires Corps authorization under the following statutory authorities:

- Section 404 of the Clean Water Act (33 US Code [USC] 1344) for the discharge of dredged or fill material into Waters of the United States (WOTUS)
- Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) for the construction of any structure in or over navigable WOTUS
- Section 408 of the Rivers and Harbors Act of 1899 (33 USC 408) for alterations or modifications to Corps Civil Works projects by non-Corps entities
- Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA) (33 USC 1413) for ocean disposal of dredged material

As the lead agency under the National Environmental Policy Act (NEPA), the Corps determined that the proposed project may significantly affect the quality of the human environment. The Corps prepared a Draft Environmental Impact Statement (EIS) to assess the potential social, economic, and environmental impacts of the proposed project and to contribute information to allow the Corps to make a permit decision with respect to the permit application. The Notice of Availability for the Draft EIS was published in the Federal Register on January 10, 2025. This Final EIS has been prepared to address comments on the Draft EIS and to analyze and disclose the potential impacts of the SPCT project and reasonable alternatives on the natural and human environment.

On September 25, 2023, this project was determined to be a covered project under Title 41 of the Fixing America’s Surface Transportation Act (FAST-41). The project was subsequently added to the Permitting Dashboard for Federal Infrastructure Projects, which tracks covered projects publicly. FAST-41 is intended to improve the timeliness, predictability, and transparency of the federal environmental review and authorization process.

ES-2. Purpose and Need

The purpose of the applicant’s proposed project is to develop the SPCT, a new terminal and associated facilities that would be located on the Coke Point Peninsula (Coke Point) within the Patapsco River in Baltimore County, Maryland.

Federal approval is required because TTT has submitted an application to the Corps for construction of the SPCT, including permission to place fill in WOTUS, dredge in WOTUS, and alter a federal channel. The proposed project requires permits from other agencies, with the Corps being the lead federal agency.

The proposed project would address several economic and shipping logistical concerns. The SPCT project would enhance the economic strength of the Port by increasing its overall container capacity. This project includes an on-dock rail facility, which, in conjunction with the Howard Street Tunnel Vertical Clearance Improvement Project, would increase the throughput of containers through the Port. The proposed project would not only provide direct jobs at the project site but would also provide a foundation for sustained economic growth within the Port and throughout the region. By strengthening and growing the Port, the project enhances the United States' supply chain efficiencies and resiliency.

ES-3. Description of the Proposed Action and Alternatives

The alternatives were developed through internal planning and review, consultation with federal and state agencies and other entities, and public outreach. After this coordination and consultation, the Corps determined that the No-action Alternative and two action alternatives, the Combined Dredged Material Placement Options Alternative (Combined Options Alternative or Proposed Action), and the Preferred Alternative, will be analyzed in detail in this Final EIS. The following sections describe the alternatives that are being carried forward for analysis. All elevations discussed in this Final EIS are relative to North American Vertical Datum of 1988 (NAVD88).

No-action Alternative

Under the No-action Alternative, a new terminal and associated facilities would not be developed at Sparrows Point. Current property and land management, including ongoing demolition and soil remediation efforts, would continue. TPA, as the property owner, would likely develop Coke Point for some other future commercial use, consistent with the existing development plan for the entire TPA property. The No-action Alternative does not meet the project purpose and need but is carried forward for detailed analysis in this Final EIS for comparison purposes.

Common to Both Action Alternatives – Terminal Development and Channel Improvements

TTT considered alternative configurations and layouts for the terminal and channel improvements to provide necessary functional requirements, ensure navigational safety, minimize dredging, and provide safe and efficient terminal operations.

- Analyses were performed for the turning basin, approach channel, berth pocket, and channel transition areas to ensure safety while minimizing dredging. The channel and turning basin widths were developed based on the Corps' Engineer Manual 1110-2-1613, *Hydraulic Design of Deep-Draft Navigation Projects*, and World Association for Waterborne Transport Infrastructure guidelines for deep draft navigation design. TTT worked with the Association of Maryland Pilots to evaluate and optimize the channel design leading to the proposed design, significantly reducing the amount of dredging required.
- Berthing and mooring analyses were performed to ensure the safe accommodation of container ships at berth. Wind speed and direction, vessel approach angles and velocities, tug assistance, mooring arrangements, and numerous other factors were assessed to provide appropriate fender and vessel mooring systems designs at the wharf.

Following evaluation of the benefits and disadvantages of multiple design options, TTT proposed that one design for terminal development and channel improvements be carried forward for full analysis. Therefore, the proposed designs for the terminal development and channel improvements would be the same regardless of whether the Proposed Action or Preferred Alternative is selected, as these options only differ in considering alternatives for dredge material placement. These elements are common to both action alternatives. The proposed designs for the terminal and channel improvements would achieve the project goals, would be sufficient to support future use of the terminal as a primary entry for the Port, and would meet the necessary safety standards and engineering requirements. The elements for terminal development and channel improvements include the following:

- A marginal wharf with a total length of approximately 3,000 feet, sufficient to accommodate two ultra large container vessels with capacity of up to 23,000 twenty-foot equivalent units. The wharf top deck elevation would be established at +14.0 feet based on an analysis of future sea level rise and storm surge frequency.
- Marine structures (piles), up to nine ship-to-shore cranes for efficient unloading and transfer of containerized cargo, a container yard with a capacity of approximately 50,000 twenty-foot equivalent units, a rail-based intermodal container transfer facility, pavements, drainage, terminal buildings, warehouse buildings, civil / site utilities, electrical systems and service, lighting, and ancillary equipment.
- The Sparrows Point Channel, a non-federal channel, would be widened to approximately 2,110 feet at its connection to the Brewerton Channel, a federal navigation channel, to create a turning basin approximately 1,650 feet in diameter. The channel would gradually transition northward to a channel width of approximately 450 feet and widen adjacent to the proposed wharf to an approximate width of 750 feet with a northern boundary width of approximately 500 feet. The improved Sparrows Point Channel would be deepened to a channel depth of -50 feet mean lower low water plus -2 feet of over depth allowance.
- A revetment to transition between the design dredge depth and the proposed bulkhead beneath the wharf and the proposed final grades landside of the wharf, with a 2.5 (horizontal) to 1 (vertical) slope armored with heavy stone (riprap) and concrete slabs.

To meet the required design, the project would require an estimated 4.2 million cubic yards (MCY) of dredging using a clamshell bucket on a barge, including an estimated 330,000 cubic yards (CY) of slag, which would likely be removed by a backhoe or hydraulic excavator. Mechanical dredging techniques would be used to avoid the higher water use, larger containment needs and longer drying time that would be required for hydraulic dredging.

Development of Dredged Material Placement Alternatives

The applicant's original proposed action was a new offshore 100-acre dredged material containment facility (DMCF) in the Patapsco River on the west side of Coke Point. This DMCF would have provided a single placement solution for the entirety of the dredged material, reduce impacts and costs associated with transporting dredged material to other approved DMCFs due to the proximity to the dredging location, and cap existing impacted offshore sediment, serving as a final remedy for the impacted sediment within the footprint of the DMCF. This DMCF, however, would result in permanent impacts on aquatic communities within and near the footprint, as 100 acres of tidal WOTUS and bottom habitat would be taken. The DMCF would extend west into the Patapsco River between 1,100 to 2,400 feet from the Coke Point shoreline, disrupting river flow in the immediate vicinity of the DMCF.

TTT examined the possibility of including multiple placement sites to reduce the impacts on aquatic resources. By constructing a DMCF at High Head Industrial Basin and using two existing Maryland

Department of Transportation Maryland Port Administration (MPA) DMCFs (Cox Creek and Masonville), and the Norfolk Ocean Disposal Site (NODS) — a designated offshore disposal area located in the Atlantic Ocean — TTT determined that the offshore DMCF could be reduced to 35 acres, shrinking the footprint and the impacts by a substantial amount.

TTT performed an extensive analysis of the sediment data and evaluation of the amount of dredged material that could be placed at the MPA facilities and NODS. Results of this effort were shared with regulatory agencies for their evaluation. Following this consultation, TTT determined that significant volumes of dredged material could be placed at NODS and an MPA facility. Therefore, TTT concluded that the size of the offshore DMCF could be reduced even further to lessen the potential take of WOTUS and settled on a 19.6-acre DMCF at Coal Pier Channel. The reduced footprint within a previously dredged channel with degraded habitat would greatly reduce impacts on aquatic resources, as well as viewshed and recreation. Additionally, the Coal Pier Channel DMCF would be confined on three sides by an existing landmass, resulting in simpler maintenance and management requirements and a lower risk factor than a DMCF with three perimeter sides in the main river channel. The Draft EIS analyzed the Combined Options Alternative, which included dredged material placement at the Coal Pier Channel DMCF, the High Head Industrial Basin DMCF, existing MPA DMCFs, and NODS.

Following public comment on the Draft EIS and additional investigations and continued engineering analysis by TTT, a new alternative for dredged material placement was developed, the Preferred Alternative. This Preferred Alternative is the same as the Combined Options Alternative except it does not include the Coal Pier Channel DMCF and would expand the height and capacity of the High Head Industrial Basin DMCF. The Preferred Alternative was developed based on the results of additional evaluations and design progression. Investigations indicated that the dike of the High Head Industrial Basin DMCF could be elevated incrementally to provide more dredged material placement capacity. In addition, results of testing along the exterior dike of the proposed Coal Pier Channel DMCF indicated that the geotechnical and chemical properties of the sediments would pose constructability and environmental challenges. Based on the challenges associated with the Coal Pier Channel DMCF, the ability to increase the capacity of the High Head Industrial Basin DMCF, and the opportunity to avoid placing dredged material in tidal waters, it was determined that the Preferred Alternative was more feasible and would cause fewer impacts than the Combined Options Alternative. Both dredged material placement alternatives are analyzed in this Final EIS.

Combined Dredged Material Placement Options Alternative (Combined Options Alternative / Proposed Action)

The Combined Options Alternative includes the use of multiple options for dredged material placement – High Head Industrial Basin DMCF, Coal Pier Channel DMCF, Cox Creek and Masonville DMCFs, and the NODS. Each of these is described below.

High Head Industrial Basin DMCF

Construction of the High Head Industrial Basin DMCF would create an upland confined placement facility with the capacity to hold approximately 1.2 MCY of dredged material. The DMCF would have an exterior dike elevation of approximately +30 feet, in the existing High Head Industrial Basin located approximately 2.5 miles northeast of the terminal project area within the TPA property. The impounded area of the industrial basin currently covers approximately 38.7 acres with a surface elevation of approximately +7.0 feet that is maintained by an existing pump house. Material for the dike construction would likely consist of common borrow material and / or slag sourced from existing land or stockpiles on the TPA property. To accommodate effluent discharge from dredged material dewatering at the High Head Industrial Basin DMCF, a new temporary outfall with a multiport diffuser would be required off the west side of the shipyard. The effluent would flow to the new temporary outfall through a feeder line to a multiport diffuser head. The existing National Pollution Discharge Elimination System (NPDES) permit would be modified, as necessary. The diffuser system would only be operational for the duration of active dewatering and consolidation of dredged material at the High Head Industrial Basin DMCF.

Coal Pier Channel DMCF at Sparrows Point

Coal Pier Channel is an existing in-water channel that had been used for coal barge unloading for the Bethlehem Steel Mill. A new offshore DMCF would be created by constructing a waterside berm across the mouth of the existing Coal Pier Channel to provide placement capacity for dredged material. The DMCF would permanently fill approximately 19.6 acres of tidal WOTUS. A sand dike would be constructed across the mouth of the channel and would be built to an elevation of +15 feet with a side slope of 3 (horizontal) to 1 (vertical). Dredging of approximately 55,000 CY of soft overburden material in the footprint of the proposed dike alignment would be conducted prior to the dike construction. The estimated capacity of the placement area would be approximately 750,000 CY. Placement of dredged material in WOTUS would require compliance with all required federal, state, and local permits.

Existing Nearshore Maryland Port Administration DMCFs

Masonville and Cox Creek, two existing nearshore upland confined placement facilities owned, operated, and maintained by the MPA. The Cox Creek DMCF is located in northern Anne Arundel County, Maryland, and the current capacity (with the recently completed dike expansion to +60 feet) is estimated to be 15.3 MCY. The Masonville DMCF is located in South Baltimore with a current capacity of approximately 6.2 MCY. Construction has been approved to raise the dike to +30 feet, increasing the capacity of the site to an estimated 8.2 MCY. Pending the availability of funding, this would be followed by design / permitting for dike raising to +42 feet with anticipated completion in 2029, providing increased total capacity to approximately 10.3 MCY. The Cox Creek and Masonville DMCFs (with planned expansions and innovative reuse) are two primary components of the State of Maryland’s Dredged Material Management Program for Baltimore Harbor maintenance material. In a 2024 letter, the MPA committed to accepting a maximum of 1.25 MCY from the SPCT project for placement at either Cox Creek or Masonville DMCF over a 4-year period.

Existing Ocean Disposal Site

This dredged material placement component includes transport and placement of approximately 1.57 MCY of sediment dredged from the southern portion of the Sparrows Point Channel at the NODS — a designated offshore disposal area located in the Atlantic Ocean, approximately 17 miles east of the mouth of the Chesapeake Bay. The NODS is jointly managed by the Corps and the US Environmental Protection Agency (USEPA) and has unlimited capacity for dredged materials that meet the Limiting Permissible Concentration for water quality criteria, water column toxicity, benthic toxicity, and benthic bioaccumulation. Use of this site is subject to the approval by USEPA under the authority of Section 103 of the MPRSA, as amended, and the Corps is the federal agency that would issue the permit authorizing the transport of material to the ocean for placement.

Preferred Alternative

The Preferred Alternative would be the same as the Combined Options Alternative, except it would not include the Coal Pier Channel DMCF, and the High Head Industrial Basin DMCF would be changed to include a higher maximum elevation of +40 feet (or approximately 30 feet above existing grade) and the capacity would be expanded to accommodate 1.7 MCY of material. Dredged material placement at the existing MPA nearshore DMCFs and NODS would be the same as described above for the Combined Options Alternative.

ES-4. Potential Environmental Impacts

This Final EIS addresses the potential impacts of the terminal construction, DMCF construction, and dredging and placement of material on the human and environmental resources identified during the public interest review. The following sections outline the potential environmental impacts of the alternatives. Table ES-1 provides additional details on the impacts of the alternatives, and Section 4 contains a full discussion of the impacts.

Sediment

Under the No-action Alternative, sediments and chemicals associated with the sediments would stay in place. Sediments in the Sparrows Point Channel would continue to be subject to disturbance by periodic maintenance dredging, and surficial sediments offshore of Coke Point would be subject to disturbance by storm events and vessel traffic. Based on historical data, previous ecological and human health risk assessments, and other supporting studies, there would be an ongoing potential for ecological risk from surficial sediments in the offshore areas west and south / southeast of the Coke Point peninsula and a limited potential for human health risk.

For the terminal development and channel improvements, the dredging and removal of sediments east of the Coke Point peninsula to widen and deepen the channel and construct the terminal wharf and revetment structure would permanently remove approximately 4.2 MCY of sediments. A portion of these dredged materials include legacy contaminants from historical industrial activities and would leave behind deeper native sediments with natural background concentrations of metals and other constituents. The removal of sediments in the channel improvement area impacted by metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and other constituents would result in a permanent net improvement of post-project surficial sediment conditions (approximately 52 acres within the existing channel and 60 acres in the channel wideners) for fish, crabs, benthic organisms, and humans. In addition, it would reduce the surface area for surficial chemical exposures of persistent organic contaminants that have the potential to accumulate in benthic organisms and fish tissue and bioconcentrate in the food chain.

Any resuspension or incidental release of sediment during dredging operations in the southern area of the Sparrows Point Channel and near the Brewerton Channel would be expected to be comparable to those that occur during routine maintenance dredging operations performed in the federal channel. Therefore, adverse impacts on adjacent surficial sediment quality outside and adjacent to the dredging and in-water construction footprints from resuspension and redeposition would be expected to be minimal.

The Combined Options Alternative would require the dredging of material within the proposed exterior dike alignment for the Coal Pier Channel DMCF and would permanently remove approximately 55,000

CY of soft sediments containing elevated concentrations of metals and organic contaminants underlain by consolidated sand. Because this overburden material would be removed prior to the placement of sand, the potential for material displacement and the creation of a mud wave during dike construction would not be expected.

Dredging, in-water construction, and placement of sand for the Coal Pier Channel DMCF dike construction have the potential to resuspend sediments that would settle back to the bottom of the dredging area and adjacent areas. Best Management Practices (BMPs) would be used where practicable and necessary based on sediment chemistry and site conditions to minimize the release of sediment and contaminants to the water column during dredging and in-water construction activities. Dredging and construction methodologies would be implemented in accordance with all applicable permit conditions.

Placement of dredged material in the High Head Industrial Basin would result in the permanent removal of approximately 40 acres of area that currently contains impounded water and would result in the encapsulation of existing sediments that contain elevated concentrations of metals and organic contaminants. Following the placement and dewatering of sediments in the High Head Industrial Basin DMCF, a bermed upland area would be created. Although fish, wildlife, and birds currently use the site, it is a managed industrial facility. The long-term land use of the High Head Industrial Basin DMCF is expected to remain industrial. Installation of the temporary outfall and diffuser needed to discharge effluent from the High Head Industrial Basin DMCF would have temporary impacts on the river bottom sediments. Appropriate BMPs would be implemented during placement and removal of the temporary system, as required by permits to minimize resuspension of the sediment during installation and to protect aquatic resources.

Placement of dredged material in a DMCF at the Coal Pier Channel would result in the permanent loss of 19.6 acres of open water habitat. The existing channel would be filled and converted to bermed, upland habitat, and a net loss of 19.6 acres of sediment surface that functions as habitat for benthic communities would occur. Based on the summer aquatic survey data, this benthic habitat is degraded and subject to seasonal low dissolved oxygen (hypoxia), and the sediments contain elevated concentrations of metals, PAHs, benzene, ethylbenzene, and toluene. Filling the channel would encapsulate impacted sediments and would eliminate exposure pathways for chemicals to benthic organisms, crabs, and fish.

The majority of sediments placed in the two on-site DMCFs would be classified as either Maryland Department of the Environment (MDE) Innovative Reuse Category 1 (Residential Unrestricted Use Soil and Fill Material) or Category 2 (Non-Residential Restricted Use Soil and Fill Material); these materials are suitable as fill in an industrial use area. Sediments that are classified as MDE Innovative Reuse Category 3 (Restricted Use Soil and Fill Material, Cap Required) would be placed early during the material inflow / filling cycle and would be capped or buried by subsequent placement of either Category 1 or Category 2 material. Human health risks associated with placement of Category 3 material would be mitigated through the capping requirement.

The impacts on sediment from the Preferred Alternative would be the same as those described for the Combined Options Alternative except potential impacts on sediments associated with dredging and placement of the material from within the footprint of the Coal Pier Channel DMCF dike alignment and impacts associated with in-water construction of the Coal Pier Channel DMCF dike construction would not occur. Similarly, the combined impacts of the Preferred Alternative for dredged material placement and activities associated with terminal development and channel improvements would have beneficial impacts on sediment quality in the project area by removing impacted sediments in the Sparrows Point

Channel that contain elevated concentrations of contaminants, improving the quality of aquatic habitat in the channel and reducing chemical exposure pathways to aquatic life. Similarly, by filling in the High Head Industrial Basin, impacted sediments in the basin would be encapsulated, reducing chemical exposure pathways to birds and other wildlife that feed on the vegetation in the basin. When compared to the Combined Options Alternative, the Preferred Alternative would avoid the placement of dredged material in open tidal waters, avoiding the impact on 19.6 acres of open water habitat. Overall, when the impacts of the terminal development and channel improvements combined with the impacts of either dredged material placement alternative are considered, the SPCT project would have beneficial impacts on sediment quality in the project area. Placement of dredged material at the existing MPA DMCFs would have no new impacts on sediment. Both MPA facilities are permitted to accept dredged material from the Baltimore Harbor channels and the Patapsco River. Only MDE Innovative Reuse Category 1 or Category 2 materials that meet the MPA's sediment quality requirements would be placed at the MPA DMCFs; Category 3 materials would not be placed at MPA DMCFs. The MPA has indicated that a maximum of 1.25 MCY of placement capacity is available for the SPCT project during a 4-year placement period. Dredged material placed at NODS would meet the Limiting Permissible Concentration requirements of Section 103 of the MPRSA and would also comply with the requirements stipulated in the *Site Management and Monitoring Plan for the Norfolk Ocean Disposal Site*; therefore, no impacts on aquatic resources would occur. The materials would be evenly dispersed across a designated placement zone to avoid mounding. Progress surveys of portions of the active zone during placement periods would be conducted to ensure proper placement / distribution of materials.

Floodplain and Flood Hazard

The No-action Alternative would not have any new impacts on the floodplain or flood hazard, as potential future development of Coke Point would not require work in the floodplain beyond the routine maintenance dredging that is already occurring.

No new impacts on floodplains would occur from the development of the terminal development or channel improvements.

Under the Combined Options Alternative, no new impacts on floodplains would occur from the construction and use of the High Head Industrial Basin DMCF. The temporary installation of the outfall and diffuser needed to discharge effluent from the High Head Industrial Basin DMCF would not impact the floodplain or create a flood hazard.

The Coal Pier Channel DMCF would be the only dredged material placement site with the potential to affect the floodplain and flood hazard; however, changes in water flow or pattern during flood events would be limited to areas within approximately 0.25 mile of the DMCF. The Coal Pier Channel DMCF would not impact the flood vulnerability of the surrounding communities. The addition of the DMCF would cause waves in the immediate vicinity of the DMCF to ramp up or wash up against the dike of the DMCF due to increased wave setup and wave runup caused by the dike. This phenomenon would be minimal and limited to the footprint of the proposed dike area. Placement of dredged material at the existing MPA DMCFs and the NODS would have no new impacts on the floodplain or flood hazard.

Under the Preferred Alternative, no impacts on the floodplain would occur because dredged material would be placed at High Head Industrial Basin DMCF, existing MPA DMCFs, and the NODS; no new material would be placed in the floodplain.

Hydrodynamics

The No-action Alternative would not have an impact on water currents or water levels. Maintenance dredging would continue to retain the Sparrows Point Channel's existing bathymetry, and potential future development of Coke Point would not affect hydrodynamics.

For actions associated with terminal development and channel improvements, changes in the hydrodynamics in and adjacent to the Sparrows Point Channel would be imperceptible. In the Sparrows Point Channel, tidal currents are directed across the channel — the currents within the footprint of the channel are 0 to 0.19 knots, and the currents outside the footprint are 0.19 to 0.39 knots. The Sparrows Point Channel widening and deepening would expand the area with 0 to 0.19 knot currents from 300 to 450 feet wide. Currents outside of the channel footprint would be unchanged.

Under the Combined Options Alternative, the Coal Pier Channel DMCF would create new shoreline by closing off the mouth of the channel on the west side of Coke Point. The flood and ebb tidal currents along the western shoreline of Coke Point would continue unimpeded and would therefore not have an impact on the hydrodynamics of the Patapsco River. The High Head Industrial Basin is located in upland habitat, so construction of a DMCF in this location would not impact hydrodynamics. The temporary installation of the outfall and diffuser needed to discharge effluent from the High Head Industrial Basin DMCF would not impact hydrodynamics. Placement of dredged material at the existing MPA DMCFs and the NODS would have no new impacts on hydrodynamics.

The Preferred Alternative would have no impact on the Patapsco River hydrodynamics because dredged material would be placed at High Head Industrial Basin DMCF, existing MPA DMCFs, and the NODS; no structures or material associated with dredged material placement would be placed in the river.

Groundwater

Under the No-action Alternative, groundwater would remain in its current condition. Existing Resource Conservation and Recovery Act interim measures, short-term actions taken to address immediate threats to human health or the environment caused by the release of hazardous waste, would continue to address groundwater impacts. Future development of Coke Point would involve paving and construction of buildings, which would decrease infiltration of precipitation into groundwater. Reduced infiltration would decrease groundwater surface elevation and decrease groundwater flow. This would reduce the movement of groundwater contaminants and decrease the adverse impacts of contaminated groundwater. If the High Head Industrial Basin were to be filled with dry material and the area repurposed, there would be no impact on groundwater.

The terminal development and channel improvements would include paving and construction of buildings on Coke Point, resulting in 95% of Coke Point being impervious to infiltration, as described above. The increased impervious surface on Coke Point would reduce the groundwater flux (the rate of groundwater movement as it flows through aquifer material), consequently decreasing the volume of groundwater potentially flowing outward from Coke Point and reducing movement of contaminants from groundwater into surface water.

Under the Combined Options Alternative, placement of wet dredged material in the High Head Industrial Basin DMCF could temporarily increase the water level in the basin and compress the sediments currently at the base of the basin. Dike construction would be designed to contain contaminants in the existing sediments within the footprint of the DMCF, and compaction of dredged material would decrease sediment permeability. Construction of the Coal Pier Channel DMCF could affect nearby groundwater flow, as groundwater would flow around or under the compacted dredged material. The reduced groundwater flux within Coke Point (described above) would decrease the volume of groundwater being diverted around the DMCF. Dredged material placement in the Coal Pier Channel DMCF could compress the underlying sediment, reducing permeability and contaminant mobility. Overall, the placement of dredged material in the Coal Pier Channel and High Head Industrial Basin DMCFs would reduce the movement of groundwater contaminants and reduce the risk of contaminants moving from groundwater into surface water. Placement of dredged material at the existing MPA DMCFs would have no new impacts on groundwater, and placement of dredged material at the NODS would not impact groundwater.

The impacts on groundwater from the Preferred Alternative would be the same as those described for the Combined Options Alternative, but the impacts associated with the construction of the Coal Pier Channel DMCF would not occur.

Surface Water Quality

Under the No-action Alternative, surface water would continue to be subject to existing physical conditions and watershed inputs, and existing sediment and surface water interactions would continue. Surface water quality in the vicinity of Coke Point would be potentially affected by resuspension of surficial sediment during storm events, as well as ongoing chemical inputs from groundwater. Ongoing potential for movement of chemicals to surface waters and an ongoing potential for ecological risk from offshore areas west and south / southeast of Coke Point would continue. Stormwater and runoff from existing landside areas and future development of landside areas would be managed under current or future NPDES permits and planned controls.

Terminal development and channel improvements would require multiple in-water activities, including dredging and mechanical excavation, demolition of limited relic pier structures, pile installation, and placement of rock and fill for the revetment structure (underneath the open wharf structure), and the covering of the revetment structure with armor stone and concrete at the interface between the land and water.

These in-water construction and dredging activities have the potential to resuspend sediment and contaminants into surface waters. In-water construction BMPs would be used where practicable and necessary based on the sediment chemistry and site conditions to minimize resuspension of sediment and contaminants to surface waters. Any resuspension or incidental release of sediment during in-water activities would be short-term and localized and contained to the immediate work area using BMPs. In addition, in-water construction and dredging methodologies would be conducted in accordance with all applicable permit conditions to protect surface waters. Therefore, adverse impacts on adjacent surface waters during in-water construction would be expected to be minimal.

The construction of the wharf and terminal facilities would also result in impervious surfaces throughout the terminal facility. The three new permitted stormwater outfalls for the terminal, one at the north end of the turning basin and two at the south end of Coke Point, would be incorporated into the regional stormwater plan for the Sparrows Point facilities. Therefore, stormwater discharges from the new terminal would not be expected to adversely impact surface waters. Construction of the revetment required for the wharf would include the use of concrete slabs approximately 6-inches thick covering the revetment. This action would reduce the flux of contaminants from groundwater to surface water and would be expected to inhibit lateral contaminant plume migration.

The dredging needed to construct the wharf and widen and deepen the channel would permanently remove 4.2 MCY of sediments that include legacy contaminants from historical industrial activities and would leave behind deeper native sediments with natural background concentrations of metals and other constituents on the east and southeast side of the peninsula. The removal of sediments impacted by metals, PAHs, PCBs, and other constituents would result in a permanent net improvement of surficial sediment conditions (approximately 52 acres within the existing channel and 60 acres in the channel wideners) for fish, crabs, benthic organisms, and humans. The removal of the sediments would improve the quality of the sediment at the sediment-water interface in the project area, and it would reduce the overall (net) surface area in the vicinity of Coke Point where impacted surficial sediments and surface waters interact.

Under the Combined Options Alternative, construction of the Coal Pier Channel DMCF would require in-water activities, including dredging and placement of fill for the exterior enclosure dike. Impacts associated with dredging for construction of the dike would have the same impacts on surface water as dredging activities described above for channel improvements.

Dredged material placement at either the High Head Industrial Basin DMCF or the Coal Pier Channel DMCF would be accomplished by placing dredged material in scow barges and transporting it by waterway to an offloading location on the west side of the shipyard. The material would be slurried with surface water and hydraulically pumped to the High Head Industrial Basin DMCF or into the Coal Pier Channel DMCF. The water required to slurry the material would be withdrawn from the Patapsco River at the offloading location. To the extent possible, slurry water from the on-site DMCFs would be recirculated and reused in this process to reduce the volume of surface water withdrawal. The use of surface waters and the volume of water withdrawn from the Patapsco River would comply with conditions of a Water Appropriation and Use Permit issued by the MDE. Therefore, no impacts on surface waters would be expected for water used to slurry and pump dredged material to the on-site DMCFs.

Dewatering of the dredged material at the two on-site DMCFs would be required for drying and consolidation of the placed material. It is anticipated that the discharges from the High Head Industrial Basin DMCF and the Coal Pier Channel DMCF would be incorporated into TPA’s existing sitewide NPDES permit, and the quantity and quality of the discharge would be subject to the conditions of the permit. Therefore, managed effluent discharges from the on-site DMCFs would not be expected to adversely impact surface waters.

Installation of the outfall and diffuser needed to discharge effluent from the High Head Industrial Basin DMCF would have the potential to disturb and resuspend sediment into surface waters. In-water construction BMPs would be used to minimize resuspension of sediment and contaminants to surface waters. Any resuspension or incidental release of sediment during the pipe installation would be short-term and localized. In addition, all in-water construction would be conducted in accordance with applicable permit conditions or agency guidance to protect surface waters. Therefore, adverse impacts on adjacent surface waters would be expected to be minimal.

As part of construction of the High Head Reservoir DMCF, filling the basin would eliminate its use for receipt of local stormwater from nearby portions of Sparrows Point. Stormwater inputs would be incorporated into TPA's existing sitewide NPDES permit and rerouted to a permitted outfall. The quantity and quality of the discharge would be subject to the conditions of the permit and would not be expected to adversely impact surface waters.

Effluent treated by the Back River Wastewater Treatment Plant historically flowed into the High Head Industrial Basin, which was then pumped through a discharge pipe to an outfall in Bear Creek. Baltimore City has terminated the flow of the treated effluent into the High Head Industrial Basin. Baltimore City has initiated a project to reconnect the treated water effluent line to the existing discharge pipe that flows to the outfall in Bear Creek, thereby bypassing the High Head Industrial Basin. The Coal Pier Channel DMCF would require in-water construction of a berm or dike approximately 600 ft long at the west end to enclose the channel prior to placement of dredged material within the DMCF. The dike would be constructed using clean sand from an off-site source and would be protected with rock sized to stabilize the structure and withstand future storm events and sea-level rise. Soft overburden material containing elevated concentrations of metals and organic contaminants would be dredged / removed from the dike alignment prior to placement of sand to construct the dike; therefore, displacement of sediments and the creation of a mud wave during dike construction would not be expected, and no impacts on surface waters would be expected.

Following completion of dredged material placement, the existing bottom sediments in the Coal Pier Channel would be encapsulated. This conversion from open water to upland would remove approximately 19.6 acres of aquatic habitat with impacted sediments and would be expected to provide a net improvement / benefit to surface waters in the vicinity of the project area by removing the sediment-to-surface water exposure pathway for aquatic resources.

Placement of dredged material at the existing MPA DMCFs and the NODS would not create any new impacts on surface water.

The impacts on surface water from the Preferred Alternative would be the same as those described for the Combined Options Alternative, but the impacts associated with the construction of the Coal Pier Channel DMCF would not occur.

Benthic Fauna

Under the No-action Alternative, benthic fauna would continue to be subject to existing physical and chemical sediment quality and water quality conditions. Benthic fauna in the Sparrows Point Channel would continue to be impacted by maintenance dredging, with community recovery after dredging. If the High Head Industrial Basin were to be filled under the No-action Alternative, approximately 40 acres of benthic habitat and any benthic-dwelling organisms present in the basin would be permanently lost.

Dredging as part of the terminal development and channel improvements would impact benthic organisms, causing mortality for any non-mobile organisms in or on the sediments and could create temporary and localized water column turbidity that could affect filter-feeding species. Benthic organism communities would continue to recover after dredging events, but the increased deepwater habitat could change the type of species and community composition present after dredging. Excavation for the wharf and associated revetment extending beyond the edge of the wharf would remove historical fill and convert 5.3 acres of upland to open water. Dredging for the wharf and placement of associated revetment extending beyond the edge of the wharf would impact 4.7 acres of existing tidal open water. The total open water impact (both new tidal open water and existing) from the wharf and the revetment that extends beneath the wharf and to the outer toe beyond the edge of the wharf would be approximately 10.0 acres. Of this acreage, the approximate area of tidal open water that would be shaded by the wharf is 8.6 acres. The shading of the wharf (and the placement of revetment) would result in aquatic habitat that may be less capable of supporting a diverse benthic community. Installation of pilings would result in mortality of any benthic organisms present in that footprint and a permanent loss of 0.2 acre of available bottom benthic habitat.

For the Combined Options Alternative, any benthic organisms present in the High Head Industrial Basin would be permanently lost if the basin were used as a dredged material placement site. Installation of the temporary outfall and diffuser needed to discharge effluent from the High Head Industrial Basin DMCF would directly impact the benthic habitat and organisms beneath the pipeline alignment and in any adjacent disturbed area. The pipeline would be temporary for the duration of dredged material placement and dewatering at the High Head Industrial Basin DMCF. Once dewatering is completed, the feeder line and diffuser would be removed from the river bottom, and benthic organisms would be expected to recolonize in the pipeline footprint.

The construction of the Coal Pier Channel DMCF would result in burial of the existing benthic communities in the DMCF footprint and a permanent loss of 19.6 acres of habitat. Based on sampling for benthic fauna conducted in summer 2023, the habitat in the Coal Pier Channel was determined to be degraded with only one taxon present and a low benthic abundance compared to other sampling locations. Standard BMPs would minimize sediment resuspension during dike construction and the potential for benthic organism burial outside the dike footprint. Placement of dredged material at the existing MPA DMCFs and the NODS would not have any new impacts on benthic communities.

The impacts on benthic fauna from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except the loss of benthic habitat and organisms associated with construction of the Coal Pier Channel DMCF would not occur.

Fish and Essential Fish Habitat

Under the No-action Alternative, fish, including essential fish habitat (EFH) species, would continue to be temporarily impacted during maintenance dredging. Invertebrate prey species would continue to be impacted by lost benthic organisms, and EFH species and sturgeon would be impacted by existing contaminated sediment. If the High Head Industrial Basin were to be filled under the No-action Alternative, approximately 40 acres of aquatic habitat and any fish present in the basin would be permanently lost.

The SPCT project would have both temporary and long-term impacts on fish and EFH. Dredging to widen and deepen the Sparrows Point Channel, proposed under the terminal development and channel improvements, could result in different life stages of fish species in the vicinity of the project area being caught in dredging equipment. Resuspended sediment (increasing turbidity) and habitat alteration would impact fish, especially eggs and larvae. Dredging impacts on juvenile and adult EFH species would be short-term, but entrainment of eggs and larvae present in the project area (from water withdrawal during sediment offloading to the DMCF) would be permanent. Turbidity and sediment removal would have more impact on demersal (bottom-dwelling) EFH species.

Underwater noise from pile driving could impact fish through physical injury near the project area and behavioral disturbances for fish within the Patapsco River. TTT would continue to coordinate with the

National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) on monitoring underwater sound during pile driving and on the implementation of BMPs (sound attenuation measures), as necessary, to reduce impacts to aquatic resources and maintain a zone of safe fish passage in the Patapsco River.

Under the Combined Options Alternative, any fish present in the High Head Industrial Basin would be permanently lost if the basin were used as a dredged material placement site. Installation of the temporary outfall and diffuser needed to discharge effluent from the High Head Industrial Basin DMCF could impact fish and EFH habitat in the immediate vicinity. Impacts could include temporary loss of benthic habitat, a food source for some fishes, and temporary disturbance from construction activity. Impacts on fish would be localized and temporary.

The construction of the Coal Pier Channel DMCF could cause temporary turbidity and localized impacts on EFH species. The resuspension of sediments would be minimal, temporary, localized, and controlled through BMPs. Fish within the Coal Pier Channel DMCF footprint would be displaced, would experience habitat alteration, and could be trapped or buried within the dike alignments, especially eggs and larvae. The Coal Pier Channel provides sheltered habitat, and the DMCF in this location would result in a loss of habitat for smaller fish. The Coal Pier DMCF footprint represents only a small portion of bottom habitat available in the project area to EFH species that require this habitat during their life cycle. As a result, permanently filling the Coal Pier Channel would have localized impacts on EFH species. Further, sediment sampling indicates historical contamination in the Coal Pier Channel, and the benthic community assessment suggests that the habitat is degraded; therefore, the DMCF footprint does not represent high-quality habitat for fish or prey species.

Increased vessel traffic (additional 10 vessels at a time during construction and 150 new container vessels per year during operation) would continue to affect fish through disturbance from noise and physical disturbance of habitat conditions.

The impacts on fish from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except turbidity from dredging of the dike alignment and placement of in-water dike fill at the Coal Pier Channel DMCF would not occur. In addition, there would be no permanent loss of 19.6 acres of tidal open water habitat by the construction of the Coal Pier Channel DMCF. Lastly, the localized increase in construction vessel traffic and associated impacts to fish in the vicinity of the Coal Pier Channel would not occur.

Aquatic Special Status Species

Under the No-action Alternative, aquatic special status species (sturgeon, fish species in need of conservation, sea turtles, and dolphins) would continue to be temporarily impacted during maintenance dredging. Prey species would continue to be impacted by lost benthic organisms, and special status species would be impacted by existing contaminated sediment.

Construction of the terminal development and channel improvements could cause special status species to suffer behavioral and physiological effects from increased turbidity associated with construction activities. Turbidity resulting from dredging and pile driving has the potential to temporarily reduce the quality of foraging habitat for transient special status species using the SPCT area. The temporary nature of the turbidity and use of BMPs would result in minimal effects on special status species. Habitat alteration resulting from wharf construction would have minimal impacts on special status species.

Habitat alteration in the dredging area due to the deepening of the channel would reduce the quality of bottom habitat by reducing the likelihood of a benthic community re-establishing; however, this area is not expected to support foraging special status species.

The impacts of noise on aquatic special status fish species would be the same as the impacts on fish species (described above). Increased vessel traffic from construction and operation of the terminal would cause a minor increase in the risk of striking special status species such as sturgeon and sea turtles; for sea turtles, the risk would increase for vessels traveling between the site and the lower Chesapeake Bay, but this would be negligible since the routes are already highly trafficked.

Bottlenose dolphins would likely be transient in this portion of the Patapsco River. Modeling of underwater noise indicates that dolphins could be impacted by noise generated during vibratory driving of piles and during vibratory removal / demolition of in-water structures. TTT would work with the NOAA Office of Protected Resources to refine inputs to the underwater model, to assess sound attenuation measures, and to develop monitoring plans to comply with the requirements of the Marine Mammal Protection Act (MMPA).

Under the Combined Options Alternative, the creation of the Coal Pier Channel DMCF would directly reduce the quantity of habitat by filling open water within an area that is isolated from the main river channel, which is more suitable habitat for most of the special status species, particularly sturgeon and bottlenose dolphin. Additionally, turbidity associated with construction of the DMCF could temporarily impact special status species. Impacts on special status species from installation of the temporary outfall and diffuser would be the same as those described for fish above.

Increased vessel traffic from dredged material transport and placement would cause a minor increase in the risk of striking special status species. Dredged material placement at the NODS site would increase the risk of striking special status species from barge transit from SPCT to NODS, but the increase in risk is negligible given the high vessel traffic already present in the lower Chesapeake Bay. Additionally, vessel traffic to and from the NODS would be conducted in compliance with the National Oceanic and Atmospheric Administration National Marine Fisheries Service Right Whale Ship Strike Reduction Rule (50 Code of Federal Regulations [CFR] 224.105), which limits vessels greater than 65 feet to speeds less than 10 knots during migration and calving periods.

Placement of dredged material at the existing MPA DMCFs and the NODS would not have any new impacts on aquatic special status species.

The impacts on aquatic special status species from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except impacts associated with the Coal Pier Channel DMCF would not occur.

Vegetation and Habitat

Under the No-action Alternative, potential future development of Coke Point and the High Head Industrial Basin would require removal of vegetation. Because the existing habitats in these areas provide limited value and represent a small portion of similar habitats available in the area, removal of the vegetation would have minimal adverse effects.

Terminal development and channel improvements would require the permanent removal of all terrestrial vegetation in the project area, resulting in adverse but minimal impacts, as the habitat quality is low.

Under the Combined Options Alternative, construction of the High Head Industrial Basin DMCF would permanently remove approximately 11.2 acres of riparian, shrub, and forested habitat. After construction of the High Head Industrial Basin DMCF, the area would be closed, resulting in a permanent loss of the riparian habitat. As noted for the No-action Alternative, these existing habitats provide limited value and a small portion of the habitats available to wildlife in the area. The area could be revegetated with native species, which would provide new upland habitat. A temporary discharge pipe would be routed over land to the west side of the shipyard to provide the temporary outfall and diffuser needed to discharge effluent generated during sediment placement and dewatering at the High Head Industrial Basin DMCF. Some vegetation may be disturbed, but the habitat quality in this area is low. The pipeline would be removed when dewatering activities are complete at the High Head Industrial Basin DMCF.

No additional impacts on vegetation and habitat would occur from construction of the Coal Pier Channel DMCF, and placement of dredged material at the existing MPA DMCFs and the NODS would not have any new impacts on vegetation and habitat.

The impacts on vegetation / habitat from the Preferred Alternative would be the same as those described for the Combined Options Alternative because there would be no impacts associated with the construction and placement of dredged material in the Coal Pier Channel DMCF.

Birds

Under the No-action Alternative, bird populations would continue to be impacted by ongoing industrial activities, including demolition and razing activities, Port operations, trucking, and warehousing, all of which cause noise and other disturbances to birds. The potential future development of Coke Point and High Head Industrial Basin would likely remove existing degraded habitat currently used by bird populations.

Impacts from terminal development and channel improvements would include construction noise and permanent loss of habitat on Coke Point. Increased turbidity from dredging could temporarily impact foraging sea birds. Terminal operations could impact birds by increasing vessel traffic, and new buildings and structures would increase the risk of bird collisions. New artificial lighting would increase light pollution and could adversely affect bird behavior; however, impacts from new lighting would be minimal given the existing nighttime light intensities. The lack of existing landside natural areas at the site, expansive open water adjacent to the site, and the small number of birds observed during the June 2024 bird survey suggest that impacts on birds and their habitat would be minimal.

Under the Combined Options Alternative, construction of the High Head Industrial Basin DMCF would remove approximately 11.2 acres of terrestrial habitat and permanently remove 40 acres of aquatic habitat and 1 linear mile of riparian habitat along the edge of the basin, which would adversely impact birds. Conversion from aquatic and riparian habitat would permanently exclude birds that use these habitat types, including one state-listed species (least tern). Construction and dredged material placement would exclude birds from the site for approximately 3 years. Construction of the Coal Pier Channel DMCF would cause a minor reduction in the water area available for loafing and foraging; however, the June 2024 survey did not indicate that the Coal Pier Channel DMCF area was heavily used by birds, and there is extensive area available locally for loafing and foraging. Placement of dredged material at the existing MPA DMCFs and the NODS would not have any new impacts on birds.

The impacts on birds from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except that impacts associated with the Coal Pier Channel DMCF would not occur.

Aesthetics and Viewshed

Under the No-action Alternative, continued impacts from routine operations would occur. Potential future development of Coke Point and High Head Industrial Basin would be consistent with existing conditions; there would not be any significant aesthetic, light, or glare impacts from future development.

Terminal development and channel improvements would result in temporary and permanent visual changes, including the increase of shoreline development, shipping container storage, and mast lights. However, most of these would not be a substantial alteration from existing aesthetics. The grouping of up to nine ship-to-shore cranes, which are about twice the height of existing cranes, would have a moderate scale contrast and spatial dominance in the foreground view for boaters, the middleground view for some residents of Baltimore County, and the background view for shore viewers in Anne Arundel County and from Fort Howard Park. The scale contrast of the cranes is not projected to be noteworthy for boaters given the transient nature of the view from boats and existing low visual quality.

Under the Combined Options Alternative, the High Head Industrial Basin would have no significant changes in aesthetics and viewshed, having limited visibility and being similar in scale to a nearby building. The Coal Pier Channel DMCF would be visible to viewers west of the project and boaters, but the visual impact would not be significant, being similar in scale to existing structures. The DMCF could also increase noticeable light, but the distance is sufficient to suggest that impacts would be minimal. Placement of dredged material at the existing MPA DMCFs and the NODS would not have any new impacts on aesthetics.

The impacts on aesthetics / viewshed from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except impacts associated with the Coal Pier Channel DMCF would not happen. Furthermore, although the High head Industrial Basin DMCF would be 10 feet higher than under the Combined Options Alternative, the impacts would remain the same. The site has limited visibility due to the existence of trees, buildings, trainyards, landfills, and other development that would block views. The elevation at grade is +8 to +12 feet, so the +40 feet elevation of the DMCF would only be approximately 30 feet above existing grade, below the height of nearby buildings that are 50 feet high.

Recreation

Under the No-action Alternative, existing recreational opportunities and subsistence fishing at surrounding parks, boat landings, water trails, and fishing locations would continue to be available to the public. Commercial operations and maintenance dredging of the Sparrows Point Channel would continue to create temporary disturbances to recreation activities in the vicinity of the channel. Potential future development of Coke Point would likely not include in-water work and would therefore not have an impact on water-based recreation.

Terminal development and channel improvements, including periodic maintenance dredging, would temporarily impact recreational activities. Exclusion zones during construction and dredging activities would have minor impacts on recreational boating. In-water activities could increase turbidity and impact localized fishing, but subsistence fishing in license-free fishing areas would not be impacted.

Under the Combined Options Alternative, an exclusion zone needed during construction of the Coal Pier Channel DMCF would impact recreational boating in the vicinity, but this would be localized and temporary. Construction of and placement of dredged material at the High Head Industrial Basin would not affect water-based recreation, and placement of dredged material at the existing MPA DMCFs and the NODS would not have any new impacts on recreation. Installation of the temporary outfall and diffuser would occur in the Patapsco River. If a temporary exclusion zone is needed for the construction and subsequent removal of this temporary structure, the impact on recreational activities in the river would be limited in area and duration.

The impacts on recreation from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except impacts associated with the construction of the Coal Pier Channel DMCF would not occur.

Air Quality

Under the No-action Alternative, vessels would continue to use ports along the east coast of the United States that do not have shore power connections available. At these ports, vessels would continue to run their auxiliary diesel engines while at berth, resulting in diesel emissions. TPA would likely develop Coke Point or High Head Industrial Basin or both under the No-action Alternative, as they have developed the rest of the TPA property. If so, there would be short-term impacts on air quality associated with construction activities.

Impacts on air quality are evaluated for the entire project, combining impacts associated with terminal development, channel improvements, and dredged material placement. Impacts from construction of the Combined Options Alternative and the Preferred Alternative are similar, with the Preferred Alternative having lower emissions. Operational impacts are the same for both alternatives. The primary emissions sources from the SPCT project are concentrated within the construction and cleanup phases (e.g., use of construction equipment and vehicles, demolition operations, transport of dredged material to placement sites), are considered temporary, and are limited to the periods of active construction timelines. During operation, the terminal would be partially electrified, and the use of shore power would significantly reduce emissions from ships at berth.

Community Noise

Under the No-action Alternative, noise from maintenance dredging and potential future development of Coke Point and High Head Industrial Basin would be expected to peak at 95 dBA (or A-weighed decibel) and 97 dBA, respectively, at a 50-foot range. These noise levels would attenuate to acceptable residential levels (65 dBA, as defined by the Code of Maryland Regulations) with approximately 2,000 feet or less. No sensitive receptors would be impacted by the No-action Alternative, as the distance from the project area to the nearest residences is more than 8,000 feet.

Terminal development and channel improvements would produce temporary noise during construction and maintenance dredging and continued noise from terminal operations. Peak sustained and periodic noise levels for dredging, construction, and operations would reach over 90 dBA (up to 101 dBA in some cases) at a 50-foot range, but this noise would attenuate to acceptable residential levels (65 dBA, as defined by the Code of Maryland Regulations) within 3,200 feet or less. With the closest residences more than 8,000 feet from the project area, there would be no impact in most atmospheric conditions. Under less typical atmospheric conditions, dredging, construction, and operational noise could promote noise propagation to waterfront areas, but these impacts would not be significant.

Sustained daytime noise from constructing the High Head Industrial Basin and Coal Pier Channel DMCFs would attenuate to acceptable levels (65 dBA). There would be no periodic daytime or nighttime noise impacts from construction or placement of dredged material. Placement of dredged material at the existing MPA DMCFs and the NODS would not have any new impacts on community noise.

The impacts on community noise from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except noise associated with the construction of the Coal Pier Channel DMCF would not occur. Noise associated with construction of the High Head Industrial Basin DMCF would be the same, but the duration of construction would be extended by two months.

Socioeconomics

Impacts were not quantified for the No-action Alternative because the nature and magnitude of future activities are highly uncertain. No impacts on commercial fishing would occur because the No-action Alternative would not involve any in-water activities.

Terminal development and channel improvements, including the long-term operation of the SPCT, would create jobs and county and state tax revenue. Construction activities would take just under 3 years to complete and would generate about 1,090 job-years of employment (or an equivalent of about 363 average annual jobs over 3 years), labor income of about $80.3 million and industry output of about $202.9 million, and an estimated $2.9 million in county and $6.2 million in state tax revenues. Terminal operations would generate about 1,050 direct jobs and 540 indirect and induced jobs in the local region, generating about $102 million in labor income and $194 million in industry output annually. Dredging, terminal construction, and terminal operation would not impact commercial fishing.

Under the Combined Options Alternative, construction of the High Head Industrial Basin and Coal Pier Channel DMCFs, including dredged material placement, would take about 27 months of labor activity, creating 109 job-years of employment (about 48 average annual jobs), generating about $8 million in labor income and about $19 million in industry output, and about $252,000 in county and $536,000 in state taxes. The High Head DMCF construction would not impact commercial fishing. Construction of and dredged material placement in the Coal Pier Channel DMCF would not have significant impacts on commercial fishing. Although construction noise could deter fish use of the area for 2 to 3 years, construction would be unlikely to limit vessel activity and the DMCF would not spatially overlap with pound net activities. Placement of dredged material at the existing MPA DMCFs and the NODS would not have any new impacts on socioeconomics.

The impacts on socioeconomics from the Preferred Alternative would be the same as those described for the Combined Options Alternative.

Overall, when actions associated with terminal development and channel improvements are combined with dredged material placement actions for either alternative, the combined project would generate about 1,200 job-years of employment, $222 million in industry output, and about $3.2 million in county and $6.7 million in state tax revenue during the active periods. The jobs would generate more than $3 million in annual county and $6 million in annual state tax revenues. The new jobs would not significantly impact the economic structure or the socio-demographics of the region. Although the jobs could reduce unemployment and increase incomes, they would only be a small percentage of total employment, and the effect would not be significant.

Traffic

Under the No-action Alternative, traffic would continue to be impacted by existing conditions and potential future development. The Coke Point area of the TPA property would likely be developed for manufacturing and warehouse activity, which would impact traffic during construction and after construction is completed. If the SPCT project were not constructed and Coke Point were developed for manufacturing and warehouse activity, this would result in a projected additional 7,554 daily trips. Along Bethlehem Boulevard North and West, the No-action Alternative would generate approximately 596 additional morning peak hour trips and approximately 598 trips during the evening peak hour. These increases in traffic are well below the capacity of the local roads.

Traffic analysis combines actions associated with terminal development, channel improvements, and dredged material placement (Combined Options Alternative and Preferred Alternative). The traffic impacts of the two action alternatives would be the same, as construction of the Coal Pier Channel DMCF has minimal impact on traffic. Construction of the terminal would increase traffic on Bethlehem Boulevard (North and West), which are the major roads providing access to the site. Traffic impacts would vary by construction phase, with the maximum number of additional workers on-site daily estimated to be 339; during many phases of construction, the number of workers would be less. Using the 2021 analysis, traffic levels were modeled for the years of construction (2025 to 2028), considering construction traffic and expected growth in the area and within the TPA property. Results indicate that roads would still be at between 25 and 58% of capacity. Terminal operation would increase traffic on Bethlehem Boulevard North and West with approximately 3,814 additional daily trips. Peak hours would experience increases in traffic with approximately 517 additional morning trips and 517 additional evening trips. However, these increases in traffic are well below the capacity of the local roads. Construction activities at High Head Industrial Basin would result in a small increase in local traffic that would not be noticeable given the traffic volume on local roads. The construction of the Coal Pier Channel DMCF would impact traffic only in areas from which different work vessels depart to construct the DMCF, and traffic in the vicinity of SPCT would not be impacted. Placement of dredged material at the existing MPA DMCFs and the NODS would not have any new impacts on traffic, as dredged material would be transported to these sites via vessel.

Navigation

Under the No-action Alternative, vessel traffic within and near the project area would continue. Roll-on / roll-off (Ro-Ro) operations would likely be expanded onto Coke Point, increasing the number of Ro-Ro vessels using the Brewerton Channel, a federal navigation channel, and the Sparrows Point Channel, a non-federal channel.

Dredging for terminal development and channel improvements would only impact the Brewerton Channel during dredging for the proposed turning basin, where the two channels meet, over one construction year, lasting approximately 7 months. Coordination with the Corps and the US Coast Guard would occur in compliance with the required dredging permit conditions and stipulations included in the Section 408 permission. Following construction, the SPCT would receive approximately 500 vessels per year, of which 150 vessels would be new to the Port. With this annual increase in vessel traffic to the Port, an average of three additional vessels per week would be navigating the Brewerton Channel to enter the

Sparrows Point Channel. The initial vessel traffic assumptions are based on the current size of container vessels, which call the ports on the East Coast of the United States. Once larger vessels begin to call the Port of Baltimore, each vessel would be able to move a larger quantity of containers, likely leading to a decrease in overall vessel calls over time.

Container vessels would represent a new vessel type using this area but would navigate through the Brewerton Channel, turning basin, and Sparrows Point Channel in the same way as the existing Ro-Ro vessels currently operate. TTT would be responsible for the operations and maintenance of the expanded Sparrows Point Channel. TTT would also be responsible for the operations and maintenance associated with shoaling at the edge of the Sparrows Point Channel Turning Basin and Brewerton Channel.

Under the Combined Options Alternative, construction of the High Head Industrial Basin DMCF would have no impact on navigation. Dredged material transport to the High Head Industrial Basin DMCF would occur outside of the Brewerton Channel and would have no impact on navigation. Construction of the Coal Pier Channel DMCF would temporarily increase boat traffic outside the Brewerton Channel. A temporary exclusion zone at the mouth of the Coal Pier Channel would have a minimal impact on navigation. Dredged material transport to the Coal Pier Channel DMCF would occur outside of the Brewerton Channel and would have no impact on navigation. Transport from the Sparrows Point Channel to the MPA DMCFs would require dredged material barges and scows with tugs to cross the Brewerton Channel. Transits of dredged material would be coordinated with the harbor pilots, the Corps, and the US Coast Guard to avoid impacts on scheduled shipping traffic within the federal channel. Transport of the dredged material to NODS would require transport vessels to use the Chesapeake Bay navigational channel system, approximately 152 nautical miles. Approximately 262 scow trips would be needed over 291 operational days, split across two dredging seasons. Impacts on navigation would be temporary and limited through coordination with the Corps and US Coast Guard.

The impacts on navigation from the Preferred Alternative would be the same as those described for the Combined Options Alternative.

ES-5. Coordination and Public Involvement

To facilitate the analysis and the decision-making process, the Corps maintains a policy of open communication with interested parties and invites public participation. Public participation opportunities during this project started with public scoping, initiated with the issuance of the Notice of Intent to prepare an EIS in the Federal Register, dated December 18, 2023. The Corps conducted two public scoping meetings, January 23, 2024 (in-person) and January 25, 2024 (virtual), to inform participants about the proposed project and to solicit comments for consideration in the development of the EIS. Federal and state agencies, Tribes, public and private organizations, and members of the public that have a potential interest in the proposed action, including minority, low-income, and / or disadvantaged communities, were invited to participate in the US Army's NEPA and decision-making processes, as guided by Council on Environmental Quality regulations at 40 CFR Parts 1500-1508 and Army Regulation at 32 CFR Part 651. In addition to the aforementioned public engagement through the formal NEPA process, TPA and TTT's corporate affairs team developed a robust outreach program to increase public awareness and participation in this process. The program includes the regular engagement of the Tradepoint Atlantic Community Advisory Board, which consists of two dozen representative members of nearby stakeholder communities of Tradepoint Atlantic. Since September 2023, TTT's corporate affairs team has also held and attended more than 50 in-person community stakeholder meetings to present and discuss the project. Public engagement materials are developed in English and Spanish to better engage with and serve the diverse populations within local communities, ensuring that residents have the opportunity to be informed and involved. TTT has also developed a website to provide project information to the public: https://www.spctmd.com/.

The Draft EIS was made available to federal, state, and local agencies, Tribes, and the public for review and comment for 60 days. The Corps published a Notice of Availability for the Draft EIS in the Federal Register, dated January 10, 2025, concurrent with the start of the 60-day public comment period. Two public hearings were held during the 60-day public comment period on February 25, 2025 (in-person) and on February 27, 2025 (virtual). The purpose of these hearings was to receive public comment on the Draft EIS, the impacts analysis, and proposed mitigation. Comments were accepted through March 11, 2025. A total of 59 written letters were received, and additional comments were received through oral testimony at both public hearings.

Table ES-1. Summary of the Potential Impacts from Implementing the Alternatives

This table presents a summary of the impacts from the No-action Alternative, the Combined Options Alternative, and the Preferred Alternative. The impacts from terminal development and channel improvements for the two action alternatives would be the same and are covered under Common to Both Action Alternatives; impacts from dredged material placement are discussed separately for the two action alternatives. The impacts are discussed in detail in the sections following this table.

Resource Topic	No-action Alternative	Common to Both Action Alternatives	Combined Options Alternative	Preferred Alternative
		Terminal Development and Channel Improvements	Dredged Material Placement	Dredged Material Placement
Sediment	Ongoing potential for ecological risk in offshore areas and limited human health risk from disturbance and resuspension of sediments during maintenance dredging, storm events, and vessel traffic.	Dredging would permanently remove sediments that include legacy contaminants. Removal of sediments would have a net improvement of surficial sediment conditions for aquatic life in the vicinity of the project area. Dredging and in-water construction activities may resuspend sediments, but the use of BMPs, where practicable, necessary, and feasible based on sediment chemistry and site conditions, would reduce these impacts, which are expected to be minimal.	*High Head Industrial Basin DMCF* – Placement of dredged material would encapsulate existing sediments with elevated contaminant concentrations. Installation of the temporary outfall and diffuser would have temporary impacts on the river bottom sediments. BMPs would reduce these impacts. *Coal Pier Channel DMCF* – Placement of dredged material would result in the loss of 19.6 acres of sediments that contain elevated concentrations of contaminants, which would be encapsulated, eliminating exposure pathways for aquatic life. Dredging of soft sediments containing elevated concentrations of metals and organic contaminants in the alignment of the exterior dike footprint prior to sand placement would minimize displacement and resuspension of sediments and the potential for creation of a mud wave during dike construction. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Placement of dredged material would encapsulate existing sediments with elevated contaminant concentrations. Installation of the temporary outfall and diffuser would have temporary impacts on the river bottom sediments. BMPs would reduce these impacts. *MPA DMCF – No new impact* *NODS – No new impact*
Floodplain and flood hazard	No impact. Potential future development of Coke Point would not require work in the floodplain beyond the routine maintenance dredging that is already occurring.	No impact.	*High Head Industrial Basin DMCF* – No impact; installation of the temporary outfall and diffuser would not impact the floodplain or create a flood hazard. *Coal Pier Channel DMCF* – Changes in water flow or pattern during flood events would be limited to areas within approximately 0.25 mile of the DMCF. The Coal Pier Channel DMCF would not impact the flood vulnerability of the surrounding communities. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – No impact; installation of the temporary outfall and diffuser would not impact the floodplain or create a flood hazard. *MPA DMCF – No new impact* *NODS – No new impact*
Hydrodynamics	No impact. Maintenance dredging of the Sparrows Point Channel would continue to retain the existing bathymetry, and potential future development of Coke Point would not affect hydrodynamics.	The expanded channel would increase the area with reduced current speed from 300 feet (existing channel width) to 450 feet (proposed channel width) compared to areas outside the channel. No impacts on currents outside of the channel.	*High Head Industrial Basin DMCF* – No impact; installation of the temporary outfall and diffuser would not impact the hydrodynamics in the Patapsco River. *Coal Pier Channel DMCF* –Coal Pier Channel DMCF would close off the mouth of the channel on the west side of Coke Point. The flood and ebb tidal currents in this area would continue unimpeded and would therefore not have an impact on the hydrodynamics of the Patapsco River. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – No impact; installation of the temporary outfall extension would not impact the hydrodynamics in the Patapsco River. *MPA DMCF – No new impact* *NODS – No new impact*

Resource Topic	No-action Alternative	Common to Both Action Alternatives	Combined Options Alternative	Preferred Alternative
		Terminal Development and Channel Improvements	Dredged Material Placement	Dredged Material Placement
Groundwater	Impacts from an increase in impervious surface, limiting water infiltration and resulting in lowering the groundwater surface elevation, decreasing groundwater flow, potentially decreasing or increasing the concentrations of groundwater contaminants but slowing their movement, and reducing the adverse impacts of contaminated groundwater, which are being managed through Resource Conservation and Recovery Act interim measures. No impact if the High Head Industrial Basin were to be filled with dry material.	Planned paving and buildings would result in 95% of Coke Point being impervious to infiltration; the impacts would be the same as described for the No-action Alternative.	*High Head Industrial Basin DMCF* – Placement of wet dredged material in the DMCF could temporarily increase the water level in the basin and compress the sediments currently at the base of the basin; however, the sediment would be contained within the DMCF footprint. Compaction of dredged material would decrease sediment permeability, reducing the movement of contaminants to groundwater. Due to the inland location and construction of the DMCF, there is no risk of contaminants within the basin moving from groundwater into surface water. *Coal Pier Channel DMCF* – Groundwater near the DMCF would flow around or under the compacted dredged material; however, the increased impervious surface on Coke Point would reduce the groundwater flux, consequently decreasing the volume of groundwater being diverted around the DMCF. Dredged material placement would compress underlying sediment, reducing permeability and contaminant mobility into groundwater in the long term. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Placement of wet dredged material in the DMCF could temporarily increase the water level in the basin and compress the sediments currently at the base of the basin; however, the sediment would be contained within the DMCF footprint. Compaction of dredged material would decrease sediment permeability, reducing the movement of contaminants to groundwater. Due to the inland location and construction of the DMCF, there is no risk of contaminants within the basin moving from groundwater into surface water. *MPA DMCF – No new impact* *NODS – No new impact*
Surface water	Ongoing potential for resuspension of contaminated surficial sediments into surface waters by natural physical processes, maintenance dredging, and vessel movements. Ongoing chemical inputs to surface water from watershed and agricultural practices, local and regional industrial and stormwater discharges, and groundwater.	In-water construction and dredging have the potential to resuspend sediments and contaminants into surface waters. The use of BMPs where practicable, necessary, and feasible based on sediment chemistry and site conditions would minimize these impacts. Impacts would be temporary, localized, reduced, and controlled through the use of BMPs. Removal of sediment with legacy contaminants as part of channel dredging would improve the quality of the sediment at the sediment-water interface and would have a permanent net improvement to surface waters in the vicinity of the project area. Furthermore, the concrete slabs used to cover the revetment would reduce the flow of contaminants from groundwater to surface water and would inhibit lateral contaminant plume migration. Construction of the terminal would increase the impervious surface area on the Coke Point peninsula; stormwater discharges from three new permitted outfalls on Coke Point would be incorporated into the regional stormwater plan for the Sparrows Point facility and would not be expected to adversely impact surface waters.	*High Head Industrial Basin DMCF* – Filling of the DMCF basin would eliminate its use for stormwater; stormwater inputs would be redirected and managed according to NPDES permit requirements. No impacts from the removal of the existing impounded water from the High Head Industrial Basin, use of surface waters for pumping and offloading of dredged material, and discharge of effluent from dewatering of the dredged materials would be expected; these actions would follow stipulations and conditions of a NPDES permit and a Water Appropriation and Use Permit issued by the MDE. Installation of the temporary outfall and diffuser would have the potential to disturb and resuspend sediment into surface waters. Placement and removal activities would be expected to require approximately 30 days each, and BMPs would be used to minimize resuspension of sediment into surface waters. *Coal Pier Channel DMCF* – In-water construction and placement of sand for exterior dike construction would have the potential to resuspend sediments. Pre-dredging of the exterior dike alignment and the use of BMPs where practicable, necessary, and feasible based on sediment chemistry and site conditions would minimize these impacts. No impacts from the use of surface waters for pumping and offloading of dredged material and discharge of effluent from dewatering of the dredged materials would be expected; these actions would follow stipulations and conditions of a NPDES permit and a Water Appropriation and Use Permit issued by the MDE. Encapsulation of approximately 19.6 acres of impacted sediments at the sediment-water interface would provide net improvement to surface waters in the vicinity of the project area. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Filling of the DMCF basin would eliminate its use for stormwater; stormwater inputs would be redirected and managed according to NPDES permit requirements. No impacts from the removal of the existing impounded water from the High Head Industrial Basin, use of surface waters for pumping and offloading of dredged material, and discharge of effluent from dewatering of the dredged materials would be expected; these actions would follow stipulations and conditions of a NPDES permit and a Water Appropriation and Use Permit issued by the MDE. Installation of the temporary outfall and diffuser would have the potential to disturb and resuspend sediment into surface waters. Placement and removal activities for the diffuser would be expected to require approximately 30 days each, and BMPs would be used to minimize resuspension of sediment and contaminants to surface waters. *MPA DMCF – No new impact* *NODS – No new impact*

Resource Topic	No-action Alternative	Common to Both Action Alternatives	Combined Options Alternative	Preferred Alternative
		Terminal Development and Channel Improvements	Dredged Material Placement	Dredged Material Placement
Benthic fauna	Continued impacts from existing sediment and water quality conditions. Continued impacts from maintenance dredging with community recovery after dredging. Permanent loss of benthic community if the High Head Industrial Basin were to be filled and developed.	Channel dredging would impact benthic organisms, causing mortality for any non-mobile organisms in or on the sediments and could create temporary water column turbidity that could affect filter-feeding species. Benthic organism communities would recover after dredging events (including the ongoing maintenance dredging), but the increased deepwater habitat could change the type of species present after dredging. New open water habitat would be created by excavation for the wharf, but the wharf would shade 8.6 acres of open water, resulting in aquatic habitat that may be less capable of supporting a diverse benthic community. Installation of pilings would result in mortality of any benthic organisms present in that footprint and a permanent loss of 0.2 acre of available bottom benthic habitat.	*High Head Industrial Basin DMCF* – High Head Industrial Basin is not managed to support aquatic habitat; however, approximately 40 acres of benthic habitat and any benthic organisms present in the basin would be permanently lost. Installation of the temporary outfall and diffuser would impact the benthic habitat and organisms directly beneath the pipeline alignment and in adjacent disturbed areas. The outfall extension would be anchored to the river bottom. Once dewatering is completed, the feeder line and diffuser would be removed, and benthic organisms would be expected to recolonize the pipeline footprint. *Coal Pier Channel DMCF* – Placement of dredged material would result in burial and permanent loss of the existing benthic communities and 19.6 acres of degraded bottom habitat. Standard BMPs would minimize sediment resuspension during dike construction and the potential for benthic organism burial outside the dike footprint. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – High Head Industrial Basin is not managed to support aquatic habitat; however, approximately 40 acres of benthic habitat and any benthic organisms present in the basin would be permanently lost. Installation of the temporary outfall and diffuser would impact the benthic habitat and organisms directly beneath the pipeline alignment and in adjacent disturbed areas. The outfall extension would be anchored to the river bottom. Once dewatering is completed, the feeder line and diffuser would be removed, and benthic organisms would be expected to return to the pipeline footprint. *MPA DMCF – No new impact* *NODS – No new impact*
Fish	Continued impacts from existing historical sediment contamination. Continued temporary impacts during maintenance dredging from disturbance and loss of invertebrate prey species. Permanent loss of approximately 40 acres of aquatic habitat and the associated fish community if the High Head Industrial Basin were to be filled.	Dredging for the deepening and widening of the Sparrows Point Channel could result in different life stages of fish species being caught in dredging equipment, resuspended sediment (increasing turbidity) and habitat alteration impacting fish, especially eggs and larvae. Underwater noise from pile driving could impact fish through physical injury near the project area and behavioral disturbances for fish within the Patapsco River. TTT would continue to coordinate with NMFS on monitoring underwater sound during pile driving and on the implementation of BMPs (sound attenuation measures), as necessary, to reduce impacts to aquatic resources and maintain a zone of safe fish passage in the Patapsco River. Increased vessel traffic (additional 10 vessels at a time during construction and 500 container vessels per year during operation) would continue to affect fish through disturbance from noise and physical disturbance of habitat conditions.	*High Head Industrial Basin DMCF* – High Head Industrial Basin is not managed to support aquatic habitat; however, approximately 40 acres of aquatic habitat and any fish present in the basin (two species were found during sampling) would be permanently lost. Installation of the temporary outfall and diffuser could impact fish in the immediate vicinity through loss of a food source (benthic habitat) and disturbance from construction activity, causing fish to move out of the area. These impacts on fish would be localized and temporary, with benthic habitat returning after removal of the temporary pipeline. *Coal Pier Channel DMCF* – Placed material could cause temporary turbidity impacts; fish within the offshore DMCF footprint would be displaced, would experience increased vessel traffic and habitat alteration, and could be trapped or buried within the dike alignments, especially eggs and larvae. The Coal Pier DMCF footprint does not provide high-quality habitat for benthic organisms or fish species due to historical sediment contamination and represents only a small portion of bottom habitat available to fish. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – High Head Industrial Basin is not managed to support aquatic habitat; however, approximately 40 acres of aquatic habitat and any fish present in the basin (two species were found during sampling) would be permanently lost. Installation of the temporary outfall and diffuser could impact fish in the immediate vicinity through loss of a food source (benthic habitat) and disturbance from construction activity, causing fish to move out of the area. These impacts on fish would be localized and temporary, with benthic habitat returning after removal of the temporary pipeline. *MPA DMCF* – No new impact *NODS* – No new impact
Essential fish habitat (EFH)	Continued impacts from existing conditions, including maintenance dredging, loss of invertebrate prey species, and historical sediment contamination. No impact at High Head Industrial Basin.	Dredging impacts on juvenile and adult EFH species would be short-term; eggs and larvae present in the project area would be permanently lost. Terminal development would impact EFH habitat and species with increased underwater noise, vessel traffic, turbidity, and habitat alteration (as discussed above for fish).	*High Head Industrial Basin DMCF* – Impacts on EFH species from installation of the temporary outfall and diffuser would be the same as those described for fish. *Coal Pier Channel DMCF* – Habitat within the DMCF footprint would be permanently lost. EFH species within the footprint of the DMCF would be displaced due to increased turbidity, which could disrupt foraging behaviors. EFH species could be trapped as material is placed, especially eggs and larvae. The Coal Pier DMCF footprint represents only a small portion of bottom habitat available to EFH species; therefore, permanently filling the Coal Pier Channel, which does not provide high-quality habitat for EFH species due to sediment contamination, would have only localized impacts on EFH species. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Impacts on EFH species from installation of the temporary outfall and diffuser would be the same as those described for fish. *MPA DMCF* – No new impact *NODS* – No new impact

Resource Topic	No-action Alternative	Common to Both Action Alternatives	Combined Options Alternative	Preferred Alternative
		Terminal Development and Channel Improvements	Dredged Material Placement	Dredged Material Placement
Aquatic special status species	Continued impacts from existing conditions, including maintenance dredging, and existing contaminated sediments. No impact at High Head Industrial Basin.	The impacts of noise and increased turbidity on aquatic special status species would be the same as impacts on fish species (as discussed in the Fish section). Increased vessel traffic from construction and operation of the terminal would cause a minor increase in the risk of striking special status species such as sturgeon and sea turtles; for sea turtles, the risk would increase for vessels traveling between the site and the lower Chesapeake Bay, but this would be negligible since the routes are already highly trafficked. Bottlenose dolphins would likely be transient in this portion of the river. Modeling indicates that dolphins could be impacted from underwater noise generated during vibratory driving of piles and during vibratory removal/ demolition of in-water structures TTT would work with the NOAA Office of Protected Resources to refine inputs to the underwater model, to assess sound attenuation measures, and to develop monitoring plans to comply with the requirements of the MMPA.	*High Head Industrial Basin DMCF* – Impacts on ESA species from installation of the temporary outfall and diffuser would be the same as those described for fish. *Coal Pier Channel DMCF* – The impacts of construction, increased vessel traffic, and habitat alteration on aquatic special-status species would be the same as impacts on fish species (as discussed in the Fish section). Sturgeon and special status fish species could suffer behavioral and physiological effects from increased turbidity, but the turbidity increase would be temporary, localized, and controlled, and the mobile life stages could move away from the construction area. The more isolated location of the Coal Pier DMCF would be unlikely to be utilized by sturgeon or dolphins, as they utilize open reaches of rivers with faster flowing water. *MPA DMCF* – No impact. *NODS* – The impacts would be limited to the risk of strike of special status species from barge transit from SPCT to the NODS, but the increase in risk is negligible given the vessel traffic already present.	*High Head Industrial Basin DMCF* – Impacts on aquatic special status species from installation of the temporary outfall and diffuser would be the same as those described for fish. *MPA DMCF* – No new impact *NODS* – The impacts would be limited to the risk of strike of special status species from barge transit from SPCT to the NODS, but the increase in risk is negligible given the vessel traffic already present.
Vegetation / habitat	Minimal adverse impacts from potential future development of Coke Point and High Head Industrial Basin.	Development of the terminal would require the removal of all terrestrial vegetation in the project area, which would result in minimal adverse impacts.	*High Head Industrial Basin DMCF* – Construction of the High Head Industrial Basin DMCF would remove approximately 11.2 acres of riparian, shrub, and forested habitat, resulting in adverse impacts on vegetation and habitat; however, this habitat is not unique and is impacted by past industrial uses. Given the abundance of riparian, shrub, and forested habitat in the area, impacts would be minimal. Installation of a temporary discharge pipe to an outfall and diffuser would be routed over land to the west side of the shipyard, an industrial area with minimal vegetation of poor quality. *Coal Pier Channel DMCF* – No additional impact beyond those described for terminal development. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Construction of the High Head Industrial Basin DMCF would remove approximately 11.2 acres of riparian, shrub, and forested habitat, resulting in adverse impacts on vegetation and habitat; however, this habitat is not unique and is impacted by past industrial uses. Given the abundance of riparian, shrub, and forested habitat in the area, impacts would be minimal. Installation of a temporary discharge pipe to an outfall would be routed over land to the west side of the shipyard, an industrial area with minimal vegetation of poor quality. *MPA DMCF* – No new impact. *NODS* – No new impact.
Birds	Continued impacts from existing conditions, including industrial activities, maintenance dredging, buildings, and artificial lighting. Potential impacts from degraded habitat removal during future development of Coke Point and High Head Industrial Basin.	Construction would impact local bird populations due to the noise and loss of habitat on Coke Point. Habitat loss would be minimal, and disturbance from construction noise would be temporary. Increased turbidity from dredging could temporarily impact foraging sea birds. Although terminal operations could impact birds by increasing vessel traffic and constructing new buildings and structures, these conditions would be similar to existing conditions and would have a minimal impact on birds. New artificial lighting would increase light pollution and could adversely affect bird behavior, but impacts from new lighting would be minimal given the existing nighttime light intensities.	*High Head Industrial Basin DMCF* – Construction of the DMCF would remove approximately 11.2 acres of terrestrial habitat and permanently remove approximately 40 acres of aquatic habitat and 1 linear mile of riparian habitat along the edge of the basin. This habitat is not unique and is impacted by past industrial uses, but the change from aquatic habitat to upland would exclude birds that use the aquatic and riparian habitats. Construction and dredged material placement activities would likely displace upland birds from the site for approximately 3 years. The site could be used by upland birds following construction. *Coal Pier Channel DMCF* – Construction of the DMCF would cause a minor reduction in the aquatic habitat available for loafing and foraging; however, the offshore DMCF area is not heavily used by birds, and there is extensive area available adjacent to the DMCF footprint. The Coal Pier Channel DMCF would cause small, localized impacts on bird communities that use the area. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Construction of the DMCF would remove approximately 11.2 acres of terrestrial habitat and permanently remove approximately 40 acres of aquatic habitat and 1 linear mile of riparian habitat along the edge of the basin. This habitat is not unique and is impacted by past industrial uses, but the change from aquatic habitat to upland would exclude birds that use the aquatic and riparian habitats. Construction and dredged material placement activities would likely displace upland birds from the site for approximately 3 years. The site could be used by upland birds following construction. *MPA DMCF* – No new impact. *NODS* – No new impact.

Resource Topic	No-action Alternative	Common to Both Action Alternatives	Combined Options Alternative	Preferred Alternative
		Terminal Development and Channel Improvements	Dredged Material Placement	Dredged Material Placement
Aesthetics / viewshed	Continued impacts from existing conditions, including routine operations. Potential future development of Coke Point and High Head Industrial Basin would be consistent with existing conditions.	Terminal development would result in temporary and permanent visual changes, including the increase of shoreline development, shipping container storage, and mast lights. However, most of these would not be a substantial change from existing aesthetics. The grouping of up to 9 ship-to-shore cranes would have a moderate scale contrast and spatial dominance in the foreground view for boaters, the middleground view for some residents of Baltimore County, and the background view for shore viewers in Anne Arundel County and from Fort Howard Park; the scale contrast is not projected to be noteworthy for boaters given the transient nature of the view from boats and existing low visual quality.	*High Head Industrial Basin DMCF* – Construction of the DMCF would not produce significant changes in aesthetics and viewshed, having limited visibility and being similar in scale to a nearby building. *Coal Pier Channel DMCF* – The newly constructed DMCF would be visible to viewers west of the project and boaters, but the visual impact would be minimal, being similar in scale to existing structures. The DMCF could also increase noticeable light, but given the distance from the communities, impacts would be minimal. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Construction of the DMCF would not produce significant changes in aesthetics and viewshed, having limited visibility and being similar in scale to a nearby building. The 10-foot increase in height, when compared to the Combined Option Alternative, would still only be about 30 feet above grade. *MPA DMCF* – No new impact. *NODS* – No new impact.
Recreation	Boating activities near the channel would continue to be temporarily affected by commercial operations and maintenance dredging of the Sparrows Point Channel. Potential future development of Coke Point would not have an impact on water-based recreation.	Terminal development and periodic maintenance dredging would temporarily impact recreational activities. Exclusion zones during construction and dredging activities would have minor impacts on recreational boating. In-water activities could increase turbidity and impact localized fishing, but subsistence fishing in license-free fishing areas would not be impacted.	*High Head Industrial Basin DMCF* – Installation of the temporary outfall and diffuser in the Patapsco River may require a temporary exclusion zone, resulting in very localized and short-term impacts on recreational activities in the river. Placement and removal activities are expected to require than 30 days each. *Coal Pier Channel DMCF* – During construction of the DMCF, an exclusion zone would impact recreational boating along the western shore of Coke Point, but impacts would be localized and temporary. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Installation of the temporary outfall / diffuser in the Patapsco River may require a temporary exclusion zone, resulting in very localized and short-term impacts on recreational activities in the river. *MPA DMCF* – No new impact. *NODS* – No new impact.
Air quality	Continued vessel use of auxiliary engines at other ports on the east coast of the United States and use of diesel cargo handling equipment would continue to generate emissions. If Coke Point or High Head Industrial Basin were further developed, there would be short-term air quality impacts associated with construction activities.	Emissions would be generated primarily during the construction and cleanup phases by sources such as construction and demolition equipment and transport vehicles. During operation, the terminal would be partially electrified, and the use of shore power would significantly reduce emissions from ships at berth.	*High Head Industrial Basin DMCF* – Emissions would be generated during construction of the DMCF and placement of dredged material; emissions would be limited to 7 months for construction and 3 years for dredged material placement. *Coal Pier Channel DMCF* – Emissions would be generated during construction of the DMCF and placement of dredged material; emissions would be limited to 7 months for construction and 2 to 3 years for dredged material placement. *MPA DMCF* – Emissions would be generated during transport of dredged material to the MPA DMCFs, but this impact would be intermittent and limited to 4 years. *NODS* – Emissions would be generated during transport of dredged material to the NODS via scows, but this impact would be limited to 2 years.	*High Head Industrial Basin DMCF* – Emissions would be generated during construction of the DMCF and placement of dredged material; emissions would be limited to 7 months for construction and 3 years for dredged material placement. *MPA DMCF* – Emissions would be generated during transport of dredged material to the MPA DMCFs, but this impact would be intermittent and limited to 4 years. *NODS* – Emissions would be generated during transport of dredged material to the NODS via scows, but this impact would be limited to 2 years.
Community noise	No new impacts. Noise levels from periodic maintenance dredging and potential future development of Coke Point and High Head Industrial Basin would attenuate to acceptable residential levels at the closest residences. No nighttime noise would occur.	Peak sustained and periodic noise levels for both construction and operations would attenuate to acceptable residential levels at the closest residences, with no impact in most atmospheric conditions. Under less typical atmospheric conditions, periodic and nighttime construction and operational activities could produce noise that would be noticeable to waterfront areas in Turner Station and northern Anne Arundel County.	*High Head Industrial Basin DMCF* – Sustained daytime noise from constructing the DMCF would attenuate to acceptable levels. There would be no periodic daytime or nighttime noise impacts from construction or dredged material placement. *Coal Pier Channel DMCF* – Sustained daytime noise impacts from the construction of the DMCF would attenuate to acceptable levels. There would be no periodic daytime or nighttime noise impacts from construction or dredged material placement. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Sustained daytime noise from constructing the DMCF would attenuate to acceptable levels. There would be no periodic daytime or nighttime noise impacts from construction or dredged material placement. *MPA DMCF* – No new impact. *NODS* – No new impact.

Resource Topic	No-action Alternative	Common to Both Action Alternatives	Combined Options Alternative	Preferred Alternative
		Terminal Development and Channel Improvements	**Dredged Material Placement**	**Dredged Material Placement**
Socioeconomics	Not quantified due to uncertainty about future activities in the area; no impacts on commercial fishing would occur.	Terminal development and operation would create jobs and county and state tax revenue. Construction activities would take just under 3 years to complete and would generate about 1,090 job-years of employment (or an equivalent of about 363 average annual jobs over 3 years), labor income of about $80 million, industry output of about $202.7 million, and an estimated $3 million in county and $6.1 million in state tax revenues. Terminal operations would generate about 1,050 direct jobs and 518 indirect and induced jobs in the local region, generating about $102 million in labor income and $194 million in industry output annually. The jobs would generate more than $3 million in annual county and $6 million in annual state tax revenues. The new jobs would not significantly impact the economic structure or the socio-demographics of the region. Overall, this alternative would generate about 1,200 job-years of employment, $222 million in industry output, and about $3.2 million in county and $6.7 million in state tax revenue. Although the jobs could reduce unemployment and increase incomes, they would only be a small percentage of total employment, and the effect would not be significant. Dredging, terminal construction, and terminal operation would not impact commercial fishing.	*High Head Industrial Basin DMCF and Coal Pier Channel DMCF* – The construction of both DMCFs would take about 27 months of labor activity, creating 109 job-years of employment (about 48 average annual jobs), generating approximately $8 million in labor income, $19 million in industry output, and $252,000 in county and $536,000 in state taxes. High Head Industrial Basin DMCF construction would not impact commercial fishing. Construction of and dredged material placement in the Coal Pier Channel DMCF would not have significant impacts on commercial fishing. Although construction noise could deter fish use of the area for 2 to 3 years, construction would be unlikely to limit vessel activity, and the DMCF would not spatially overlap with pound net activities. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – The construction of the DMCF would take about 27 months of labor activity, creating 109 job-years of employment (about 48 average annual jobs), generating approximately $8 million in labor income, $19 million in industry output, and $252,000 in county and $536,000 in state taxes. High Head Industrial Basin DMCF construction would not impact commercial fishing. *MPA DMCF* – No new impact. *NODS* – No new impact.
Traffic	Future development of the TPA property would have limited effects on local traffic. Traffic levels on local roads would remain within the capacity of the local roadways.	During construction activities, traffic would increase on local roads during peak hours with an additional 517 trips in the mornings and the same amount in the evenings. These traffic increases are well below the capacity of the local roads.	*High Head Industrial Basin DMCF* – Construction of High Head DMCF would result in a small increase in local traffic would not be noticeable given the traffic volume on local roads. *Coal Pier Channel DMCF* – Construction of the DMCF would impact traffic only in areas from which different work vessels depart to construct the DMCF. Traffic near the project area would not be impacted. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Construction of High Head DMCF would result in a small increase in local traffic would not be noticeable given the traffic volume on local roads. *MPA DMCF* – No new impact. *NODS* – No new impact.
Navigation	Vessel traffic would continue under existing conditions. Ro-Ro operations would likely be expanded onto Coke Point, increasing the number of Ro-Ro vessels using the Brewerton Channel, a federal navigation channel, and the Sparrows Point Channel, a non-federal channel.	Dredging of the Sparrows Point Channel would only impact the Brewerton Channel during dredging for the proposed turning basin, where the two channels meet, over one construction year, lasting about seven months. Coordination with the US Coast Guard would occur in compliance with the required dredging permit conditions and stipulations included in the Section 408 permission. Following construction, the proposed terminal would receive approximately 500 vessels per year, of which 150 vessels would be new to the Port, resulting in an average of three additional vessels per week navigating the Brewerton Channel to enter the Sparrows Point Channel. Container vessels would represent a new vessel type using this area but would navigate through the Brewerton Channel, turning basin, and Sparrows Point Channel in the same way as the existing Ro-Ro vessels currently operate.	*High Head Industrial Basin DMCF* – No new impacts. *Coal Pier Channel DMCF* – Increased boat traffic for construction of the DMCF would occur outside the Brewerton Channel. A temporary exclusion zone during construction would be located outside the Brewerton Channel and would not impact navigation. Vessels outside the Brewerton Channel would need to navigate around the exclusion zone, which could temporarily alter their routes around the western shore of Coke Point. Dredged material transport from the Sparrows Point Channel to the DMCF would occur outside the Brewerton Channel and would have no impact on navigation. Dredged material placement would occur over 2 to 3 construction years. *MPA DMCF* – The transport of dredged materials to the DMCFs would require transport vessels to cross the Brewerton Channel. Impacts on navigation would be temporary and limited through coordination with the Corps and the US Coast Guard. *NODS* – Transport of the dredged material to NODS would require transport vessels to use the Chesapeake Bay navigational channel system for approximately 152 nautical miles. Approximately 262 scow trips would be needed over 291 operational days, split across two dredging seasons. Impacts on navigation would be temporary and limited through coordination with the Corps and the US Coast Guard.	*High Head Industrial Basin DMCF* – *MPA DMCF* – The transport of dredged materials to the DMCFs would require transport vessels to cross the Brewerton Channel. Impacts on navigation would be temporary and limited through coordination with the Corps and the US Coast Guard. *NODS* – Transport of the dredged material to NODS would require transport vessels to use the Chesapeake Bay navigational channel system for approximately 152 nautical miles. Approximately 262 scow trips would be needed over 291 operational days, split across two dredging seasons. Impacts on navigation would be temporary and limited through coordination with the Corps and the US Coast Guard.

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Acronyms and Abbreviations

°F	degrees Fahrenheit
$\mu g / m^3$	Microgram per Cubic Meter
ACAM	Air Conformity Applicability Model
ADT	Average Daily Traffic
AE	Inundation Zone (Floodplains)
AOR	Area of Review
AQCR	Air Quality Control Region
AR	Army Regulation
AVE	Area of Visual Effect
BA	Biological Assessment
BCL	Baseline Control Limits
Bear Creek Site	Bear Creek Sediments Superfund Site
BFE	Base Flood Elevation
BGEPA	Bald and Golden Eagle Protection Act of 1940
B-IBI	Benthic Index of Biotic Integrity
BMP	Best Management Practice
BPW	Maryland Board of Public Works
bss	Below Sediment Surface
CAC	Critical Area Commission for the Chesapeake and Atlantic Coast Bays
CBA	Community Benefits Agreement
CBBMP	Chesapeake Bay Biological Monitoring Program
CBP	Chesapeake Bay Program
CEQ	Council on Environmental Quality
CERCLA or Superfund	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
Channel improvements	Sparrows Point Channel improvements
cKOP	Candidate Key Observation Point
CO	Carbon Monoxide
Coke Point	Coke Point Peninsula
COMAR	Code of Maryland Regulations
Combined Options Alternative	Combined Dredged Material Placement Options Alternative
CO-OPS	Center for Operational Oceanographic Products and Services
Corps	US Army Corps of Engineers
CY	Cubic Yards
CZMA	Coastal Zone Management Act
DA	Department of the Army
dB	Decibel
dBA	A-Weighted Decibel
DMCF	Dredged Material Containment Facility

DPM	Diesel Particulate Matter
DPS	Distinct Population Segments
DRO	Diesel Range Organics
DU	Dredging Unit
EA	EA Engineering, Science, and Technology, Inc., PBC
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act of 1973
FAST-41	Fixing America’s Surface Transportation Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FHWG	Fisheries Hydroacoustic Working Group
FIRM	Federal Insurance Rate Map
FMC	Fishery Management Council
g / m^2	Grams per Meter Squared
GIS	Geographic Information System
HAPC	Habitat Area of Particular Concern
HESD	Habitat and Ecosystems Services Division
HUC	Hydrologic Unit Code
Hz	Hertz
I-695	Interstate 695 / Baltimore Beltway
I-895	Interstate 895
IBI	Index of Biotic Integrity
IM	Interim Measures
IPaC	Information for Planning and Consultation
JE	Joint Evaluation
Key Bridge	Francis Scott Key Bridge
KOP	Key Observation Point
L_{max}	Maximum Sound Level
LPC	Limiting Permissible Concentration
m^2	Meters Squared
MBTA	Migratory Bird Treaty Act of 1918
MCY	Million Cubic Yards
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MDOT	Maryland Department of Transportation
MDTA	Maryland Transportation Authority
mg / L	Milligram per Liter
MHHW	Mean Higher High Water
MHT	Maryland Historical Trust

MHW	Mean High Water
MLLW	Mean Lower Low Water
MLW	Mean Low Water
MMPA	Marine Mammal Protection Act
MPA	Maryland Port Administration
MPRSA	Marine Protection, Research, and Sanctuaries Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act of 1976
NAAQS	National Ambient Air Quality Standards
NAVD88	North American vertical datum of 1988
NEPA	National Environmental Policy Act of 1969
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NODS	Norfolk Ocean Disposal Site
North Channel	Northern Section of the Sparrows Point Channel
NO_x	Nitrogen Oxides
NPDES	National Pollution Discharge Elimination System
NTU	Nephelometric Turbidity Unit
O_3	Ozone
OCR	Optical Character Recognition
OPR	Office of Protected Resources
PAH	Polycyclic Aromatic Hydrocarbon
Pb	Lead
PCB	Polychlorinated Biphenyl
PEL	Probable Effects Levels
PIANC	World Association for Waterborne Transport Infrastructure
PM_{10}	Particulate Matter Less Than or Equal to 10 Micrometers
$PM_{2.5}$	Particulate Matter Less Than or Equal to 2.5 Micrometers
Port	Port of Baltimore
POV	Privately Owned Vehicle
ppb	Parts per Billion
ppt	Parts per Thousand
RCP	Representative Concentration Pathway
RCRA	Resource Conservation and Recovery Act
RGI	Restoration Goal Index
RMG	Rail Mounted Gantry
RMS	Root Mean Square
Ro-Ro	Roll-on / Roll-off
RSL	Regional Screening Levels
RTG	Rubber-tired gantry
SAP	Sampling and Analysis Plan
SAV	Submerged Aquatic Vegetation
SEL_{cum}	Cumulative Sound Exposure Level over the Duration of a Noise Event

SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxides
South Channel	Southern Section of the Sparrows Point Channel
SPCT	Sparrows Point Container Terminal Project
SPL_{peak}	Maximum Instantaneous Sound Pressure over the Duration of a Noise Event
SQG	Sediment Quality Guidelines
STS	Ship-to-Shore
SVOC	Semivolatile Organic Compounds
TCLP	Toxicity Characteristic Leaching Procedure
TEL	Threshold Effects Levels
TEQ	Toxic Equivalent
terminal	Proposed Container Terminal
TEU	Twenty-Foot Equivalent Unit
TMDL	Total Maximum Daily Load
TPA	Tradepoint Atlantic
TPH	Total petroleum hydrocarbons
tpy	Tons per Year
TSS	Total Suspended Solids
TTT or Applicant	Tradepoint TiL Terminal, LLC
ULCV	Ultra Large Container Vessel
URI	University of Rhode Island
USC	US Code
USCG	US Coast Guard
USDOT	US Department of Transportation
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
VE	Velocity Zone (Floodplains)
VIMS	Virginia Institute of Marine Science
VOC	Volatile Organic Compound
WLA	Waste Load Allocation
WOTUS	Waters of the United States

1. Purpose of and Need for Action

1.1 Introduction

1.1.1 Background

The US Army Corps of Engineers, Baltimore District (Corps), received an application for a Department of the Army (DA) permit (Corps number NAB–2023–61200) on August 25, 2023 for the proposed Sparrows Point Container Terminal (SPCT) project to construct a new container terminal (the terminal) in the Port of Baltimore (the Port). The permit was submitted by Tradepoint TiL Terminal, LLC (TTT or applicant), a joint venture between Tradepoint Atlantic (TPA) and Terminal Investment Limited. The proposed project requires authorization from the Corps under the following statutory authorities:

- Section 404 of the Clean Water Act (33 US Code [USC] 1344) for the discharge of dredged or fill material into Waters of the United States (WOTUS)
- Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) for the construction of any structure in or over navigable WOTUS
- Section 408 of the Rivers and Harbors Act of 1899 (33 USC 408) for alterations or modifications to Corps Civil Works projects by non-Corps entities
- Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA) (33 USC 1413) for ocean disposal of dredged material

As the lead agency under the National Environmental Policy Act (NEPA), the Corps determined that the proposed project may significantly affect the quality of the human environment and prepared a Draft Environmental Impact Statement (EIS) to assess the potential social, economic, and environmental impacts of the proposed project. The Notice of Availability for the Draft EIS was published in the Federal Register on January 10, 2025. This Final EIS has been prepared to analyze and disclose the potential impacts of the SPCT project and reasonable alternatives on the natural and human environment.

Title 41 of the Fixing America's Surface Transportation Act (FAST-41) is intended to help infrastructure projects that meet specific criteria successfully navigate federal permitting through a coordinated effort. As described on the FAST-41 website, the program is designed to provide "a deliberate, transparent, and predictable federal environmental review and permitting process" while not altering any "applicable statutory or regulatory requirement, environmental law, regulation, or review process, or public involvement procedure" (Performance.gov 2024).

The project applicant requested that the project be included in the FAST-41 program. On September 25, 2023, the Corps notified the Federal Permitting Improvement Steering Council, the agency that leads the FAST-41 program, that the Corps had determined the project is covered under FAST-41.

The Corps was required early in the FAST-41 process to identify and invite agencies to be cooperating or participating agencies in the NEPA process. By email on October 16, 2023, the Corps invited five federal agencies to be cooperating agencies under NEPA, all of whom accepted. Cooperating agencies include the US Environmental Protection Agency (USEPA), US Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS), US Coast Guard (USCG), and the Corps Civil Works Division. Seven state / local agencies agreed to be participating agencies in the NEPA process: Maryland Department of the Environment (MDE), Maryland Department of Natural Resources (MDNR), Maryland Historical Trust (MHT), the Critical Area Commission for the Chesapeake and Atlantic Coast Bays (CAC), Maryland Department of Transportation (MDOT) Maryland Port Administration (MPA), Maryland Board of Public Works (BPW), and Baltimore County. Four federally recognized tribes were invited to participate (Delaware Nation, Delaware Tribe of Indians, Eastern Shawnee Tribe of Oklahoma, and Pamunkey Tribe); however, the Corps did not receive responses from the Tribes. The official FAST-41 kick-off meeting for the project occurred on November 8, 2023.

1.1.2 Overview of the Preferred Alternative

The proposed SPCT would be located in Baltimore County, Maryland within the TPA property on a 330-acre area on the southwest peninsula of Sparrows Point known as Coke Point Peninsula (Coke Point) (Figure 1). The historical uses of this site include coking operations as part of the former Bethlehem Steel Mill. The site is entirely human-made land, created by filling in a portion of the Patapsco River with steel mill slag over several decades. Previously developed areas within the site are currently undergoing demolition and razing of structures. Sparrows Point, with its industrial history, is an example of a brownfield. In recent years, Sparrows Point has been undergoing a major redevelopment initiative aimed at transforming the site into a hub for modern industrial and commercial activities. The SPCT project would continue to redevelop the site.

The proposed terminal would consist of a marginal wharf with a total length of approximately 3,000 feet, with ship-to-shore (STS) cranes, a container yard, gate complex, intermodal / rail yard, and various support structures. To provide vessel access to the wharf, the project would include deepening and widening of the existing Sparrows Point Channel and turning basin (channel improvements), which would require dredging and placement of approximately 4.2 million cubic yards (MCY) of dredged material. The Preferred Alternative would include the construction of an upland dredged material containment facility (DMCF) on TPA property at High Head Industrial Basin, as well as use of existing permitted DMCFs managed by MPA (Cox Creek and Masonville DMCFs), and an ocean placement site (Norfolk Ocean Disposal Site [NODS]).

The proposed project would increase the overall container capacity of the Port by 70%. The proposed terminal would receive 500 vessels per year of which 150 vessels would be new to the Port. The project represents a long-term commitment by TTT to link the world's largest containership

Coking is the process in which coal is heated to very high temperatures in the absence of oxygen, removing any impurities. The resulting coke, a porous substance that is nearly all carbon, is used to produce steel.

Slag is a by-product of steel making, produced when impurities in the raw materials are separated out during the conversion from iron to steel. Slag can be used in various applications, such as construction aggregates and cement production.

A **brownfield** is land that was previously used for industrial purposes and has the potential presence of hazardous substances, pollutants, or contaminants. It is typically an abandoned or underused industrial or commercial facility where redevelopment is complicated by environmental contamination.

A **marginal wharf** is a waterfront structure where ships dock directly alongside a shoreline or seawall. The defining feature of a marginal wharf is that it runs parallel to the shoreline and allows vessels to load and unload cargo or passengers without the need for the ship to enter a dock basin.

Ship-to-shore (STS) cranes are large, specialized cranes used in container ports to load and unload containers between ships and the shore. These cranes are mounted on the dock and extend over the ship to move cargo containers efficiently between the vessel and the terminal.

A **container yard** is a designated area in a port or terminal where shipping containers are stored, stacked, and organized before or after being loaded onto a ship, truck, or train.

An **intermodal / rail yard** is a facility where shipping containers are transferred between different modes of transportation, such as from ship to rail or from rail to truck. These yards are designed to efficiently handle intermodal freight, which consists of cargo that is transported in standardized containers that can be easily transferred between ships, trucks, and trains without needing to unpack the cargo.

company, Mediterranean Shipping Company, to the Port for the next century. The terminal would leverage the Howard Street Tunnel Vertical Clearance Improvement Project, which will provide the closest link for double-stacked rail cars from an East Coast port to the American Midwest. This link, along with the increased capacity that would be provided by the terminal, would give the Port of Baltimore a major competitive advantage over other regional ports along the Eastern Seaboard of the United States. Nearly $1 billion would be invested in the terminal, with project development estimated to create more than 1,100 direct local jobs. The project would serve as an important economic driver for the region by promoting other indirect economic growth while also providing environmental benefits by addressing legacy environmental contamination through sediment removal and encapsulation.

The Chesapeake Bay Bridge and the former Francis Scott Key Bridge (Key Bridge) had similar vertical clearances, at 186 feet and 185 feet, respectively, limiting the size of vessels that could safely pass beneath them. The Key Bridge collapsed on March 26, 2024, when it was struck by a cargo ship leaving the Port. Maryland Transportation Authority (MDTA) and Maryland State Highway Administration will be replacing the Key Bridge in the same general location as the original structure within the existing MDTA right-of-way with a minimum vertical clearance of 230 feet above mean high water (MHW), giving the new bridge at least 45 additional feet of vertical clearance. The size of the vessel that can travel to the Port is currently limited by the height of the Chesapeake Bay Bridge. MDTA is currently conducting the Chesapeake Crossing Study to address existing and future transportation limitations at the Chesapeake Bay Bridge. As part of this study, MDTA is evaluating raising the bridge to accommodate larger vessels in the future (MDTA 2024a). The proposed terminal and channel improvements would also be able to accommodate larger vessels than those that currently transit to the Port.

1.2 Purpose and Need

1.2.1 Purpose of the Proposed Project

The purpose of the applicant's proposed project is to develop the SPCT, a new terminal and associated facilities that would be located on Coke Point within the Patapsco River in Baltimore, Maryland. This Final EIS reviews the application received, evaluates the project's potential impacts, considers comments received during public review of the Draft EIS, and contributes information to allow the Corps to make a DA permit decision with respect to the application.

1.2.2 Need for the Federal Action

The federal action is needed because TTT has submitted an application to the Corps for construction of the SPCT. The proposed action requires permits from the Corps and other agencies, with the Corps being the lead federal agency. The applicant has requested Corps permits to place fill in WOTUS, dredge in WOTUS, and alter a federal channel.

The applicant's proposed project would address several economic and shipping logistical concerns. The SPCT project would enhance the economic strength of the Port by increasing its overall container capacity. This, along with the on-dock rail and Howard Street Tunnel Vertical Clearance Improvement Project, would increase the overall national efficiency of importing goods to the Midwest and would increase the throughput of containers through the Port. The proposed project would not only provide direct jobs at the project site but would also provide a foundation for sustained regional economic growth within the Port and throughout the region. By strengthening and growing the Port, the project would enhance the United States' supply chain efficiencies and resiliency.

Figure 1. SPCT Project Vicinity

1.3 Scope and Content of the Environmental Impact Statement

This Final EIS is consistent with the Council on Environmental Quality (CEQ) Memorandum issued on February 19, 2025, and its guidance to follow the CEQ NEPA implementing regulations at 40 Code of Federal Regulations (CFR) parts 1500-1508 for ongoing NEPA reviews. This Final EIS considers the potential impacts of the proposed action and a range of reasonable alternatives on the potentially affected environment and the degree of the effects or impacts of the action. Effects or impacts are changes to the human environment from the proposed action or alternatives that are reasonably foreseeable.

During the course of this review, the Acting Assistant Secretary of the Army for Civil Works repealed existing Corps NEPA implementing regulations and published an interim final rule, 33 CFR Part 333, pertaining to NEPA of the Corps regulatory program actions in the Federal Register. The effective date of this new rule is July 3, 2025; however, the Corps will continue using the regulations in place at the time the request was submitted, if prior to the effective date of 33 CFR Part 333. Therefore, this Final EIS continues to cite to 33 CFR Part 325, Appendix B.

The analysis uses existing information and new data collected specifically for this project. Extensive studies were needed to inform the design of the alternatives and to understand the potential impacts on important resources in the project area. The analysis describes existing environmental conditions and potential impacts on the human environment, including the potential social, economic, and environmental impacts of the proposed project.

1.4 Decision To Be Made

The Corps will determine whether to issue, issue with conditions and / or mitigations, or deny a DA permit for the proposed project.

1.5 Federal Statutes, Permits, and Approvals Relevant to This Final EIS

TTT must obtain permits and approvals through a Joint Permit Application. These permits would contain stipulations protective of the natural and human environment that must be followed during construction activities, if the SPCT project is implemented. Appendix A presents the applicable federal statutes and anticipated permits and approvals. Appendix B documents the correspondence between the Corps and the cooperating and consulting agencies regarding permits and approvals.

1.6 Public Participation

To facilitate the analysis and the decision-making process, the Corps maintains a policy of open communication with interested parties and invites public participation. Public participation opportunities during this project started with public scoping, initiated with the issuance of the Notice of Intent to prepare an EIS in the Federal Register, dated December 18, 2023. The Corps conducted two public scoping meetings, January 23, 2024 (in-person) and January 25, 2024 (virtual), to inform participants of the proposed project and solicit comments for consideration in the development of the EIS. Federal and state agencies, Tribes, public and private organizations, and members of the public that have a potential interest in the proposed action were invited to participate in the US Army's NEPA and decision-making processes, as guided by CEQ regulations at 40 CFR Parts 1500-1508 and Army Regulation (AR) at 32

CFR Part 651. The scoping period to provide comments was open for 60 days, concluding February 16, 2024. The Corps accepted written comments at the in-person meeting and via conventional mail and email. A total of 18 correspondences (letters, emails, and comment cards submitted at the in-person public meeting) were received. Of these, five letters were received from regulatory agencies, and the remaining letters were from individuals and organizations. Questions and comments received during public scoping were considered in the development of the Draft EIS to ensure that substantive questions raised during scoping were addressed within the scope of the analysis in the Draft EIS. More detail is provided in Section 6, Consultation and Coordination.

In addition to the aforementioned public engagement through the formal NEPA process, TPA and TTT's corporate affairs team developed a robust outreach program to increase public awareness and participation in this process. The program includes the regular engagement of the TPA Community Advisory Board, which consists of two dozen representative members of nearby stakeholder communities of TPA. Since September 2023, TTT's corporate affairs team has also held and attended more than 50 in-person community stakeholder meetings to present and discuss the project. Public engagement materials are developed in English and Spanish to better engage with and serve the diverse populations within local communities, ensuring that residents have the opportunity to be informed and involved. TTT has also developed a website to provide project information to the public: https://www.spctmd.com/.

The Draft EIS was made available to federal, state, and local agencies, Tribes, and the public for review and comment for 60 days. The Corps published a Notice of Availability for the Draft EIS in the Federal Register, dated January 10, 2025, concurrent with the start of the 60-day public comment period. Two public hearings were held during the 60-day public comment period. An in-person public hearing was held February 25, 2025, at Sollers Point Multipurpose Center from 5 pm to 9 pm, and a virtual public hearing was held February 27, 2025, from 2 pm to 6 pm. The purpose of these hearings was to receive public comment on the Draft EIS, the impacts analysis, and proposed mitigation. Comments were accepted through March 11, 2025. A total of 59 written letters were received, and additional comments were received through oral testimony at both public hearings. A summary of comments received is presented in Section 6.5, Public Review of the Draft EIS. Letters commenting on the Draft EIS from agencies and the public are included in Appendix C, as well as the Corps' response to agency and public comments.

2. Description of Proposed Action and Alternatives

This chapter describes the Proposed Action, the Preferred Alternative, and a range of alternatives considered for the SPCT. NEPA requires that federal agencies explore a range of reasonable alternatives that address the purpose and need for an action and provide an analysis of the impacts that the alternatives have on the natural and human environments.

Three alternatives are analyzed for the SPCT – the No-action Alternative and two action alternatives, the Combined Dredged Material Placement Options Alternative (Combined Options Alternative or Proposed Action), and the Preferred Alternative. The Corps must analyze the No-action Alternative (40 CFR 1502.14), which represents the scenario of not implementing either of the action alternatives. The Combined Options Alternative and the Preferred Alternative, developed through internal scoping, consultation with federal and state agencies and other entities, and public outreach, would satisfy the purpose and need. Other alternatives and alternative elements were considered during the NEPA process. This chapter also discusses alternatives that were considered but eliminated from detailed analysis.

2.1 Alternatives Development Process

The proposed terminal would be located in a 330-acre area on the southwest peninsula of Sparrows Point known as Coke Point (Figure 2). The proposed SPCT project would include construction of a terminal, channel improvements, and dredged material placement. The terminal is intended to accommodate ultra large container vessels (ULCVs), defined as vessels 1,200 feet long or longer with a minimum capacity of 14,501 TEUs (twenty-foot equivalent units). The term design vessel is used to refer to a representative ship as the basis for the planning and design of maritime structures, facilities, and navigational channels. This project is designed to accommodate design vessels with a capacity up to 23,000 TEUs. Dredging is required to deepen and expand the Sparrows Point Channel to allow these ships to safely access the proposed terminal, resulting in the need to include options for dredged material placement.

> **Twenty-foot equivalent unit (TEU)** is the standard unit of measurement used in the shipping and container industry to describe the capacity of cargo containers and container ships. One TEU represents the dimensions of a standard shipping container that is 20 feet long, 8 feet wide, and 8.5 feet high. It is used as a universal reference for cargo volume, allowing for consistent tracking of container sizes and ship capacities.
>
> **Ultra large container vessels (ULCVs)** are large cargo ships designed to maximize efficiency in transporting goods across oceans. ULCVs can carry more than 14,000 TEUs and exceed 1,200 feet in length and 200 feet in width.

TTT's objective for this project is to develop a state-of-the-art terminal in the Baltimore Harbor. The wharf for the terminal must be capable of hosting (or berthing) two ULCVs at the same time. The wharf is being sized in anticipation of larger vessels calling at the Port should the Chesapeake Bay Bridge be redesigned and reconstructed with a higher clearance, as discussed in Section 1.1.2. Alternatives must support required terminal and vessel operations and meet safety requirements, and because the Sparrows Point Channel must be dredged to provide safe access for the ULCVs, alternatives for dredged material placement must accommodate the anticipated volume. The channel improvements would require the removal of approximately 4.2 MCY of dredged material. This would include approximately 330,000 cubic yards (CY) of slag that would be reused on-site and 3.87 MCY of dredged material that would require appropriate placement. Finally, the alternatives should be available and capable of being completed, considering cost, logistics, and existing technology in light of the overall project purpose.

Figure 2. Terminal and Channel Improvements

TTT created an initial concept design for the proposed project in 2022 based on project objectives. This concept was reviewed, revised, and refined by TTT and their consultant team during 2023 and 2024. TTT determined (based on engineering and economic factors) the following minimum requirements of the terminal and associated facilities, access channel, and dredged material placement to meet TTT's objectives for the new facility. Following public review of the Draft EIS, TTT continued to refine the project design. The final design is presented in this Final EIS. All elevations discussed in this Final EIS are relative to North American Vertical Datum of 1988 (NAVD88).

North American Vertical Datum of 1988 (NAVD88) is a standardized vertical datum used in North America for measuring elevations above or below mean sea level. This datum is essential for mapping, surveying, construction, floodplain management, and other applications that require accurate elevation data.

Container Terminal Minimum Requirements

- Approximately 3,000 linear foot marginal wharf face.
- Capacity for up to nine STS cranes.
- Approximately 120-acre container yard with storage for approximately 50,000 TEUs, with dedicated areas for storage of refrigerated and outsized cargo.
- Intermodal / rail yard loading zone with six working (loading and unloading) tracks served by up to five rail-mounted gantry (RMG) cranes with capability for double-stacking rail cars.
- Gate entry complex for road transport, including inbound and outbound optical character recognition (OCR) lanes, remote operated inbound / outbound processing lanes, roadability station, truck holding area, and outbound radiation portal monitors.
- On-terminal buildings to improve the efficiency of cargo moves through the port. These on-terminal facilities greatly reduce truck miles and air emissions associated with the movement of the goods once they arrive at the terminal.

Vessel Access Area Minimum Requirements

- Initial dredge depth of -50 feet mean lower low water (MLLW) to match the existing Brewerton Channel and Baltimore approach channels
- Two berths to accommodate ULCVs
- Berth face on the east side of Coke Point
- Turning basin adjacent to Brewerton Channel

Gantry cranes are large, overhead cranes that consist of a bridge structure supported by two or more legs that move along rails or wheels. They are designed for lifting and transporting heavy loads and are essential for handling heavy loads in industrial settings.

A **gate entry complex** is a secured access point that includes various components designed to control and monitor the entry and exit of vehicles, cargo, and personnel, enhancing security, ensuring compliance with regulations, and facilitating efficient operations within a facility.

Optical character recognition (OCR) is technology used to automatically scan, recognize, and convert printed or handwritten text from images or documents into machine-readable data. In a terminal, OCR can identify and track cargo containers, vehicles, and other critical information in real-time, enhancing efficiency, and supporting better logistical management.

The **berth face** is the vertical portion of the wharf structure that supports mooring devices and energy-absorbing fender systems, which accommodate vessels at berth. The design and construction of the berth face are crucial for ensuring the safety and stability of ships during their stay at the port.

A **turning basin** is an area in a harbor or waterway where ships can safely turn around without risk of grounding or collision.

Dredged Material Placement Requirements

- The total estimated volume of dredged material for the project is 4.2 MCY
  - The estimated volume of slag material is 330,000 CY (suitable for dike construction or as fill).
  - The estimated volume of silt and clay is 3.87 MCY (would require appropriate placement on-site or off-site).

2.1.1 Dredged Material Placement Alternatives Development and Analysis

TTT initiated consultation regarding required federal and state permits on June 28, 2023, by presenting the proposed project to the Joint Evaluation (JE) Committee, which includes representatives from the Corps, USEPA, USFWS, NMFS, NMFS-Office of Protected Resources (OPR), NMFS-Habitat and Ecosystems Services Division (HESD), USCG, MDE, CAC, MDNR, MHT, BPW, and local agencies. During the meeting, TTT and the agencies discussed the need to analyze a range of potential dredged material placement options, consistent with permitting authority and natural resource protection objectives. The agencies expressed concern with TTT's initial proposal to create a 100-acre DMCF in the Patapsco River, which would result in the permanent loss of 100 acres of WOTUS. The agencies encouraged TTT to explore alternatives that would avoid or reduce this loss.

State law related to management of dredged material was considered by TTT during further development of the dredged material placement alternatives at a large redevelopment site. The Dredged Material Management Act of 2001 phased out the use of existing open water placement sites in the State of Maryland and prohibited future open water placement of dredged material in the Chesapeake Bay and tributaries within Maryland except for the following beneficial uses: restoration of underwater grasses; restoration of islands; stabilization of eroding shorelines; creation or restoration of wetlands; and creation, restoration, or enhancement of fish and shellfish habitats. The law specifies that dredged material from within Baltimore Harbor cannot be deposited in an unconfined manner within waters or bottomlands of the Chesapeake Bay and tributaries outside of Baltimore Harbor or within 5 miles of the Hart-Miller-Pleasure Island chain in Baltimore County. Baltimore Harbor dredged material, however, may be placed in contained areas approved by the MDE. Effective July 1, 2024, House Bill 343, "Environment – Dredged Material – Containment, Redeposit, and Oversight," was passed into law, and it authorized MDE to approve contained areas for the redeposit of dredged material on a large redevelopment site. The "redevelopment site" is specific to the TPA property.

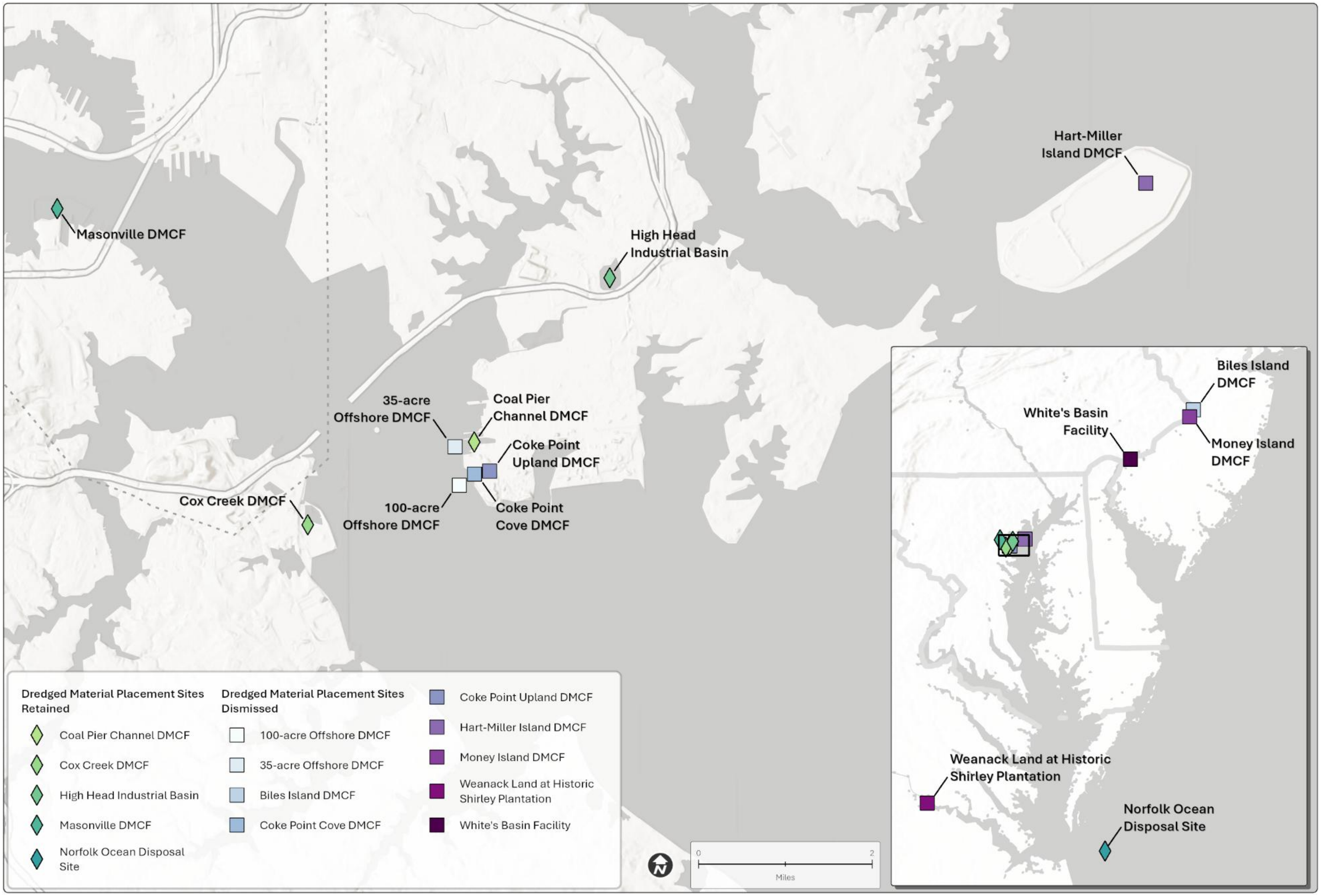
TTT developed and evaluated other potential dredged material placement options and presented other identified options to the JE Committee at an August 30, 2023, JE meeting. Each option was evaluated based on capacity, engineering feasibility, cost, logistics, schedule, technology, potential environmental impacts, and maintenance requirements. Placement options considered included on-site upland placement at two locations on TPA property, in-water placement at two locations adjacent to Sparrows Point, off-site placement at previously approved upland sites or landfills, ocean placement, and use of existing MPA DMCFs. The Draft EIS analyzed the Combined Options Alternative, which included dredged material placement at the Coal Pier Channel DMCF, the High Head Industrial Basin DMCF, existing MPA DMCFs, and NODS.

Following public comment on the Draft EIS and additional investigations and continued engineering analysis by TTT, a new alternative for dredged material placement was developed. This new alternative was developed based on the results of additional geotechnical evaluations and design progression at both the Coal Pier Channel and the High Head Industrial Basin, and subsequent chemical testing of sediments in the proposed exterior dike alignment for the Coal Pier Channel DMCF. Results of the geotechnical investigations indicated that the dike of the High Head Industrial Basin DMCF could be elevated incrementally to provide more dredged material placement capacity. In addition, results of the geotechnical and sediment chemical testing along the exterior dike of the proposed Coal Pier Channel DMCF indicated that although the DMCF was feasible to construct at this location, both the geotechnical and chemical properties of the sediments would pose constructability and environmental challenges. Furthermore, the Coal Pier Channel DMCF would place dredged material in tidal waters, while using the High Head Industrial Basin DMCF for placement of this dredged material would eliminate the need to place dredged material in tidal waters. Based on the challenges associated with the Coal Pier Channel DMCF, the ability to increase the capacity of the High Head Industrial Basin DMCF, and the opportunity to avoid placing dredged material in tidal waters, it was determined that this alternative was more feasible and would cause fewer impacts than the Combined Options Alternative evaluated in the Draft EIS. This new alternative is the same as the Combined Options Alternative, as presented in the Draft EIS, except it does not include the Coal Pier Channel DMCF and would expand the height and capacity of the High Head Industrial Basin DMCF.

The Corps considered the benefits and disadvantages of each dredged material placement option; see Figure 3 for locations of all dredged material placement options considered. In consideration of these benefits and disadvantages, the Corps identified the new alternative as the Preferred Alternative for evaluation in this Final EIS (see Section 2.2.4 and Figure 3). In the Final EIS, this alternative was the most feasible with the least environmental impacts for dredged material placement and also addressed concerns from the community.

Section 2.1.1.1 describes the dredged material placement options that were evaluated but eliminated from detailed consideration in this Final EIS.

Figure 3. Map of Dredged Material Placement Options Retained and Eliminated



2.1.1.1 Dredged Material Placement Alternatives Eliminated from Detailed Consideration

Dredged material placement options that are impractical or do not meet the project's purpose and need were eliminated from further consideration. Table 1 presents the details of the dredged material placement options considered, and the following sections provide rationale for eliminating options from consideration. One critical criterion for assessing placement options was their capacity to handle the expected volume of dredged material. Additionally, options were evaluated based on feasibility, considering cost, logistics, technology, and potential environmental impacts.

Offshore DMCF with Perimeter Dike at Sparrows Point

The applicant's original proposed action was a new offshore 100-acre DMCF designed with a capacity of 4.2 MCY for the entire project in the Patapsco River on the west side of Coke Point. It would extend west into the river between 1,100 to 2,400 feet from the Coke Point shoreline. The current shoreline curves eastward from north to south, such that the northern end of the DMCF would be narrower and the southern end would be wider. This DMCF was originally identified as the proposed action for several reasons — it would provide a single solution for dredged material placement, and the proximity to the dredging location would reduce impacts and costs associated with transporting dredged material to other approved DMCFs. This option would also serve to cap existing impacted offshore sediment and serve as a final remedy for the impacted sediment within the footprint of the DMCF.

The impacts of the 100-acre DMCF on resources within and near the project area were analyzed. The 100-acre DMCF would result in a permanent loss of 100 acres of tidal WOTUS and bottom habitat. All benthic organisms, which can serve as important prey to fish species, within the 100-acre footprint would be lost. The loss of the benthic organisms and permanent removal of 100 acres of bottom habitat would impact the local fish community, including federally listed sturgeon species. Construction of the dike would displace fish for the duration of construction, approximately 2 years. The 100-acre DMCF would also impact the viewshed for nearby communities and recreation opportunities and experiences for boaters on the Patapsco River. These impacts would be minimal but noticeable. Although the proposed 100-acre DMCF was deemed technically feasible and safe, a DMCF with three perimeter sides in the main stem of the river would have stringent maintenance and management requirements. Any proposed dike would be required to be reviewed, approved, and periodically inspected by MDE's Dam Safety Program.

Due to these impacts, TTT explored options for reducing the size and impacts of the offshore DMCF and developed the Combined Options Alternative. This alternative would require multiple elements to accommodate the dredged material associated with channel improvements. The Combined Options Alternative would include dredged material placement at the High Head Industrial Basin, an offshore DMCF with a perimeter dike at Sparrows Point, use of existing MPA DMCFs (Cox Creek and Masonville), and use of the NODS. TTT considered several options for the offshore DMCF element: a 35-acre DMCF and two smaller offshore DMCFs. The 35-acre DMCF with perimeter dike would encompass Coal Pier Channel and additional adjacent tidal WOTUS, and the two smaller DMCFs would be confined to Coke Point Cove and Coal Pier Channel.

An important consideration in determining the needed capacity of the offshore DMCF was determining the volume of dredged material that could be placed at NODS or an MPA facility. An extensive effort was implemented to collect and analyze sediment data to make this determination. The results of sediment data collection and analysis were shared with regulatory agencies for their evaluation. The agency consultation confirmed that significant volumes of dredged material could be placed at NODS and an MPA facility. This determination made the Combined Options Alternative feasible, eliminating the need for the 100-acre DMCF.

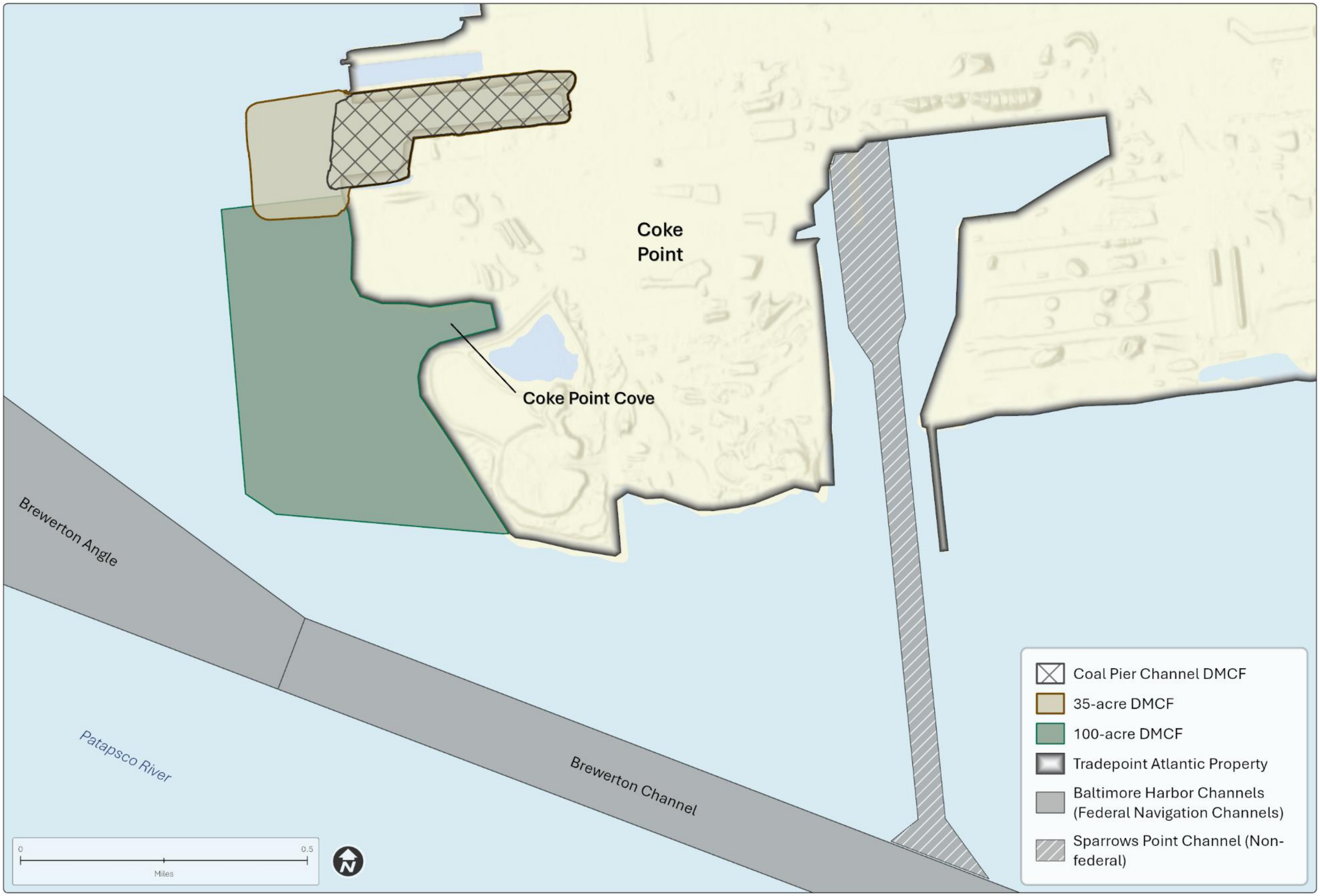
Based on the analyses of the sediment data and evaluation of the volume of dredged material that could be placed at the MPA facilities, NODS, and the High Head Industrial Basin DMCF, the applicant determined that the size of the offshore DMCF could be reduced even further to reduce the impacts on WOTUS. TTT determined that the full capacity of a 35-acre DMCF would not be needed, and the offshore 35-acre DMCF was eliminated from further consideration.

TTT then examined the potential DMCFs at Coal Pier Channel and Coke Point Cove to determine the best option to meet the needs of the project. Coal Pier Channel is a previously dredged access channel with degraded benthic habitat due to seasonal hypoxia (low dissolved oxygen) and impaired sediment quality due to multiple contaminants in surficial sediments that exceed threshold concentrations for aquatic life. Coke Point Cove is a broad shallow cove with impaired sediment quality due to multiple contaminants in surficial sediments exceeding threshold concentrations for aquatic life; however, the area is less subject to seasonal hypoxia and provides habitat that is suitable to support benthic communities. Based on seasonal fish surveys conducted in 2023 and 2024 (EA Engineering, Science, and Technology, Inc., PBC [EA] 2024a, 2024b, 2024c, 2024d), Coke Point Cove provides refuge and benthic food resources for juvenile fish and forage fish. The Coal Pier Channel DMCF would provide more capacity for dredged material placement and would avoid impacting habitat within Coke Point Cove. For these reasons, the Coke Point Cove DMCF was eliminated from further consideration.

Based on this analysis, the Coal Pier Channel DMCF was selected as the offshore DMCF to be included in the Combined Options Alternative analyzed in the Draft EIS. The Coal Pier Channel DMCF would reduce the in-water impacts to approximately 19.6 acres, would eliminate the need to extend the Coke Point shoreline into the Patapsco River, and would eliminate most impacts on viewshed and recreation. Figure 4 shows the footprints of the 100-acre, 35-acre, and Coal Pier Channel DMCF, demonstrating the reduction in the size of the proposed offshore DMCF during this process, and thus the reduction in impacts on WOTUS and other aquatic resources. The Coal Pier Channel DMCF is described in detail in Section 2.2.3.1.

The Coal Pier Channel DMCF was fully analyzed in the Draft EIS. For reasons stated in Section 2.1.1, the Preferred Alternative does not include Coal Pier Channel DMCF for placement of dredged material, thus eliminating all offshore DMCF options at Sparrows Point.

Figure 4. Comparison of the Offshore DMCFs Considered for Dredged Material Placement



Hart-Miller Island DMCF

The Hart-Miller Island DMCF is an existing nearshore upland confined placement facility located in Baltimore County, Maryland that is owned by MDNR. Hart-Miller Island has been closed to dredged material placement since December 2009. However, in early 2024, TTT was approached by community members regarding the use of the Hart-Miller Island DMCF for possible dredged material placement. A community group supporting Hart-Miller Island restoration had identified the need for additional dredged material to complete restoration goals for the north cell on the island. The south cell of Hart-Miller Island has been developed as Hart-Miller Island State Park to support a variety of recreational opportunities, including camping, hunting in lottery-assigned waterfowl blinds, fishing, hiking, and wildlife viewing. The Hart-Miller Island DMCF has residual capacity in its north cell for dredged material but was legislatively prohibited from receiving dredged material as of 2010. Hart-Miller Island's North Cell is estimated to have approximately 8 MCY of capacity and could accommodate the entire 4.2 MCY of dredged material for the SPCT project, optimizing placement efficiencies.

TTT worked with the Maryland State Legislature to pass House Bill 343, "Environment – Dredged Material – Containment, Redeposit, and Oversight," which provided for the placement of dredged material from the SPCT project at the Hart-Miller Island DMCF on the condition that a Community Benefits Agreement (CBA) approved by the Baltimore County Council was in place by December 31, 2024.

TTT supported a public process led by Baltimore County with community leaders to explore the public's interest in entering into a CBA for the use of the inactive Hart-Miller Island DMCF North Cell for placement of approved dredged material from the Sparrows Point Channel. Community members served on a steering committee, established by Baltimore County, to consider a CBA. Baltimore County led these meetings, which were open to the public. The decision whether to recommend the CBA to the County Council rested with the selected committee.

At CBA committee meetings in the summer and fall of 2024, community members shared concerns regarding potential environmental impacts and perspectives on the potential benefits of the CBA. The public engagement process revealed long-held community reservations regarding the use of Hart-Miller Island for the placement of dredged material, regardless of the current improved environmental standards for dredged material placement, implementation of modern technology, and the potential for economic and / or social benefits from a CBA. During this time, TTT was also engaged in discussions with the state agencies that operate Hart-Miller Island. These discussions raised significant concerns regarding the facility's readiness to accept dredged material. This timing uncertainty introduced considerable risk in achieving the dredged material placement schedule for the project.

TTT recognized that the risk associated with securing an approved CBA, combined with the risk to the project schedule as a result of the facility's readiness, made this alternative impracticable. On October 10, 2024, TTT announced that they had decided to withdraw from the process, expressing concern that the project could affect TPA's longstanding commitment to community partnerships. Because a CBA was not approved prior to December 31, 2024, the use of Hart-Miller Island for SPCT is no longer allowable by House Bill 343 and, therefore, is not considered a practicable alternative by the Corps.

Upland DMCF at Coke Point

This alternative would involve building a new DMCF on land in the western upland portion of Coke Point (Figure 3). The area would be enclosed with a perimeter containment dike system (approximately 2 miles in length and constructed with existing slag, gravel, and soil) with a crest elevation of +32 feet. This part of Coke Point includes an old landfill and a former DMCF. A significant amount of earthwork would be required to prepare the site for use as a placement area. This DMCF would have the capacity to hold approximately 3 MCY of dredged material.

Construction of this alternative would severely limit the constructability and available cargo and container storage space of the proposed SPCT. The viability of the terminal is reliant on the ability to efficiently move goods through the Port and into the adjacent markets. For markets greater than 200 miles away, this is generally achieved via rail connectivity. For markets less than 200 miles away, the on-terminal warehouse facilities are a key component in the efficient movement of goods. The location of the potential Coke Point upland DMCF is the only area in proximity to the terminal facilities for the buildings, which are an integral part of the project. Losing this location for the buildings would not allow the terminal to function in a way that meets the overall goals of the project. As such, this alternative was eliminated from further evaluation.

Other Land-Based Placement Sites

This alternative considered placing a portion of the dredged material at other existing and permitted DMCF sites in Virginia, Pennsylvania, and New Jersey (Figure 3):

- *Weanack Land at Historic Shirley Plantation* – This is a private disposal facility along the James River in Charles City, Virginia near and downstream from Richmond, Virginia. This private disposal facility uses dredged material to fill depressions left over from sand and gravel mining. The dredged material undergoes strict testing and acceptance criteria before placement to obtain regulatory approval and evaluate agronomic utility. Weanack is about 250 miles from the SPCT project area and is accessible by barge transit down the Chesapeake Bay and up the James River. Dredged material from the SPCT project area would be mechanically dredged, transported to the site, and then hydraulically pumped to the disposal site. The site does not currently have capacity to accept the entire volume of material that would be dredged and would require additional construction to accept material from SPCT. The long-haul distance, followed by hydraulic unloading of the scows (small barges) and placement of the dredged material, would require a long cycle time. The limited number of scows available would cause further delays, resulting in extended cycle times for dredging that would extend the construction schedule. The long cycle schedule, plus additional construction cost, made this site infeasible for schedule and economically unfavorable compared to other alternatives and was removed from further evaluation.
- *White's Basin Facility* – This is a private disposal facility along the Delaware River in Logan Township, New Jersey, located north of the Commodore Barry Bridge. The facility consists of a deposit basin where dredged material is placed and an adjacent upland facility for handling dredged material that is pumped out of the deposit basin. The facility is approximately 85 miles via water from the SPCT project site (through the Chesapeake and Delaware Canal). The White's Basin facility confirmed that it only accepts sandy material from external projects and that fine-grained dredged material, as would be generated by the SPCT project, would not be accepted at the facility. For this reason, this alternative was dismissed from further analysis.

- *Biles Island and Money Island* – These are two DMCF facilities on the Delaware River in Pennsylvania, approximately 130 miles from the project by water, through the Chesapeake and Delaware Canal. Acceptance of material is subject to passing testing criteria. Dredged material from the SPCT project area would be mechanically dredged, transported to the facilities, and then hydraulically pumped to the disposal site. The facilities do not have the capacity to accept the volume of material from SPCT. The long-haul distance, followed by hydraulic unloading of the scows, would require a long period to complete one trip. With a limited number of scows available, this would result in extended times for dredging. The extended time required made this site infeasible for schedule and economically unfavorable compared to other alternatives and was dismissed from further analysis.

Table 1. Summary of Dredged Material Placement Options Considered

Dredged Material Placement Options [1]	Existing or New	Elevation (NAVD88)	Capacity
Offshore 100-acre DMCF	New	+12 feet	4.2 MCY [4]
Offshore 35-acre DMCF	New	+12 feet	1.0 MCY
Coal Pier Channel DMCF (offshore) [2]	New	+15 feet	750,000 CY
Coke Point Cove DMCF (offshore)	New	+12 feet	190,000 CY
Upland Coke Point DMCF	New	+32 feet	3.0 MCY
High Head Industrial Basin DMCF [2]	New	+30 feet	1.2 MCY
High Head Industrial Basin DMCF [3]	New	+40 feet	1.7 MCY
Hart-Miller Island DMCF	Existing	+44 feet	8.0 MCY
Cox Creek DMCF [2, 3]	Existing	+60 feet	14.8 MCY [5]
Masonville DMCF [2, 3]	Existing	+30 feet [6]	10.4 MCY [5, 7]
Norfolk Ocean Disposal Site (NODS) [2, 3]	Existing	NA	1.57 MCY [8]

Sources: MDE 2000; Maryland Dredged Material Management Program 2023, 2024

Notes:

1 – Other land-based off-site dredged material placement sites (Weanack Land at Historic Shirley Plantation, White’s Basin Facility, Biles Island, and Money Island) were initially considered but were dismissed early in the process. See text for more details on these options.

2 – Options included in the Combined Options Alternative and fully analyzed in the Draft EIS.

3 – Options included in the Preferred Alternative and fully analyzed in this Final EIS.

4 – Design would have accommodated all dredged material for the project, which would include the 4.2 MCY for channel improvements, plus any dredging required for the 100-acre DMCF dike.

5 – Capacity for Cox Creek and Masonville represents total capacity. Of this total capacity, only 1.25 MCY cumulative for both facilities is available for the SPCT project.

6 – Construction is ongoing to raise the dike elevation from +18 to +30 feet, with completion expected by the end of 2025.

7 – Capacity upon completion of the dike raising in 2025.

8 – Volume of material from the south segment of the Sparrows Point Channel that meets the requirements of Section 103 of the MPRSA.

NA = not applicable

On-site Innovative Reuse

Innovative reuse of dredged material (silt and clay) on-site was considered. The Combined Options Alternative and Preferred Alternative include the use of slag material that is dredged or otherwise removed for this project, estimated to be approximately 330,000 CY. This alternative considered options for the reuse of silt and clay, including:

- Re-processing dredged material by mixing with cementitious material for use on- and off-site
- Re-processing dredged material for the creation of lightweight aggregate

> **Innovative reuse** is the practice of repurposing sediment removed from bodies of water (e.g., harbors, shipping channels) for beneficial uses rather than disposing of it as waste. This can involve transforming dredged material into resources for land reclamation or construction materials.

For a number of reasons, including the inability to identify suitable markets and sites for innovative reuse of dredged material, low production rates (to make the material suitable for reuse), extensive time required to process material, and the infeasibility of stockpiling such volumes of material on-site, the alternatives that use re-processing (cementitious mixing and lightweight aggregate) are not considered viable for the large volume of dredged material generated by this project. Therefore, this alternative was eliminated from further evaluation as an option to address the total of 4.2 MCY of dredged material.

2.1.2 Terminal and Channel Improvement Alternatives Development and Analysis

TTT also considered alternative configurations and layouts for the terminal and channel improvements and dredging methods. Criteria for this analysis included providing necessary functional requirements, ensuring navigational safety, minimizing the quantity of dredged material generated and the in-water footprint for dredging, and providing safe and efficient terminal operations. Design of the features for the terminal and channel improvements includes the following:

> The **berth pocket** is a dredged or excavated area adjacent to a dock where a ship can moor. It provides the necessary depth for vessels to berth safely, allowing for loading and unloading of cargo or passengers.
>
> A **channel widener** expands the width of an existing channel or widens the intersection of two existing channels to allow for safe and efficient passage of vessels through waterways, ports, and harbors. The construction of a widener is accomplished through dredging.

- *Channel Design* – Geometric assessments were performed for the turning basin, approach channel, berth pocket, and channel transition areas. Although the proposed channel improvements are not proposed for a federal navigation channel, the channel and turning basin widths were developed based on the Corps' Engineer Manual 1110-2-1613, *Hydraulic Design of Deep-Draft Navigation Projects*, and World Association for Waterborne Transport Infrastructure (PIANC) guidelines for deep draft navigation design. The recommended widths calculated from Corps and PIANC resulted in channels wider than proposed for Sparrows Point Channel, which would require relatively high volumes of dredging. Engineering Manual 1110-2-1613 notes that "simulator studies have consistently showed that it is possible to control ships sailing in quite narrow channels and that the available Corps and international design criteria are overly conservative." To develop the requirements for the channel, TTT started with a channel width that was at the low end of the recommended channel width and used numerical vessel simulation studies to evaluate alternative widths and alignments to optimize the alignment, ensure safe operations, and minimize generation of dredged material. Simulations were performed with the Association of Maryland Pilots to evaluate and optimize the channel design. Based on the simulation results, the minimum width of the proposed channel is approximately 450 feet (2.3 times design vessel beam), and the minimum width of the turning basin is approximately 1,650 feet (1.25 times length of the design vessel) with additional width in transitional areas. Channel wideners would be included along the existing finger pier and adjacent to the proposed SPCT north berth.

- *Berthing and Mooring* – Berthing and mooring analyses were performed to ensure the safe accommodation of container ships at berth. Wind speed and direction, vessel approach angles and velocities, tug assistance, mooring arrangements, and numerous other factors were assessed to provide appropriate fender and vessel mooring systems designs at the wharf.
- *Dredging Method* – Both mechanical dredging and hydraulic dredging were considered during the SPCT design process. Mechanical dredging uses a clamshell-type bucket to manually capture sediment and lift it from the bottom through the water column to a barge or scow at the surface. Clamshell buckets vary in size, and some are designed as environmental-type buckets with special seals and enclosures to minimize and restrict release of sediment as the bucket is lifted to the surface. The barges / scows would be hydraulically offloaded by mixing the material with water to create a slurry and then pumping the material into a DMCF (hydraulic). For mechanical dredging with hydraulic offloading, the water used to create the slurry would be recirculated from the DMCF, substantially reducing the amount of water needed from the river. Hydraulic dredging uses suction to mix large amounts of surface water with the dredged material to create a slurry that is then pumped through a pipeline to a direct offloading location or into a DMCF; the surface water cannot be recirculated and must be pumped at high rates throughout the dredging process. Hydraulic dredging would require approximately 15 to 20 times more water to slurry the material to pump through a pipeline than would be needed to slurry material for hydraulic offload of mechanically dredged material. This method would also require substantially more space in the DMCF to handle the extra water and sediment mixture, successfully dewater and store the material, and manage the decanted water. The dewatering and material consolidation process in the DMCF would also require substantially more time. Recycling of slurry water cannot be conducted with hydraulic dredging. Therefore, based on the volume of water mixed with the dredged material, DMCF size requirements, the volume of decant water, and the material consolidation and drying time associated with hydraulic dredging, hydraulic dredging was determined to be infeasible and impracticable; mechanical dredging was chosen as the preferred dredging operation / practice.

Following evaluation of the benefits and disadvantages of multiple wharf design options, TTT proposed that one design for terminal development and channel improvements be carried forward for full analysis (see Section 2.2.2.1). The following section presents the options for wharf design that were considered but eliminated from further consideration.

2.1.2.1 Wharf Design Alternatives Eliminated from Further Consideration

TTT considered alternative configurations and layouts for the terminal development. Criteria for this analysis included providing necessary functional requirements, ensuring navigational safety, minimizing the quantity of dredged material generated and the in-water footprint for dredging, and providing safe and efficient terminal operations.

Solid-Type Marginal Wharf

A solid-type marginal wharf was considered, involving the use of a high-modulus steel sheet pile structure located near the face of the wharf. This structure option would eliminate the need to establish a revetment slope beneath the wharf and instead would essentially be configured as a closed-wharf fill structure. A wide, pile-supported relieving platform would be provided behind the bulkhead, and a large pile-supported deadman would be provided to resist lateral loads imparted on the wall system.

A solid-type marginal wharf encroaches on the waterway and creates a greater degree of bottom disturbance than the open-type wharf option because any open water beneath a solid-type wharf would be enclosed and likely filled, resulting in a larger permanent loss of habitat. Additionally, based on the geotechnical conditions, the driving of sheets to construct a solid-type wharf presents significant constructability concerns based on the required depth. Further, during design, the solid-type marginal wharf was identified as more costly than an open-type structure. Because there are constructability concerns, it is more costly and would result in greater environmental impacts, this alternative was eliminated from further consideration.

2.2 Alternatives Carried Forward for Analysis

2.2.1 No-action Alternative

The No-action Alternative would be a continuation of current property and land management at Sparrows Point and would not include the development of a new terminal and associated facilities. Previously developed areas within the site are undergoing demolition and razing of structures. This effort and efforts to remediate impacted upland soil and groundwater associated with previous site use would continue under the No-action Alternative. TPA, as the property owner, would likely develop Coke Point for some other future commercial, industrial, or marine-related uses, consistent with the existing development plan for the entire TPA property.

The Sparrows Point Channel is currently used for shipping activity, and periodic maintenance dredging of the channel is required. In 2017, TPA received a commitment letter from MPA for placement of dredged material from maintenance dredging activities at the Port at MPA facilities. This commitment allows placement over a 10-year period, ending in 2028. Maintenance dredging and material placement would continue under the No-action Alternative. TPA has an active permit for ongoing dredging activities.

The High Head Industrial Basin is located in the northern portion of the TPA property. Effluent treated by the Back River Wastewater Treatment Plant historically flowed into the High Head Industrial Basin, which was then pumped through a discharge pipe to an outfall in Bear Creek. Baltimore City has terminated the flow of the treated effluent into the High Head Industrial Basin. Baltimore City has initiated a project to reconnect the treated water effluent line to the existing discharge pipe that flows to the outfall in Bear Creek, thereby bypassing the High Head Industrial Basin.

As with other areas within the TPA property that are undergoing change and being developed for future use, the High Head Industrial Basin would likely be filled and the area repurposed in the future. Development of the High Head Industrial Basin would be designed so stormwater would be rerouted to discharge to the same location (Bear Creek outfall). Modifications would occur under the existing National Pollution Discharge Elimination System (NPDES) permit.

> The **National Pollutant Discharge Elimination System (NPDES)** is a regulatory program established under the Clean Water Act of 1972 and administered by the US Environmental Protection Agency (USEPA) and authorized by state environmental agencies. It is a permitting system that regulates point sources (specific, identifiable, and discrete locations from which pollutants are discharged) of water pollution. The program's primary goal is to control and minimize the discharge of pollutants into surface waters to protect water quality and public health.

2.2.2 Common to Both Action Alternatives

2.2.2.1 Terminal Development and Channel Improvements

The proposed designs for the terminal and channel improvements would achieve the project goals, would be sufficient to support future use of the terminal as a primary entry for the Port, and would meet the necessary safety standards and engineering requirements. These components are described below.

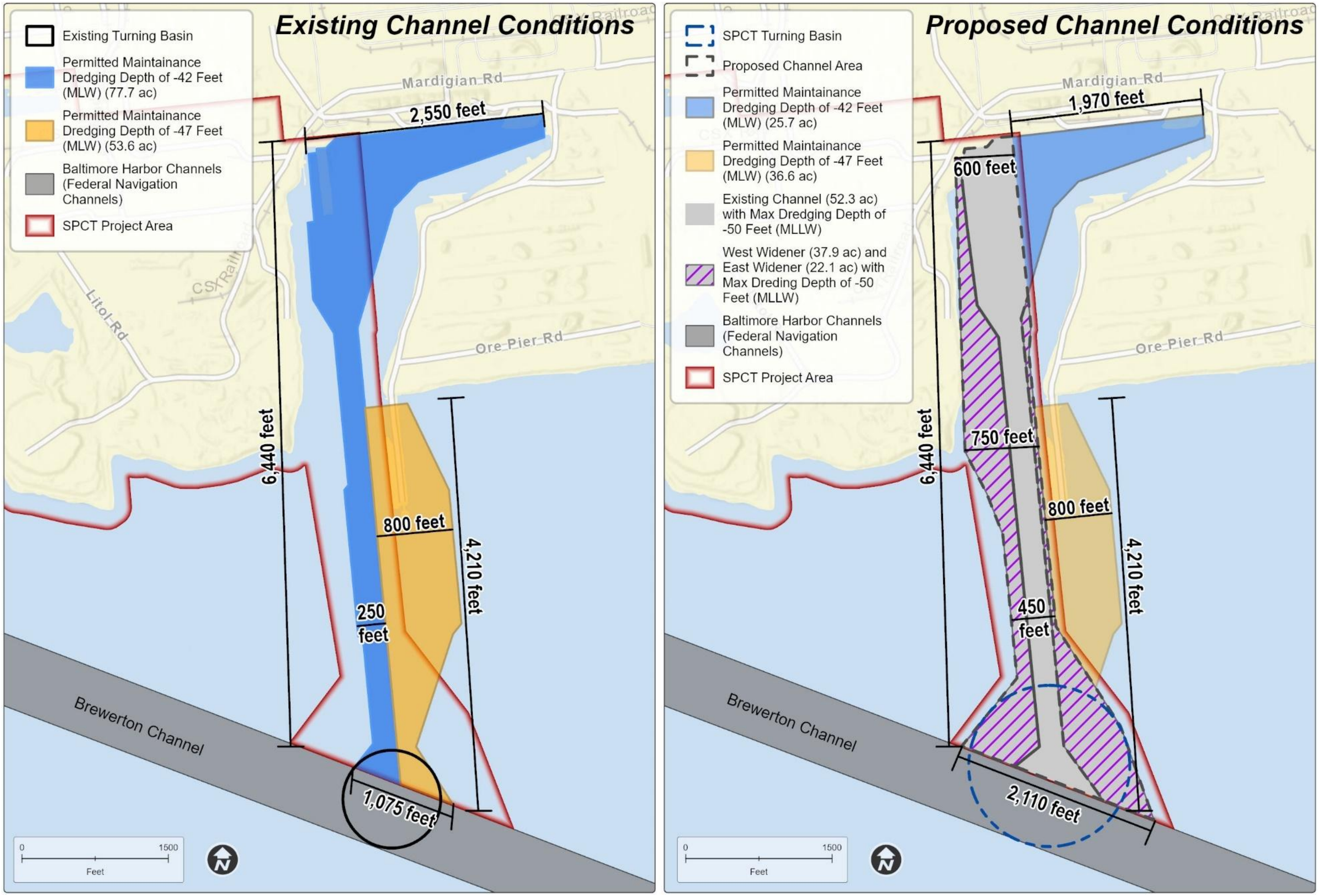
- *Dredging* – As discussed in Section 2.1, the Sparrows Point Channel would be widened and deepened using mechanical means (clamshell bucket or excavator) to provide design vessel access to the terminal, and the channel entrance would continue to connect to the Brewerton Channel (federal navigation channel). Currently, the Sparrows Point Channel includes an approach channel permitted to a depth of -42 feet mean low water (MLW) (29.6 acres), a turning basin and berthing area permitted to a depth of -42 feet MLW (48.1 acres), and an access channel and berthing area permitted to a depth of -47 feet MLW (53 .6 acres) (Figure 5, left panel). For the channel improvements, the entrance to the Sparrows Point Channel, which is adjacent to the Brewerton Channel, would be widened from approximately 1,075 to 2,110 feet to create a turning basin approximately 1,650 feet in diameter. The channel would then gradually transition northward to a channel width of approximately 450 feet and widen again adjacent to the proposed wharf to a width of approximately 750 feet. The northern channel endpoint would taper to a width of approximately 600 feet. Figure 5 (right panel) illustrates the channel improvements and final dimensions.

  The design vessels would require a minimum berth pocket width of 250 feet adjacent to the channel. Based on the vessel simulations, additional width was added to provide passing clearance between the existing finger pier and the SPCT berth face. To provide additional passing distance while minimizing additional dredged material volume, the berth face would be angled such that the dredging of the berth and channel is wider at the southern end of the terminal and tapers to the north. The navigable depth would be -50 feet MLLW. The maximum proposed dredging depth would be -50 feet MLLW plus -2 feet of over depth allowance. The project would require approximately 4.2 MCY of dredging to meet the required design width and depth for the vessels.

  Following construction, maintenance dredging of the Sparrows Point Channel would be required. Approximately 112.3 acres would be maintained to a depth of -50 feet MLLW, 36.6 acres would be maintained to a depth of -47 feet MLW, and 25.7 acres would be maintained to -42 feet MLW. It is anticipated that maintenance dredging would be required on average once every 10 years with an estimated volume of approximately 125,000 CY. Maintenance dredging of the improved Sparrows Point Channel would be incorporated into the overall TPA dredging plan under the existing MPA commitment letter that is currently valid until 2028. The SPCT project would increase the TPA maintenance dredging volume by approximately 26% over a 10-year period.

- *Slag Material* – Approximately 330,000 CY of slag would be excavated and dredged along the east side of Coke Point to construct the wharf. Some of this material would likely be removed by a backhoe or hydraulic excavator that is positioned upland. Any material that cannot be reached by a backhoe or hydraulic excavator would be removed by way of dredging with a clamshell bucket on a barge. The slag would be used on-site for fill or potentially used for dike construction for an on-site DMCF.

Figure 5. Existing Conditions and Proposed Sparrows Point Channel Improvements



A **revetment** is a sloped structure designed to absorb and reduce the energy of waves or flowing water, protecting the shoreline from erosion rather than preventing soil movement.

Empty container handlers or reach stackers are specialized types of forklifts used primarily in shipping ports, terminals, and logistics yards for handling empty shipping containers.

- *Marine Structures* – Marine structure design includes an open-type marginal wharf structure, consisting of a steel pipe pile-supported concrete platform. Piles for the wharf would be located both above and below MHW. The wharf would serve as a platform for vehicles that receive containers offloaded from vessels. The wharf would also support the STS cranes, fender devices, crane, and vessel (shore power) electrical service, and ancillary equipment and safety devices.
- *Vessel Size and Wharf Length* – The proposed design considered the size and number of vessels that would call at the terminal, both simultaneously and each year. The design provides a wharf with a total length of approximately 3,000 feet, sufficient for accommodation of two ULCVs with capacity of up to 23,000 TEUs. The design would allow the wharf to host two ULCVs at the same time, in anticipation of larger vessels calling at the Port should the Chesapeake Bay Bridge be redesigned and reconstructed with a higher clearance, as discussed in Section 1.1.2.
- *Elevation* – Currently, the Sparrows Point peninsula (approximately 3,300 acres) is 93.9% above the 100-year floodplain and 93.7% above the 500-year floodplain. Although Coke Point is in an area of minimal flood hazard, long-term sustainability was considered in the design of the proposed terminal. The wharf top deck elevation was established at +14.0 feet based on analysis of future sea level rise and storm surge frequency[1] to provide less than 1% probability of one or more floods exceeding the deck elevation through the year 2100.*Revetment* – Establishing the navigation channel and berth pocket depth to an elevation of -50 feet MLLW would require a sloped grade transition between the design dredge depth and the proposed final grades land side of the wharf. The proposed grade transition would be accomplished using a 2.5 (horizontal) to 1 (vertical) slope. The established slope would be armored with heavy stone (riprap) and concrete slabs to provide slope stabilization and protect against wave action, propwash, and other erosive forces.
- *STS Cranes* – Based on vessel size and the (up to) 23,000 TEU capacity of each vessel, up to nine STS cranes would be used for the efficient unloading and transfer of containerized cargo.
- *Container Yard* – The container yard would provide temporary storage of containers offloaded from vessels with a capacity of approximately 50,000 TEUs, including conventional, refrigerated, and empty boxes. Containers would be stored in blocks up to six containers high (approximately 50 feet). The container yard would receive containers by way of terminal tractors / chassis, which are offloaded and stacked using rubber-tired gantry (RTG) cranes and mobile container handling equipment. Empty containers would be handled and stacked using empty container handlers.
- *Intermodal / Rail Yard* – A rail-based intermodal container transfer facility, used for the temporary storage of double-stack rail cars for container loading/unloading, would be configured with six rail

[1] Sea level rise was analyzed using the K14 Representative Concentration Pathway (RCP) 8.5 emissions scenario. RCPs are a set of scenarios developed by the Intergovernmental Panel on Climate Change to represent different possible trajectories of greenhouse gas concentrations in the atmosphere. RCP8.5 is a high-emissions scenario that is frequently referred to as "business as usual," suggesting that is a likely outcome if society does not make concerted efforts to cut greenhouse gas emissions. Storm surge frequency was based on the Corps *North Atlantic Coast Comprehensive Study* (Corps 2015), a comprehensive assessment to examine the risks and vulnerabilities associated with coastal storm and flood hazards along the North Atlantic coast of the United States.

tracks. This facility would be served by RMG cranes that would lift the containers from terminal tractors / chassis and place them, stacked two containers high, on rail cars. The process would be reversed for unloading. This facility would link into the national freight rail network via the existing rail system on the TPA property.

- *Pavements* – A variety of pavements are proposed for the terminal areas. Generally, more than 95% of the terminal area would be paved and considered impervious to infiltration. The remaining (less than) 5% of surface area (typically at electrical substation and equipment locations) would receive a dense graded aggregate surface underlain by geotextile fabric.
- *Drainage* – Through the redevelopment of the 3,300-acre Sparrows Point peninsula, TPA worked with Baltimore County to develop a sitewide stormwater management strategy, which includes the construction of a regional wet pond stormwater facility on the site. This facility provides approximately 5.5 million cubic feet of water quality treatment for 946 acres of impervious area, including nearly 300 acres of the adjacent community. Additionally, prior to the runoff being pumped into the regional wet pond, a pre-treatment volume of approximately 2.4 million cubic feet will be provided within the existing Tin Mill Canal. With the construction of this facility, which is in progress, TPA and Baltimore County have agreed to a credit system for future projects so that individual stormwater management is not required on a project-by-project basis. See Figure 6.

  The SPCT project would not provide on-site treatment of stormwater but would be part of the credit system for the regional stormwater facility. Site drainage would be accomplished using gently graded paved surfaces (less than 2% slope) that direct sheet flow to trench drain collectors. Stormwater collected would be routed by way of lateral drains to pipe culverts for discharge. All drainage systems are proposed as gravity-based, and there are no proposed provisions for pumping, storage, or other stormwater management systems.
- *Terminal Buildings* – Three buildings are proposed at the terminal to provide space for administrative functions and maintenance and repair. Shallow concrete footings would likely be used as foundations, and the building peak for the maintenance building, the tallest proposed terminal building, would be a maximum of 55 feet above finished grade.
- *Warehouse Buildings* – Two warehouse buildings are proposed for the area west of the terminal for temporary storage of items shipped to the terminal prior to transfer off-site. Shallow concrete footings would likely be used as foundations, and the building peaks would be a maximum of 50 feet above finished grade.
- *Civil / Site Utilities* – Civil / site utility design features would include potable water and sanitary sewer to the two buildings, fire protection water throughout the site, and natural gas to the four emergency generators provided on-site.
- *Lighting* – Lighting design for the terminal would be accomplished using high mast lights, spaced approximately 300 to 400 feet apart, with a proposed height of 120 feet above finished grade. Each high mast light would be equipped with a multi-fixture luminaire, directed downward, and shielded to minimize both spill light and glare. Lighting level would be as required by the Illuminating Engineering Society guidelines and Occupational Safety and Health Administration standard 29 CFR 1917 “Marine Terminals.” Active transfer point work areas, including areas of the wharf, container yard, and intermodal / rail yard, would be illuminated at an average minimum of 5 foot-candles. Other working areas require an average minimum illumination level of 1.0 foot-candles. Security lighting, where provided, would be designed for a minimum of 0.5 foot-candles.

Figure 6. Stormwater Management on Tradepoint Atlantic Property (Construction in Progress)

- *Ancillary Equipment* – The terminal would be equipped with a variety of equipment and associated facilities to support operations.
- *Electrical Systems and Service* – The design would include the supply of electricity to all electrified operating equipment, as well as provision of infrastructure for future electrical equipment. The design would also include the supply of shore power for vessels at berth. The electrical systems would include electrical substations, switchgear, conduits, conductors, grounding systems, and all associated electrical equipment. Communication and control systems would be located throughout the terminal.
- *Security* – Site security would be provided throughout the terminal to meet Maritime Transportation Security Act and International Ship and Port Facility Security Code standards. Perimeter fencing would be established to prevent unauthorized access to the site. Internal fencing would be provided to segregate privately owned vehicle (POV) parking areas from the operations. Gated access would be provided for trucks entering and leaving the site. Remote observation via closed-circuit television equipment provided throughout the site would allow the monitoring of the terminal for operational and security needs.

2.2.2.2 Construction Methods and Logistics

In-water Demolition

With the initiation of dredging and wharf construction, some demolition would be needed to remove existing structures along the area of the proposed wharf. In-water demolition would be completed using mechanical methods and expected to last approximately 30 calendar days. Existing structures along the west and north sides of the existing wharf would need to be demolished before work could begin.

Dredging

Dredging would occur as designated by potential time-of-year restrictions required to protect aquatic life, which would be determined through consultation with NMFS and MDNR and in accordance with issued permits and agency waivers, as applicable. Dredging would be staged to align with construction phasing and would also be guided by dredged material placement availability. The total dredged material volume for channel improvements and terminal development would be approximately 4.2 MCY. Dredging would be performed mechanically using waterborne equipment, a clamshell bucket, and landside equipment, where possible and practical. Permits for this project would include stipulations to reduce potential impacts and protect environmental resources. A list of anticipated permits and approvals is included in Appendix A. Additional Best Management Practices (BMPs) and environmental controls could also be implemented based on site conditions (see Section 3.2).

Dredging of the wharf area would occur in stages to coordinate with the installation of the wharf piles. The first step would be to mechanically excavate in-water slag material from the landside, where practical. The slag would be placed into trucks and transported to a designated on-site stockpiling location for reuse as fill or for dike construction. The remaining slag would be dredged using waterborne equipment, as necessary. The slag would be placed into scows, transported to shore, mechanically offloaded into trucks, and transported to a designated on-site location for stockpiling and reuse. Dredging of the silt and clay material underneath slag would be performed using waterborne equipment, a clamshell bucket, and landside equipment, where possible and practical. The silt and clay material would be placed into scows and transported to the appropriate DMCF (see Sections 2.2.3.1 and 2.2.4.1).

Marginal Wharf

Construction of the marginal wharf would require a general sequence of construction:

1. The existing slag material would be removed via excavation from land to establish the revetment slope beneath the marginal wharf.
2. The first set of piles for the marginal wharf would be installed after the slag removal has established the revetment slope beneath the marginal wharf.
3. Once the first phase of the pile-supported wharf is completed, the waterside dredging adjacent to the wharf would be completed to establish the remaining depth of the revetment slope.
4. The second set of open wharf foundation piles would be installed after the completion of underwater excavation and dredging that would be conducted to establish the revetment slope.
5. Slope protection (stone and concrete) would be installed after the installation of the open wharf foundation piles.

2.2.3 Combined Options Alternative (Proposed Action)

2.2.3.1 Dredged Material Placement Options

To provide vessel access to the wharf, the project would require dredging and placement of an anticipated 4.2 MCY of dredged material for the required widening and deepening of the existing Sparrows Point Channel, including the turning basin. Additionally, the construction of the Coal Pier Channel dike would require dredging and placement of an additional 55,000 CY that would require appropriate placement either on-site or off-site. Figure 3 presents the locations of the dredged material placement options. The Combined Options Alternative would include multiple options for dredged material placement:

- High Head Industrial Basin DMCF (located on TPA property)
- Coal Pier Channel DMCF (located at the mouth of the Coal Pier Channel along the west shoreline of Coke Point)
- Existing nearshore MPA DMCFs (Cox Creek DMCF located in Anne Arundel County or Masonville DMCF located in Baltimore City)
- Ocean placement at the NODS (located in the Atlantic Ocean)

To determine if dredged material could be placed at NODS or an MPA facility, an extensive effort was implemented to collect and analyze sediment data. Results of this effort were shared with regulatory agencies for their evaluation. Following this consultation, TTT determined that approximately 1.57 MCY of dredged material from the south segment of the Sparrows Point Channel could be placed at NODS. In a 2024 commitment letter for the SPCT project, MPA committed to placement of up to 1.25 MCY of dredged material that complies with MPA requirements at an MPA facility over a 4-year period.

High Head Industrial Basin DMCF

The existing High Head Industrial Basin is located approximately 2.5 miles northeast of the project area within the TPA property. The impounded area of the industrial basin currently covers 38.7 acres with a surface elevation of approximately +7.0 feet, which is maintained by an existing pump house. Ground elevations around the periphery of the reservoir range from +8 to +12 feet. Under the Combined Options

Alternative, a DMCF constructed at this location would have the capacity to hold 1.2 MCY of dredged material with the exterior dike elevation of approximately +30 feet, or approximately 20 feet above existing grade. The High Head Industrial Basin DMCF is presented in Figure 7.

Construction Methods and Logistics – A portion of the material for the dike construction would be excavated from within the SPCT project area and would consist of common borrow material sourced from existing land and stockpiles from elsewhere on TPA property. The remainder of the material would be sourced from off-site facilities and approved by MDE. The outboard dike slopes would be seeded with native plant species after construction to prevent erosion. The stability of the containment dike could be affected by the existing soil conditions, potentially requiring additional time to allow for consolidation and strength gain. Consideration must also be given to settlement of the dikes.

Effluent treated by the Back River Wastewater Treatment Plant historically flowed into the High Head Industrial Basin, which was then pumped through a discharge pipe to an outfall in Bear Creek. Baltimore City has terminated the flow of the treated effluent into the High Head Industrial Basin. Baltimore City has initiated a project to reconnect the treated water effluent line to the existing discharge pipe that flows to the outfall in Bear Creek, thereby bypassing the High Head Industrial Basin. Modifications would occur under the existing NPDES permit.

The storm drain systems from the developed areas on the east and west sides of the High Head Industrial Basin drain into the basin. It would be necessary to construct a storm drain diversion system along each side of the basin to intercept these drains and then convey runoff to the existing 60-inch culvert under the Baltimore Beltway / Interstate 695 (I-695) located in the southeast corner outside the basin. As noted in Section 2.2.2.1, there is a sitewide stormwater management system on the TPA property that is being upgraded with a regional wet pond stormwater facility. The stormwater drainage pipes at the High Head Industrial Basin would tie into this system prior to discharge to tidal waters.

To accommodate effluent discharge from dredged material dewatering at the High Head Industrial Basin DMCF, a new temporary outfall with a multiport diffuser would be required off the west side of the shipyard. The leader pipe to the new temporary outfall would be routed over land to the west side of the shipyard, and the feeder line would extend offshore / channelward approximately 500 feet from the shoreline (Figure 8). The effluent from the dredged material dewatering would flow to the new temporary outfall through a 24-inch diameter pipe and feeder line to an approximate 100-foot long, 18-inch multiport diffuser head aligned perpendicular to the current. The temporary diffuser system would be south of and outside the footprint of the Bear Creek Superfund Site. The feeder line from the new temporary outfall would be secured on the bottom using straps / clamps and anchors. The existing NPDES permit would be modified as necessary through the MDE Wastewater Pollution Prevention and Reclamation Program. The diffuser system would only be operational for the duration of active dewatering and consolidation of dredged material at the High Head Industrial Basin DMCF.

Dredged Material Transport and Placement – Dredged material would be placed in a scow and transported to the west side of Sparrows Point. It would then be hydraulically pumped from the scow through a flexible pipeline into the High Head Industrial Basin DMCF. Water would be added to the dredged material to facilitate hydraulic pumping. This added water would be recycled back from the DMCF to the unloader, limiting the volume of water needed for pumping, but additional water from the Patapsco River may be needed. After placement is complete, the dredged material would be properly managed to dewater, dry, and consolidate the material. Recycling water during pumping would also reduce the volume of water discharged from the DMCF to a permitted outfall.

Figure 7. High Head Industrial Basin and Coal Pier Channel DMCFs

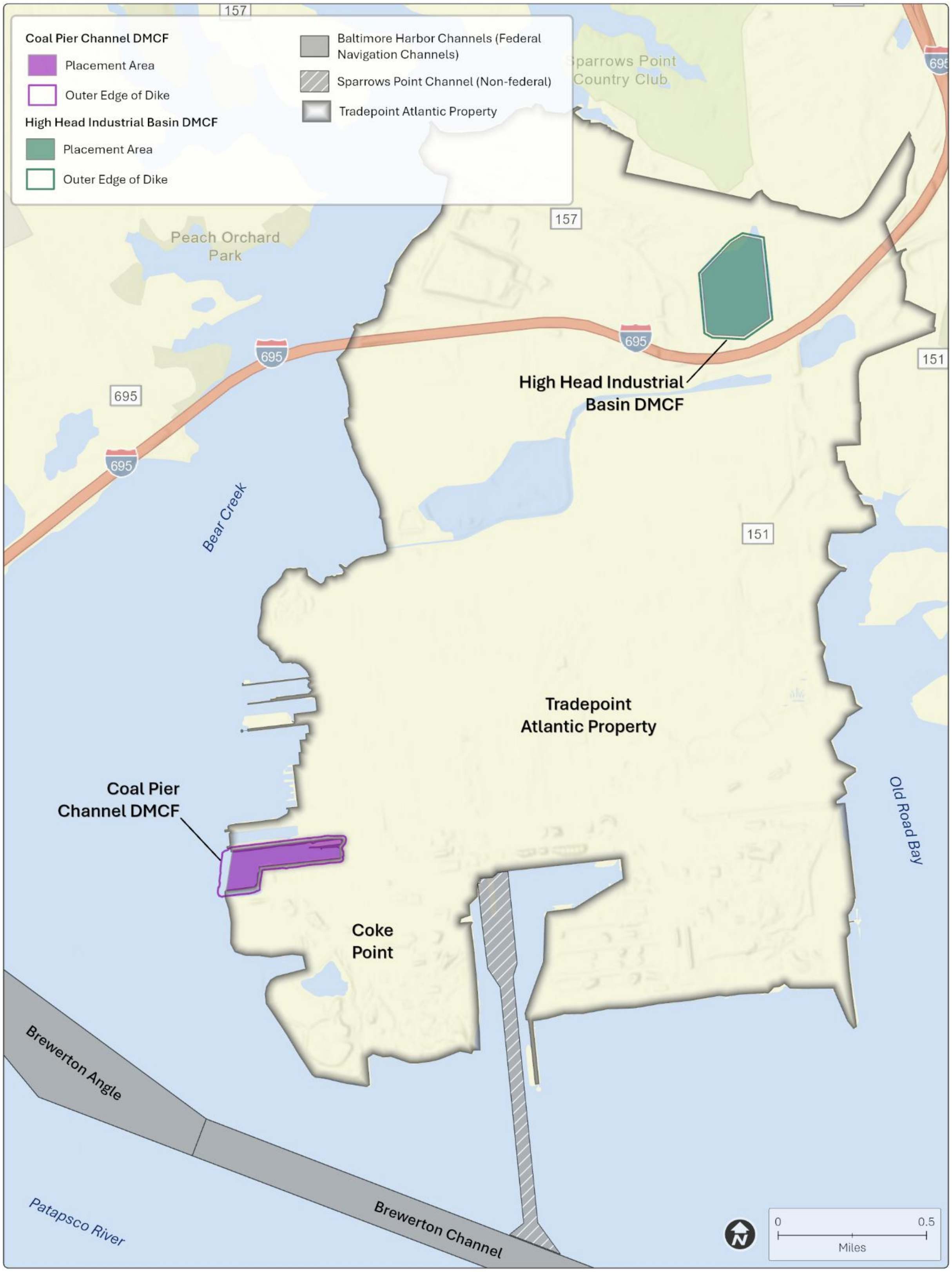


Figure 8. Diffuser and Outfall Locations

Dredging would be performed in three phases, and each phase would take approximately 1 year to allow for optimal dewatering and consolidation of the placed material. The volume of dredged material placed into the DMCF for each phase would be appropriate for the DMCF capacity at the time of placement. As noted above, the DMCF is constructed in phases, and the material would similarly be placed in phases corresponding to construction. Material placement would not exceed the allowable elevation of the DMCF and would maintain a minimum of 2 feet of freeboard.

Timeline – Construction of this alternative to an elevation of +30 feet would require approximately 7 months. Dredging and placement into the facility would be performed in phases over 3 years. After placement of dredged material is complete, drying and consolidation of the material would take 5 to 10 years. The DMCF would then be capped (approximately 2-year period) and managed for industrial use.

Coal Pier Channel DMCF at Sparrows Point

The Coal Pier Channel is an existing in-water channel that was historically used for coal barge unloading for the Bethlehem Steel Mill. A new offshore DMCF would be created by constructing a waterside berm across the mouth of the existing Coal Pier Channel to provide placement capacity for dredged material (Figure 7). The DMCF would permanently fill approximately 19.6 acres of tidal WOTUS. Placement of dredged material in WOTUS would require compliance with all required federal, state, and local permits.

Construction Methods and Logistics – A sand dike would be constructed across the mouth of the channel to provide a containment area for dredged material. This sand dike would be built to an elevation of +15 feet and have a 3 (horizontal) to 1 (vertical) side slope protected with riprap. It would be constructed on sufficiently firm foundation material. Coal Pier Channel has been dredged often for historical use, and the existing sediment is anticipated to consist of a soft surface layer approximately 4 feet in thickness underlain by consolidated sand. The soft overburden material (approximately 55,000 CY) would be dredged along the dike alignment prior to initiation of dike construction. This material would increase the total volume of material to be placed to 4.25 MCY. Because the soft overburden material would be removed from the dike alignment, it is not likely that sediments would be displaced, creating a mud wave during dike construction. BMPs for in-water construction (such as those described in Section 3.2) would be used where practicable and necessary to minimize the resuspension of sediment and contaminants to the water column during in-water placement of dike construction material.

The DMCF would be constructed in phases. The height of the upland perimeter dike would vary between 2 and 7 feet above grade, depending on the adjacent topography, and would be constructed to an elevation of +15 feet. As noted in Section 2.2.2.1, a vast majority of the Sparrows Point peninsula is above both the 100-year and 500-year floodplains, and future sea level rise and storm surge frequency were considered in the design of the Coal Pier Channel DMCF. The estimated capacity of this placement area is 750,000 CY.

Dredged Material Transport and Placement – Dredged material would be mechanically placed into scows, transported to an offloading location, and hydraulically pumped into the Coal Pier Channel DMCF. The water that is mixed with the sediments for hydraulic offloading into the DMCF would be recirculated / recycled back to the unloader and used for the continued pumping operation to reduce the amount of additional water needed, but additional water from the Patapsco River may be needed. Recycling water during pumping would also reduce the volume of water discharged from the DMCF to a permitted outfall.

Dredging would be performed in two to three phases, and each phase would be approximately 1 year apart to allow for optimal dewatering and consolidation of the placed material. The volume of dredged material placed into a DMCF for each phase would be appropriate for the DMCF capacity at the time of placement. Material placement would not exceed the allowable elevation of the DMCF and would maintain a minimum of 2 feet of freeboard.

Timeline – Construction of this DMCF would require approximately 7 months. Dredging and placement into the DMCF would be performed in phases over 2 to 3 years. After placement of dredged material is complete, drying and consolidation of the material would take five to ten years, then the DMCF would be capped (approximately 2-year period). Long-term use of this area would be determined through consultation with the state.

Existing Nearshore MPA DMCFs

Masonville and Cox Creek DMCFs (Figure 3) are two existing nearshore upland confined placement facilities that are owned, operated, and maintained by the MPA.

The Cox Creek DMCF is located in northern Anne Arundel County, Maryland. The facility receives dredged material from the Baltimore Harbor channels west of the North Point-Rock Point line. These sediments require placement in a contained facility by the Maryland Dredged Material Management Act of 2001. The current capacity of the Cox Creek DMCF (with the recently completed dike expansion to +60 feet) is estimated to be 15.3 MCY.

The Masonville DMCF is located in South Baltimore, northwest of the Baltimore Harbor Tunnel toll plaza (Interstate 895 [I-895]), in the Fairfield area. The Masonville DMCF covers 141 acres with a current capacity of approximately 6.2 MCY.

In a 2024 commitment letter for the SPCT project, MPA committed to placement of up to 1.25 MCY of dredged material that complies with MPA requirements at an MPA facility over a 4-year period.

Construction Methods and Logistics – This placement option would not involve construction, only transport of the SPCT dredged material to either permitted MPA DMCF. Dredged material would be placed in a barge or hopper and transported to the DMCF, where it would be hydraulically unloaded.

Timeline – There would be no time required for construction. An approved volume of material would be dredged every year for placement into the facility.

Existing Ocean Disposal Site

The NODS is a designated offshore disposal area for placement of dredged material located in the Atlantic Ocean, approximately 17 miles from the entrance to the Chesapeake Bay off the Virginia coastline (Figure 3). The NODS is approximately 50 square nautical miles in size (40 CFR Part 228) and has unlimited capacity for dredged materials that meet the ocean dumping criteria. NODS is jointly managed by the Corps and USEPA. Use of this site is subject to the approval by USEPA under the authority of the MPRSA, and the Corps is the federal agency that would issue the permit authorizing the transport of material to the ocean for placement.

Placement of material at the NODS would require approval by the USEPA and would require a Section 103 Permit from the Corps as authorized under Section 103 of the MPRSA. Dredged material from the southern segment of the Sparrows Point Channel was subjected to the Tier II (sediment and elutriate) and Tier III (ecotoxicological) testing required to assess the material's suitability for ocean placement at the NODS. Results of the testing indicated that approximately 1.57 MCY of material from the south segment of the channel met the Section 103 MPRSA requirements.

Construction Methods and Logistics – For this placement option, it is assumed that material would be mechanically dredged and placed within a bottom-dump barge or scow and transported to the NODS, where it would be released / discharged into a designated area. One-way transport distance from the project site to the NODS is approximately 175 miles. Placement activities (vessel traffic to and from the NODS) would be conducted in compliance with the NOAA Fisheries Right Whale Ship Strike Reduction Rule (50 CFR 24.105), which limits vessels greater than 65 feet to speeds of less than 10 knots during migration and calving periods.

Timeline – There would be no time required for construction. The time limitation would be for equipment to haul dredged material from the site to the ocean placement site. The dredging and placement would be performed within a 2-year period.

2.2.4 Preferred Alternative

2.2.4.1 Dredged Material Placement Options

The Preferred Alternative would be the same as the Combined Options Alternative except it would not include the Coal Pier Channel DMCF, and the High Head Industrial Basin DMCF would be changed to include a higher maximum elevation of 40+ feet (or approximately 30 feet above existing grade) and the capacity would be expanded to accommodate 1.7 MCY of material. Dredged material placement at the existing MPA nearshore DMCFs and NODS would be the same as described in Section 2.2.3.1.

High Head Industrial Basin DMCF

The existing High Head Industrial Basin is located within the TPA property. Under the Preferred Alternative, the High Head Industrial Basin DMCF would follow the same design and construction methods as described in Section 2.2.3.1; however, it would be constructed with the exterior dike elevation of +40 feet, or approximately 30 feet above existing grade, giving the DMCF the capacity to hold 1.7 MCY of dredged material. The outer footprint of the berm would remain the same as the DMCF proposed in Section 2.2.3.1, but the berm footprint would extend further into the center of the facility.

The High Head Industrial Basin DMCF would use the existing stormwater system and wastewater treatment plant (as necessary) to discharge the effluent from the DMCF. Treatment options, including a diffuser as described in Section 2.2.3.1, would be dictated by the NPDES permit limits and the water quality of the supernatant from the DMCF.

3. Avoidance, Minimization, Best Management Practices, and Mitigation Measures

This section describes how the design of the Preferred Alternative attempted to avoid and minimize potential impacts identified as the design progressed with the environmental review process. In addition, this section summarizes potential mitigation measures that could be implemented during SPCT construction, including BMPs and environmental controls to reduce potential impacts and protect environmental resources. Construction activities include upland terminal construction, in-water dredging and pile driving, and in-water placement of materials to construct the offshore DMCF. BMPs discussed here represent generally accepted practices used for waterfront and in-water construction projects.

Inclusion of a BMP or environmental control in this section does not mean that the BMP or environmental control would be used for SPCT, nor do the measures described here represent the only potential BMPs or environmental controls that could be implemented. BMPs and environmental controls would be defined within final project design and may be stipulated as permit conditions by regulatory and resource agencies.

3.1 Project Design – Avoidance and Minimization

Measures to reduce impacts on the natural and human environment were incorporated during the design planning process (Table 2). As the design process advances to final design, additional decisions concerning equipment and materials to be used and the final project footprint would be made in an effort to further avoid and minimize impacts to the extent practicable while still achieving the project goals.

Table 2. Avoidance and Minimization Measures Implemented During SPCT Project Design

Project Feature / Resource Consideration	Original Design	Design Evaluated in Final EIS
Channel dredging footprint	112.6 acres	Reduced to 111.4 acres – The channel was redesigned to optimize safe passage for vessels and minimize the amount of dredging required by angling the berth face such that the dredging of the berth and channel would be wider at the southern end and would taper at the north end.
Number of piles	1,846 piles	Reduced to 1,665 steel pipe piles – The wharf would be a pile-supported open-wharf structure as opposed to a bulkheaded or enclosed structure. Loss of open water would be limited to the footprint / surface area of the piles. – The project design was modified to reduce the maximum number of piles to safely support the load-bearing requirements of the wharf and terminal operations.
Berth Alignment	Original alignment was on the west side of Coke Point in the Patapsco River	Moved the berth alignment inside the embayment to make use of the existing Sparrows Point Channel, to significantly reduce dredged material volume, and avoid impacts on the Patapsco River main channel.

Project Feature / Resource Consideration	Original Design	Design Evaluated in Final EIS
Offshore DMCF footprint	100 acres	Eliminated dredged material placement in tidal waters. – The in-water footprint for the offshore DMCF was first reduced from 100 acres to 35 acres and then further reduced to approximately 19.6 acres. Following public review of the Draft EIS, TTT adjusted the design of the High Head Industrial Basin DMCF to increase the height to accommodate more dredged material, such that the Coal Pier Channel DMCF was no longer needed. The design changes eliminated the loss of open water and bottom habitat compared to the original proposed in-water footprint through use of a combination of placement alternatives for the dredged material. This avoids impacts on river hydrology and aquatic communities and habitat in the river.
Dredged material volume	4.5 MCY	Reduced to 4.2 MCY, which includes 330,000 CY of slag that would be reused and approximately 1.57 MCY of dredged material that would be placed at the NODS – The channel location would use the existing Sparrows Point Channel footprint, the channel redesign would reduce the size of the channel footprint, and slag removed during dredging would be reused on-site for upland fill and construction activities. Each of these measures would reduce the volume of material to be dredged and placed. – The construction of the Coal Pier Channel DMCF would have required dredging approximately 55,000 CY. By eliminating the need for this option from the Preferred Alternative, the amount of dredged material was reduced from 4.25 MCY, as noted in the Draft EIS, to 4.2 MCY.
Shore power	Auxiliary diesel engines, while docked, would result in emissions of NO_x, PM_{10}, $PM_{2.5}$, SO_2, CO, and VOCs	Use of shore power would significantly reduce emissions of NO_x, PM_{10}, $PM_{2.5}$, SO_2, CO, and VOCs, as ships using shore power rely on grid-based electricity instead of burning fuel oil. See Section 4.15. Data presented in Table 41 serves as a baseline for understanding the environmental impact of operations, assuming partial terminal electrification, and includes emissions from all emissions from all operational mobile and stationary equipment expected at the terminal.
Partial Electrification of Terminal Equipment	TTT considered a facility with only diesel-fueled equipment. This would result in higher emissions	TTT proposed a partially electrified terminal — STS, RMG, and RTG cranes would all be electric. Stackers, handlers, terminal tractors, standby generators, and rail-based transportation would be diesel. Use of electric cranes would reduce emissions during operations. The terminal has been designed to accommodate full electrification in the future. See Section 4.15, Table 42 for more details.
Terminal Lighting Fixtures	NA	All high mast lights at the terminal would be equipped with a multi-fixture luminaire, shielded, and directed downward to minimize both spill light and glare. Lighting level would be as required by the Illuminating Engineering Society guidelines and Occupational Safety and Health Administration standard 29 CFR 1917 “Marine Terminals.”

Project Feature / Resource Consideration	Original Design	Design Evaluated in Final EIS
Upland aesthetics	Aesthetic finishes for SPCT buildings	Reduced use of high-glare materials and finishes to lower visual impacts on surrounding communities / properties – Buildings and equipment constructed as part of the SPCT would be designed to have matte finishes to reduce sources of glare to surrounding areas.
Future sea level rise	NA	Sea level rise was incorporated into the original design to ensure resiliency for the life of the facility. – Elevation of wharf deck was designed to withstand estimated sea level rise and storm surge frequencies through the year 2100, increasing the resiliency of the facility.

Notes:
NA = not applicable
NO_x = nitrogen oxides
PM_{10} = particulate matter less than or equal to 10 micrometers
$PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers
SO_x = sulfur oxides
VOC = volatile organic compound

3.2 BMPs During Construction

BMPs and environmental controls during construction activities are often used for certain environmental resources in the SPCT project area (Table 3 through Table 6). BMPs and environmental controls for construction-related noise would benefit both the in-water and upland environments. BMPs and environmental controls implemented during certain in-water construction activities and locations would be protective of aquatic resources and would reduce turbidity, the potential for sedimentation impacts on water column and bottom communities, and the potential for release of contaminants to surface waters in and around the SPCT project area. TTT would comply with required BMPs, including time-of-year restrictions, as stipulated in state and federal permit conditions or authorized through agency waivers and / or approvals.

Table 3. Benefits of Potential Construction BMPs and Environmental Controls for Pile Installation

Construction Activity	Resource Area Protection			
	Fish / Aquatic Life	Terrestrial Wildlife / Birds	Surface Water Quality	Upland / Community Resources
Complete in-water pile driving in adherence with time-of-year restrictions (if required by regulatory agencies) to avoid impacts on sensitive life stages of fish and other aquatic resources.	✓			

Construction Activity	Resource Area Protection			
	Fish / Aquatic Life	Terrestrial Wildlife / Birds	Surface Water Quality	Upland / Community Resources
Use a “soft start” method for impact hammer. Begin hammering at a reduced energy, which serves as a warning for mobile aquatic / marine life to move away from the project area. This method would also be conducted following restart after a period where pile driving has not occurred for more than 30 minutes.	✓			
Use a cushion block during impact driving of piles to reduce the intensity and distance of underwater noise propagation.	✓	✓		✓
Use bubble curtains if required during certain times of year during impact driving of piles to reduce the intensity and distance for underwater noise propagation.	✓	✓		✓
Use a vibratory hammer (if / where feasible), followed by use of an impact hammer for individual piles to reduce the duration of the underwater noise created by impact hammer.	✓	✓		✓
Limit the daily window for pile driving activities to 10 to 12 hours or less of daytime operations.	✓	✓		✓

Table 4. Benefits of Potential Construction BMPs and Environmental Controls for General In-Water Construction and Demolition Activities

Construction Activity	Resource Area Protection			
	Fish / Aquatic Life	Terrestrial Wildlife / Birds	Surface Water Quality	Upland / Community Resources
Operate construction vessels in adequate water depths to avoid propeller scour and grounding at all tides. Use shallow draft vessels that maximize the navigational clearance between the vessel and the bottom in shallow areas.	✓		✓	
Orient or shield site lighting to avoid illumination of the surrounding waters at night.		✓		✓
Include a sufficient zone of passage that allows listed and managed species to safely traverse around noise and / or turbidity.	✓			

Construction Activity	Resource Area Protection			
	Fish / Aquatic Life	Terrestrial Wildlife / Birds	Surface Water Quality	Upland / Community Resources
Remove piles with a vibratory hammer where feasible and vibrate the pile to break the bond between the sediment and pile to minimize the pile breakage and reduce sediment sloughing during removal.	✓		✓	
Cut the existing pile(s) at the mudline (where possible) to avoid sediment resuspension during extraction.	✓		✓	
To the extent that the work generates a sheen, complete in-water work within oil-absorbent booms to contain any surface sheens generated.	✓		✓	
In locations where sediment contaminants may be present at concentrations of concern and could potentially disperse, install a full-length, weighted turbidity curtain to surround the area of demolition, pile removal, and (as applicable) other bottom disturbing construction activities (e.g., pre-drilling slag for wharf pile installation, material placement for DMCF dike construction) to prevent sediment migration beyond the immediate work area, as determined by permit conditions.	✓		✓	
Prohibit direct discharge of any water or effluent that has been used for wash purposes or other similar operations, avoiding discharge of associated sand, silt, cement, oil, drilling fluid, and other substances into the river.	✓		✓	
Dispose of construction waste and demolition materials in an approved upland facility. Recycle materials to the extent practicable.	✓	✓	✓	✓

Table 5. Benefits of Potential Construction BMPs and Environmental Controls for Dredging and Dredged Material Transport, Handling, and Placement

Construction Activity	Resource Area Protection			
	Fish / Aquatic Life	Terrestrial Wildlife / Birds	Surface Water Quality	Upland / Community Resources
Dredge using mechanical methods that reduce localized turbidity and potential fish entrainment when compared to hydraulic methods.	✓		✓	

Construction Activity	Resource Area Protection			
	Fish / Aquatic Life	Terrestrial Wildlife / Birds	Surface Water Quality	Upland / Community Resources
Adhere to time-of-year restrictions for dredging operations (if / as determined by regulatory agencies) to avoid impacts on sensitive life stages of fish and other aquatic resources.	✓		✓	
Use an environmental-type bucket where feasible and where necessary based on sediment chemical data to minimize sediment release from the bucket while ascending through the water column.	✓		✓	
Implement operational controls during dredging, which may include: 1. Do not overfill the dredge bucket on each deployment to reduce release of sediment. 2. Control the ascent of the bucket in the water column to minimize incidental release while moving through the water column. 3. Control the descent of the bucket to minimize hard contact with the bottom and resuspension of sediment upon bucket contact. 4. Prohibit dragging of the dredge bucket along the sediment surface.	✓		✓	
Place dredged material in a barge or scow in a manner that maintains sufficient freeboard to eliminate the potential for material spilling from the barge during transport to the material offloading or placement area.	✓		✓	
Deploy a full-length weighted turbidity curtain with an oil-absorbent boom and enclose the dredging operation in areas where sediment contaminants may be present at concentrations of concern and may potentially disperse from immediate dredge area during dredging.	✓		✓	
Use watertight barges or sealed split-hulled scows for sediment transport to offloading or placement locations.	✓		✓	
Use surface water to slurry dredged material when needed for offloading / pumping to upland DMCFs in compliance with Water Appropriation Use Permit. Recycle slurry water to the maximum extent practicable.	✓		✓	

Construction Activity	Resource Area Protection			
	Fish / Aquatic Life	Terrestrial Wildlife / Birds	Surface Water Quality	Upland / Community Resources
Treat (if required) and discharge dredged material effluent to surface waters in compliance with NPDES permit requirements.	✓		✓	
Following completion of dredging for the wharf revetment, stabilize slopes with graded riprap (heavy stone) and concrete slabs to reduce the potential for slope erosion and subsequent sediment release into the water column.	✓		✓	
Provide landward slopes of the dredged areas with a protective layer (e.g., riprap) to prevent sloughing.	✓	✓	✓	

Table 6. Benefits of Potential Construction BMPs and Environmental Controls for Upland Construction Activities

Construction Activity	Resource Area Protection			
	Fish / Aquatic Life	Terrestrial Wildlife / Birds	Surface Water Quality	Upland / Community Resources
Site project components in upland areas already under industrial use to avoid impact on forested areas.		✓		✓
Implement a Spill Prevention, Control, and Countermeasures Plan.	✓	✓	✓	✓
Implement erosion and sediment controls under the Maryland NPDES Program and project permit.	✓	✓	✓	✓
Manage stormwater in accordance with project permits under the MDE General Discharge Permit.	✓	✓	✓	✓
Locate new storm drain outfalls to avoid direct discharge into sensitive habitats.	✓		✓	

3.3 Mitigation

Following public comment on the Draft EIS and additional investigations by TTT, a new alternative for dredged material placement was developed. This new alternative, the Preferred Alternative in this Final EIS, removed the proposed Coal Pier Channel DMCF, which eliminated the need for placement of dredged material in tidal waters. This change has eliminated federal mitigation requirements.

4. Affected Environment and Environmental Consequences

This chapter describes the affected environment and the environmental consequences that could result from implementing the No-action Alternative, Combined Options Alternative, and the Preferred Alternative for the SPCT project. The affected environment discussion for each resource precedes the impact analysis and describes the baseline conditions within the project area. The resources described in this chapter are sediment, floodplain and flood hazard, hydrodynamics, groundwater, surface water, benthic fauna, fish, essential fish habitat (EFH), aquatic special status species, vegetation / habitat, birds, aesthetics / viewshed, recreation, air quality, community noise, traffic, socioeconomics, and navigation. The discussion of impacts for each resource topic includes the potential environmental impacts (adverse or beneficial) of the alternatives, including direct, indirect, long-term, and short-term impacts. This chapter is organized by resource topic so that the alternatives can be compared to each other. The discussion of irreversible or irretrievable commitments of resources related to the proposed project is presented in Section 5.

The avoidance, minimization, and mitigation measures described in Section 3 are considered part of the Combined Options Alternative and the Preferred Alternative. Where appropriate, these measures for adverse impacts are also described and incorporated into the evaluation of impacts. The impact analyses and conclusions are generally based on a review of existing literature, studies, and research, information provided by subject matter experts, professional judgment, and public input.

4.1 Scope of the Analysis

To develop a full understanding of the environment in and around the SPCT project area and how the project may impact specific resources, existing information was reviewed, and additional field and desktop studies were conducted as needed in 2023 and 2024. This information established the baseline conditions for the physical environment, natural resources, community setting, and navigation. Results of this background research and recent field and desktop studies were evaluated in the context of potential construction methods and the Corps public interest review factors (described in Section 4.1.1). This preliminary review helped determine which natural and socioeconomic resources had the greatest potential to be affected by the proposed action, and therefore, should be analyzed in greater detail in this Final EIS.

4.1.1 Corps Public Interest Review Factors

Pursuant to 33 CFR Part 320.4(a)(1), the Corps considers specific factors before issuing a DA permit that may be of particular interest to the public. The decision to issue a DA permit is “based on an evaluation of the probable impacts of the proposed activity and its intended use in the public interest. Evaluation of the probable impact the proposed activity may have on the public interest requires careful weighing of all those factors relevant in each case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments.” Table 7 provides a list of the public interest review factors considered for inclusion in the resources analyzed for this Final EIS.

Table 7. Description of the Corps Public Interest Review Factors

Corps Public Interest Review Factor	Description of Factor
Flood hazard and floodplain	Changes to the floodplain that may occur from a proposed action are of public interest and must be evaluated for the proposed action. This factor considers the impacts of development in the floodplain, including flooding potential.
Land use	Projects are reviewed to consider if a significant change in land use is being proposed and what the impact of the change may be on the public.
Shore erosion and accretion	Erosion and accretion processes are considered during the project review. Accretion or erosion of shoreline areas has the potential to fill WOTUS and therefore has the potential to impact the public and use of public areas.
Water quality	Projects that may adversely affect the quality of WOTUS during the construction and subsequent operation of the proposed activity must be evaluated for compliance with applicable effluent limitations and water quality standards.
Wetlands	Wetlands constitute a valuable public resource, and any potential impacts must be weighed with the benefits of the proposed action during environmental review.
Water supply / conservation	Water supply is a critical public resource, and projects that use a significant amount of water or that significantly affect the availability of water for alternative uses must be reviewed to consider this factor.
Fish and wildlife values Special status species Waterfowl	The opinions of the USFWS, NMFS, and state agencies, as the lead agencies responsible for conservation of these resources, are considered when evaluating fish, wildlife, and waterfowl resources (including threatened and endangered species) during the review of the proposed action.
Economics	When a private enterprise applies for a permit, the Corps generally assumes that appropriate economic evaluations have been completed, the proposal is economically viable, and the proposal is needed in the marketplace. However, in select cases, the Corps may perform an independent review of the need for the project from the perspective of the overall public interest.
Aesthetics Historic properties Recreation	Projects should be reviewed to determine if they involve areas that possess recognized historic, cultural, scenic, conservation, recreational, or similar values. Full evaluation of the general public interest requires that due consideration be given to the effect that the proposed action may have on values.
Energy needs	Energy conservation and development are significant public (and national) interest areas. Projects with an energy development component are reviewed.
Safety	Projects must be reviewed in consideration of general public safety, both during construction and once the project is complete.
Navigation	Projects must be compliant with Section 10 of the Rivers and Harbors Act of 1899.
Food and fiber production	Projects proposing food or fiber production components or including activities that may impact existing food / fiber resources must be reviewed for the potential impact on the public, region, and existing industry.
Mineral needs	Projects proposing mineral use that may alter mineral supply must be reviewed for the potential impact of that use on the public and region.
Property ownership	Activities undertaken in the proposed action must be evaluated for any impact on property ownership, injury to property, or invasion of property rights.

4.1.2 Geographic Scope of the Analysis

The geographic scope of the analysis will vary for some resources, as the potential impact could be beyond the proposed project's footprint. The SPCT project area includes Coke Point, the Sparrows Point Channel out to the juncture with the Brewerton Channel (a federal navigation channel), the High Head Industrial Basin, and the area offshore the west side of Coke Point (Figure 9). Alternatives for dredged material placement outside of the SPCT project area are described in Sections 2.2.3.1 and 2.2.4.1 and pictured in Figure 3. Within individual resource topics, the study area for impact analysis could be the same as the SPCT project area or extend beyond the SPCT project area. For resource study areas that do not match the SPCT project area, the study area will be defined at the beginning of the resource topic.

> **SPCT project area** is Coke Point, the Sparrows Point Channel out to the juncture with the Brewerton Channel, the High Head Industrial Basin, and Coal Pier Channel.

4.1.3 Resources Analyzed

Resource topics for this proposed project have been identified based on federal laws, regulations, and orders; review of Corps Public Interest Review Factors; and knowledge of resources within the SPCT project area. Issues (resources) should be analyzed in detail if:

- There are potentially significant impacts on resources associated with the issue.
- The environmental impacts associated with the issue are central to the proposal or of critical importance.
- A detailed analysis of environmental impacts related to the issue is necessary to make a reasoned choice between alternatives.
- The environmental impacts associated with the issue are of particular concern among the public or other governmental agencies or are the source of controversy over the scope of potential impacts.

Impact topics that are being carried forward for further analysis are sediment, floodplain and flood hazard, hydrodynamics, groundwater, surface water, benthic fauna, fish, EFH, aquatic special status species, vegetation / habitat, birds, cultural resources, aesthetics / viewshed, recreation, air quality, community noise, traffic, socioeconomics, and navigation (including safety). A summary of the impacts of the alternatives on the resources is provided in Table 8.

4.1.4 Planned Actions and Environmental Trends

In addition to analyzing the impacts of the proposed project and alternatives, this analysis includes impacts on the human environment from reasonably foreseeable environmental trends and planned actions in the area. A description of planned actions and environmental trends is presented below.

4.1.4.1 Key Bridge Collapse and Debris Removal

On March 26, 2024, the 1.7-mile Key Bridge collapsed when the container ship Dali struck one of the piers of the bridge after losing power and steering while leaving the Port. The Key Bridge carried I-695 across the Patapsco River between Dundalk in Baltimore County and Hawkins Point in Baltimore City. The collapse closed the Port of Baltimore for 11 weeks, diverting marine shipping to other ports and slowing the movement of trains and trucks at the Port.

The impact caused the collapse of the main spans of the Key Bridge, sending large sections of the bridge deck and truss structure into the water, some of which settled into the sediments at the bottom of the Patapsco River. Debris removal efforts to clear the collapsed structure and other remnants of collapse and vessel collision from the main channel are complete. The Corps has reestablished the adjacent federal channel (Fort McHenry Channel) to its maintained dimensions (50 feet deep and 700 feet wide) (Corps 2024a). Removal efforts also included the removal of bridge debris outside the Fort McHenry Channel and the removal of the Dali vessel. MDTA used areas within the TPA property as the temporary sorting and processing facility for large debris (Corps 2024a).

4.1.4.2 Key Bridge Reconstruction

The Key Bridge served as a critical component of regional and interstate transportation in the Baltimore region with an annual daily traffic load of approximately 33,200 vehicles per day (MDTA 2024b). It also served as the primary interstate route for hazardous materials through the Baltimore area. As part of the proposed reconstruction of the Bridge, MDTA and the Maryland State Highway Administration will replace the Key Bridge within the collapsed structure's right-of-way extending from Quarantine Road in Hawkins Point, Baltimore City, through a small portion of Anne Arundel County and across to Broening Highway in Dundalk, Baltimore County. The proposed reconstruction does not include an increase of vehicle capacity compared to capacity of the former bridge and will be built to meet all current roadway, bridge design, and safety standards (MDTA 2024b). The bridge will be reconstructed to meet current and future vessel clearance requirements with a preliminary navigational clearance from the USCG as minimum vertical clearance of 230 feet above mean high water and a minimum horizontal clearance of 1,100 feet in the main navigational span of the bridge (MDTA 2024b). This vertical clearance is 45 feet higher than the original Key Bridge and accounts for the clearance of larger vessels. To obtain this higher vertical clearance, the bridge length will be 2.4 miles, as opposed to the original span, which was 1.7 miles (MDTA 2024b).

The reconstruction of the Key Bridge will also require the removal and demolition of the existing piers, girders, and span structures of the existing bridge, including the removal of piers below the mud line. Removal of bridge components both on land and in the water will be accomplished using explosives. Pre-construction activities for the Key Bridge began in January 2025; in-water construction is anticipated to begin in Fall 2025 and be completed by 2028.

> The **mud line** is the boundary or interface where the water and sediment meet, below which the riverbed or river bottom exists. For pier removal, equipment is used to cut the structure at or just below the mud line, allowing the visible portion of the pier to be removed while leaving the portion below the mud line undisturbed. This method can reduce environmental impacts by minimizing disturbance and resuspension of bottom sediments.

4.1.4.3 Corps and Maryland Port Administration Maintenance Dredging Activities

The Corps completes routine maintenance dredging to maintain authorized channel depths in the federal Baltimore Harbor Channels to support safe, reliable, and efficient waterborne transportation and commerce. Due to sedimentation, the Baltimore Harbor Channels typically require maintenance dredging every 2 to 5 years to maintain authorized channel depths (Corps 2017a). The channels closest to the SPCT project area are the Brewerton Channel and Brewerton Angle. The Brewerton Angle connects to the Fort McHenry Channel. The Brewerton Channel is approximately 3 nautical miles long with an authorized width of 700 feet wide, and an authorized depth of -50 feet MLLW. The Brewerton Angle is approximately 0.8 nautical miles long and has an authorized width of 700 feet and a depth of -50 feet MLLW (Corps 2017a). The watershed that contains the SPCT project area (hydrologic unit code [HUC] 12 020600031204) includes portions of the Brewerton Channel, Brewerton Angle, Fort McHenry Channel, and the Cox Creek DMCF. Between 2014 and 2024, all Corps-permitted dredging activities in this watershed resulted in the removal of 94,057 CY of dredged material.

The Baltimore Harbor Channels are typically dredged mechanically using a clamshell dredge. By state law, dredged material originating from channels within Baltimore Harbor (west of the North Point-Rock Point line at the mouth of the Patapsco River) must be placed in a confined manner. Maintenance dredged material from the federal Baltimore Harbor Channels and has been placed in either the Cox Creek or Masonville DMCF since 2012 (Corps 2017a). Dredged material is transported from the federal channels via barges to either the Cox Creek or Masonville DMCF where it is hydraulically offloaded into the DMCF. The sediments dredged from Baltimore Harbor have historically contained contaminants from industrial, municipal, and non-point sources, including heavy metals (Corps 2017a). However, due to the frequency of dredging of shoaled material from the federal channels, the quality of maintenance material from the federal channels is representative of watershed-based contaminant inputs from agriculture and stormwater and not from historical industrial practices.

4.1.4.4 Bear Creek Sediments, Superfund Project

The Bear Creek Sediments Superfund Site (Bear Creek Site) is located within Bear Creek, a tidal surface waterbody west of the Sparrows Point peninsula. The Bear Creek Site is relevant in that the Superfund project involves changes to sediment in an estuary of the Patapsco River.

The sediments in Bear Creek were impacted by past industrial activities, such as steelmaking and ship building, and the USEPA is proposing to clean up sediment to prevent exposure of the food chain and people to contaminated sediment and reduce the possibility that the contaminated sediment will move to other areas in Bear Creek. Concentrations of some metals, polychlorinated biphenyls (PCBs), and oil and grease in the Bear Creek Site are generally higher than those around Coke Point. The USEPA is seeking to clean up these substances (including PCBs and metals) and oil and grease in an approximate 60-acre area at the Bear Creek Site using a combination of dredging and capping technologies (TetraTech 2024). The USEPA proposes to dredge 30 acres with the highest concentrations and place an underwater cap over the entire 60 acres that comprise the Bear Creek Site. The USEPA estimates approximately 86,000 CY are to be dredged. The dewatering site will be placed on the northern yard of the Sparrows Point shipyard. Dredged sediments will be staged and dewatered and then disposed of at an offsite disposal facility. Dredging and capping is expected to take approximately 18 months with dredging anticipated to begin after the pre-design investigations and the remedial design are completed. Long-term impacts of the Superfund project are expected to be a net improvement for fish, aquatic organisms, wildlife, and people in and around the area. It is also expected to decrease contributions of contaminants in sediment from Bear Creek to other parts of the estuary, including the area around Coke Point.

4.1.4.5 Curtis Creek Navigation Channel Maintenance Dredging

The Corps completes routine maintenance dredging to maintain authorized channel depths in the Curtis Creek federal channel to support safe, reliable, and efficient waterborne transportation and commerce. The Curtis Creek Channel is scheduled for maintenance dredging to remove accumulated sedimentation in 2025. The Curtis Creek Channel is approximately 2 nautical miles long with an authorized width of

200 feet, and an authorized depth of 35 feet MLLW (Corps 2024b). The Curtis Creek Channel is not adjacent to SPCT but is located on the west side of the Patapsco River and is also within the Patapsco River watershed in Anne Arundel County. Curtis Creek channel is located in HUC 12 021309031008. Approximately 53 acres of the federal channel, turning basin, and vessel berths will be dredged to -28.75 feet MLW via mechanical clamshell dredging. It is anticipated that approximately 180,389 CY of dredged material will be removed from the channel, 273,508 CY removed from the turning basin, and 15,926 CY will be removed from the berths. Approximately 1.3 acres of the shiplift area are to be hydraulically dredged to -35.50 feet MLW. It is anticipated that approximately 9,294 CY of dredged material will be removed from the shiplift. All dredged material will be transported to and deposited at the Masonville or Cox Creek DMCF. It is anticipated that approximately a total of 479,117 CY of dredged material are to be removed from Curtis Creek Channel (Corps 2023). Any contaminants in the sediment from the Curtis Creek Channel would be expected to be similar to those discussed in Section 4.2.2.

The maintenance dredging of Curtis Creek will improve navigation access specifically for the nearby USCG facility. The Corps does not anticipate environmental consequences or impacts associated with the maintenance dredging of Curtis Creek Channel to be significant. Beneficial effects are expected to be more than minimal and permanent. The cumulative effect of the maintenance dredging is considered by the Corps to be limited due to the scope of the proposed project. Impacts associated include displacement of the benthic community, and a temporary change in water quality during construction. Maintenance dredging of Curtis Creek would not be expected to adversely affect tidal wetlands. There is no anticipated compensatory mitigation to be required within the geographic area and Patapsco River due to the temporary and insignificant impacts and consequences (Corps 2023).

4.1.4.6 Environmental Trends

Changing weather patterns are affecting sea level, the severity and frequency of storm events, and the probability of extreme heat. These fluctuating weather patterns also affect the resources described in this document.

4.1.5 Resources Not Subject to Detailed Consideration

Several issues were initially considered but were ultimately dismissed from detailed analysis. These dismissed issues are not potentially significant, are not critical to choosing among alternatives, or are not subject to concern from the public or governmental agencies. Additionally, some of the Corps Public Interest Review factors did not apply to the type of project being proposed and evaluated by this Final EIS. These issues are described in Appendix D, including the reason(s) why further analysis was not warranted.

Figure 9. SPCT Project Area

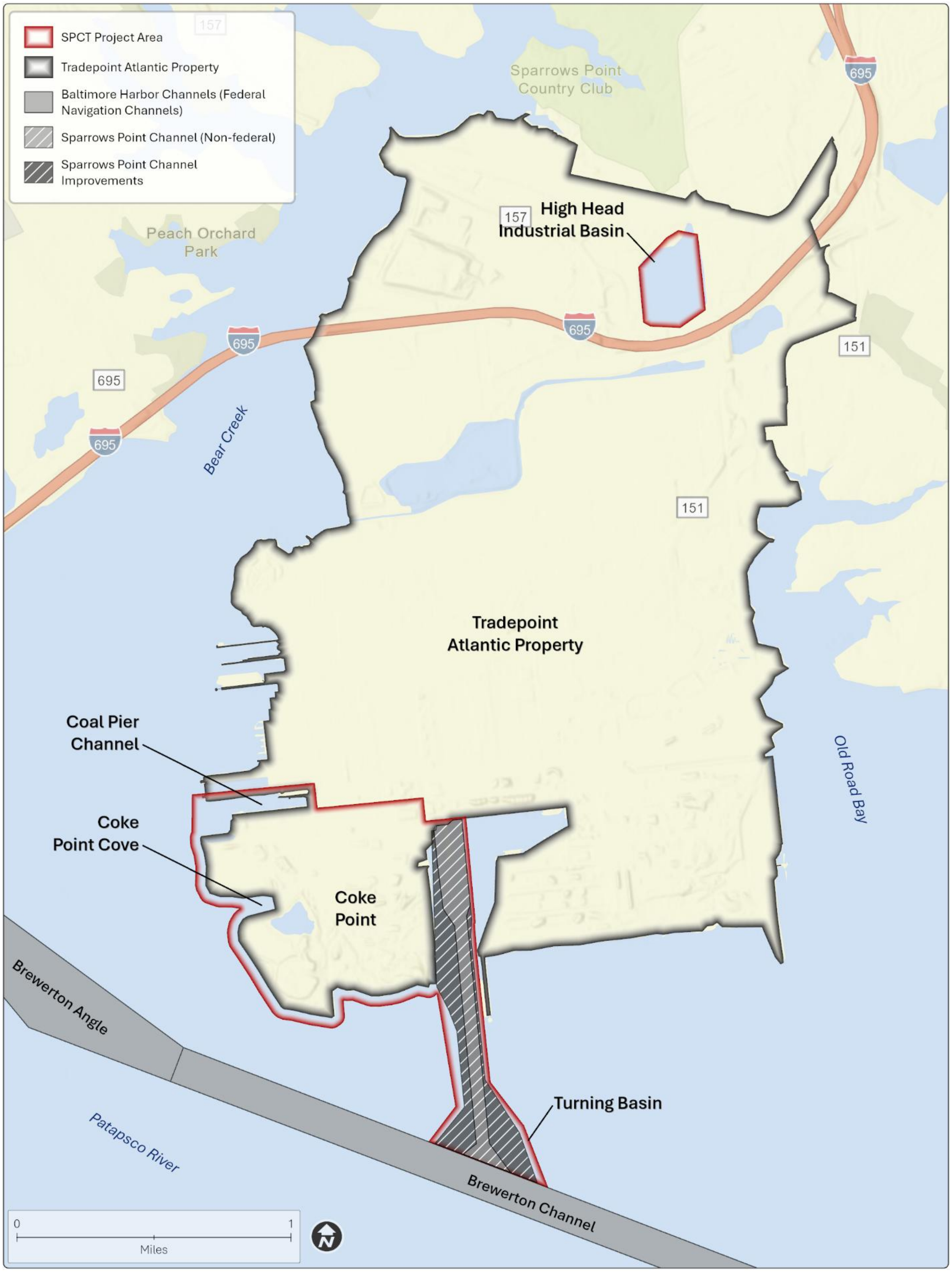


Table 8. Summary of the Potential Impacts from Implementing the Alternatives

This table presents a summary of the impacts from the No-action Alternative, the Combined Options Alternative, and the Preferred Alternative. The impacts from terminal development and channel improvements for the two action alternatives would be the same and are covered under Common to Both Action Alternatives; impacts from dredged material placement are discussed separately for the two action alternatives. The impacts are discussed in detail in the sections following this table.

Resource Topic	No-action Alternative	Common to Both Action Alternatives	Combined Options Alternative	Preferred Alternative
		Terminal Development and Channel Improvements	Dredged Material Placement	Dredged Material Placement
Sediment	Ongoing potential for ecological risk in offshore areas and limited human health risk from disturbance and resuspension of sediments during maintenance dredging, storm events, and vessel traffic.	Dredging would permanently remove sediments that include legacy contaminants. Removal of sediments would have a net improvement of surficial sediment conditions for aquatic life in the vicinity of the project area. Dredging and in-water construction activities may resuspend sediments, but the use of BMPs, where practicable, necessary, and feasible based on sediment chemistry and site conditions, would reduce these impacts, which are expected to be minimal.	*High Head Industrial Basin DMCF* – Placement of dredged material would encapsulate existing sediments with elevated contaminant concentrations. Installation of the temporary outfall and diffuser would have temporary impacts on the river bottom sediments. BMPs would reduce these impacts. *Coal Pier Channel DMCF* – Placement of dredged material would result in the loss of 19.6 acres of sediments that contain elevated concentrations of contaminants, which would be encapsulated, eliminating exposure pathways for aquatic life. Dredging of soft sediments containing elevated concentrations of metals and organic contaminants in the alignment of the exterior dike footprint prior to sand placement would minimize displacement and resuspension of sediments and the potential for creation of a mud wave during dike construction. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Placement of dredged material would encapsulate existing sediments with elevated contaminant concentrations. Installation of the temporary outfall and diffuser would have temporary impacts on the river bottom sediments. BMPs would reduce these impacts. *MPA DMCF – No new impact* *NODS – No new impact*
Floodplain and flood hazard	No impact. Potential future development of Coke Point would not require work in the floodplain beyond the routine maintenance dredging that is already occurring.	No impact.	*High Head Industrial Basin DMCF* – No impact; installation of the temporary outfall and diffuser would not impact the floodplain or create a flood hazard. *Coal Pier Channel DMCF* – Changes in water flow or pattern during flood events would be limited to areas within approximately 0.25 mile of the DMCF. The Coal Pier Channel DMCF would not impact the flood vulnerability of the surrounding communities. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – No impact; installation of the temporary outfall and diffuser would not impact the floodplain or create a flood hazard. *MPA DMCF – No new impact* *NODS – No new impact*
Hydrodynamics	No impact. Maintenance dredging of the Sparrows Point Channel would continue to retain the existing bathymetry, and potential future development of Coke Point would not affect hydrodynamics.	The expanded channel would increase the area with reduced current speed from 300 feet (existing channel width) to 450 feet (proposed channel width) compared to areas outside the channel. No impacts on currents outside of the channel.	*High Head Industrial Basin DMCF* – No impact; installation of the temporary outfall and diffuser would not impact the hydrodynamics in the Patapsco River. *Coal Pier Channel DMCF* –Coal Pier Channel DMCF would close off the mouth of the channel on the west side of Coke Point. The flood and ebb tidal currents in this area would continue unimpeded and would therefore not have an impact on the hydrodynamics of the Patapsco River. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – No impact; installation of the temporary outfall extension would not impact the hydrodynamics in the Patapsco River. *MPA DMCF – No new impact* *NODS – No new impact*

Resource Topic	No-action Alternative	Common to Both Action Alternatives	Combined Options Alternative	Preferred Alternative
		Terminal Development and Channel Improvements	**Dredged Material Placement**	**Dredged Material Placement**
Groundwater	Impacts from an increase in impervious surface, limiting water infiltration and resulting in lowering the groundwater surface elevation, decreasing groundwater flow, potentially decreasing or increasing the concentrations of groundwater contaminants but slowing their movement, and reducing the adverse impacts of contaminated groundwater, which are being managed through Resource Conservation and Recovery Act interim measures. No impact if the High Head Industrial Basin were to be filled with dry material.	Planned paving and buildings would result in 95% of Coke Point being impervious to infiltration; the impacts would be the same as described for the No-action Alternative.	*High Head Industrial Basin DMCF* – Placement of wet dredged material in the DMCF could temporarily increase the water level in the basin and compress the sediments currently at the base of the basin; however, the sediment would be contained within the DMCF footprint. Compaction of dredged material would decrease sediment permeability, reducing the movement of contaminants to groundwater. Due to the inland location and construction of the DMCF, there is no risk of contaminants within the basin moving from groundwater into surface water. *Coal Pier Channel DMCF* – Groundwater near the DMCF would flow around or under the compacted dredged material; however, the increased impervious surface on Coke Point would reduce the groundwater flux, consequently decreasing the volume of groundwater being diverted around the DMCF. Dredged material placement would compress underlying sediment, reducing permeability and contaminant mobility into groundwater in the long term. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Placement of wet dredged material in the DMCF could temporarily increase the water level in the basin and compress the sediments currently at the base of the basin; however, the sediment would be contained within the DMCF footprint. Compaction of dredged material would decrease sediment permeability, reducing the movement of contaminants to groundwater. Due to the inland location and construction of the DMCF, there is no risk of contaminants within the basin moving from groundwater into surface water. *MPA DMCF – No new impact* *NODS – No new impact*
Surface water	Ongoing potential for resuspension of contaminated surficial sediments into surface waters by natural physical processes, maintenance dredging, and vessel movements. Ongoing chemical inputs to surface water from watershed and agricultural practices, local and regional industrial and stormwater discharges, and groundwater.	In-water construction and dredging have the potential to resuspend sediments and contaminants into surface waters. The use of BMPs where practicable, necessary, and feasible based on sediment chemistry and site conditions would minimize these impacts. Impacts would be temporary, localized, reduced, and controlled through the use of BMPs. Removal of sediment with legacy contaminants as part of channel dredging would improve the quality of the sediment at the sediment-water interface and would have a permanent net improvement to surface waters in the vicinity of the project area. Furthermore, the concrete slabs used to cover the revetment would reduce the flow of contaminants from groundwater to surface water and would inhibit lateral contaminant plume migration. Construction of the terminal would increase the impervious surface area on the Coke Point peninsula; stormwater discharges from three new permitted outfalls on Coke Point would be incorporated into the regional stormwater plan for the Sparrows Point facility and would not be expected to adversely impact surface waters.	*High Head Industrial Basin DMCF* – Filling of the DMCF basin would eliminate its use for stormwater; stormwater inputs would be redirected and managed according to NPDES permit requirements. No impacts from the removal of the existing impounded water from the High Head Industrial Basin, use of surface waters for pumping and offloading of dredged material, and discharge of effluent from dewatering of the dredged materials would be expected; these actions would follow stipulations and conditions of a NPDES permit and a Water Appropriation and Use Permit issued by the MDE. Installation of the temporary outfall and diffuser would have the potential to disturb and resuspend sediment into surface waters. Placement and removal activities would be expected to require approximately 30 days each, and BMPs would be used to minimize resuspension of sediment into surface waters. *Coal Pier Channel DMCF* – In-water construction and placement of sand for exterior dike construction would have the potential to resuspend sediments. Pre-dredging of the exterior dike alignment and the use of BMPs where practicable, necessary, and feasible based on sediment chemistry and site conditions would minimize these impacts. No impacts from the use of surface waters for pumping and offloading of dredged material and discharge of effluent from dewatering of the dredged materials would be expected; these actions would follow stipulations and conditions of a NPDES permit and a Water Appropriation and Use Permit issued by the MDE. Encapsulation of approximately 19.6 acres of impacted sediments at the sediment-water interface would provide net improvement to surface waters in the vicinity of the project area. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Filling of the DMCF basin would eliminate its use for stormwater; stormwater inputs would be redirected and managed according to NPDES permit requirements. No impacts from the removal of the existing impounded water from the High Head Industrial Basin, use of surface waters for pumping and offloading of dredged material, and discharge of effluent from dewatering of the dredged materials would be expected; these actions would follow stipulations and conditions of a NPDES permit and a Water Appropriation and Use Permit issued by the MDE. Installation of the temporary outfall and diffuser would have the potential to disturb and resuspend sediment into surface waters. Placement and removal activities for the diffuser would be expected to require approximately 30 days each, and BMPs would be used to minimize resuspension of sediment and contaminants to surface waters. *MPA DMCF – No new impact* *NODS – No new impact*

Resource Topic	No-action Alternative	Common to Both Action Alternatives	Combined Options Alternative	Preferred Alternative
		Terminal Development and Channel Improvements	Dredged Material Placement	Dredged Material Placement
Benthic fauna	Continued impacts from existing sediment and water quality conditions. Continued impacts from maintenance dredging with community recovery after dredging. Permanent loss of benthic community if the High Head Industrial Basin were to be filled and developed.	Channel dredging would impact benthic organisms, causing mortality for any non-mobile organisms in or on the sediments and could create temporary water column turbidity that could affect filter-feeding species. Benthic organism communities would recover after dredging events (including the ongoing maintenance dredging), but the increased deepwater habitat could change the type of species present after dredging. New open water habitat would be created by excavation for the wharf, but the wharf would shade 8.6 acres of open water, resulting in aquatic habitat that may be less capable of supporting a diverse benthic community. Installation of pilings would result in mortality of any benthic organisms present in that footprint and a permanent loss of 0.2 acre of available bottom benthic habitat.	*High Head Industrial Basin DMCF* – High Head Industrial Basin is not managed to support aquatic habitat; however, approximately 40 acres of benthic habitat and any benthic organisms present in the basin would be permanently lost. Installation of the temporary outfall and diffuser would impact the benthic habitat and organisms directly beneath the pipeline alignment and in adjacent disturbed areas. The outfall extension would be anchored to the river bottom. Once dewatering is completed, the feeder line and diffuser would be removed, and benthic organisms would be expected to recolonize the pipeline footprint. *Coal Pier Channel DMCF* – Placement of dredged material would result in burial and permanent loss of the existing benthic communities and 19.6 acres of degraded bottom habitat. Standard BMPs would minimize sediment resuspension during dike construction and the potential for benthic organism burial outside the dike footprint. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – High Head Industrial Basin is not managed to support aquatic habitat; however, approximately 40 acres of benthic habitat and any benthic organisms present in the basin would be permanently lost. Installation of the temporary outfall and diffuser would impact the benthic habitat and organisms directly beneath the pipeline alignment and in adjacent disturbed areas. The outfall extension would be anchored to the river bottom. Once dewatering is completed, the feeder line and diffuser would be removed, and benthic organisms would be expected to return to the pipeline footprint. *MPA DMCF – No new impact* *NODS – No new impact*
Fish	Continued impacts from existing historical sediment contamination. Continued temporary impacts during maintenance dredging from disturbance and loss of invertebrate prey species. Permanent loss of approximately 40 acres of aquatic habitat and the associated fish community if the High Head Industrial Basin were to be filled.	Dredging for the deepening and widening of the Sparrows Point Channel could result in different life stages of fish species being caught in dredging equipment, resuspended sediment (increasing turbidity) and habitat alteration impacting fish, especially eggs and larvae. Underwater noise from pile driving could impact fish through physical injury near the project area and behavioral disturbances for fish within the Patapsco River. TTT would continue to coordinate with NMFS on monitoring underwater sound during pile driving and on the implementation of BMPs (sound attenuation measures), as necessary, to reduce impacts to aquatic resources and maintain a zone of safe fish passage in the Patapsco River. Increased vessel traffic (additional 10 vessels at a time during construction and 500 container vessels per year during operation) would continue to affect fish through disturbance from noise and physical disturbance of habitat conditions.	*High Head Industrial Basin DMCF* – High Head Industrial Basin is not managed to support aquatic habitat; however, approximately 40 acres of aquatic habitat and any fish present in the basin (two species were found during sampling) would be permanently lost. Installation of the temporary outfall and diffuser could impact fish in the immediate vicinity through loss of a food source (benthic habitat) and disturbance from construction activity, causing fish to move out of the area. These impacts on fish would be localized and temporary, with benthic habitat returning after removal of the temporary pipeline. *Coal Pier Channel DMCF* – Placed material could cause temporary turbidity impacts; fish within the offshore DMCF footprint would be displaced, would experience increased vessel traffic and habitat alteration, and could be trapped or buried within the dike alignments, especially eggs and larvae. The Coal Pier DMCF footprint does not provide high-quality habitat for benthic organisms or fish species due to historical sediment contamination and represents only a small portion of bottom habitat available to fish. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – High Head Industrial Basin is not managed to support aquatic habitat; however, approximately 40 acres of aquatic habitat and any fish present in the basin (two species were found during sampling) would be permanently lost. Installation of the temporary outfall and diffuser could impact fish in the immediate vicinity through loss of a food source (benthic habitat) and disturbance from construction activity, causing fish to move out of the area. These impacts on fish would be localized and temporary, with benthic habitat returning after removal of the temporary pipeline. *MPA DMCF* – No new impact *NODS* – No new impact
Essential fish habitat (EFH)	Continued impacts from existing conditions, including maintenance dredging, loss of invertebrate prey species, and historical sediment contamination. No impact at High Head Industrial Basin.	Dredging impacts on juvenile and adult EFH species would be short-term; eggs and larvae present in the project area would be permanently lost. Terminal development would impact EFH habitat and species with increased underwater noise, vessel traffic, turbidity, and habitat alteration (as discussed above for fish).	*High Head Industrial Basin DMCF* – Impacts on EFH species from installation of the temporary outfall and diffuser would be the same as those described for fish. *Coal Pier Channel DMCF* – Habitat within the DMCF footprint would be permanently lost. EFH species within the footprint of the DMCF would be displaced due to increased turbidity, which could disrupt foraging behaviors. EFH species could be trapped as material is placed, especially eggs and larvae. The Coal Pier DMCF footprint represents only a small portion of bottom habitat available to EFH species; therefore, permanently filling the Coal Pier Channel, which does not provide high-quality habitat for EFH species due to sediment contamination, would have only localized impacts on EFH species. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Impacts on EFH species from installation of the temporary outfall and diffuser would be the same as those described for fish. *MPA DMCF* – No new impact *NODS* – No new impact

Resource Topic	No-action Alternative	Common to Both Action Alternatives	Combined Options Alternative	Preferred Alternative
		Terminal Development and Channel Improvements	Dredged Material Placement	Dredged Material Placement
Aquatic special status species	Continued impacts from existing conditions, including maintenance dredging, and existing contaminated sediments. No impact at High Head Industrial Basin.	The impacts of noise and increased turbidity on aquatic special status species would be the same as impacts on fish species (as discussed in the Fish section). Increased vessel traffic from construction and operation of the terminal would cause a minor increase in the risk of striking special status species such as sturgeon and sea turtles; for sea turtles, the risk would increase for vessels traveling between the site and the lower Chesapeake Bay, but this would be negligible since the routes are already highly trafficked. Bottlenose dolphins would likely be transient in this portion of the river. Modeling indicates that dolphins could be impacted from underwater noise generated during vibratory driving of piles and during vibratory removal/ demolition of in-water structures TTT would work with the NOAA Office of Protected Resources to refine inputs to the underwater model, to assess sound attenuation measures, and to develop monitoring plans to comply with the requirements of the MMPA.	*High Head Industrial Basin DMCF* – Impacts on ESA species from installation of the temporary outfall and diffuser would be the same as those described for fish. *Coal Pier Channel DMCF* – The impacts of construction, increased vessel traffic, and habitat alteration on aquatic special-status species would be the same as impacts on fish species (as discussed in the Fish section). Sturgeon and special status fish species could suffer behavioral and physiological effects from increased turbidity, but the turbidity increase would be temporary, localized, and controlled, and the mobile life stages could move away from the construction area. The more isolated location of the Coal Pier DMCF would be unlikely to be utilized by sturgeon or dolphins, as they utilize open reaches of rivers with faster flowing water. *MPA DMCF* – No impact. *NODS* – The impacts would be limited to the risk of strike of special status species from barge transit from SPCT to the NODS, but the increase in risk is negligible given the vessel traffic already present.	*High Head Industrial Basin DMCF* – Impacts on aquatic special status species from installation of the temporary outfall and diffuser would be the same as those described for fish. *MPA DMCF* – No new impact *NODS* – The impacts would be limited to the risk of strike of special status species from barge transit from SPCT to the NODS, but the increase in risk is negligible given the vessel traffic already present.
Vegetation / habitat	Minimal adverse impacts from potential future development of Coke Point and High Head Industrial Basin.	Development of the terminal would require the removal of all terrestrial vegetation in the project area, which would result in minimal adverse impacts.	*High Head Industrial Basin DMCF* – Construction of the High Head Industrial Basin DMCF would remove approximately 11.2 acres of riparian, shrub, and forested habitat, resulting in adverse impacts on vegetation and habitat; however, this habitat is not unique and is impacted by past industrial uses. Given the abundance of riparian, shrub, and forested habitat in the area, impacts would be minimal. Installation of a temporary discharge pipe to an outfall and diffuser would be routed over land to the west side of the shipyard, an industrial area with minimal vegetation of poor quality. *Coal Pier Channel DMCF* – No additional impact beyond those described for terminal development. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Construction of the High Head Industrial Basin DMCF would remove approximately 11.2 acres of riparian, shrub, and forested habitat, resulting in adverse impacts on vegetation and habitat; however, this habitat is not unique and is impacted by past industrial uses. Given the abundance of riparian, shrub, and forested habitat in the area, impacts would be minimal. Installation of a temporary discharge pipe to an outfall would be routed over land to the west side of the shipyard, an industrial area with minimal vegetation of poor quality. *MPA DMCF* – No new impact. *NODS* – No new impact.
Birds	Continued impacts from existing conditions, including industrial activities, maintenance dredging, buildings, and artificial lighting. Potential impacts from degraded habitat removal during future development of Coke Point and High Head Industrial Basin.	Construction would impact local bird populations due to the noise and loss of habitat on Coke Point. Habitat loss would be minimal, and disturbance from construction noise would be temporary. Increased turbidity from dredging could temporarily impact foraging sea birds. Although terminal operations could impact birds by increasing vessel traffic and constructing new buildings and structures, these conditions would be similar to existing conditions and would have a minimal impact on birds. New artificial lighting would increase light pollution and could adversely affect bird behavior, but impacts from new lighting would be minimal given the existing nighttime light intensities.	*High Head Industrial Basin DMCF* – Construction of the DMCF would remove approximately 11.2 acres of terrestrial habitat and permanently remove approximately 40 acres of aquatic habitat and 1 linear mile of riparian habitat along the edge of the basin. This habitat is not unique and is impacted by past industrial uses, but the change from aquatic habitat to upland would exclude birds that use the aquatic and riparian habitats. Construction and dredged material placement activities would likely displace upland birds from the site for approximately 3 years. The site could be used by upland birds following construction. *Coal Pier Channel DMCF* – Construction of the DMCF would cause a minor reduction in the aquatic habitat available for loafing and foraging; however, the offshore DMCF area is not heavily used by birds, and there is extensive area available adjacent to the DMCF footprint. The Coal Pier Channel DMCF would cause small, localized impacts on bird communities that use the area. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Construction of the DMCF would remove approximately 11.2 acres of terrestrial habitat and permanently remove approximately 40 acres of aquatic habitat and 1 linear mile of riparian habitat along the edge of the basin. This habitat is not unique and is impacted by past industrial uses, but the change from aquatic habitat to upland would exclude birds that use the aquatic and riparian habitats. Construction and dredged material placement activities would likely displace upland birds from the site for approximately 3 years. The site could be used by upland birds following construction. *MPA DMCF* – No new impact. *NODS* – No new impact.

Resource Topic	No-action Alternative	Common to Both Action Alternatives Terminal Development and Channel Improvements	Combined Options Alternative Dredged Material Placement	Preferred Alternative Dredged Material Placement
Aesthetics / viewshed	Continued impacts from existing conditions, including routine operations. Potential future development of Coke Point and High Head Industrial Basin would be consistent with existing conditions.	Terminal development would result in temporary and permanent visual changes, including the increase of shoreline development, shipping container storage, and mast lights. However, most of these would not be a substantial change from existing aesthetics. The grouping of up to 9 ship-to-shore cranes would have a moderate scale contrast and spatial dominance in the foreground view for boaters, the middleground view for some residents of Baltimore County, and the background view for shore viewers in Anne Arundel County and from Fort Howard Park; the scale contrast is not projected to be noteworthy for boaters given the transient nature of the view from boats and existing low visual quality.	*High Head Industrial Basin DMCF* – Construction of the DMCF would not produce significant changes in aesthetics and viewshed, having limited visibility and being similar in scale to a nearby building. *Coal Pier Channel DMCF* – The newly constructed DMCF would be visible to viewers west of the project and boaters, but the visual impact would be minimal, being similar in scale to existing structures. The DMCF could also increase noticeable light, but given the distance from the communities, impacts would be minimal. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Construction of the DMCF would not produce significant changes in aesthetics and viewshed, having limited visibility and being similar in scale to a nearby building. The 10-foot increase in height, when compared to the Combined Option Alternative, would still only be about 30 feet above grade. *MPA DMCF* – No new impact. *NODS* – No new impact.
Recreation	Boating activities near the channel would continue to be temporarily affected by commercial operations and maintenance dredging of the Sparrows Point Channel. Potential future development of Coke Point would not have an impact on water-based recreation.	Terminal development and periodic maintenance dredging would temporarily impact recreational activities. Exclusion zones during construction and dredging activities would have minor impacts on recreational boating. In-water activities could increase turbidity and impact localized fishing, but subsistence fishing in license-free fishing areas would not be impacted.	*High Head Industrial Basin DMCF* – Installation of the temporary outfall and diffuser in the Patapsco River may require a temporary exclusion zone, resulting in very localized and short-term impacts on recreational activities in the river. Placement and removal activities are expected to require than 30 days each. *Coal Pier Channel DMCF* – During construction of the DMCF, an exclusion zone would impact recreational boating along the western shore of Coke Point, but impacts would be localized and temporary. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Installation of the temporary outfall / diffuser in the Patapsco River may require a temporary exclusion zone, resulting in very localized and short-term impacts on recreational activities in the river. *MPA DMCF* – No new impact. *NODS* – No new impact.
Air quality	Continued vessel use of auxiliary engines at other ports on the east coast of the United States and use of diesel cargo handling equipment would continue to generate emissions. If Coke Point or High Head Industrial Basin were further developed, there would be short-term air quality impacts associated with construction activities.	Emissions would be generated primarily during the construction and cleanup phases by sources such as construction and demolition equipment and transport vehicles. During operation, the terminal would be partially electrified, and the use of shore power would significantly reduce emissions from ships at berth.	*High Head Industrial Basin DMCF* – Emissions would be generated during construction of the DMCF and placement of dredged material; emissions would be limited to 7 months for construction and 3 years for dredged material placement. *Coal Pier Channel DMCF* – Emissions would be generated during construction of the DMCF and placement of dredged material; emissions would be limited to 7 months for construction and 2 to 3 years for dredged material placement. *MPA DMCF* – Emissions would be generated during transport of dredged material to the MPA DMCFs, but this impact would be intermittent and limited to 4 years. *NODS* – Emissions would be generated during transport of dredged material to the NODS via scows, but this impact would be limited to 2 years.	*High Head Industrial Basin DMCF* – Emissions would be generated during construction of the DMCF and placement of dredged material; emissions would be limited to 7 months for construction and 3 years for dredged material placement. *MPA DMCF* – Emissions would be generated during transport of dredged material to the MPA DMCFs, but this impact would be intermittent and limited to 4 years. *NODS* – Emissions would be generated during transport of dredged material to the NODS via scows, but this impact would be limited to 2 years.
Community noise	No new impacts. Noise levels from periodic maintenance dredging and potential future development of Coke Point and High Head Industrial Basin would attenuate to acceptable residential levels at the closest residences. No nighttime noise would occur.	Peak sustained and periodic noise levels for both construction and operations would attenuate to acceptable residential levels at the closest residences, with no impact in most atmospheric conditions. Under less typical atmospheric conditions, periodic and nighttime construction and operational activities could produce noise that would be noticeable to waterfront areas in Turner Station and northern Anne Arundel County.	*High Head Industrial Basin DMCF* – Sustained daytime noise from constructing the DMCF would attenuate to acceptable levels. There would be no periodic daytime or nighttime noise impacts from construction or dredged material placement. *Coal Pier Channel DMCF* – Sustained daytime noise impacts from the construction of the DMCF would attenuate to acceptable levels. There would be no periodic daytime or nighttime noise impacts from construction or dredged material placement. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Sustained daytime noise from constructing the DMCF would attenuate to acceptable levels. There would be no periodic daytime or nighttime noise impacts from construction or dredged material placement. *MPA DMCF* – No new impact. *NODS* – No new impact.

Resource Topic	No-action Alternative	Common to Both Action Alternatives Terminal Development and Channel Improvements	Combined Options Alternative Dredged Material Placement	Preferred Alternative Dredged Material Placement
Socioeconomics	Not quantified due to uncertainty about future activities in the area; no impacts on commercial fishing would occur.	Terminal development and operation would create jobs and county and state tax revenue. Construction activities would take just under 3 years to complete and would generate about 1,090 job-years of employment (or an equivalent of about 363 average annual jobs over 3 years), labor income of about $80 million, industry output of about $202.7 million, and an estimated $3 million in county and $6.1 million in state tax revenues. Terminal operations would generate about 1,050 direct jobs and 518 indirect and induced jobs in the local region, generating about $102 million in labor income and $194 million in industry output annually. The jobs would generate more than $3 million in annual county and $6 million in annual state tax revenues. The new jobs would not significantly impact the economic structure or the socio-demographics of the region. Overall, this alternative would generate about 1,200 job-years of employment, $222 million in industry output, and about $3.2 million in county and $6.7 million in state tax revenue. Although the jobs could reduce unemployment and increase incomes, they would only be a small percentage of total employment, and the effect would not be significant. Dredging, terminal construction, and terminal operation would not impact commercial fishing.	*High Head Industrial Basin DMCF and Coal Pier Channel DMCF* – The construction of both DMCFs would take about 27 months of labor activity, creating 109 job-years of employment (about 48 average annual jobs), generating approximately $8 million in labor income, $19 million in industry output, and $252,000 in county and $536,000 in state taxes. High Head Industrial Basin DMCF construction would not impact commercial fishing. Construction of and dredged material placement in the Coal Pier Channel DMCF would not have significant impacts on commercial fishing. Although construction noise could deter fish use of the area for 2 to 3 years, construction would be unlikely to limit vessel activity, and the DMCF would not spatially overlap with pound net activities. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – The construction of the DMCF would take about 27 months of labor activity, creating 109 job-years of employment (about 48 average annual jobs), generating approximately $8 million in labor income, $19 million in industry output, and $252,000 in county and $536,000 in state taxes. High Head Industrial Basin DMCF construction would not impact commercial fishing. *MPA DMCF* – No new impact. *NODS* – No new impact.
Traffic	Future development of the TPA property would have limited effects on local traffic. Traffic levels on local roads would remain within the capacity of the local roadways.	During construction activities, traffic would increase on local roads during peak hours with an additional 517 trips in the mornings and the same amount in the evenings. These traffic increases are well below the capacity of the local roads.	*High Head Industrial Basin DMCF* – Construction of High Head DMCF would result in a small increase in local traffic would not be noticeable given the traffic volume on local roads. *Coal Pier Channel DMCF* – Construction of the DMCF would impact traffic only in areas from which different work vessels depart to construct the DMCF. Traffic near the project area would not be impacted. *MPA DMCF* – No new impact. *NODS* – No new impact.	*High Head Industrial Basin DMCF* – Construction of High Head DMCF would result in a small increase in local traffic would not be noticeable given the traffic volume on local roads. *MPA DMCF* – No new impact. *NODS* – No new impact.
Navigation	Vessel traffic would continue under existing conditions. Ro-Ro operations would likely be expanded onto Coke Point, increasing the number of Ro-Ro vessels using the Brewerton Channel, a federal navigation channel, and the Sparrows Point Channel, a non-federal channel.	Dredging of the Sparrows Point Channel would only impact the Brewerton Channel during dredging for the proposed turning basin, where the two channels meet, over one construction year, lasting about seven months. Coordination with the US Coast Guard would occur in compliance with the required dredging permit conditions and stipulations included in the Section 408 permission. Following construction, the proposed terminal would receive approximately 500 vessels per year, of which 150 vessels would be new to the Port, resulting in an average of three additional vessels per week navigating the Brewerton Channel to enter the Sparrows Point Channel. Container vessels would represent a new vessel type using this area but would navigate through the Brewerton Channel, turning basin, and Sparrows Point Channel in the same way as the existing Ro-Ro vessels currently operate.	*High Head Industrial Basin DMCF* – No new impacts. *Coal Pier Channel DMCF* – Increased boat traffic for construction of the DMCF would occur outside the Brewerton Channel. A temporary exclusion zone during construction would be located outside the Brewerton Channel and would not impact navigation. Vessels outside the Brewerton Channel would need to navigate around the exclusion zone, which could temporarily alter their routes around the western shore of Coke Point. Dredged material transport from the Sparrows Point Channel to the DMCF would occur outside the Brewerton Channel and would have no impact on navigation. Dredged material placement would occur over 2 to 3 construction years. *MPA DMCF* – The transport of dredged materials to the DMCFs would require transport vessels to cross the Brewerton Channel. Impacts on navigation would be temporary and limited through coordination with the Corps and the US Coast Guard. *NODS* – Transport of the dredged material to NODS would require transport vessels to use the Chesapeake Bay navigational channel system for approximately 152 nautical miles. Approximately 262 scow trips would be needed over 291 operational days, split across two dredging seasons. Impacts on navigation would be temporary and limited through coordination with the Corps and the US Coast Guard.	*High Head Industrial Basin DMCF* – *MPA DMCF* – The transport of dredged materials to the DMCFs would require transport vessels to cross the Brewerton Channel. Impacts on navigation would be temporary and limited through coordination with the Corps and the US Coast Guard. *NODS* – Transport of the dredged material to NODS would require transport vessels to use the Chesapeake Bay navigational channel system for approximately 152 nautical miles. Approximately 262 scow trips would be needed over 291 operational days, split across two dredging seasons. Impacts on navigation would be temporary and limited through coordination with the Corps and the US Coast Guard.

4.2 Sediment

Sediment consists of particulate matter that has settled to the bottom of a water body. Sediment provides a substrate and food resource for benthic organisms and other wildlife, and people may come into contact with sediment while swimming, fishing, or working in shallow water areas. Sediment serves as a repository for materials and chemical constituents that enter waterways, including nutrients from agricultural practices, chemical constituents from industrial processes and discharges, and stormwater runoff. Sediments may be redistributed from the bottom of a water body back to surface water if storms, fish and wildlife activity, or human activities disturb bottom sediments.

Sediments are described by physical and chemical properties. The site-specific physical and chemical characteristics of sediment are used to determine the quality of the sediment with respect to suitability for supporting aquatic life and for determining placement options for dredged sediments. The quality of surface sediment is used to assess potential impacts on aquatic life, and the quality of the entire column of sediment to be dredged (both surface and sub-surface sediment) is used to assess potential impacts related to sediment disturbance / dredging and to identify appropriate placement options for dredged material.

4.2.1 Affected Environment

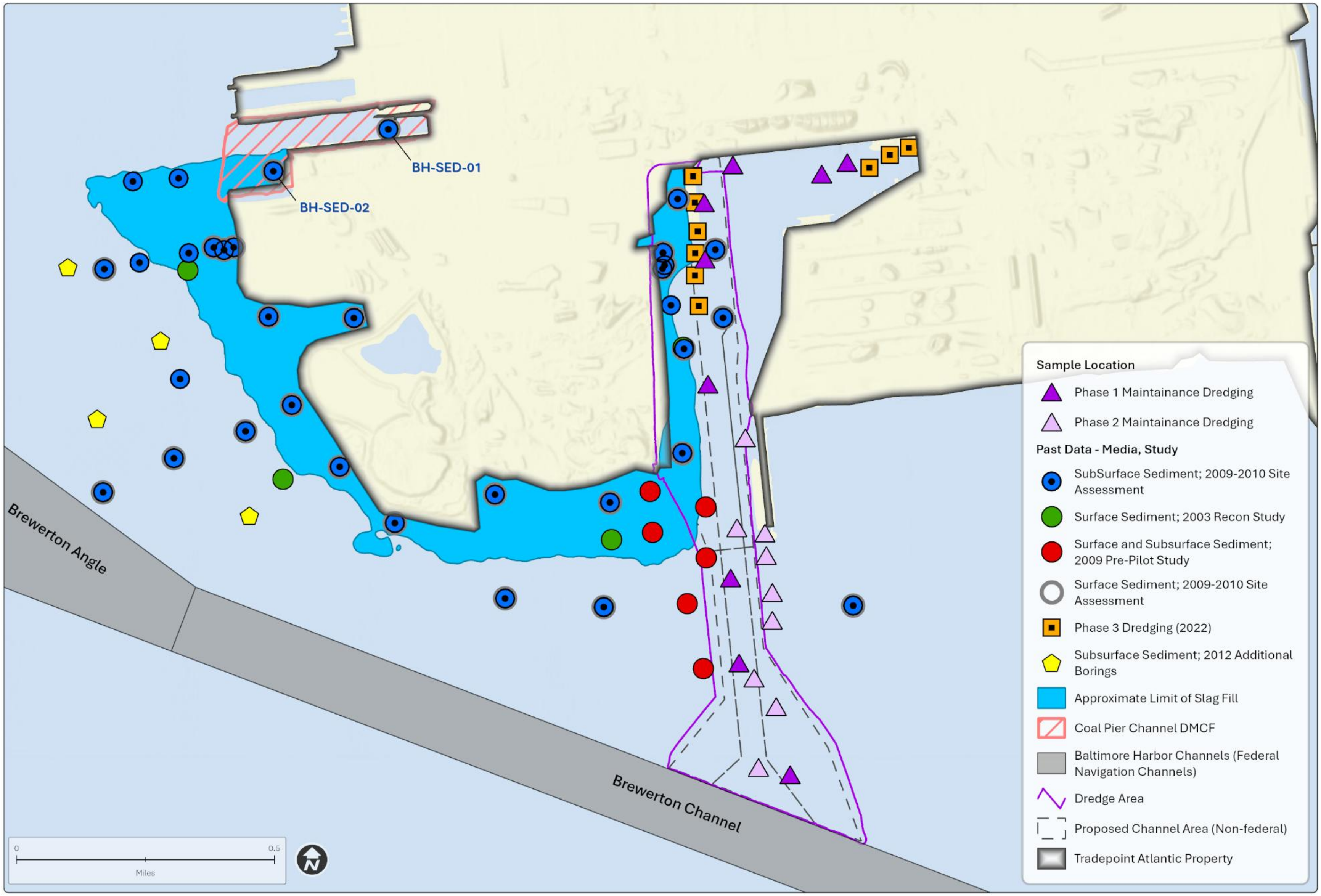
Sediments that could be affected by the SPCT project are sediments in the Patapsco River around Coke Point, including sediments in and adjacent to the existing Sparrows Point Channel where dredging would occur, sediments on the west side of Coke Point in the area proposed for construction of the Coal Pier Channel DMCF (under the Combined Options Alternative), and sediments present in the High Head Industrial Basin. Characterization of sediments in this section is based on both historical data and physical and chemical data collected specifically for this project.

Summary of Sediment Studies

Past Studies – Sediments immediately offshore of Coke Point have been the subject of numerous past investigations (EA 2003, 2009, 2010a, 2010b, 2011). Figure 10 shows historical sampling locations from previous offshore sediment studies conducted from 2003 through 2011.

Prior to purchase by TPA, MPA conducted due diligence / site assessment studies between 2009 and 2011with the intent to purchase the property for development of a DMCF that would use existing upland area and extend offshore west side of Coke Point. The due diligence / site assessment studies included an investigation of the distribution of contaminants in the upland soils and groundwater, as well as in the offshore sediments (EA 2009, 2010a, 2010b). The offshore investigations included both surface and sub-surface sediments, focused on the west side of Coke Point where the proposed DMCF would be located and also included sediments on the south side of Coke Point to assist with the identification of potential habitat improvement areas. A pre-pilot sediment characterization study evaluated horizontal and vertical delineation of impacts on the offshore sediments and identified potential constituents of concern in areas that were targeted for dredging as part of the proposed DMCF project (EA 2010a). The studies of offshore sediment identified elevated concentrations of metals, semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), and PCBs. Generally, concentrations of contaminants were highest in the surficial sediments and decreased with depth below sediment surface and in areas further away from the Coke Point shoreline.

Figure 10. Historical Sampling Locations from Previous Sediment Studies (2003 through 2011) and Slag Limits



The chemical data for the surficial offshore sediments in combination with water quality, fish and crab tissue, benthic community, and clam and worm tissue bioaccumulation data were used for the preparation of an ecological and human health risk assessment (EA 2011). The risk assessment work plan and results were reviewed extensively by both USEPA Region 3 and MDE, and the results identified several offshore areas with impacted sediments on the west and south side of Coke Point contributing to elevated risk for human health and ecological communities.

Other past studies relevant to the quality of sediments in the proposed channel improvements footprint include recent geotechnical investigations (Kozera 2023), maintenance dredged material characterizations for the existing Sparrows Point Channel (Robert Balter Company 2018, 2019; EA 2022), and past characterization of maintenance material for the Brewerton Channel (EA 2014, 2020).

Sediment Studies to Support Assessment of Aquatic Resources – Surficial sediment quality was evaluated as a component of the summer aquatic resource surveys that were performed for the SPCT project area (EA 2024a). Sediment quality samples were co-located with the benthic community assessment locations (Section 4.7; Figure 11). Samples were tested for physical properties and a full suite of chemical constituents, including metals, PCBs, PAHs, pesticides, dioxin and furans, and nutrients. Concentrations of chemical constituents were compared to sediment quality guidelines (SQGs) for aquatic life, specifically Threshold Effects Levels (TELs) and Probable Effects Levels (PELs) (Long et al. 1998, Long et al. 1995, MacDonald et al. 1996). TELs typically represent concentrations below which adverse biological effects are rarely observed, while PELs typically represent concentrations above which effects are more frequently observed. Concentrations that are between the TEL and PEL represent the concentrations at which adverse biological effects occasionally occur.

Sediment Quality Guidelines (SQGs) are numerical benchmarks used to assess the potential impact of sediment-bound contaminants on aquatic life. These guidelines help in evaluating whether concentrations of specific chemicals in sediment could be harmful to organisms living in or on the surface of sediments. SQGs are typically derived from compilation of multiple laboratory toxicity studies and field studies.

The **Threshold Effects Level (TEL)** is the concentration below which adverse biological effects on aquatic life are rarely observed. Sediment concentrations at or below the TEL suggest a low risk of adverse effects to aquatic species.

The **Probable Effects Level (PEL)** is the concentration above which effects on aquatic are more frequently observed. It represents a threshold where there is a higher probability that exposure to sediment contaminants may result in adverse effects to aquatic species.

Dredging units (DUs) are used to delineate and characterize sediments within a proposed dredging area. The sediments within each DU are sampled and tested separately for physical, chemical, and biological properties. Based on the results of the testing, the volume (cubic yards) of material from each DU can be managed separately with respect to feasible disposal options and BMPs that may be required.

Sediment Studies to Support Coal Pier Channel Dike Alignment Design – In combination with geotechnical investigations to support the construction of the exterior dike at the entrance to the proposed Coal Pier Channel DMCF, sediment samples were collected to assess the quality of the overburden material in the dike alignment footprint that would require dredging prior to the placement of fill to construct the exterior dike (EA 2025a). Two composite samples were created using sediment collected at six locations in the exterior dike footprint (Figure 12).

Sediment Studies to Support SPCT Channel Dredging – Comprehensive studies were conducted to evaluate the sediments proposed for dredging to widen and deepen the existing Sparrows Point Channel (EA 2024e, 2025b). The proposed dredging footprint was divided into 28 dredging units (DUs) for evaluation: 15 DUs located in the southern section of the Sparrows Point Channel (South Channel) and 13 DUs located in the northern section of the Sparrows Point Channel (North Channel) (Figure 13, Figure

14, and Figure 15). A summary of location, material type, volume, and characterization depth for each DU is provided in Table 9. Sediment cores were collected to the maximum dredging depth of -52 feet MLLW (-50 feet + 2 feet overdepth allowance) from multiple locations within each DU using either vibracoring or sonic drilling equipment. Composite sediment samples representative of the material to be dredged were created and tested for each DU. The testing program for the North Channel DUs was designed to evaluate the suitability of the sediments for upland placement at on-site or off-site DMCFs (EA 2025b). The testing program for the South Channel DUs was designed to evaluate the suitability of sediments for upland placement at on-site or off-site DMCFs and for ocean placement at the NODS (EA 2024e). MDE and MPA reviewed and approved the Sampling and Analysis Plan (SAP) for the DMCF evaluation and the USEPA Region 3 reviewed and approved the SAP for the ocean placement evaluation prior to the initiation of the sampling / testing program. A total of 52 locations were sampled in the North Channel and 45 locations were sampled in the South Channel (Figure 16, Figure 17, and Figure 18). Each sediment composite sample was tested for a comprehensive list of physical properties and chemical characteristics:

> **Overdepth allowance** refers to the additional depth below the target dredging depth from which material may be removed due to excavation inaccuracies in the dredging process. The type of dredging equipment, the site-specific physical conditions (wind, waves, currents, tides), and design of the dredging prism influence overdepth. The depth to which sediments are characterized for physical and chemical constituents includes the overdepth allowance that is applied to the project.

Chemical Constituents

- Metals
- Mercury
- Chlorinated pesticides
- Organophosphorus pesticides
- Polychlorinated biphenyl congeners
- Tributyltin
- Semivolatile organic compounds
- Polycyclic aromatic hydrocarbons
- Dioxins and furan congeners
- Cyanide, total
- Cyanide, free
- Total sulfide
- Total sulfate
- Ammonia (as nitrogen)
- Total Kjeldahl nitrogen
- Total phosphorus
- Nitrate
- Nitrite
- Total organic carbon
- Acid volatile sulfide and simultaneously extracted metals (cadmium, copper, lead, nickel, and zinc)
- Hexavalent chromium
- Volatile organic compounds
- PCB Aroclors
- Total petroleum hydrocarbons – gasoline range organics (C6 to C10)
- Total Petroleum Hydrocarbons (TPH) – diesel range organics (C10 to C34)
- TPH – oil range organics (C22 to C32)
- Oil and grease
- Toxicity Characteristic Leaching Procedure

Physical Properties

- Grain size
- Specific gravity
- Atterberg limits
- Total solids
- Unified soil classification system
- pH
- Percent moisture

Figure 11. Surficial Sediment Sampling Locations for the 2023 Aquatic Resources Studies

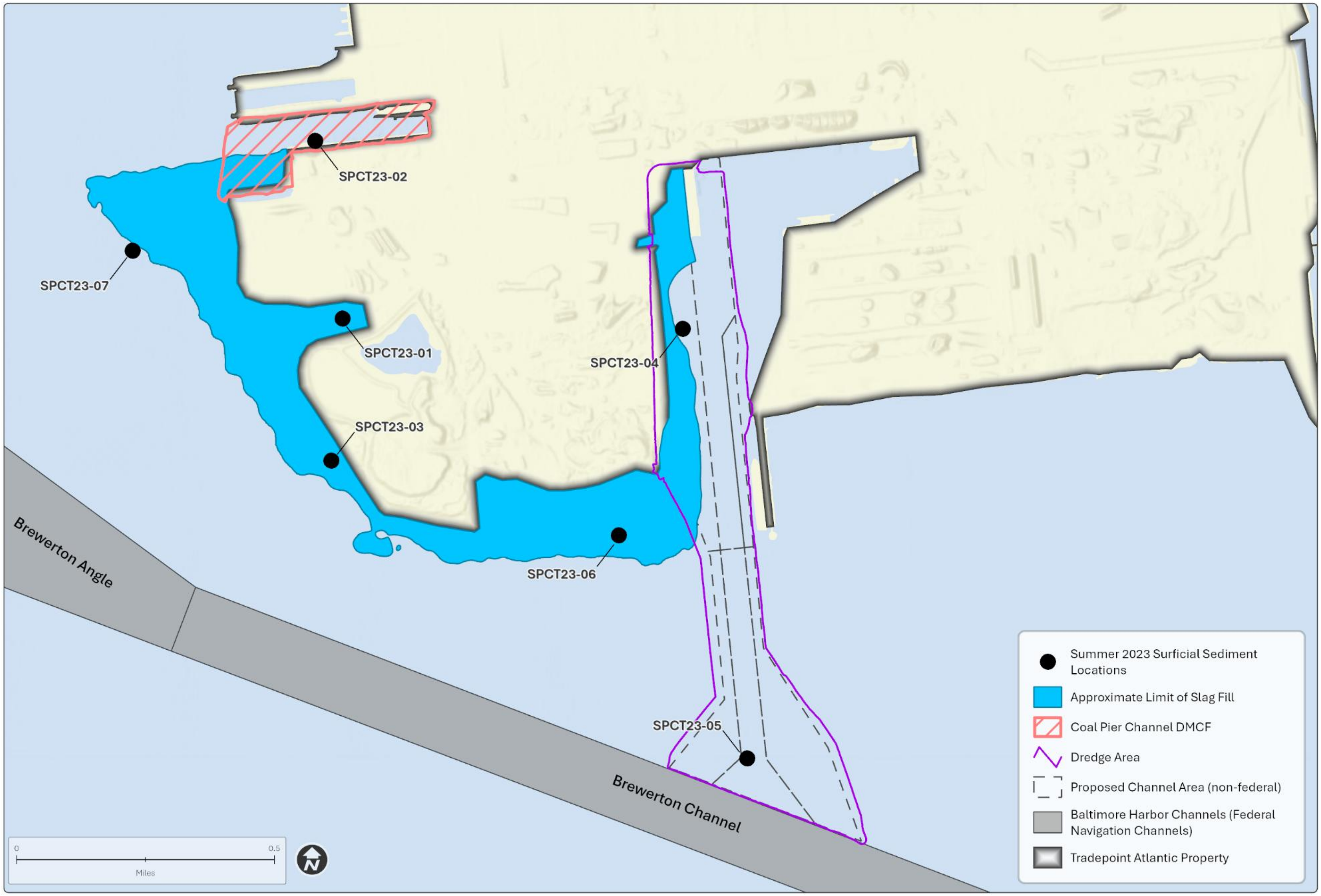


Figure 12. Coal Pier Channel Dike Alignment Sediment Sampling Locations

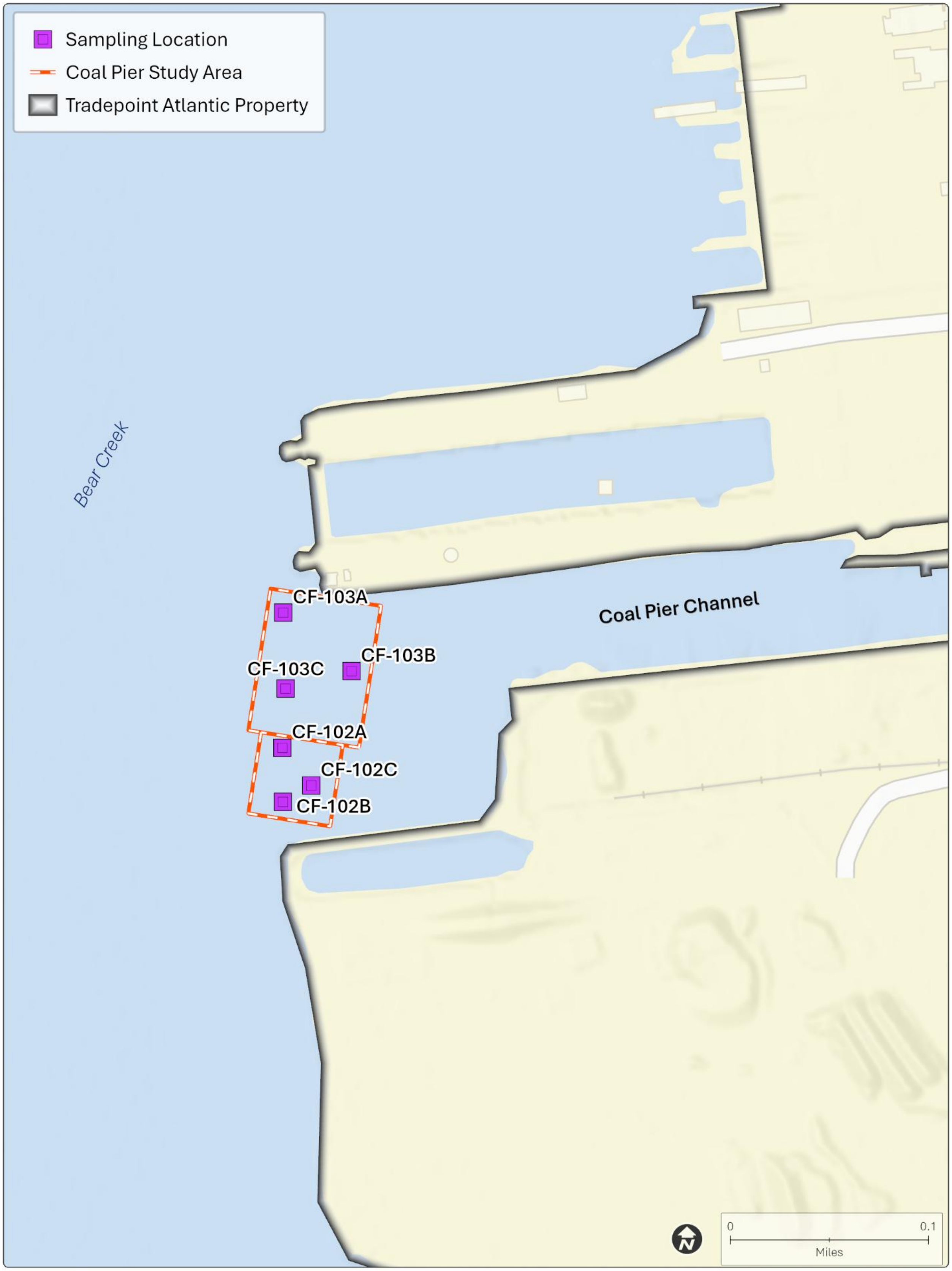


Figure 13. Dredging Units for the North Channel (Existing Sparrows Point Channel and West Widener / Revetment Dredging Units Combined)

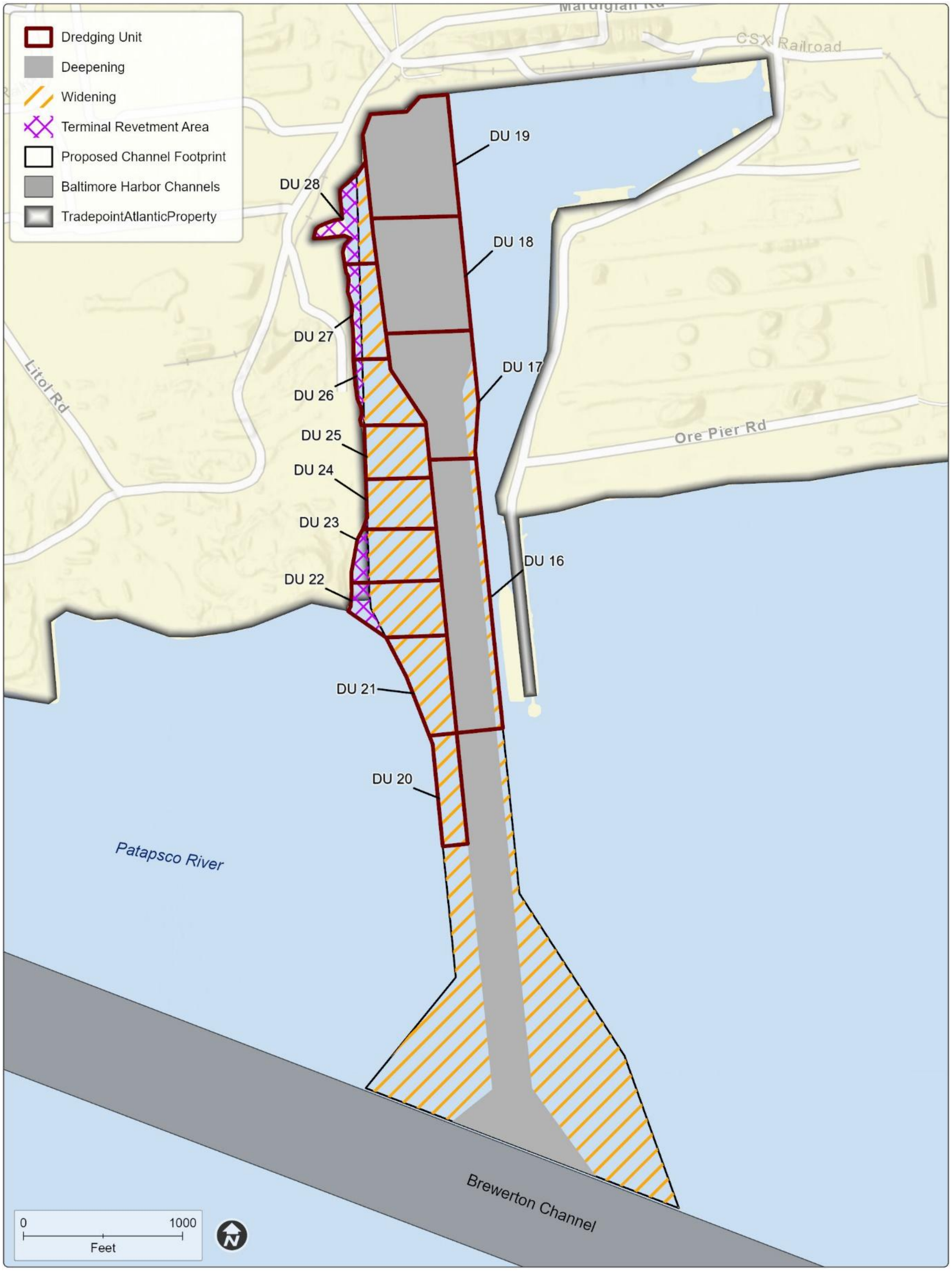


Figure 14. Dredging Units for the South Channel (Existing Sparrows Point Channel Dredging Units and Top Dredging Units for Wideners)

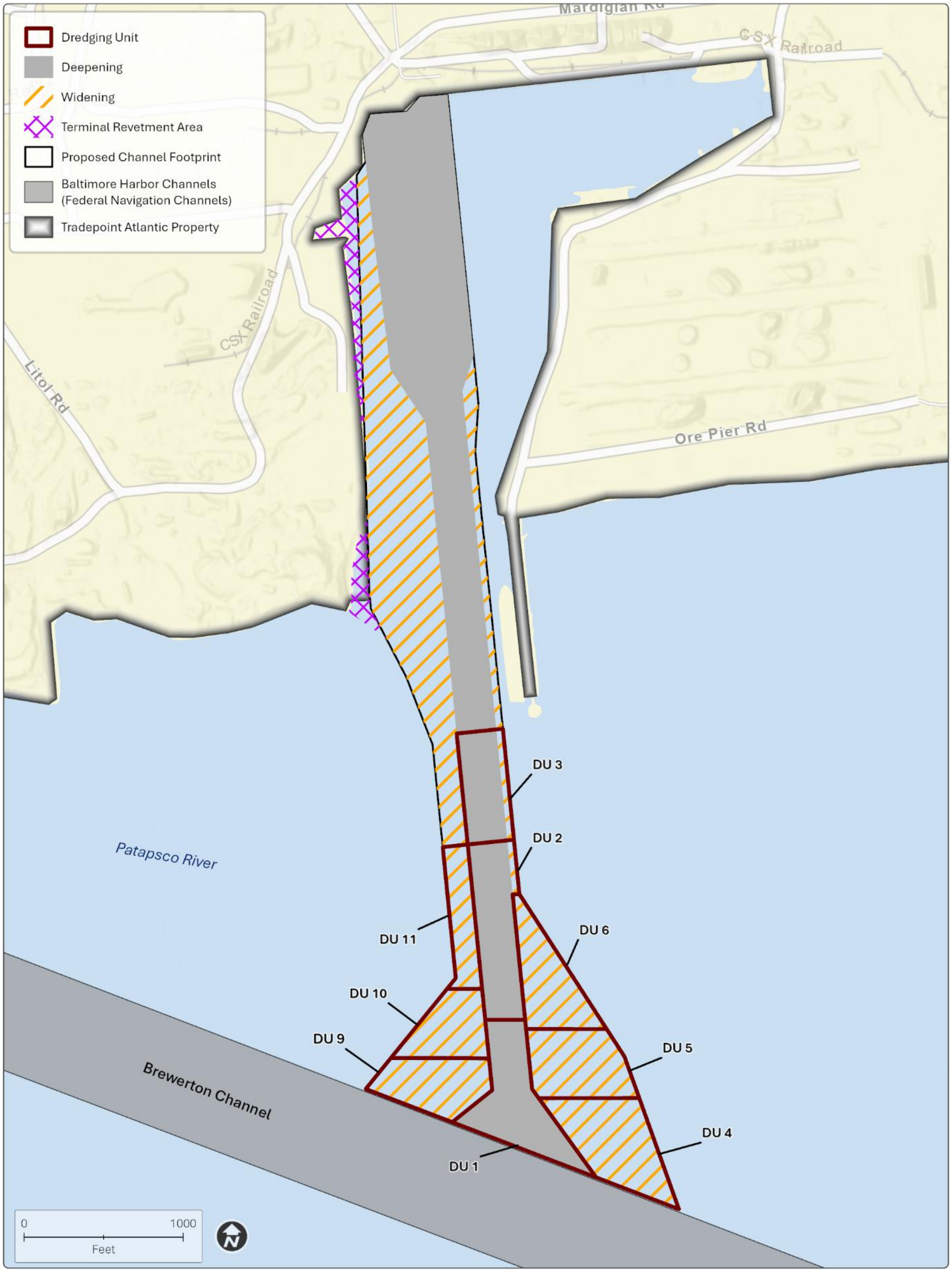


Figure 15. Dredging Units for the South Channel (Bottom Dredging Units for Wideners)

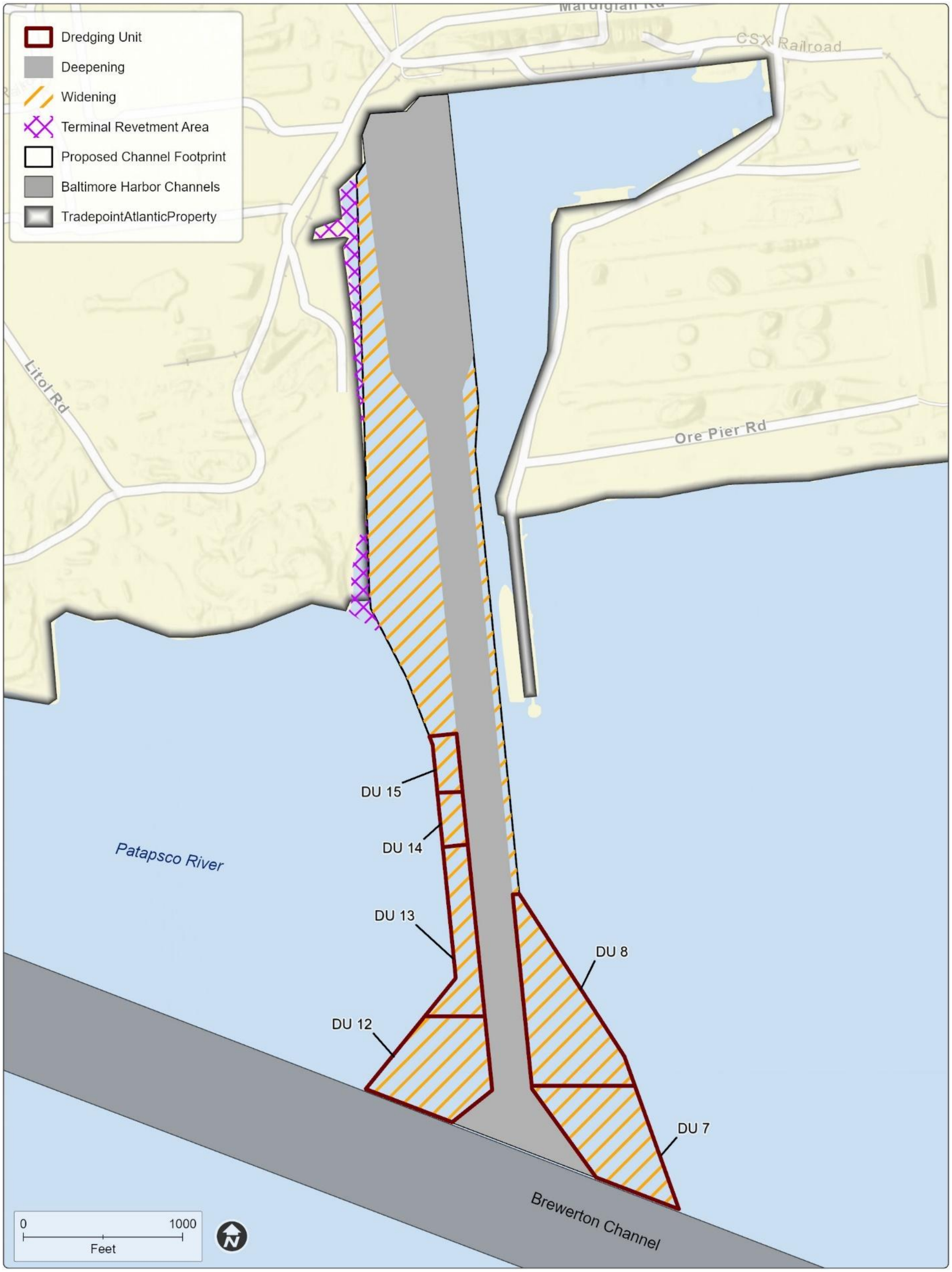


Table 9. Number of Sampling Locations, Sediment Characterization Depth, and Estimated Dredged Material Volume for Each Dredging Unit

Channel Segment	Dredging Unit	Material to be Characterized	Number of Sampling / Coring Locations	Sediment Characterization Depth	Approximate Dredging Unit Volume (CY) [1]	Placement Options Evaluated
South	DU1	Maintenance / Deepening	3	-52 feet MLLW	100,000	Upland / Ocean
South	DU2	Maintenance / Deepening	3	-52 feet MLLW	100,000	Upland / Ocean
South	DU3	Maintenance / Deepening	3	-52 feet MLLW	80,000	Upland / Ocean
South	DU4	East Widener – Top	3	surface to 7 feet bss	80,000	Upland / Ocean
South	DU5	East Widener – Top	3	surface to 7 feet bss	80,000	Upland / Ocean
South	DU6	East Widener – Top	3	surface to 7 feet bss	80,000	Upland / Ocean
South	DU7	East Widener – Bottom	3	7 feet bss to -52 feet MLLW [2]	185,000	Upland / Ocean
South	DU8	East Widener – Bottom	3	7 feet bss to -52 feet MLLW [2]	185,000	Upland / Ocean
South	DU9	West Widener – Top	3	surface to 10 feet bss	90,000	Upland / Ocean
South	DU10	West Widener – Top	3	surface to 10 feet bss	90,000	Upland / Ocean
South	DU11	West Widener – Top	3	surface to 10 feet bss	90,000	Upland / Ocean
South	DU12	West Widener – Bottom	3	10 feet bss to -52 feet MLLW [2]	185,000	Upland / Ocean
South	DU13	West Widener – Bottom	3	10 feet bss to -52 feet MLLW [2]	185,000	Upland / Ocean
South	DU14	West Widener – Bottom	3	10 feet bss to -52 feet MLLW [2]	60,000	Upland / Ocean
South	DU15	West Widener – Bottom	3	10 feet bss to -52 feet MLLW [2]	60,000	Upland / Ocean
North	DU16	Maintenance / Deepening	4	-52 feet MLLW [2]	220,000	Upland
North	DU17	Maintenance / Deepening	4	-52 feet MLLW [2]	230,000	Upland
North	DU18	Maintenance / Deepening	4	-52 feet MLLW [2]	250,000	Upland
North	DU19	Maintenance / Deepening	4	-52 feet MLLW [2]	230,000	Upland
North	DU20	West Widener	4	-52 feet MLLW [2]	140,000	Upland
North	DU21	West Widener	4	-52 feet MLLW [2]	220,000	Upland
North	DU22	West Widener / Revetment	4	-52 feet MLLW [2]	215,000	Upland
North	DU23	West Widener / Revetment	4	-52 feet MLLW [2]	215,000	Upland
North	DU24	West Widener	4	-52 feet MLLW [2]	185,000	Upland
North	DU25	West Widener	4	-52 feet MLLW [2]	185,000	Upland

Channel Segment	Dredging Unit	Material to be Characterized	Number of Sampling / Coring Locations	Sediment Characterization Depth	Approximate Dredging Unit Volume (CY) [1]	Placement Options Evaluated
North	DU26	West Widener / Revetment	4	-52 feet MLLW [2]	185,000	Upland
North	DU27	West Widener / Revetment	4	-52 feet MLLW [2]	150,000	Upland
North	DU28	West Widener / Revetment	4	-52 feet MLLW [2]	125,000	Upland

Notes:

CY = cubic yards

bss = below sediment surface

MLLW = mean lower low water

1 – Approximate maximum volume based on bathymetric surveys from September / October 2023. Volume based on characterization depth of -52 feet MLLW.

2 – Characterization depth = -50 feet MLLW + 2 feet overdepth allowance

Figure 16. Sediment Sample Locations for the North Channel (Existing Sparrows Point Channel and West Widener / Revetment Dredging Units Combined)

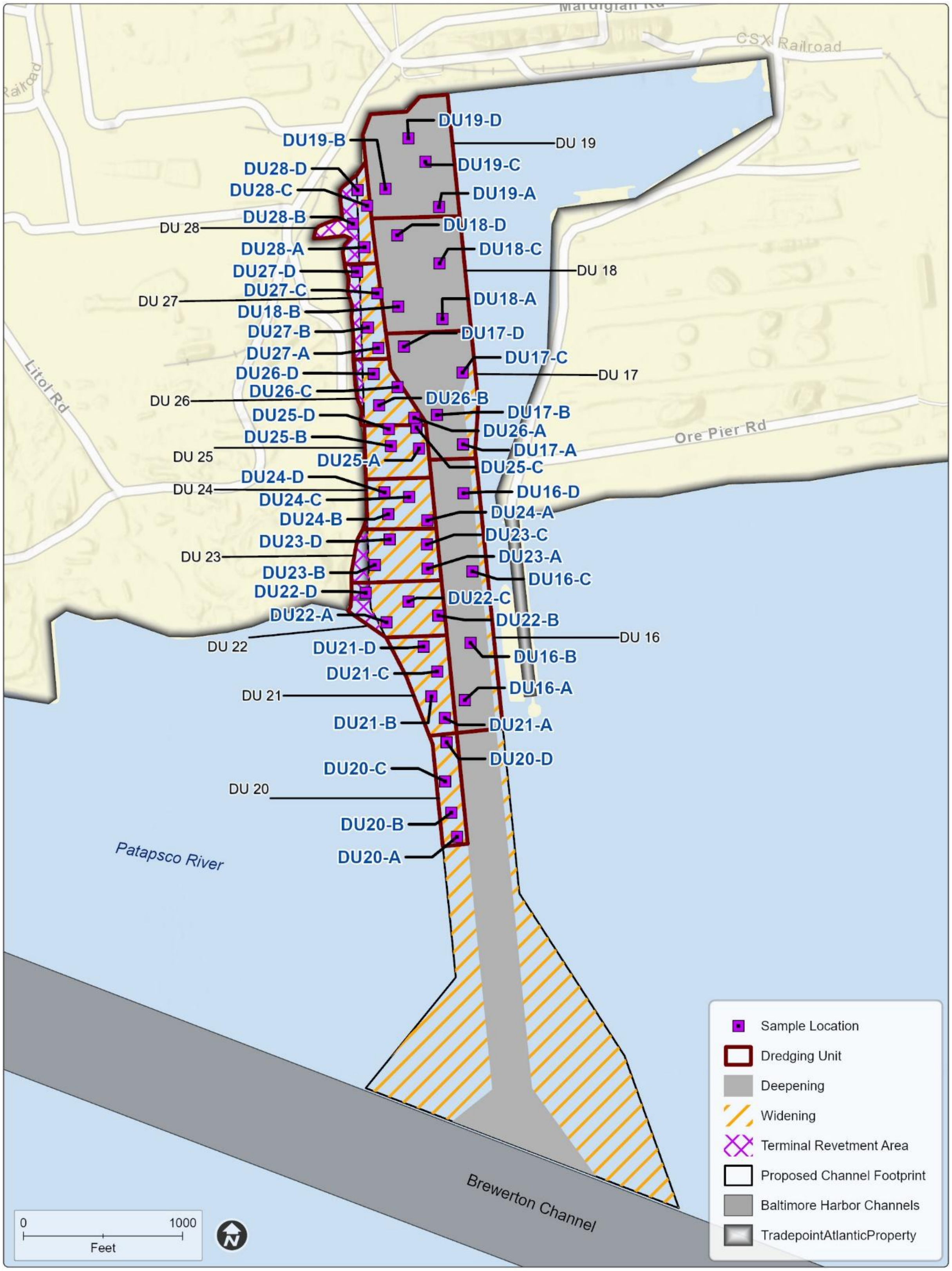


Figure 17. Sediment Sample Locations for the South Channel (Existing Sparrows Point Channel Dredging Units and Top Dredging Units for Wideners)

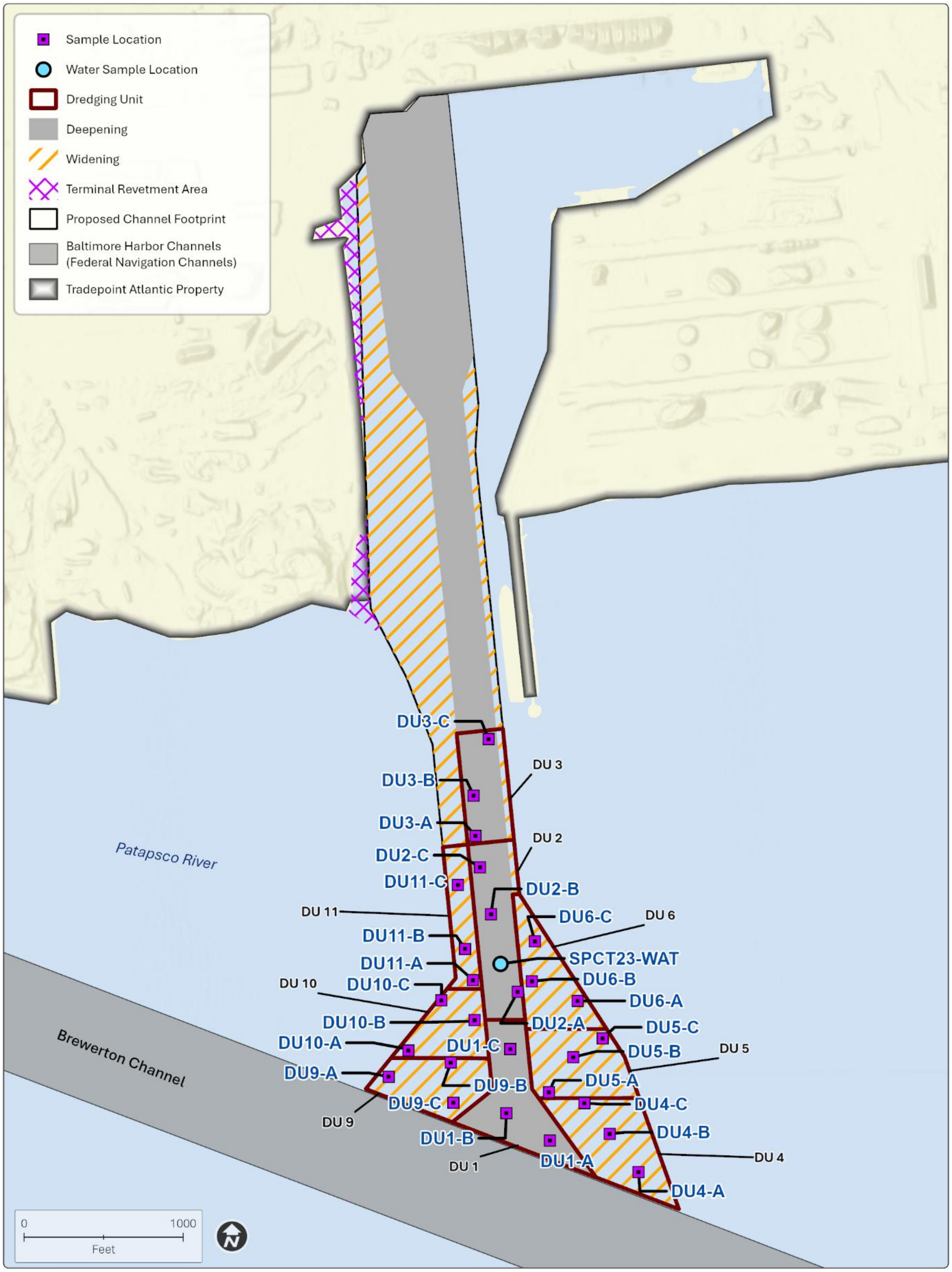
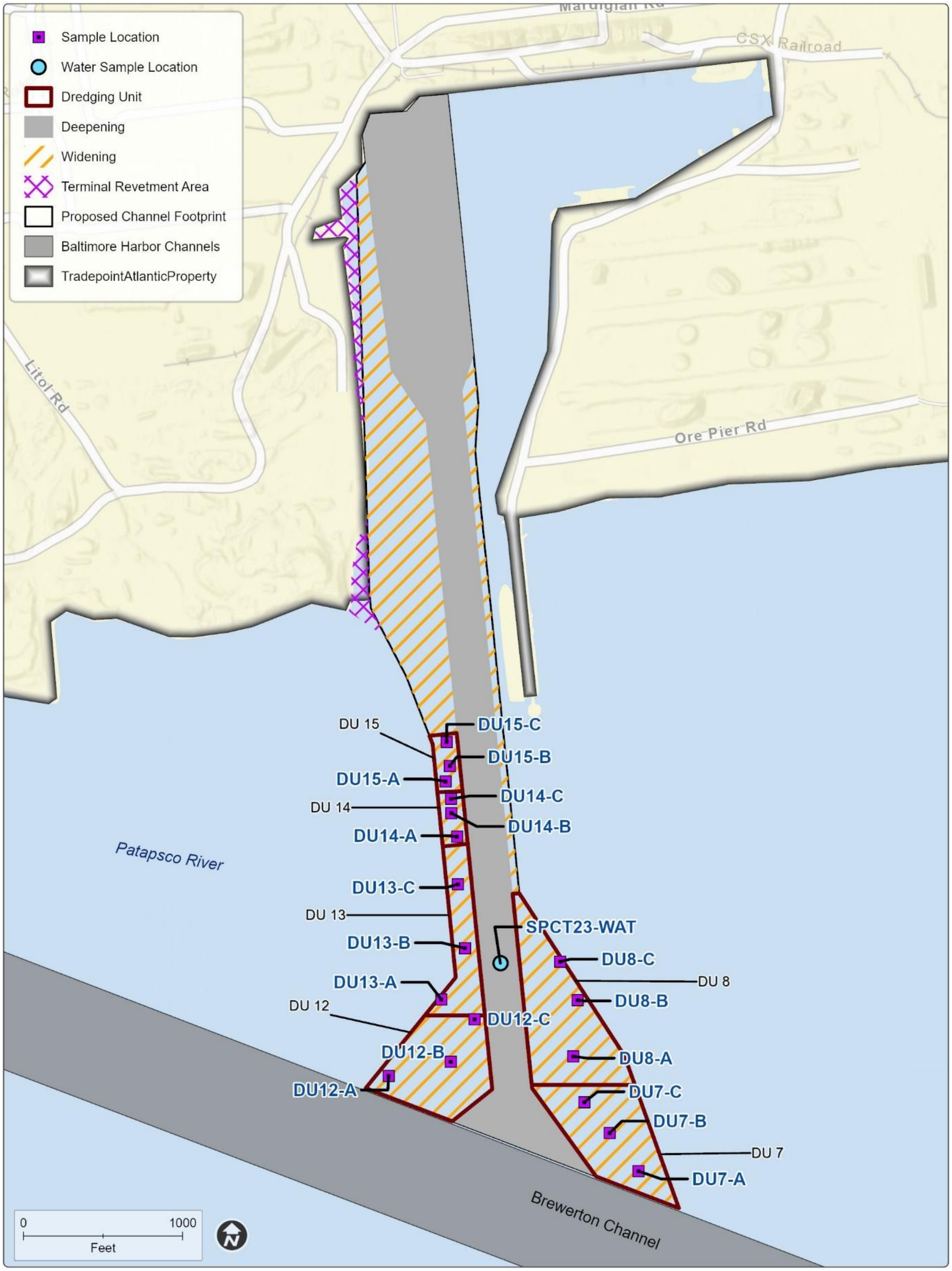


Figure 18. Sediment Sample Locations for the South Channel (Bottom Dredging Units for Wideners)



To assess the sediment quality with respect to upland placement of the material within on-site DMCFs, the chemical data were compared to USEPA Regional Screening Levels (RSLs) for soils (USEPA 2024a). Chemical concentrations that exceeded RSLs were included in risk calculations to classify the material within each DU based on the MDE Innovative Reuse categories (MDE 2019). In addition, the chemical data from the Toxicity Characteristic Leaching Procedure (TCLP) analysis were compared to the regulatory criteria in 40 CFR 261.24 to verify that the material would not be classified as a hazardous waste. To assess the sediment quality with respect to upland placement of the material at off-site DMCFs managed and operated by the MPA, the chemical data were compared to Baseline Control Limits (BCLs) that have been established for the MPA facilities (MPA 2022).

Ocean placement requires evaluation of the sediments with respect to the potential for adverse effects to aquatic organisms at the ocean placement site. Additional ocean placement testing for the South Channel DUs included the creation and chemical testing of standard elutriate samples, water column bioassays, whole sediment bioassays, and 28-day laboratory bioaccumulation studies (EA 2024e). These studies were conducted, and the data were evaluated in accordance with USEPA and Corps protocols (USEPA 2000; USEPA and Corps 1991, 2008). The results of the elutriate chemical tests and water column bioassays (using larval fish, mysid shrimp, and blue mussel embryos) were used to model the material placement, movement of the elutriate within the ocean placement site, and the potential for effects on aquatic organisms within the water column. The results of the whole sediment bioassays (using two amphipod species) were used to determine if the sediments were toxic to benthic organisms. The results of the bioaccumulation studies were used to assess uptake of contaminants from sediment to the tissue of clams and marine worms following exposure to the sediments and to assess the potential for movement of contaminants through the food chain.

Overview of Sediment Quality around Coke Point

Sediments around Coke Point consist of a soft, fine-grained silty top layer above deep layers of clay and sands. Some surficial sediments along the shoreline of Coke Point contain slag or gravel mixed with the soft, fine-grained sediments from activities on land and from the human-made construction of Coke Point. Within the vicinity of the channel improvements,

Regional Screening Levels (RSLs) are contaminant concentration thresholds developed by the USEPA to assess environmental and human health risks at contaminated sites. These screening levels provide a baseline for determining whether contaminants present in sediment, soil, or water require further investigation or remediation.

Toxicity Characteristic Leaching Procedure (TCLP) is a laboratory test established by the USEPA under the Resource Conservation and Recovery Act (RCRA) to simulate leaching of contaminants from solid materials, like sediments or industrial waste. The results of the test are used to classify waste and to determine appropriate disposal options.

Bioaccumulation studies measure the extent to which organisms accumulate contaminants from their environment, particularly from ingestion of sediments or water. In laboratory tests, organisms are exposed to sediments from the dredging area, and following a defined exposure period, their tissues are analyzed to quantify contaminant levels. These studies provide information regarding the potential for chemicals found in sediment to move through the food chain.

Standard elutriates are created using water / sediment mixtures to simulate the potential release of chemicals from sediment into the water column when sediment is placed in open water. The elutriate is analyzed to determine the concentration of chemical constituents that may be released into the water column, helping to predict impacts on water quality and aquatic life.

Water column bioassays are tests conducted to determine the toxicity of water or elutriate samples. In these bioassays, early life stages of aquatic organisms such as fish, crustaceans, or bivalves are exposed to the samples, and their responses (e.g., mortality, growth inhibition) are observed to evaluate the potential for impacts on aquatic life.

Whole sediment bioassays are tests that expose benthic organisms directly to sediment samples to determine the sediment toxicity. Survival of the benthic organisms is measured following a defined exposure period. These bioassays provide information related to how sediments containing contaminants may affect sediment-dwelling organisms following placement of the material in open water.

the silty surface layer overlays deep materials that predominantly consist of native clays in the South Channel and consist of a combination of native clays and sands in the North Channel (Kozera 2023; EA 2024e, 2025b).

The column of sediment in the South Channel is uniform with little layering or stratification of material types. Within the deepening area of the South Channel segment, the sediments are primarily comprised of a combination of silt and clay that extends to the depth to which the Sparrows Point Channel would be deepened (-50 feet MLLW). In the South Channel wideners, the silty top materials extend from the sediment surface to depths ranging from approximately 7 to 10 feet below sediment surface (bss) and are underlain by native silty clays extending below the proposed dredging depth (-50 feet MLLW).

The column of sediment in the North Channel includes layers of differing material types. Within the deepening area in the North Channel and in the west widener, the silty top materials extend from the sediment surface to varying depths. Native clays and sands are present at depth within the dredging prism and extend below the proposed dredging depth (-50 feet MLLW).

Chemical constituents associated with human activities, such as metals, PAHs, and PCBs, are present in the surface and upper sediment column, while deeper sediments have lower concentrations of chemical constituents that represent natural background concentrations.

The chemical testing of surficial sediments (EA 2024a) at seven locations surrounding Coke Point (Figure 11) indicated that surficial sediment quality varies by location and distance offshore. PAHs and metals are the constituents that most frequently exceed PELs for aquatic life. Collectively, nine metals, 13 individual PAHs, total PAHs, and dioxin toxic equivalents (TEQs) exceeded PELs in the offshore surficial sediments surrounding the peninsula. The highest total PAHs were detected in surficial sediments in Coke Point Cove on the west side (SPCT23-01) and along the southeast side (SPCT23-06) of Coke Point, with concentrations in Coke Point Cove approximately ten times higher than concentrations on the southeast side of the peninsula. The highest concentrations of metals were detected in the nearshore area on the southwest side of Coke Point (SPCT23-03). The location near the Brewerton Channel (SPCT23-05) was furthest offshore and had the fewest PEL exceedances.

Tests of sediment physical properties (EA 2024a, 2024e, 2025b) indicate that surface sediments close to the shoreline west of Coke Point and in Coke Point Cove are a mix of sands, silts, and clay, and sediments in the Coal Pier Channel, within the Sparrows Point Channel, and south of Coke Point contain mostly silt and clay. Nutrient constituents, including ammonia, nitrate, nitrite, and total phosphorus, are present in the sediments with highest concentrations in surface samples. Total organic carbon concentrations in the sediments range from 1 to 11% with highest concentrations in surface samples.

Sediment Quality in the Area of the Proposed Coal Pier Channel DMCF

Surface sediments within the Coal Pier Channel DMCF footprint consist of fine-grained silts and clays in the east and central portion of the channel and are predominantly comprised of sand (approximately 80%) near the mouth of the channel (EA 2009, 2024a). Chemical concentrations of six metals (chromium, copper, lead, nickel, silver, and zinc), two PAHs (acenaphthylene and naphthalene), and the dioxin TEQ in surficial sediments in the central portion of the channel (SPCT23-02; Figure 11) exceeded PEL values (EA 2024a). Benzene, ethylbenzene, and toluene were detected in the subsurface sediment near the mouth Coal Pier Channel (sampling location BH-SED-02; Figure 10), and sheens and hydrocarbon odors were noted in the subsurface samples on the east side of Coal Pier Channel (BH-SED-01) and at the mouth of Coal Pier Channel (BH-SED-02) (EA 2009).

Sediments in the vicinity of the proposed Coal Pier Channel DMCF dike alignment contained concentrations of eight metals, total PCBs, 13 individual PAHs, total PAHs, and the dioxin TEQ that exceeded PEL values; the concentration of total PAHs was 65 times higher than the PEL value (EA 2025a). Concentrations of lead, four PAHs (1-methylnaphthalene, naphthalene, benzo(a)pyrene, dibenzo(a,h)anthracene), and the dioxin TEQ also exceeded industrial soil RSLs. TPHs were also detected at elevated concentrations in the sediment composites (EA 2025a).

Sediment Quality in the High Head Industrial Basin

Surficial sediment sampling was conducted at 12 locations in the High Head Industrial Basin in early 2023 (ARM Group 2023). Arsenic, lead, TPH diesel range organics (DRO), oil and grease, and several PCB Aroclors were detected at elevated concentrations in the sediments. Concentrations of arsenic and lead in a portion of the samples exceeded composite worker / industrial soil RSLs.

Sediment Quality in the Dredging Footprint

The physical and chemical properties of the sediment within the footprint of the proposed Sparrows Point Channel deepening and widening vary within the North Channel and South Channel and vary by DU (EA 2024e, 2025b). The DUs are described in relation to the categories established by MDE's Innovative Reuse and Beneficial Use of Dredged Material Program, described in the text box to the right.

South Channel – The South Channel segment is comprised of DU1 through DU15 and includes approximately 1.65 MCY of sediment. Sediments in the South Channel dredging area are predominantly comprised of fine-grained silts and clays. Metals, PCBs, PAHs, SVOCs, chlorinated pesticides, and dioxin / furan congeners were detected most frequently in the sediments; the specific analytes detected, and their concentrations varied by DU (EA 2024e, 2025b). Highest concentrations of metals and PAHs were present in the sediments from DUs 1, 2, and 3 (channel deepening), DU8 (east widener), and DU11 (west widener). Arsenic concentrations in each DU and the dioxin TEQ concentration in DU3 exceeded the industrial soil RSLs. Risk calculations

MDE's Innovative Reuse and Beneficial Use of Dredged Material Program is an initiative aimed at promoting the sustainable and productive use of dredged material from Maryland's waterways. Given the significant volume of dredged material generated annually through the maintenance of navigational channels in the Chesapeake Bay and surrounding waters, this program seeks to reduce the environmental impact of disposal while turning dredged material into valuable resources.

Dredged material may be categorized based on results of a full sediment characterization, comparison to screening criteria, and assessment of environmental and human health risk.

Category 1: Residential Unrestricted Use Soil and Fill Material – Chemicals detected in the material are at a concentration that is not considered a concern for human health, making it suitable for unrestricted use, including in residential settings, parks, schools, and other areas with high potential for human contact. This material can be used without special restrictions or controls.

Category 2: Non-Residential Restricted Use Soil and Fill Material – Chemicals detected in the material are at concentrations that are not considered a concern for specific land uses and limit its use to non-residential areas, such as industrial or commercial sites, where human exposure is limited. This material is safe for areas that have land use controls to ensure that development of residences, recreational areas, and schools will not occur.

Category 3: Restricted Use Soil and Fill Material, Cap Required – Chemicals detected in the material are at concentrations that require additional protective measures, such as a physical cap or barrier, to prevent exposure. This material is typically restricted to specific, non-sensitive locations (e.g., industrial sites, closed landfills) where exposure to humans and the environment can be minimized and controlled.

Category 4: Ineligible for Soil and Fill Material – Chemicals detected in the material are at high concentrations that deem it unsuitable for use as soil or fill material due to significant risks to human health or the environment. This material cannot be used in any applications where it might come into contact with people, plants, animals, or water sources, and it requires special handling, treatment, or disposal in a secure, permitted facility.

indicated that two of the South Channel DUs are classified as Category 1 (Residential Unrestricted Use Soil and Fill Material) and thirteen of the DUs are classified as Category 2 (Non-Residential Restricted Use Soil and Fill Material). Overall, approximately 245,000 CY of material is classified as Category 1, and approximately 1,405,000 CY of material is classified as Category 2. The MDE Innovative Reuse category for each South Channel DU is provided in Table 10 and is depicted in Figure 19 and Figure 20.

With respect to comparisons to BCLs for MPA DMCFs, the concentration of naphthalene for DU3 and DU11 exceeded the BCL; however, total PAH concentrations did not exceed the BCL. Several other individual constituents exceeded BCLs in varying DUs, but the constituent concentrations were not substantially higher than the BCLs, indicating that the concentrations were similar to those of materials previously placed in MPA DMCFs.

With respect to ocean placement criteria, each of the South Channel DUs, with the exception of DU3, met the Limiting Permissible Concentration (LPC) for water quality criteria, water column toxicity, benthic toxicity, and benthic bioaccumulation in accordance with 40 CFR 220-228.

Results of the TCLP testing indicated that none of the tested materials in the South Channel DUs were classified as hazardous waste. A summary of dredged material placement options for each South Channel DU (based on sediment chemical characteristics) is provided in Table 10.

North Channel – The North Channel is composed of DU16 through DU28 and includes approximately 2.55 MCY of sediment. Sediments in the North Channel are a combination of sand and fine-grained silts and clays, with highest proportions of sand (29 to 38.6%) in the northern DUs in the west widener (DU24, DU25, DU26, DU27, DU28). Metals, PCBs, PAHs, SVOCs, chlorinated pesticides, dioxin / furan congeners, volatile organic compounds (VOCs), TPH, and oil and grease were detected most frequently in the sediments; the specific analytes detected, and their concentrations varied by DU (EA 2025b). Highest concentrations of total PAHs were present in the sediments from DUs 16, 17, 18 (channel deepening) and DUs 26 and 28 (west widener). Arsenic concentrations in each DU, the dioxin TEQ concentration in DU16, and three PAHs (1-methylnaphthalene, naphthalene, and benzo(a)pyrene) in DU18 exceeded the industrial soil RSLs. Risk calculations indicated that three of the North Channel DUs are classified as Category 1 (Residential Unrestricted Use Soil and Fill Material), eight of the DUs are classified as Category 2 (Non-Residential Restricted Use Soil and Fill Material), and two DUs (17 and 18) are classified as Category 3 (Restricted Use Soil and Fill Material, Cap Required). Overall, approximately 555,000 CY of material is classified as Category 1, approximately 1,515,000 CY of material is classified as Category 2, and approximately 480,000 CY of material is classified as Category 3. The MDE Innovative Reuse category for each North Channel DU is provided in Table 10 and is depicted in Figure 21.

Regarding comparisons to BCLs for MPA DMCFs, concentrations of multiple individual PAHs and total PAHs exceeded BCLs in DUs 16, 17, 18, 19, 23, 26, and 28. Concentrations of lead in DUs 17 and 23, concentrations of zinc in DUs 16, 17, and 19, concentration of dibenzofuran in DU18, and concentrations of ethylbenzene and toluene in DU22 exceeded BCLs. Several other individual constituents exceeded BCLs in various DUs, but the concentrations were not substantially higher than the BCLs, indicating that the concentrations were similar to those of materials previously placed in MPA DMCFs.

Results of the TCLP testing indicated that none of the tested materials in the North Channel DUs were classified as hazardous waste. A summary of dredged material placement options for each North Channel DU (based on sediment chemical characteristics) is provided in Table 10.

Table 10. MDE Innovative Reuse Categories, Approximate Placement Volume, and Placement Options for Each Dredging Unit

Dredging Unit	Location	MDE Innovative Reuse Category [1]	Placement Options			Approximate Material Volume (CY)
			Off-site MPA DMCF	On-site DMCF [2]	Ocean Placement at NODS	
DU1	South Channel	2	✓	✓	✓	100,000
DU2	South Channel	2	✓	✓	✓	100,000
DU3	South Channel	2	✓	✓		80,000
DU4	South Channel	2	✓	✓	✓	80,000
DU5	South Channel	2	✓	✓	✓	80,000
DU6	South Channel	2	✓	✓	✓	80,000
DU7	South Channel	1	✓	✓	✓	185,000
DU8	South Channel	2	✓	✓	✓	185,000
DU9	South Channel	2	✓	✓	✓	90,000
DU10	South Channel	2	✓	✓	✓	90,000
DU11	South Channel	2	✓	✓	✓	90,000
DU12	South Channel	2	✓	✓	✓	185,000
DU13	South Channel	2	✓	✓	✓	185,000
DU14	South Channel	2	✓	✓	✓	60,000
DU15	South Channel	1	✓	✓	✓	60,000
DU16	North Channel	2	✓	✓		220,000
DU17	North Channel	3		✓		230,000
DU18	North Channel	3		✓		250,000
DU19	North Channel	2	✓	✓		230,000
DU20	North Channel	2	✓	✓		140,000
DU21	North Channel	1	✓	✓		220,000
DU22	North Channel	2	✓	✓		215,000
DU23	North Channel	2	✓	✓		215,000
DU24	North Channel	1	✓	✓		185,000
DU25	North Channel	2	✓	✓		185,000
DU26	North Channel	2	✓	✓		185,000
DU27	North Channel	1	✓	✓		150,000
DU28	North Channel	2	✓	✓		125,000

Notes:

CY = cubic yards

1 – MDE 2019. *Innovative Reuse and Beneficial Use of Dredged Material Guidance Document.*

Category 1 = Residential Unrestricted Use Soil and Fill Material

Category 2 = Non-Residential Restricted Use Soil and Fill Material

Category 3 = Restricted Use Soil and Fill Material, Cap Required

2 – On-site DMCFs include High Head Industrial Basin DMCF and Coal Pier Channel DMCF

Figure 19. MDE Innovative Reuse Categories for the South Channel (Existing Sparrows Point Channel Dredging Units and Top Dredging Units)

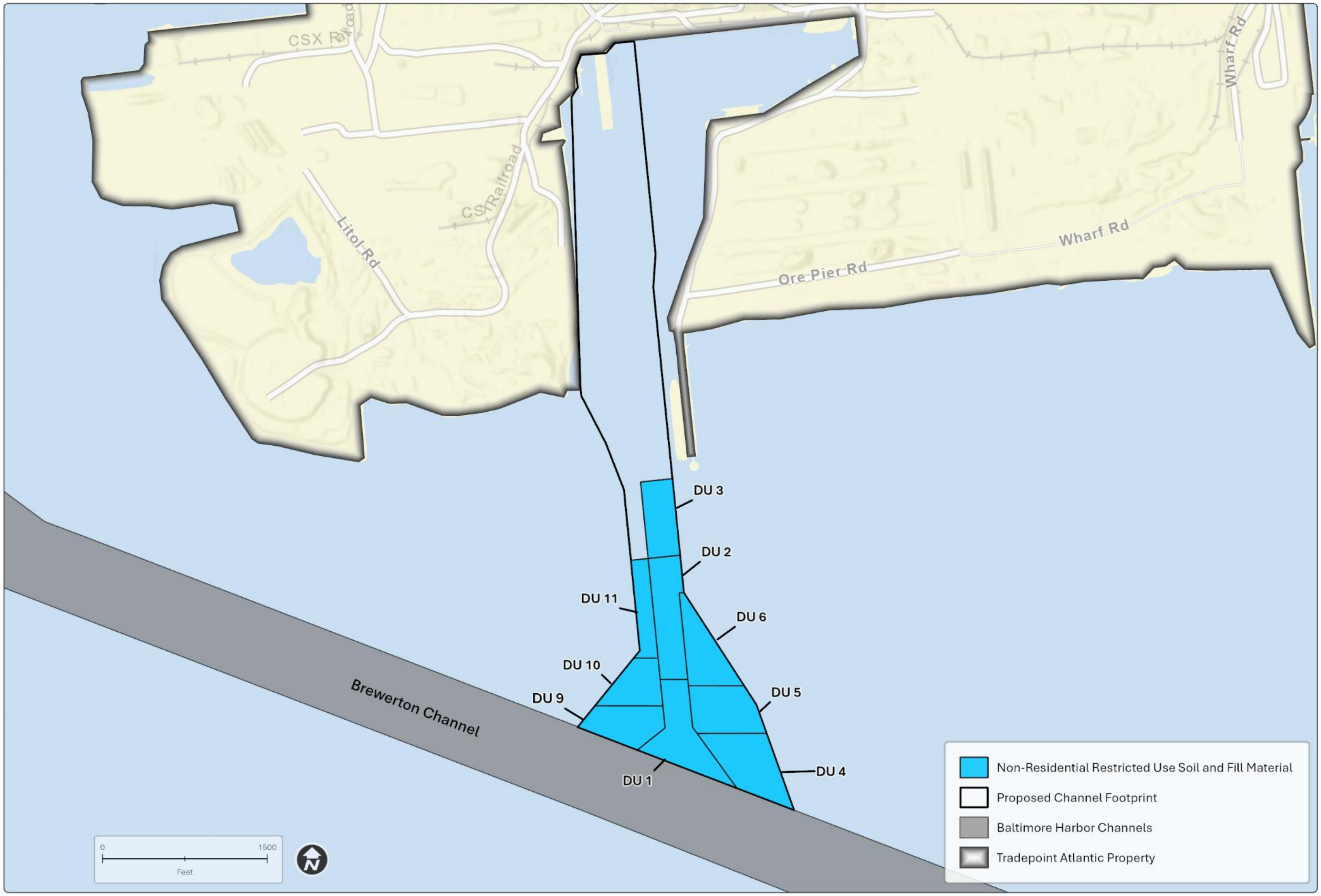


Figure 20. MDE Innovative Reuse Categories for the South Channel (Bottom Dredging Units for Wideners)

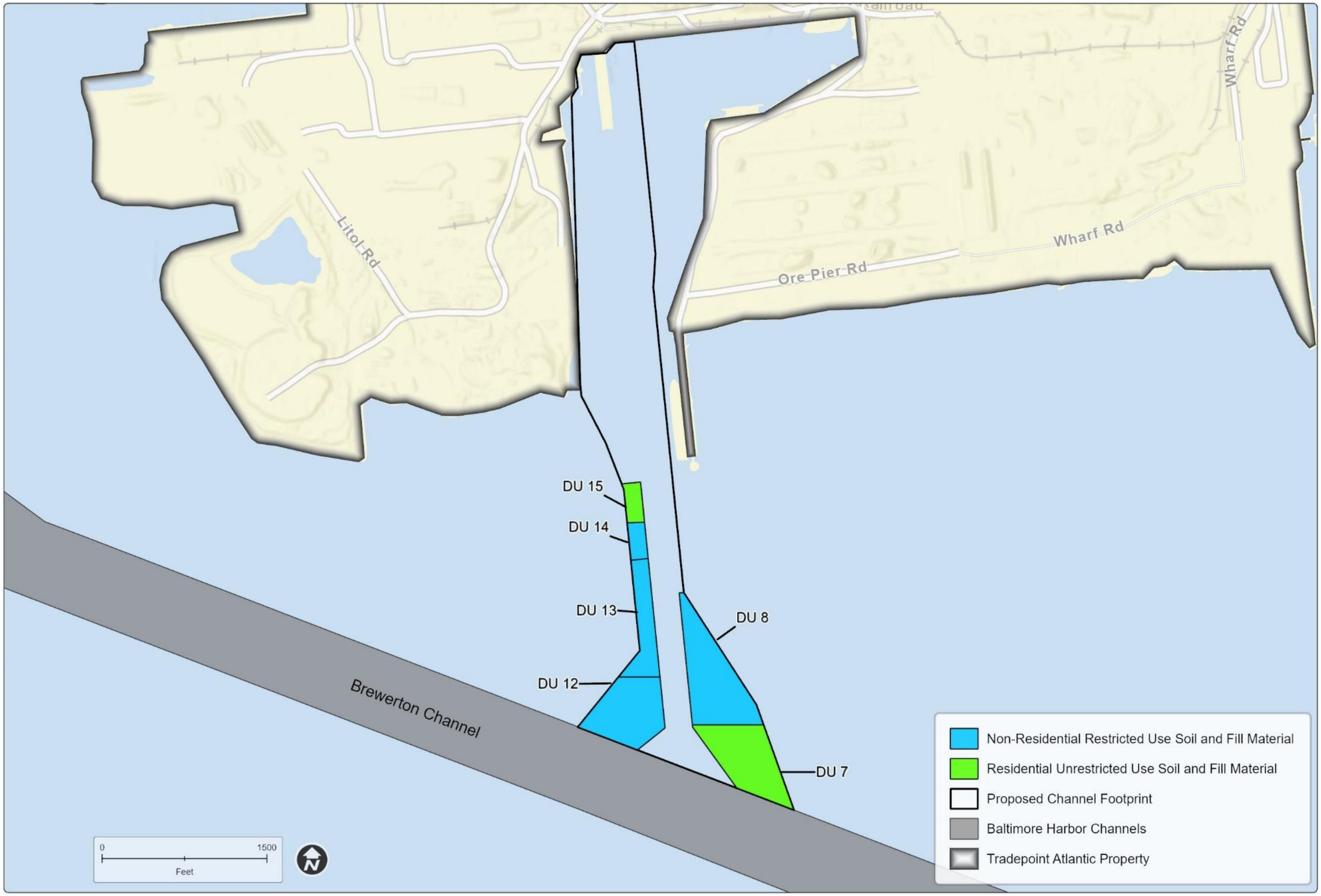
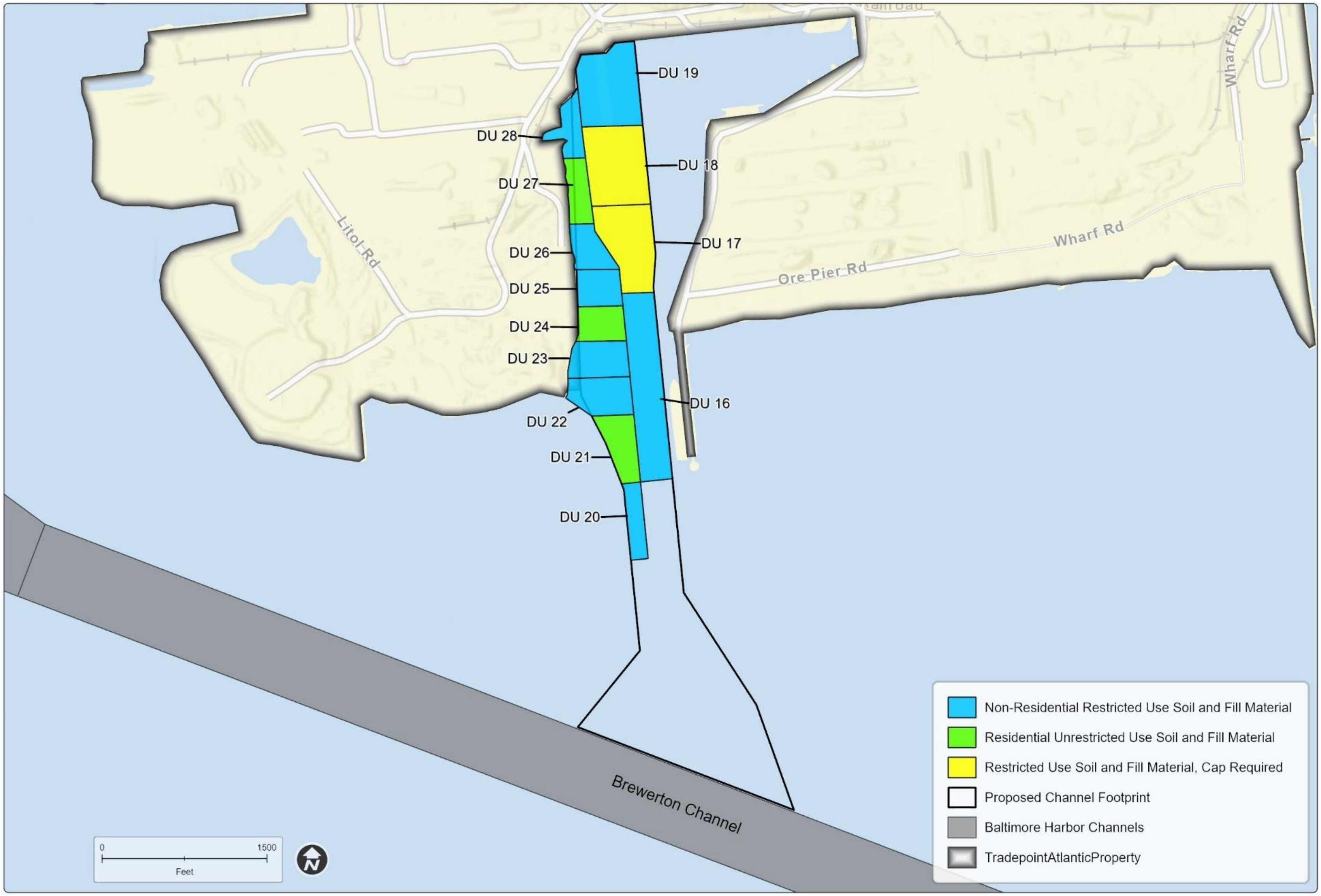


Figure 21. MDE Innovative Reuse Categories for the North Channel (Existing Sparrows Point Channel and West Widener / Revetment Dredging Units Combined)



4.2.2 Environmental Consequences

4.2.2.1 No-action Alternative

Under the No-action Alternative, bedded sediments and chemicals associated with the sediments would stay in place. Sediments in the existing Sparrows Point Channel would be subject to disturbance by future periodic maintenance dredging. Surficial sediments throughout the Coke Point offshore area would be subject to disturbance by storm events and vessel traffic. Based on historical data, previous ecological and health risk assessments (EA 2011), and other supporting studies, there would be an ongoing potential for ecological risk in offshore areas west and south / southeast of Coke Point and a limited potential for human health risk.

4.2.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvement

The dredging and removal of sediments east of the peninsula to widen and deepen the channel and construct the terminal wharf and revetment structure would permanently remove 4.2 MCY of sediments. A portion of these materials includes legacy contaminants from historical industrial activities and would leave behind deeper native sediments with natural background concentrations of metals and other constituents. The removal of sediments impacted by metals, PAHs, PCBs, and other constituents would result in a permanent net improvement of surficial sediment conditions (approximately 52 acres within the existing channel and 60 acres in the channel wideners) for fish, crabs, benthic organisms, and humans. In addition, it would reduce the surface area for surficial chemical exposures of persistent organic contaminants (such as PCBs and dioxins) that have the potential to accumulate in benthic organisms and fish tissue and bioconcentrate in the food chain.

Dredging may resuspend some sediments that would settle back to the bottom of the dredging area and adjacent areas. Dredging BMPs (such as those described in Section 3.2) would be used where practicable and necessary based on sediment chemistry and site conditions to minimize the release of sediment and contaminants to the water column during dredging operations. Any resuspension or incidental release of sediment during dredging operations, particularly in the South Channel and near the Brewerton Channel, would be comparable to maintenance dredging operations performed in the federal channel. Therefore, adverse impacts on adjacent surficial sediment quality from redeposition are expected to be minimal.

4.2.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

Placement of dredged material in the High Head Industrial Basin would result in the permanent removal of approximately 40 acres of impounded water and would result in the encapsulation of existing sediments that contain elevated concentrations of arsenic, lead, TPH-DRO, oil and grease, and PCBs. Filling of the High Head Industrial Basin DMCF would result in the creation of bermed upland habitat, and the placed sediments would be dewatered and managed as soils. Although fish, wildlife, and birds currently use the site, it is a managed industrial facility. The long-term land use of the High Head Industrial Basin DMCF is expected to remain industrial. The majority of sediments placed in the DMCF would be classified as either MDE Innovative Reuse Category 1 (Residential Unrestricted Use Soil and Fill Material) or Category 2 (Non-Residential Restricted Use Soil and Fill Material); these materials are suitable as fill in an industrial use area. Any sediments that are classified as MDE Innovative Reuse

Category 3 (Restricted Use Soil and Fill Material, Cap Required) would be placed early during the material inflow / filling cycle and would be capped or buried by subsequent placement of either Category 1 or Category 2 material. Human health risks associated with placement of Category 3 material would be mitigated through the capping requirement.

Installation of the temporary outfall and diffuser needed to discharge effluent generated during sediment placement and dewatering at the High Head Industrial Basin DMCF would have temporary impacts on the river bottom sediments. A temporary feeder line and diffuser would be placed on the river bottom and secured with anchors to ensure the line remains in place. Appropriate BMPs would be implemented as required by permits to minimize resuspension of the sediment during installation and to protect aquatic resources.

Coal Pier Channel DMCF

Placement of dredged material in a DMCF at the Coal Pier Channel would result in the permanent loss of 19.6 acres of open water habitat. The existing channel would be filled and converted to bermed, upland habitat, and a net loss of 19.6 acres of sediment surface that functions as habitat for benthic communities would occur. Based on the summer aquatic survey data (EA 2024a), this benthic habitat is degraded and subject to seasonal low dissolved oxygen (hypoxia), and the sediments contain elevated concentrations of metals, PAHs, benzene, ethylbenzene, and toluene. Filling the channel would encapsulate impacted sediments and would eliminate exposure pathways for chemicals to benthic organisms, crabs, and fish.

The majority of sediments placed in the DMCF would be classified as either MDE Innovative Reuse Category 1 (Residential Unrestricted Use Soil and Fill Material) or Category 2 (Non-Residential Restricted Use Soil and Fill Material); these materials are suitable as fill in an industrial use area. Sediments that are classified as MDE Innovative Reuse Category 3 (Restricted Use Soil and Fill Material, Cap Required) would be placed early during the material inflow / filling cycle and would be capped or buried by subsequent placement of either Category 1 or Category 2 material. Therefore, human health risks associated with placement of Category 3 material would be mitigated through the capping requirement.

The sediment along the alignment of the channel enclosure dike is anticipated to consist of a soft surface layer approximately 4 feet in thickness underlain by consolidated sand. These sediments contain elevated concentrations of metals, PAHs, dioxins, and TPHs (EA 2025a). This soft overburden material would be removed from the dike alignment prior to the placement of sand, eliminating the potential for material displacement, resuspension of contaminants, and the creation of a mud wave during dike construction. Any sediments that would be resuspended during the placement of material for the construction of the enclosure dike have the potential to redeposit on adjacent bottom sediments. BMPs for in-water construction (such as those described in Section 3.2) would be used where practicable and necessary to minimize the resuspension of sediment and contaminants to the water column during both dredging and in-water placement of dike construction material. Construction methodologies would be implemented in accordance with all applicable permit conditions. Therefore, adverse impacts on adjacent surficial sediment quality outside the enclosure dike from resuspension and redeposition would be expected to be minimal.

Existing MPA DMCFs

No new impacts would be expected as a result of placement of the dredged material at either the Cox Creek or Masonville DMCFs. Both facilities are permitted to accept dredged material from the Baltimore Harbor channels and the Patapsco River. The MPA has indicated that a maximum of 1.25 MCY of placement capacity is available for the SPCT project during a 4-year placement period. Only those DUs that meet MPA BCL requirements and that are classified as MDE Innovative Reuse Category 1 (Residential Unrestricted Use Soil and Fill Material) and Category 2 (Non-Residential Restricted Use Soil and Fill Material) would be placed at the MPA DMCFs. Material placed at MPA facilities would be conducted in phases that do not exceed the annual operational capacity for the facilities. Therefore, no change to DMCF site conditions, operations, or practices at these facilities would be expected, and no impact on capacity needs for other federal, state, or local projects would be anticipated as a result of dredged material placement from the SPCT project.

Existing Ocean Disposal Site

Placement of dredged material at the NODS is regulated under Section 103 of the MPRSA. Tier II (sediment and elutriate) and Tier III (ecotoxicological) testing of the dredged material has been conducted in conformance with the requirements under Section 103 of the MPRSA and 40 CFR 220-228. Results of the testing for 14 DUs (totaling approximately 1.57 MCY) have demonstrated that no adverse impact on the marine environment at the NODS would occur as a result of the material placement. Only those 14 DUs that meet the LPC for water quality criteria, water column toxicity, benthic toxicity, and benthic bioaccumulation would be placed at the NODS. The NODS was designated to accept material that meets these requirements (USEPA 1992). Physical placement of the material at the NODS would comply with the requirements stipulated in the Site Management and Monitoring Plan (USEPA and Corps 2019). The materials would be evenly dispersed across a designated placement zone to avoid mounding. Progress surveys of portions of the active zone during placement periods would be conducted and used, if warranted, to ensure proper placement / distribution of materials.

4.2.2.4 Preferred Alternative – Dredged Material Placement

The impacts on sediment from the Preferred Alternative would be the same as those described for the Combined Options Alternative except potential impacts on sediments associated with dredging and placement of the material from within the footprint of the Coal Pier Channel DMCF dike alignment and impacts associated with in-water construction of the Coal Pier Channel DMCF dike construction would be eliminated.

4.2.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on sediment include those that would result in temporary and long-term changes to the physical and chemical quality of the sediment.

- The Corps (2024a) stated that the collapse and removal of collapsed portions of the Key Bridge that became embedded in the sediments caused disruption to the river bottom. Given the river depth where these activities occurred, it is unlikely that the embedded bridge components caused any change to the existing physical or chemical characteristics of the in-place sediment. The Fort McHenry Channel was dredged to restore the maintained dimensions following removal of the collapsed portions of the Key Bridge. The primary impact from these actions was localized displacement of sediment from the collapsed bridge components and possibly settling or deposition of resuspended sediments adjacent to the dredging and demolition removal areas.

- The reconstruction of the Key Bridge will involve removal of remaining in-place bridge components and installation of new bridge components and footings. These in-water activities would disturb bottom sediments and aquatic habitat in an area within a limited footprint. The new bridge will remain within MDTA's existing right-of-way. Therefore, it is expected that there would not be a significant loss of bottom or open water aquatic habitat from the new bridge construction.
- Maintenance dredging of the federal navigation channels within the Patapsco River causes periodic bottom disturbances similar to those evaluated for the improvements to the Sparrows Point Channel. The maintained depth of the federal navigation channels where dredging occurs limits the presence and diversity of benthic organisms, and continued impacts from maintenance dredging would be periodic and temporary. Future maintenance dredging activities of the existing navigation channels, including the Curtis Creek Channel and the improved Sparrows Point Channel, would not be anticipated to cause any change to the physical or chemical quality of sediments regionally in the lower Patapsco River. Following completion of the dredging to deepen and widen the Sparrows Point Channel, future maintenance dredging events would be expected to cause only localized and minor disturbance to remove shoaled sediment within the channel.
- The proposed remedial dredging and capping at the Bear Creek Superfund Site would result in a net decrease in the volume and surface area of impacted sediment that is available for exposure to aquatic and other receptors within the system and would contribute to an overall improvement in sediment quality in the area. The dredging and capping would change water depth and aquatic habitat type in the immediate project area; however, the remedial cleanup would result in long-term beneficial impacts on the chemical composition of the sediment and reduce the potential for transfer of constituents of concern exceeding recommended levels into the aquatic food web.
- Changes to weather patterns, including increasing storm frequency and intensity, precipitation amount, storm surge, temperatures, and wave action, could impact sediment. These changes to physical processes and conditions may change the quantity and quality of sediment available in aquatic habitats and areas through increased sediment erosion, deposition, redistribution, or resuspension during storm events.

Deepening and widening of the Sparrows Point Channel for the SPCT would result in a net improved condition of the post-dredging surface sediment within the project area and regionally within the lower area of the Patapsco River. The greatest beneficial impact would be the removal of the impacted sediments east of Coke Point and placement of the material containing contaminants in upland DMCFs. Dredging of material for the channel improvements would remove sediments impacted by metals, PAHs, PCBs, and other constituents, resulting in a permanent net improvement of surficial sediment conditions. Any temporary impacts associated with dredging (e.g., localized increases in turbidity) would be localized and minimized and mitigated by BMPs, as described in Section 3.2. Overall, the SPCT project would contribute to long-term net improvements in the quality of aquatic habitat and the reduction in chemical exposure pathways to aquatic life in the vicinity of the project area. The localized impacts of the SPCT project would make a significant positive contribution to the incremental benefits to sediment quality from other planned actions in the Patapsco River.

4.3 Floodplain and Flood Hazard

4.3.1 Affected Environment

Executive Order 11988, *Floodplain Management*, requires federal agencies to evaluate all proposed actions within the 1% annual exceedance (100-year) floodplain. Actions include any federal activity involving 1) acquiring, managing, and disposing of federal land and facilities, 2) providing federally undertaken, financed, or assisted construction and improvements, and 3) conducting federal activities and programs affecting land use, including water and related land resources planning and licensing activities. The 0.2% annual exceedance (500-year) floodplain should be evaluated for critical actions or facilities, such as storage of hazardous materials or construction of a hospital.

The project location is mapped across two Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) — 2400100535G and 2400100555G, effective May 5, 2014 (FEMA 2023a) (see Figure 22). FIRMs are official maps of a community that show special flood hazard areas, risk zones, base flood elevations, floodways, and community information. FIRMs are a critical tool for floodplain management and insurance purposes.

FEMA uses two main categories for delineating coastal flood hazard zones: an inundation zone (“AE” designation) and a velocity zone (“VE” designation). Zone AE indicates areas that have at least a 1% annual chance of being flooded but where wave heights are less than 3 feet. Zone VE, also known as the coastal high-hazard zone, is where wave action and fast-moving water can cause extensive damage during a base flood event.

On some FIRMs, FEMA depicts a limit of moderate wave action to depict areas where wave heights greater than 1.5 feet may exist. Areas within the limit of moderate wave action that are not depicted as Zone VE are sometimes referred to as Coastal A Zone area. Post-storm observations have shown that in addition to Zone VE areas, waves as small as 1.5 feet can also cause significant damage, and as such, the Coastal A Zone is regulated similarly to Zone VE (FEMA 2021).

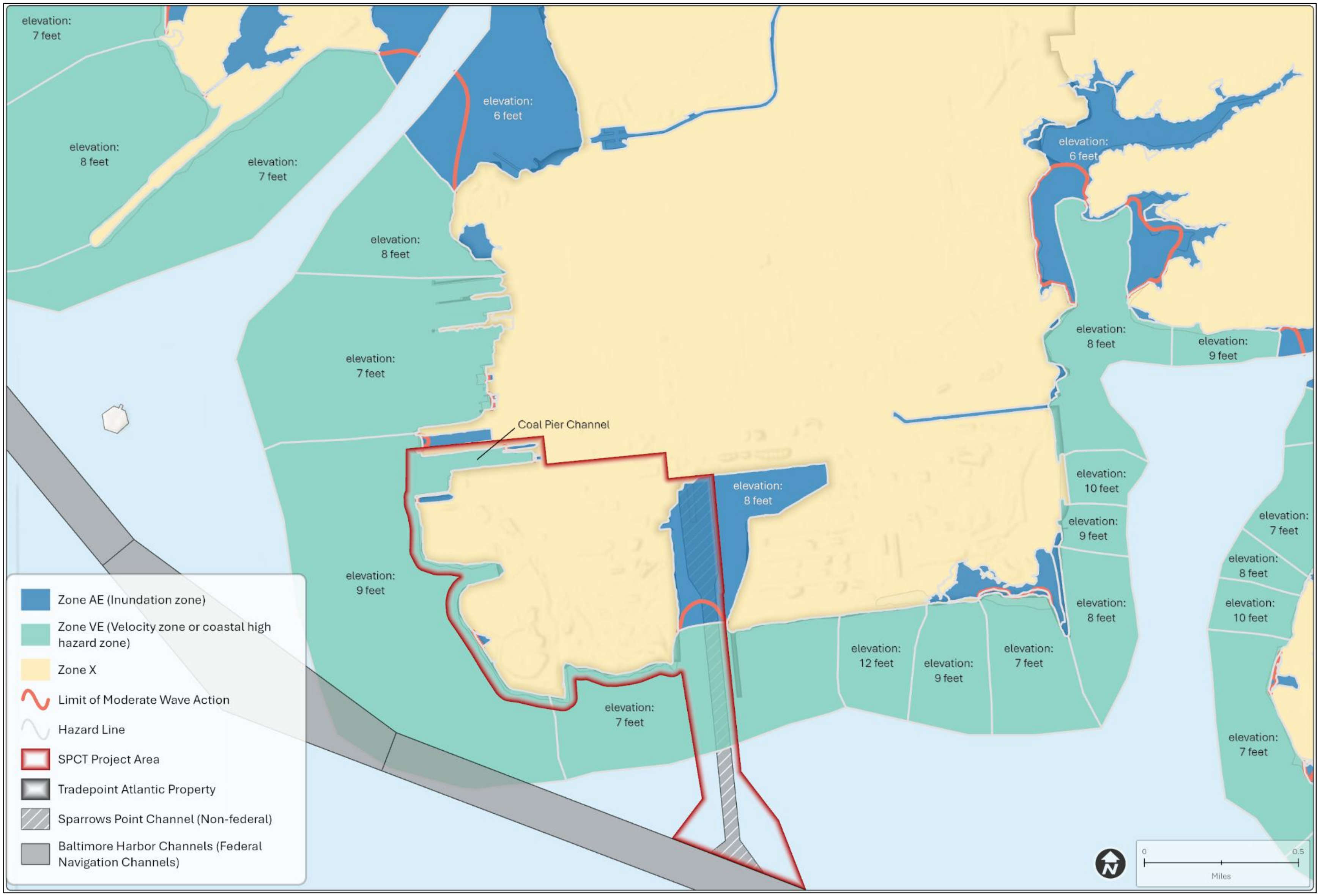
Base flood elevation (BFE) is the elevation of the surface water resulting from a flood that has a 1% chance of being equaled or exceeded in any given year and includes the effects of wave action. In coastal areas, BFEs reflect the increase in water levels during a flood event due to extreme tides, storm surge, and overland wave effects. For areas that are susceptible to coastal flooding, FEMA estimates coastal BFEs by conducting the following coastal flood hazard analyses: storm surge, wave setup, wave runup, wave generation, dune erosion, and overland wave propagation (FEMA 2023b).

Limit of moderate wave action represents areas where wave heights could exceed 1.5 feet. The limit of moderate wave action helps define areas that are at risk from not only inundation but also wave-related impacts, such as erosion, structural damage, and storm surge effects.

Base flood elevation (BFE) is a computed elevation to which floodwater is expected to rise during a base flood (a flood with a 1% annual chance of occurring, also called a 100-year flood). The BFE is used to determine areas at risk of flooding.

The SPCT project area is along the Patapsco River, a tidally influenced river that flows into the Chesapeake Bay. The Patapsco River is located in Zones AE and VE, and Coke Point is in Zone X, an area of minimal flood hazard (FEMA 2023a, see Figure 22). Zone AE within the inlet on the west side of Sparrows Point has a BFE of 6 feet, and zone VE has a BFE of 9 feet west of Sparrows Point and a BFE of 7 feet to the southeast of Sparrows Point.

Figure 22. FEMA Floodplain Map



4.3.2 Environmental Consequences

4.3.2.1 No-action Alternative

Potential future development of Coke Point would not affect the floodplain because there would be no in-water work beyond the routine maintenance dredging that is already occurring.

4.3.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

There are no impacts on floodplains from the development of the terminal or channel improvements.

4.3.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

No impacts on the floodplain would occur because the High Head Industrial Basin is located in an upland area. Installation of the temporary outfall and diffuser needed to discharge effluent generated during sediment placement and dewatering at the High Head Industrial Basin DMCF would not impact the floodplain or create a flood hazard. Appropriate BMPs would be implemented as required by permits to protect resources.

Coal Pier Channel DMCF at Sparrows Point

The DMCF would be created by constructing a waterside berm across the mouth of the Coal Pier Channel and therefore would not decrease the width of the flood zone in the SPCT project area. The addition of the DMCF would cause waves in the immediate vicinity of the DMCF to ramp up or wash up against the dike of the DMCF. This activity would be due to increased wave setup and wave runup caused by the dike. This phenomenon would be minimal and limited to the footprint of the proposed project area. Changes in water flow or pattern during flood events would be limited to areas within approximately 0.25 mile of the DMCF. The Coal Pier Channel DMCF would not impact the flood vulnerability of the surrounding communities.

The Coal Pier Channel DMCF would be located within Zone VE with a BFE of +9 feet, and approximately 19.6 acres of WOTUS would be filled to create the DMCF. Preliminary coastal flood hazard analyses for overland wave propagation, wave setup, and wave runup were conducted for the proposed 100-acre DMCF prior to its dismissal to determine the flood hazards in the project area with the addition of the DMCF, similar to those conducted to determine the existing and future conditions. (Storm surge and wave generation are driven by offshore weather conditions and tides, which would not be influenced by the DMCF. There are no dunes in the vicinity of the project site, so a dune erosion analysis is not applicable.) Equations in FEMA's Coastal Construction Manual (2011) were used to analyze the maximum wave crest propagating (spreading) across the site. These equations show that as water depth decreases at the site, so would the maximum wave crest.

Overland wave propagation is the movement of floodwaters as waves travel across the floodplain, away from the primary river or stream channels. This can occur during storm surges or heavy rainfall events where water inundates the land surface.

Wave setup is the increase in the average water level due to the breaking of waves as they approach the shore. This setup occurs as the momentum from the waves is transferred to the water body, raising the water level above the expected tide level.

Wave runup is the height to which waves run up the slope of a revetment, bank, or dike above the still water level. In a setting like the Baltimore Harbor, wave runup is generally more influenced by anthropogenic (human-made) structures and the specific design of the harbor compared to the more natural processes on an open coast.

Wave setup and runup were analyzed using methods outlined in FEMA's November 2023 *Guidance for Flood Risk Analysis and Mapping*. The analysis showed wave setup and wave runup would be increased in the immediate vicinity of the DMCF but not elsewhere. These analyses were for the larger 100-acre DMCF, which would have extended between 1,100 and 2,400 feet into the Patapsco River. The Coal Pier Channel DMCF would not extend into the river and represents a much smaller impact, limited to within 0.25 mile of the DMCF. The Coal Pier Channel DMCF would not impact the flood vulnerability of the surrounding communities.

Existing Nearshore MPA DMCFs

No impacts on the floodplain would occur because the MPA DMCFs are existing permitted confined placement sites, and no new material would be placed in the floodplain.

Existing Ocean Disposal Site

No impacts on the floodplain would occur because NODS is an existing USEPA-designated ocean placement site.

4.3.2.4 Preferred Alternative – Dredged Material Placement

No impacts on the floodplain would occur because dredged material would be placed at High Head Industrial Basin DMCF, existing MPA DMCFs, and the NODS; no new material would be placed in the floodplain.

4.3.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on the floodplain and flood hazard include those that would result in temporary and long-term changes to the floodplain and flood hazard.

- The collapse and removal of collapsed portions of the Key Bridge posed a temporary hazard in the floodplain. Given the river depth where these activities occurred, it is unlikely that floodplain function was altered. However, the presence of debris in the Fort McHenry Channel posed a hazard to vessel traffic. The primary hazard was eliminated with the removal of the collapsed portions of the Key Bridge.
- The reconstruction of the Key Bridge will involve removal of remaining in-place bridge components and installation of new bridge components and footings. These in-water activities would cause a temporary hazard in the area. This hazard will be managed through coordination with the Corps and the USCG. Therefore, it is expected that impacts from the new bridge construction on the floodplain and flood hazard would be temporary.
- Changing weather patterns will continue to cause increases in storm frequency and intensity, precipitation amount, storm surge, temperatures, and wave action, all of which will impact floodplain functions. Similarly, flooding events are expected to increase in frequency, intensity, and duration. Sea level rise will also continue to alter the floodplain, further exacerbating these impacts on floodplain function and hazards.

The Combined Options Alternative would have minimal impacts on floodplains or flood hazards. The Coal Pier Channel DMCF would have the potential to affect floodplain and flood hazard; however, changes in water flow or pattern and wave ramp up would be limited to areas within approximately 0.25 mile of the DMCF or less. The Preferred Alternative would not impact the floodplain or increase flood hazards. Therefore, the SPCT project would not contribute to the impacts of planned actions and environmental trends on floodplains or flood hazards from the planned actions and environmental trends .

4.4 Hydrodynamics

4.4.1 Affected Environment

> **Hydrodynamics** in a river system refers to the study of water movement, including how it flows, transports sediments, interacts with riverbeds and banks, and responds to changes in the environment, such as seasonal water levels, topography, and human interventions. River hydrodynamics is fundamental in understanding how rivers shape landscapes, support ecosystems, and respond to environmental changes, both natural and human induced.

The study area for the hydrodynamics analysis includes the waterways in the vicinity of Sparrows Point, including Bear Creek, the Patapsco River from the confluence with Bear Creek downstream past Sparrows Point, and the Sparrows Point Channel. Tidal currents of the upper Chesapeake Bay under existing conditions were assessed using a regional two-dimensional hydrodynamic MIKE 21 Flexible Mesh model. MIKE 21 is modeling software developed by the Danish Hydraulic Institute for oceanographic, coastal, and estuarine dynamics applications. The model can predict time-dependent flow conditions, such as free surface elevation and current speed, at each point in the computational domain.

The hydrodynamic model domain includes the upper Chesapeake Bay from Annapolis, Maryland to Tolchester Beach, Maryland, as well as the Patapsco River and Baltimore Harbor. Time-varying tidal signals were applied at the Annapolis and Tolchester Beach boundaries using measured tide data from NOAA Center for Operational Oceanographic Products and Services (CO-OPS) stations 8575512 and 8573364, respectively. Time-varying discharges from the Patapsco River and Gwynns Falls are also incorporated into the model using measured discharge data from US Geological Survey stations 01589035 and 01589352, respectively. The model domain and boundaries are shown in Figure 23.

The tides in Baltimore Harbor are characterized as semi-diurnal with two high tides and two low tides per day. Spring and neap tides are experienced in Baltimore Harbor in two-week cycles, where the tide range is largest during spring tides and smallest during neap tides. The mean tide range reported at the Fort McHenry tide gauge (NOAA CO-OPS Station 8574680) is relatively small at 1.15 feet, which results in low current speeds throughout the harbor. Tidal data for Baltimore Harbor are provided in Table 11 for reference.

Table 11. Tidal Datums in Baltimore Harbor (NOAA CO-OPS Station 8574680)

Tidal Datum	Elevation (feet)
MHHW	+0.82
MHW	+0.53
MSL	-0.03
MLW	-0.62
MLLW	-0.84

Notes:

MHHW = mean higher high water; MHW = mean high water; MSL = mean sea level; MLW = mean low water; MLLW = mean lower low water

Figure 23. Model Domain and Boundaries

Modeled tidal currents under existing conditions were evaluated and assessed near Sparrows Point and the adjacent water body of Bear Creek. The duration of the model simulation was one month to capture multiple spring-neap tidal cycles. The current flow fields during a simulated spring flood and ebb tide are shown in Figure 24 and Figure 25, respectively.

> A **knot** is a unit of speed equivalent to one nautical mile (or 1.15 statute miles per hour).

Current speeds in Baltimore Harbor are relatively slow. The highest current speeds (0.25 to 0.41 knots) were modeled in the Brewerton Channel adjacent to Sparrows Point. Other notable tidal currents were observed at the southwest corner of Sparrows Point, as well as between Fort Carroll and the former Key Bridge site (0.20 to 0.33 knots). The slowest modeled current speeds were within the L-shaped basin at Sparrows Point and were less than 0.02 knots. The modeled current speeds were generally higher during flood tides than during ebb tides.

Figure 24. Modeled Current Flow Field during Typical Flood Tide

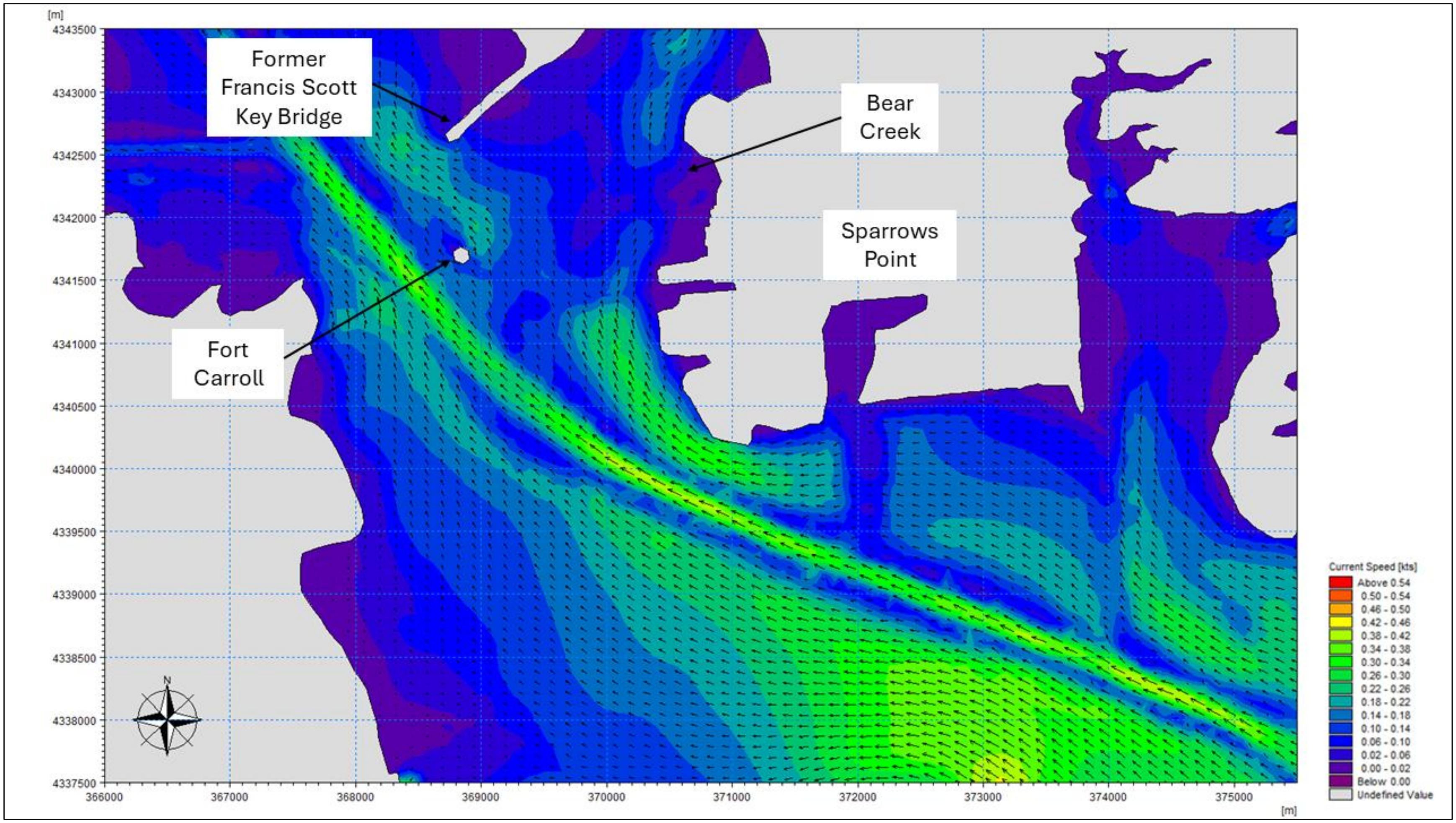
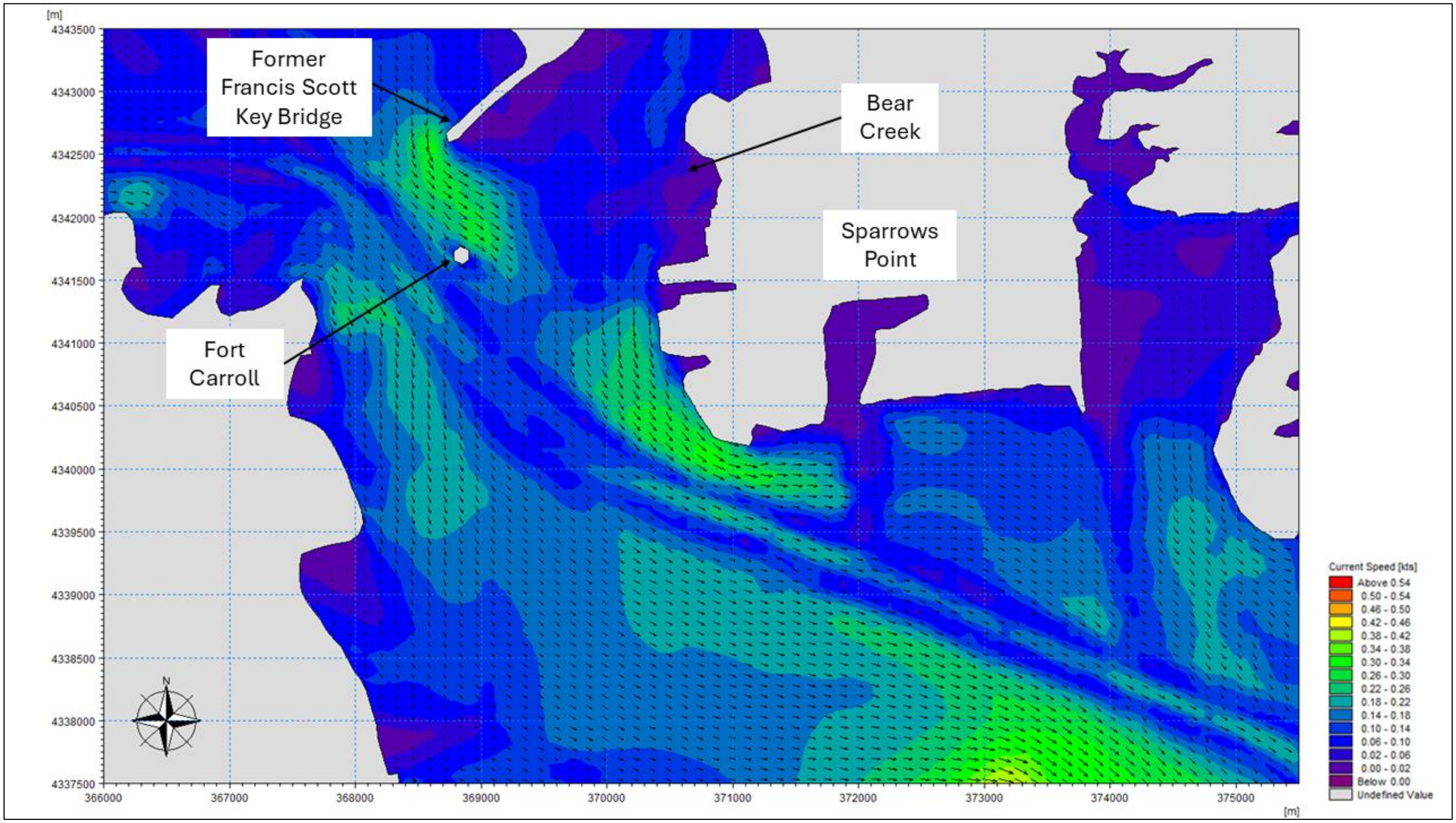


Figure 25. Modeled Current Flow Field during Typical Ebb Tide



Current speeds were also evaluated in Bear Creek and were generally slower than what was modeled in the Brewerton Channel or around Sparrows Point. The modeled current speeds in Bear Creek were 0.12 to 0.21 knots. The current direction in Bear Creek showed to flow south-to-north during flood tides and north-to-south during ebb tides.

The modeled current speeds under existing conditions during a spring flood and spring ebb tide are presented in Table 12.

Table 12. Summary of Modeled Current Speeds

Area	Modeled Current Speed (knots)	
	Flood Tide	Ebb Tide
Brewerton Channel	0.41	0. 25
Sparrows Point	0.33	0.20
Bear Creek	0.21	0.12

4.4.2 Environmental Consequences

4.4.2.1 No-action Alternative

The No-action Alternative would not have an impact on water currents or water levels. Maintenance dredging would continue to retain the Sparrows Point Channel's existing bathymetry. As such, elevations within the Sparrows Point Channel would continue to vary from approximately -2 feet MLLW at the northern end of the channel where it meets the wharf to the typical depth of -44 feet MLLW. Potential future development of Coke Point would not affect hydrodynamics.

4.4.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Tidal currents are directed across the Sparrows Point Channel. The currents within the footprint of the channel (0 to 0.19 knots) differ from those outside the footprint (0.19 to 0.39 knots). The modifications to the channel would expand the area with 0 to 0.19 knot currents from 300 to 450 feet wide. Currents outside of the channel footprint would be unchanged.

4.4.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

No impacts on tidal hydrodynamics would occur because the High Head Industrial Basin is located in an upland area. Installation of the temporary outfall and diffuser needed to discharge effluent from the High Head Industrial Basin DMCF would not be expected to impact the hydrodynamics in the Patapsco River. The feeder line to extend the outfall and a diffuser would be placed on the river bottom, the pipeline used would be 18 or 24 inches in diameter, and the pipeline would be temporary for the duration of dredged material placement and dewatering at the High Head Industrial Basin DMCF. Once dewatering and consolidation of the material are completed, the feeder line and diffuser would be removed.

Coal Pier Channel DMCF at Sparrows Point

Existing currents within the Coal Pier Channel are negligible (0 to 0.02 knots) with minimal water exchange. Filling this area to create a DMCF would have a negligible impact outside of the area itself – both flood and ebb tidal currents along the western shoreline of Coke Point would continue unimpeded. The exterior dike of the Coal Pier Channel DMCF would be nearly flush to the existing Coke Point shoreline. Any changes to the current speed would be limited to the immediate vicinity of the DMCF and would not impact the hydrodynamics of the Patapsco River.

Existing Nearshore MPA DMCFs

No new impacts on the coastal hydrodynamics would occur because the MPA DMCFs are existing permitted placement sites.

Existing Ocean Disposal Site

No new impacts on hydrodynamics would occur because NODS is an existing USEPA-designated ocean placement site.

4.4.2.4 Preferred Alternative – Dredged Material Placement

No new impacts on the hydrodynamics of the Patapsco River would occur because dredged material would be placed at High Head Industrial Basin DMCF, existing MPA DMCFs, and the NODS; no structures or material would be placed in the river.

4.4.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on hydrodynamics include those that would allow for removal or addition of structures to the Patapsco River.

- The Key Bridge debris removal and reconstruction projects would include removal of existing piers and placement of new piers and pier protection in the Patapsco River. All project activities will require permits that would include stipulations protective of nontidal and tidal resources. Temporary and permanent impacts will be reduced through avoidance, minimization, and mitigation measures and implementation of BMPs. Therefore, rebuilding the Key Bridge will not have significant impacts on water resources, which include the hydrodynamics of the river.

The SPCT project would cause a slight change in the hydrodynamics within the Sparrows Point Channel but would not change the hydrodynamics of the Patapsco River outside of this channel. The proposed dredging to expand the Sparrows Point Channel would not alter currents outside of the channel footprint. Under the Combined Options Alternative, construction of the Coal Pier Channel DMCF would have a negligible impact – both flood and ebb tidal currents along the west shoreline of Coke Point would continue unimpeded. The Preferred Alternative would not impact the hydrodynamics of the Patapsco River.

The proposed SPCT project would not significantly impact the hydrodynamics of the Patapsco River; therefore, the SPCT project would not contribute substantially to the impacts of planned actions and environmental trends on the hydrodynamics of the Patapsco River.

4.5 Groundwater

4.5.1 Affected Environment

Groundwater in the SPCT project area site is not used for human consumption and does not pose a direct risk to human health except when construction activities require digging to depths that could cause contact with groundwater. Groundwater conditions have been affected by historical activities. Constructed features may prevent infiltration and therefore impact groundwater flow. Dredging and placement of dredged material may also influence groundwater infiltration and the flow of groundwater to surface water along shorelines.

> **Groundwater** is water that exists beneath the Earth's surface, filling the porous spaces in soil, sediment, and rock formations. It is stored in and slowly moves through geological formations known as aquifers. Groundwater is a crucial component of the Earth's hydrological cycle, contributing significantly to drinking water supplies, irrigation for agriculture, and maintaining river flows and ecosystems, especially during dry periods.
>
> **Infiltration** is the process by which water on the ground enters and percolates through the soil and subsurface layers to replenish underground aquifers. Factors influencing groundwater infiltration include soil composition, vegetation cover, land use, precipitation patterns, and the presence of impermeable surfaces.

4.5.1.1 Coke Point

The upper 10 to 70 feet of fill on Coke Point consists of fill material (predominantly slag) generated during historical steelmaking operations. Shallow groundwater within this slag layer generally flows radially from the center of Coke Point outward toward the surface water bodies present to the east, south, and west (turning basin to the east and Patapsco River to the south and west). The majority of the groundwater surface elevation beneath Coke Point varies from sea level along the shorelines and southern portion to approximately 3 feet above sea level within the northeast portion. Groundwater surface elevation rises as Coke Point transitions to Sparrows Point "mainland." Groundwater flow on Coke Point out toward the shoreline is slow due to this flat groundwater gradient, numerous subsurface obstructions, and previously constructed features within Coke Point. This groundwater may discharge into surface water.

Below the slag fill, groundwater is present in natural silty-clay material. This intermediate zone groundwater generally flows to the south-southwest; however, groundwater pumping from this depth is conducted as part of the graving dock operations at the Sparrows Point Shipyard immediately northwest of Coke Point. This causes portions of the intermediate groundwater in the northwest region of Coke Point to flow north towards the graving dock.

Historically, Coke Point was the site of coke processing activities related to steelmaking, and industrial chemicals associated with the coke processing have impacted groundwater beneath Coke Point. Groundwater studies have been completed in association with environmental investigations beginning in the 1980s and 1990s with Resource Conservation and Recovery Act (RCRA) assessments. A sitewide groundwater study was completed in 2001 (CH2M Hill 2001), and a site assessment focusing on Coke Point was conducted in 2009 (EA 2009). Sampling events conducted as part of these investigations identified two primary areas of groundwater impact associated with coke processing activities on the northern half of Coke Point:

1. In the northwestern part of Coke Point, groundwater is contaminated with benzene, naphthalene, and related VOCs
2. In the east-central portion of Coke Point, groundwater is contaminated with naphthalene and related SVOCs

Exposure to groundwater at the site is currently restricted; however, these compounds could cause negative effects if human and ecological receptors were exposed to the groundwater beneath Coke Point. RCRA interim measures (IMs) to address these impacts were initiated in 2010 and are ongoing (TPA 2023a). Recovery of non-aqueous phase liquids continues to remove sources of impact on groundwater. Contaminated groundwater removed via the IM pumping activities is treated before reinjection (TPA 2023a). Annual reports summarize the progress of these IMs in addressing groundwater impacts (TPA 2023a).

Using hydrogeological modeling, the infiltration rate of precipitation under current conditions has been calculated to be approximately 10 inches of water per year (CH2M Hill 2001). This represents the portion of annual precipitation that does not run off the surface or evaporate and instead percolates into the groundwater.

4.5.1.2 High Head Industrial Basin

Shallow groundwater in the vicinity of the High Head Industrial Basin is present in fill materials, including slag sourced from the former steelmaking activities. Groundwater sampling conducted in 2023 around the perimeter of the High Head Industrial Basin has not identified impacts of concern to human health or the environment under current site use and conditions (TPA 2023b).

4.5.2 Environmental Consequences

The hydraulic gradient of Coke Point influences the average rate at which groundwater migrates from the upland area toward surface water. Groundwater migration can impact associated contaminant plumes. Changes to these existing conditions under each alternative are discussed below.

4.5.2.1 No-action Alternative

Groundwater would remain in its current condition, and the existing IMs would continue to address groundwater impacts. Future development of Coke Point would involve paving and construction of buildings, which would decrease infiltration of precipitation to groundwater, and resulting impacts on groundwater would be similar to those associated with terminal construction (see Section 4.5.2.2). If the High Head Industrial Basin were to be filled with dry material and the area repurposed, there would be no impact on groundwater.

4.5.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Planned paving and construction of buildings on Coke Point for the proposed terminal would result in approximately 95% of Coke Point being considered impervious to infiltration. This increase of impervious surfaces, combined with management of stormwater runoff, would greatly decrease subsurface infiltration of precipitation through the slag to groundwater. Given that much of the groundwater on Coke Point comes from infiltration of precipitation (rather than lateral flow), this would result in decreased groundwater recharge, decreased groundwater elevations and hydraulic gradients, and decreased groundwater flow rates. The shallow groundwater surface elevation across Coke Point would gradually fall to 0 to 2 feet above sea level rather than a maximum of approximately 3 feet above sea level in the northern portion of Coke Point under current conditions. The groundwater gradient in the central and southern portions of Coke Point is already flat. Groundwater gradient is directly correlated with groundwater flow rate, so that an impervious cap would decrease both the groundwater gradient and flow rate to less than 20% of their current values, with the biggest decrease in the northern portion of Coke Point. The change in infiltration could slightly decrease potential leaching of contaminants in groundwater but could also increase the concentrations of contaminants due to decreased volume of water infiltration. Additionally, following recent efforts to recover non-aqueous phase liquids that act as sources of impacts to groundwater, groundwater contaminant concentrations are expected to decrease. Regardless, the contaminants would be largely immobilized within groundwater beneath the paved surface. Groundwater is not used for human consumption, so the mobility of contaminants from groundwater to surface water is the primary concern when considering potential impacts. Therefore, paving Coke Point coupled with capping of the wharf revetment would substantially decrease the adverse effects of existing groundwater impacts by decreasing the flow of groundwater to surface water. The benefits of decreased groundwater flow rates are addressed further in the discussion of impacts in Section 4.6 on surface water.

4.5.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

Placement of wet dredged material in the High Head Industrial Basin DMCF could temporarily increase the water level in the basin and potentially compress the sediments currently at the base of the basin. The High Head Industrial Basin DMCF dike would be designed to contain contaminants in the existing sediments within the footprint of the DMCF. Mobility of contaminants in the sediment would be further offset by compaction of the dredged materials and underlying sediment, which would decrease their permeability.

Coal Pier Channel DMCF at Sparrows Point

The Coal Pier Channel DMCF adjacent to Coke Point Cove would have minor impacts on groundwater proximate to the DMCF. Groundwater flow directions would be slightly modified as groundwater would flow around or under the compacted dredged material. However, paving Coke Point would greatly decrease groundwater flux overall, such that the volume of groundwater diverted around the DMCF would be substantially decreased from current groundwater flux. Placement and consolidation of wet dredged material could compress the underlying river sediments and could result in downward mobilization of contaminants from these sediments, temporarily impacting the quality of groundwater under the river. However, as the dredged materials are compacted, and fine particles filter down into the river sediments, permeability and contaminant mobility would decrease. In the long term, the resulting low-permeability cover over the existing sediments would decrease upward migration of groundwater and chemicals through the sediments to surface water. See Section 4.2 for more information on sediment.

Existing Nearshore MPA DMCFs

No new groundwater impacts would occur because the MPA DMCFs are existing permitted placement sites.

Existing Ocean Disposal Site

Placement of dredged material at NODS would not impact groundwater.

4.5.2.4 Preferred Alternative – Dredged Material Placement

The impacts on groundwater from the Preferred Alternative would be the same as those described for the Combined Options Alternative, but the impacts associated with the construction of the Coal Pier Channel DMCF would not occur.

4.5.3 Planned Actions and Environmental Trends

Paving and construction of the terminal would result in making approximately 95% of Coke Point impervious to infiltration, which when combined with stormwater management, would greatly decrease infiltration of precipitation to groundwater. Paving, along with construction of and placement of dredged material within the High Head Industrial Basin DMCF, would reduce the risk of contaminants from historical industrial uses moving through the groundwater into surface water. The planned actions described in Section 4.1.4 are all water-based projects that would have minimal and localized impacts on groundwater. The incremental impacts of the SPCT project would not contribute to the impacts on groundwater from other planned actions.

4.6 Surface Water

Surface water provides habitat and resources for fish and wildlife, means for shipping of goods and for transit of people, and a place for recreation and fishing. Surface waters are also used to support the economy through agriculture, industrial processes, and power production. Site-specific physical and chemical characteristics of surface water are used to determine the quality of the water with respect to suitability for supporting aquatic life and human uses. The quality of surface water may be influenced by watershed and local inputs, including non-point source land and agricultural practices, groundwater, regulated point-source industrial discharges and stormwater, and displacement or resuspension of underlying sediments during storm events, during vessel movements, and during waterfront and marine construction activities.

4.6.1 Affected Environment

State of Maryland surface waters affected by the SPCT project are the tidal waters of the Patapsco River in the vicinity of Coke Point and near the mouth of Bear Creek. This includes waters in the vicinity of the existing Sparrows Point Channel where dredging would occur, waters on the east side of Coke Point where the wharf would be constructed, waters on the southeast side of Coke Point where stormwater from the terminal would be discharged, waters on the west side of Coke Point where the proposed Coal Pier Channel DMCF would be constructed, and waters within or near the mouth of Bear Creek where effluent from dewatering of on-site DMCFs would be discharged.

MDE classifies the state's water bodies into **Water Body Use Classes** to define the intended uses and water quality standards needed to support those uses. By setting and enforcing standards for each class, MDE aims to manage pollution sources and preserve water quality across its diverse waterways. Each class has specific criteria to protect activities (e.g., swimming, fishing, providing habitats for aquatic life). Water bodies are classified based on location, ecological significance, and recreational or commercial value.

Class I: Water Contact Recreation and Protection of Nontidal Warmwater Aquatic Life – Protects waters for recreational activities involving direct contact, like swimming, and ensures aquatic life (other than trout) can thrive. Provides agricultural and industrial water supply.

Class II: Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting – Intended for estuarine and coastal waters that support marine life and shellfish, ensuring these areas are suitable for harvesting seafood safely.

Category III: Nontidal Cold Waters – Protects waters suitable for supporting naturally reproducing trout populations and other coldwater obligate species.

Category IV: Recreational Trout Waters – Designed for waters where trout are managed for recreational fishing but may not reproduce naturally. Allows for slightly warmer temperatures but still supports stocked trout populations for recreational fishing.

The tidal waters surrounding the project area and extending eastward into the Upper Chesapeake Bay are classified as Use Class II (Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting) by MDE. The individual designated uses of Use Class II waters include: growth and propagation of fish, other aquatic life, and wildlife; water contact sports; leisure activities involving direct contact with surface water; fishing; agricultural water supply; industrial water supply; propagation and harvesting of shellfish; seasonal migratory fish spawning and nursery use; seasonal shallow-water submerged aquatic vegetation (SAV) use; open-water fish and shellfish use; seasonal deep-water fish and shellfish use; and seasonal deep-channel refuge use.

Under Section 303(d) of the Clean Water Act, water bodies that do not meet established water quality standards are subject to Total Maximum Daily Loads (TMDLs). TMDLs establish the maximum limits for impairing substances or pollutants that a water body can receive from combined sources and meet water quality standards for its designated use(s). TMDLs distribute the total limited load between point and nonpoint sources, also known as a Waste Load Allocation (WLA).

The Chesapeake Bay TMDL, approved by USEPA in 2010, established watershed limits for nutrients (nitrogen and phosphorus) and total suspended solids (TSS). In Maryland, the USEPA approved a Baltimore Harbor TMDL specifically for nutrients (nitrogen and phosphorus), chlordane in sediments, trash and debris for the Middle Branch and Northwest Branch Portions of the Patapsco River, and PCBs in fish tissue within the Patapsco River. Point-source discharges, including discharges from DMCFs, are subject to the Chesapeake Bay TMDL and the WLAs. WLAs are enforced in Maryland under the NPDES permit program through individual discharge permits.

Total Maximum Daily Load (TMDL) is a regulatory term of the Clean Water Act that represents the maximum amount of a pollutant that a water body (e.g., river, lake, estuary) can receive daily while still meeting water quality standards. TMDLs are established to restore impaired waters by addressing pollutants that cause water quality degradation. Once a TMDL is established, states and local agencies implement strategies to limit pollutant levels to help improve water quality and support designated uses, such as recreation, drinking water, and aquatic habitats.

Waste Load Allocations (WLAs) set the amount of specific pollutants that can be safely released into a river, lake, or other body of water from specific sources, such as factories or treatment plants, without harming the water's health or quality. WLA is an essential part of the TMDL calculation. These limits help ensure that water quality objectives are met and are essential for managing and reducing pollution in streams, rivers, lakes, and coastal waters.

4.6.1.1 Overview of Surface Water Quality Adjacent to Coke Point

Coke Point is surrounded by the Patapsco River to the west and south, the mouth of Bear Creek to the northwest, and the existing Sparrows Point Channel to the east. Surface water quality in these areas is affected by river flow and precipitation, daily tides, and the groundwater flow patterns under Coke Point. Surface water physical measurements, nutrient data, and chemical data from past and present data sources are used to describe the surface water quality of the SPCT project area. In addition, known inputs and sources to adjacent surface waters from stormwater and groundwater are also described. Data sources include past studies that assessed surface water quality in combination with offshore sediment quality between 2003 and 2011 (EA 2003, 2009, 2010a, 2010b, 2011), nutrient data and in situ (in place) water quality measurements collected during seasonal aquatic resource surveys in 2023 and 2024 (EA 2024a, 2024b, 2024c, 2024d), and data collected from project-specific dredged material characterization studies (EA 2024e, 2025b, 2024f).

Physical Conditions and Water Quality Measurements

Baltimore Harbor includes an approximate 15-statute mile tidal portion of the Patapsco River with water depths generally less than 20 feet with the exception of the federal navigation channels and other state and private access channels that are dredged to provide safe navigation for waterborne commerce (Wang et al. 2004). Surface water circulation and exchange within the harbor are governed by the effects of wind, tides, salinity-based density gradients, and river flows (Garland 1952; Boicourt et al. 1982). Vertical stratification of the water column is common, particularly in areas of deeper waters (such as the navigation channels) where denser (heavier), saltier, and cooler bottom waters move upstream with incoming tides and remain below less dense (lighter) freshwater or low salinity surface waters moving downstream towards the Chesapeake Bay. Due to water column density, salinity stratification, limited vertical mixing, and use of dissolved oxygen by organisms and chemical degradation processes, low dissolved oxygen concentrations in deep bottom waters are often present below the requirements to support aquatic life, particularly in the late summer and fall seasons. The severity of this condition in the Patapsco River varies from year to year based on precipitation and freshwater inflow and is most common in deep water areas, including the navigation channels.

Water depths in the SPCT project area vary and range from less than 2 feet up to 15 feet in the nearshore areas, from approximately 15 feet up to 45 feet in the west and south offshore areas, and from approximately 10 feet up to 47 feet in the proposed channel improvements footprint. Water quality measurements recorded at seven locations in the vicinity of Coke Point (Figure 26) during seasonal nutrient surveys in summer and fall 2023 and winter and spring 2024 (EA 2024a, 2024b, 2024c, 2024d) indicated that water temperature, salinity, pH, and dissolved oxygen varied by season and water depth. Within the project area, salinities are typically classified as oligohaline (≤ 0.5 to 5 parts per thousand [ppt]) within the winter and spring and as either low mesohaline (≥5 to 12 ppt) or high mesohaline (≥12 ppt to 18 ppt) during the summer and fall. During the seasonal surveys, salinities in the project area ranged from 1.6 to 17.8 ppt, with highest salinities measured in the summer and fall season bottom waters. Water temperature ranged from 41.2 to 81.7 ºF (degrees Fahrenheit), with highest and lowest water temperatures measured in summer and winter season surface waters, respectively. Dissolved oxygen ranged from 0.5 to 13.4 milligrams per liter (mg / L), with low dissolved oxygen and hypoxic conditions measured in the summer season bottom waters. pH ranged from 7.1 to 10.2, with highest and lowest pH values measured in the winter and spring / summer, respectively. Turbidity (measured as nephelometric turbidity units or NTUs) ranged from 1.0 to 32.3 NTU and tended to be higher in bottom waters, regardless of season.

Nutrients

Nutrients are important for supporting aquatic life, but in excess and through degradation, nutrients may consume and deplete dissolved oxygen in the water column. Nutrients (nitrogen and phosphorus) may be present in dissolved form or bound to particles within the water. Excess nitrogen and phosphorus have been identified as a concern for Baltimore Harbor surface waters, and the inputs and the TMDL for these nutrients are managed and regulated by MDE through the NPDES process.

Surface water nutrient samples were collected from seven locations in the vicinity of the SPCT project area in summer and fall 2023 and winter and spring 2024 (Figure 26) (EA 2024a, 2024b, 2024c, 2024d). Overall, total nitrogen concentrations were higher in the winter and spring (between 1 and 2 mg / L) and lower in summer and fall (less than 1 mg / L). Most nitrogen was present in dissolved form in the winter and spring and was a combination of particulate and dissolved nitrogen in the summer and fall. Total phosphorus concentrations were generally higher in summer and fall and varied by sampling location. Most phosphorus was present bound to particulates in the fall, winter, and spring; highest dissolved phosphorus was present during the summer season. Organic carbon concentrations in the SPCT project area surface waters ranged from 2.4 mg / L in the winter to 4.4 mg / L in the summer.

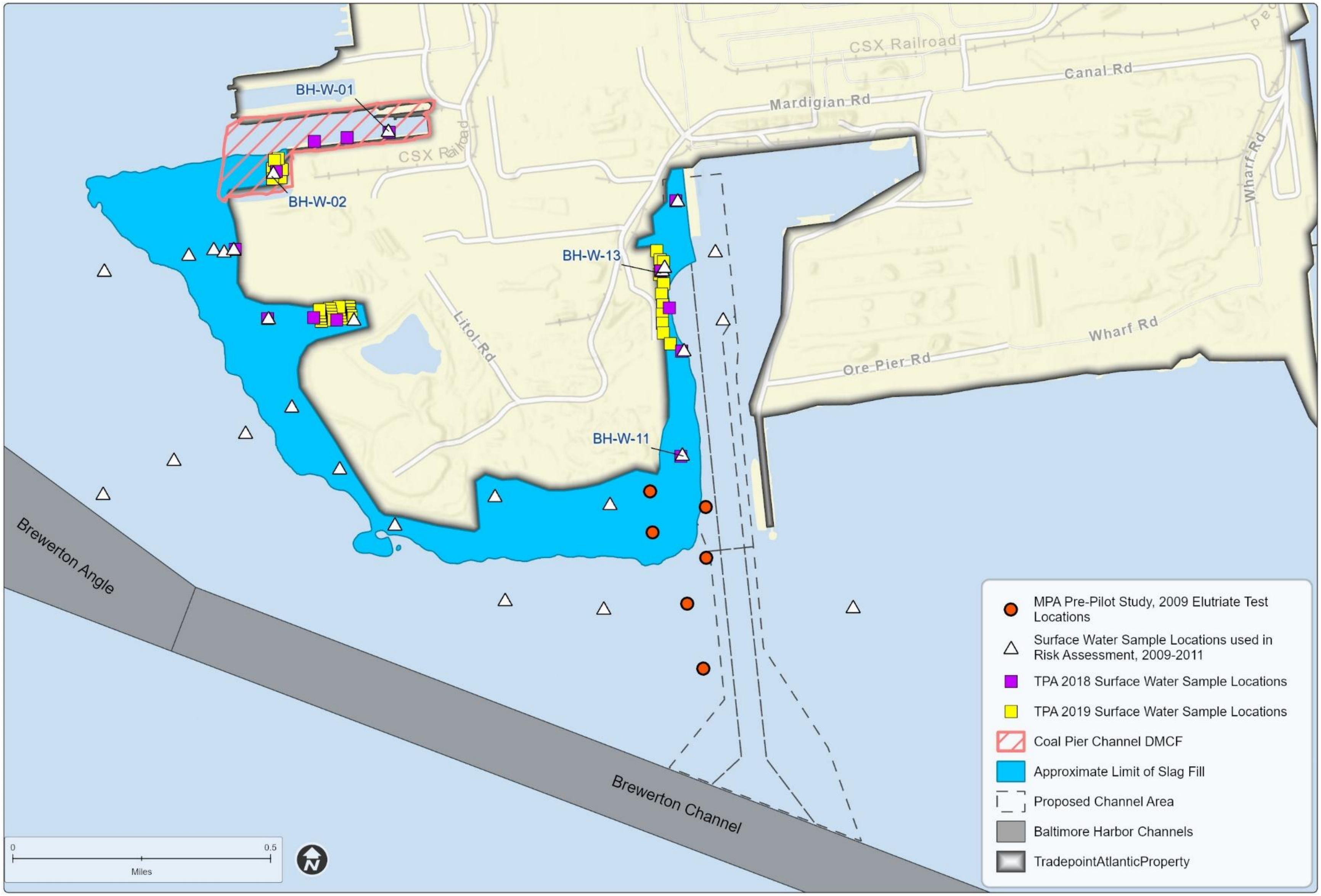
Chemical Constituents

Characterization of surface water chemistry around Coke Point has been investigated through several decades of study of the offshore area. The most comprehensive evaluation of existing conditions from chemical impacts in surface water was a series of due diligence investigations performed by the MPA (EA 2003, 2009, 2010a, 2010b, 2011). During multiple sampling events conducted for these studies, approximately 96 surface water samples were collected and tested for metals, PAHs, SVOCs, VOCs, PCBs, dioxins, and other constituents (Figure 27). Chemical concentrations in surface water, sediment, and bioaccumulation tests (tissue) samples were used to model potential risks to human health, fish, benthos, and wildlife and to identify the geographic areas contributing the most to risks. Most chemicals in surface water were either below benchmarks protective of human health or aquatic life or were comparable to concentrations found throughout the Lower Patapsco River. PAHs were the only chemicals identified in surface water as posing potential risks. For aquatic life, PAHs in surface water posed risks in the western and southern offshore areas of Coke Point. For human health, the same PAH concentrations in surface water were identified as potentially posing a risk for recreational use for swimming. However, because people are unlikely to frequently and repeatedly swim in the nearshore areas where these high PAH concentrations were found, these risks were considered to be conservative and overestimated.

Additional studies of surface water chemistry were conducted in 2018 and 2019 to support ongoing remediation activities at Coke Point (Enviroanalytics Group and ARM Group 2018, 2019). The studies included joint sampling of groundwater, porewater, and surface water and focused on specific areas of potential groundwater inputs to surface water. A total of 95 samples from 50 locations were collected as part of these studies, and samples were analyzed for either PAHs, VOCs, or both, depending on potential sources of chemicals in groundwater nearby. Results of these studies are included in the discussion of inputs to surface water from groundwater.

Figure 26. Surface Water and Nutrient Sampling Locations

Figure 27. Historical Sampling Locations from Previous Surface Water Studies (2003 through 2011) and Slag Limits



Inputs to Surface Water

Surface water may receive inputs from stormwater discharges and runoff, leaching from groundwater, and resuspension of sediments from storm events, vessel movements, maritime activities, and periodic maintenance dredging. Existing contributions of nutrients, chemical constituents, and particulates / sediment to surface water from Coke Point via runoff / stormwater and groundwater inputs are discussed below.

- *Stormwater / Runoff* – On-site stormwater and runoff are managed using controls such as drainage ways, settling ponds, and monitored outfalls that form a system for routing water away from loose soils and into basins where it can collect, and solids can settle out. Stormwater management at Sparrows Point is governed by a Sitewide NPDES permit (State Discharge Permit No. 05-DP-0064, NPDES Permit No. MD0001201) that establishes approved discharge locations (outfalls) and includes specific monitoring requirements and discharge limits for nutrients, organics, metals, and TSS. These discharge limits include both maximum loadings for nitrogen, phosphorus, and suspended solids and concentration-based limits for pH, select metals, oil and grease, and select PAHs and VOCs. Discharge monitoring and sampling at the permit-specified outfalls have demonstrated compliance with NPDES permit limits (TPA 2023c). In addition to current stormwater controls, TPA has worked with Baltimore County to develop a sitewide stormwater management strategy that includes construction of a regional wet pond stormwater facility on the site. This regional wet pond stormwater facility will provide 5,502,794 cubic feet of water quality treatment for 946 acres of impervious area, including 299 acres of the adjacent community. Prior to the runoff being pumped into the regional wet pond, a pre-treatment volume of approximately 2,359,230 cubic feet will be provided within the existing Tin Mill Canal. Based on the substantial capacity and the excess treatment of this new system, TPA and Baltimore County have agreed to a credit system for future projects so that individual stormwater management is not required on a project-by-project basis. The new system is currently under construction and is anticipated for completion and use in 2026.
- *Groundwater* – As discussed above in Section 4.5.1, past industrial activities at Coke Point have contributed to chemical impacts on groundwater. TPA has been actively working with the USEPA and MDE and implementing measures to remove these chemicals. There are some areas where groundwater containing chemicals remains within the pores of slag and soil. This groundwater may flow underground and upward through sediments and provide a source of chemicals to surface waters. Two specific areas on Coke Point are known to have had groundwater plumes moving in the direction of surface water (CH2M Hill 2001; EA 2009). One of these areas is located in the northwestern part of Coke Point, where groundwater contains benzene, naphthalene, and related VOCs; this area is immediately south of the Coal Pier Channel. The other area is located in the east-central portion of Coke Point, where groundwater contains naphthalene and other semi-volatile compounds; this area is west of the proposed SPCT wharf and revetment. Past sampling found elevated concentrations of naphthalene and benzene in surface water samples collected immediately offshore of these areas. Naphthalene and benzene were detected in surface waters samples west of the graving dock on the west side of Coke Point, in Coke Point Cove, and on the east side of Coke Point near the north end of the channel turning basin (EA 2009, 2010a; Enviroanalytics Group and ARM Group 2018, 2019). Over the past decade, both of these areas have been subject to remediation. In 2010, RCRA IMs were initiated in both areas of groundwater plumes to remove or reduce sources of naphthalene, benzene, and other chemicals in groundwater. The remedial actions

have included excavating a source area of non-aqueous phase (oily) liquids on the east side of Coke Point and installing systems to pump out water and treat it to remove chemicals at both areas (TPA 2023a). Annual reports summarize the progress of IMs in addressing groundwater impacts (TPA 2023a). Sampling of surface water in 2018 and 2019 found that benzene and naphthalene concentrations were less than the Maryland surface water quality standards east of Coke Point and near the Coal Pier Channel; concentrations of benzene, but not naphthalene, exceeded benchmarks in a few samples in Coke Point Cove on the west side of Coke Point (Enviroanalytics Group and ARM Group 2019). Continuation of activities to remediate source areas is expected to decrease and eventually eliminate the potential for naphthalene, benzene, or other constituents to reach surface water.

4.6.1.2 Surface Water Quality on the East Side of Coke Point and Sparrows Point Channel

Surface water quality data for the Sparrows Point Channel and east side of Coke Point include physical measurements and nutrient data collected during the 2023 and 2024 aquatic resource surveys (EA 2024a, 2024b, 2024c, 2024d), historical chemical data (EA 2003, 2009, 2010a, 2010b, and 2011), and chemical data of site water (surface water) collected to support the dredged material testing for the proposed widening and deepening of the channel (EA 2024e, 2025b, 2024f). Seasonal water column measurements collected in 2023 and 2024 from two locations in the vicinity of the Sparrows Point Channel (SCPT23-04 and SPCT23-05; Figure 26) indicated a stratified water column with respect to salinity at both locations (approximately 30 feet and 45 feet deep, respectively). The combined seasonal data for these locations indicated that salinity ranged from approximately 2 to 11 ppt in surface waters and from approximately 5 to 18 ppt in bottom waters throughout the year. Water column stratification with hypoxic conditions (low dissolved oxygen concentrations) was present in bottom waters in the summer at both locations. Concentrations of nutrients in surface water were consistent with those described for the overall surface waters adjacent to Coke Point.

Historical surface water samples from with the northern portion of the turning basin on the east side of Coke Point (EA 2003, 2009, 2010a, 2010b, 2011) indicated that concentrations of PAHs, specifically naphthalene, were detected above background concentrations in surface waters along the shoreline in the north part of the turning basin (location BH-W-13, Figure 27) and off the southeast tip of Coke Point (location BH-W-11, Figure 27). Recent chemical analysis of three surface water samples area (SPCT24-NORTH-01-WAT, SPCT24-NORTH-02-WAT, and SPCT24-WAT) (Figure 26) indicated that low concentrations of nutrients (nitrate-nitrite, total Kjeldahl nitrogen, and total phosphorus), eleven metals, one chlorinated pesticide (4,4’-DDD), and one SVOC [bis(2-ethylhexyl)phthalate] were detected in the surface waters (EA 2024e, 2025b, 2024f). Each of the detected concentrations was well below USEPA and State of Maryland water quality criteria / standards for aquatic life. Other tested organic constituents (PCBs, PAHs, dioxin / furan congeners, and butyltins) were not detected above the laboratory reporting limits in the surface water samples.

4.6.1.3 Surface Water Quality in the High Head Industrial Basin

High Head Industrial Basin is an industrial impoundment and is not a regulated surface water body. High Head Industrial Basin is approximately 40 acres in size, with a water depth ranging from approximately 2 to 10 feet. High Head Industrial Basin receives treated effluent from the Baltimore City Back River Wastewater Treatment Plant, as well as stormwater runoff from local surrounding areas (TPA 2023b).

Water is released from the south end of the basin via a pipeline that runs westward to an outfall near the mouth of Bear Creek.

Surface water sampling was conducted at eight locations in the High Head Industrial Basin in early 2023 (ARM Group 2023). Low concentrations of oil and grease and TPH-DRO were detected below concentrations that would be expected to pose risks to human health or aquatic life based on the current site's industrial use. Concentrations of detected metals were below ecological benchmarks. Low concentrations of two SVOCs and three VOCs were also detected in the surface water samples (ARM Group 2023).

4.6.1.4 Surface Water Quality in the Area of the Proposed Coal Pier Channel DMCF

Surface water quality data for the Coal Pier Channel includes physical measurements and nutrient data collected during the 2023 and 2024 aquatic resource surveys (EA 2024a, 2024b, 2024c, 2024d) and historical chemical data (EA 2011). Seasonal water column measurements collected in 2023 and 2024 from one central location in the Coal Pier Channel (SCPT23-02; Figure 26) indicated a uniform water column with respect to water temperature and pH. Higher salinities in bottom waters were measured in summer, fall, and winter. Hypoxic conditions were present in the bottom waters during the summer sampling event; dissolved oxygen was measured at a concentration of 1.3 mg / L at a bottom depth of approximately 22 feet. Concentrations of nutrients in surface water were consistent with those described for the overall surface waters adjacent to Coke Point.

Historical surface water samples collected at two locations in the Coal Pier Channel DMCF footprint (BH-W-01 and BH-W-02, Figure 27) indicated that PAHs in surface waters exceeded ecological risk benchmarks (EA 2011).

4.6.1.5 Surface Water Quality in the Vicinity of the MPA DMCFs

The Masonville and Cox Creek DMCFs are upland facilities with adjacent surface waters of the Patapsco River. Surface waters in the vicinity of the Masonville and Cox Creek DMCFs are subject to the same physical processes and watershed-based inputs as other locations within the Patapsco River. Discharges from both facilities to the surface waters of the Patapsco River are managed through the NPDES process with consideration of the Baltimore Harbor TMDLs and WLA requirements.

4.6.1.6 Surface Water Quality at the NODS

The NODS is located in the marine surface waters of the Atlantic Ocean. The NODS has a surface area of approximately 50 square nautical miles with water depths ranging from approximately 43 to 85 feet (USEPA and Corps 2019). The water column at the NODS is typically well mixed with little to no evident stratification. To support the dredged material evaluation for ocean placement, a surface water sample was collected from mid-depth of the water column at the NODS in early March 2024. Surface water chemical data were used to assess water quality criteria compliance for the NODS receiving water and were used as input to the model that predicts the dilution achieved within the water column with distance and time following material discharge / placement (EA 2024e). Results of testing indicated that low concentrations of total phosphorus, arsenic, vanadium, and di-n-butyl phthalate were the only constituents detected above laboratory reporting limits in the receiving water, and each concentration was well below established USEPA water quality criteria for aquatic life. Water quality measurements of temperature, salinity, pH, dissolved oxygen, and turbidity from mid-depth of the water column at the time of water collection were consistent with a well-mixed offshore marine environment.

4.6.2 Environmental Consequences

4.6.2.1 No-action Alternative

Under the No-action Alternative, surface water would continue to be subject to existing physical conditions and watershed inputs. Sediments and chemicals associated with sediment in the project area would stay in place. Existing sediment and surface water interactions would continue. Surface water quality in the vicinity of Coke Point would be potentially affected by resuspension of surficial sediment during storm events, as well as ongoing chemical inputs from groundwater; however, IMs to reduce chemicals in groundwater would continue. Based on the risk assessment performed for surface water, sediment, and bioaccumulation (tissue) data, there would be an ongoing potential for movement of chemicals to surface waters and an ongoing potential for ecological risk from offshore areas west and south / southeast of Coke Point. Stormwater and runoff from existing landside areas and future development of landside areas would be managed under current or future NPDES permits and planned controls, and the construction and subsequent use of the regional stormwater wet pond facility would occur. Future in-water activities would be limited to periodic maintenance dredging of the existing channel that would be conducted in accordance with permit conditions.

4.6.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Construction of the wharf would require multiple in-water activities, including dredging and mechanical excavation, demolition of limited relic pier structures, pile installation, and placement of rock and fill for the revetment structure (underneath the open wharf structure), and the covering of the revetment structure with a combination of armor stone and concrete slabs at the interface between the land and water. These in-water construction activities have the potential to resuspend sediment and contaminants into surface waters. In-water construction BMPs (such as those described in Section 3.2) would be used where practicable and necessary based on the sediment chemistry and site conditions to minimize resuspension of sediment and contaminants to surface waters. Any resuspension or incidental release of sediment during in-water activities would be short-term and localized and contained to the immediate work area using BMPs. In addition, all in-water construction methodologies would be conducted in accordance with all applicable permit conditions to protect surface waters. Therefore, adverse impacts on adjacent surface waters during in-water construction would be expected to be minimal.

The dredging needed to construct the wharf and widen and deepen the channel would permanently remove 4.2 MCY of sediments that include legacy contaminants from historical industrial activities and would leave behind deeper native sediments with natural background concentrations of metals and other constituents on the east and southeast side of the peninsula. The removal of sediments impacted by metals, PAHs, PCBs, and other constituents would result in a permanent net improvement of surficial sediment conditions (approximately 52 acres within the existing channel and 60 acres in the channel wideners) for fish, crabs, benthic organisms, and humans. The removal of the sediments would improve the quality of the sediment at the sediment-water interface in the vicinity of the project area, and it would reduce the overall (net) surface area in the vicinity of Coke Point where impacted surficial sediments and surface waters interact.

Development of the wharf would include the construction of a revetment on the west side of the turning basin (east side of Coke Point) that would be covered with concrete slabs approximately 6-inches thick, reducing the flux of contaminants from groundwater to surface water. This action is expected to minimize lateral plume migration. With the completion of the wharf development, the sediment and porewater compliance points would be located at the toe of the concrete-capped revetment, about 120 feet offshore and 50 feet below the MLLW mark. There were no exceedances of the applicable ecological criteria in the deep sediment samples, indicating that site groundwater constituents would not impact the sediment or surface water at the proposed new channel depth.

Mechanical dredging may resuspend some sediments to surface waters that would settle back to the bottom of the dredging area and adjacent areas. Dredging BMPs (such as those described in Section 3.2) would be used where practicable and necessary based on sediment chemistry and site conditions to minimize the release of sediment and contaminants to the water column during dredging operations. Studies conducted by multiple entities have documented that fine-grained sediments resuspended from dredging operations settle within several hundred feet of the point of dredging (Burton 1993; Wilber and Clarke 2001, EA 2007, TPA 2024). Any resuspension or incidental release of sediment to surface waters during dredging in the north channel would be short-term and localized (due to low current velocity). Any resuspension or incidental release of sediment to surface waters during dredging operations in the south channel area and near the Brewerton Channel would be expected to be comparable to routine maintenance dredging operations performed within the federal channel. With respect to the potential for release of dissolved chemical constituents from the sediments during dredging, recent and historical site-specific dredged material studies using elutriate testing have shown that the majority of contaminants would be bound to particulates and not readily released in dissolved form (EA 2010b, 2024e, 2024f). Overall, adverse impacts on surface waters from dredging would be expected to be minimal, temporary, localized, and controlled. Dredging activities would be conducted in accordance with all applicable permit conditions to protect surface waters.

The construction of the wharf and terminal facilities would result in impervious surfaces throughout the terminal facility, thus increasing stormwater runoff. The planned stormwater conveyance system would consist of a series of pipes that would discharge stormwater effluent to surface waters through two permitted outfalls at the south end of Coke Point. It is anticipated that the stormwater discharge from the new terminal would be incorporated into the regional stormwater plan for the Sparrows Point facilities. It is anticipated that these discharges would use credits generated through the over-treatment of local Sparrows Point stormwater by the regional wet pond stormwater facility that is currently under construction at Sparrows Point. Therefore, stormwater discharges from the new terminal would not be expected to adversely impact surface waters.

4.6.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

Use of the High Head Industrial Basin as a DMCF would require removal of water from the existing basin, hydraulic offloading and pumping of dredged material to the site, and management and discharge of effluent from the dewatering of the dredged material. It is anticipated that the water in the industrial basin would be removed through the existing pump, conveyance pipe / system, and permitted outfall in Bear Creek that is currently used for the managed release and discharge of water from the facility. The future DMCF discharges would be regulated under a NPDES permit; therefore, no impacts on surface water would be expected for the removal and discharge of the existing water.

Material from the channel footprint would be mechanically dredged and placed in scow barges and transported by waterway to an offloading location on the west side of the shipyard. The material would be slurried with surface water and hydraulically pumped to the High Head Industrial Basin DMCF. The water required to slurry the material would be withdrawn from the Patapsco River at the offloading location. To the extent possible, slurry water from the DMCF would be recirculated and reused in this process to reduce the volume of surface water required for withdrawal. The use of surface waters and the volume of water withdrawn from the Patapsco River would comply with conditions of a Water Appropriation and Use Permit issued by MDE. Therefore, no impacts on surface waters would be expected for water use to slurry and pump dredged material to the DMCF.

Dewatering of the dredged material would be required for drying and consolidation of the material in the DMCF. Following pumping of the slurried material to the DMCF, the solids would settle and separate. The overlying water (or effluent) would be pumped westward via pipe or conveyance system to discharge through a permitted outfall in Bear Creek. Modified elutriates (Corps 2003), which conservatively predict total and dissolved constituents that may be in effluent released during the DMCF dewatering process, were prepared and tested for the north channel DUs (EA 2024f). These data indicated that the majority of chemical constituents predicted in effluent would be bound to sediment particles, and the concentrations of most constituents detected in the effluent would not be expected to exceed the existing maximum daily discharge limits stipulated in TPA’s sitewide NPDES permit. Additional settlement or treatment would address constituents detected in the effluent that could exceed the existing maximum daily discharge limits stipulated in TPA’s sitewide NPDES permit. It is anticipated that the discharge from the High Head Industrial Basin DMCF would be incorporated into TPA’s existing sitewide NPDES permit, and the quantity and quality of the discharge would be subject to the conditions of the permit. Therefore, managed DMCF effluent discharges would not be expected to adversely impact surface waters.

Installation of the outfall and diffuser needed to discharge effluent from the High Head Industrial Basin DMCF would have the potential to disturb and resuspend sediment into surface waters. In-water construction BMPs (such as those described in Section 3.2) would be used where practicable and necessary based on the site conditions to minimize resuspension of sediment and contaminants into surface waters. Any resuspension or incidental release of sediment during the pipe installation would be short-term and localized and contained to the immediate work area using BMPs. In addition, all in-water construction methodologies would be conducted in accordance with applicable permit conditions or agency guidance to protect surface waters. Therefore, adverse impacts on adjacent surface waters would be expected to be minimal.

As part of construction of the High Head Reservoir DMCF, filling the basin would eliminate its use for receipt of local stormwater from nearby portions of Sparrows Point. As described in Section 2.2.2.1, TPA worked with Baltimore County to develop a sitewide stormwater management strategy, which includes the construction of a regional wet pond stormwater facility on the site. With the construction of this facility, which is in progress, TPA and Baltimore County have agreed to a credit system for future projects so that individual stormwater management is not required on a project-by-project basis. Stormwater inputs would be incorporated into TPA’s existing sitewide NPDES permit, or covered by a general stormwater permit, and rerouted to a permitted outfall. The quantity and quality of the discharge would be subject to the conditions of the permit and would not be expected to adversely impact surface waters. Effluent treated by the Back River Wastewater Treatment Plant historically flowed into the High Head Industrial Basin, which was then pumped through a discharge pipe to an outfall in Bear Creek. Baltimore City has terminated the flow of the treated effluent into the High Head Industrial Basin. Baltimore City has initiated a project to reconnect the treated water effluent line to the existing discharge pipe that flows to the outfall in Bear Creek, thereby bypassing the High Head Industrial Basin.

Coal Pier Channel DMCF at Sparrows Point

The Coal Pier Channel DMCF would require in-water construction of an approximate 600-foot berm or dike at the west end to enclose the channel prior to placement of dredged material within the DMCF. The dike would be constructed using clean sand from an off-site source and would be protected with rock sized to stabilize the structure and withstand future storm events and sea-level rise. The sediment present within and adjacent to the alignment of the channel enclosure dike is anticipated to consist of a soft surface layer approximately 4-feet thick underlain by consolidated sand. Because this soft overburden material would be removed from the dike alignment prior to placement of sand to construct the dike, displacement of sediments and creation of a mud wave during dike construction would not be expected and therefore would not impact surface waters.

In-water placement of fill associated with berm / dike construction would have the potential to resuspend sediment and contaminants into surface waters. In-water construction BMPs (such as those described in Section 3.2) would be used where practicable and necessary based on the sediment chemistry and site conditions to minimize resuspension of sediment and contaminants to surface waters. Any resuspension or incidental release of sediment during in-water berm / dike construction would be short-term and localized and contained to the immediate work area using BMPs. In addition, all in-water construction methodologies would be conducted in accordance with all applicable permit conditions to protect surface waters. Therefore, adverse impacts on adjacent surface waters outside the enclosure dike from resuspension of sediments would be expected to be minimal.

Following completion of the enclosure dike, hydraulic offloading and pumping of dredged material into the DMCF and management and discharge of effluent from the dewatering of the dredged material would be required. Material from the channel footprint would be mechanically dredged and placed in scow barges and transported by waterway to an offloading location immediately adjacent to the Coal Pier Channel DMCF. The material would be slurried with surface water and hydraulically pumped into the Coal Pier Channel DMCF. The water required to slurry the material could be withdrawn from the Patapsco River (near the mouth of Bear Creek) at the offloading location. To the extent possible, slurry water would be recirculated from the Coal Pier Channel DMCF and reused in this process to reduce the volume of surface water required for withdrawal. The use of surface waters and the volume of water withdrawn from the Patapsco River would comply with the conditions of a Water Appropriation and Use Permit issued by the MDE. Therefore, no impacts on surface waters would be expected for water use to slurry and pump dredged material to the DMCF.

Dewatering of the dredged material would be required for drying and consolidation of the material in the DMCF. Following pumping of the slurried material into the DMCF, the solids would settle and separate. The overlying water (or effluent) would be managed and discharged through a permitted outfall on the west enclosure dike. Modified elutriates (Corps 2003), which conservatively predict total and dissolved constituents that may be in effluent released during the DMCF dewatering process, were prepared and tested for the north channel DUs (EA 2024f). These data indicate that the majority of chemical constituents predicted in effluent would be bound to sediment particles, and concentrations of most constituents detected in the effluent would not be expected to exceed the existing daily maximum discharge limits stipulated in TPA's sitewide NPDES permit. Additional settlement or treatment would address constituents detected in the effluent that could exceed the existing maximum daily discharge limits stipulated in TPA's sitewide NPDES permit. It is anticipated that the discharge from the Coal Pier Channel DMCF would be incorporated into TPA's existing sitewide NPDES permit, and the quantity and quality of the discharge would be subject to the conditions of the permit. Therefore, managed DMCF effluent discharges would not be expected to adversely impact surface waters.

Following completion of dredged material placement, the existing impacted sediments in the Coal Pier Channel would be encapsulated, and the placed sediments would be capped. This conversion from open water to upland would remove approximately 19.6 acres of impacted sediments at the sediment-water interface and provide a net improvement / benefit to surface waters in the vicinity of the project area by removing the sediment-to-surface water exposure pathway for aquatic resources.

Existing MPA DMCFs

Both Masonville and Cox Creek are permitted DMCFs that accept dredged material from the Baltimore Harbor channels and the Patapsco River west of the North Point-Rock Point line. These facilities discharge effluent from dredged material dewatering through permitted outfalls to the Patapsco River in accordance with NDPES requirements. Only those DUs that meet MPA BCL requirements and that are classified as MDE Innovative Reuse Category 1 (Residential Unrestricted Use Soil and Fill Material) and Category 2 (Non-Residential Restricted Use Soil and Fill Material) would be placed at the MPA DMCFs. Therefore, the effluent from the dewatering of the SPCT dredged material would not be expected to differ substantially from effluent for materials previously and currently being placed in the facilities. No change to DMCF site conditions, operations, practices, or discharges to surface water would be expected as a result of the SPCT dredged material placement at either the Cox Creek DMCF or the Masonville DMCF.

Existing Ocean Disposal Site

Placement of dredged material at the NODS is regulated under Section 103 of the MPRSA. Tier II (sediment and elutriate) and Tier III (ecotoxicological testing) testing of the dredged material has been conducted in conformance with the requirements under Section 103 of the MPRSA and 40 CFR 220-228 (EA 2024e). These tests included chemical and ecotoxicological analysis of standard elutriate samples, which are used to evaluate chemical and biological impacts on surface waters. Results of the elutriate testing indicated that each of the 14 DUs proposed for placement at the NODS demonstrated no adverse impact on marine surface waters; each of the 14 DUs met the LPC for water quality criteria and water column toxicity. Therefore, no impacts on marine surface waters in the Atlantic Ocean would be expected from ocean placement of material from the SPCT project. Physical placement of the material at the NODS would comply with the requirements stipulated in the Site Management and Monitoring Plan for the disposal site (USEPA and Corps 2019).

4.6.2.4 Preferred Alternative – Dredged Material Placement

The impacts on surface water from the Preferred Alternative would be the same as those described for the Combined Options Alternative except potential impacts on surface waters associated with dredging of the material from within the footprint of the Coal Pier Channel DMCF dike alignment, impacts associated with in-water construction of the Coal Pier Channel DMCF dike, and impacts associated with an additional Coal Pier Channel DMCF effluent outfall would not occur.

4.6.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on surface water include those that would result in temporary and long-term changes to the physical and chemical quality of surface waters.

- The Corps (2024a) stated that the collapse and removal of collapsed portions of the Key Bridge that became embedded in the sediments caused disruption to the river bottom, and dredging was performed to return the Fort McHenry channel to its maintained dimensions. The primary impact of these actions was localized displacement of sediment and dredging. These changes may have produced short-term changes in water quality that are no longer ongoing.
- The reconstruction of the Key Bridge will involve removal of remaining in-place bridge components and installation of new bridge components and footings. These in-water activities would disturb bottom sediment and produce short-term impacts on surface water quality that are expected to be minimal, temporary, localized, and controlled.
- Maintenance dredging of the federal navigation channels within the Patapsco River causes periodic bottom disturbances similar to those evaluated for the improvements to the Sparrows Point Channel. In-term maintenance dredging of the Curtis Creek Channel and future maintenance dredging events for the federal channels would be expected to only cause localized and minor disturbance to shoaled sediment within each channel; this is expected to produce minimal, temporary, and localized impacts on surface water which would be consistent with past, ongoing, and future maintenance dredging events.
- The proposed remedial dredging and capping at the Bear Creek Superfund Site would result in a net decrease in the volume of impacted sediment that is available at the sediment-water interface to aquatic organism and other receptors within the system and would contribute to an overall improvement in sediment quality and contaminants released from sediments to surface waters in the area. The dredging and capping operations are expected to include BMPs to protect surface waters and would be expected to produce minimal, temporary, localized, and controlled changes to water quality immediately in the vicinity of dredging and capping operations; however, the overall site cleanup would result in long-term beneficial impacts on surface water quality in the project area by reducing or eliminating transfer of chemicals from sediment into surface water.
- Changing weather patterns will cause increases in storm frequency and intensity, precipitation amount, water flow rate and volume, storm surge, temperatures, and wave action, which could impact surface waters. These changes to physical processes and conditions may change the frequency of disturbance of bedded sediments through increased erosion, deposition, redistribution, or resuspension during storm events, which may in turn resuspend or release chemicals to surface water at higher rates or frequency than experienced in the past.

Dredging of the Sparrows Point Channel and construction of the terminal for the SPCT would result in short-term, localized minor impacts on surface water quality immediately within the vicinity of the dredging operations, and long-term beneficial impacts via net improvements to water quality within the project area and regionally within the lower area of the Patapsco River.

Short-term impacts would be associated with dredging and in-water construction activities for the terminal. Based on site-specific studies and the planned use of BMPs described in Section 3.2, adverse impacts on surface waters from dredging and in-water construction would be expected to be minimal, temporary, localized, and controlled. Changes to stormwater inputs during construction would be managed to meet requirements of stormwater discharge permits and thus result in minimal impact. Water produced as sediments dewater in DMCFs would be managed to meet NPDES discharge requirements.

The greatest long-term beneficial impact would be the removal of the impacted sediments east of the peninsula to widen and deepen the Sparrows Point Channel and construct the terminal wharf and revetment structure and placement of the impacted material in a contained DMCF. The removal of sediments impacted by metals, PAHs, PCBs, and other constituents would result in a permanent reduction in the potential contributions of contaminants from surficial sediment to surface water. The same applies to construction of an on-site DMCF at the Coal Pier Channel under the Combined Options Alternative, which would encapsulate existing impacted sediment within the DMCF footprint and eliminate exposure and release pathways for chemicals to enter surface water.

Development of the wharf would include the construction of a revetment on the west side of the turning basin (east side of Coke Point) that would be covered with concrete slabs approximately 6-inches thick, reducing the flux of contaminants from groundwater to surface water. This action is expected to inhibit lateral plume migration. With the completion of the wharf development, the sediment and porewater compliance points would be located at the toe of the concrete-capped revetment, about 120 feet offshore and 50 feet below the MLLW mark. There were no exceedances of the applicable ecological criteria in the deep sediment samples, indicating that site groundwater constituents would not impact the sediment or surface water at the proposed new channel depth.

Long-term impacts also include the construction of a paved terminal and filling of the High Head Industrial Basin. These actions would change how stormwater is conveyed to surface water but would not produce adverse impacts because stormwater discharges would be managed according to permit requirements that are protective of surface water quality. TPA plans to construct a regional stormwater management wet pond facility by 2026; this system would provide capacity and credits that are compatible with the overall management of stormwater from the terminal. In addition, construction of the terminal and DMCF and the dredging for channel improvements would be compatible with ongoing groundwater remediation activities by TPA.

Overall, the SPCT project would contribute to regional long-term beneficial impacts on surface water by removing impacted sediments containing elevated concentrations of contaminants that may serve as a long-term source of contaminants to surface waters in the vicinity of Coke Point and the lower Patapsco River. These benefits would contribute to long-term improvements in the quality of aquatic habitat and the reduction in chemical exposure pathways to aquatic life in the vicinity of the project area. The localized impacts of the SPCT project would make a significant positive contribution to the overall impacts on surface water quality from other planned actions.

4.7 Benthic Fauna

4.7.1 Affected Environment

Benthic fauna encompasses a wide range of bottom-dwelling organisms, including mollusks, crustaceans, and macroinvertebrates, among others. Benthic macroinvertebrates are important in the trophic structure of the Chesapeake Bay (USEPA 1994) and serve as a food / prey resource for bottom-feeding fish. Benthic macroinvertebrates are typically soft-bodied, greater than 0.02 inch in size, and include organisms such as polychaete worms, bivalves (e.g., clams, oysters, mussels), and amphipods.

Benthic organisms live within or on the surface of the sediments. The majority of bottom sediments in the Chesapeake Bay are soft bottom habitat (e.g., mud, sand) (Chesapeake Bay Biological Monitoring Program [CBBMP] 2004). The Chesapeake Bay is home to several commercially important benthic species, including razor clams (*Tagelus plebius*), soft-shell clams (*Mya arenaria*), eastern oysters (*Crassostrea virginica*), blue crabs (*Callinectes sapidus*), and horseshoe crabs (*Limulus polyphemus*) (Corps 2009). Benthic organisms provide a critical service to the Chesapeake Bay by filtering material from the water column, improving water quality and clarity.

The overall health of the benthic macroinvertebrate community is a key indicator of the environmental stresses that may be affecting a waterbody (USEPA 1994). Benthic communities serve as a biological measure of environmental conditions that can be used in conjunction with other physical and chemical indicators (USEPA 1994). Benthic organisms that are classified as pollution-sensitive are more susceptible to the physical and chemical conditions caused by pollution, are long-lived, and are typically found in areas with undisturbed conditions in a water body. Pollution-indicative organisms are more tolerant of fluctuating physical and chemical conditions in a water body.

The health of benthic communities in the Chesapeake Bay has been studied under the CBBMP since 1984 (Versar 2022). The Chesapeake Bay Benthic Index of Biotic Integrity (B-IBI) is used as the primary means to understand the health of a benthic community. The B-IBI is based on habitat metrics (e.g., abundance, biomass, diversity) that are evaluated and compared to conditions at established reference sites. Between 1984 and 2017, the abundance, species diversity, and biomass of many benthic species declined in the Chesapeake Bay, with significant decline in these metrics and the overall benthic community score noted in sampling stations in the Baltimore Harbor (Versar 2017). The decline in these community metrics at the Baltimore Harbor stations was attributed to seasonal hypoxic (low oxygen in bottom waters) conditions.

Benthic Community

Sampling for benthic fauna was conducted in the summer of 2023 (EA 2024a) at seven locations within the SPCT project area: one location within Coal Pier Channel (SPCT23-02), one location within Coke Point Cove (SPCT23-01), two locations west of the Coke Point shoreline (SPCT23-03 and SPCT23-07), two locations within the proposed dredging footprint for the Sparrows Point Channel (SPCT23-04 and SPCT23-05), and one location along the southern shoreline of Coke Point (SPCT23-06) (Figure 28). At these locations, a ponar grab sampler was used to collect benthic macroinvertebrates in the top 6 inches of sediment. *In situ* water quality measurements were recorded at each location, and co-located surficial sediment samples were collected for physical and chemical analyses.

Figure 28. Benthic Fauna and Crab Pot Sampling Locations

Benthic Macroinvertebrates

Several types of information are presented in this section to characterize the benthic fauna and bottom habitat. Data on the benthic community composition collected at each location (species present, number of individuals, and biomass (weight)) are presented and used to calculate standard metrics that describe a benthic community. Diversity, abundance, biomass, species dominance, evenness, and pollution tolerance are standard metrics used (Weisberg et al. 1997; EA 2024a) to describe benthic communities. The results of these metrics are combined to provide a condition assessment using the criteria that have been defined for the Chesapeake Bay B-IBI. The following sections describe the summer condition of the benthic community in the SPCT project area. The focus on the summer condition is prescribed by the B-IBI protocol.

Habitat Classification

The habitat at each benthic sampling location was classified based on the physical characteristics of sediment (grain size) and the salinity of the bottom water. These attributes are primary factors that influence benthic community structure (Versar 2002). The salinity and bottom substrate at each location were classified as one of the following:

- tidal freshwater (0 to 0.5 ppt)
- oligohaline (≥ 0.5 to 5 ppt)
- low mesohaline (≥ 5 to 12 ppt)
- high mesohaline sand (≥ 12 to 18 ppt) and 0 to 40% silt-clay content by weight
- high mesohaline mud (≥ 12 to 18 ppt) and > 40% silt-clay content by weight
- polyhaline sand (≥ 18 ppt) and 0 to 40% silt-clay content by weight
- polyhaline mud (≥ 18 ppt) and > 40% silt-clay content by weight

Based on the water column salinity measurements at the time of summer sampling, three SPCT sampling locations were classified as low mesohaline (SPCT23-01, SPCT23-03, and SPCT23-06), and four SPCT sampling locations were classified as high mesohaline (SPCT23-02, SPCT23-04, SPCT23-05, and SPCT23-07). Based on the physical analysis of surface sediments from each location, the substrate at six sampling locations (SPCT23-02, SPCT23-03, SPCT23-04, SPCT23-05, SPCT23-06, and SPCT23-07) was classified based on grain size as mud habitat (containing greater than 40% silt / clay content). The grain size at SPCT23-01 consisted of a combination of sand, gravel, and silt / clay. See Figure 28 for the sampling locations.

Community Composition

For the combined seven sampling locations in the SPCT project area, 22 unique benthic macroinvertebrate taxa were collected. Of these, nine taxa were polychaetes (bristle worms), five were bivalves (clams and mussels), and three were crustaceans. The remaining taxa included ribbon worms, segmented worms, and snails. Nineteen of the 22 taxa were collected at SPCT23-01 (Coke Point Cove); one taxon was collected at SPCT23-02 within the Coal Pier Channel; no taxa were recovered from samples collected at SPCT23-05 (deep water channel habitat near the Brewerton Channel). For the remaining locations, the number of unique taxa ranged from four (SPCT23-04 within the Sparrows Point Channel) to 13 (SPCT23-06 along the southern Coke Point shoreline). The total benthic mean abundance (number of organisms per meter squared [m^2]) varied substantially among the six sample locations where organisms were recovered. A notable difference in total benthic mean abundance was evident between locations SPCT23-01 (Coke Point Cove) and SPCT23-02 (Coal Pier Channel). SPCT23-01 had a benthic abundance of 13,170 organisms / m^2, and SPCT23-02 had a benthic abundance of only 6.8 organisms / m^2. Overall, the community abundance at SPCT23-01 (west cove area) was at least five times higher than the locations with the next highest abundance (SPCT23-03 (western Coke Point shoreline) and SPCT23-07 (Coke Point offshore). Hypoxia was present in bottom waters at five of the seven sampling locations and likely influenced the benthic community structure and condition at these locations. SPCT23-01, which had the highest number of recovered organisms, did not have hypoxic conditions present in the area at the time of sampling.

Overall, polychaete worms were present in the highest numbers at each sampling location where organisms were recovered and comprised more than 50% of the community organisms at all locations. Biomass (weight of each taxon in grams per meter squared [g / m^2]) ranged between 0.007 g / m^2 at SPCT23-04 (within the proposed dredging footprint) and 5.61 g / m^2 at SPCT23-06 (southeast of Coke Point). By weight, bivalves were dominant at locations along the western and southern Coke Point shoreline, and polychaete worms were dominant by weight at the remaining sampling locations.

Community Condition

The Chesapeake Bay B-IBI approach involves scoring habitat metrics as 5, 3, or 1, depending on whether its value at a site approximates (5), deviates slightly (3), or deviates greatly (1) from conditions measured at established reference sites (Weisberg et al. 1997). The values for each metric at each location are presented in Table 13 and discussed below (definitions of each metric are in the footnotes on Table 13). Each metric value is given a score (5, 3, or 1) and the final Chesapeake Bay B-IBI score is derived by summing individual scores for each metric (diversity, abundance, biomass, species dominance, evenness, abundance of omnivores and carnivores, and pollution tolerance) and calculating an average overall B-IBI score for each sampling location (Table 14).

The B-IBI was used to establish benthic restoration goals for Chesapeake Bay (Weisberg et al. 1997). The Chesapeake Bay Restoration Goal Index (RGI; USEPA 1994) was patterned after the same approach used to develop the Index of Biotic Integrity (IBI) for freshwater systems (Karr et al. 1986). A Chesapeake Bay RGI score of 3 represents the minimum restoration goal. RGI values less than 3 are indicative of a stressed community, and scores of 3 or greater indicate habitats that meet or exceed the Chesapeake Bay restoration goals (USEPA 1994).

Based on the Chesapeake Bay RGI, the CBBMP classifies the benthic community into four levels (Versar 2002):

- Meets goals (B-IBI that is ≥ 3.0)
- Marginally degraded (B-IBI of 2.7 to 2.9)
- Degraded (B-IBI of 2.1 to 2.6)
- Severely degraded (B-IBI that is ≤ 2.0)

Only one benthic sampling location (SPCT23-06 along the southeast shoreline of Coke Point) met the RGI with an average score of 3, meaning that location is not classified as degraded (Table 14). The sampling locations in the Coal Pier Channel and the furthest location offshore to the west of Coke Point were classified as degraded (scores of 2.33 each), and the remaining three locations with benthic taxa present were classified as severely degraded (scores between 1.3 and 1.8) (Table 14).

Summary and Influence of Water Quality Conditions

Overall, the benthic community condition was the best (no degradation) along the southeast shoreline of Coke Point (SPCT23-06); this benthic community met the RGI and also had the highest benthic biomass and a dominant pollution-sensitive polychaeta taxa. Additionally, this location had the highest bottom dissolved oxygen concentration. These conditions likely supported the high biomass and second-highest number of unique taxa (13), comprising a more suitable environment for benthic fauna. Although the highest number of individual unique taxa and the highest overall benthic abundance were found in Coke Point Cove (SPCT23-01), this location had the second lowest total B-IBI score (1.8), indicating the community, while abundant and taxonomically diverse, is severely degraded. Bottom dissolved oxygen concentrations at SPCT23-02, SPCT23-03, SPCT23-04, SPCT23-05, and SPCT23-07 showed hypoxic conditions, which is typical for the lower Patapsco River in summer months.

Blue Crabs

Crab pots were placed at each of the seven sampling locations to capture blue crabs in the summer and fall of 2023 (EA 2024a, 2024b) and in the spring of 2024 (EA 2024d). The crab pots used were square wire mesh pots containing two funnels that allowed crabs to enter but not escape the pots. Four pots were deployed approximately one meter apart at each location and retrieved after a maximum of 48 hours in the water. Although some blue crabs (24 individuals) were caught incidentally as part of the fish sampling, the community discussed here pertains to the individuals collected during sampling specifically for crabs. During the summer sampling, a combined total of 33 blue crabs were caught at six of the crab pot locations (22 males, nine females, and two immature crabs); no crabs were caught at SPCT23-02 within the Coal Pier Channel (Figure 28) (EA 2024a). The highest number of crabs was captured at SPCT23-04 and SPCT23-06, in the Sparrows Point Channel and south of Coke Point, respectively (8 individuals at each) (EA 2024a). During the fall sampling, a combined total of four individual blue crabs (all males) were caught at two of the sampling locations (SPCT23-01 in Coke Point Cove and SPCT23-02 in Coal Pier Channel); crabs were not captured at the other sampling locations during the fall survey (EA 2024b). During spring sampling, a combined total of 13 individual blue crabs (all males) were caught at five of the sampling locations; no crabs were caught at SPCT24-01 and SPCT24-07 (EA 2024d). The highest number of crabs was collected from location SPCT24-02 (5 individuals), which was relocated during the summer 2024 sampling effort from within the Coal Pier Channel to just outside the Coal Pier Channel due to high level of vessel activity resulting in the loss of three crab pots.

Table 13. Benthic Community Metrics

Metric	Metric Values						
	SPCT23-01	SPCT23-02	SPCT23-03	SPCT23-04	SPCT23-05	SPCT23-06	SPCT23-07
Habitat Classification	LM	HMM	LM	HMM	HMM	LM	HMM
Abundance (# / m^2)	13,063	6.8	2,414	187	--	1,680	2,319
Total Biomass (g / m^2)	2.33	0.008	0.229	0.007	--	5.61	0.255
Shannon-Wiener Diversity	2.27	0	1.65	0.729	--	2.42	1.1
Abundance Pollution-Sensitive Taxa (%)	NC	NC	NC	NC	--	NC	NC
Abundance Pollution-Indicative Taxa (%)	42.7	NC	49.5	NC	--	23.2	NC
Abundance of Carnivores / Omnivores (%)	NC	100	NC	0	--	NC	1.26
Biomass of Pollution-Sensitive Taxa (%)	8.41	0	23.8	0	--	0.526	44.2
Biomass of Pollution-Indicative Taxa (%)	NC	0	NC	19.5	--	NC	14.1

Source: EA 2024a

Notes:

The calculations in this table exclude species not meeting B-IBI macrofaunal criteria.

Abundance = the total number of benthic organisms per square meter.

Total biomass = the total mass (weight) of benthic organisms in a square meter.

Shannon-Weiner diversity = a measurement of the proportional abundances of each species at a location to determine diversity of the community.

Pollution-sensitive taxa = organisms that are most likely to be impacted by a change in physical or chemical conditions of a water body.

Pollution-indicative taxa = organisms that are more likely to be tolerant of polluted conditions in a water body.

Carnivores and omnivores = percent abundance contribution of taxa currently classified as carnivores or omnivores to the total number of organisms.

/ m^2 = number per square meter

g / m^2 = grams per square meter

LM = Low mesohaline

HMM = High mesohaline mud

-- = No species recovered

NC = Metric not calculated for habitat class

Table 14. Benthic Community IBI Scores

Metric	B-IBI Scores						
	SPCT23-01	**SPCT23-02**	**SPCT23-03**	**SPCT23-04**	**SPCT23-05**	**SPCT23-06**	**SPCT23-07**
Habitat Classification	LM	HMM	LM	HMM	HMM	LM	HMM
Abundance (# / m^2)	1	1	5	1	--	5	5
Total Biomass (g / m^2)	3	1	1	1	--	5	1
Shannon-Wiener Diversity	3	1	1	1	--	3	1
Abundance Pollution-Sensitive Taxa (%)	NC	NC	NC	NC	--	NC	NC
Abundance Pollution-Indicative Taxa (%)	1	NC	1	NC	--	1	NC
Abundance of Carnivores / Omnivores (%)	NC	5	NC	1	--	NC	1
Biomass of Pollution-Sensitive Taxa (%)	1	1	1	1	--	1	3
Biomass of Pollution-Indicative Taxa (%)	NC	5	NC	3	--	NC	3
Overall B-IBI Score	1.8	2.33	1.8	1.33	--	3	2.33
Benthic Community Classification	Severely degraded	Degraded	Severely degraded	Severely degraded	--	Meets restoration goals	Degraded

Source: EA 2024a

Notes:

The overall B-IBI score calculations exclude species not meeting B-IBI macrofaunal criteria. The scores presented in this table are the mean of the metric scores. B-IBI scores are classified as follows: ≥ 3.0 = meets restoration goals; 2.7-2.9 = marginal; 2.1-2.6 = degraded; ≤ 2.0 = severely degraded.

/ m^2 = number per square meter

g / m^2 = grams per square meter

LM = Low mesohaline

HMM = High mesohaline mud

-- = No species recovered

NC = Metric not calculated for habitat class

4.7.2 Environmental Consequences

4.7.2.1 No-action Alternative

Benthic fauna would continue to be subject to existing physical and chemical sediment quality and water quality conditions. Benthic fauna within the existing channel would be impacted by maintenance dredging with recovery of the community after dredging (impacts from dredging are discussed in detail in Section 4.7.2.2). In addition, the benthic communities in the lower Patapsco River and in the vicinity of the Coke Point peninsula would continue to be subject to episodic hypoxia in the summer months. Although Coke Point could be developed under the No-action Alternative, there would be no in-water construction activities outside of routine maintenance dredging, so no additional benthic impacts would occur. If the High Head Industrial Basin were to be filled, approximately 40 acres of aquatic habitat within the industrial basin would be permanently removed. High Head Industrial Basin is not managed to support aquatic habitat; however, any benthic-dwelling organisms present in the basin would be lost if the basin were filled and the area repurposed.

4.7.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Dredging the Sparrows Point Channel would remove or entrain benthic organisms and would potentially create temporary water column turbidity that could affect filter-feeding species. Turbidity refers to the clarity of water and is measured by the amount of light that is scattered and absorbed by materials (such as suspended sediment or phytoplankton) within the water column (Johnson 2018). BMPs would be implemented to reduce the impacts from resuspension of sediment during wharf construction and dredging activities (see Section 3.2).

Construction of the wharf would require the excavation of the existing shoreline to provide the angle required for the preferred wharf alignment; this excavation for the wharf and associated revetment extending beyond the edge of the wharf would remove historical fill and convert 5.3 acres of upland to open water. Dredging for the wharf and placement of associated revetment extending beyond the edge of the wharf would impact 4.7 acres of existing tidal open water. The total proposed and existing tidal open water impacts from the wharf and the revetment that extends beneath the wharf and to the outer toe beyond the edge of the wharf would be approximately 10.0 acres. Of this acreage, the approximate area of tidal open water that would be shaded by the wharf is 8.6 acres. Shading of this area reduces primary production in the water column, and the waters beneath the wharf may be less capable of supporting a diverse benthic community or usage by fish and other aquatic organisms. Construction of the wharf would result in permanent structures (pilings) in the river bottom. Placement of these structures would result in mortality of any benthic organisms present in that footprint and would also cause a loss of approximately 0.2 acre of available bottom habitat.

Removal of the river bottom sediments would cause mortality for any non-mobile organisms living on or within the sediments; however, studies have shown that the benthic community typically recolonizes quickly following dredging activities (Brooks et al. 2006). Recolonization in dredging areas typically follows successive and progressive steps similar to those in disturbed terrestrial systems. Opportunistic organisms with high reproductive rates typically characterize the initial communities, followed by slower-growing specialists. Eventually, the community would succeed toward pre-disturbed levels of diversity following cessation of dredging activity and disturbance. The existing channel is periodically disturbed by maintenance dredging, and the community has been previously disturbed during these events. The deep channel areas are also subject to seasonal hypoxic conditions, which limit the ability of benthic organisms to colonize these areas. When benthic organisms are disturbed (through anthropogenic or natural events), communities in mud and silt substrates generally recover / recolonize more slowly than communities in clean sand areas (Dernie et al. 2003), and recovery can typically take between 1 and 5 years across all substrate types (Blake et al. 1996). Recent studies conducted following dredging of the New York and New Jersey Harbor show that in an estuarine (mud and silt substrate) environment, the post-dredging benthic community metrics (measured by abundance, richness, diversity, etc.) generally recovered to pre-dredging conditions within 1.5 years (Corps 2017b).

Deepening of the channel would create deepwater habitat. Benthic communities in deeper waters are subject to different physical and geochemical conditions, which can impact the community condition and structure as a whole. The deepened channel would be more subject to low dissolved oxygen conditions during the summer, as the sediment surface is further removed from atmospheric exchange and sunlight and stratification of the water column occurs with higher salinity (salt content) and lower dissolved oxygen in bottom water, and lower salinity and higher dissolved oxygen in surface water. No benthic organisms were found in deepwater channel habitat in the existing Sparrows Point Channel near the Brewerton Channel during sampling conducted in the summer of 2023; therefore, it is likely that benthic communities would not recolonize the deepened and widened channel created by dredging. This would result in a loss of the benthic habitat in the channel footprint.

4.7.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

Placement of dredged material in the High Head Industrial Basin DMCF would convert the basin to upland habitat. Any benthic organisms present in the High Head Industrial Basin would be permanently lost to burial. Installation of the temporary outfall and diffuser needed to discharge effluent from the High Head Industrial Basin DMCF would directly impact the benthic habitat and organisms beneath the pipeline alignment and in any adjacent disturbed area. The temporary feeder line to extend the outfall and a diffuser would be anchored to the river bottom. The pipeline would be 18 or 24 inches in diameter and would be temporary for the duration of dredged material placement and dewatering at the High Head Industrial Basin DMCF. Once dewatering is completed, the feeder line and diffuser would be removed from the river bottom, and benthic organisms would be expected to recolonize the pipeline footprint.

Coal Pier Channel DMCF at Sparrows Point

Construction of and placement of dredged material in the Coal Pier Channel DMCF would result in burial of the existing benthic communities in the DMCF footprint (approximately 19.6 acres). The Coal Pier Channel is degraded from historical uses and has been dredged; only one benthic taxon was found during sampling in the Coal Pier Channel. The existing sediment is anticipated to consist of a soft surface layer approximately 4 feet in thickness underlain by consolidated sand. Because this soft overburden material would be removed prior to the placement of sand for the dike alignment, displacement of these sediments and creation of a mud wave during dike construction would not be expected. BMPs for in-water construction (such as those described in Section 3.2) would be used where practicable and necessary to minimize the resuspension of sediment and contaminants to the water column during in-water placement of dike construction material. Therefore, sediments resuspended during dike construction would be expected to be minimal, which would minimize the area outside of the dike footprint where benthic organisms could be buried.

Existing Nearshore MPA DMCFs

No new impacts on benthic organisms would occur because the MPA DMCFs are existing upland placement sites.

Existing Ocean Disposal Site

No new impacts on benthic organisms would occur because NODS is an existing USEPA-designated ocean placement site.

4.7.2.4 Preferred Alternative – Dredged Material Placement

The impacts on benthic fauna from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except that the loss of benthic habitat and organisms associated with construction of the Coal Pier Channel DMCF would not occur. Because the footprint for the High Head Industrial Basin DMCF is the same as for the Combined Options Alternative, the impacts on benthic organisms in the High Head Industrial Basin would be the same as described for the Combined Options Alternative.

4.7.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on benthic fauna include those that would result in temporary and long-term changes to benthic habitats.

- The Corps (2024a) did not specifically address the impacts of the demolition and reconstruction of the Key Bridge on benthic organisms. The types of activities needed to remove the remaining structures of the Key Bridge are expected to cause temporary disturbances to the river bottom. However, the river depth where activities will occur likely limits the presence and diversity of benthic organisms. Impacts on benthic organisms would be expected to be minimal.
- Maintenance dredging, including for Curtis Creek, causes bottom disturbances similar to those evaluated for the deepening of the Sparrows Point Channel, resulting in impacts on benthic organisms present. The depth of the channels where dredging occurs likely limits the presence and diversity of benthic organisms, and impacts would be temporary.
- The clean-up at Bear Creek, including dredging and capping, will result in a net decrease in the amount of impacted sediment that is available to the system, thus decreasing chemical impacts from sediment to surface water and to other areas of the Patapsco River via erosion. The dredging and capping will make some areas shallower and others deeper; however, the cleanup will result in long-term beneficial impacts on benthic fauna from the reduction of contaminants in the immediate surficial sediments and the aquatic system.
- Changing weather patterns will cause increases in storm frequency and intensity, precipitation amount, storm surge, temperatures, and wave action, which could impact benthic resources. These changes are expected to create a variety of secondary effects, some of which would have an effect on benthic organisms and communities, including an increase in salinity variability, hypoxia, and

harmful algae (Najjar et al. 2010). These changes can result in degradation of habitat, and thus, degrade the health and sustainability of benthic communities (Du et al. 2018).

Deepening and widening of the Sparrows Point Channel for the SPCT project would result in adverse impacts on benthic fauna, including mortality, conversion to deepwater habitat, and changes in the types and numbers of species present in the channel after dredging. Construction of and placement of dredged material into the High Head Industrial Basin or the Coal Pier Channel DMCFs would result in the mortality of any benthic organisms and removal / elimination of benthic habitat in those footprints. Under the Combined Options Alternative, sediments resuspended during dike construction for the Coal Pier Channel DMCF would be localized, and the implementation of appropriate BMPs would reduce the potential for burial of benthic organisms outside the dike alignment.

The SPCT project would contribute to adverse impacts on benthic fauna from dredging to widen and deepen the Sparrows Point Channel and from the in-water construction and placement of dredged material in the DMCFs. Because the Preferred Alternative does not include the Coal Pier Channel DMCF, the Preferred Alternative would have fewer impacts than the Combined Options Alternative on the benthic community. The localized and incremental impacts of the SPCT project would not make a substantial contribution to the impacts on benthic fauna from other planned actions.

4.8 Fish

4.8.1 Affected Environment

Regional Fish Community Overview

The Chesapeake Bay supports 348 species of fish at some point in their life cycle (NMFS 2024a). The distribution of fish populations is dependent upon water quality factors (temperature, pH, salinity), larval recruitment, availability of prey species (fish and benthic organisms), and migration patterns (Lippson and Lippson 1994). The Bay supports both resident and migratory species. Migratory species either spawn in the ocean and reside for the rest of their life cycle in the Chesapeake Bay or spawn in the Chesapeake Bay and spend the remaining time in the open ocean (Corps 2009). The Chesapeake Bay has many fish species that are recreationally and commercially harvested. In Maryland, fisheries are managed by MDNR. Atlantic menhaden (*Brevoortia tyrannus*) has been the top fishery in the Chesapeake Bay for several decades, with over 150,000 metric tons caught per year. The striped bass (*Morone saxatilis*) fishery stocks suffered a decline during the 1970s and 1980s due to overfishing and are in the recovery process. Although not currently overfished, stocks remain low, largely due to loss of spawning habitat and pollution in the Chesapeake Bay (Chesapeake Bay Program [CBP] 2020).

Important predator fish species (including those that are part of commercially significant fisheries) rely on smaller prey species, such as bay anchovy (*Anchoa mitchilli*), Atlantic menhaden, and American shad (*Alosa sapidissima*) (Zastrow and Houde 1991; CBP 2020). Smaller forage species provide a critical food source and may also break down plant detritus on the seafloor (CBP 2020). Most forage fish species in the Chesapeake Bay use a variety of habitats and rely on phytoplankton, zooplankton, and benthic invertebrate communities for food sources. Water quality and food availability largely determine fish abundance and distribution in the Bay, particularly during juvenile life stages (CBP 2015).

Fish Community

To understand the fish community both within and adjacent to the SPCT project area, fisheries surveys were conducted in summer (late August / early September) and fall (November) 2023 and early winter (February) and spring (late April / early May) 2024 (EA 2024a, 2024b, 2024c, 2024d). Sampling locations and procedures were reviewed by USFWS, NMFS, and MDNR before the surveys were conducted. The study area for fish includes the in-water portion of the SPCT project area and surrounding areas, as depicted in Figure 29; the High Head Industrial Basin was also surveyed for fish. The surveys were performed using different types of fish collection equipment: beach seine, gillnet, and bottom trawl. Each gear type targeted collection of fish species within a specific area of the water column or bottom habitat. Use of the combination of sampling methods provides a comprehensive view of the fish assemblages in different habitat types (shallow nearshore, deeper water, middle of the water column, and near the bottom sediments) and captures fish at various life stages as they use the portion of the Patapsco River in and around the SPCT project area. Each of the three collection methods was used during the spring, summer, and fall surveys; only gillnet and bottom trawl collections were performed during the winter survey. For the 2024 sampling events, one gillnet location and one trawl location had to be relocated (as noted on Figure 29) due to the collapse of the Key Bridge in March 2024. At each location, the captured fish were identified to species, counted, measured, and weighed. At each of the gillnet locations, plankton tows were also performed during the spring and summer 2024 surveys to characterize the zooplankton (tiny, often microscopic animals that drift with currents) and ichthyoplankton (eggs and larvae of fish) community in and around the project area. Additional data to understand water quality during sampling were collected during the surveys and included water temperature, dissolved oxygen, and salinity.

A summary of the fish collected by each method in each season is provided in the following sections, along with a description of the fish collected by each type of equipment. Sampling for each method was conducted at several locations directly within the SPCT project area (near or within the proposed offshore DMCF footprint and the proposed dredging footprint), as well as one location each upstream and downstream of the SPCT project area (Figure 29).

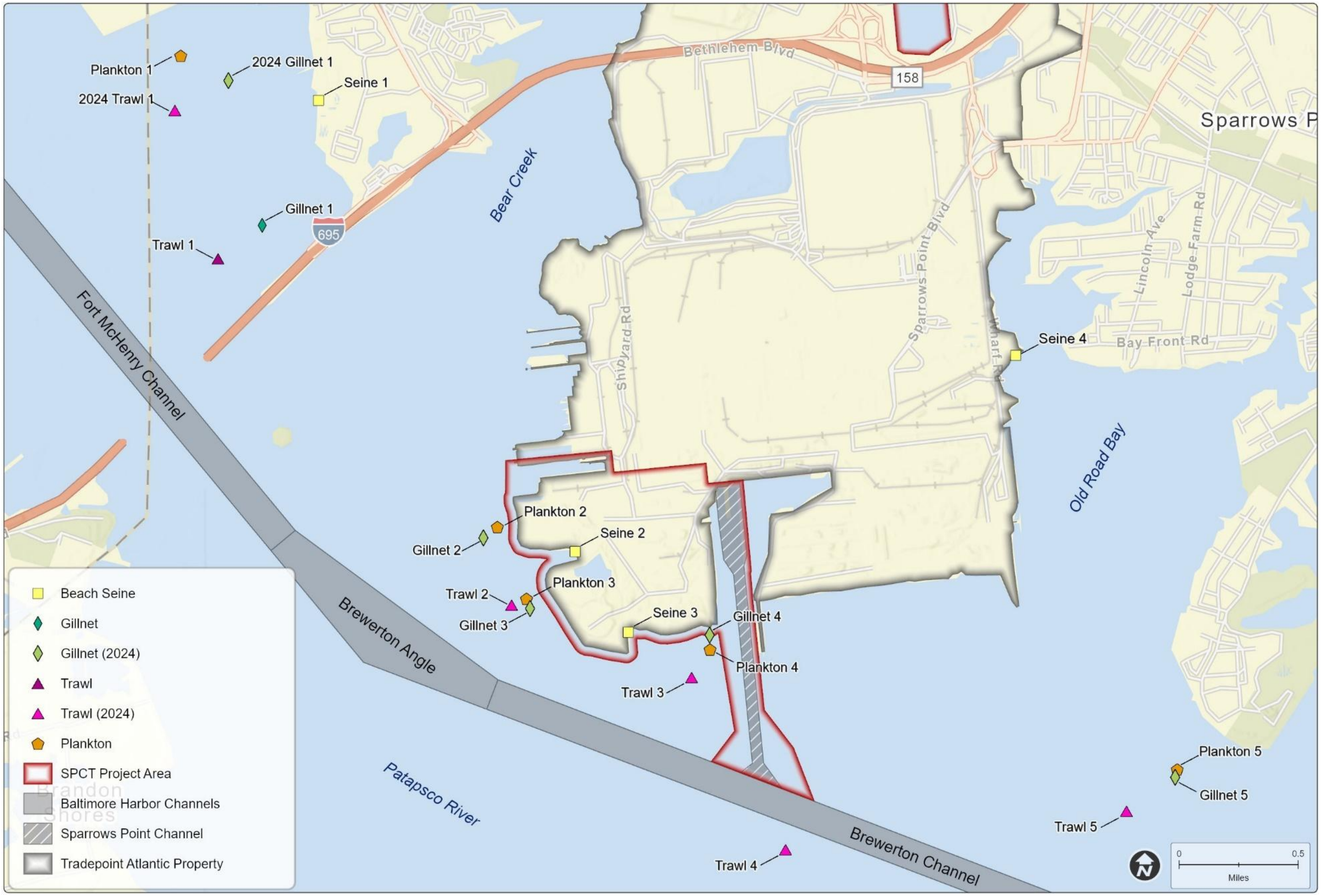
Nearshore Fish (Beach Seine Surveys)

> A **beach seine** is a fishing net that is set from the shore and used to encircle fish. Beach seines are used to collect fish that live in shallow waters close to the shoreline.

Beach seines are deployed in an arc shape perpendicular to the shoreline and then towed by hand along a section of shoreline. The beach seine sampling locations within and around the SPCT project area were selected based on the presence of and accessibility to shallow water areas that were large enough to complete adequate tows of the seine. Seasonal fish collection data for beach seine surveys are summarized in Table 15. Four of the species caught — Atlantic silverside (*Menidia menidia*), inland silverside (*Menidia beryllina*), banded killifish (*Fundulus diaphanus*), and striped killifish (*Fundulus majalis*) — were only caught by the seine method.

In the summer, the nearshore fish community was largely comprised of Atlantic silverside (71% of all fish caught by seine) and Atlantic menhaden (18% of all fish caught by seine). Eleven unique fish species were collected from the combined sample locations. One location outside of the SPCT project area had the most diversity; 10 different species were collected at this location (Seine 4 in Figure 29). Overall, a total of 1,070 individual fish (all species combined) were collected from the seine locations during the summer season. The largest number of total fish collected at one sampling location was 591 individuals collected along the southern shoreline of Coke Point within the SPCT project area (Seine 3 in Figure 29).

Figure 29. Fish Survey Locations



During the fall season, Atlantic silverside was also the most abundant species (81% of all fish caught by seine) collected in the nearshore habitat. Six unique fish species were collected across all locations. Within the SPCT project area, a total of four unique fish species were present in nearshore sampling areas. A total of 660 individual fish were collected by beach seine in the fall sampling season, with the most fish (273 individuals) collected along the southern shoreline of Coke Point (Seine 3 in Figure 29).

In spring 2024, herring (*Alosa* spp.) was the most abundant taxon collected in the nearshore habitat (83% of all fish caught by seine). Eight unique fish species were collected across all locations. Within the SPCT project area, a total of four unique fish species were present in nearshore sampling areas. A total of 5,629 individual fish were collected by beach seine in the spring sampling season, with the most fish (2,650 individuals) collected along the southern shoreline of Coke Point (Seine 3 in Figure 29).

Pelagic Fish (Gillnet Surveys)

> A **gillnet** is a fishing net that hangs vertically in the water with floats on the top and weights on the bottom. Gillnets can be set at various depths and are used to catch fish in pelagic (water column) habitat within a water body.

Pelagic fish live in the open water column, spending little time close to the shore or near the seafloor. A single 150-foot-long gillnet with five, 30-foot panels made of varying-sized mesh (designed to capture fish of a range of sizes) was deployed at five sampling locations in the SPCT project area to capture pelagic species (Figure 29). Gillnets were deployed for one to two hours based on surface water temperatures (one hour when temperature was equal to or exceeded 68°F, and two hours when temperatures were below 68°F). Gillnets were checked after the appropriate duration and were repeated if no fish were collected during the first soak. Seasonal fish collection data for gillnet surveys are summarized in Table 15.

During the summer surveys, the pelagic fish community was largely comprised of Atlantic menhaden (77% of all fish caught by gillnet) and striped bass (10% of all fish caught by gillnet). A combined total of seven unique fish species and 96 total individual fish were collected from the gillnet sample locations. One of the seven species (bluefish (*Pomatomus saltatrix*)) was only caught during the summer gillnet surveys. The sampling location downstream of the SPCT project area (Gillnet 5 in Figure 29) had the most diversity, with five unique species collected. A total of 56 individual fish (all species combined) were collected from the location along the southern shoreline of Coke Point (Gillnet 4 in Figure 29), which was the highest number of individual fish collected at any location.

In the fall gillnet survey, gizzard shad (*Dorosoma cepedianum*) was the most abundant fish species caught by gillnet (80% of all fish caught). Only one other species (pumpkinseed sunfish (*Lepomis gibbosus*)) was caught. No fish were caught at the sampling locations within the offshore DMCF footprint or along the southern shoreline of Coke Point (Gillnets 3 and 4 in Figure 29).

In the winter survey, no pelagic fish were caught by gillnet at any of the sampling locations, even with a second two-hour deployment of a net at each area (four hours total time in the water per location).

In the spring gillnet survey, Atlantic menhaden was the most abundant fish species caught by gillnet (58% of all fish caught). No fish were caught at the sampling location along the southern shoreline of Coke Point (Gillnet 3 in Figure 29). Twenty-three individual fish were caught across all sample locations.

Table 15. Summary of Individual Fish Collected by Each Method per Season

Fish Species	Sampling Method and Season										
	Beach Seine			Gillnet				Bottom trawl			
	Summer	Fall	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring
Atlantic croaker (*Micropogonias undulatus*)	6	0	72	2	0	0	0	26	2	3	342
Atlantic menhaden (*Brevoortia tyrannus*)	195	0	0	74	0	0	9	4	0	1	0
Atlantic silverside (*Menidia menidia*)	755	539	263	0	0	0	0	0	0	0	0
Banded killifish (*Fundulus diaphanus*)	1	7	5	0	0	0	0	0	0	0	0
Bay anchovy (*Anchoa mitchilli*)	6	78	557	0	0	0	0	379	151	8	231
Bluefish (*Pomatomus saltatrix*)	0	0	0	3	0	0	0	0	0	0	0
Blueback herring (*Alosa aestivalis*)	0	3	0	0	0	0	1	0	0	0	2
Gizzard shad (*Dorosoma cepedianum*)	5	0	0	1	4	0	3	0	0	0	0
Herring (*Alosa* spp.)	0	0	4,662	0	0	0	0	0	0	0	0
Hogchoker (*Trinectes maculatus*)	0	0	0	0	0	0	0	1	0	0	1
Inland silverside (*Menidia beryllina*)	4	0	61	0	0	0	0	0	0	0	0
Northern pipefish (*Syngnathus fuscus*)	0	0	0	0	0	0	0	1	0	0	0
Pipefish species	1	0	0	0	0	0	0	0	0	0	0
Pumpkinseed sunfish (*Lepomis gibbosus*)	22	0	0	0	1	0	0	0	0	0	0
Spot (*Leiostomus xanthurus*)	0	0	0	4	0	0	8	170	0	0	1
Striped bass (*Morone saxatilis*)	1	0	0	10	0	0	2	0	0	0	0
Striped killifish (*Fundulus majalis*)	0	33	8	0	0	0	0	0	0	0	0
Summer flounder (*Paralichthys dentatus*)	0	0	0	0	0	0	0	3	0	0	0
Weakfish (*Cynoscion regalis*)	0	0	0	2	0	0	0	3	0	0	0
White perch (*Morone americana*)	74	3	1	0	0	0	0	19	0	0	19
Total individuals	**1,070**	**660**	**5,629**	**96**	**5**	**0**	**23**	**606**	**153**	**12**	**596**

Deepwater and Demersal Fish (Bottom Trawl Surveys)

> A **bottom trawl** is a fishing net that is towed by boat along the sea floor. This type of net targets collection of both fish that use the deepest part of the water column and bottom-dwelling species that spend most of their life on the seafloor.

Seasonal fish collection data for the bottom trawl surveys are summarized in Table 15. During the summer surveys, the deepwater and demersal (bottom-dwelling) fish community was largely comprised of bay anchovy (*Anchoa mitchilli*) (63% of all fish caught by trawl) and spot (*Leiostomus xanthurus*) (28% of all fish caught by trawl). Nine unique fish species and 606 total individuals (all species combined) were collected across the trawl sample locations. The southern shoreline of Coke Point (Trawl 3 in Figure 29) had the highest number of unique fish species, with eight different species collected. The highest number of fish (all species combined) collected at a single location was 167 fish at the sampling location downstream from the SPCT project area (Trawl 5 in Figure 29). Overall, more individual fish were collected at the upstream and downstream locations than within the SPCT project area.

In the fall, two fish species were collected in the trawl surveys. Bay anchovy was the most abundant fish species caught by trawl (99% of all fish caught), although individuals caught in the fall were smaller in length and weight than those caught in the summer. Atlantic croaker (*Micropogonias undulatus*) was also caught by trawl during the fall survey. A total of 153 individual fish were collected during fall trawl surveys. Almost half (68 individuals) of the total collected fish were caught at the sampling location upstream from the SPCT project area (Trawl 1 in Figure 29).

The winter bottom fish community was comprised of Atlantic menhaden, Atlantic croaker, and bay anchovy. Only 12 total individuals (all species combined) were collected in the winter trawl survey, with the most (eight individuals) collected offshore near the entrance to the Sparrows Point Channel (Trawl 4 in Figure 29). No fish were collected by trawl off the western shoreline of Coke Point (Trawl 2 in Figure 29) or at the downstream sampling location (Trawl 5 in Figure 29).

The spring bottom fish community was comprised of six unique taxa. A total of 596 individuals were collected, with the most individuals (171) collected at the sampling location along the southern shoreline of Coke Point (Trawl 3 in Figure 29). Atlantic croaker had the highest abundance (57%) across all sampling locations, with juveniles measuring less than 4 inches comprising most of the individuals captured. Bay anchovy had the next highest abundance (38%), and white perch, blueback herring, spot, and hogchoker (*Trinectes maculatus*) comprised 3.9% abundance.

Plankton Community

Zooplankton are small, water-column organisms and include crustaceans, copepods, and insect larvae. They are important in the aquatic food chain as a food source for invertebrates and fish predators and can function as indicators of nutrient water quality due to their sensitivity to nutrient pollution (USEPA 2024b). Ichthyoplankton are the eggs and larvae of fish that are generally found in near-surface waters. These early stages in the fish life cycle are brief but form the basis of the estuarine fish community and stock (Zhang et al. 2022). Distribution of zooplankton in the Chesapeake Bay is largely driven by salinity, temperature, and food availability (CBP 2024a).

Plankton surveys (tows) were conducted at the locations shown in Figure 29. These are generally co-located with the gillnet locations, although due to the Key Bridge collapse in March 2024, the upstream plankton tow location was moved to avoid a restricted zone around the former bridge. Plankton sampling consisted of a near-surface and near-bottom tow (using a fine-mesh size net) traveling against and in parallel to the prevailing flood tide (EA 2024a, 2024g).

A total of 3,150 individual zooplankton were collected during the spring surveys. Plankton 1 (upstream of the SPCT project area, see Figure 29) had the highest number of individuals (3,014) and density (the number of organisms within a unit volume of water). Copepods and mollusks (including *Acartia tonsa*) were the dominant zooplankton taxa collected across all sample locations. The next highest number of zooplankton (119 individual mollusks) was found at Plankton 2 off the western shoreline of Coke Point. In the summer, 15,943 individual zooplankton were collected. The highest number of individuals (7,383) was collected at Plankton 2 off the western shoreline of Coke Point near the Coal Pier Channel. Zooplankton collected at this location consisted largely of crab, copepod, and shrimp larvae (Table 16). The next highest number of zooplankton was found at Plankton 3, also along the western shoreline of Coke Point, south of Plankton 2. The community captured here also consisted of crab, copepod, and shrimp larvae.

Ichthyoplankton were collected at each location in spring 2024 except for Plankton 3 on the western shoreline of Coke Point. No ichthyoplankton were collected in bottom waters at Plankton 1 or 4, and Plankton 5 had no ichthyoplankton collected in the surface tows. In all samples, the only ichthyoplankton collected were yolk sac larvae of inland silverside fish. Only 28 larvae were collected during the spring survey across the combined five plankton sampling locations. In the summer survey, ichthyoplankton were more diverse across the sampling locations. Ichthyoplankton of six fish taxa (Table 17) were collected, with the majority being yolk-sac larvae and post-yolk-sac larvae of bay anchovy. The highest number of individual ichthyoplankton was collected at Plankton 5 downstream of the project area (98 total individuals).

Table 16. Zooplankton Communities in Spring and Summer 2024

Group / Common Name	Spring (number of individuals)	Summer (number of individuals)
Water flea	3,010	18
Copepod	18	458
Mollusk	120	0
Barnacle	2	0
Crab	0	15,045
Shrimp	0	405
Jellyfish	0	10
Mysid	0	6

Table 17. Ichthyoplankton Communities in Spring and Summer 2024

Group / Common Name	Spring (number of individuals)	Summer (number of individuals)
Inland Silverside	28	16
Bay Anchovy	0	143
Northern Pipefish	0	2
Naked Goby	0	119
Herring	0	27
Feather Blenny	0	1
Unidentified	0	3

Electrofishing at High Head Industrial Basin

> **Electrofishing** is a survey method used in freshwater environments. This technique involves using low electric current to temporarily stun fish, making them easier to collect for identification, study, and monitoring.

An electrofishing survey was completed at High Head Industrial Basin in June 2024 (EA 2024h). Two species of fish were identified during this survey, pumpkinseed sunfish and mummichog (*Fundulus heteroclitus*). A total of 340 individuals (216 pumpkinseed sunfish and 124 mummichog) were collected during sampling of both the perimeter of the basin and transects across the basin. Pumpkinseed sunfish was the most abundant species, with the majority of individuals captured along the perimeter habitat of the basin.

Summary and Influence of Water Quality Factors on the Fish Community

The highest number of unique species was observed in the summer, with 17 unique species (1,772 individual fish) collected in the waters in and around the SPCT project area. During the fall collections, the number of unique and total number of individual fish collected declined to nine unique species and 818 individual fish. In the winter, even fewer unique species and individual fish were captured in the vicinity of the project area (three unique species and 12 individual fish for all locations combined). The following spring (2024), 5,629 total fish were captured, with most of the individuals collected along the southern shoreline of Coke Point and downstream of the project area. While some hypoxic conditions were present in the bottom and pelagic waters during the summer months, there were still significantly more fish present across all habitat types than in the fall or winter season. Table 18 presents the water quality data collected during the seasonal fisheries surveys in 2023 and 2024.

Based on the seasonal survey data, fish assemblages and abundance in habitats in and around the SPCT project appear to be highly driven by seasonal water temperature and salinity. In the spring, hypoxia was only present at sampling location 5 (downstream of the SPCT project area), which had the lowest bottom dissolved oxygen concentration and bottom temperature. Low dissolved oxygen during the summer months in the deeper water areas may also affect fish distribution, as pelagic species are mobile and will avoid areas with low dissolved oxygen. Fish moving upstream from the Chesapeake Bay can thrive in the higher summer salinities and move downstream away from the project area as the salinity and water temperature decrease throughout the water column in the late fall and winter months. Among the individual sampling stations, the number of unique species found in the fish communities outside of the direct SPCT project area (the upstream and downstream locations) and within the SPCT project area was largely consistent, with only one or two additional unique species found at the downstream location in the summer. The overall number of nearshore fish collected was higher at locations within the SPCT project area than the locations outside the SPCT project area in the summer and fall, while the upstream and downstream locations had a larger bottom-dwelling fish community. In the spring, total numbers of nearshore fish were highest at the downstream location and within shallow water areas on the south side of Coke Point.

Table 18. Water Quality Parameters Collected during Fisheries Surveys

The water quality measurements reported here present the range (lowest and highest values) recorded during each survey across the sampling locations. Measurements provided represent the conditions at near-bottom at the time of the trawl surveys.

Water Quality Parameter	Summer Survey (late August / early September)		Fall Survey (November)		Winter Survey (February)		Spring Survey (late April / early May)	
	Low	High	Low	High	Low	High	Low	High
Dissolved oxygen (mg / L)	0.5	5.7	6.2	9.9	7.2	13.4	2.7	13.4
Salinity (ppt)	9.7	15.7	13.1	17.8	3.8	16.2	1.7	11.7
Water temperatures (°F)	79.2	80.2	58.5	59.9	41.2	42.1	60.4	67.1

Notes:

mg / L = milligrams per liter; ppt = parts per thousand; °F = degrees Fahrenheit

4.8.2 Environmental Consequences

A variety of important predator fish species (including those that are part of commercially significant fisheries), as well as smaller prey species (e.g., bay anchovy, Atlantic menhaden, blueback herring), use the SPCT project area, as described in Section 4.8.1. Although commercial species occur in the project area, no commercial operations are active in the Baltimore Harbor at this time. This impact analysis includes consideration of construction activities and dredging, and material placement effects on all fish species, as well as their potential invertebrate prey sources.

4.8.2.1 No-action Alternative

Fish species would be subject to existing conditions in and around the SPCT project area. There would be no change in the aquatic habitat potentially used by fish. Fish using habitat within the existing channel and immediately adjacent to the existing channel would be temporarily disrupted by periodic maintenance dredging activities (see Section 4.8.2.2 for a full discussion on dredging impacts on fish. Similarly, invertebrate prey species would be adversely affected by periodic maintenance dredging, as discussed in Section 4.7.2.1. Implementation of the No-action Alternative would not involve in-water construction and therefore would have no additional impacts on fish. If the High Head Industrial Basin were to be filled in and the area repurposed, approximately 40 acres of aquatic habitat would be lost; however, the industrial basin is not managed to support aquatic habitat. While only two species of fish were found during sampling at High Head Industrial Basin, these individuals would be lost if the basin were filled.

4.8.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Impingement / Entrainment of Fish and Plankton from Dredging Operations

Fish species could potentially be caught by the equipment used to mechanically dredge the SPCT channel and to hydraulically offload the material to a placement area. Fish can potentially become captured in the clamshell dredge bucket (entrained) (depending upon size and life stage). Most fish, however, would avoid the area of the dredging operations. Capture by clamshell dredge bucket is uncommon and would only impact demersal fish that are unable to move away from the operation. When water is pumped to slurry dredged material for hydraulic offloading, fish may become caught on the pipe screen (impinged), depending upon the size of the fish and the size of the openings of any fish screen that may be used on the pipe, or be pulled into the pipe (entrained) past the screen. Eggs and larvae would be the life stages most susceptible to entrainment in the hydraulic pipe, as mobile life stages would be more likely to move away from the area of the operation. Dredging and subsequent slurrying and offloading of dredged material would comply with designated time-of-year restrictions and would not occur when fish eggs and larvae would be expected to be most prevalent in the Patapsco River and Bear Creek.

Impingement is the process when aquatic organisms, such as fish or other large marine life, are trapped against water intake screens or barriers. This occurs when these organisms are unable to avoid being drawn into the intake flow, leading to injury or death.

Entrainment occurs when smaller aquatic organisms, such as fish eggs, larvae, and plankton, are drawn into and carried through a water intake system These organisms are usually small enough to pass through intake screens, often resulting in their death due to mechanical or thermal stress. Small fish can also be incidentally captured or entrained by dredging equipment.

Underwater Noise from Pile Driving

Noise impacts from anthropogenic sources (e.g., in-water construction activities) have the potential to impact fish, sea turtles, and other marine species that rely on hearing underwater to forage, communicate, detect predators, and navigate (NMFS 2022a). Receptor response to noise varies by the types and characteristics of the noise source, distance from the source, water depth, receptor sensitivity, and temporal scale. Noise can be intermittent or continuous, steady or impulsive, and it may be generated by either mobile or stationary sources.

Noise Impact Types and Scenario Overview

Construction activities that could generate noise with the potential to impact fish are associated with construction of the SPCT terminal. These activities include:

1. Installation of steel pilings during construction of the marginal wharf with piling diameters of 30 and 36 inches
2. Demolition of the existing pier structure

Noise that would rise to the level of affecting fish could also be associated with vessel traffic during construction, operation, and dredging activities. During construction, the noise generated by pile driving would far outweigh that of vessel traffic. These activities are the scenarios that were modeled to assess underwater noise impacts on fish.

The details on the pile driving activities for each construction scenario are summarized in Table 19. During the terminal design process, measures to reduce the overall number of piles necessary for the terminal wharf structure were used to the extent practicable.

Table 19. In-water Pile Driving Activities

Activity	Approximate Activity Duration (days)	Maximum Number of Piles Installed per Day	Number and Diameter of Steel Piles	Method of Pile Driving
Wharf piling installation	278 (minimum number of days over a 3-year window)	6	602 30-inch piles 1,063 36-inch piles	Impact and vibratory
Water-based demolition	20	NA	Varied	Vibratory

Notes:
NA = not applicable

Both vibratory and impact hammers are proposed to be used to install piles for the terminal construction. It is anticipated that piles would be driven to the maximum possible depth using a vibratory hammer, followed by driving with an impact hammer to the final target sub-surface elevation. This Final EIS presents an overview of the noise modeling inputs and methods, and the model results for the scenarios that have the potential to produce the largest noise impact on fish. Detailed discussion of the model inputs and results is included in Appendix E.

Fish Physiology and Morphology

Though the injury criteria distinguish between fish of different sizes (fish weighing less than 2 grams and those weighing 2 grams or more), the criteria do not distinguish between fish of different hearing sensitivity. However, criteria are expected to be conservative and protective of pelagic and demersal fish potentially present within the project area. It is worth noting that the hearing sensitivity of fish varies by species and has been linked to morphology, specifically the presence of a swim bladder, the proximity of the swim bladder to the ear, and the presence of adaptations that link the swim bladder to the ear. Fish with swim bladders closest to the ear and those with specialized adaptations are most sensitive to sound since they are stimulated by sound pressure via the gas within the swim bladder as well as by particle motion, whereas fish without swim bladders and fish without swim bladders near the ear are only stimulated by particle motion (Popper and Hawkins 2019).

Within the different morphological groups, hearing sensitivity also varies by species. For example, black sea bass, an EFH species potentially present in the project area, is fairly sensitive to sound compared to related species (Stanley et al. 2020). Several species of clupeid fishes are able to detect and respond to ultrasonic sounds, likely due to an ear specialization unique to clupeids (Popper et al. 2004). Clupeid fishes are of particular concern given proximity of the site to migratory corridors for anadromous herrings. Clupeid fishes, including blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), American shad, hickory shad (*Alosa mediocris*), Atlantic menhaden, and gizzard shad, have been documented to use habitat in and/or migrate through the Patapsco River, indicating that fish with high hearing sensitivity may be in the project area during pile driving. Though given the sensitivity to underwater sound, it is still anticipated that these fish would be protected using the Fisheries Hydroacoustic Working Group (FHWG) criteria.

Acoustic Thresholds

Acoustic thresholds for the onset of underwater acoustic impacts from pile driving activities were calculated for fish in the project area using the Optional Multi-Species Pile Driving Calculator Tool, VERSION 1.2-Multi-Species: 2024 (Multi-Species Tool), provided on the NMFS website (NMFS 2024b). The calculations were used to create a multi-ring buffer of isopleths (i.e., sound contours) diminishing in 1 decibel (dB) increments from the sound source. These thresholds are the lowest level where injury could occur (FHWG 2008) and are used to indicate the distance from the noise source where fishes could be exposed to injury or disturbance.

> **Root mean square (RMS)** pressure calculation provides a consistent measure of sound exposure, even in environments with fluctuating noise levels.
>
> **Peak sound pressure level (SPL_{peak})** is the measure of the highest-pressure variation in a sound signal, providing an indication of the loudest moment within the sound wave.
>
> **Cumulative sound exposure level (SEL_{cum})** is used to quantify the total sound energy exposure over an extended period, aggregating multiple noise events into a single metric that reflects the overall noise exposure during that period.

Different types of sound pressure effects can cause different reasonable noise source levels that may result from pile driving. The peak pressure effect occurs from impact driving, as opposed to vibratory driving, which creates a more constant sound pressure with no peak decibel level. The modeled fish thresholds for physical injury and behavioral disturbance were used to determine the distances to onset of physical injury and behavioral disturbances (Table 20). Physical injuries to fish from noise sources can include inner ear tissue damage and hearing loss (Casper et al. 2013) and rupture or damage to the swim bladder (California Department of Transportation 2020). Behavioral disturbances include showing a brief awareness of the sound, small movements, or escape responses to move away from the noise source entirely (University of Rhode Island [URI] 2017). Thresholds for these effects are measured by evaluating the cumulative sound exposure level over the duration of a noise event (SEL_{cum}), the maximum instantaneous sound pressure over the duration of a noise event (SPL_{peak}), and the average intensity of the sound signal over time (RMS).

Table 20. Fish Pile Driving Injury Guidance

Fish Weight	Onset of Physical Injury due to Impact Pile Driving		Onset of Behavioral Disturbance due to Impact and Vibratory Pile Driving
	SEL_{cum}	SPL_{peak}	RMS
Fishes weighing 2 grams or more	187 dB	206 dB	150 dB
Fishes weighing less than 2 grams	183 dB	206 dB	150 dB

Notes:

RMS = root mean square; SEL^{cum} = cumulative sound exposure level over the duration of a noise event; SPL^{peak} = maximum instantaneous sound pressure over the duration of a noise event; dB = decibel

Sound Attenuation

Sound attenuation measures for underwater noise may include the use of cushion blocks or bubble curtains during pile driving activities. Sound reduction associated with the use of cushion blocks is already incorporated into the NMFS Multi-Species Tool; therefore, no additional attenuation was included in the underwater noise modeling for aquatic resources. TTT would perform underwater noise monitoring during pile driving activities to verify the noise levels generated in the project area. Further coordination with NMFS would occur during noise monitoring to identify additional sound attenuation measures that may be required to reduce impacts on aquatic resources and to provide a zone of safe fish passage in the Patapsco River.

> **Cushion blocks** are used in reducing the impacts of pile driving to absorb and distribute the energy from the hammer blows, thus reducing the intensity of the underwater noise generated during pile driving. Cushion blocks can be made from wood, nylon, or other materials of varying thickness.
>
> **Bubble curtains** are used underwater to reduce the transmission of sound. A perforated hose or pipe placed on the river bottom releases a continuous stream of compressed air, forming a vertical wall of rising bubbles around the noise source.

Noise Impacts

The full modeling results of each pile driving activity are included in Appendix E. The models indicate that the installation of 36-inch steel piles for the wharf using impact driving has the largest potential noise impact area. Noise modeling results are presented in figures based on three in-water sound source locations for the pile driving activities — one location at the northern point of the east shoreline of Coke Point (near where the existing structures would be demolished), one location within the embayment on the east side of Coke Point (within the turning basin), and one location outside of the embayment at the southern point of the Coke Point peninsula.

Table 21 presents the maximum distances at which pile driving noise could potentially affect fish. A maximum of three impact hammers would operate concurrently, and each hammer would install one to two piles per day for a typical rate of three piles per day and a maximum rate of six piles per day installed via impact driving. For the wharf piling installation with an impact hammer, the largest maximum distance to peak onset (SPL_{peak}) of physical injury in any size fish is 61 feet for either 30- or 36-inch steel pipe piles at a rate of either three or six piles per day (Figure 30 through Figure 32).

The maximum distance to physical injury using the cumulative sound exposure level (SEL_{cum}) is within 5,200 feet (approximately 1 mile) for fish greater than 2 grams and is based on driving six 36-inch steel pipes per day (Figure 30 through Figure 32). Reducing the driving to three piles per day would decrease the SEL_{cum} distance to 3,443 feet (approximately 0.65 miles); however, for fish less than 2 grams, the distance to physical injury for driving 36-inch piles would remain at 5,200 feet when driving either three or six piles per day (Table 21).

The distance for behavioral disturbance (RMS) in any size fishes from impact driving of wharf piles is largest for driving 36-inch piles (either three or six piles per day) and is 51,998 feet or approximately 9.85 miles. A soft start (gradual startup of impact pile driving) may be used to produce small sound waves that would encourage fish to move away from the project area before pile driving begins.

The 30 and 36-inch wharf piles would also be driven with a vibratory hammer. A maximum of three vibratory hammers would operate concurrently, and each hammer would install one to two piles per day for a typical rate of three piles per day and a maximum rate of six piles per day installed via vibratory driving. The maximum distance to onset of behavioral disturbance is 1,523 feet (approximately 0.3 mile) from vibratory driving of the 36-inch piles (Table 21).

Precise activities and pile sizes to be removed during water-based demolition are yet to be determined and would be finalized prior to removal and start of project construction. For modeling, it was assumed that removal of existing in-water structures would only require vibratory methods. Modeling conservatively predicted that fishes of any size may experience behavioral disturbance at a distance of 3,281 feet (approximately 0.6 mile) from demolition / pile removal activities (Table 21 and Figure 33 through Figure 35).

To avoid and minimize impacts to aquatic resources, TTT would continue to coordinate with NMFS on supplemental acoustic modeling, monitoring and verification of underwater sound during pile driving, and the implementation of sound attenuation measures, as necessary, to maintain a zone of safe fish passage in the Patapsco River.

Turbidity and Habitat Alteration

Turbidity from Dredging and Wharf Construction

Dredging operations could affect egg, larval, juvenile, and adult life stages of fishes within the project area through direct removal or burial, turbidity / siltation effects, temporary shifts in dissolved oxygen during dredging operations, entrainment, visual and noise disturbances, and alteration of habitat. Turbidity is measured in the field in NTU. Water with higher turbidity will often have higher concentrations of TSS, which can be measured in samples sent to a laboratory. Although there are natural contributors to turbidity within a water body (e.g., storm events, plankton blooms), construction activities such as dredging can increase turbidity.

NMFS has estimated TSS concentrations associated with certain in-water activities, including mechanical dredging of fine-grained material, based on numerous studies in the greater Atlantic region. Based on these studies, elevated suspended sediment concentrations at several hundreds of mg / L above background may be present near the bucket but would settle rapidly within a 2,400-foot 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 effects on fish (typically up to 1,000 mg / L; see summary of scientific literature in Burton 1993; Wilber and Clarke 2001). It can be noted, however, that studies have also shown effects at lower than 1,000 mg / L in certain species and life stages that are present in the project area. For striped bass and white perch, hatching can be delayed by TSS as low as 100 mg / L in one day exposure time. Larval stages of striped bass, American shad, yellow perch (*Perca flavescens*), and white perch showed higher mortality rates with TSS levels of 500 mg / L or lower for up to four days (Wilber and Clarke 2001). Feeding rates of several species that use the project area (Atlantic silverside and Atlantic croaker) are reduced in waters with higher turbidity (and therefore higher correlated TSS) conditions. Atlantic silverside and white perch are some of the most sensitive estuarine species when evaluating lethal responses to suspended sediment with up to 10% mortality at TSS concentrations below 1,000 mg / L.

Table 21. Maximum Distances to Fish Sound Thresholds

The values presented in this table are the distances to fish sound thresholds from a vibratory hammer and impact hammer (showing both behavioral disturbance and physical injury distances).

Activity	Pile Count and Size/Type	Vibratory Hammer Distance to Onset of Behavioral Disturbance[1] (feet)	Impact Hammer Distance to Onset of Behavioral Disturbance (feet)	Impact Hammer Distance to Onset of Physical Injury (feet)		
		150 dB RMS (any size fish)	150 dB RMS (any size fish)	206 dB SPL_{peak} (any size fish)	187 dB SEL_{cum} (fish greater than 2 grams)	183 dB SEL_{cum} (fish less than 2 grams)
Wharf piling (3 piles per day)	602 30-inch steel pipe piles	961	32,808	61	1,214	2,070
Wharf piling (6 piles per day)	602 30-inch steel pipe piles	961	32,808	61	1,926	2,070
Wharf piling (3 piles per day)	1,063 36-inch steel pipe piles	1,523	51,998	61	3,443	5,200
Wharf piling (6 piles per day)	1,063 36-inch steel pipe piles	1,523	51,998	61	5,200	5,200
In-water demolition	Varied	3,281	NA	NA	NA	NA

Notes:

1. For vibratory pile driving, only behavioral thresholds exist for fish

RMS = root mean square; SELcum = cumulative sound exposure level over the duration of a noise event; SPLpeak = maximum instantaneous sound pressure over the duration of a noise event; NA = not applicable

Figure 30. Maximum Distance to Noise Impacts on Fish from Impact Hammer without Attenuation – Wharf Construction Upper Shoreline Turning Basin

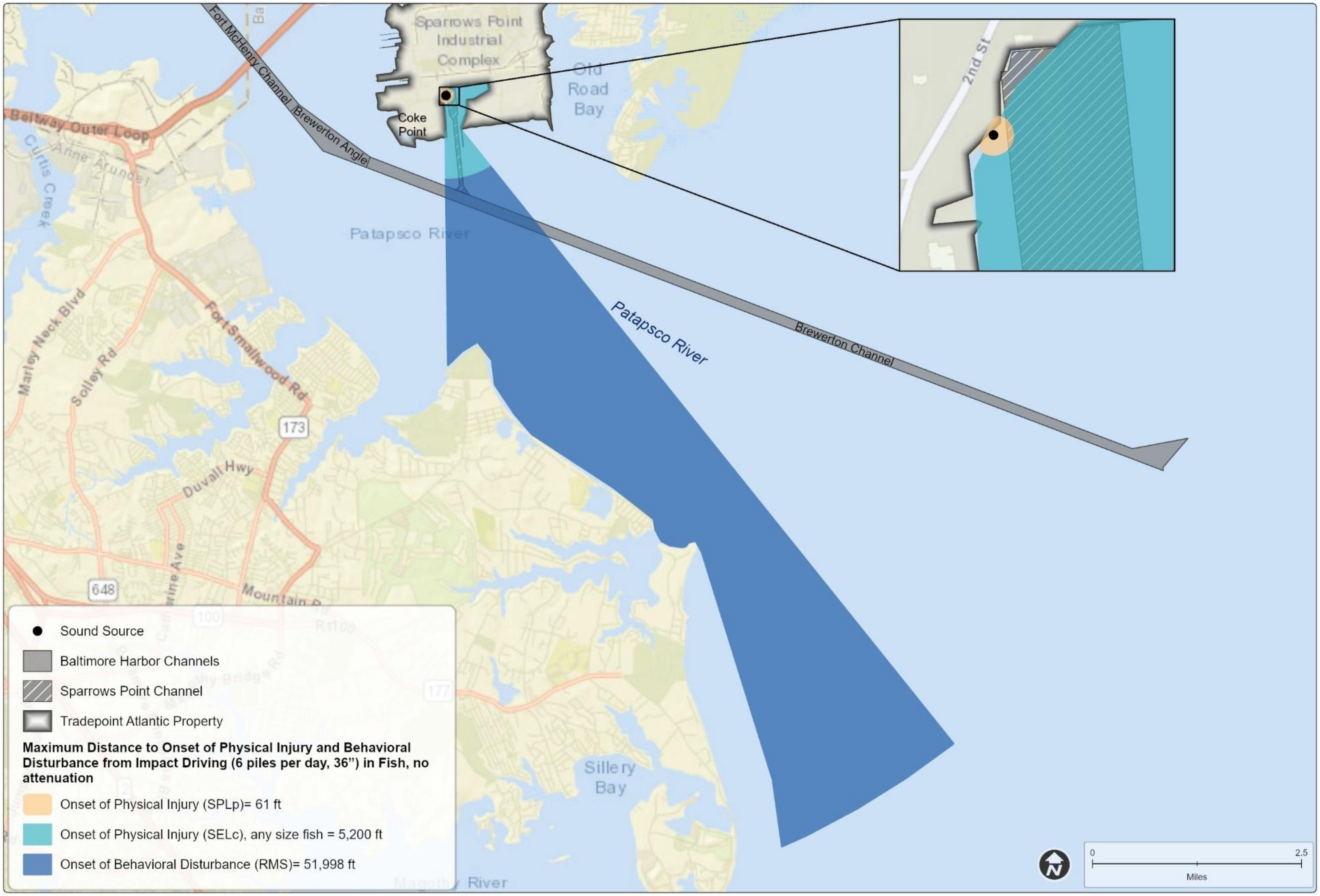


Figure 31. Maximum Distance to Noise Impacts on Fish from Impact Hammer without Attenuation – Wharf Construction Middle Shoreline Turning Basin

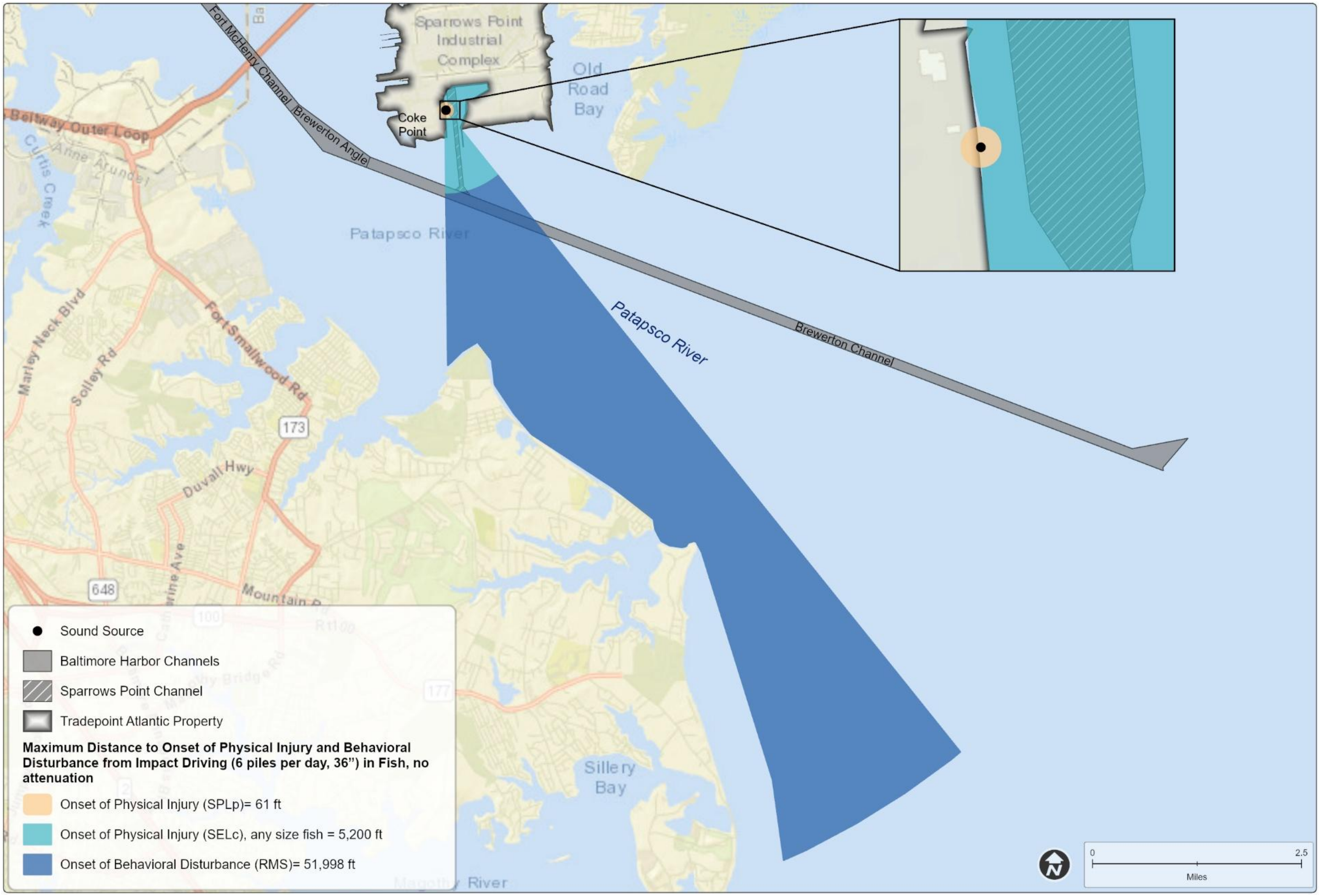


Figure 32. Maximum Distance to Noise Impacts on Fish from Impact Hammer without Attenuation – Wharf Construction at Southern Point

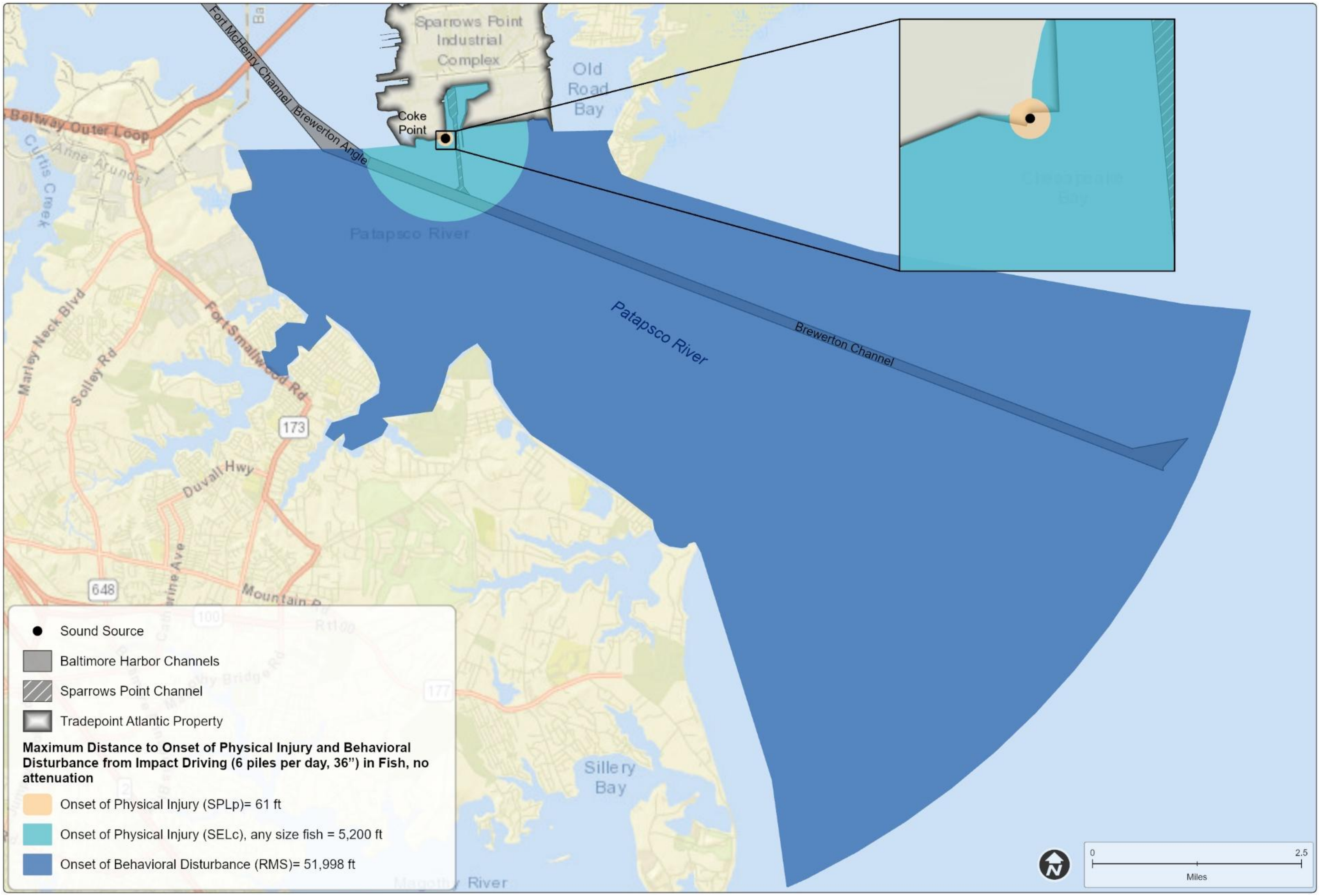


Figure 33. Maximum Distance to Noise Impacts on Fish from Vibratory Hammer without Attenuation – Wharf Construction at Upper Shoreline of Turning Basin

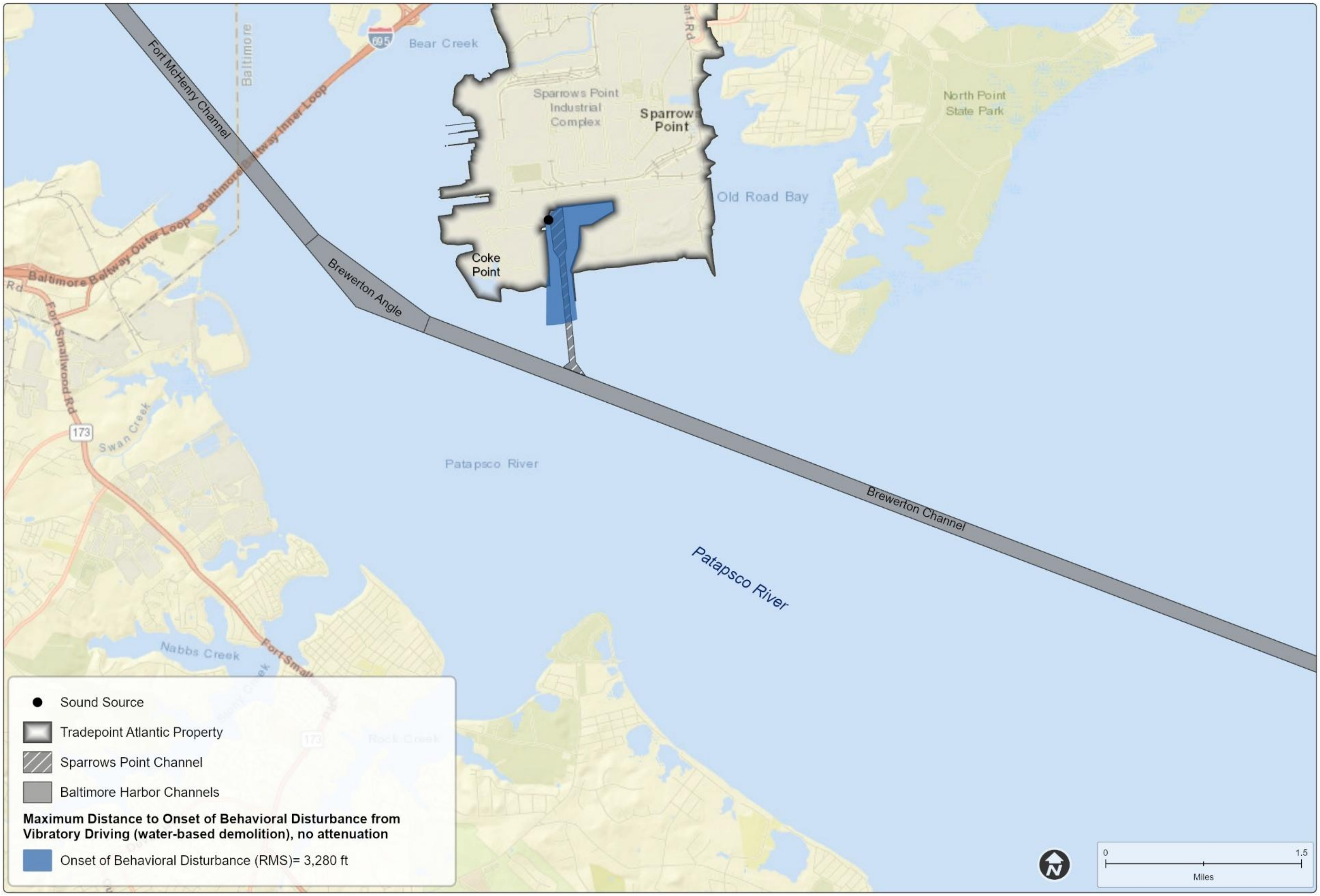


Figure 34. Maximum Distance to Noise Impacts on Fish from Vibratory Hammer without Attenuation – Wharf Construction at Middle Shoreline of Turning Basin

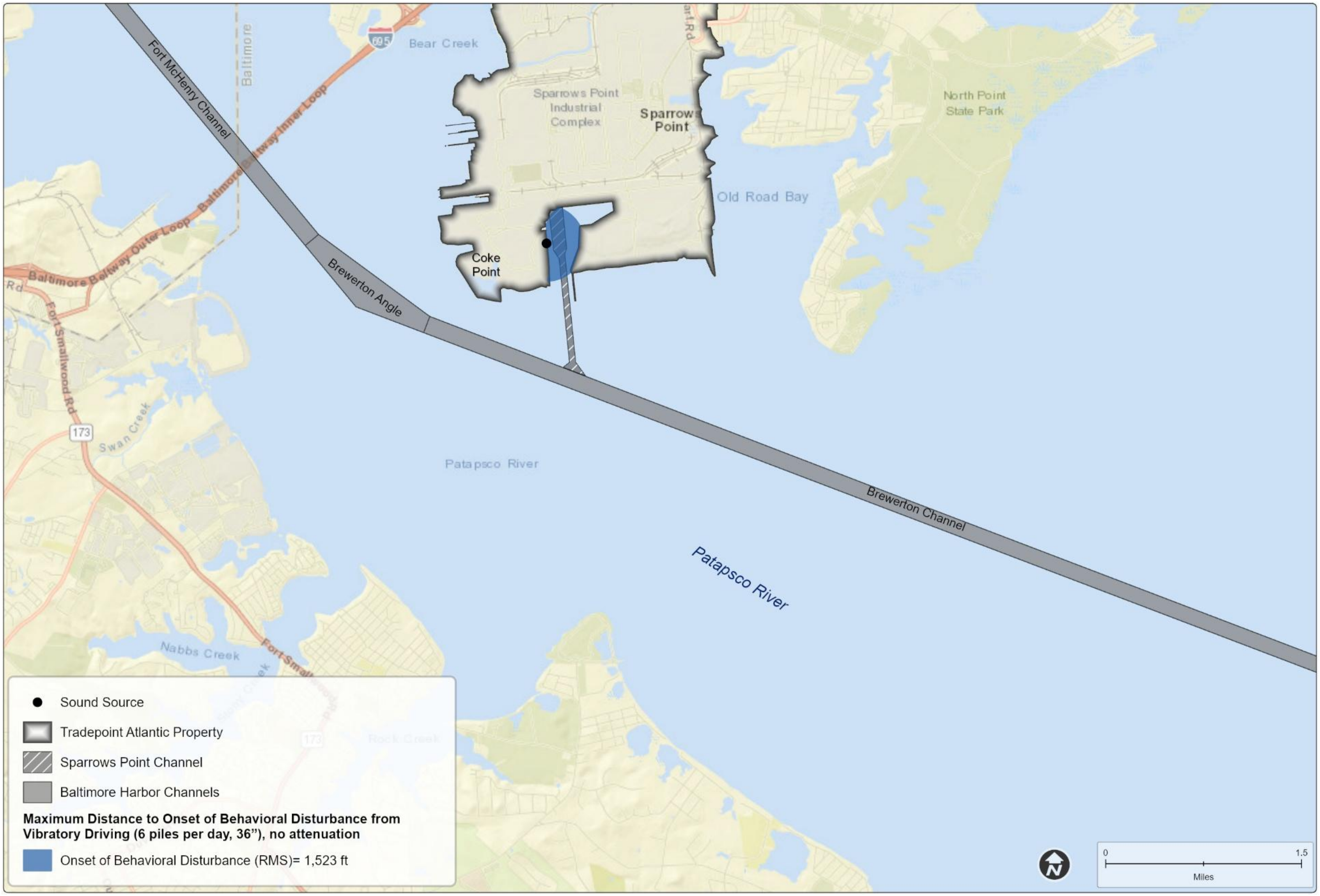
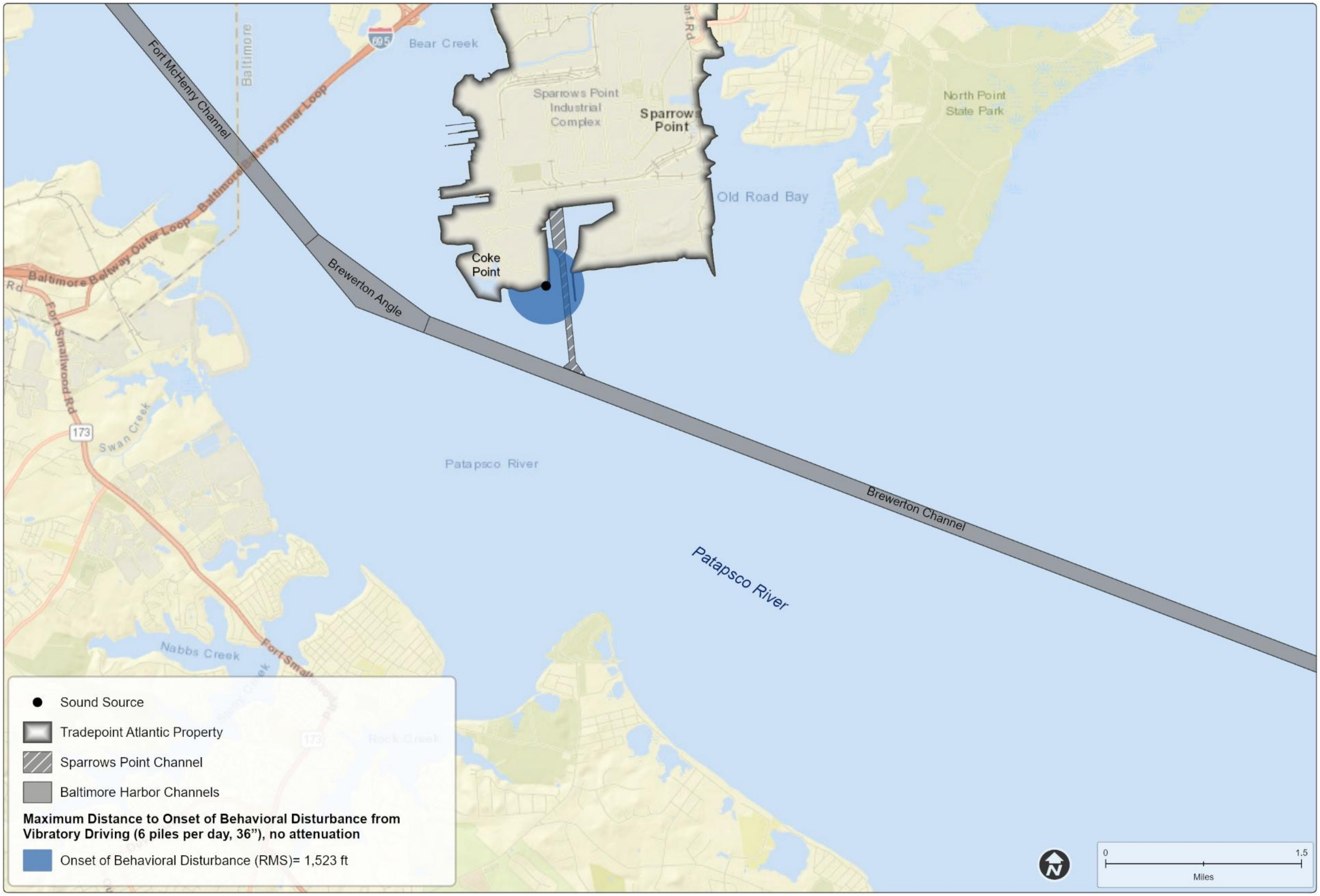


Figure 35. Maximum Distance to Noise Impacts on Fish from Vibratory Hammer without Attenuation – Wharf Construction at Southern Point



Turbid conditions during dredging can be controlled to minimize impacts on fish by using BMPs (Section 3.2) and completing activities during times of year when certain species are less active within the project area. Eggs, larvae, and species with limited swimming ability would be at the highest risk of impacts from dredging, as they cannot move to avoid the operations. The physical removal of bottom from the dredging area, as well as resuspended sediment, has the potential for direct loss or injury to eggs and larvae present within or adjacent to the dredging footprint. Time-of-year restrictions for dredging would reduce impacts on adult, juvenile, and larval fishes. Dredging BMPs, such as use of an environmental bucket, could also be implemented to minimize impacts related to resuspended sediment. During dredging, the impacts on adult and juvenile fish would be short-term and temporary. Based on sediment plume studies in similar environments (Burton 1993; Wilber and Clarke 2001), it is anticipated that the resuspended sediment from the dredging operations would only be expected to affect a small portion of the total width of the Patapsco River (2,400 feet [0.4 mile] or 17.1% of the total 14,000 feet [2.6 miles] of available river width). The expected distance of movement of resuspended sediment in the embayment area is less than half the distance to the end of the southern shore of the Sparrows Point peninsula in either direction; therefore, any resuspended sediment would be expected to remain within the embayment area.

For pile driving during wharf construction, NMFS has estimated TSS concentrations associated with the disruption of bottom sediments from this activity based on a study performed in the Hudson River. Elevated TSS concentrations of approximately 5.0 to 10.0 mg / L above background levels were produced within approximately 300 feet (91 meters) of the pile being driven (Federal Highway Administration [FHWA] 2012).

Resuspended sediment can affect all life stages of fish, though egg and larval stages can be particularly vulnerable (Auld and Schubel 1978; Nelson and Wheeler 1997; Burton 1993; Wenger et al. 2018). In addition, the extent of the resuspended sediment along with its character (i.e., suspended contaminants), timing, and duration should also be considered when analyzing effects on fish. Based on the nature and extent of the turbidity and the availability of unaffected areas, a seasonal restriction on dredging in certain parts of the dredging footprint may be necessary to limit the delivery of contaminants to the estuarine food web and / or protect anadromous fish migrations. Any time-of-year restrictions on dredging activities to reduce impacts on eggs, larvae, and less mobile species would be determined through consultation with NMFS and MDNR.

Habitat Alteration from Dredging and Wharf Construction

Removal of the river bottom sediments from dredging to deepen and widen the channel would create deeper water habitat within and adjacent to the existing Sparrows Point Channel. Wharf construction would also cause shading of some existing open water habitat. The river bottom in the action area is a soft-bottom environment, comprised mainly of silt and clay and deeper sand in the north portion of the channel; no SAV is present. The physical removal of sediments from the dredging area, as well as resuspended sediment, has the potential for direct loss or injury to eggs and larvae present within or adjacent to the dredging footprint. Dredging would also result in a loss of the benthic community currently within the area, reducing foraging opportunities for juvenile and adult fish species. With deepening of the channel, the potential for water column stratification would increase, resulting in lower dissolved oxygen concentrations in deep bottom water, particularly in the summer months. This could also affect fish usage of bottom waters, as they will avoid waters that do not contain enough oxygen. This would also reduce potential prey sources for fish that consume benthic organisms.

Dredging the channel to attain the preferred alignment for the wharf would include removal of existing shoreline. Excavation for the wharf and associated revetment extending beyond the edge of the wharf would remove historical fill and convert 5.3 acres of upland to open water. Dredging for the wharf and placement of associated revetment extending beyond the edge of the wharf would impact 4.7 acres of existing tidal open water. The total proposed and existing tidal open water impacts from the wharf and the revetment that extends beneath the wharf and to the outer toe beyond the edge of the wharf would be approximately 10.0 acres. Of this acreage, the approximate area of tidal open water that would be shaded by the wharf is 8.6 acres. The shading of the wharf (and the placement of revetment) would result in aquatic habitat that may be less capable of supporting a diverse benthic community. Shading of these areas would impact benthic and water column primary productivity. Installation of the wharf pilings would result in the permanent loss of 0.2 acre of bottom habitat. These habitat changes would cause localized impacts on benthic organisms and prey, thus impacting fish in the area.

Water Quality Impacts

Planned paving and construction of buildings on Coke Point for the proposed terminal would result in approximately 95% of Coke Point being converted to impervious surface, thus increasing stormwater runoff. The terminal would be developed with a gentle grade to direct sheet flow to trench drain collectors, and stormwater would be routed by way of lateral drains to pipe culverts for discharge. This runoff could carry pollutants into the Patapsco River. In shallow water areas, where dilution and mixing are limited, these contaminants can accumulate, degrading water quality and impacting aquatic life. Increased runoff also increases turbidity, reduces light penetration, and can disrupt habitats critical for fish and other aquatic life. See Section 4.6 for additional information on impacts on surface water.

Vessel Traffic

Vessel traffic in the Patapsco River can impact fish populations by causing underwater noise and physical disturbances. Noise from engines and propellers can disrupt fish behaviors, such as feeding and spawning, and interfere with their communication, affecting reproduction and social interactions. Physical disturbances from propeller wash and vessel presence can include damage to habitats and fish injury.

The SPCT project area is located within the Port, which is in the top 20 ports in the United States by tonnage and number of vessels handled annually (US Department of Transportation [USDOT] 2024a), including a variety of ship types (e.g., bulk carriers, general cargo ships, tankers, container ships). More than 2,500 vessels called on the Port in 2021 (USDOT 2024b). During construction, there would be a small increase in construction-related vessel activity, likely not more than 10 vessels operating at any one time, which is not expected to alter vessel traffic in the area. Larger construction-related vessels, such as crane barges and dredging vessels / barges, would be expected to mobilize to the construction area at the beginning of the project, remain on-site for two to three years, and demobilize at the completion of the in-water work. Tugs and barges transporting construction equipment and materials would be expected to make more frequent trips (e.g., weekly) from their locations of origin to the project site, while smaller support vessels carrying supplies and crew may travel to the SPCT more frequently.

Once constructed, the proposed terminal would receive approximately 500 vessels per year, of which 150 vessels would be new to the Port. With this annual increase in vessel traffic, an average of three additional vessels per week would be navigating the Brewerton Channel to enter the Sparrows Point Channel. Although impacts on fish are possible if they need to move away from the traffic, no physical injury to fish is anticipated.

4.8.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

All fish present in the High Head Industrial Basin would be lost to burial by placement of SPCT dredged material. This area would be upland following completion of the DMCF. Installation of the temporary outfall and diffuser needed to discharge effluent from the High Head Industrial Basin DMCF could impact fish in the immediate vicinity. Temporary loss of benthic habitat could impact a food source for some fishes. Appropriate BMPs would be used during the in-water installation to minimize the potential for resuspension of sediments. Construction activity to place and remove the feeder line and diffuser could cause fish to move out of the area temporarily. Impacts on fish would be localized and temporary.

Coal Pier Channel DMCF at Sparrows Point

Turbidity from Material Placement

Dredging of overburden material on the dike alignment and placement of material to build the sand dike for the Coal Pier Channel DMCF could cause temporary turbidity in surrounding waters. The alignment of the dike across the opening of the Coal Pier Channel is approximately 660 linear feet. Once the perimeter dike is completed (approximately 7 months), dredged material would be placed in the DMCF, filling 19.6 acres of open water. This habitat alteration impact is discussed below. Sand is a coarser-grained material that settles out of the water column faster than finer-grained material, resulting in suspended sediment remaining in the water column in a localized area for a short duration. BMPs would be used to limit the amount of suspended sediment escaping the immediate placement area. Eggs and larvae of fish species adjacent to the dike alignment (on either side) may be impacted by the suspended sediment resulting from sand placement. Eggs and larval stages would not be able to move away from the turbid conditions and mortality or physical impairment through either reduced feeding ability, reduced visibility, or clogged gills. Eggs existing adjacent to the dike alignment may be smothered when the sand settles out of the water column. Given that the dike alignment covers a limited distance of the river at the opening of the channel, it is unlikely that turbidity from the placement of sand would cause population-level impacts on any fish species. Juvenile and adult individuals outside of the dike perimeter would relocate to similar nearby habitats following the start of material placement and would likely avoid suspended sediment; mobile fish individuals would experience adverse but temporary impacts from displacement. Turbidity can hinder vision and disrupt foraging behaviors of fish species, but juvenile and adult species would be more likely to avoid the area during construction.

Placement of the sand could also disturb existing sediments at the mouth of the Coal Pier Channel. The soft overburden material in the vicinity of the dike alignment would be dredged prior to the placement of sand. Therefore, the displacement or movement of the bottom sediments during placement of the sand would be expected to be minimal. Depending on site conditions, BMPs to reduce sediment resuspension (e.g., turbidity curtain) could be employed. Therefore, sediments resuspended during dike construction would be expected to be minimal. Given that the material to create the perimeter dike would be sand, and the soft sediments underlying the Coal Pier Channel would be removed prior to sand placement, any impacts would be temporary and localized, having minimal impact on fish species. After the perimeter dike is completed (approximately 7-month construction duration), dredged material would be placed in the DMCF, filling 19.6 acres of open water. This habitat alteration impact is discussed below.

Habitat Alteration / Impacts on Prey Species

Construction and placement of material in the Coal Pier Channel DMCF would permanently remove the substrate condition and fish habitat type within the DMCF footprint. The Coal Pier Channel provides sheltered habitat, and the DMCF in this location would result in a loss of fish habitat. The DMCF would also bury the benthic organisms within its footprint, removing the benthic communities as a possible food source for fish. It is important to note that only one benthic invertebrate species was collected in the Coal Pier Channel. Sediment sampling results along the western shoreline of Coke Point indicate that historical contamination is present in the sediment and the benthic community assessment indicates most of this area has a degraded benthic community (see Section 4.7.1); therefore, the area where the DMCF would be constructed does not represent high-quality habitat for benthic organisms or fish species. The areas immediately surrounding the DMCF and elsewhere within the vicinity of the Patapsco River and lower Bear Creek would provide suitable forage areas for fish, both during construction and after the project is complete.

Vessel Traffic

During construction of the perimeter dikes, barges would be transiting from a nearby location along the Patapsco River to the DMCF footprint to deliver sand for construction of the dike. This would temporarily increase vessel traffic in the area. Fish would have ample space within the surrounding river area to avoid vessels and use other adjacent habitats. A temporary increase in the number of vessels in the area would not increase the risk that any vessel in the area would strike an individual or would 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. Therefore, the increase in vessel traffic would not have an adverse impact on the fish community.

Existing Nearshore MPA DMCFs

No new impacts on fish would occur because the MPA DMCFs are existing upland placement sites.

Existing Ocean Disposal Site

No new impacts on fish would occur because NODS is an existing USEPA-designated ocean placement site.

4.8.2.4 Preferred Alternative – Dredged Material Placement

The impacts on fish from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except that turbidity from dredging of the dike alignment and placement of in-water dike fill at the Coal Pier Channel DMCF would not occur. In addition, there would be no permanent loss of tidal open habitat by the construction of the Coal Pier Channel DMCF. Lastly, the localized increase in construction vessel traffic and associated impacts to fish in the vicinity of the Coal Pier Channel would not occur.

4.8.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on fish communities include those that would result in temporary and long-term changes to aquatic habitats.

- The demolition and reconstruction of the Key Bridge would have temporary impacts on the fish communities of the Patapsco River. The project will include measures to protect anadromous species, especially during low flow periods (Corps 2024a). Habitat within the project area has been previously disturbed by previous construction and vessel traffic.
- Ongoing maintenance dredging activities, including at Curtis Creek, cause similar temporary impacts to those described for the SPCT project dredging activities. These impacts are localized and temporary, and BMPs are implemented to avoid and minimize impacts.
- Projected weather trends are expected to create a variety of secondary effects, including sea level rise, extreme weather, ocean acidification, and changes in habitats and wildlife. Marine heat waves have been recorded in the Chesapeake Bay and have the potential for impacts on fish communities. These heat waves cause an increase in water temperatures, worsening hypoxia, and an increase in harmful algal blooms. As these changes progress, the frequency and severity of marine heat waves in the Chesapeake Bay are expected to increase (Mazzini and Pinaca 2022).

Dredging operations could result in fish in the vicinity of the project area being affected by direct removal or burial, entrainment, turbidity / siltation effects, shifts in the extent of low dissolved oxygen following dredging operations, visual and noise disturbances, and alteration of habitat. Underwater noise from pile driving, increased vessel traffic, and other construction and dredging activities could impact fish through physical harm and behavioral disturbance. Dredging impacts would be both temporary (resuspended sediment) and long-term (habitat alteration), and though dredging would affect individual fish, eggs, and larvae, impacts would be localized.

Although BMPs would be implemented to reduce impacts, the SPCT project would contribute adverse impacts on fish communities from dredging the Sparrows Point Channel, constructing the Coal Pier Channel DMCF, and placing dredged material in either the High Head Industrial Basin DMCF or the Coal Pier Channel DMCF. Because the Preferred Alternative does not include the Coal Pier Channel DMCF, impacts on fish would be less under the Preferred Alternative when compared to the Combined Options Alternative. The localized and incremental impacts of the SPCT project would not make a substantial contribution to the impacts on fish communities from other planned actions and environmental trends.

4.9 Essential Fish Habitat

4.9.1 Affected Environment

Regulatory Background

> **Essential fish habitat or EFH** typically encompasses a broad range of habitats used by managed species and is focused on the habitat needs of individual species.

The Magnuson-Stevens Fisheries Conservation and Management Act of 1976 (MSA; Public Law 94-265) establishes guidelines to prevent overfishing, rebuild overfished stocks, increase long-term economic benefits, ensure a safe and sustainable supply of seafood, and protect habitat that fish need to spawn, breed, grow, and feed to reach maturity (NMFS 2024c). EFH is designated for certain species by NMFS, pursuant to the MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-27). 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 (FMCs) established under the MSA, as well as those managed by the NMFS under fishery management plans developed by the Secretary of Commerce (NMFS 2007).

As described by the MSA, one of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats. The MSA promotes the conservation of EFH in the review of projects conducted under federal permits, licenses, or other authorities that affect or have the potential to affect such habitat. The MSA requires federal agencies to consult with the Secretary of Commerce, through NMFS, concerning “any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any EFH identified under this Act” (16 USC § 1855(b)(2)). As such, federal agencies must prepare an EFH assessment that describes the proposed project and the EFH present in the project area and fully evaluates the potential adverse effects on federally managed fish, their habitats, prey species, and other area resources (50 CFR 600.905). The MSA includes provisions for managing prey species, emphasizing the role they play in supporting sustainable fisheries and healthy marine ecosystems. Identifying, conserving, and managing EFH includes considering the habitat needs of prey species essential for the growth, survival, and reproduction of predator fish. An adverse effect to EFH is defined as “any impact, which reduces quality and / or quantity of EFH…”

EFH in the SPCT Project Area

Under the MSA, EFH is specifically defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” To interpret the definition of EFH:

- “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate.
- “Substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities.
- “Necessary” means the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem.
- “Spawning, breeding, feeding, or growth to maturity” covers a species’ full life cycle.

An EFH assessment was prepared and submitted to NMFS as part of the NEPA and permitting processes. This section describes the designated EFH and species potentially present within the project area. The full EFH assessment is included in Appendix F.

The Mid-Atlantic FMC manages more than 65 species in federal coastal waters and in the exclusive economic zone (extending from 3 to 200 miles off the coast) of New York, New Jersey, Pennsylvania, Delaware, Maryland, and Virginia (Mid-Atlantic FMC 2024). The Patapsco River at its confluence with the mainstem Chesapeake Bay is designated as EFH for a variety of federally managed fish species.

During public scoping in February 2024, NMFS recommended that the EFH assessment focus on six EFH species (Table 22; NMFS 2024d), as the EFH descriptions of these species match the conditions observed in the project area.

In addition to the six EFH species identified by NMFS during scoping, the NMFS EFH Mapper tool also identified the summer flounder (*Paralichthys dentatus*) SAV habitat areas of particular concern (HAPC) as potentially occurring in the project area. Although SAV has been documented in the lower portion of

Bear Creek and Jones Creek, north of Old Road Bay (Virginia Institute of Marine Science [VIMS] 2024), site-specific surveys have confirmed the absence of SAV within the direct project area (EA 2024i). Three individual summer flounder were captured in the summer 2023 fish surveys, indicating some usage of the project area by this EFH species. As such, summer flounder HAPC is included in the EFH analysis. 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" (Packer et al. 1999).

> **Habitat areas of particular concern or HAPCs** are a subset of areas within EFH that have extremely important ecological functions or are especially vulnerable to anthropogenic degradation and impact. An HAPC can be a specific location (e.g., spawning location on a nearshore shelf) or a specific type of habitat (e.g., SAV beds).

Coordination with NMFS also indicated that several prey species, such as bay anchovy, spot, and white perch, use the waters in the navigation channel as feeding, resting, and winter refugia habitat. The benthic habitats in the project area support a variety of invertebrate prey species, including polychaete worms, bivalves, and crustaceans (see Section 4.7). During the SPCT fish surveys, these prey species were documented in the project area (EA 2024a, 2024b, 2024c, 2024d).

Following internal agency review of the Draft EIS with the project team, several conference calls were held in October and November 2024 with NMFS to discuss impacts of the action on EFH species. A Draft Essential Fish Habitat Assessment was prepared and submitted to NMFS in December 2024. NMFS visited the project site in early March 2025. In a letter dated 08 May 2025, NMFS provided EFH Conservation Recommendations for the project. The EFH Assessment was updated in July 2025 based on the new Preferred Alternative and is included in Appendix F.

Table 22 describes the species for which EFH has been designated in the project area, identified by early coordination with NMFS. As part of the seasonal aquatic surveys conducted to collect baseline ecological information within the SPCT project area, fish sampling was conducted using a variety of methods, as described above in Section 4.8.1. Summer flounder and bluefish were captured in the project area during the summer fish surveys (three individuals of each species), and prey species including bay anchovy, white perch, and spot were also captured (EA 2024a).

Table 22. EFH Species with Suitable Habitat in the SPCT Project Area

EFH Species	Life Stage				EFH Characteristics for Life Stages Potentially Present in the Project Area
	Eggs	Larvae	Juvenile	Adults	
Atlantic butterfish *Peprilus triacanthus*	✓	✓	✓	✓	Eggs – Inshore estuaries and bays (in the upper 656 feet); water temperatures between 43.7 and 69.8°F Larvae – Inshore estuaries, bays, and areas; bottom depths between 134 and 1,148 feet; water temperatures between 47.3 to 70.7°F Juvenile – Estuaries, bays, and areas; depths between 33 and 919 feet; temperatures between 47.3 and 70.7°F; salinity above 5 ppt Adult – Water depths of 108 to 2,690 feet; salinity above 5 ppt and 15 ppt for spawning

EFH Species	Life Stage				EFH Characteristics for Life Stages Potentially Present in the Project Area
	Eggs	Larvae	Juvenile	Adults	
Windowpane flounder *Scophthalamus aquosus*			✓	✓	Juveniles – Sandy and muddy bottoms of bays and estuaries from the shoreline up to 197 feet of water depth; mixing zone in Chesapeake Bay Adults – Intertidal and subtidal benthic habitats, particularly mud and sand substrates of the intertidal zone up to 230 feet; mixing zone in Chesapeake Bay
Summer flounder *Paralichthys dentatus*		✓	✓	✓	Larvae – Nearshore waters at water depths greater than 30 feet; mixing zone in Chesapeake Bay Juveniles – Estuarine, open bay areas, and marshy creek areas; water temperatures greater than 37°F; salinities from 10 to 30 ppt; mixing zone in Chesapeake Bay Adults – Sandy seafloor areas of shallow coastal waters and estuaries in the late spring and early summer; mixing zone in Chesapeake Bay.
Bluefish *Pomatomus saltarix*			✓	✓	Juveniles – Chesapeake Bay estuary, May to October in zones of mixed salinity; mixing zone in Chesapeake Bay Adults – Chesapeake Bay estuary, April to October with distribution varying by the size of the individuals within the schools; mixing zone in Chesapeake Bay
Black sea bass *Centropristis striata*			✓	✓	Juvenile – Estuaries with warmer waters (greater than 43°F); salinity greater than 18 ppt; rough bottom habitat or shellfish and eelgrass beds; mixing zone in Chesapeake Bay Adult – Inshore estuaries from May to October, particularly areas with hard bottom; temperatures greater than 43°F (for adults); mixing zone in Chesapeake Bay
Clearnose skate *Raja eglanteria*			✓	✓	Juvenile – Bottom habitat with sand, gravel, or mud substrate from the shoreline to 1,312 feet water depth; water temperatures between 39.2 and 60.8°F Adult – Bottom habitat with sand, gravel, or mud substrate from the shoreline to 1,312 feet water depth; water temperatures between 41 and 59°F
Summer Flounder HAPC	-	-	-	-	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

Sources: Mid-Atlantic FMC 1988, 1996a, 1996b, 1998a, 1998b, 2011; Nelson et al. 2017; NMFS 2018, 2023a, 2024e, 2024f, 2024g, 2024h

Notes:

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

°F = degrees Fahrenheit; ppt = parts per thousand

4.9.2 Environmental Consequences

The NMFS guidelines for completing an EFH assessment (NMFS 2021) were used to identify the stressors associated with the project activities. These stressors and their effects are described below for both of the project alternatives.

4.9.2.1 No-action Alternative

EFH would be subject to existing conditions in and around the SPCT project area, which include impacts from routine maintenance dredging as permitted by the appropriate regulatory agencies and the presence of existing contaminated sediments offshore of Coke Point. Future development of Coke Point would not involve in-water work and would not change the aquatic habitat in the project area, and therefore, would have no additional impact on EFH. The High Head Industrial Basin does not contain EFH; therefore, the No-action Alternative would have no impact if the basin were to be filled in and the area repurposed.

4.9.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Underwater Noise from Pile Driving

Underwater noise impacts on EFH from construction activities would be the same as the noise impacts described for all fish species (both managed and non-managed) and are described in Section 4.8.2.2.

Turbidity and Bottom Alteration from Channel Dredging and Wharf Construction

The impacts associated with dredging, bottom alteration, channel deepening, and wharf construction are described in detail in Section 4.8.2.2.

The sediment released to the water column during dredging operations would affect a small portion of the total width of the Patapsco River (2,400 feet [0.4 mile] or 17.1 % of the total 14,000 feet [2.6 miles] of available river width) (Burton 1993; Wilber and Clarke 2001), leaving similar pelagic or demersal habitat for juveniles and adults outside of the direct dredging area. There is also similar available habitat outside of the work area within the river from the former Key Bridge to Rock Point (approximately 22,000 feet or 4 miles of available similar habitat). The silty or muddy bottoms of bays / estuaries that are required for most life cycles of the EFH species are abundant in the Patapsco River. EFH species that use more protected embayment areas similar to where the dredging and west side DMCF is proposed would have other areas in the vicinity of the SPCT project area, including protected coves and inlets, that could be used during dredging operations when turbidity increases.

Specific to EFH species, dredging impacts on habitat used by juveniles and adults would be short-term and temporary. The removal of bottom sediment from the dredging area, as well as any resuspended sediment, has the potential to impact EFH eggs and larvae (for summer flounder and Atlantic butterfish) if they are present within or adjacent to the dredging footprint. Overall, the turbidity and removal of bottom sediment resulting from channel dredging would impact demersal EFH species (skates and flounders) more than pelagic species, as eggs and larvae of demersal species are likely present in the vicinity of dredging and would have limited ability to move away from impacts. In addition, juveniles and adult demersal EFH species may have less opportunity to relocate to other suitable habitats before dredging. Both summer flounder and bluefish were captured during the fish surveys; however, both EFH species were only found at the upstream and downstream sampling locations (Gillnet 1 and Gillnet 5,

Figure 29). It is therefore anticipated that the potential for impact on these species from channel dredging would be low. As noted in Section 4.8.2.2, time-of-year restrictions on dredging may be required by regulatory agencies and would be determined through agency consultation. Deepening of the channel through dredging would decrease dissolved oxygen concentrations in bottom water as described in Section 4.8.2.2. Since the Sparrows Point Channel would be dredged to maintain the new dimensions, the seasonal hypoxia would be expected to be a recurring condition that would permanently alter and degrade EFH.

Dredging the channel to attain the preferred alignment for the wharf would include removal of existing shoreline, resulting in the creation of new open water habitat, shading of existing and new open water, and loss of bottom foraging habitat from the installation of wharf piles. Impacts on fish habitat from these activities are described in Section 4.8.2.2.

Vessel Traffic

Impacts on EFH species from vessel traffic would be the same as described for fish in Section 4.8.2.2.

4.9.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

No impacts on EFH would occur from using the High Head Industrial Basin as a DMCF, as the basin does not contain EFH. There could be localized and temporary impacts on EFH species in Bear Creek from installation of the temporary outfall and diffuser, as described for fish in Section 4.8.2.3.

Coal Pier Channel DMCF at Sparrows Point

Turbidity from Material Placement

Impacts of constructing a sand dike for the Coal Pier Channel DMCF would occur both outside and within the footprint. Impacts from turbidity from placement of the sand to create the dike would be the same as discussed in Section 4.8.2.2. Juvenile and adult EFH individuals outside of the dike perimeter would relocate to similar nearby habitats following the start of material placement and would likely avoid suspended sediment; mobile EFH individuals would experience adverse but temporary impacts from displacement. Turbidity can hinder vision and disrupt foraging behaviors of EFH species, but juvenile and adult species would avoid the area during construction. Eggs or larvae may be trapped and destroyed as the material is placed, and any individual adults and juveniles within the dike footprint could be trapped by the placed material as well. Turbidity following construction of the dike would eventually return to concentrations suitable for EFH species. Therefore, the impacts from construction would not result in a meaningful change to EFH species populations. Any turbidity related to offloading of dredged material would be contained within the dike and would not impact the surrounding habitat for EFH species.

Habitat Alteration / Impacts on Prey Species

Placement of material in the Coal Pier Channel DMCF would result in a permanent loss of sheltered aquatic habitat, removing potential foraging, refuge, and spawning habitats for EFH and their prey species. The impacts on EFH species would be the same as described for fish in Section 4.8.2.2. Eggs and larvae of EFH species within the DMCF footprint would be buried by material placement. Juvenile or adult pelagic and demersal individuals can move away from construction, and therefore, impacts would be less than those on eggs or larvae. EFH food sources within the DMCF footprint would also be lost by habitat conversion. Sediment, benthic, and fish studies in the DMCF area indicate that the sediment in the DMCF footprint is impacted by elevated concentrations of metals, PAHs, and sheens / odors, and the area is being used by fish and benthic resources. The footprint of the DMCF represents only a portion of bottom habitat available in the project area to EFH species that require this habitat during their life cycle. In addition, the areas immediately surrounding the DMCF and elsewhere within the vicinity of the Patapsco River or Lower Bear Creek would provide comparable forage areas for EFH species to use both during construction and after the project is complete. For juvenile and adult pelagic species, impacts from habitat alteration are unlikely, as individuals would not be present within the DMCF footprint.

Vessel Traffic

Impacts on EFH species from vessel traffic would be the same as those described for all fish species in Section 4.8.2.2.

Existing Nearshore MPA DMCFs

No new impacts on EFH would occur because the MPA DMCFs are existing upland placement sites.

Existing Ocean Disposal Site

No new impacts on EFH would occur because NODS is an existing USEPA-designated ocean placement site.

4.9.2.4 Preferred Alternative – Dredged Material Placement

The impacts on EFH from the Preferred Alternative would be the same as those described for the Preferred Alternative for fish in Section 4.8.2.4. Impacts associated with the Coal Pier Channel DMCF would not occur.

4.9.3 Planned Actions and Environmental Trends

The impacts on EFH would be the same as those described for fish in Section 4.8.3, with both temporary and long-term impacts from both the SPCT project and other planned actions. The localized and incremental impacts on EFH of the SPCT project would not make a substantial contribution to the impacts on EFH from other planned actions.

4.10 Special Status Species

4.10.1 Affected Environment

The Endangered Species Act of 1973 (ESA) is intended to conserve endangered and threatened species and habitats that are critical to their survival. Endangered species are in danger of extinction throughout all or a significant portion of their range. Threatened species are likely to become endangered in the foreseeable future throughout all or a significant portion of their range. *Special status species* is a collective term for species that are listed as threatened, endangered, or of special concern by a federal or state regulatory agency.

4.10.1.1 Special Status Species in the Project Area

Federally Listed Species

Federal special status species can fall under the jurisdiction of USFWS (terrestrial and freshwater species) or NMFS (marine and anadromous species). Under Section 7(a)(2) of the ESA, federal agencies must consult with USFWS and NMFS when any project or action they take might affect an ESA-listed species or designated critical habitat. For this project, no aquatic species under USFWS jurisdiction are potentially present in the project area.

The Corps completed a Determination of Effects for species listed under the ESA and critical habitat expected to be in or near the project area using the USFWS Information for Planning and Consultation (IPaC) tool (USFWS 2024a). The list included the following three species: northern long-eared bat (*Myotis septentrionalis*), tricolored bat (*Perimyotis subflavus*), and monarch butterfly (*Danaus plexippus*). No critical habitats for terrestrial species were identified in the project area.

The northern long-eared bat is found across much of the eastern and north-central United States and its range includes 37 states. During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or crevices of both live and dead trees; they may also roost in cooler places, such as caves and mines (USFWS 2024b). They emerge at dusk to feed on insects (USFWS 2024b). Northern long-eared bats spend winter hibernating in caves and mines, called hibernacula, and breeding begins in late summer or early fall when males begin swarming near hibernacula (USFWS 2024b). Pregnant females migrate to summer areas where they roost in small colonies and give birth to a single pup (USFWS 2024b). The largest threat to the northern long-eared bat is white-nose syndrome, a fungal disease known to affect bats, which has caused the decline of this species in the northeast by up to 97 to 100% from pre-white-nose syndrome levels at many hibernation sites (USFWS 2024b). Other threats to the northern long-eared bat include habitat loss, winter habitat disturbance, mortality related to wind turbines, and climate change (USFWS 2024b). Northern long-eared bats could use the forested habitat at High Head Industrial Basin.

The tricolored bat is a small, wide-ranging bat known to occur in 39 states, as well as Canada, Mexico, and Central America (USFWS 2024c). During winter months, tricolored bats hibernate in caves, mines, and culverts (USFWS 2024c). The bats migrate to summer habitats where they form maternity colonies and raise their young. In spring, summer, and fall, tricolored bats inhabit forested habitats, roosting in trees primarily among leaves. The pups disperse once they can fly, and the bats then return to their winter habitats (USFWS 2024c). Tricolored bats have been greatly affected by white-nose syndrome, which has caused 90 to 100% declines in winter colony abundance at sites impacted by the disease (USFWS 2024c). Tricolored bats are also threatened by human disturbance at hibernation and roost sites, wind energy, habitat loss, pesticides, and climate change (Center for Biological Diversity 2024).

The monarch butterfly is a candidate species for listing under the ESA. Monarch butterflies are native to North and South America and can be found throughout the lower 48 states and in Hawaii (USFWS 2024d). Populations in eastern and western North America will undergo a migration of up to 1,800 miles to reach an overwintering site (USFWS 2024d). Monarch butterflies are milkweed butterflies, meaning that they obligately use milkweed (*Asclepias* spp.) host plants as an egg-laying substrate and subsequent larval food source (USFWS 2024d).

Consultation with NMFS pursuant to the ESA was initiated in 2023 and will continue throughout the NEPA and project permitting processes. Following internal agency review of the Draft EIS with the project team, several conference calls were held in October and November 2024 with NMFS to discuss impacts of the action on ESA-listed species. A Draft Biological Assessment (BA) was prepared and submitted to NMFS in December 2024.

Following publication of the Draft EIS, NMFS provided their concurrence with the conclusions in the Draft EIS and BA. During the same time, TTT revised the proposed project, identified in this Final EIS, and developed the Preferred Alternative. Specifically, TTT changed the size and number of pilings required for the wharf and eliminated the construction of a dredged material containment facility in tidal waters. This revised analysis for underwater noise (in Section 4.8.2.2) describes the changes to the proposed project and evaluates the impacts of the Preferred Alternative on all fish species. ESA-listed fish species would be impacted, as described for all fish species. A revised BA for the Preferred Alternative is included in Appendix G.

The applicant consulted NMFS's ESA Section 7 Mapper (NMFS 2022b), an online mapping tool, which indicated that Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and shortnose sturgeon (*Acipenser brevirostrum*) may be present in the SPCT project area. In a letter dated February 16, 2024, NMFS identified the two sturgeon species plus four federally listed sea turtle species under its jurisdiction that may occur in the waters in or adjacent to the SPCT project area (NMFS 2024d; Table 23); the project area does not contain any designated critical habitat.

Table 23. ESA Species under NMFS Jurisdiction Potentially Present in the SPCT Project Area

Species	Life Stage			
	Larvae	Juvenile	Sub-adult	Adults
Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)		✓	✓	✓
Shortnose Sturgeon (*Acipenser brevirostrum*)				✓
Green sea turtle (*Chelonia mydas*)		✓		✓
Loggerhead sea turtle (*Caretta caretta*)		✓		✓
Kemp's ridley sea turtle (*Lepidochelys kempii*)		✓		✓
Leatherback sea turtle (*Dermochelys coriacea*)		✓		✓

The following paragraphs describe the six species identified by NMFS during consultation that could occur in the project area. No special status species were observed during the seasonal aquatic surveys conducted to collect baseline ecological information within the project area (see Section 4.8.1).

Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*). Atlantic sturgeon are present in the waters of the Chesapeake Bay and its adjacent bays and tributaries. Atlantic sturgeon are born in freshwater, move to estuarine waters to grow and mature, migrate to the sea, and return to freshwater areas to spawn (NMFS 2023b). Spawning within the Chesapeake Bay occurs largely in Virginia tributaries, outside of the project area, and larger Baltimore Harbor area. Due to the habitat and salinity in the Chesapeake Bay, spawning and early life stages are not expected to occur within the project area (NMFS 2024d). Juveniles and adults may be transient in the project area but typically stay near their natal rivers. Only subadult and adult Atlantic sturgeon could occur within the Patapsco River area. Atlantic sturgeon consume prey found on the seafloor, including crustaceans, worms, mollusks, and smaller bottom fish (NMFS 2023b; USFWS 2024e).

This species had historically large populations throughout the Chesapeake Bay; however, their populations have declined largely due to heavy fishing and degradation of spawning and nursery habitat (VIMS 2009). The New York Bight, Chesapeake Bay, Carolina, and South Atlantic Distinct Population Segments (DPSs) of Atlantic sturgeon are endangered; the Gulf of Maine DPS is threatened. Atlantic sturgeon are also listed as endangered by MDNR.

Shortnose Sturgeon (*Acipenser brevirostrum*). Shortnose sturgeon is federally listed as endangered throughout its range and listed as endangered by MDNR. NMFS implemented a recovery plan for shortnose sturgeon in 1998 (NMFS 1998). Unfavorable water conditions, such as low oxygen, pollution, and habitat alteration, have caused significant declines in the Chesapeake Bay population. Transient adult shortnose sturgeon could be present in the waters of the Chesapeake Bay and adjacent bays and tributaries to opportunistically forage; however, recent studies have indicated that shortnose sturgeon in the Chesapeake Bay are rare with only one individual observed in the lower Chesapeake Bay and just over 70 in the upper Chesapeake Bay over 10 years (1996 through 2006) (Balazik 2017). The most recent report of a shortnose sturgeon in the lower Chesapeake Bay and tributaries was a catch in the Potomac River near the Chain Bridge in April 2021 (Blankenship 2021).

Adult shortnose sturgeon use low-salinity bottom waters of estuaries for much of the year. They feed on a variety of benthic organisms, including mollusks, crustaceans, and worms. Individuals in the Chesapeake Bay spend most of the year in the lower part of the river in which they were born, migrating to deeper waters in winter (CBP 2024b). Due to the habitat and salinity in the Chesapeake Bay, spawning and early life stages are not expected to occur within the project area (NMFS 2024d).

Sea Turtles. Four species of ESA-listed threatened or endangered sea turtles under NMFS jurisdiction are seasonally present in the Chesapeake Bay —Northwest Atlantic Ocean DPS of loggerhead sea turtle (*Caretta caretta*; threatened), North Atlantic DPS of green sea turtle (*Lepidochelys kempii*; threatened), Kemp’s ridley sea turtle (*Lepidochelys kempii*; endangered), and leatherback sea turtle (*Dermochelys coriacea*; endangered) (NMFS 2024d).

Sea turtle species share similar habitats and are widely distributed throughout their range, occupying vast open ocean habitat and inshore areas. Juvenile sea turtles live a pelagic existence before returning inshore as they mature. The primary diet of sea turtles can vary by species and includes marine vegetation, benthic invertebrates, and other small marine animals (NMFS 2023c). Although some sea turtle individuals have been observed as far north as Maine, the Chesapeake Bay is typically the northernmost limit for their range (Funk 2020).

The Chesapeake Bay is an important developmental and foraging habitat for sea turtles in the summer months (Evans et al. 1997; Litwiler and Insley 2014), but loggerhead, green, Kemp’s ridley, and leatherback sea turtles are not likely to be as far north in the Chesapeake Bay as the SPCT project area. Loggerheads, leatherback, and green sea turtles are typically found in the Chesapeake Bay in Maryland in the southern portions of the state near Worcester County (MDNR 2016, 2024a, 2024b, 2024c, 2024d). Kemp’s ridley turtles use eelgrass beds in the lower portions of the Chesapeake Bay during summer months (CBP 2024c). In the project area (and larger Baltimore Harbor), suitable vegetation and salinity for sea turtles are not available. For this reason, only those impacts on sea turtles associated with increased vessel traffic in the Lower Chesapeake Bay (where barges and other vessels may be transiting to the project area) and from the SPCT project area to the NODS are the impacts evaluated as part of this Final EIS.

State-listed Species

The Nongame and Endangered Species Conservation Act of 1975 (Annotated Code of Maryland 10-2A-01) governs the legal listing of threatened and endangered species in Maryland. The Act is supported by regulations (Code of Maryland Regulations [COMAR] 08.03.08) that define listing criteria for endangered, threatened, in need of conservation, and endangered extirpated species; list the species included in each category; establish the purpose and intent of research and collection permits; and list prohibited activities.

Consultation with MDNR was initiated in 2023 and continued throughout the NEPA and project permitting processes. Coordination calls were held in 2023 and 2024 to discuss proposed field efforts and species to consider.

The protection of state-listed species is under the jurisdiction of the MDNR. The applicant reviewed MDNR’s List of Rare, Threatened, and Endangered Species of Baltimore County (MDNR 2021) and identified four aquatic species (mussels) that could potentially be present within the SPCT project area. Table 24 lists these mussel species with a description of the required habitat for each. Based on the species’ habitat requirements, these four species are unlikely to be present in the project area; therefore, these species were dismissed from full analysis.

MDNR also maintains a list of fish species that are endangered, threatened, or in need of conservation for the state of Maryland (MDNR 2024e). This list was reviewed, and the majority of species require higher salinity waters than are present within the SPCT project area and would not likely be found using these waters. In addition to Atlantic and shortnose sturgeon discussed above under federally listed species, Table 24 lists five fish species that could potentially use the habitat within the project area.

Table 24. Potential for Presence of State-listed Aquatic Species and Aquatic Species in Need of Conservation in Baltimore County in the SPCT Project Area

Species	State Status or Rank	Required Habitat	Potentially Present in SPCT Project Area?
Northern map turtle (*Graptemys geographica*)	S1, E	Found in deep or shallow waters of the lower Susquehanna River only.	No, the project area is not within the habitat distribution for this species.
Brook floater (*Alasmidonta varicosa*)	S1	Larger streams and rivers with moderate flow: often found near river islands with depositional substrate.	No, this is a freshwater species, and waters of the project area are brackish.
Eastern lampmussel (*Lampsilis radiata*)	SU	Generally restricted to tidal freshwater with sandy shoals or shorelines with moderate tidal fluctuation and wave action.	No, this is a freshwater species, and waters of the project area are brackish.

Species	State Status or Rank	Required Habitat	Potentially Present in SPCT Project Area?
Triangle floater (*Alasmidonta undulata*)	S1S2, T	Prefers smaller headwaters of streams with slow-moving water and coarse or fine gravel substrate; avoids larger rivers and streams.	No, the aquatic habitat within the dredging and Coal Pier Channel DMCF footprints is within a larger river environment without suitable habitat for this species.
American shad (*Alosa sapidissima*)	In need of conservation	Spawn in freshwater tributaries of Chesapeake Bay.	Yes, suitable habitat for foraging is available.
Atlantic menhaden (*Brevoortia tyrannus*)	In need of conservation	Found in all salinity zones within the Chesapeake Bay.	Yes, found in project area fish surveys.
Hickory Shad (*Alosa mediocris*)	In need of conservation	Spawn in freshwater tributaries of estuaries and bays.	Yes, suitable habitat for foraging is available.
Striped bass (*Morone saxatilis*)	In need of conservation	Found in fresh or salt water in estuaries and bays.	Yes, found in project area fish surveys.
Yellow Perch (*Perca flavescens*)	In need of conservation	Found in brackish waters of Chesapeake Bay.	Yes, suitable habitat is available.

Sources: MDNR 2021; MDOT 2016; MDNR 2024e

Notes:

S1 = highly state rare; S2 = State rare; SU = possibly rare; T = threatened; E = endangered

Bottlenose Dolphin

The bottlenose dolphin (*Tursiops truncatus*) is not protected under the ESA but is protected under the Marine Mammal Protection Act (MMPA). The MMPA is a law enacted in 1972 that protects all marine mammals. The MMPA prohibits the “taking” of marine mammals, which includes killing, hunting, capturing, or harassing them in US waters and by US citizens on the high seas. The law is intended to ensure that the populations of marine mammals remain sustainable and are not depleted. Bottlenose dolphins thrive in temperate or tropical marine waters and estuaries of temperate waters (NMFS 2024i) and are able to use the lower reaches of rivers (CBP 2024d). Bottlenose dolphins are abundant along the Virginia coast and within the Chesapeake Bay. They consume fish, squid, and small crustaceans. There are various North Atlantic Stocks, many of which are designated as depleted under the MMPA.

Bottlenose dolphins have the potential to be present as transient individuals in the lower Patapsco River of the Action Area and the transit route from SPCT to MPA DMCFs. They have a higher likelihood of occurrence along the southern and lower Chesapeake Bay transit route to the NODS in the Atlantic Ocean. Bottlenose dolphins primarily use the lower Chesapeake Bay in the summer, with most usage near the James and Elizabeth Rivers in Virginia. They are seen annually in Virginia from April through November, with approximately 65 strandings occurring each year (Barco and Swingle 2014; Engelhaupt 2016). Dolphins are commonly sighted in areas far south of the SPCT area, including the mouths of the Potomac and Rappahannock Rivers (Pipkin 2021). The most robust sighting data near the mouth of the Patapsco River and within the entire Chesapeake Bay is based on citizen science, where reports are logged via the Dolphin Watch app supported by the University of Maryland, Center for Environmental Science. These data are available from 2017 through 2022. Annual sightings have increased. The increase in annual sightings could be a result of an increase in dolphin movements within the region and / or an increase in public awareness and use of the app to log sightings. The highest recorded number of dolphin sightings within the entire Chesapeake Bay was 500 individuals in July 2022. There have been only 1 to 2 sightings per summer month in the Patuxent River between 2017 and 2022; however, this is likely an underestimate, as data are dependent upon citizen reporting. Sightings are less frequent farther north in the Patapsco River and Baltimore Harbor areas and typically occur when these waters have higher than normal salinity in the summer months. Recent observations near the project area include a single dolphin using waters in the Inner Harbor (9 miles north of SPCT; ABC Baltimore 2023) and at the mouth of the Patapsco River (approximately 5 miles south of SPCT; The Washington Post 2018).

4.10.2 Environmental Consequences

This section describes the potential impacts on special status species (both federally and state-listed) from implementation of the alternatives. The two sturgeon species are similar with respect to habitat requirements and life history information. Therefore, this impact analysis is integrated to cover both sturgeon species, as well as the other special status species described in Section 4.10.1. As described in Section 4.10.1, bottlenose dolphin individuals are infrequently documented in the Patapsco River as far north as the SPCT area and are expected to be only transient. This analysis includes impacts on dolphins from underwater noise only.

The NOAA Incidental Take Program within the NMFS-OPR provides authorizations for construction, research, or military exercises to minimize impacts on protected species. TTT is coordinating with the NOAA Incidental Take Program with respect to project requirements and authorizations needed to comply with the MMPA.

4.10.2.1 No-action Alternative

Under the No-action Alternative, if present at the SPCT project area, northern long-eared bat and tricolored bat would be subject to existing conditions in and around the SPCT project area. Northern long-eared bats and tricolored bats could use the forested habitat at High Head Industrial Basin. If future development of the High Head Industrial Basin resulted in the clearing of trees, guidance from the USFWS protective of bats would be followed and tree clearing would not be conducted between April 1 and November 16; therefore, the No-action Alternative would have no effect on northern long-eared bats and tricolored bats. As described above, Monarch butterflies obligately use milkweed (Asclepias spp.) host plants as an egg-laying substrate and subsequent larval food source (USFWS 2024d). Based on survey data, the project area does not support monarch butterfly habitat; therefore, the No-action Alternative would have no effect on the monarch butterfly.

Under the No-action Alternative, sturgeon would be subject to existing conditions in and around the SPCT project area. Existing impacts include maintenance dredging of the Sparrows Point Channel (e.g., potential take within a mechanical dredge bucket, deposition of suspended sediment from dredging on potential spawning and foraging areas, loss of benthic feeding area) (NMFS 2010). There are also existing impacts on species from the contaminated sediments offshore of Coke Point; under the No-action Alternative, these sediments and habitat would remain available to sturgeon in a contaminated state, which could contribute to the uptake of contaminants into the food chain. Implementation of the No-action Alternative would not involve in-water work and therefore would have no additional impact on special status species beyond those found under existing conditions. The High Head Industrial Basin does not support special status aquatic species; therefore, the No-action Alternative would have no impact if the basin were to be filled in and the area repurposed.

4.10.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Terrestrial Impacts

Northern long-eared bat and the tricolored bat use forested habitat. The project area for terminal development and channel improvements does not include forested habitat; therefore, actions associated with the terminal development and channel improvements would have no effect on northern long-eared bats and tricolored bats. As described above, monarch butterflies obligately use milkweed host plants as an egg-laying substrate and subsequent larval food source (USFWS 2024d). Based on survey data, the project area does not support monarch butterfly habitat; therefore, actions associated with the terminal development and channel improvements would have no effect on the monarch butterfly.

Underwater Noise from Pile Driving

Fish

Underwater noise impacts from anthropogenic sources (e.g., construction activities) have the potential to impact special status fish species that rely on hearing underwater to forage, communicate, detect predators, and navigate (NMFS 2022a). Noise impacts on special status species from construction activities would be the same as the noise impacts described for fish species (both managed and non-managed) and are described in Section 4.8.2.2.

Bottlenose Dolphins

The NMFS Multi-Species Tool for modeling underwater noise impacts was used to estimate the impacts of construction activities on bottlenose dolphins (high-frequency cetaceans) that could be in the project area (NMFS 2024b). Table 25 shows guidance on onset to noise levels for the onset of physical injury and behavioral disturbance in marine mammals (including dolphins) for impact and pile driving. Thresholds for behavioral disturbance were general, and one value was available for all marine mammals in the Multi-Species Tool, while physical injury thresholds were specific to hearing groups and available for high-frequency cetaceans which include dolphins. Other noise modeling assumptions and proxy values utilized are described for fish in Section 4.8.2.2.

Table 25. Marine Mammal Pile Driving Injury Guidance

Fish Weight	Onset of Physical Injury for High-Frequency Cetaceans		Onset of Behavioral Disturbance for Marine Mammals
	SEL_{cum}	SPL_{peak}	RMS
Impact Pile Driving	193 dB	230 dB	160 dB
Vibratory Pile Driving	201 dB	--	120 dB

The anticipated zones of impact for injury and behavior disturbance are found in Table 26. Figure 36 through Figure 41 present a visual representation of the noise modeling results.

The maximum distance to onset of behavioral disturbance for marine mammals from an impact hammer with no attenuation is 11,203 feet (approximately 2.1 miles) from the installation of 36-inch wharf piles. The maximum distance to onset of physical injury from impact driving occurs at 2 feet from installation of both 30- and 36-inch wharf pilings.

The distance of behavioral effects to all marine mammals from vibratory pile driving with no attenuation is largest from demolition of the existing wharf piling (328,084 feet or 62 miles), and the distance for high-frequency cetaceans for physical injury from vibratory driving with no attenuation is also largest during water-based demolition activities (2,074 feet).

TTT is working with the NOAA Incidental Take Program to refine inputs to the underwater noise model, assess sound attenuation measures, and develop monitoring plans to comply with the requirements of the MMPA.

Turbidity and Bottom Alteration from Channel Dredging and Wharf Construction

The impacts associated with dredging to widen and deepen the existing Sparrows Point Channel are described in detail in Section 4.8.2.2. Turbidity would also be generated during some construction activities, such as pile driving, and during installation of the outfall and diffuser, but this turbidity would be expected to be less than would be generated during dredging activities.

Studies of the effects of turbid water on fish suggest that concentrations of suspended solids can reach thousands of mg / L before an acute toxic reaction is expected (Burton 1993). Minor temporary increases in turbidity and TSS levels from dredging with a clamshell bucket would be minimized to the extent possible. When considered in addition to baseline conditions, the increases in TSS levels would not have a measurable or detectable increase in turbidity or TSS levels. Studies have shown that sturgeon may alter their normal movements due to suspended sediments, but juvenile and adult sturgeon are anticipated to swim through sediment plumes to avoid the area (NMFS 2023d). In addition, turbidity may temporarily impact the availability of prey species (including those that are listed in need of conservation), but it is anticipated that areas of high turbidity would quickly recolonize following sediment settlement (NMFS 2023d).

Effects of dredging on special status species are expected to be short-term and temporary. Specific to sturgeon, eggs and larval stages would not be present in the Patapsco River, as this is not a spawning river for either species. Habitat conditions do not support this life stage. The sediment suspended in the water from the dredging operations would be only a portion (approximately 2,400 feet or 0.5 mile or 17.1%) (Burton 1993; Wilber and Clark 2001) of the total width of the river at the project location (approximately 14,000 feet or 2.6 miles), providing ample habitat for special status fish species to escape adverse conditions during dredging activities.

Vessel Traffic

Vessel traffic would increase slightly during construction of the terminal and dredging of the channel, causing a minor increase in the risk of striking special status species. Operation of the proposed terminal would result in a slight increase in vessel traffic with up to 500 more vessels annually (see Section 4.8.2.2). Although the increase in vessel traffic would be relatively small in an area that is already highly trafficked, due to their size, sturgeon (particularly Atlantic sturgeon, which are often larger than shortnose) are frequently impacted by vessel strikes especially in large ports and could be more vulnerable to vessel impacts (NMFS 2010). For sea turtles, impacts from vessel traffic would be limited to transit routes for barges and other vessels traveling to the project area from the lower Chesapeake Bay and NODS. Vessel traffic to and from the NODS would be conducted in compliance with the NOAA Fisheries Right Whale Ship Strike Reduction Rule (50 CFR 224.105), which limits vessels greater than 65 ft to speeds less than 10 knots during migration and calving periods.

Table 26. Maximum Distances to High-Frequency Cetacean Sound Thresholds from Impulsive Sources

Activity	Pile Count and Size / Type	Distance to Onset of Behavioral Disturbance for All Marine Mammals (including dolphins) (feet)		Distance to Onset of Physical Injury for High-Frequency Cetacean (feet)		
		Impact Hammer 160 dB RMS	Vibratory Hammer 120 dB RMS	Impact Hammer 230 dB SPL_{peak}	Impact Hammer 193 dB PTS SEL_{cum}	Vibratory Hammer 201 dB PTS SEL_{cum}
Wharf piling	602 30-inch steel pipe piles	7,068	96,084	2	452	330
Wharf piling	1,063 36-inch steel pipe piles	11,203	152,283	2	1,282	685
Water-based demolition	Varied	NA	328,084	NA	NA	2,074

Notes:

dB = decibel

RMS = root mean square

SEL_{cum} = cumulative sound exposure level over the duration of a noise event

SPL_{peak} = maximum instantaneous sound pressure over the duration of a noise event

NA = not applicable

Figure 36. Maximum Distance to Noise Impacts on Marine Mammals from Impact Hammer without Attenuation – Wharf Construction Upper Shoreline Turning Basin

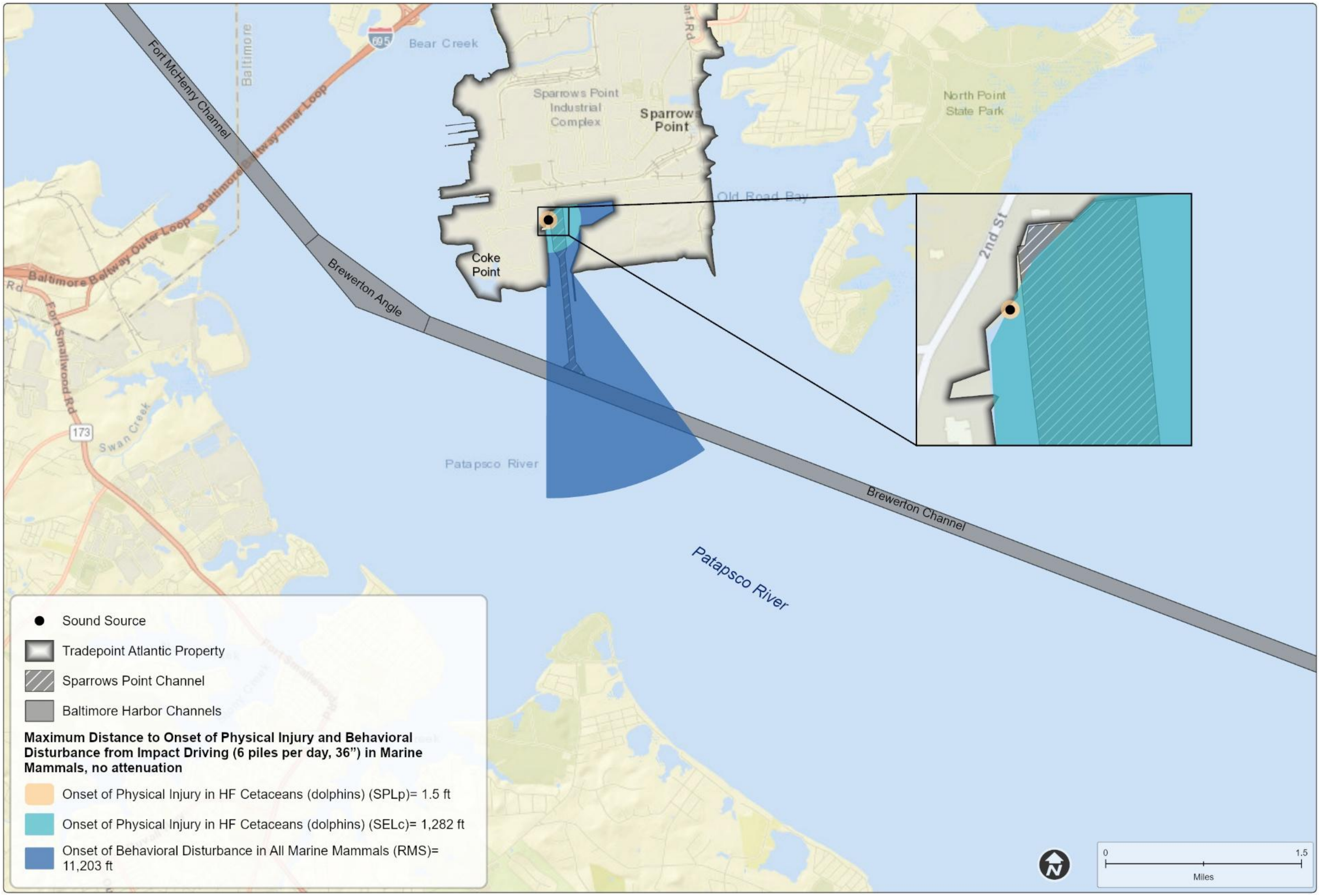


Figure 37. Maximum Distance to Noise Impacts on Marine Mammals from Impact Hammer without Attenuation – Wharf Construction at Middle Shoreline

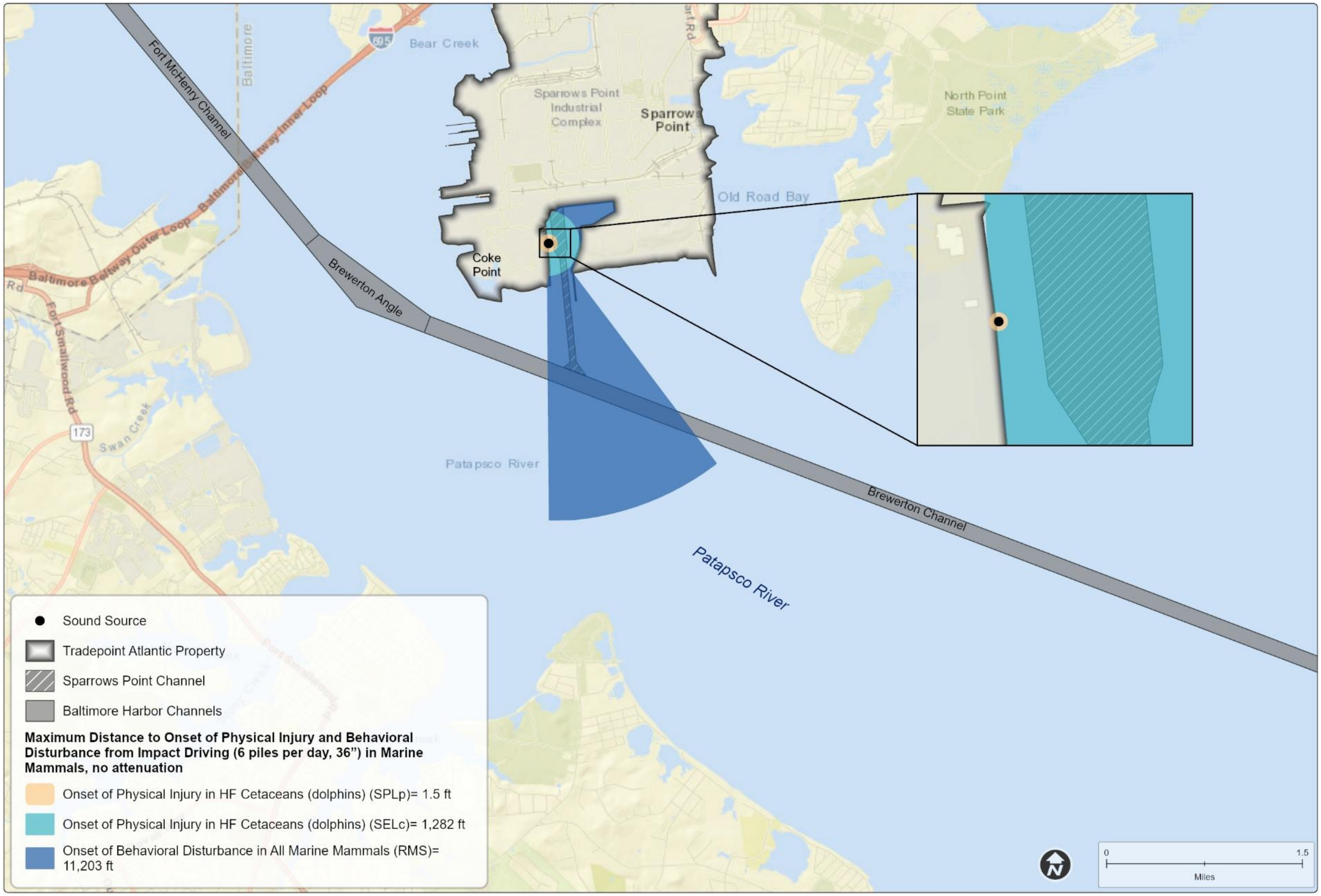


Figure 38. Maximum Distance to Noise Impacts on Marine Mammals from Impact Hammer without Attenuation – Wharf Construction at Southern Point

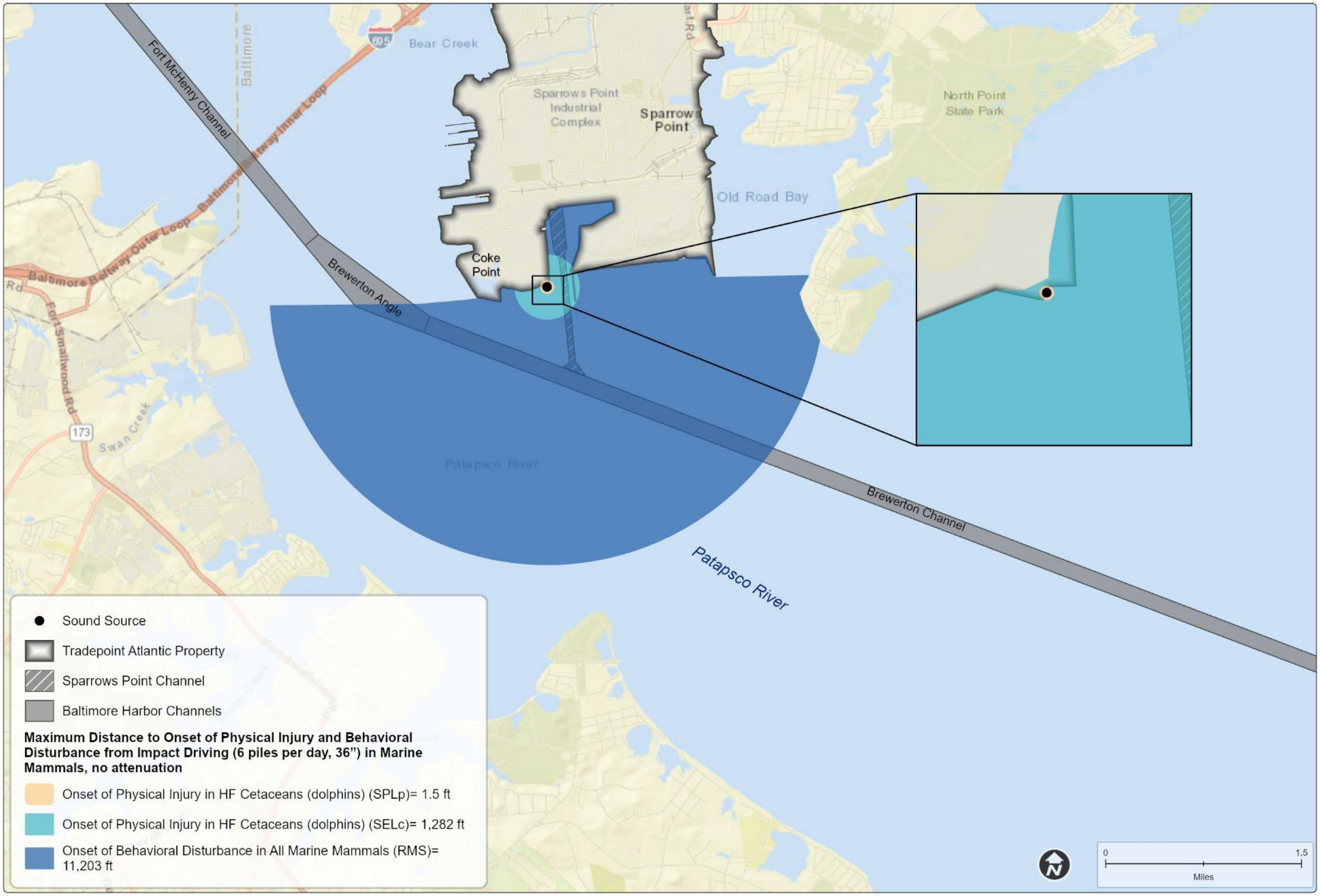


Figure 39. Maximum Distance to Noise Impacts on Marine Mammals from Vibratory Hammer without Attenuation – Wharf Construction Upper Turning Basin

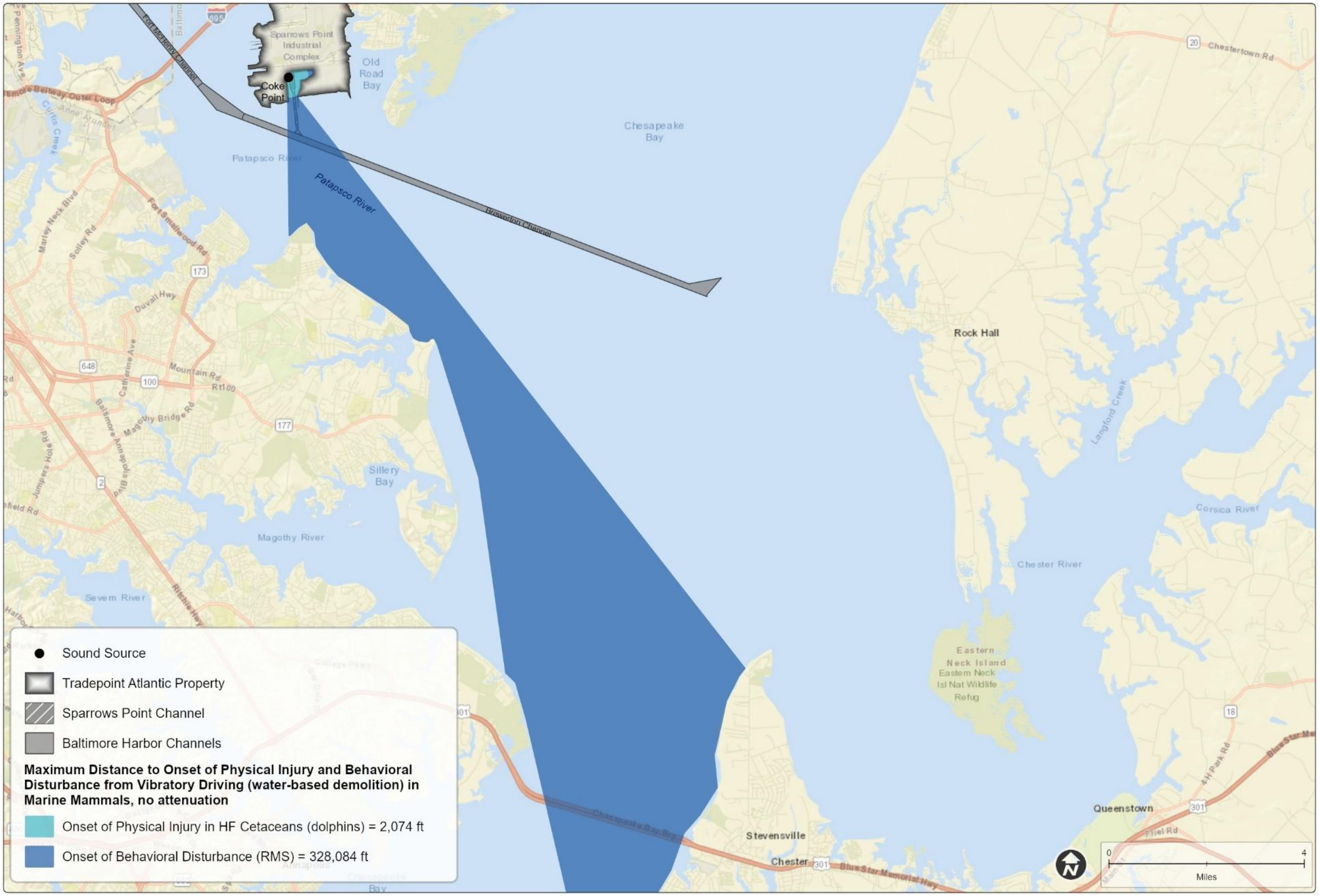


Figure 40. Maximum Distance to Noise Impacts on Marine Mammals from Vibratory Hammer without Attenuation – Wharf Construction Middle Turning Basin

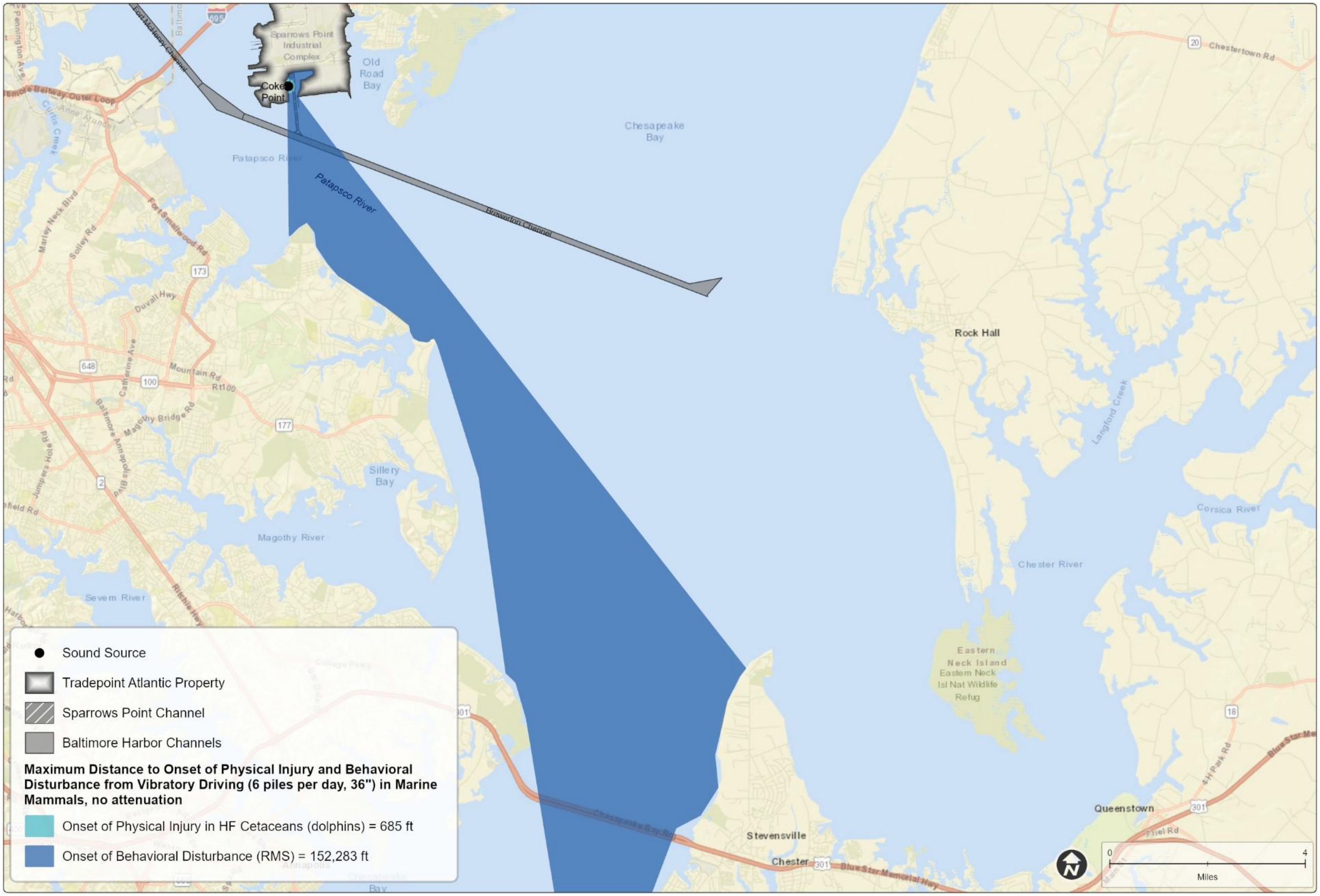
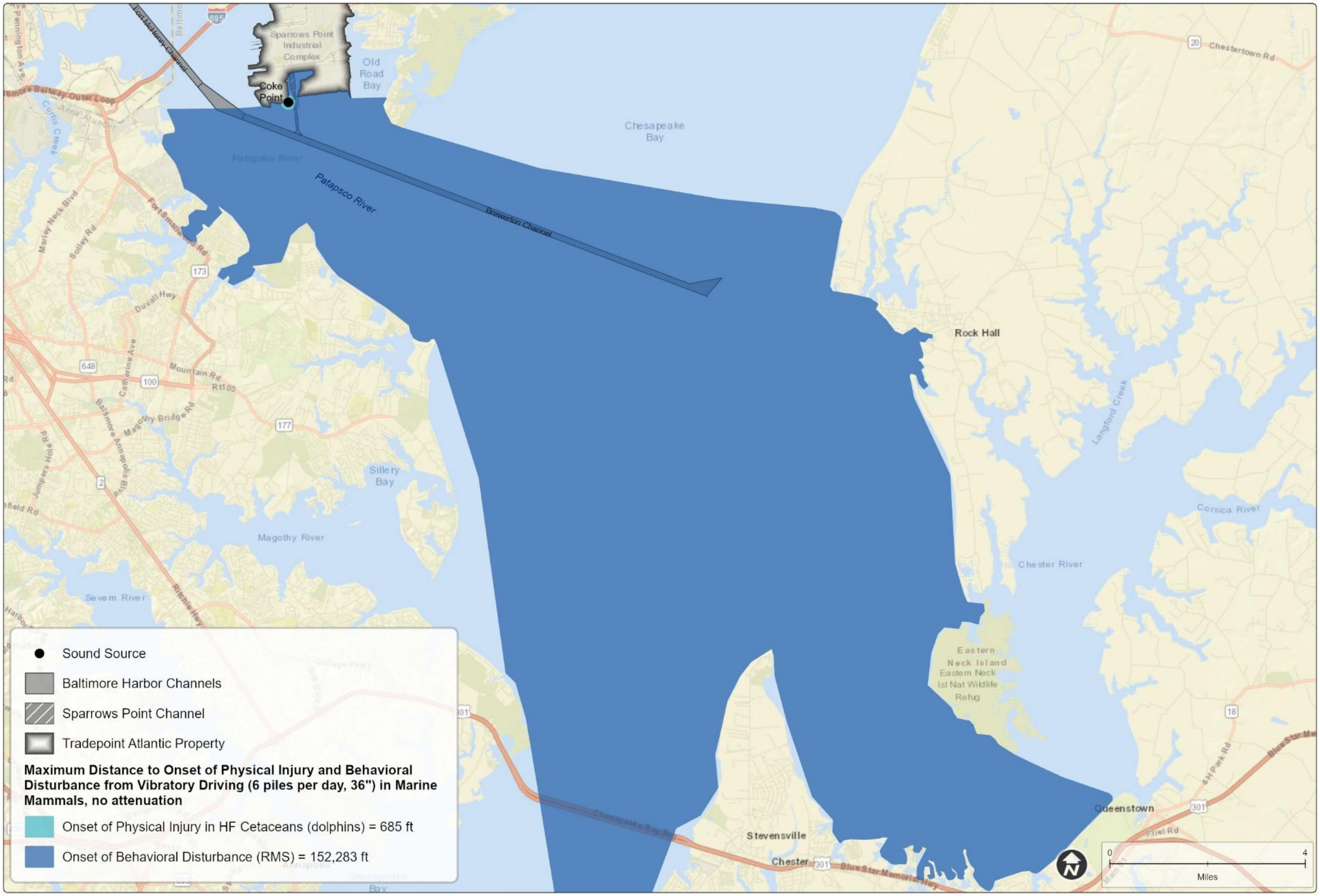


Figure 41. Maximum Distance to Noise Impacts on Marine Mammals from Vibratory Hammer without Attenuation – Wharf Construction at Southern Point



4.10.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

Northern long-eared bats and tricolored bats could use the forested habitat adjacent to the High Head Industrial Basin. Construction of the High Head Industrial Basin DMCF would be completed in accordance with guidance from the USFWS to be protective of bats, and tree clearing would not be conducted between April 1 and November 16; therefore, the project would have no effect on northern long-eared bats or tricolored bats. As described above, monarch butterflies obligately use milkweed host plants as an egg-laying substrate and subsequent larval food source (USFWS 2024d). Based on survey data, the project area does not support monarch butterfly habitat; therefore, the project would have no effect on the monarch butterfly.

No impacts on aquatic special status species would occur from using the High Head Industrial Basin as a DMCF, as no aquatic special status species occur in the basin. There could be localized and temporary impacts on special status species in Bear Creek from installation of the temporary outfall and diffuser, as described for fish in Section 4.8.2.3.

Coal Pier Channel DMCF at Sparrows Point

Terrestrial Impacts

No impacts on terrestrial special status species would occur from construction of the Coal Pier Channel DMCF, as no terrestrial habitat would be impacted.

Turbidity from Material Placement

Placement of material to build the sand dike for the Coal Pier Channel DMCF could cause temporary turbidity in surrounding waters. Impacts from turbidity would occur from placement of the sand to create the dike (see Section 4.8.2.2). Special status species may exhibit behavioral and physiological effects when exposed to increased turbidity levels of 1,000 mg / L above ambient conditions for more than two weeks (NMFS 2023d). However, the mobile life stages of Atlantic sturgeon (juvenile, subadult, and adult) and shortnose sturgeon (adult), and other special status fish species potentially present in the area would be able to move away from the construction area to avoid these impacts from turbidity and decreased dissolved oxygen. It is unlikely that impacts on sturgeon would rise above minor and short-term from the minor changes to the water column. Any turbidity resulting from pumping the dredged material into the DMCF would be contained within the dike and would not impact the surrounding habitat for special status species.

Two fish species in need of conservation (striped bass and Atlantic menhaden) comprised a large portion of the summer fish community. Striped bass comprised 70% of the fish captured in summer 2023 surveys and would potentially be impacted by material placement within the DMCF footprint, dependent upon timing of the placement. Atlantic menhaden were found in much smaller numbers, but as they have been documented using the project area, they could be affected by the construction of the sand dike.

Placement of the sand could also disturb existing sediments at the mouth of Coal Pier Channel. The movement of the bottom sediments during placement of the sand would be limited due to the shallow sediment depth, the small size of the dike, and the proximity to the shoreline. Depending on site conditions, BMPs to reduce sediment resuspension (e.g., turbidity curtain) could be employed. Therefore, sediments resuspended during dike construction would be expected to be minimal. Given that the material to create the perimeter dike would be sand and the soft sediments underlying the Coal Pier Channel are shallow, the impacts would be limited to temporary and localized effects on the water column during construction, having minimal impact on special status species.

Habitat Alteration / Impacts on Prey Species

Placement of material in the Coal Pier Channel DMCF would cause a complete loss of the substrate and sheltered habitat type within the channel. Once the material placement is complete, the DMCF would be at an elevation that is considered upland habitat. Benthic organisms within the footprint would be lost, removing the communities as a possible food source for special status fish species. However, as previously stated, sediments in the Coal Pier Channel are degraded from historical contamination, and the benthic communities are also degraded. Special status fish species typically forage on benthic invertebrates and small bottom-dwelling fishes and could be marginally impacted by the loss of this bottom area. The areas immediately surrounding the DMCF and elsewhere in the Patapsco River would provide forage areas for sturgeon and state-listed special status fish species to use both during construction and after the project is complete.

Vessel Traffic

Vessel traffic would increase slightly during construction of the perimeter dike, as barges would be transiting from the Sparrows Point Channel to the DMCF to deliver sand. Atlantic and shortnose sturgeon, and state-listed fish species would be expected to have ample space within the surrounding river area to avoid vessels and use other adjacent habitats. The increase in vessel traffic would not have a meaningful impact on federally or state-listed species. The baseline risk of a vessel strike with special status fish species in the vicinity of the SPCT project area is unknown; however, given that the addition of vessels would be limited to the direct project area and considering the heavy vessel traffic that already exists in the area, this alternative would not likely increase the risk of vessel strikes to Special status fish species.

Existing Nearshore MPA DMCFs

No new impacts would occur because the MPA DMCFs are existing placement sites.

Existing Ocean Disposal Site

Any impacts on special status species would be limited to potential for strikes from barge transit from the SPCT project area to the NODS. The type of vessel traffic impact is expected to be similar to those already present in this highly trafficked route.

4.10.2.4 Preferred Alternative – Dredged Material Placement

The impacts on aquatic special status species from the Preferred Alternative would be the same as those described for the Combined Options Alternative, but the impacts associated with the Coal Pier Channel DMCF would not occur.

4.10.3 Planned Actions and Environmental Trends

The impacts on aquatic special status fish species would be the same as those described for fish in Section 4.8.3, with both temporary and long-term impacts from both the SPCT project and other planned actions. The localized and incremental impacts of the SPCT project on special status fish and sea turtle species would not make a substantial incremental contribution to the impacts on these species from other planned actions. Although bottlenose dolphins are expected to be transient in this portion of the Patapsco River, they could be affected by noise generated during demolition and pile driving activities for the SPCT project. Sound attenuation measures and monitoring plans would be implemented to reduce impacts on dolphins and comply with the requirements of the MMPA. With the implementation of sound attenuation measures and a monitoring plan, the SPCT project would not make a substantial incremental contribution to impacts on bottlenose dolphins from other planned actions, and the impacts would be temporary.

4.11 Vegetation / Habitat

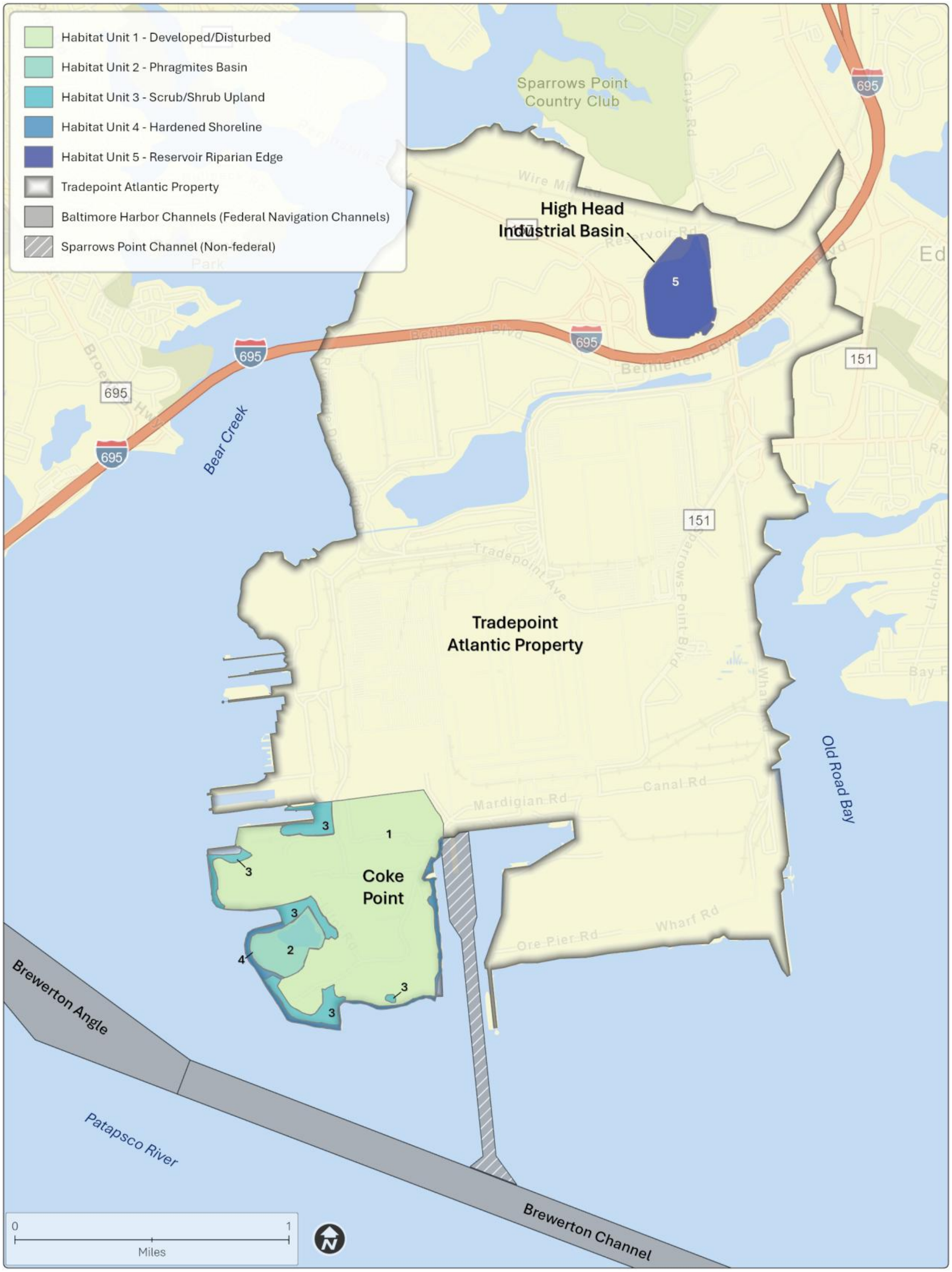
4.11.1 Affected Environment

A habitat field survey of the SPCT project area was conducted on July 31 and August 4, 2023 (EA 2024h, 2024j). Five separate habitat units were identified in the two areas of review (AOR), approximating 401 acres in total (Figure 42). The habitat survey was completed on foot using a timed meander search procedure. Observed plant species within each habitat were recorded on a field data sheet as they were encountered. No federal or state-listed plant species were found within these areas.

The southern AOR contained four distinct habitat units. The following text describes the habitat units at the time of the survey:

- *Habitat Unit 1* – This habitat was defined as developed / disturbed, as it predominantly consisted of compact gravel, paved roads, and barren patches interspersed with sporadic vegetation. The habitat unit supported minimal biodiversity.
- *Habitat Unit 2* – At the time of the summer 2023 surveys, this area was characterized as a *Phragmites* basin, consisting of a large depressional basin in the southwest region of the southern AOR. This basin was artificially constructed to house dredged material during industrial operations. Though characterized by a dense monoculture of common reed, the unit lacked wetland soils or hydrology. Despite its resemblance to wetland ecosystems, no regulated wetlands were documented. Since the 2023 summer surveys, the common reed has been removed, and the former DMCF is being filled.
- *Habitat Unit 3* – This area is identified as scrub-shrub upland and is found adjacent to the shoreline. This habitat unit featured a mixture of short-statured tree species and dense shrub cover. Dominant plants identified within this habitat unit include staghorn sumac, winged elm (*Ulmus alata*), poison ivy (*Toxicodendron radicans*), green foxtail (*Setaria viridis*), white sweet clover (*Melilotus albus*), common mugwort (*Artemisia vulgaris*), Asian bittersweet (*Celastrus orbiculatus*), late boneset (*Eupatorium serotinum*), and nodding spurge (*Euphorbia nutans*). The unit presented a transitional zone between terrestrial and aquatic environments.
- *Habitat Unit 4* – This area of hardened shoreline encircled the southern AOR. This habitat unit was comprised primarily of shrubs and herbaceous vegetation along rocky bars. Although visually distinct, it supported limited biodiversity.

Figure 42. Habitat Types in the Project Area



The northern AOR contained one habitat unit:

Habitat Unit 5 – This habitat was classified as a reservoir riparian edge, which encompassed a human-made reservoir bordered by forest and shrub vegetation. Species diversity was notably higher. Dominant plant species included black willow (*Salix nigr*a), willow oak (*Quercus phellos*) sweetgum (*Liquidambar styraciflua*), trumpet creeper (*Campsis radicans*), staghorn sumac, fleabane daisy (*Erigeron annuus*), Queen Anne's lace (*Daucus carota*), common reed, Indian hemp (*Apocynum cannabinum*), winged sumac (*Rhus copallinum*), blue wild indigo (*Baptisia australis*) and Japanese honeysuckle (*Lonicera japonica*).

4.11.2 Environmental Consequences

4.11.2.1 No-action Alternative

Impacts on vegetation and habitats would continue under existing conditions. The specific future development of Coke Point is unknown, but the entire area could be developed, resulting in the loss of the vegetation and habitats in this area. That would include the scrub-shrub habitat adjacent to the shoreline and the sparse shrub and herbaceous vegetation present along the hardened shoreline and throughout the developed area. Although this vegetation provides limited biodiversity, it still provides habitat for some wildlife species, including eastern cottontail (*Sylvilagus floridanus*) and a variety of birds (see Section 4.12). If the High Head Industrial Basin were filled in, riparian habitat along the shoreline would be lost and potentially some shrub and forested habitat as well. Removal of the vegetation at Coke Point and the High Head Industrial Basin would result in adverse impacts on vegetation and habitat, but the impacts would be minimal.

4.11.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Development of the terminal would require removal of all terrestrial vegetation in the Coke Point portion of the project area, similar to the No-action Alternative. Removal of the vegetation would result in adverse impacts, but the impacts would be minimal.

4.11.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

As one of the main natural areas and habitats in the project area, the forested area at the northern end of the High Head Industrial Basin, as well as the riparian and shrub habitats surrounding the basin, would be adversely impacted by construction of the DMCF. The DMCF would require expansion of the existing basin and installation of a storm drain diversion system along each side of the basin. Construction activities would remove riparian, shrub, and forested habitat (total of approximately 11.2 acres of vegetation), resulting in an adverse impact on vegetation, as well as wildlife that use these habitats, such as small mammals (e.g., eastern cottontail), reptiles (e.g., painted turtle (*Chrysemys picta*), northern water snake (*Nerodia sipedon*), black rat snake (*Pantherophis obsoletus*)), and birds. (See Section 4.12 for a full discussion of impacts on birds.) A temporary discharge pipe would be routed over land to the west side of the shipyard to provide the temporary outfall and diffuser needed to discharge effluent generated during sediment placement and dewatering at the High Head Industrial Basin DMCF. The west side of the shipyard is an industrial area with ongoing development. Some vegetation may be disturbed, but the habitat quality in this area is low. The pipeline would be removed when dewatering activities are complete at the High Head Industrial Basin DMCF. Following completion of the dredged material placement, the High Head Industrial Basin DMCF would be closed, and the area could be revegetated with native species. Although this would provide new upland habitat (e.g., grasses, shrubs, forest) for wildlife species, it would represent a permanent loss of riparian habitat and for the wildlife that uses it.

Coal Pier Channel DMCF at Sparrows Point

No additional impacts on vegetation / habitat would occur from construction of the Coal Pier Channel DMCF at Sparrows Point.

Existing Nearshore MPA DMCFs

No new impacts on vegetation / habitat would occur because the MPA DMCFs are existing placement sites.

Existing Ocean Disposal Site

No new impacts on vegetation / habitat would occur because NODS is an existing USEPA-designated ocean placement site.

4.11.2.4 Preferred Alternative – Dredged Material Placement

The impacts on vegetation / habitat from the Preferred Alternative would be the same as those described for the Combined Options Alternative because there would be no impacts associated with the construction and placement of dredged material in the Coal Pier Channel DMCF.

4.11.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on vegetation and habitat include those that would result in removal of or changes to native vegetation.

- The reconstruction of the Key Bridge will result in some loss of terrestrial vegetation and habitat. Approximately 8 acres of forested habitat occur within the project area. The Corps (2024a) did not provide specific acreage estimates for impacts but noted that habitat within the project area is generally of low quality. The project will consult with the MDNR Critical Area Commission regarding loss of habitat within the Critical Areas. Although the project will have impacts on vegetation and habitat, the impacts would be minimized and would not impact available habitat within the region.
- Increasing temperatures and altered precipitation patterns are significant issues for native vegetation in Maryland. Temperatures and precipitation intensity and variability in Maryland are expected to increase, with both floods and droughts becoming more severe (USEPA 2016). Warmer temperatures may affect soil moisture levels, gradually altering the abundance and distribution of terrestrial vegetation and species using terrestrial habitats. Ecological disturbances, such as wildfires and insect outbreaks, may also drive vegetation changes. The spread of nonnative plant species could increase competition, further challenging the regeneration of native vegetation.

The construction of the SPCT would require the removal of all terrestrial vegetation within Coke Point. Removal of the vegetation would result in adverse but minimal impacts, as the habitat quality is low. Construction of the High Head Industrial Basin DMCF would result in the loss of approximately 11.2

acres of riparian, shrub, and forested habitat. After construction of the High Head Industrial Basin DMCF, the area would be closed, resulting in a permanent loss of the riparian habitat. The area could be revegetated with native species, which would provide new upland habitat. The proposed SPCT project would not significantly impact vegetation in the project area; therefore, the SPCT project would not make a substantial contribution to the impacts of planned actions and environmental trends on the vegetation in the region.

4.12 Birds

4.12.1 Affected Environment

A fauna survey was conducted on June 13, 2024, using several visual encounter methods to record observations of birds and other wildlife along the shoreline of Coke Point and at High Head Industrial Basin (EA 2024h, 2024j). A total of 41 species of birds were observed (visually or audibly), with 39 species at High Head Industrial Basin and 16 at Coke Point (see Table 27)

Table 27. Bird Species Observed During the June 2024 Survey

Common Name	Scientific Name	Coke Point	High Head Industrial Basin
American crow	*Corvus brachyrhynchos*	✓ [1]	✓
American goldfinch	*Spinus tristis*		✓
American robin	*Turdus migratorius*		✓
Bald eagle	*Haliaeetus leucocephalus*	✓ [1]	✓ [1]
Bank swallow	*Riparia riparia*		✓ [1]
Barn swallow	*Hirundo rustica*		✓ [1]
Belted kingfisher	*Megaceryle alcyon*		✓
Black-crowned night-heron	*Nycticorax nycticorax*		✓
Blue jay	*Cyanocitta cristata*		✓
Brown-headed cowbird	*Molothrus ater*		✓ [1]
Canada goose	*Branta canadensis*	✓	✓
Carolina wren	*Thryothorus ludovicianus*		✓
Cedar waxwing	*Bombycilla cedrorum*		✓
Common grackle	*Quiscalus quiscula*	✓	✓
Common raven	*Corvus corax*	✓ [1]	✓ [1]
Double-crested cormorant	*Phalacrocorax auritus*	✓	✓
Downy woodpecker	*Picoides pubescens*		✓
Eastern wood-peewee	*Contopus virens*		✓
European starling	*Sturnus vulgaris*	✓	✓
Gray catbird	*Dumetella carolinensis*		✓
Great blue heron	*Ardea herodias*		✓
Great egret	*Ardea alba*		✓
Green heron	*Butorides virescens*		✓ [1]

Common Name	Scientific Name	Coke Point	High Head Industrial Basin
Herring gull	*Larus argentatus*	✓ [1]	
House finch	*Haemorhous mexicanus*		✓
House sparrow	*Passer domesticus*		✓
House wren	*Troglodytes aedon*		✓
Killdeer	*Charadrius vociferus*	✓	
Least tern	*Sternula antillarum*		✓
Mallard	*Anas platyrhynchos*	✓	✓
Mourning dove	*Zenaida macroura*	✓	✓
Northern cardinal	*Cardinalis cardinalis*	✓	✓
Northern mockingbird	*Mimus polyglottos*	✓	✓
Northern rough-winged swallow	*Stelgidopteryx serripennis*		✓
Orchard oriole	*Icterus spurius*		✓
Osprey	*Pandion haliaetus*	✓	✓
Red-winged blackbird	*Agelaius phoeniceus*	✓	✓
Ruddy duck	*Oxyura jamaicensis*		✓
Song sparrow	*Melospiza melodia*		✓
Turkey vulture	*Cathartes aura*	✓ [1]	✓
Yellow warbler	*Setophaga petechia*		✓

Notes:

1 – Birds that were observed flying over the site, not using habitats within surveyed areas during the fauna survey.

Due to the primarily developed nature of Coke Point, natural habitat is scarce, limited to sparsely vegetated areas along the hardened shoreline (see Section 4.11.1). Of the 16 species observed at Coke Point, five were observed flying over the site only, not using the habitat. Ospreys (*Pandion haliaetus*) have built nests on powerline structures and were observed sitting on or flying near nests, bringing food, and protecting the nests. No state or federally listed species were observed at Coke Point. The western, southern, and eastern boundaries of Sparrows Point are encompassed by MDNR-designated waterfowl areas. Several other waterfowl areas are present near the site along other portions of the Patapsco River shoreline and Back River. However, waterfowl activity directly adjacent to the project area at Coke Point was low at the time of the survey.

A variety of waterfowl, wading birds, shore / water birds, raptors, perching birds, and woodpeckers were observed using the High Head Industrial Basin and the habitat surrounding it. Waterfowl (e.g., mallard (*Anas platyrhynchos*), ruddy duck (*Oxyura jamaicensis*)) and wading birds (e.g., great egret (*Ardea alba*), great blue heron (*Ardea herodias*)) were observed foraging from the basin. The basin lacks a constant sandy shore and instead has a consistent fringe of phragmites along the shoreline. Red-winged blackbirds (*Agelaius phoeniceus*) were prevalent and likely nesting along the shoreline. Nearly all of the perching birds and woodpeckers were observed in the small, forested area to the north of the basin. Numerous least terns (*Sternula antillarum*), which are state listed as threatened, were observed foraging at the basin. Activity near the basin suggests that least terns may be nesting on the roof of a nearby industrial building.

The Migratory Bird Treaty Act of 1918 (MBTA) protects migratory birds that are native to the United States or US territories and their nests with eggs or young. The MBTA prohibits the take (i.e., disturbing nests, killing, capturing, selling, trading, and transporting) of protected migratory bird species without prior authorization by the USFWS. Similarly, the Bald and Golden Eagle Protection Act of 1940 (BGEPA; 16 USC §§ 668-668c) prohibits the take, transport, sale, barter, trade, import and export, and possession of eagles, making it illegal for anyone to collect eagles and eagle parts, nests, or eggs without a permit.

The USFWS online IPaC tool provided an informal listing of 39 migratory bird species that have the potential to occur within the TPA property; however, this list does not include all migratory birds that could be found in or near the project area. Two migratory species listed in the IPaC search were observed — bald eagle (*Haliaeetus leucocephalus*) and double-crested cormorants (*Phalacrocorax auritus*). Bald eagles were observed during the fauna survey at High Head Industrial Basin and Coke Point, flying over and circling, primarily to the north. No nesting activity was observed. A bald eagle nest has been documented at Sparrows Point, but this nest is located approximately 0.9 mile from High Head Industrial Basin and 1.4 miles from Coke Point, well outside of the buffer zone protective of nesting bald eagles. Multiple double-crested cormorants were observed at both locations as well, loafing on the water, flying over, and resting on powerlines. Although cormorants are not birds of conservation concern in this area, bald eagles prey on them and can compete with them for nesting sites. All species observed during the fauna survey, except two nonnative species (European starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*)), are protected under the MBTA.

4.12.2 Environmental Consequences

4.12.2.1 No-action Alternative

Bird populations would be subject to existing conditions at the site. Vessel traffic is highly prevalent at and near the site, which likely causes a minor level of disturbance to bird populations by flushing birds and introducing noise to the environment. Additionally, existing operations at the site, including demolition and razing activities, Port operations, trucking, and warehousing, increase ambient noise and present risks to birds that may fly into the demolition zone. However, with the lack of natural areas on-site, birds would be at minimal risk for collisions. The No-action Alternative would likely result in a yet-to-be-determined commercial development of Coke Point that is not included as part of this project. If the High Head Industrial Basin were to be filled in a large area of aquatic and riparian habitat and potentially some shrub and forested areas around the basin would be lost, reducing nesting, foraging, and resting habitat for birds. Although bird populations would be subject to existing conditions under the No-action Alternative, future impacts could arise as part of the potential development of Coke Point and the High Head Industrial Basin, and any activities in these areas would continue to cause noise impacts and disrupt behaviors.

4.12.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Buildings and structures would permanently alter the environment and could increase the risk of bird collisions. Additional lighting in the project area would increase light pollution, which could affect bird behavior by causing disorientation, confusion, and exhaustion. However, the additional lighting would likely not be noticeable given the existing high nighttime light intensities (see Section 4.13.2 for detailed information on lighting changes). The construction of the marginal wharf would introduce additional impervious structures into bird habitat, and all terrestrial vegetation in the project area, though sparse, would be removed, resulting in a loss of habitat.

Temporary impacts on birds would occur because of dredging and increased vessel traffic, both during construction and during terminal operations and periodic maintenance dredging. Dredging at the project area would increase turbidity and could impact the foraging ability and behavior of sea birds. BMPs would be used to minimize release of sediment and increased turbidity during dredging, and any elevated turbidity would be localized to the immediate vicinity of the dredging operations. The vessel traffic necessary for construction and dredging could flush birds that are stationary on the water; however, this traffic would not be substantially higher than the existing vessel traffic in the Patapsco River. The presence of additional vessels and equipment in the project area would also increase noise, which could disturb birds, likely causing them to avoid portions of the project area for the duration of the work. This would effectively result in a loss of habitat for birds during times of exclusion. However, the lack of landside natural areas at the site, expansive open water adjacent to the site, and the small number of birds observed on the water during the June 2024 bird survey suggest that impacts on birds and their habitat would be minimal.

4.12.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

Construction of the High Head Industrial Basin DMCF would remove approximately 11.2 acres of upland habitats (forested and shrub), 40 acres of aquatic habitat, and 1 mile of riparian habitat along the edge of the basin. To avoid impacts on nesting birds, no vegetation removal would occur between April 15 and August 15, the primary nesting season for birds in Maryland. Vegetation clearing, construction of the DMCF, and placement of dredged material would likely cause birds to avoid the project area for approximately 3 years. Following completion of the dredged material placement, the site would be closed, and the area could be revegetated with native species. Although this would provide new upland habitat (e.g., grasses, shrubs, forest) for upland bird species, this would represent a permanent loss of riparian and aquatic habitats for the birds that use them. Nine species observed during the June 2024 fauna survey would no longer be supported at the High Head Industrial Basin, including least tern, a state-listed threatened species. The remaining species may be dispersed, but these species and others could return following dredged material placement.

Coal Pier Channel DMCF at Sparrows Point

The construction of the Coal Pier Channel DMCF would reduce the area of water available to birds for loafing and foraging; however, the June 2024 fauna survey did not indicate that birds heavily used the channel. The DMCF would permanently impact the project area but would not cause a substantial impact on birds due to the expansive open water area adjacent to the site.

Existing Nearshore MPA DMCFs

No new impacts on birds would occur because the MPA DMCFs are existing placement sites.

Existing Ocean Disposal Site

NODS is an existing USEPA-designated ocean placement site; no new impacts on birds would occur.

4.12.2.4 Preferred Alternative – Dredged Material Placement

The impacts on birds from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except that impacts associated with the Coal Pier Channel DMCF would not occur.

4.12.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on birds include those that would result in removal of habitat or other disturbances to birds.

- The demolition and reconstruction of the Key Bridge will have impacts on birds in the project area from construction noise. A bald eagle nest is located within 660 feet of the bridge project area (Corps 2024). Time-of-year restrictions and biological monitoring will be implemented as required by the USFWS to minimize impacts on the bald eagle nest. No birds of conservation concern were identified within the project area. Coordination with USFWS will be ongoing through final design and construction to discuss potential impacts of the project on protected species.
- Ongoing maintenance dredging activities, including those in Curtis Creek, cause similar temporary impacts to those described for the SPCT project dredging activities. Similarly, the work at the Bear Creek Superfund Site would temporarily affect birds using the coastal habitat in the project area during dredging and capping activities, and the impacts on birds would be similar to those described for construction of the Coal Pier Channel DMCF. These impacts are localized and temporary, and BMPs would be implemented to avoid and minimize impacts.
- Changing weather patterns could significantly impact bird populations in Maryland through potentially altered migration patterns, habitat loss, and changes in food, water, and shelter availability. Warmer temperatures may cause birds to migrate earlier or shift their ranges, leading to competition with new species and disrupting food resources like insects and fruits. Forest composition changes and extreme weather events could reduce nesting and feeding habitats. Additionally, changes in timing between food availability and bird arrival or breeding could reduce reproductive success (Wilsey et al. 2019).

The SPCT project would cause temporary impacts on birds from dredging and increased vessel traffic, both during construction and operations, as well as removal of low-quality habitat on and adjacent to Coke Point. The lack of landside natural areas at the site, expansive open water adjacent to the site, and the small number of birds observed on the water during the June 2024 bird survey suggest that impacts from dredging, construction, and operation of the terminal on birds and their habitat would be minimal.

Construction of the High Head Industrial Basin DMCF would remove upland, aquatic, and riparian habitat. Birds would likely avoid the project area during construction of the DMCF and placement of dredged material. Nine species observed during the June 2024 fauna survey would no longer be supported at the High Head Industrial Basin, including least tern, a state-listed threatened species. The remaining species may be dispersed to nearby adjacent habitat, but these species and others could return following closure of the DMCF. The area could be revegetated with native species, which would provide new upland habitat.

The proposed SPCT project would not significantly impact birds in the project area; therefore, the SPCT project would not make a substantial incremental contribution to the impacts of planned actions and environmental trends on the bird populations in the region.

4.13 Aesthetics / Viewshed

4.13.1 Affected Environment

Aesthetic resources are all the visual features of a landscape, including built and natural elements, that collectively shape the visual character of the landscape and create a sensory experience.

Visual Character

The area being evaluated for visual impacts, the area of visual effect (AVE), includes the region encompassing the project footprint, adjacent areas, and any areas with potential line of sight to any project element up to 3 miles away across water bodies. The 3-mile limit is based on the distance that someone with normal vision, viewing at 5 feet above sea level, can see before the curvature of the earth causes the surface to drop below the horizon. Viewers at elevation can see farther but were not included because of the highly diminished effect on views at greater distances. Additionally, the AVE lies within the Atlantic Coastal Plain, which features relatively flat topography. Bordered by Bear Creek to the west, the Patapsco River to the south, and Old Road Bay to the east, Sparrows Point is within the viewshed of residential neighborhoods, commercial areas, roads, and parks. The areas with potential views of the project are located in Baltimore County, Baltimore City, and Anne Arundel County, including neighborhoods in Dundalk, Sparrows Point, Turner Station, Watersedge, Inverness, Edgemere, Fort Howard, Stoney Beach, and Riviera Beach (Figure 43).

> **Visual character** of a landscape is the distinct pattern of elements that make one landscape different from another. Character is created by the combined effect of natural and built elements. The elements that contribute to visual character include landforms, topography, vegetation (structure and diversity), water, coastal edges, viewscapes, architecture, land use patterns, urban design elements, and cultural landmarks, among other features. Details within land use and land cover, such as presence of transportation networks, wildlife, trash, air pollution, or visual clutter also influence character.

Dominant land uses in the AVE are industrial, commercial, medium- and high-density residential, institutional, and recreational (Figure 44 and Table 28). The area is home to historic buildings and parks that reflect activities during multiple war efforts and past steelmaking activities. Residential areas across the surrounding waterways are primarily single-family or smaller, multi-family dwellings on small lots interspersed with waterfront parks and some commercial establishments, including restaurants and marinas. In these areas, water is a dominant visual element in the landscape.

Figure 43. Area of Visual Effect

The yellow line represents the maximum extent of view, a buffer of 3 miles around all elements of the project. The project would not be in view of all areas within the AVE.

Figure 44. Land Uses within the AVE

Source: Maryland Department of Planning 2010b

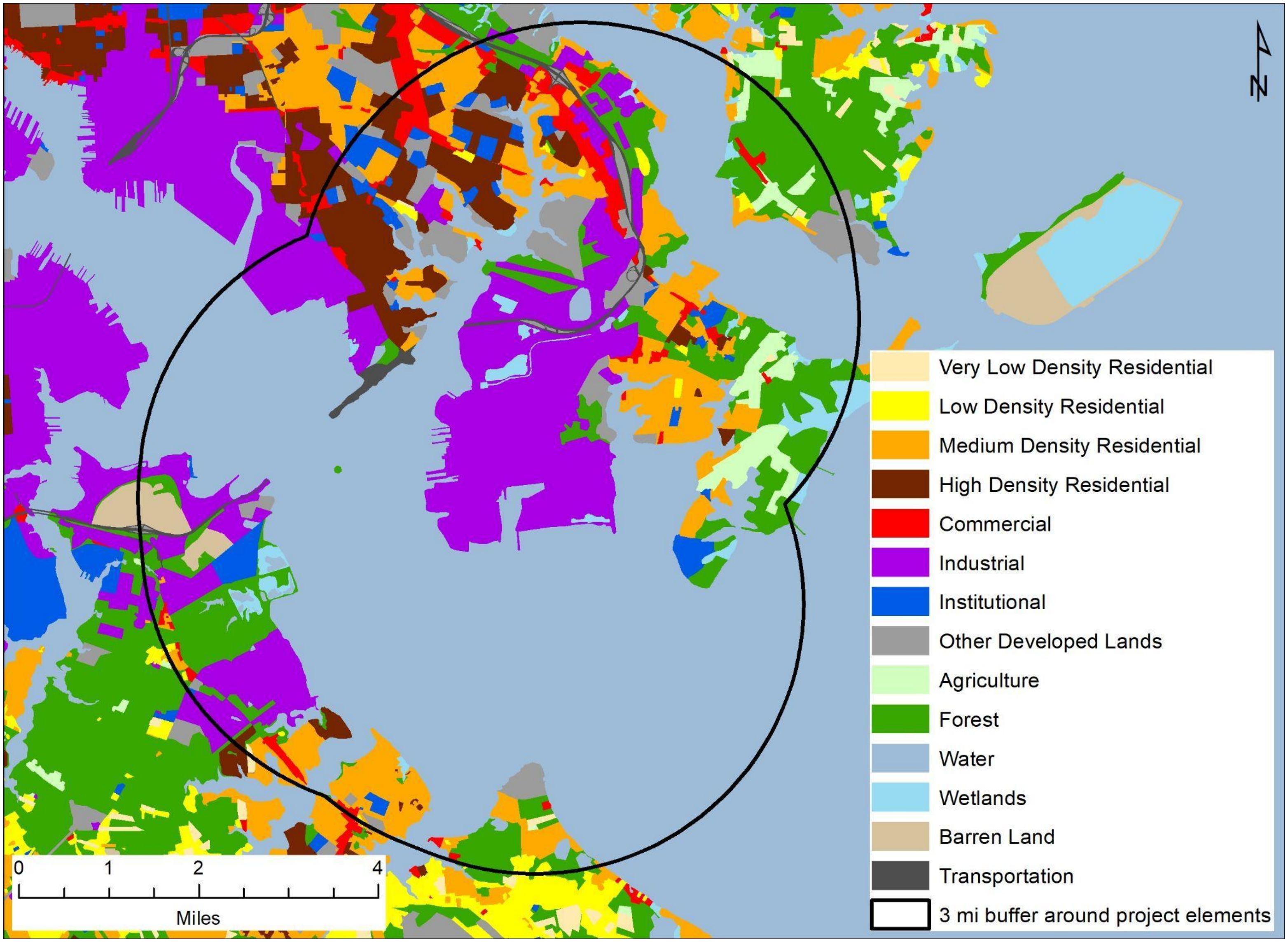


Table 28. Land Uses within the AVE

Land Use	Defining Features
Industrial	Manufacturing and industrial parks, including warehouses, storage yards, and parking areas. Includes on-site roads and rail lines; varied visual elements common in industrial sites, including buildings, piles of raw or recycled materials, and grass / shrubs growing haphazardly; trees are often growing between industrial and other users
Commercial	Retail and wholesale services, including associated yards and parking lots
High-density residential	Row houses, garden apartments, high-rise apartments, and mobile home parks; more than eight dwelling units per acre
Medium-density residential	Detached homes (single-family or duplex) or rowhouses; two to eight dwelling units per acre
Institutional	Schools, military installations, churches, hospitals, and government offices
Forest	Scattered dense parcels of forests, thin buffer strips of permanent vegetation, and wetlands
Open urban	Parks, recreation areas, golf courses, community centers, and cemeteries; small- to medium-sized parks dominated by grass, forest land cover, and recreational infrastructure; some parks include historic buildings, large, paved areas, and equipment (e.g., cannons); small parks are integrated into neighborhoods while medium-sized parks are isolated parcels, reached by a dedicated road
Transportation	Major highways, rail, and shipping

Notes: The information in this table was derived from Maryland Department of Planning 2010a.

The AVE contains pockets of natural vegetation, including parks and green spaces scattered throughout the area. Some green spaces are characterized by permanent vegetation, including trees, shrubs, and grasses, and attract wildlife, such as birds, deer, and small mammals. Recreational and commercial vessels traverse the nearby waters, which also include parts of the Captain John Smith Chesapeake National Historic Trail, Star-Spangled Banner National Historic Trail, and the Chesapeake Gateways Network.

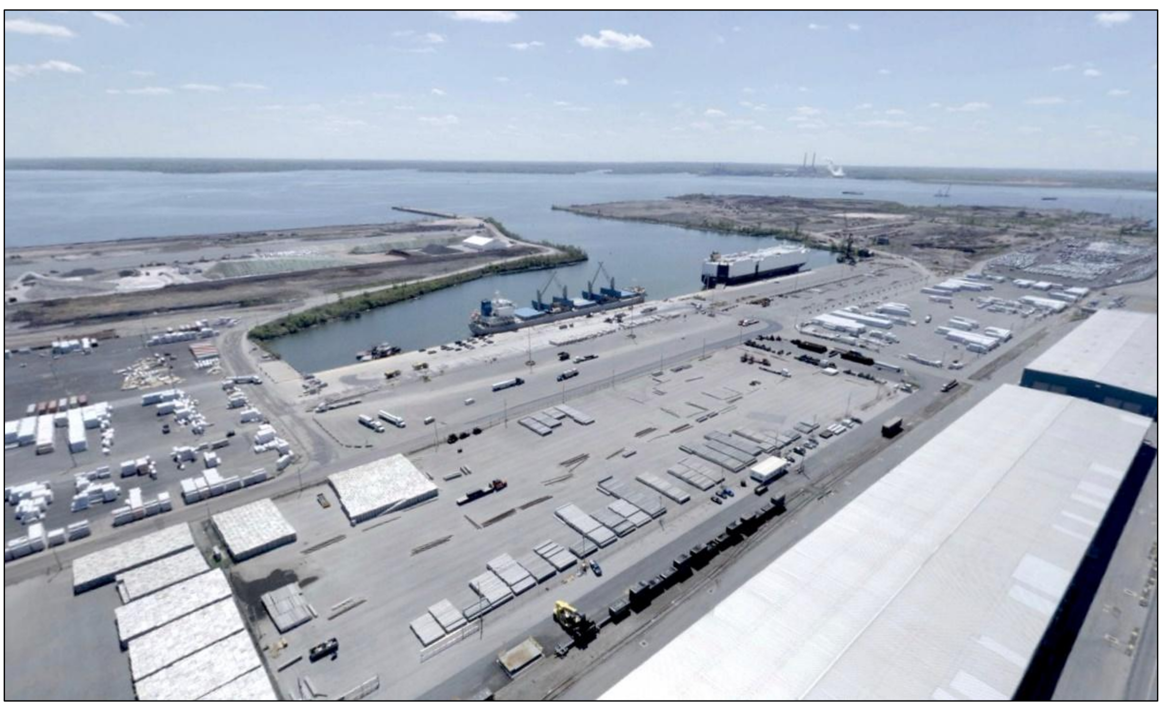
TPA Property in Sparrows Point. The visual character of the TPA property at Sparrows Point, Maryland reflects its industrial heritage with a majority of land for industrial, commercial, and transportation uses (Photograph 1). The land within the TPA property is characterized by warehouses and industrial complexes traversed by roads and rail lines with limited greenery (Photograph 2). Linear features are visually dominant, and new warehouse buildings provide clean lines and functional appeal. The landscape has historically featured heavy steel structures (e.g., Photograph 1), piles of raw materials, storage tanks, and conveyances, although most of those features have been removed from the campus. Multiple modern warehouses, some dozens of acres in size, and large car lots create an ordered and repetitive visual environment (see Photograph 2). The overall impression is of a massive-scale industrial / commercial aesthetic with a few tall and large structures, including concrete silos (150 feet) and cranes of 161 feet tall, creating some vertical scale contrast. Existing lighting around warehouses and in parking lots contributes to a persistent nighttime glow.

Photograph 1. Historic Photograph of Sparrows Point

Source: Center for Land Use Interpretation, date unknown but estimated to have been taken before 2010

Photograph 2. Current View of Sparrows Point

This photograph was taken from a vantage point similar to Photograph 1. Source: TPA, dated 2024



South of the Project. Areas to the south of the project include several waterfront neighborhoods in northern Anne Arundel County where the Patapsco River is a dominant, scenic element in the landscape. The communities of Stoney Beach and Riviera Beach lie about 2 miles south of the project area across the Patapsco River. The waterfront areas of Stoney Beach are dominated by townhomes and industrial areas, and Riviera Beach is mostly made up of detached single-family homes, many with private docks (Photograph 3 and Photograph 4). Most of the waterfront is hardened with riprap revetment or wooden bulkheads, and little natural shoreline remains. Just north of Stoney Beach is an industrial area that includes the Herbert A. Wagner and Brandon Shores generating stations with tall stacks (Photograph 5). Fort Smallwood Park is about 2.5 miles due south of the project, and it includes a fishing pier, playground, walking trails, and beaches (Photograph 6).

Photograph 3. Boardwalk over Bulkhead in Stoney Beach Featuring Waterfront Townhouses

Source: Crucial Economics Group, dated 2024

Photograph 4. Typical Residential Street in Riviera Beach

Source: Crucial Economics Group, dated 2024

Photograph 5. Herbert A. Wagner Generating Station Taken from Stoney Beach.

Source: Crucial Economics Group, dated 2024

Photograph 6. View of Sparrows Point across the Patapsco River from Fort Smallwood Park.

Mobile and permanent cranes and warehouse buildings are visible, as well as a cargo vessel at the marine terminal. Source: Crucial Economics Group, dated 2024

West of the Project. The area west of the project has varied land uses. The Cox Creek DMCF is approximately 1.6 miles across the Patapsco River from Coke Point. Just south of Cox Creek is the Swan Creek natural area with acres of intact forest, wetlands, and natural shoreline. Just north of Cox Creek is Fort Armistead Park, which contains little green space but provides access to the water with a fishing pier and boat launch (Photograph 7). I-695 is approximately 1 mile west of Coke Point. Across Bear Creek from the project area are residential communities including Turner Station, Watersedge, and Inverness. These communities are characterized by medium- and high-density residential development interspersed with waterfront parks (Photograph 8). Community parks, such as Fleming Park, Peach Orchard Park, and Inverness Park, are found along Bear Creek and provide recreational opportunities (e.g., basketball courts, baseball diamonds) and access to the water via fishing piers and boat launches. Long water views are common but may include foreground views of I-695 and other infrastructure support structures (Photograph 9).

Photograph 7. Fort Armistead Park toward Coke Point

Source: Crucial Economics Group, dated 2024

Photograph 8. Fleming Park with Basketball Courts in the Foreground and Typical Residences in the Background

Source: Crucial Economics Group, dated 2024

Photograph 9. View of Sparrows Point from Fleming Park with I-695 in the Foreground

Source: Crucial Economics Group, dated 2024

North of Project. Areas north of the TPA property include residential, commercial, recreational, and institutional land uses. These residential areas are generally characterized by detached single-family homes on small lots, and waterfront homes often have piers (Photograph 10). There are also waterfront commercial establishments, such as marinas, dockyards, and restaurants (Photograph 11). Mid-length to long views with open water as a dominant element are common. Directly north of the TPA property is the Sparrows Point Country Club, which is bounded by Grays Road to the east, rail lines to the south, and Bear Creek to the west. In the area to the north of the SPCT project area, industrial and commercial areas are present and characterized by warehouses, piles of wood, recycling, and other industrial products and truck traffic (Photograph 12).

Photograph 10. Residential Area along Bear Creek, North of Project Area

Source: Crucial Economics Group, dated 2024

Photograph 11. Marina, Restaurant, and Charter Boat Business along Bear Creek

Source: Crucial Economics Group, dated 2024

Photograph 12. Key Brewing and Surrounding Area

Source: Crucial Economics Group, dated 2024

East of the Project. The areas east of the TPA property are primarily residential and park lands. The communities of Edgemere and Fort Howard lie across Old Road Bay from the TPA property and are dominated by medium-density residential development with waterfront businesses like marinas (Photograph 13). Many of the waterfront homes in these communities have private docks, and much of the shoreline is hardened with riprap revetment or wooden bulkheads. Fort Howard Veterans Park allows limited public access but has significant areas of forest, as well as an abandoned multi-story veteran's hospital and support buildings. Just to the east of Fort Howard Veterans Park, Fort Howard Park is forested with historic elements and signage (e.g., several batteries, artillery) (Photograph 14), walking trails, and playground equipment.

Photograph 13. Marina in Edgemere

Source: Crucial Economics Group, dated 2024

Photograph 14. Battery and Artillery at Fort Howard Park

Source: Crucial Economics Group, dated 2024

Light

The AVE has a substantial amount of nighttime light. Areas within the AVE are close to downtown Baltimore, which is well-lit, and the existing light sources from warehouses, roads, and parking lots within the TPA property and nearby Port facilities, all of which contribute to the existing nighttime light environment. Although light levels vary somewhat across the site, light at Sparrows Point is currently 27 times the brightness of a natural sky (Lorenz 2022). Currently, there are about 500 lit acres at Sparrows Point, which includes 196 acres immediately north and east of the proposed terminal lit by 45 high-mast lights, and 40 acres adjacent to the current berths that are lit at all times with pole-mounted lighting (typically at an elevation of approximately 35 feet). The mast lights are directed downward, but the existing pole-mounted lights adjacent to the berth are floodlights. There are also about 275 acres of warehouse truck courts and support lots that are lit, generally with downward-directed lighting. Figure 45 identifies the night sky brightness by color. The brightest night sky (white) includes Baltimore and nearby areas. The TPA property, including the SPCT project area (gray), is slightly darker than downtown Baltimore, and south of the SPCT project area, the night sky is slightly darker (red).

> **Light** is defined in terms of day and night illumination levels and is an important element of visual character. The height and angle of lighting (with and without shielding) determines the levels and spatial extent of artificial illumination. Light that radiates upward into the night sky can brighten the night sky and create an ambient glow.
>
> **Glare** is directed or reflective light, and its intensity is a function of the intensity of the light source, the reflectivity of the surface, and the angle of the light source hitting the reflective surface.

Characterization of Viewers

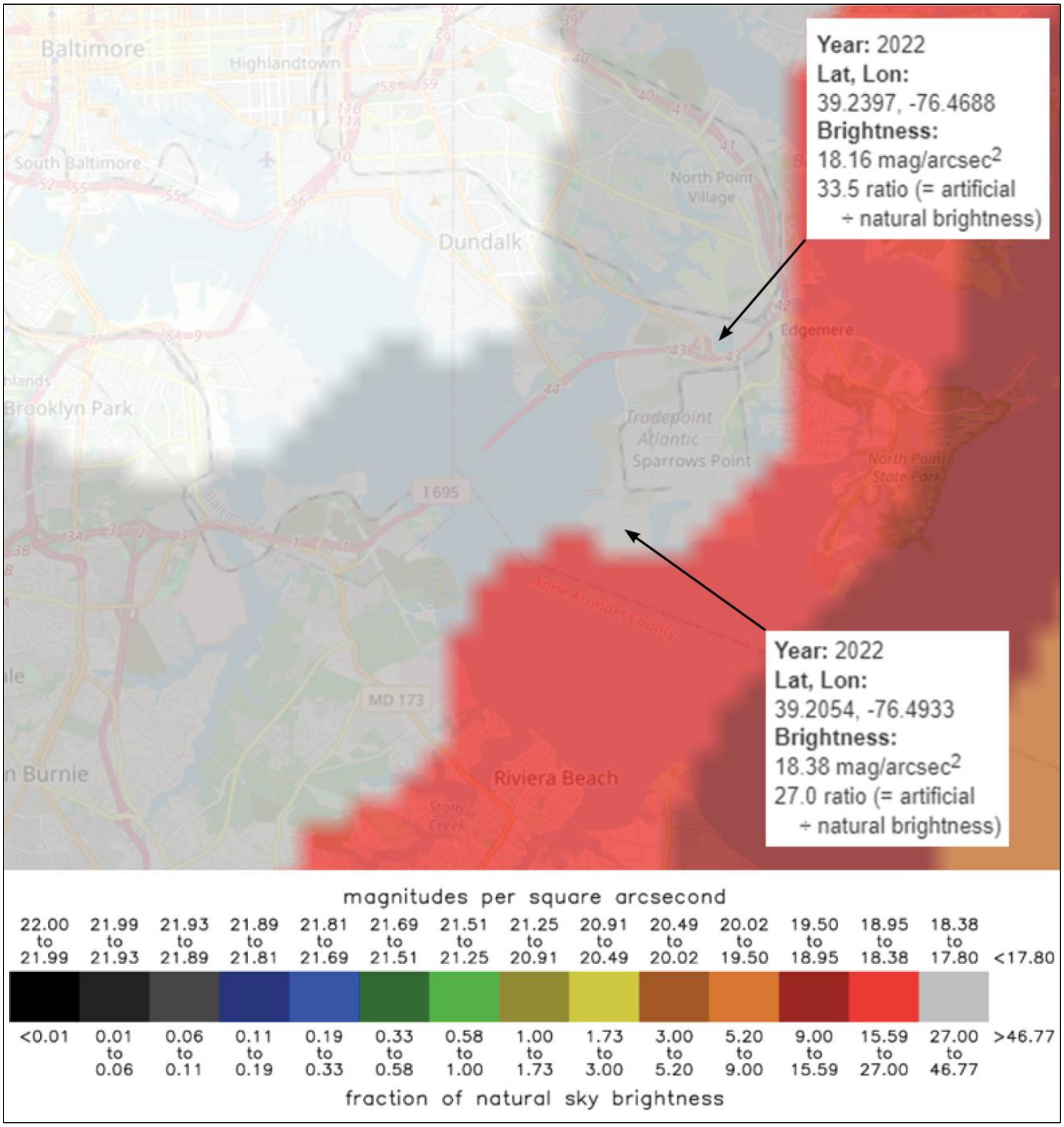
Viewer sensitivity is a function of the activities being undertaken, the type of view, the duration of the view (including whether views are static or dynamic), and perception of the landscape aesthetics. In general, the more someone is focusing on the view versus directing their attention to other activities, the more sensitive they would be. Also, viewers tend to be more sensitive when the view is more expansive, and the duration of the view is longer. Viewers would also tend to be more sensitive to changes in landscapes that are considered scenic or highly aesthetically pleasing, although local preferences can vary.

The most sensitive viewer groups within the AVE would be those using sensitive viewing areas, which include waterfront parks or recreational areas, waterfront or water-adjacent residences, and waterfront and water-adjacent businesses, such as retail and commercial establishments. Recreators at local nature and historic parks include families and other groups, walkers, anglers, and birdwatchers. Restaurant diners may be sensitive to views. Marinas have transient and resident boaters who may spend substantial time on the waterfront. Other potentially sensitive viewers of Sparrows Point include recreational boaters who would have dynamic views of Sparrows Point as they traverse the project area. Other potentially less sensitive viewers include institutional workers and visitors, commuters, travelers on local roadways and waterways, and operators of freight rail lines.

Figure 45. Nighttime Light in the AVE

Inset boxes show details for Coke Point and the High Head Industrial Basin.

Source: Lorenz 2022



Regulatory Review

The Baltimore County Code of Ordinances (Baltimore County 2024) has visual aesthetic objectives primarily for residential areas but not manufacturing and industrial zones.

The project area at Sparrows Point is zoned as *manufacturing, heavy in an industrial, major district*, which has limited restrictions on building heights and setbacks. In a *manufacturing, heavy* zone, the maximum building height is unlimited, but height is restricted to three stories or 40 feet if a structure falls within 100 feet of a business or residential zone (Baltimore County 2015). In *manufacturing, heavy* zones, the minimum front setback is 25 feet (front of the structure to centerline of street is 50 feet), and the minimum rear and side setbacks are 30 feet. Within 150 feet of an interstate highway, any residential zone or street right-of-way abutting a residential zone, there is a minimum 75-foot front setback, 50-foot rear setback, and 50-foot side setback.

> **Setback** is the minimum distance a house, building or other structure must be from the property line.

The project area zoning of *manufacturing, heavy in an industrial, major district* does not list any lighting restrictions. However, within Baltimore County zoning regulations, the section on off-street parking and loading (§ 409) states that any fixture used to illuminate any parking facility should reflect the light away from residential lots and public streets (Baltimore County 2023). The same regulations for manufacturing, restricted and manufacturing, light, restricted zones (§ 243.6 and § 250.6) add to this restriction that lights shall not exceed the height of the highest building (Baltimore County 2023).

4.13.2 Environmental Consequences

The visual impact assessment covers the construction and operational phases of the proposed alternatives. The analytic methods applied here are based on the FHWA's *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA 2015). The FHWA Guidelines call for analyzing the visual aesthetic quality by incorporating preferences for natural and cultural environments (i.e., built environments) and then assessing how changes in visual quality and the sensitivity of viewers combine to create impacts of proposed changes.

> **Visual quality** reflects how people perceive and appreciate landscapes based on their distinctive visual characteristics. People value a sense of order and coherence in a landscape and the unique qualities that make landscapes culturally significant. Visual quality is assessed in terms of the presence of preferred elements and public sensitivities and concerns.

Visual Impact Assessment

To assess the impacts on visual quality due to the alternatives, the FHWA guidelines were supplemented with evidence from visual preference research and by rating project renderings, as viewed from key observation points (KOPs). Visual preference research suggests commonalities of preferences across viewer groups, but effects of changes in industrial and commercial landscapes, as are present in Sparrows Point, are less studied than natural or residential / mixed-use landscapes. To represent local concerns, public comments were incorporated into KOP selection and assessment of landscape changes from KOPs. For the KOPs, views of the landscape with and without the project were simulated using computer-aided design renderings overlaid on photographs taken from KOPs.

Viewer sensitivity or level of concern was evaluated by considering the visibility of the project, the proximity of viewers, the relative number of viewers, the duration of views, and the type of viewer and associated expectations (e.g., recreationist, commuter, resident). The magnitude of aesthetic changes due to the project was assessed first by evaluating landform, vegetation, water, and human-built features in terms of natural and cultural harmony and typical viewer preferences. The compatibility of the most visually dominant elements for each KOP was then assessed in terms of *spatial dominance, scale contrast, and compatibility*, as defined in Smardon et al. (1988) (Table 29). The compatibility ratings are then modified by viewer sensitivity and use of distance zones to describe the expected relative importance of such changes to the viewer. Specifically, the view was divided into foreground (up to 0.5 mile from viewer), middleground (0.5 to 2 miles from the observer), and background (2 miles to horizon from viewer). Changes were given decreasing weight with increasing distance zone because changes that occur farther from the viewer are generally less apparent and intrusive.

Table 29. Rating System Used to Assess Visual Impact

Modifier	Definition	Rating
Spatial dominance	The prevalent occupation of a space in a landscape by an object(s) or landscape element; can be described in terms of being dominant, co-dominant, or subordinate.	Dominant – The modification is the major object or area in a confined setting and occupies a large part of the setting. Co-dominant – The modification is one of the major objects or areas in a confined setting, and its features are of equal visual importance. Subordinate – The modification is minimal and occupies a minor part of the setting.
Scale contrast	The difference in absolute or relative scale in relation to other distance objects or areas in the landscape; can be described in terms of being severe, moderate, or minimal.	Severe – The modification is much larger than the surrounding objects. Moderate – The modification is slightly larger than the surrounding objects. Minimal – The modification is much smaller than the surrounding objects.
Compatibility	The degree to which landscape elements and characteristics are still unified within their setting; can be described in terms of being compatible, somewhat compatible, or not compatible.	Compatible – The modification is harmonious within the setting. Somewhat Compatible – The modification is more or less harmonious within the setting. Not compatible – The modification is not harmonious within the setting.

Source: Smardon et al. 1988

Light and Glare

Light and glare levels were assessed for temporary and permanent lighting by evaluating the relative change in the intensity of light levels and glare, given existing conditions. Daytime glare and nighttime light and glare conditions were assessed for changes in intensity.

Analysis of Impacts

The degree of change from the existing visual quality without the proposed project to the visual quality with the proposed project is used to determine the level, or intensity, of visual impacts. The discussions of impacts consider the overall viewer sensitivity level, the visual dominance of the features, and the project's combined impact on viewers from the most affected viewing locations depicted in KOPs.

Section Organization

The rest of the section presents steps 2 through 6 of the aesthetic analysis:

1. Assess existing landscape character and visual resources (see Section 4.13.1)
2. Identify the AVE, visual sensitivity of viewers, and KOPs
3. Assess baseline visual quality of the project location
4. Simulate landscape with the proposed project
5. Evaluate change in view, light, and glare characteristics with the proposed project
6. Describe overall impact of the proposed project on visual resources

Assess the AVE, Visual Sensitivity of Viewers, and KOPs

For this analysis, a region including a 3-mile buffer around all project elements was evaluated to encompass locations with potential viewers (details in Section 4.13.1). This AVE was refined through site visits and geographic information system (GIS) viewshed analysis to determine which areas had views of project elements given vegetation, structures, and topography. Proposed project elements located on or near the waterfront would be visible to viewers on the water, but some potentially sensitive areas close to the inland High Head Industrial Basin, including the new Sparrows Point Park and nearby adjacent homes, would not have a physical line of sight to the proposed High Head DMCF based on a "bald earth" viewshed analysis that only includes topographic features and not trees or structures (Figure 46).

Viewer Types and Sensitivities

The most sensitive viewer groups within the AVE would be those using waterfront parks or community recreational areas, waterfront or water-adjacent residences, and waterfront and water-adjacent businesses, such as retail and commercial establishments (Table 30). Recreationists at local nature and historic parks would include families and other groups, walkers, anglers, and birdwatchers. Viewers in these locations would be most likely to be taking in the view for extended periods and be sensitive to changes. However, sensitivity to project elements diminishes with distance from the project, and viewer sensitivity is reduced when existing visual quality is low or moderate. Commercial business users are potentially sensitive to the views, including waterfront restaurant diners, marina users, and transient and resident boaters traversing Sparrows Point. These viewers may spend substantial time on the waterfront, and boaters would potentially have foreground but dynamic (i.e., transitory) views of project elements. The transitory nature of boater views tends to make them somewhat less sensitive than stationary viewers. Low-sensitivity viewers would include those with instantaneous views of the project from I-695 or other roads and those engaged in activities that require dedicated attention, such as sports.

Public comments received about the project reflect how residents in the AVE tend to have a sense of ownership over nearby visual resources and generally desire to maintain the existing landscape. This attitude is typical and tends to reflect how visual resources contribute to sense of place and home-buying choices. Residents expressed concern about the height of the offshore DMCF and the effects that it would have on views, particularly on water views for boaters near North Point and all views of Sparrows Point residences. Further, the community was interested in the aesthetics of the end use of the DMCF. Other concerns included the visibility of containers and any increases in ship traffic and litter.

Figure 46. Bald Earth Viewshed Analysis of High Head Industrial Basin

This viewshed analysis uses a bald earth model that includes only topographic features — not trees or structures — to delineate potential views of High Head Industrial Basin. The orange overlay depicts areas with potential views, based only on topography, and greatly overestimates areas with views. The areas without orange overlay are useful for showing areas that would not have views of the DMCF, including public use areas to the east of the project. Views of the DMCF from the west and other residential neighborhoods would be blocked by structures and landscape features that are not included in this viewshed analysis.

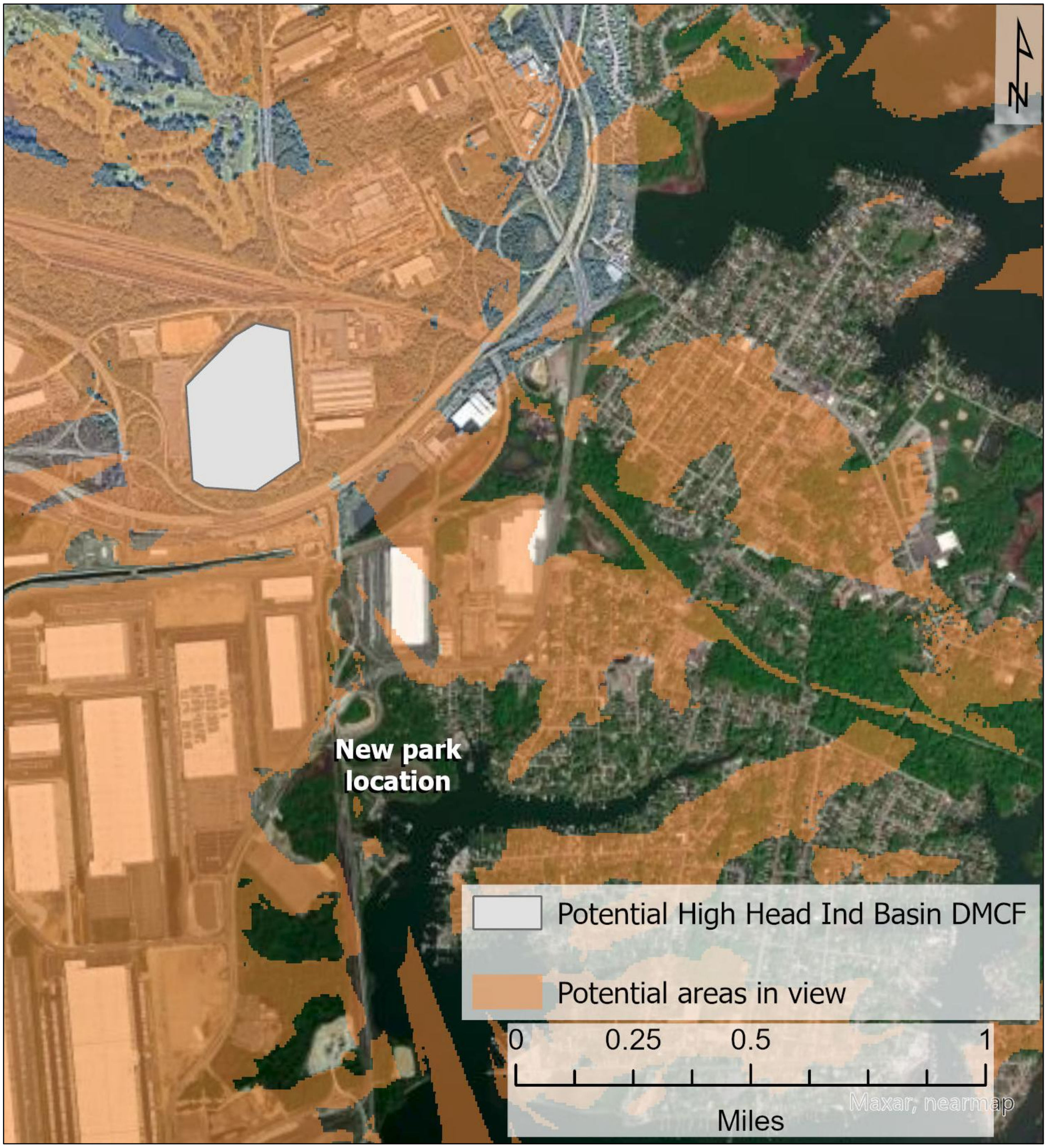


Table 30. Sensitive Viewer Types

Viewer Type (Activity)	Distance of Views	Number of Viewers	Duration	Sensitivity
Recreational boaters	Foreground	Many [1]	Transitory	Moderate
Waterfront park users	Middleground Background	Varies by park	Transitory or Long	Low-High
Waterfront business users (marinas, restaurants)	Background	Many	Transitory	Moderate-High
Residents with views	Middleground Background	Many	Long	Moderate-High

Notes:

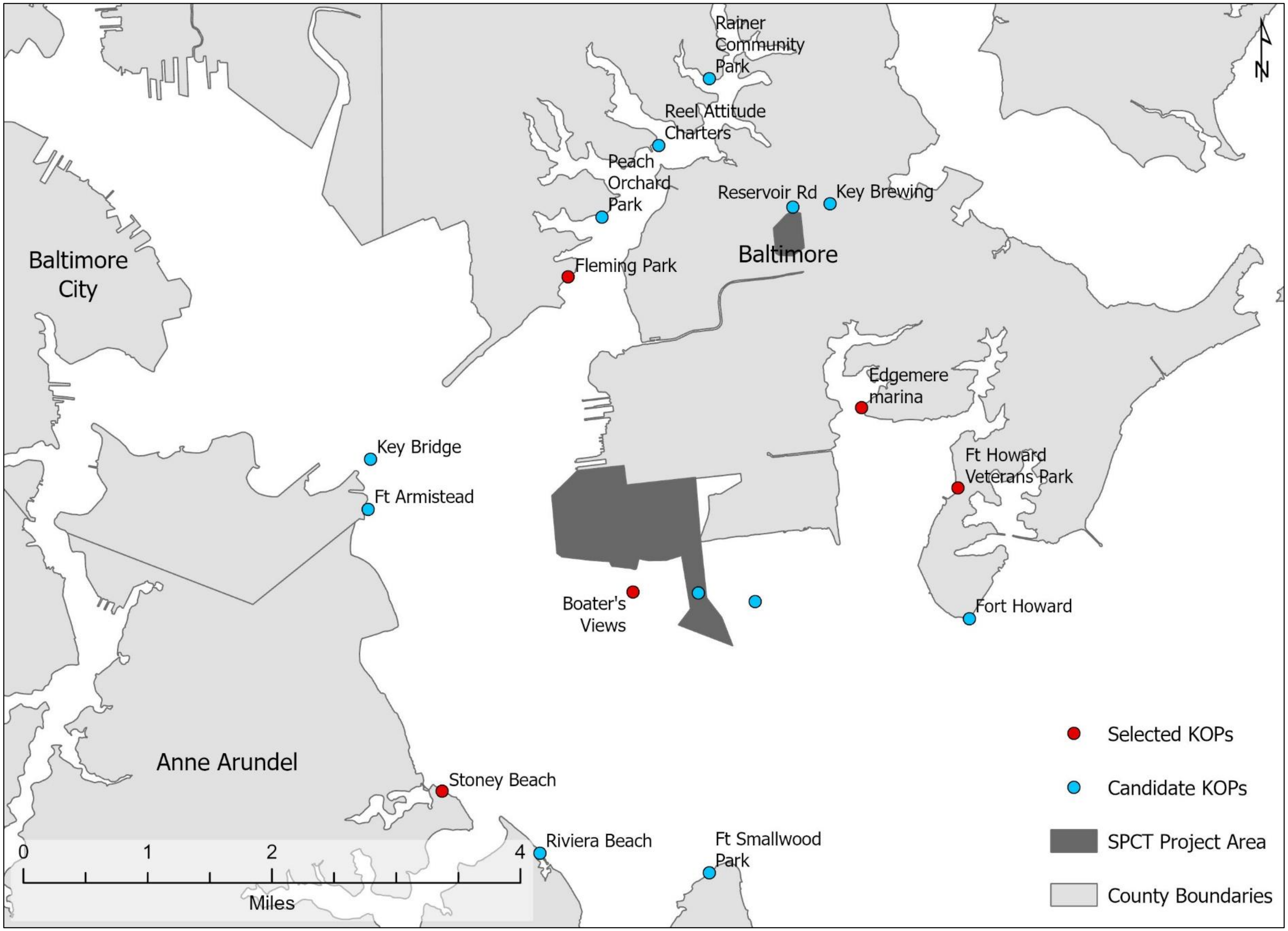
1 – The relative number of boaters in this area is not known, but 182 boats were recorded in the vicinity on a holiday weekend, and 93% of weekend boaters were likely recreational.

Selection of Key Observation Points

Candidate KOPs (cKOPs) were identified to represent potential viewing locations of all major project elements, regardless of the visual prominence of the elements (Figure 47). In the field, cKOP locations were visited and photographed (before leaf out) to document the presence or absence of views of the project sites. Potential project views from roads were similarly documented. KOP photographs from land were taken with a 50-megapixel camera with 42-millimeter equivalent focal length, and photographs from water were taken with a 12-megapixel camera with 45-millimeter equivalent focal length. Both configurations approximate the average view cone and magnification of the human eye. Photographs from land were taken from a 5-foot height, and photographs from water were taken from a 10-foot height, reflecting a viewer on a recreational boat. The direction of view in a photograph was chosen in the field to represent the approximate center of project elements.

The list of sites with views was refined by identifying particularly sensitive viewers, as informed by public comments, expected number of viewers, and types of use. The KOPs selected were determined to be most representative of locations where the project elements had potential to change views for sensitive viewing areas. The chosen locations covered accessible waterfront locations and designated recreational trails. Although specific residences were not represented, public or community gathering sites near homes were meant to represent nearby residences with views of the project. They incorporate viewers of the major project elements, including the High Head Industrial Basin DMCF, any offshore or nearshore DMCFs, and the marine terminal. The water trail represented by the shipping channel in the vicinity of Sparrows Point (Captain John Smith Chesapeake National Historic Trail, Star-Spangled Banner National Historic Trail, and the Chesapeake Gateways Network) was the only designated historic element with views of the proposed project. An in-water KOP was selected to the south of Sparrows Point to represent these boating viewers (Figure 47).

Figure 47. Candidate KOPs and KOPs Selected for Evaluation



Baseline Visual Assessment

According to FHWA guidelines (2015), "Baseline visual quality is the value viewers place on the existing visual character of the affected environment based on their visual preferences. It is defined by the status of natural harmony, cultural order, and project coherence within the AVE."

The views of the project area from residential neighborhoods vary in quality by location and from the KOPs, they are generally of moderately low visual quality due to multiple factors (Table 31). Naturalness is a key contributor to landscape aesthetic preferences, and the percentage of area in forest area and permanent vegetation is often low from the selected KOPs. Further, some natural areas characterized by thin forest patches are of lesser quality than natural elements with larger patches that are common to the region. From a cultural landscape perspective, the high proportion of industrial area in the views tends to be a strong predictor of low public landscape preferences (Sklenicka and Zouhar 2018). Alternatively, maintaining historic integrity of the views is another common preference, but it is difficult to apply in the Sparrows Point area, which may be more accurately classified as a post-industrial reuse site without historic precedence due to the relatively recent removal of steel plant equipment. The water area that is prevalent in many views counteracts these negative effects to some degree, creating a more harmonious view than would otherwise be present.

Table 31. Visual Ratings Based on Preference Research

Quality Level	Environment Type	Description
Very Low	Natural	Little to no natural vegetation, highly altered landscape
Very Low	Cultural	Disordered conditions, lack of design cohesion, perceived as blight (e.g., active landfills, abandoned industrial areas)
Moderate	Natural	A blend of natural and human-built elements; vegetation has average qualities for the region
Moderate	Cultural	Orderly and familiar design elements typical of the region
Very High	Natural	Pristine or unmodified from natural state; harmonious and / or distinct views marked by elevation variation and forests or other permanent vegetation
Very High	Cultural	Visually appealing developed areas or superior design cohesion that blend with natural elements (e.g., historic districts)

Although the landscape in the AVE does not conform to traditional metrics of visual quality in terms of having high-quality natural elements or highly cohesive and attractive cultural elements, the public comments suggest that changes in cultural elements and open water views remain important to some viewers. Research and comments suggest that viewers place particular value on water views, which could increase viewer sensitivity in this context.

Impacts on Visual Quality

The magnitude of aesthetic changes due to the proposed project was assessed first by evaluating landform, vegetation, water, and human-built features in terms of natural and cultural harmony and typical viewer preferences. Given the existing conditions, the project elements are generally consistent with the existing landscape in that they would be introducing human-built features similar to those that already exist in the project area and are not converting much natural vegetation to developed uses, although some patches of vegetation would be removed. The compatibility of scale and elevation is assessed for each alternative in terms of changes, as viewed from KOPs.

A total of seven KOP views were analyzed for visual impacts (Table 32). The project's visual impact ratings are provided per KOP under the action alternative when elements are potentially visible. The Coal Pier Channel DMCF proposed under the Combined Options Alternative was not visually rendered, but a 100-acre DMCF was analyzed and is provided to evaluate the maximum possible impact of any offshore DMCF. Impacts associated with the Coal Pier Channel DMCF would be less than those projected in the renderings for the 100-acre DMCF. The 100-acre DMCF was an option that was considered during this NEPA process but has been eliminated from analysis (see Section 2.2.2 for more details). Refer to Table 29 for definitions of visual impact rating terms.

Table 32. List of KOPs and View Types for Visually Important Project Elements

KOP	View Types of Visually Important Project Elements
1. Stoney Beach	Background view of terminal, portions of Coal Pier Channel DMCF, and other elements on Sparrows Point
2a. Edgemere Marina	Middleground view of terminal (1.6 miles to wharf); no view of Coal Pier Channel DMCF due to land and structures between marina and DMCF
2b. Edgemere Marina	Middleground view of High Head Industrial Basin (1.4 miles to DMCF)
3. Fleming Park	Background view of terminal and middleground view of Coal Pier Channel DMCF (1.7 miles to DMCF) (No-action Alternative and Combined Options Alternative)
4a. Boaters' view	Foreground view of terminal
4b. Boaters' view	Foreground view of Coal Pier Channel DMCF
5. Fort Howard Veterans Park	Background view of terminal

4.13.2.1 No-action Alternative

Visual Quality

No significant aesthetic impacts are anticipated because all changes would be consistent with existing conditions. Buildings would be co-dominant with minimal scale contrast, resulting in high compatibility. Because the specific location and design of buildings cannot be defined at this time, the exact visual character and design of redevelopment are not depicted or analyzed.

Light

No significant light or glare impacts are expected because the projections for additional lights would not noticeably increase existing light levels and therefore would not adversely affect daytime or nighttime viewers in the AVE. Construction activities, maintenance dredging, and directional lighting are likely to be consistent with current conditions and activities and would have little to no impact.

4.13.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Visual Quality

Table 33 presents the permanent elements that are relevant to assessing aesthetics associated with construction of a terminal and shipping channel improvements, and temporary elements deployed during the construction phase are shown in Table 34.

Table 33. Permanent Terminal Features of Aesthetic Importance

Feature	Description	Height	Visual changes
Wharf and berth equipment	– Supports multiple types of equipment and up to nine STS cranes	– Wharf deck has a 14-foot elevation – Active crane is 330 feet above deck – Stored crane has 484 feet above deck (to top of boom)	– Wharf creates a newly developed and ordered shoreline – Added cranes would be about twice as tall as existing shipyard cranes (based on active position)
Railyard	– Rail cars stacked two-containers high with RMG cranes above	– Rail cars about 20 feet high – Gantry crane height is 93 feet	– Increase in footprint of rail activity increases transportation footprint (far from shoreline)
Shipping container yard	– Contains blocks of containers stacked up to six containers high; storage capacity of approximately 50,000 containers total	– Maximum of about 50 feet above deck	– Increase in shipping container storage area near shoreline adds more linear and ordered features
Terminal area	– 5 buildings – 42 high mast lights – Mixed pavement types	– Building height of up to 42 feet above grade or lower – Mast lights 120 feet above grade	– Buildings add more linear and ordered features – Mast lights increase on-site light but are shielded to minimize spill light and glare
Vessel traffic	– Additional 500 container vessels per year	– Maximum container vessel heights of 186 feet but would vary due to cargo	– Vessels in transit and at berth would temporarily add tall built features to the landscape – Some vessel heights would be consistent with existing vessel traffic

Table 34. Temporary Construction Elements of Aesthetic Importance

Element	Description	Duration	Visual changes
Dredging	Performed mechanically using waterborne equipment and a clamshell bucket and using landside equipment where possible and practical	3 years with expected 8-month dredging period in each	Equipment would be periodically positioned in water close to historic boat trails
Construction lighting	Light plants would be used to illuminate work zones near dawn and dusk to enable a full workday. Lighting may be directional for short periods	2.5 years	Light plants could create light spillover and glare into sensitive areas, depending on whether trees or buildings are present between construction site and receptors
Construction equipment	Heavy equipment (e.g., mobile cranes, pile drivers) would be used during various phases of terminal construction	2.5 years	Equipment may be positioned near the water at times and be visible to nearby boaters

The majority of operational project elements of the wharf, buildings, shipping container yard, and railyard are similar in scale and form to existing features on Sparrows Point. In general, visual impacts of common elements would have minimal impacts due to the low or moderate visual impact ratings for sensitive viewers. Most project elements would have similar spatial dominance (be co-dominant), low scale contrast, and be largely compatible with existing structures. Many visual changes would be in the background view for many viewers or are compatible with existing low-moderate visual quality in the AVE.

The largest visual impact of the common elements would result from the STS cranes that would be positioned at the wharf. They would create minimal or moderate scale contrast with existing structures and equipment for most views and have severe scale contrast for boaters. The cranes are about twice the height of existing cranes during operation, which are among the tallest features in the landscape. Additionally, up to nine cranes would be grouped at the wharf, creating the potential for spatial dominance. These cranes would be within the foreground view for boaters, the middleground view of some residential areas in Baltimore County, and in the background views for shore viewers in Anne Arundel County and from Fort Howard Park to the east of the project site. The KOP analysis that follows provides details on visual impact ratings of the STS cranes.

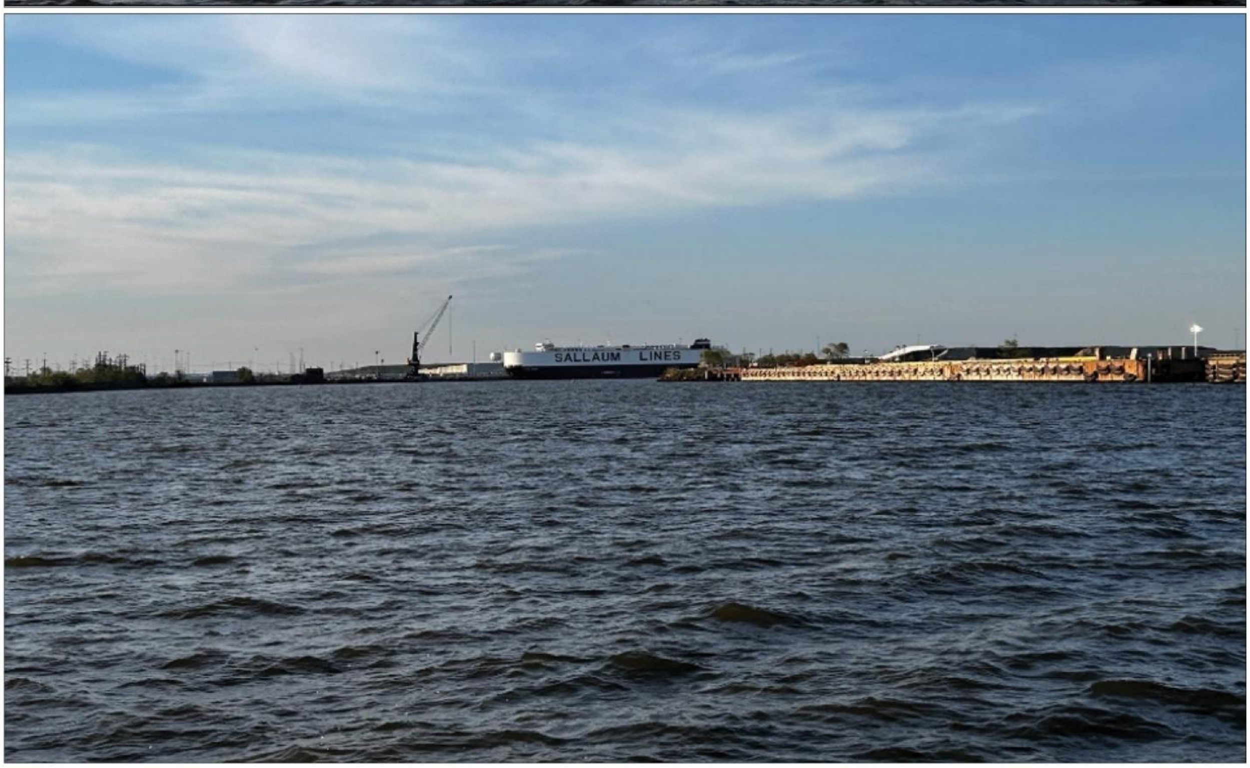
The shipping container yard would be close to the shoreline but would be co-dominant with existing land uses because, at an estimated 153 acres, it would be similar in size to the roll-on / roll-off (Ro-Ro) parking just north of the proposed container yard. Both elements create large patches of uniform land usage consistent with this large industrial site. The shipping container yard would have shoreline frontage of around 2,000 feet and a maximum height of 60 feet of stacked containers. This height would be slightly higher than existing buildings and structures, including a currently leased warehouse on the west side of the peninsula (50-feet high) that is similarly close to shore and industrial facilities (Photograph 15). The land uses adjacent to the shore would also be consistent and compatible with existing structures (Photograph 16).

Photograph 15. Existing Elements on Sparrows Point

These two photographs show height variability as viewed from a boat. The top photograph shows a 50-foot-high warehouse, and the bottom photograph shows an industrial facility with silos that are about 150 feet in height.

Photograph 16. Existing Shoreline Conditions on the South Side of Sparrows Point

These photographs show the southern shoreline conditions as seen from a boat. The top photograph shows a broad view of the southern shoreline. The bottom photograph shows the view toward the entrance of the proposed terminal.



Boaters transiting within a half mile of the shoreline in the southern part of Sparrows Point would have a foreground view of multiple proposed project elements but would have low sensitivity to the transient views they encounter. Given the land uses and patterns that would be encountered by boaters traversing waters near Sparrows Point, the proposed project elements are compatible with existing uses. The existing shoreline of Sparrows Point is a patchwork of natural vegetation (primarily thin strips of trees and shrubs), bulkheads, a wharf, industrial facilities of varying heights, and other features. The proposed shipping container yard would convert a part of the shoreline from a thin strand of trees to an ordered and developed use. The scale contrast of the STS cranes for boaters would be severe, but impacts are projected to be minimal given the transient nature of the view from boats and existing low visual quality.

KOP Visual Impact Assessment

The visual impact ratings of the common elements (Table 35) suggest that most project elements would have low visual impact (Figure 48 through Figure 51). The most notable visible change is the addition of the STS cranes, which have low-moderate scale contrast from all views except the transient boater view (KOP 4a), which has a severe scale contrast but low viewer sensitivity (Figure 50, Table 35). For the Stoney Beach view (KOP 1), the cranes would be spatially dominant and create a moderate scale contrast, given that they are taller than existing features. The viewers from Stoney Beach are considered to have moderate sensitivity due to the unobstructed long water view of Sparrows Point. However, given that the full landscape view incorporates many industrial elements such as the Herbert A. Wagner and Brandon Shores generating stations with tall stacks (see Photograph 5 in Section 4.13.1), all common elements, including STS cranes, were deemed somewhat compatible. Edgemere Marina is considered to have moderate sensitivity due to substantial use by recreationists. The STS cranes would be visible from the marina but would be compatible with the existing visual character (Figure 49). Fleming Park was judged to have low to moderate sensitivity because the view towards visually prominent project elements (terminal and DMCF) is dominated by a foreground view of I-695 support structures. Boaters traveling near the terminal may experience severe scale contrast due to the height of the STS cranes in their foreground view, but their sensitivity would be low to moderate due to the typical transitory nature of the views and the character of the full length of the shoreline being traversed that includes many industrial and commercial structures (Figure 50). From the Fort Howard Veterans Park view (KOP 5), the STS cranes are equal in height to an existing structure (Figure 51) but increase the percentage of the view with tall built structures, creating moderate scale contrast.

Table 35. Visual Impact Ratings from KOPs with Views of Common Elements

KOP	View Type	Spatial Dominance	Scale Contrast	Compatibility	Viewer Sensitivity
1. Stoney Beach	Background	Dominant (STS cranes) Co-dominant (all other elements)	Moderate	Somewhat compatible (All elements)	Moderate
2a. Edgemere Marina – towards terminal	Middleground	Subordinate	Minimal	Compatible	Moderate
3. Fleming Park	Background – terminal	Co-dominant	Moderate	Compatible	Low to moderate
4a. Boater view – terminal	Foreground	Co-dominant (for dynamic view)	Severe (STS cranes)	Somewhat compatible	Low to moderate
5. Fort Howard Veterans Park	Background	Co-dominant	Moderate	Compatible	Moderate

Light

The proposed common elements would create new sources of light in the AVE, but the additive effect would be minimal given existing conditions. The existing very high level of brightness would tend to mask effects of increased light, and buildings, vegetation, and landforms would block light to some residential and commercial areas. The 42 new mast lights on about 150 acres would almost double the number of high mast lights and represent 23% more acreage of lit area on Sparrows Point. Even though this new lighted area represents a proportionally large increase, it would not necessarily be noticeable given the existing high nighttime light intensities that are already 27 times the brightness of a natural sky (see Figure 45 in Section 4.13.1). Similar lighting would also be expected for the expansion of warehouses and Ro-Ro facilities under the No-action Alternative.

The daytime glare is currently moderate due to light-colored pavements and buildings and adjacent water bodies providing natural sources of glare. The effect of new buildings and infrastructure on daytime glare would be minimal due to these existing sources of glare. In the project area, there is little vegetative cover to mitigate reflectance from lightly colored buildings and land / road surfaces, and the common elements would have little effect on this screening. Additionally, building windows would be minimal. Vehicle windows on-site would be likely to produce glare if sunlight or artificial light reflects off surfaces. Nighttime glare would be moderate from existing lighting, particularly where floodlights are used. The additional lighting would generate some effects on nighttime glare because it would be masked by existing sources of glare and minimized through the use of downward-directed lights and matte finishes on buildings and equipment.

Figure 48. Views from Stoney Beach (KOP 1) toward Sparrows Point Showing Existing Conditions and Proposed Project Conditions

A 100-acre offshore DMCF is depicted in the image showing proposed project conditions to estimate maximum possible impacts of the proposed Coal Pier Channel DMCF.

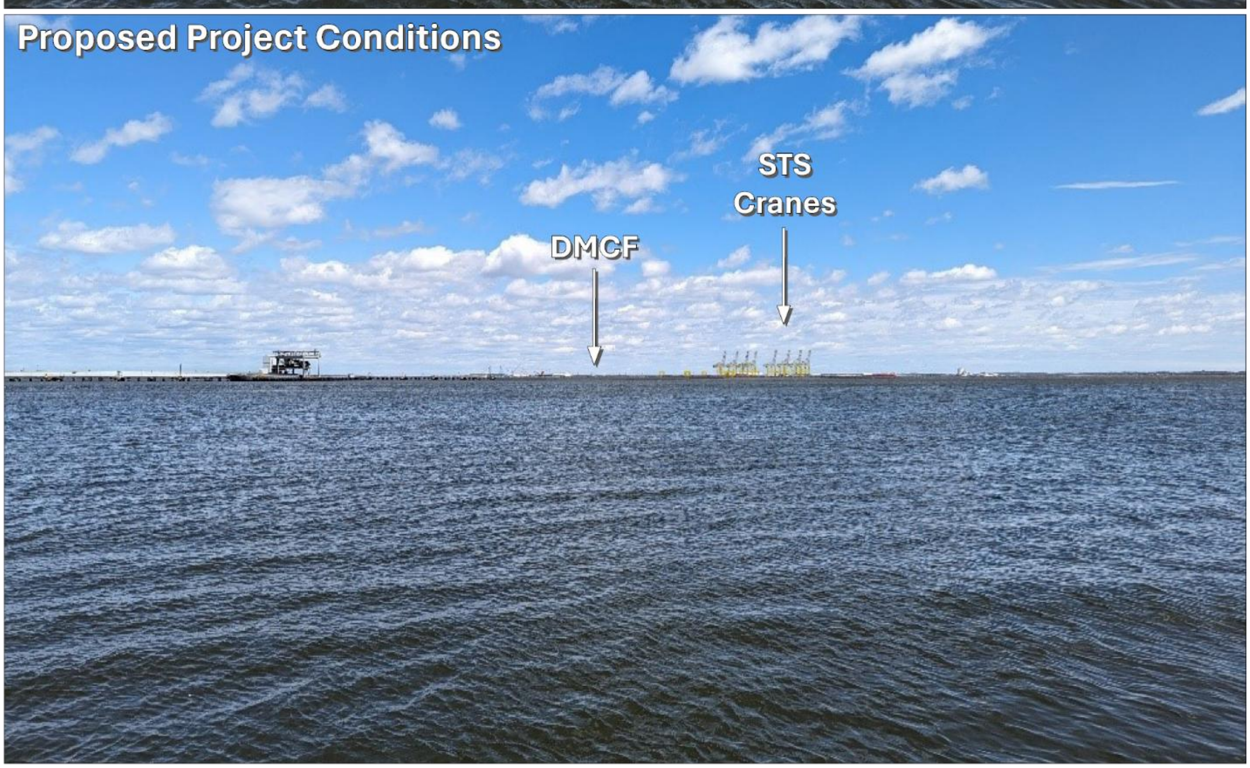
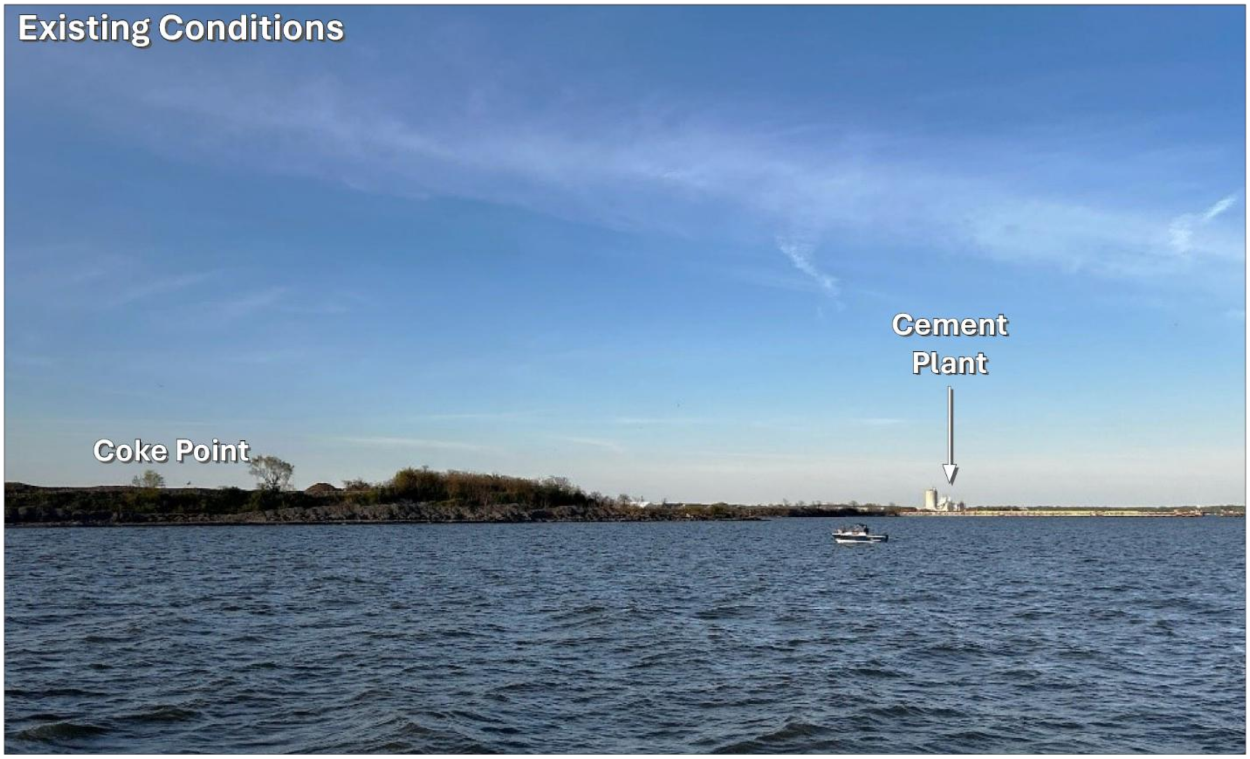


Figure 49. View from Edgemere Marina (KOP 2a) toward Sparrows Point Showing Existing Conditions and Proposed Project Conditions

Figure 50. Boater's View (KOP 4a) toward Sparrows Point Showing Existing Conditions and Proposed Project Conditions



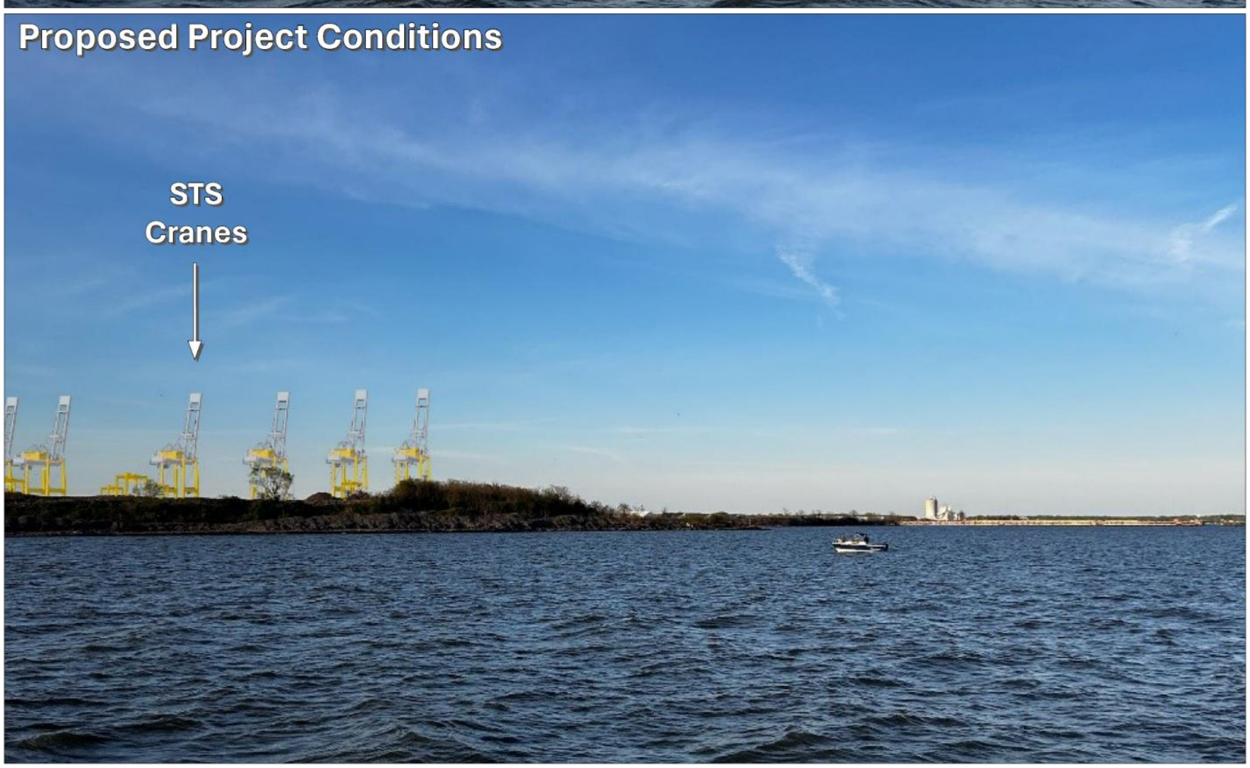
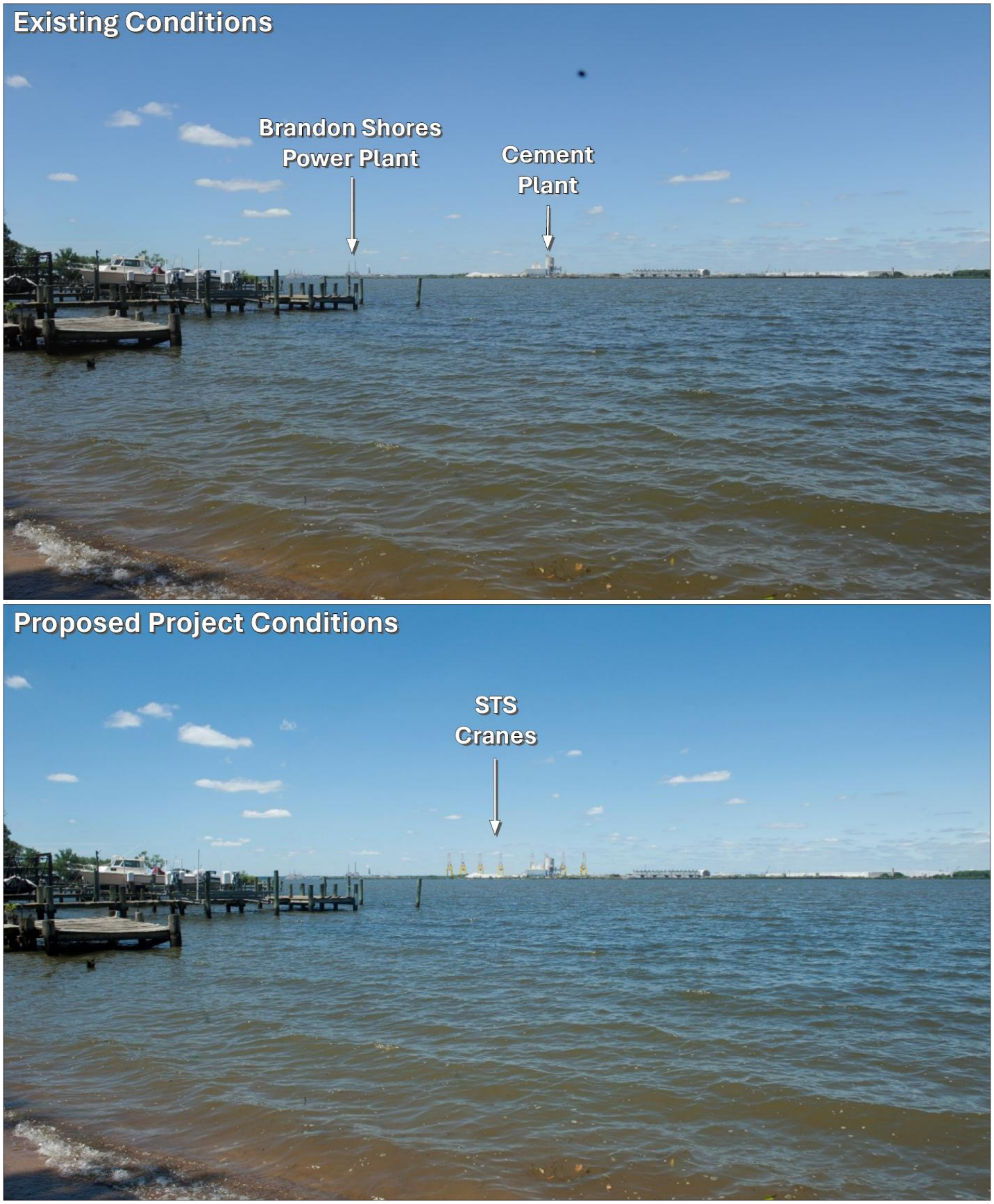


Figure 51. Fort Howard Veterans Park (KOP 5) View toward Sparrows Point Showing Existing Conditions and Proposed Project Conditions



4.13.2.3 Combined Options Alternative – Dredged Material Placement

Visual Quality

The impacts from these activities are minimal, given the low visual impact ratings from the KOPs (Table 36).

Table 36. Visual Impact Ratings from KOPs with Views of Onshore and Offshore DMCFs

KOP	View Type	Spatial Dominance	Scale Contrast	Compatibility	Viewer Sensitivity [1]
1. Stoney Beach	Background (Coal Pier Channel DMCF)	Co-dominant	Minimal	Somewhat compatible	Moderate
2b. Edgemere Marina	Middleground (High Head Industrial Basin DMCF)	Co-dominant	Moderate	Somewhat compatible	Moderate
3. Fleming Park	Middleground (Coal Pier Channel DMCF)	Co-dominant	Minimal	Somewhat compatible	Low to moderate
4b. Boater View	Foreground (Coal Pier Channel DMCF)	Co-dominant	Minimal	Somewhat compatible	Low to moderate

Notes:
1 – See Section 4.13.2.2 for explanation of viewer sensitivities

High Head Industrial Basin DMCF

Although a DMCF at the High Head Industrial Basin has some potential for spatial dominance given the increase in elevation, the site has limited visibility to sensitive viewers due to the existence of trees, buildings, trainyards, landfills, and other development that would block views. From the Fleming Park KOP, the proposed High Head Industrial Basin DMCF site would be about 1.7 miles away, but views would be blocked by Greys Landfill and the I-695 bridge structure over Bear Creek. Further, a building close to the High Head Industrial Basin DMCF has a height of 50 feet, suggesting the DMCF would be spatially co-dominant with minimal scale contrast, and therefore, does not exhibit scale incompatibility. Buildings and trees would limit views from Edgemere Marina. Viewers on I-695 would be able to see the site, but given the short duration of viewing and the dominance of industrial and transportation land uses along the highway (Photograph 17), vehicle drivers and passengers are not considered sensitive.

Coal Pier Channel DMCF at Sparrows Point

For the Coal Pier Channel DMCF, visual impacts would be minimal. The 15-foot height of the facility would not have high height contrast with other elements on Sparrows Point, such as existing warehouses that are generally 42 feet. The external side of the perimeter sand dike that surrounds the DMCF would be covered with armoring stone, which would be a new type of shoreline in this part of Coke Point, changing the color and form of the shoreline. Therefore, the dike around the site would differ from much of the existing shoreline that contains slag, large stone, and concrete shoreline stabilizing fill, small trees, and scrubby vegetation. The effect on views from Stoney Beach (KOP 1) would have minimal scale contrast (see Figure 48). The effect on Fleming Park views (KOP 3) is likely to be nominal, given the partially obstructed view in this direction due to I-695 in the foreground of this view. Boaters (KOP 4) would have transient foreground views of the DMCF.

Existing Nearshore MPA DMCFs

No new visual impacts would occur from the use of the existing MPA DMCFs due to consistency with existing conditions.

Existing Ocean Disposal Site

No new visual impacts would occur from the use of the NODS due to consistency with existing conditions.

Photograph 17. View toward High Head Industrial Basin from Westbound I-695

KOP Visual Impact Assessment

Visual impacts were found to be minimal (Table 36). From Stoney Beach (KOP 1), the Coal Pier Channel DMCF would be somewhat compatible with the existing landscape (Figure 48). The Coal Pier Channel DMCF would be visible from Fleming Park (KOP 3) but would be co-dominant with existing landscape features (Figure 52). Boaters traversing the waters around Sparrows Point (KOP 4) would have a foreground view of the Coal Pier Channel DMCF but would have minimal scale contrast with existing features (Figure 53). The Coal Pier Channel DMCF would not be visible from KOPs 2 or 5. At Edgemere

Marina (KOP 2), the High Head Industrial Basin DMCF may be visible but would be somewhat compatible with the existing landscape elements in the area (Figure 54).

Light

Temporary lighting added during construction and material placement in the DMCFs would add light sources that would be directional and could create increases in nighttime light and glare, particularly during dawn, dusk, and early evening hours. The Turner Station neighborhood is at a middleground distance from the proposed offshore DMCFs and the High Head Industrial Basin DMCF.

High Head Industrial Basin DMCF

For the High Head Industrial Basin DMCF, light and glare are likely to be blocked by trees and buildings, leading to no impact.

Coal Pier Channel DMCF at Sparrows Point

Temporary lighting added during construction and material placement in the Coal Pier Channel DMCF would add light sources that would be directional and could create increases in nighttime light and glare, particularly during dawn, dusk, and early evening hours. The temporary periods of additional nighttime light and glare could be noticeable by boaters, but given the existing sources of floodlights on Sparrows Point, the effect would not be significant. Similarly, the Turner Station neighborhood, with middleground views, may notice the directional lights, but at a distance of over 1.7 miles from the closest edge of the project, the effects are anticipated to be minimal. Light to the Edgemere neighborhood would be blocked by structures and vegetation on land. Given the distance of sensitive viewers and existing light levels, effects are not anticipated to be significant.

Existing Nearshore MPA DMCFs

No new impacts from light would occur from the use of the existing MPA DMCFs due to consistency with existing conditions.

Existing Ocean Disposal Site

No new impacts from light would occur from the use of the NODS due to consistency with existing conditions.

Figure 52. View from Fleming Park (KOP 3) toward Sparrows Point Showing Existing Conditions and Proposed Project Conditions

A 100-acre offshore DMCF is depicted in the image showing the proposed project conditions to estimate the maximum possible impacts of an offshore DMCF.

Figure 53. Representative Boater's View (KOP 4b) toward Coke Point Showing Existing Conditions and Proposed Project Conditions

A 100-acre offshore DMCF is depicted in the image showing the proposed project conditions to estimate the maximum possible impacts of an offshore DMCF.

Figure 54. View from Edgemere Marina toward High Head Industrial Basin (KOP 2b) Showing Existing Conditions and Proposed Project Conditions

4.13.2.4 Preferred Alternative – Dredged Material Placement

The impacts on aesthetics / viewshed from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except impacts associated with the Coal Pier Channel DMCF would not happen. Furthermore, although the High head Industrial Basin DMCF would be 10 feet higher than under the Combined Options Alternative, the impacts would remain essentially the same. As noted in Section 4.13.2.3, the site has limited visibility to sensitive viewers due to the existence of trees, buildings, trainyards, landfills, and other development that would block views. The elevation at grade is +8 to +12 feet, so the +40 feet elevation of the DMCF would still only be approximately 30 feet above existing grade, below the height of a nearby building that is 50 feet high.

4.13.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on aesthetics and light include those that would result in changes to the landscape or addition of artificial light.

- Activities associated with Key Bridge debris removal and reconstruction would blend in with the industrial character of the area and are not expected to have significant impacts on the community (Corps 2024a).
- Ongoing maintenance dredging activities, including those in Curtis Creek, cause similar temporary impacts to those described for the SPCT project dredging activities. Dredging equipment could be periodically positioned in water close to historic boat trails or be visible from certain neighborhoods, depending on the location of the dredging; however, these impacts are localized and temporary.
- Similar to the SPCT project, impacts from the Bear Creek Superfund Site activities would not result in significant impacts on aesthetics or light. Some temporary impacts may occur to sensitive viewers, but no new permanent structures would be constructed or installed; therefore, there would be no long-term impacts on aesthetics or light.

The SPCT project would not result in significant aesthetic or light impacts. Sensitive viewers, including residents, waterfront businesses and patrons, waterfront park users, and boaters, were considered. New terminal and DMCF construction would result in new, permanent structures that would be largely compatible with current aesthetic conditions and would result in less than significant impacts. Terminal and DMCF construction and terminal operations would add new light sources, but given existing conditions, the incremental effect would be minimal. Because the Preferred Alternative does not include the Coal Pier Channel DMCF, the Preferred Alternative would have fewer impacts on the viewshed than the Combined Options Alternative. The proposed SPCT project would not significantly impact aesthetics or light in the project area; therefore, the SPCT project would not make a substantial contribution to the impacts of planned actions and environmental trends on aesthetics.

4.14 Recreation

4.14.1 Affected Environment

The areas surrounding the project area support a rich array of water-based recreational activities, including boating, kayaking, paddling, and fishing. A 2023 vessel traffic survey (EA 2023) classified the boating activity near the project area during one summer weekend day, holiday weekend day, and weekday. The survey indicated that recreational boaters commonly use the Patapsco River and Bear Creek. Although most of the boats observed near the project area were primarily in transit between different locations, some could be observed fishing or sailing throughout the Patapsco River and Bear Creek. Recreational boats observed included both pleasure boats and personal watercraft. Several commercial charter boats, tugboats, and Coast Guard boats were also observed traveling through the Patapsco River during the survey.

There are several high-traffic boating destinations in the general vicinity of the project area, including Fort Howard Park, North Point State Park, and Hart-Miller Island State Park, which is accessible exclusively by private boat. Hart-Miller Island State Park is split into the north cell and the south cell. No recreation activities occur in the north cell. Instead, this portion of the island is managed as natural habitat, including wetlands, grasslands, and shallow water habitats that support a variety of wildlife. The south cell has been developed to support a variety of recreational opportunities and wildlife. Hart-Miller Island State Park offers both day-use and camping opportunities for visitors. Common activities at the park include hunting in lottery-assigned waterfowl blinds, fishing, hiking, and wildlife viewing. Visitors can launch boats from Rocky Point Park or the various boat ramps located throughout the area to access the island.

Other county and municipal local parks offer waterfront access for boats, paddle craft, or both, including Fleming Community Center and Park, Turner Station Park, Watersedge Park, Concrete Homes Park, Merritt Point Park, and Fort Armistead. Additionally, the Canton Kayak Club, located at Anchor Bay Marina, offers kayak rentals and classes less than one mile from the project area. County and municipal parks near the project area provide the public with green spaces along the water and water access in the form of ramps, jetties, and fishing piers.

Three National Park Service water trails have been identified near the project area (Figure 55). The Patapsco River from Fort McHenry National Monument and Historic Shrine to Fort Howard is designated as a High Potential Route along the Star-Spangled Banner National Historic Trail. The trail as a whole tells the story of the War of 1812 in the Chesapeake Bay Region, and Fort Howard marks the location of the British troop landing during their invasion of Baltimore during the War of 1812.

The Captain John Smith Chesapeake National Historic Trail is the nation's first national historic water trail and interprets the past and present natural history of the Chesapeake Bay. The trail includes the entire Chesapeake Bay and many of its tributaries. The trail follows routes through the Patapsco River and Old Road Bay.

The Chesapeake Gateway Trails Network is a network of partners and places that provide visitors with opportunities to enjoy, learn about, and help protect the Chesapeake Bay watershed. There are several sites along the network located throughout the Chesapeake Bay and its tributaries. The Patapsco River leads to several network locations in Baltimore. The network also includes North Point State Park to the east of the project area.

Subsistence fishing is carried out primarily for personal or community consumption, rather than recreational or commercial purposes. Subsistence fishing can be an essential source of protein for individuals, families, or communities and support cultural practices. Subsistence fishing likely occurs in Maryland, but subsistence fishing is not distinguished from recreational fishing by natural resource managers, making it difficult to identify those who may be dependent upon fish for a portion of the household food supply. A study of subsistence fishing on the Anacostia and Potomac Rivers in the

Washington, DC metropolitan area determined that people who partake in subsistence fishing may be from food-insecure homes, but the primary reasons for fishing were to enjoy the outdoors, relax, and be among other fishers (Fiske and Calloway 2020). Fish caught recreationally were commonly shared with others, including food-insecure households, in the community. A similar study has not been performed to investigate subsistence fishing on the Patapsco River, but it is assumed that fishers in the Baltimore area fish for similar reasons.

Generally, subsistence fishing in Maryland requires a fishing license, the same as recreational fishing (Baker and Tracy 2023); however, Maryland also has areas where fishing is permitted year-round without a fishing license (MDNR 2024f). Figure 55 shows the four license-free fishing areas near the project area, one location in Baltimore County and three locations in the Baltimore Harbor in Baltimore City; these locations are approximately 19.5 and 10.0 nautical miles from the project area, respectively. Although people could engage in subsistence fishing anywhere fishing is permitted, these license-free areas are the most likely locations.

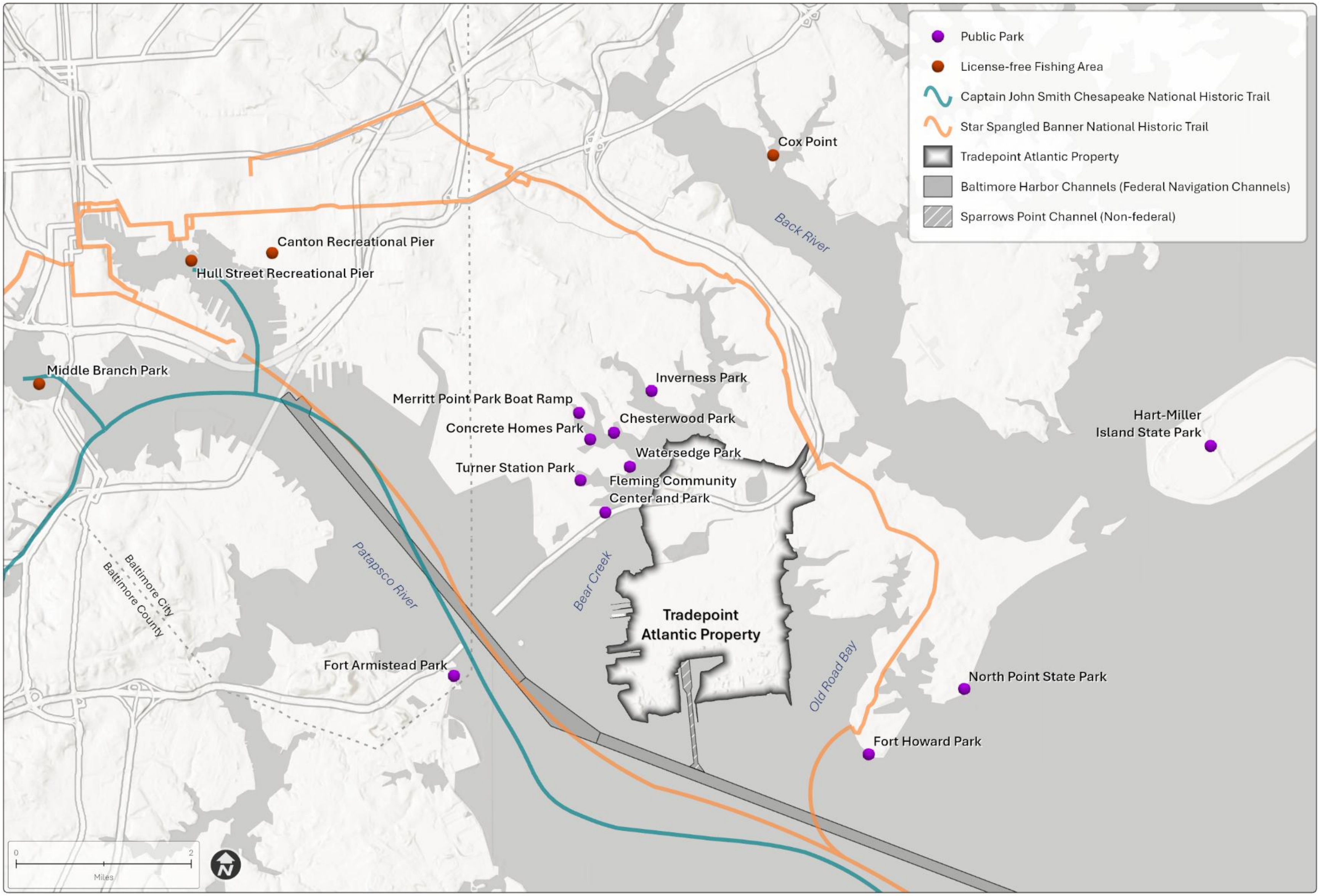
4.14.2 Environmental Consequences

This discussion of impacts on recreation is limited to the ability of the public to engage in water-based recreational activities, including boating, kayaking, paddling, and fishing. The potential impacts on recreation from changes to the scenery and noise associated with the SPCT project are discussed in Sections 4.13 and 4.16.

4.14.2.1 No-action Alternative

Recreation activities would continue — boat traffic would proceed as normal, and the surrounding parks, boat landings, water trails, and fishing locations would continue to be used by the public. Boating activities would continue to be affected by commercial operations and maintenance dredging of the Sparrows Point Channel; however, these impacts on recreation would be temporary. Potential future development and associated construction at Coke Point would likely not include in-water work and would therefore not have an impact on water-based recreation.

Figure 55. Parks Near the Project Area with Water Access



4.14.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Recreational activities would be affected during construction and initial dredging activities, as well as during periodic maintenance dredging. Exclusion zones would be established during construction and dredging activities to protect the safety of boats using areas in the vicinity of the project. Private vessels, including those traversing the Star-Spangled Banner National Historic Trail, the Captain John Smith Chesapeake National Historic Trail, and the Chesapeake Gateway Trails Network in the Patapsco River, would need to navigate the Patapsco River accordingly, which could temporarily alter their ability to visit certain recreational sites. Exclusion zones would only be in place as long as necessary to ensure public safety. In-water activities would also increase turbidity in the water and could create additional boat wake, which could impact recreational activities such as fishing. Additional dredging activities associated with the project would increase the vessel traffic in the Patapsco River and force recreational boaters to navigate the channel more diligently. The channel currently experiences heavy vessel traffic with more than 2,500 vessel calls documented at the Port in 2021 (USDOT 2024b). Once constructed, the proposed terminal would receive 500 vessels per year of which 150 vessels would be new to the Port.

Subsistence fishing at license-free fishing areas would not be directly affected by construction of the terminal or dredging of Sparrows Point Channel. Indirect impacts on fish from noise would also not interrupt subsistence fishing due to the distance of the fishing areas to the project area, as well as physical barriers (development) that would block the underwater transmission of noise (see Figure 30 through Figure 41). Subsistence fishing that occurs closer to the project area could be affected by construction and dredging activities (including noise), but these impacts would likely be minimal.

4.14.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

The High Head Industrial Basin is not located near recreational areas, and work in this location would not affect water-based recreation. Any impacts at the basin would be limited to undesirable views and noise caused by construction equipment, and those impacts are discussed in Sections 4.13 and 4.16. Installation of the temporary outfall and diffuser would occur in the Patapsco River. If an exclusion zone is needed for the construction and subsequent removal of this temporary structure, the impact on recreational activities in the river would be limited in area and duration, less than that described in Section 4.14.2.2.

Coal Pier Channel DMCF at Sparrows Point

The Coal Pier Channel is not currently used for recreational boating, and the dike for the DMCF would be nearly flush with the existing shoreline; therefore, the DMCF would not reduce the area available for recreational boating. The majority of the river channel would remain available for boating. An exclusion zone would exist during construction, and boats would need to navigate the Patapsco River accordingly, which could temporarily alter their ability to visit certain recreational sites along the western shore of Coke Point. Exclusion zones would only be in place as long as necessary to ensure public safety.

Existing Nearshore MPA DMCFs

No new impacts on recreation would occur because the MPA DMCFs are existing placement sites.

Existing Ocean Disposal Site

No new impacts on recreation would occur because NODS is an existing USEPA-designated ocean placement site.

4.14.2.4 Preferred Alternative – Dredged Material Placement

The impacts on recreation from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except impacts associated with the construction of the Coal Pier Channel DMCF would not occur.

4.14.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on recreation include those that would result in changes to recreation opportunities.

- The demolition and reconstruction of the Key Bridge will result in closure of the construction area to recreational boating and fishing. The Corps (2024a) noted that "safe boating access through the work zone will be maintained during", except for periodic short-term closures.
- Impacts from the maintenance dredging, including those at Curtis Creek, would only have short-term impacts, excluding recreational boating and fishing in the area during maintenance dredging activities.
- Activities for dredging and capping at the Bear Creek Superfund Site would similarly only have short-term impacts, excluding recreational boating and fishing in the area during construction.
- Trends in temperature and weather patterns will likely change the fish communities, which could affect recreational and subsistence fishing by changing the abundance and species composition.

Impacts on recreational boating, fishing, and subsistence fishing from the SPCT project would be temporary and localized during dredging and construction, as well as during maintenance dredging. Exclusion zones and increased vessel traffic during construction would temporarily alter the ability of recreational and subsistence vessels to visit specific areas in the vicinity of the project footprint. Increased turbidity during construction and dredging could also impact fishing. Recreational boating, fishing, and subsistence fishing at license-free fishing areas would not be permanently affected by the SPCT project. Because the Preferred Alternative does not include the Coal Pier Channel DMCF, the Preferred Alternative would have fewer impacts on recreation than the Combined Options Alternative. The proposed SPCT project would not significantly impact recreation or subsistence fishing in the project area; therefore, the SPCT project would not make a substantial contribution to the impacts of planned actions and environmental trends on recreation or subsistence fishing in the region.

4.15 Air Quality

4.15.1 Affected Environment

The **Clean Air Act** is a comprehensive federal law enacted in the United States in 1970 (and amended in 1977 and 1990) to regulate air pollution and protect air quality. It authorizes the USEPA to establish national standards for air quality, limit emissions of hazardous air pollutants from industrial sources, and enforce compliance to safeguard public health and the environment.

The **National Ambient Air Quality Standards (NAAQS)** are pollution thresholds set by the USEPA under the Clean Air Act to protect public health and the environment. These standards specify allowable concentrations of certain pollutants in outdoor air, focusing on primary standards (protective of human health, especially vulnerable populations) and secondary standards (protect of public welfare, including ecosystems, visibility, crops, and buildings). NAAQS apply to six common pollutants known as criteria pollutants.

Criteria pollutants are a group of six common air pollutants regulated under the NAAQS due to their potential to harm human health and the environment. The criteria pollutants are particulate matter (PM_{10} and $PM_{2.5}$), ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead (Pb).

Under the Clean Air Act (42 USC 7401-7671q), the USEPA establishes the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for six pollutants of concern, called criteria pollutants — carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than or equal to 10 micrometers (PM_{10}), particulate matter less than or equal to 2.5 micrometers ($PM_{2.5}$), and lead (Pb). NAAQS represents the maximum background levels of pollutants that are considered safe with an adequate margin of safety to protect public health, including sensitive populations, such as children and the elderly, and human welfare. The SPCT project site is located within the Metropolitan Baltimore Intrastate Air Quality Control Region (AQCR). The AQCR includes areas of Baltimore City and the surrounding Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties. The AQCR is designated as moderate nonattainment under the 2008 ozone NAAQS (75 parts per billion [ppb]). The region achieved a clean data determination based on three consecutive years of monitored ambient air data below the standard, but as of the time of this Final EIS, Maryland has not submitted a State Implementation Plan (SIP) update or request to redesignate the AQCR to maintenance under the 2008 standard. Under the 2015 ozone NAAQS (70 ppb), the AQCR is currently designated as serious nonattainment[2], which has lower General Conformity regulatory applicability thresholds for ozone precursor pollutants (VOC and nitrogen oxides [NO_X]).

Within the AQCR, portions of Anne Arundel and Baltimore Counties adjacent to Baltimore City are classified as nonattainment for the 2010 SO_2 NAAQS. A clean data determination was issued in December 2022 (USEPA 2022), but the areas have not yet been designated as maintenance[3]. This AQCR is designated maintenance for the 2006 24-hour $PM_{2.5}$ NAAQS (35 microgram(s) per cubic meter [$\mu g / m^3$]). In February 2024, USEPA strengthened the $PM_{2.5}$ NAAQS by lowering the annual primary standard from 12 to 9 $\mu g / m^3$. However, the Metropolitan Baltimore AQCR is not among the regions projected by USEPA to be unable to meet the 9-microgram standard. See Table 37.

[2] Effective August 1, 2024.

[3] On September 6, 2024, the USEPA proposed to determine that attainment occurred by September 12, 2021.

Table 37. Federal Attainment Status – Baltimore County

Pollutant	Classification
O_3 8-Hour (2008)	Nonattainment (moderate, with clean data determination)
O_3 8-Hour (2015)	Nonattainment (serious – redesignated from moderate August 1, 2024)
PM_{10} (1987)	Attainment
$PM_{2.5}$ (2006)	Maintenance
CO	Attainment
NO_2 (2010)	Attainment
SO_2 (2010)	Nonattainment (with clean data determination accepted by the USEPA)
Lead	Attainment

Source: USEPA 2025

Notes:

Data are current as of May 31, 2025, for Baltimore County Air Basin.

O_3 = ozone; PM_{10} = particulate matter smaller than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter smaller than or equal to 2.5 microns in diameter; CO = carbon monoxide; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide

Maryland currently operates 24 ambient air monitoring stations around the state that measure ground-level concentrations of criteria pollutants, air toxics, meteorological parameters, and research-oriented parameters (MDE 2023). The Ambient Air Quality Monitoring Program within the Air and Radiation Administration of MDE maintains this network of monitoring stations (MDE 2023).

In areas currently designated as nonattainment or maintenance, proponents of federal actions[4] are required to determine if a proposed action would increase emissions of nonattainment or maintenance criteria pollutants by more than *de minimis* amounts under General Conformity (40 CFR 93.150–93.160). General Conformity ensures that federal actions do not cause violations of the NAAQS or interfere with a state's timely attainment of the NAAQS and conforms with the SIP. General Conformity applies to a federal action if: (1) the action is not "presumed to conform" or not previously included in SIP emission budgets, or (2) the action is not explicitly exempt in the regulation, or (3) the total direct and indirect emissions exceed *de minimis* levels. If emissions of any criteria pollutant exceed *de minimis* levels in any calendar year, a Conformity Determination is required. Under this analysis, conforming with the SIP can be demonstrated through modeling of ambient impacts from projected emissions, or emissions can be mitigated (reduced below *de minimis* levels) by adjusting project schedules, reducing emissions by applying controls to emission units, applying external emissions offsets, or a combination of these approaches. In addition, temporary emission increases greater than *de minimis* amounts may be allowed if future emissions resulting from the action are below baseline (current) emissions.

Hazardous Air Pollutants and Air Toxics

The potential air toxics associated with this project, both during construction and operation, would be principally diesel particulate matter (DPM) from diesel-powered equipment, assuming that no naturally occurring asbestos would be disturbed by terrestrial construction activities. During construction, DPM emissions would result from activities, such as earthmoving, material handling, and heavy equipment

[4] Defined as an activity engaged in by a department or agency of the federal government or supported in any way by the federal government (including via financial assistance, licenses, permits, or approvals).

operation. For the operational phase, emissions are anticipated from on-site diesel-powered equipment, trucks, and other mobile and stationary sources required to support ongoing activities.

DPM is a subset of total particulate matter. There are currently no federal or Maryland state regulations specifically governing DPM; however, steps would be taken to minimize all emissions, including diesel emissions, by electrifying equipment typically powered by diesel engines in the past. MPA has been actively working to reduce diesel emissions through the Diesel Emission Reduction Act Program, which funds projects that replace older diesel engines with new technology to reduce community exposure to pollutants and air toxics.

4.15.2 Environmental Consequences

De minimis emissions thresholds under General Conformity were used as reference benchmarks for evaluating potential criteria air pollutant impacts from the SPCT project. Criteria pollutant emissions were quantified using the construction and operational characteristics of the SPCT project and their potential to exceed the general conformity *de minimis* thresholds as specified in 40 CFR 93.153.

4.15.2.1 Methods

The Air Force Air Conformity Applicability Model (ACAM) Version 5.0.17a was used to estimate direct and indirect air emissions from most elements of the SPCT project. ACAM is an air emissions estimating model that is used to assess potential air quality impacts in accordance with Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*, the Environmental Impact Analysis Process (32 CFR 989), and the General Conformity Rule (40 CFR 93 Subpart B). This analysis was used to estimate anticipated emissions of criteria pollutants.

Other emissions were calculated using USEPA emission factors and methods. Specifically, the USEPA's *Port Emissions Inventory Guidance* (2022) was applied to estimate emissions from marine vessels, including marine vessel approaches and departures to and from the terminal. Additional operational sources, such as cargo handling and landside equipment, were also assessed using applicable USEPA emission factors for evaluation of potential air quality impacts associated with the project's long-term operation.

Because air quality impacts are assessed for the complete project to understand compliance with regulatory thresholds, the environmental consequences section for air quality is organized differently from other resource topics. Instead of presenting impacts for the channel improvements and development of the terminal separately from impacts associated with the dredged material placement, impacts for all efforts required for each action alternative are evaluated and presented as one analysis. This allows the analysis to compare total air quality impacts against the threshold for annual emissions.

In this analysis, direct emissions are defined as those associated with construction-phase activities, while indirect emissions refer to operational impacts that would occur if the project were implemented. The analysis provides an estimate of emissions, based on conservative assumptions, and is intended to capture the greatest potential for impacts of the SPCT project.

Construction Phase Impacts Methods

The air quality impacts from construction were determined by estimating anticipated emissions of criteria pollutant emissions from ground-level activities. The total emissions were compared with *de minimis* thresholds for each year of the planned construction schedule. Data for the estimated equipment type and hours related to the construction phase of each area, as well as estimated timelines, were incorporated into the analysis.

The calculated construction-related emissions were estimated using ACAM by factoring in a range of inputs critical to accurate emissions calculations. These included, but are not limited to, the area and duration of land disturbance, types, and operating schedules of construction equipment, estimated number of construction worker trips, transport methods, and volumes of material deliveries and waste removal. Each of these factors contributes to a realistic projection of emissions over the project's construction timeline. The construction schedule, equipment detail, and detailed inputs and calculations of construction emissions are included in the *Technical Memorandum: Air Quality Assessment for Sparrows Point Container Terminal* (EA 2025c).

Because ACAM is not designed with inputs for more specific and miscellaneous construction activities (e.g., railroad installation, pile driving), these emissions were estimated using alternative methods, relying on the anticipated construction equipment usage, to develop the most accurate estimates feasible.

Construction Phase Assumptions

The following are some of the assumptions used to determine impacts from construction activities:

- Rail-based intermodal container transfer facility – A facility configured with six train tracks approximately 2,680 feet long, served by RMG cranes. The installation of approximately 18,000 linear feet of new railroad track was included.
- Facility and maintenance buildings construction – Construction of buildings to provide space for administrative functions, maintenance and repair capabilities, ancillary equipment, and security to support facilities and operations was also accounted for. The area of the three new buildings is estimated at approximately 63,722 square feet in total.
- Electrical systems installation – Installation of electrical systems and services to supply electricity to all electrified operating equipment was included in the emissions estimate.
- High mast lighting installation – Installation of high mast lights at approximately 120 feet above finished grade, spaced approximately 400 feet apart, was included.
- Impervious pavement – Approximately 161 total acres of impervious pavement were included to accommodate operations at various terminal areas, including roadways, container storage areas, gate area, maintenance and repair slabs, wharf, and parking areas.
- Construction equipment emissions – Estimation of expected emissions from construction equipment operations was included, including fugitive dust from truck traffic and emissions from workers' personal vehicles.
- Project schedule – Construction phases are scheduled between August 2025 and November 2028. Work schedules are estimated at 10 hours per day, 5 days per week, with some cases modeled as 6-day work weeks to closely capture a 50-hour work week.

- Dredge material transport and placement – Emissions from dredge material transport and placement for High Head Industrial Basin, Coal Pier Channel, and MPA DMCF locations are accounted for within ACAM. This includes activity data and operational schedules provided for marine dredging and associated activities, as incorporated into the program's inputs.
- Dredging emissions estimation for NODS – Emissions from diesel equipment were estimated for the bottom-dump scows (barges) used to transport dredged material to NODS. It is assumed that four scows, each paired with a single tug, would be used. A total of 262 scow trips are expected over 291 operational days, split across two dredging seasons during years two and three of construction, with an estimated one-way trip distance of 175 miles.

Operational Phase Impacts Methods

Emissions estimates from the operational phase assume the terminal would be partially electrified, using a combination of traditional fuel-powered equipment alongside electric equipment (Table 38). The total calculated emissions are based on preliminary operational data and serve as conservative assumptions regarding emissions sources and activity levels.

Table 38. Partially Electrified Terminal Equipment Designations

Equipment	Fuel Type	Number of Units
STS cranes	Electric	8
RMG cranes	Electric	5
RTG cranes	Electric	30
Reach stacker	Diesel	3
Empty container handler	Diesel	14
Terminal tractor	Diesel	91
Locomotive / rail-based transportation	Diesel	1
Standby emergency generators	Diesel	4

Note:
Data provided by TPA

Operational impacts combine the estimations from land-based stationary source emissions, cargo handling equipment, oceangoing vessel emissions from terminal approach and departure within a three-mile radius, auxiliary load factors, and container volume expected annually at SPCT. Since alternative shore power would be provided for vessels in berth, no hoteling emissions are included in the estimate. The air emissions estimates assume that all STS, RMG, and RTG cranes would be electric, thus emitting no air pollutants. The air emissions in this scenario would therefore result from the operation of diesel-powered equipment, stationary sources, and facility operations, including mobile sources. These calculations are based on projected typical operating conditions and average emissions values.

Stationary sources at the terminal, such as emergency backup engines and other fuel-fired equipment, would require minor New Source Review preconstruction permits and would be subject to a state-issued operating permit. These units are expected to be regulated under applicable federal standards, including the New Source Performance Standards under 40 CFR Part 60 and the National Emissions Standards for Hazardous Air Pollutants under 40 CFR Part 63. The facility would be responsible for demonstrating compliance with all applicable permit conditions and emissions limitations for these stationary emission units.

The containerized cargo throughput of the Port of Baltimore is measured by TEUs per year. The SPCT would receive approximately 500 container ships per year of which 150 vessels would be new to the Port, at an average of 10,000 TEUs per vessel. Using this information to calculate the transit emissions (emissions generated by a vessel as it approaches the Port from open sea, at a distance from 3 miles from the port), NO_x, SO_2, and $PM_{2.5}$ emissions were estimated using diesel fuel emissions factors and average estimated total fuel consumption during transit, in and out, were based on USEPA's *Port Emission Inventory Guidance* (2022). This approach aligns with commonly accepted practices in emissions modeling, where a 3-mile radius from the Port is used as a practical boundary for capturing emissions generated from vessels. Sulfur content factors were adjusted to account for a 0.1% sulfur content in marine diesel fuel to comply with the International Maritime Organization's sulfur emissions control areas.

Operational Phase Assumptions

The following are some of the assumptions used to determine impacts from operational activities:

- The SPCT would receive 500 vessels per year. Of these, 150 would be new to the Port and would be expected to have previously called on east coast ports including in Philadelphia, Newark, and New York. It is assumed that none of these 500 vessels currently have access to shore power connections and must run their auxiliary diesel engines while in port. Therefore, the use of shore power would directly offset hoteling emissions.
- Electrical systems in operation – The installed electrical distribution systems would supply electricity to all electrified operating equipment during the operational phase.
- High mast lights in use – High mast lighting systems would remain operational at the terminal during ongoing operations.
- Impervious pavement use – The paved areas of the terminal would be used for ongoing operations, including roadways, container storage areas, gate areas, maintenance and repair slabs, and parking areas.
- Non-tailpipe emissions – Estimation of brake, tire, and road dust emissions from trucks operating on paved surfaces within the facility during its operational phase, assuming one drayage truck per TEU (or 5 million trips per year) mobilizing from one end of the site to the other, with a maximum vehicle weight of 40 tons per trip.
- Tailpipe emissions (POV and fleet vehicles) – Based on the Traffic Group's traffic analysis (2024a), daily employee and freight truck traffic at SPCT is estimated at approximately 10,787 trips. These totals have been incorporated into the total operational emissions estimates, assuming a regional commute radius of 20 miles, seven days per week. Although a more detailed traffic emissions analysis could provide refined values, this estimate is considered conservative. After applying emissions reductions associated with the No-action Alternative, the resulting annual operational NO_x emissions remain below the 50 tpy General Conformity reference threshold.
- No pesticide application during operations – There would be no turf or planted area on the site; therefore, no pesticide application is anticipated.
- Refrigeration units in operation – Refrigeration units would operate using integral systems that only draw power. Maximum cold storage is estimated to be 5% of total capacity; emissions calculations are based on potential refrigerant leaks.

- No vessel queuing during operations – No container vessels would be queuing, thereby avoiding hoteling emissions within the 3-mile radius during the operational phase.
- Tugboat operations – Three 65-ton diesel tugboats would be used for berthing operations. Average propulsion and auxiliary power and average engine load factors were used.

4.15.2.2 No-action Alternative

Under the No-action Alternative, container vessels would continue to call at existing east coast ports including in Philadelphia, Newark, and New York. At these ports, shore power connections are not widely available for container vessels, so ships would generally continue to run their auxiliary diesel engines when at port to meet hoteling loads, contributing to criteria pollutant emissions (Table 39). The analysis in the Draft EIS included emissions offsets for the proposed electrified mobile cargo-handling equipment at SPCT. Ports continue to modernize and add electrified mobile cargo-handling equipment; so, to present a more conservative analysis in this Final EIS, those offsets were removed. Only offsets related to the use of shore power are considered in Table 39 and elsewhere in this analysis. Detailed calculations for the No-action Alternative are provided in the *Air Quality Assessment for Sparrows Point Container Terminal* (EA 2025c).

Table 39. Estimated Emissions – No-action Alternative or Baseline

No-action Alternative	NO_X (tpy)	VOC (tpy)	CO (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)
500 container vessels per year	50.0	1.73	4.51	0.77	0.77	1.74

Notes:

NO_x = nitrogen oxides; VOC = volatile organic compound; CO = carbon monoxide; PM_{10}= particulate matter less than or equal to 10 micrometers; $PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers; SO_2 = sulfur dioxide; tpy = tons per year

4.15.2.3 Combined Options Alternative

Construction Phase Impacts

The total annual estimated direct emissions from the construction phase of the Combined Options Alternative are provided in Table 40.

During the second year of construction (2026), annual NO_x emissions are projected to exceed the General Conformity *de minimis* threshold of 50 tpy, before returning to below-threshold levels in 2027. The General Conformity thresholds are not expected to be exceeded by any other criteria pollutants.

Table 40. Estimated Direct Emissions from Construction Phase – Combined Options Alternative

Year	NO_X (tpy)	VOC (tpy)	CO (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)
2025	33.47	5.92	34.08	45.24	1.16	0.13
2026	61.14	10.75	70.53	295.64	2.17	0.22
2027	47.86	8.30	57.27	226.13	1.71	0.17
2028	23.34	3.85	26.33	177.16	0.83	0.08

Year	NO_X (tpy)	VOC (tpy)	CO (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)
Emissions Totals (All Construction Phases) [1]	165.81	28.82	188.21	744.17	5.87	0.60
Reference Threshold [2]	50	50	100	100	100	100

Notes:

1 – All construction phases include the total combined emissions estimated from the 4-year construction schedule.

2 – 40 CFR 93.153 and 40 CFR 98

NO_x = nitrogen oxides; VOC = volatile organic compound; CO = carbon monoxide; PM_{10}= particulate matter less than or equal to 10 micrometers; $PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers; SO_2 = sulfur dioxide; tpy = tons per year

Operational Phase Impacts

SPCT would be the first container terminal on the east coast using shore power, eliminating the need for the boats to generate power when in port. Furthermore, the terminal would be partially electrified, further reducing emissions when compared to current operations.

The operational impacts of a partially electrified terminal were analyzed by distinguishing between landside and marine equipment and activities that are expected to operate using traditional diesel-powered equipment from the activities that are expected to be electric (Table 40). Diesel-powered equipment and machinery used to support operations at the terminal are estimated based on standard operational parameters, such as fuel consumption rates and load factors, where electric equipment is assumed to produce zero emissions during operation. Marine-based emissions included categorizing transit activities from emissions generated while vessels are in transit to and from the terminal, relying on conventional diesel engines while navigating. Berthing activities and emissions generated while vessels are docked at the terminal assumes vessels would use alternative shore power when in berth. Data presented in Table 41 serves as a baseline for understanding the environmental impact of operations, assuming partial terminal electrification, and includes emissions from all operational mobile and stationary equipment expected at the terminal.

Table 41. Estimated Indirect Emissions from Operational Phase Partially Electrified Terminal

Year	NO_X (tpy)	VOC (tpy)	CO (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)
2029 (steady state)	88.34	30.97	349.03	331.26	84.24	1.27
Reference Threshold [1]	50	50	100	100	100	100

Notes:

1 – 40 CFR 93.153 and 40 CFR 98

NO_x = nitrogen oxides; VOC = volatile organic compound; CO = carbon monoxide; PM_{10}= particulate matter less than or equal to 10 micrometers; $PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers; SO_2 = sulfur dioxide; tpy = tons per year

Table 42 summarizes the net operational emissions after incorporating the emissions reductions associated with the No-action Alternative (Table 39) through the use of electrified equipment. Detailed emissions calculations related to the No-action Alternative are provided in the *Air Quality Assessment for Sparrows Point Container Terminal* (EA 2025c).

The results of the emissions analysis indicate that the baseline emissions from operations are estimated to be 88.3 tons per year (tpy) of NO_x. After accounting for the emissions associated with the No-action

Alternative through the implementation of electrified equipment, operational emissions are reduced by 50 tpy of NO_x. The new net totals lower the annual emissions to 38.3 tpy of NO_x.

The net operational NO_x emissions from the partially electrified terminal scenario do not exceed the 50 tpy General Conformity *de minimis* threshold.

Table 42. Estimated Net Operational Emissions with Electrification Offsets

Year	NO_X (tpy)	VOC (tpy)	CO (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)
2029 (steady state)	88.34	30.97	349.03	331.26	84.24	1.27
Emissions reduction compared to the No-action Alternative [1]	50.0	1.73	4.51	0.77	0.77	1.74
Net total	38.34	29.24	344.52	330.49	83.47	(0.47)
Reference threshold [2]	50	50	100	100	100	100

Notes:

1 – The No-action Alternative assumes vessels are currently using existing ports (Baltimore, Philadelphia, Newark, or New York) which do not currently have shore power or electrified cargo handling equipment.

2 – 40 CFR 93.153 and 40 CFR 98

NO_x = nitrogen oxides; VOC = volatile organic compound; CO = carbon monoxide; PM_{10}= particulate matter less than or equal to 10 micrometers; $PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers; SO_2 = sulfur dioxide; tpy = tons per year

4.15.2.4 Preferred Alternative

Construction Phase Impacts

The Preferred Alternative includes all project components and construction assumptions consistent with those described for the Combined Options Alternative, with two key differences. First, this alternative assumes the construction of a taller High Head DMCF (approximate +40 feet construction height, instead of the +30 feet evaluated under the Combined Options Alternative). Second, this alternative does not include construction or dredging activities associated with the Coal Pier Channel DMCF component. These differences form the basis of the comparative air quality evaluation presented below. Table 43 presents the estimated direct emissions from the construction phase of the Preferred Alternative.

During the second year of construction (2026), annual NO_x emissions are projected to exceed the General Conformity *de minimis* threshold of 50 tpy, before returning to-below threshold levels in 2027. The General Conformity thresholds are not expected to be exceeded by any criteria pollutants.

Operational Phase Impacts

Operational impacts for the Preferred Alternative would be the same as described above for the Combined Options Alternative.

Table 43. Estimated Direct Emissions from Construction Phase – Preferred Alternative

Year	NO_X (tpy)	VOC (tpy)	CO (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)
2025	25.98	4.70	27.45	11.12	0.89	0.10
2026	59.06	10.40	68.61	285.46	2.10	0.21
2027	47.86	8.30	57.27	226.13	1.71	0.17
2028	23.34	3.85	26.33	177.16	0.83	0.08

Year	NO_X (tpy)	VOC (tpy)	CO (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)
Emissions Totals (All Construction Phases) [1]	156.24	27.25	179.66	699.87	5.53	1.28
Reference Threshold [2]	50	50	100	100	100	100

Notes:

1 – All construction phases include the total combined emissions estimated from the 4-year construction schedule.

2 – 40 CFR 93.153 and 40 CFR 98

NO_x = nitrogen oxides; VOC = volatile organic compound; CO = carbon monoxide; PM_{10}= particulate matter less than or equal to 10 micrometers; $PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers; SO_2 = sulfur dioxide; tpy = tons per year

4.15.2.5 General Conformity Evaluation

Emissions of the three non-attainment / maintenance pollutants in the AQCR, NO_X, SO_2, and $PM_{2.5}$, were estimated for both construction (direct emissions) and operations (indirect emissions) phases of the project. As shown in Sections 4.15.2.3 and 4.15.2.4, annual emissions of SO_2 and $PM_{2.5}$ are well below the *de minimis* thresholds and do not require further analysis. However, direct NO_X emissions exceed the *de minimis* threshold of 50 tpy under both the Combined Options Alternative and the Preferred Alternative. NO_X emissions from this project in excess of the *de minimis* threshold have not been included in the Maryland SIP budget, and the proposed action, therefore, cannot be presumed to conform. As an ozone precursor pollutant, NO_X emissions must be mitigated. Under general conformity, modeling can be used to demonstrate conformity, but discussions with MDE and USEPA indicated that photochemical modeling of the impacts on ozone in the AQCR from this relatively small amount of additional NO_X emissions is not recommended. Hence, mitigation through emission reduction credit offsets would be implemented by TTT.

4.15.2.6 On-site Emission Reduction Measures

Construction Phase Mitigation Options

To mitigate construction-related emissions, specifically 59.1 tons of NO_x in calendar year 2026, TTT would purchase offsetting emission reduction credits prior to commencing construction of the project. These credits may be obtained from the MDE emissions credit bank or other sources, such as commercial credit brokers.

Operational Phase Mitigation Options

Long-term operational emissions from the Preferred Alternative would not exceed General Conformity *de minimis* thresholds. Therefore, mitigation through offsets is not required.

4.15.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on air quality include those that would result in the generation of temporary and long-term emissions.

- Air quality impacts from the Key Bridge collapse and debris removal. Activities primarily included particulate matter ($PM_{2.5}$ and PM_{10}) emissions due to demolition activities, engine exhaust from equipment used, and dust from the temporary sorting and processing facility. Since debris removal has been completed, the long-term air quality impact is negligible, as no continued emissions sources are associated with the cleared site.

- The demolition and reconstruction phases of the Key Bridge reconstruction will contribute to short-term emissions of criteria pollutants, such as NO_x, SO_2, CO, and PM, from demolition, transportation, and construction activities. After construction of the new bridge is completed, the long-term impact on air quality is expected to be minimal.
- The Corps and MPA maintenance dredging activities may contribute to short-term localized increases in PM and NO_x due to the use of diesel-powered dredging equipment. However, dredging activities are temporary, and the impacts are expected not to exceed regulatory thresholds.
- The cleanup activities at Bear Creek, which include dredging, capping, and dewatering of contaminated sediments, will generate short-term emissions from heavy equipment operation, dredging, and sediment handling. Pollutants such as PM, NO_x, and CO are anticipated during the 18-month cleanup period. Once the cleanup activities are complete, the long-term impacts are expected to be minimal.
- The maintenance dredging at Curtis Creek will generate short-term emissions from dredging and dredged material transport. Pollutants such as PM, NO_x, and CO are anticipated. Once the dredging activities are complete, the long-term impacts are expected to be minimal.
- The project and its surrounding AQCR are projected to face ongoing and increasing impacts due to weather pattern changes, particularly in the areas of rising temperatures, changes in precipitation patterns, more frequent and severe weather events, and rising sea levels.

The air quality impacts from these projects are not expected to result in significant or long-term emissions. The primary emission sources, including construction equipment, transport vehicles and vessels, and demolition operations, are concentrated within the construction and cleanup phases and are considered temporary. Given the intermittent and phased nature of these activities, long-term air quality impacts are expected to be minimal.

The proposed SPCT project would have concentrated impacts on air quality during the construction and cleanup phases (e.g., use of construction equipment and vehicles, demolition operations, transport of dredged material to placement sites). During operation, the terminal would be partially electrified, and the use of shore power would significantly reduce emissions from ships at berth when compared to current conditions. Terminal operations would result in minimal long-term adverse air quality impacts and would not contribute substantially to the impacts of planned actions and environmental trends on air quality in the region.

4.16 Community Noise

4.16.1 Affected Environment

The area evaluated for noise impacts includes the census tracts surrounding the SPCT project area, which fall within the range that could be impacted by noise generated by proposed construction and operation activities (Figure 56). Noise transmission from source to receiver depends on many factors, including air temperature, wind and atmospheric conditions, and ground cover, with noise carrying farther over water than over land. Therefore, waterfront residences across 2 miles of open water are included in the study area, while inland residences a similar distance from some project elements may not fall within the study area.

Regulatory Background

The Baltimore County Code of Ordinances and Zoning Regulations do not specify allowable noise levels for different land uses; however, in the absence of local ordinances, COMAR regulates the control of noise pollution (COMAR 26.02.03). In COMAR, daytime is defined as the hours between 7 am and 10 pm, and nighttime is defined as 10 pm to 7 am.

An **A-weighted decibel (dBA)** is a unit of sound level measurement that adjusts the decibel scale to reflect the human ear's sensitivity to different frequencies. Humans are generally more sensitive to sounds between 1,000 and 5,000 Hertz and less sensitive to very low or very high frequencies.

For purposes of regulation, noise is measured using a logarithmic weighted scale with a unit of A-weighted decibels or dBA. Typical sounds that humans encounter range from 0 to 140 dBA. Table 44 presents examples of typical noise sources, the decibel level of each, and how they are perceived.

Table 44. Typical Noise Levels and Subjective Impressions

Source	Decibel Level (dB)	Subjective Impression
Normal breathing	10	Very Quiet
Soft whisper	30	
Refrigerator hum	40	Quiet
Normal conversation	60	
Washing machine	70	Moderately loud
Gas-powered lawn mower	80-85	
Motorcycle	95	
Sporting events	100	Very loud
Rock concert, shouting in ear	110	
Standing near sirens	120	Pain threshold
Firecrackers	140	

Source: Centers for Disease Control and Prevention 2022

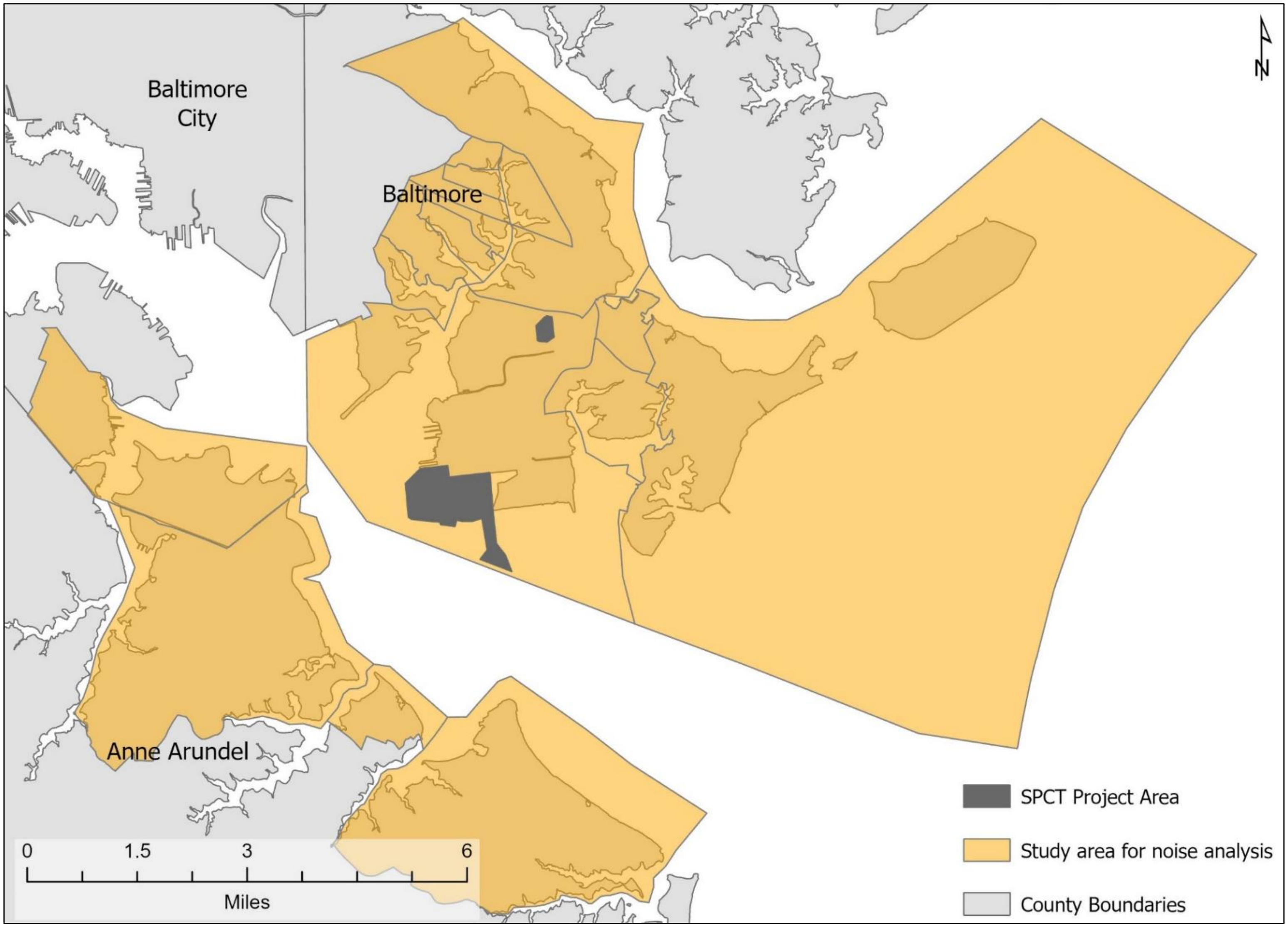
COMAR defines maximum allowable noise levels for the land uses receiving the noise (Table 45). Periodic noises (i.e., repetitive noise with on and off characteristics) may not exceed a level that is 5 dBA lower than the values in Table 45. There is an exception for construction or demolition site activities, which cannot exceed 90 dBA during daylight hours. Use of pile driving equipment during daytime hours of 8 am and 5 pm is also exempt.

Table 45. Maximum Allowable Noise Levels for Receiving Land Uses

Time	Industrial (dBA)	Commercial (dBA)	Residential (dBA)
Day	75	67	65
Night	75	62	55

Figure 56. Area Evaluated for Potential Noise Impacts

Noise impacts would depend on sound pressure level from equipment, distance from source to receptor, and number of pieces of equipment operating in close proximity (see Section 4.16.2)



Noise Conditions

Noise levels in the SPCT project area are consistent with an urban, industrial setting, with noise levels expected to commonly be in the 60 to 80 dBA range. Individual noise sources are intermittent, but some level of persistent noise is expected during operational hours. Sources of existing noise from the project area include vessels, vehicles, and equipment necessary to operate an active marine terminal, parking for Ro-Ro cargo, and warehouses. Truck traffic from warehouses to nearby state and interstate highways occurs day and night. Large cargo vessels accessing marine terminals farther up the Patapsco River routinely pass between Sparrows Point and opposite shorelines at all times of day. Active train lines and personal / commercial vehicles within commercial and industrial areas of Sparrows Point also contribute to the existing noise environment.

The nearest sensitive noise receptors to the project area (Figure 56) are residences about 0.5 mile from the High Head Industrial Basin. A brewery with outdoor seating is also within about 0.25 mile. The area between residences and commercial areas and the High Head Industrial Basin is industrial, containing roads, active rail lines, and warehouses. The closest residences to the Coke Point area are about 1.5 miles to the north across Bear Creek.

4.16.2 Environmental Consequences

Noises associated with project alternatives were evaluated to determine likely noise levels experienced by people in the vicinity of the project. Nighttime noise, in addition to being regulated in residential zones, is generally perceived as more bothersome than daytime noise and therefore is of particular concern. To conduct the analysis, the types of equipment likely to be used during different phases of the project were characterized. The timing of equipment usage was also determined. The likely noise levels that would be associated with the equipment were evaluated, and the equipment that would tend to generate the loudest noises or be perceived as the noisiest was identified. Sensitive noise receptors, including residential, recreational, and commercial areas in the vicinity of the proposed project, were identified using the most recent tax assessment database (Maryland Department of Planning) and other sources described in Section 4.16.1. All data were incorporated in a GIS analysis to estimate the impacts of project noise on nearby residents and boaters.

Although sound transmission is a function of specific conditions between the sound source and receptor, for purposes of this analysis, the techniques that were used to model sound transmission assumed typical or average conditions. Specifically, sound level attenuation between noise-generating activities and receptors was calculated using the Inverse Square Law, which roughly corresponds to an attenuation of 6 dBA with each doubling of distance from a source to a receptor (FHWA 2006). This assumption may misrepresent sound transmission under atypical conditions, which may occur frequently. For example, atmospheric inversions would occur on most calm, clear nights and would have the effect of amplifying sound levels heard around dawn. However, additional attenuation due to molecular absorption as a result of its passage through air and analogous excess

> **Noise attenuation** is the reduction in the strength of noise waves as they travel from the source to the receiver. Attenuation can occur in various ways, such as noise dissipating through the air as it is absorbed by another medium, noise reflecting against a barrier, or interference with other ambient noise.
>
> **Atmospheric inversion** is when the normal temperature gradient in the atmosphere is reversed. Instead of temperature decreasing with altitude, it increases. In an inversion, the warmer air layer above the cooler air can cause sound waves to refract or bend downward, leading to an unusual propagation of sound, including sound traveling longer distances and being heard more clearly or loudly than under normal conditions.

attenuation due to other factors (e.g., humidity or ground cover) was not factored in. Because of this, the attenuated sound estimates presented may overestimate sound transmission distance when vegetation and buildings are present between the sound source and receiver. The analysis omits sound attenuation due to ground cover to improve representation of sound transmission over water.

When considering several sources producing sound simultaneously, sound levels cannot be added arithmetically because decibels are a logarithmic measure. Instead, the additive nature of sounds is such that the sound pressure level from two sources generating the same decibel level is approximately 3 dBA greater than the sound pressure level of just one source (Table 46). This approach was used in the analysis to calculate total sound levels associated with typical project conditions, such as the simultaneous, proximate operation of several pieces of heavy machinery. Noise analyses were completed using the 30% designs, while some changes to design have occurred, they are not expected to alter the noise analyses presented here.

Table 46. Addition of Multiple Sound Sources

Difference between Sound Level of Two Sources	Amount Added to Higher Value
0 to 1 dBA	3
2 to 3 dBA	2
4 to 9 dBA	1
10 or more dBA	0

Source: FHWA 2017

Notes:

dBA = A-weighted decibel

> **Maximum sound level (L_{max})** represents the highest measured sound during a given period. It is used to measure the peak noise event.

To quantify sound levels generated by the proposed project, project phases were identified, including duration and timing of each activity (Table 47 and Table 48). For each phase, the most recent information on type and quantity of equipment that is likely to be used was identified, and expected noise levels for each piece of equipment were used to estimate maximum levels (L_{max}) for each phase of each alternative (Table 49 and Table 50). The modeling assumed that all sound sources would be operating simultaneously and that they would be the same distance from a given receptor (i.e., all co-located at the same point), yielding a conservative result. Some noise sources (e.g., excavators, dozers, cranes) would not always operate concurrently and would be spread across the work site. Additionally, a maximum area of activities was assumed for each project phase, while the actual sound-generating area may cover a smaller area on the ground or in the water at any given time.

Table 47. Estimated Duration and Timing of Project-related Construction Noise for Elements Associated with the Terminal Development and Channel Improvements Based on Current Designs (Subject to Change)

Phase	Duration (months)	Time of Day	Periodic (Impact) Sounds?
Upland excavation	1	Day	No
Water-based demolition	1	Day	No
Land-based demolition	1	Day	No
Relieving platform construction	6	Day	Yes

Phase	Duration (months)	Time of Day	Periodic (Impact) Sounds?
Wharf construction	30	Day	Yes
Backland site	27	Day	No
Electrical facilities construction	34	Day	Yes
Building construction	32	Day	No
Intermodal / rail yard construction	10	Day	Yes
Dredging [1]	36	Day and night	No

Notes:

1 – Time-of-year restrictions would apply, so dredging may only occur during 24 months in the 36-month window

Table 48. Estimated Duration and Timing of Project-related Construction and Dredged Material Placement Noise for Each Alternative

Alternative	Activities	Duration (months)	Time of Year	Time of Day	Periodic (Impact) Sounds?
No-action Alternative	Potential future development of Coke Point and High Head Industrial Basin	Unknown	Presumed year-round	Presumed day only	Presumed no
Combined Options Alternative and Preferred Alternative	DMCF Construction	30	Year-round	Day and night	No
	Placement of dredged material [1]	36	June through February	Day	No

Notes:

1 – Dredged material placement would occur during a seasonal window (presumed June through February) over 3 years

Table 49. Noise Levels for Construction, Dredging, and Terminal Operation Equipment

Equipment	Periodic?	L_{max} at 50 feet [1]	Source
Vibrohammer	No	101	FHWA 2006
Diesel hammer	Yes	101	FHWA 2006
Tug – 1800 horsepower	No	93	Corps 2011
Inland tug	No	87	Epsilon 2006
Assist tug	No	87	Epsilon 2006
Bulldozer	No	85	FHWA 2006
Excavator	No	85	FHWA 2006
Crawler crane	No	85	FHWA 2006
Manlift	No	85	FHWA 2006
Paver	No	85	FHWA 2006
Earth drill	No	85	FHWA 2006
Roller	No	85	FHWA 2006
Drum roller	No	85	FHWA 2006
Grader	No	85	FHWA 2006
On-highway truck	No	84	FHWA 2006
Plate compactor	No	83	FHWA 2006

Equipment	Periodic?	L_{max} at 50 feet [1]	Source
Generator	No	82	FHWA 2006
Trash pump	No	81	FHWA 2006
Boom pump	No	81	FHWA 2006
Runabout 16 feet	No	81	Epsilon 2006
Survey boat	No	81	Epsilon 2006
Front-end loader	No	80	FHWA 2006
Air compressor	No	80	FHWA 2006
Clamshell dredge	No	77	Epsilon 2006
Light-duty truck	No	75	FHWA 2006
Welder	No	74	FHWA 2006
Hydraulic unloader	No	70	Epsilon 2006

Notes:

1 – FHWA presents two noise levels for each equipment type: that in specifications and actual measured value. The larger value was used in this analysis.

Table 50. Noise Levels for Terminal Operation Equipment

Equipment	Type	Periodic?	L_{max} at 50 feet	Source
STS crane	Electric	No	76	Nieminen 2017
RMG crane	Electric	No	Data not available	
RMG crane	Diesel	No	Data not available	
RTG crane	Electric	No	Data not available	
RTG crane	Diesel	No	83	Nguyen and Khoo 2013
Empty container handler	Diesel	No	85	Konecranes 2017
Terminal tractor	Diesel	No	84	FHWA 2006
Reach stacker	Diesel	No	73	Marshall Day Acoustics 2016
Container stacking	NA	Yes	84	Marshall Day Acoustics 2016

Notes:

NA = not applicable

Noise levels were evaluated from several perspectives. The analysis first used the noise limit standards defined in the COMAR (see Section 4.16.1) to determine whether sustained, periodic, and nighttime noise potentially generated by the project would attenuate to acceptable levels by the time it reaches residential areas (Table 51). In the second part of the analysis, the potential noise impacts at sensitive receptors were considered. For each project element and alternative, the likely noise levels at the nearest residences were estimated. Each of these calculations was made for sustained, periodic, and nighttime noises.

Table 51. Acceptable Noise Levels in Residential Land Uses

Noise Type	Acceptable Level (dBA)
Sustained	65
Periodic	60
Nighttime	55

Source: COMAR 26.02.03.02

4.16.2.1 No-action Alternative

Sustained Daytime Noise

While construction and dredging activities that occur under the No-action Alternative would generate some noise, no new impacts would occur. Sustained daytime noise associated with the use of several pieces of heavy equipment close to each other during the future development of Coke Point would peak at around 95 dBA at 50 feet (see Table 46 and Table 49). This noise level attenuates to acceptable residential levels within about 1,600 feet (Figure 57). The noises associated with dredging may reach a peak of 97 dBA, which would attenuate to residential levels within about 2,000 feet.

The No-action Alternative would not impact any sensitive receptors. The closest residences across the Patapsco River in northern Anne Arundel County are about 11,000 feet (2.1 miles) from the potential development activities under the No-action Alternative. A 95 dBA noise would attenuate to about 48 dBA across that distance. To the north, the nearest residence across Bear Creek is about 8,400 feet (1.6 miles) from the activities that may occur under the No-action Alternative. The loudest daytime noise would attenuate to 50.5 dBA across that distance, but greater attenuation may occur due to varied ground cover (i.e., land, buildings, infrastructure) between source and receptors.

Periodic Noise

Periodic noises are not anticipated, so no impacts would occur.

Nighttime Noise

Construction activities would occur during daytime hours only; therefore, no nighttime noise impacts would occur.

4.16.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

The noise impacts of terminal construction and operation phases are evaluated separately to distinguish the temporary and continuing effects.

Construction − Sustained Daytime Noise

No sustained daytime noise-related impacts would occur from the construction elements associated with the terminal development and channel improvements. Sustained noise levels generated by typical daily operations during construction of the proposed terminal vary depending on the element. Peak levels for sustained noises would be in the 90 to 101 dBA at 50-foot range (Table 49), depending on the phase of terminal development (Table 52). At the lower end of the range, this noise level represents several pieces of heavy equipment (e.g., dump trucks, dozers, compactors) working simultaneously near one another, while sustained noises of 101 dBA would occur from use of the vibratory extractor. For any given observer, the sustained, elevated noise level experienced would depend on distance from the noise-generating machinery, atmospheric conditions, and proximity of multiple pieces of machinery to each other. Many of the noises would be traveling over water with little attenuation due to ground cover, so factoring in only attenuation with distance, a 90 dBA noise is estimated to decrease to an acceptable daytime residential level of 65 dBA within about 900 feet (0.2 mile) of the noise source, and a 101 dBA noise is estimated to attenuate to 65 dBA within about 3,200 feet (0.6 mile) of the source (Figure 58). Dredging the Sparrows Point Channel would generate sustained noise of up to 97 dBA, which would attenuate to acceptable residential levels within about 2,000 feet under typical conditions.

Table 52. Attenuation Distance from Source to Acceptable Residential Levels for Sustained Daytime Noise for Construction Associated with the Terminal Development and Channel Improvements

Element	L_{max} Sustained (dBA)	Distance to Acceptable Residential Level (65 dBA) (feet)	Distance to Acceptable Residential Level (65 dBA) (miles)
Water-based demolition	101	3,155	0.6
Relieving platform construction	101	3,155	0.6
Wharf construction	101	3,155	0.6
Electrical	101	3,155	0.6
Intermodal / rail yard construction	101	3,155	0.6
Dredging	97	1,991	0.4
Upland site development	95	1,581	0.3
Building construction	95	1,581	0.3
Upland excavation	93	1,256	0.2
Land-based demolition	90	889	0.2

Notes:
dBA = A-weighted decibel

Under modeled conditions, sustained daytime noise at the nearest sensitive receptors would be within acceptable limits. Residences across the Patapsco River in northern Anne Arundel County are about 11,000 feet (2.1 miles) from the nearest common element. A 101 dBA noise would attenuate to about 54 dBA across that distance. Across Bear Creek, the nearest residence to the north is about 8,400 feet (1.6 miles) from the closest common element. The loudest daytime noise would attenuate to 56.5 dBA across that distance, but greater attenuation may occur due to varied ground cover between source and receptors.

Figure 57. Projected Extent of 65 dBA Sound Level for the No-action Alternative

The daytime limit (acceptable noise level) for residential areas is 65 dBA. The dashed line indicates the average attenuation of noise to acceptable residential levels, but some variability would occur due to atmospheric and weather conditions.

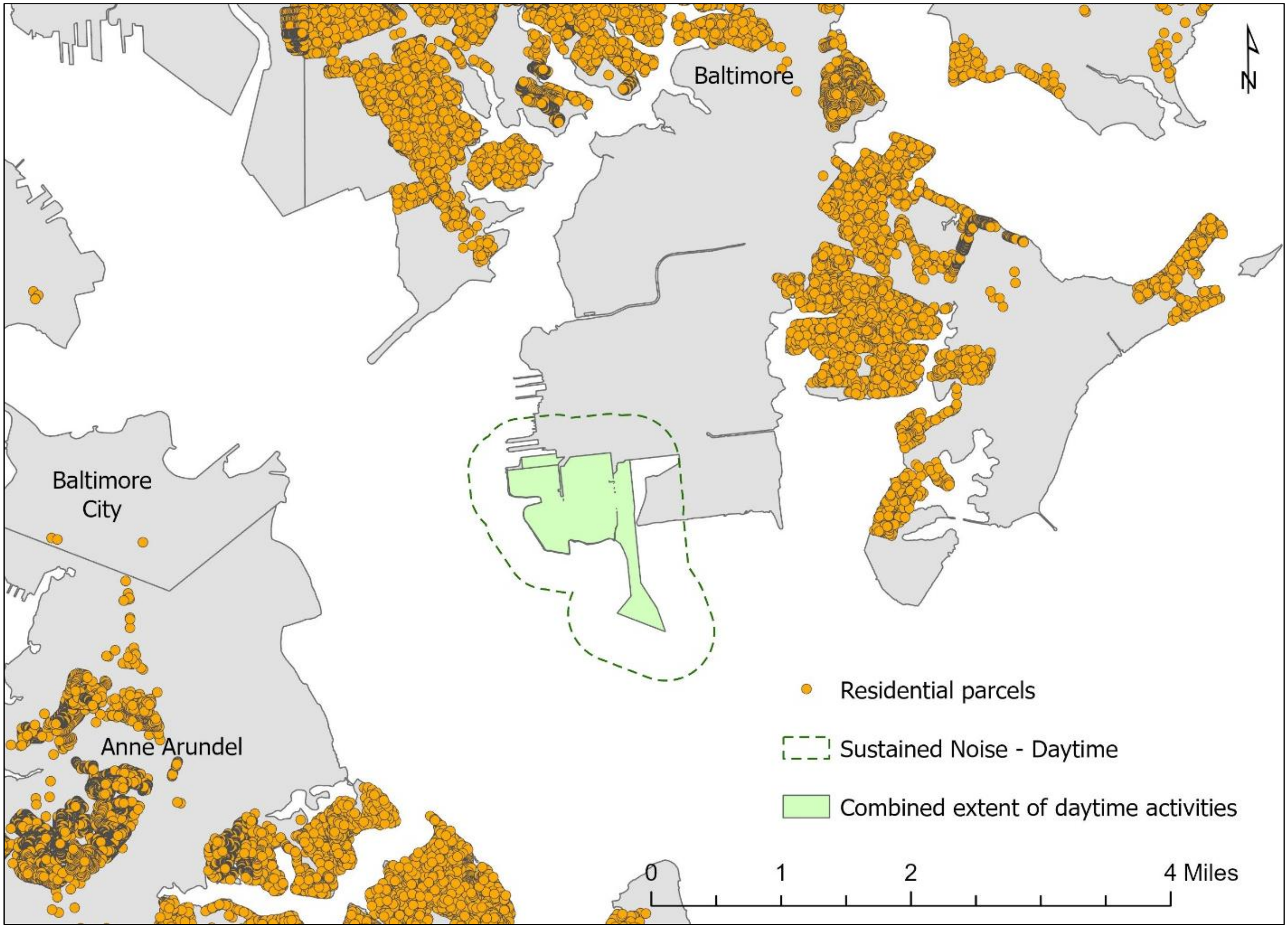
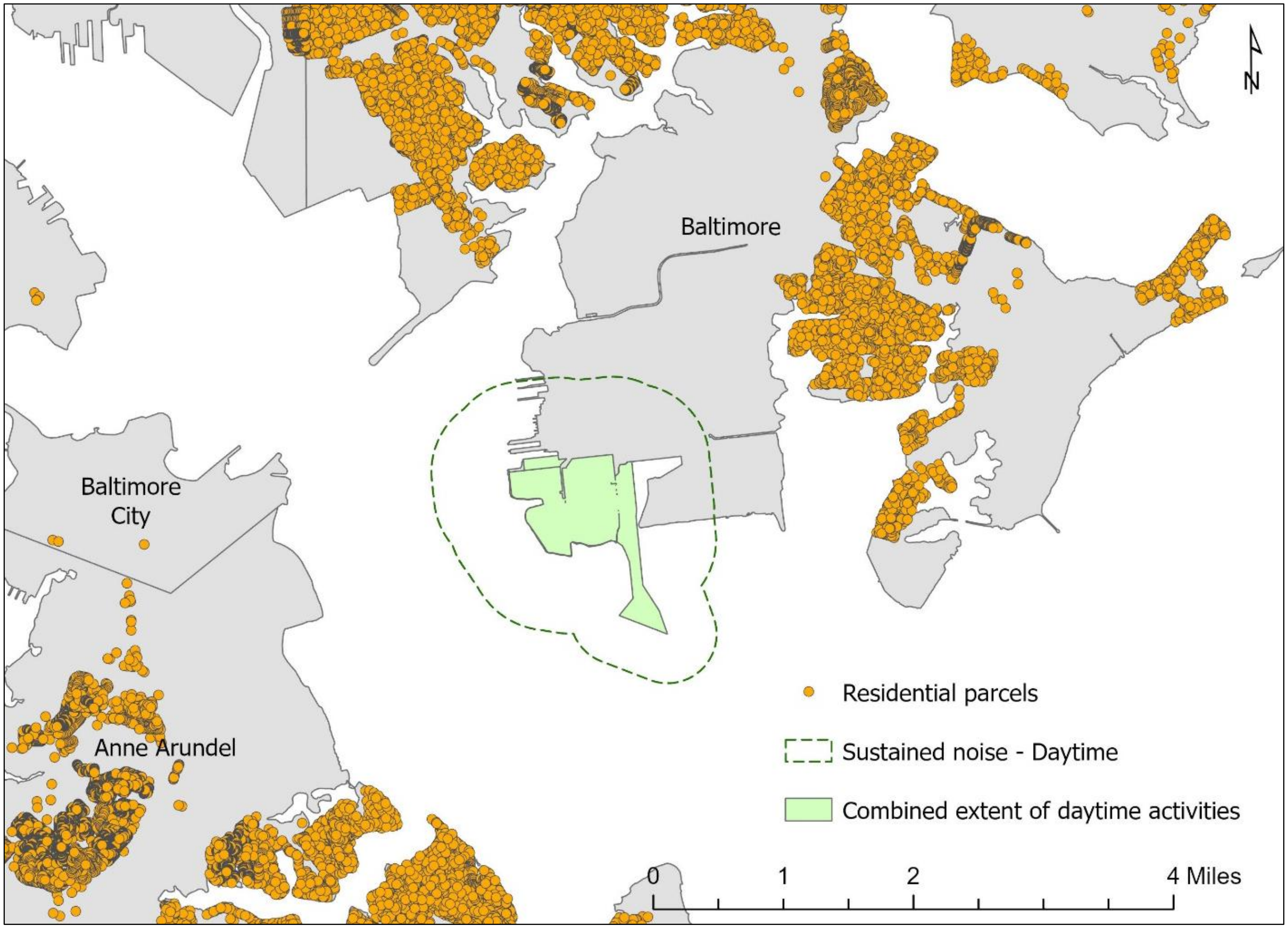


Figure 58. Projected Extent of 65 dBA Sound Level for Construction Elements – Terminal Development and Channel Improvements

The daytime limit (acceptable noise level) for residential areas is 65 dBA. The dashed line indicates the average attenuation of noise to acceptable residential levels, but some variability would occur due to atmospheric and weather conditions.



Construction – Periodic Noise

Periodic noise from terminal construction would primarily come from pile driving, which is exempt from regulatory limits between 8 am and 5 pm. However, periodic noise at the nearest sensitive receptors would not exceed acceptable residential limits (i.e., 60 dBA) under typical conditions. During less typical atmospheric or weather conditions, periodic noise may reach nearby sensitive receptors.

Some elements associated with the terminal development and channel improvements would produce loud, periodic noises, which may be more noticeable to residents and visitors than sustained noises because they are not consistent with steady, uniform background noise. Noise regulations in COMAR stipulate that allowable periodic noise levels should be 5 dBA lower than allowable sustained noise levels (see Table 51); however, pile driving is exempt from this limit. Pile driving creates loud periodic noises that can reach 101 dBA at 50 feet (Table 49), but noise levels could be lower or duration shortened, depending on which pile placement methods are used. A noise at the 101 dBA level would attenuate to acceptable residential daytime levels (i.e., 60 dBA) within about 5,600 feet (1.1 miles) of the source (Figure 59). Periodic noises would not be produced during nighttime hours.

Periodic noises would attenuate to less than 60 dBA at the nearest residences, 8,400 feet (1.6 miles) away across Bear Creek in Turner Station (northwest of project), and 11,000 feet (2.1 miles) away across the Patapsco (south of project). However, less typical atmospheric conditions that promote noise propagation (i.e., due to wind) could result in noise impacts that would be noticeable along the waterfront in Turner Station and in northern Anne Arundel County. More common winds from the northwest could carry noise towards Edgemere and residences on the North Point Peninsula.

Construction – Nighttime Noise

Nighttime noise from dredging at the nearest sensitive receptors would not exceed acceptable limits under typical conditions, but the noise increases could exceed regulatory limits during less typical atmospheric or weather conditions. The only common project element that would occur day and night is dredging, which would occur during a seasonal window from June to February. The effects of the nighttime noise increase would depend on the distance between equipment and receptors, duration of activities in areas proximate to the proposed site, and proximity of multiple pieces of noise-generating equipment to each other. Noise from nighttime dredging would peak at 97 dBA at 50 feet which attenuates to acceptable residential levels within about 6,300 feet (1.2 miles) (Figure 60) under typical conditions.

Noise from dredging would not exceed acceptable levels of 55 dBA at sensitive receptors under typical conditions, but the communities of Stoney Beach and Riviera Beach in northern Anne Arundel County (about 11,000 feet [2.1 miles] away across the Patapsco River), Turner Station (about 8,400 feet away [1.6 miles] across Bear Creek), and Fort Howard (about 9,400 feet [1.8 miles] away across Old Road Bay) could experience occasional elevated noise. Noticeable noise impacts could occur during atmospheric inversions that sometimes occur at night and have the effect of propagating noise.

Figure 59. Projected Extent of 60 dBA Sound Level for Construction Elements – Terminal Development and Channel Improvements

The daytime limit (acceptable noise level) for periodic noise in residential areas is 60 dBA. The dashed line indicates the average attenuation of noise to acceptable residential levels, but some variability would occur due to atmospheric and weather conditions.

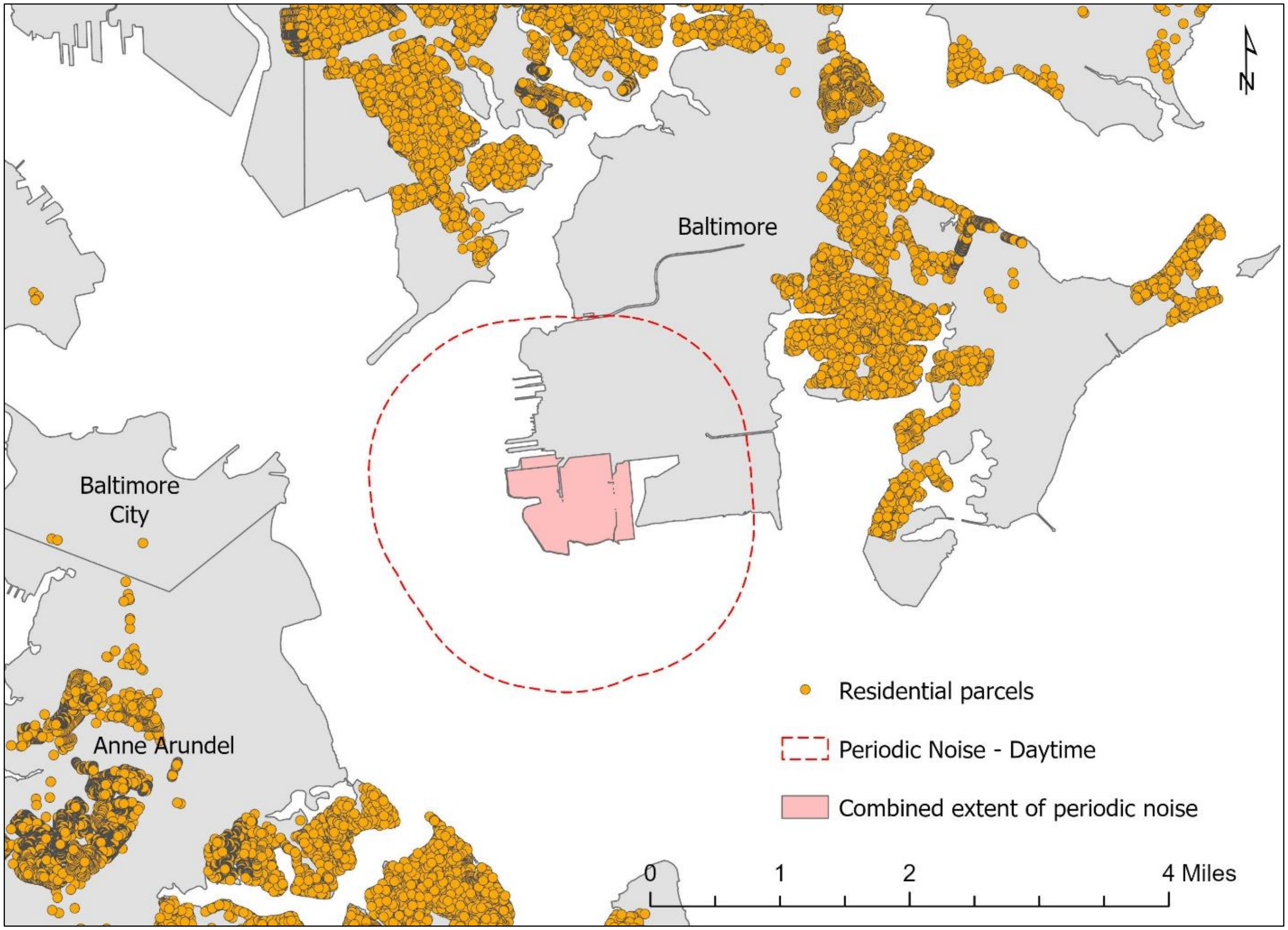
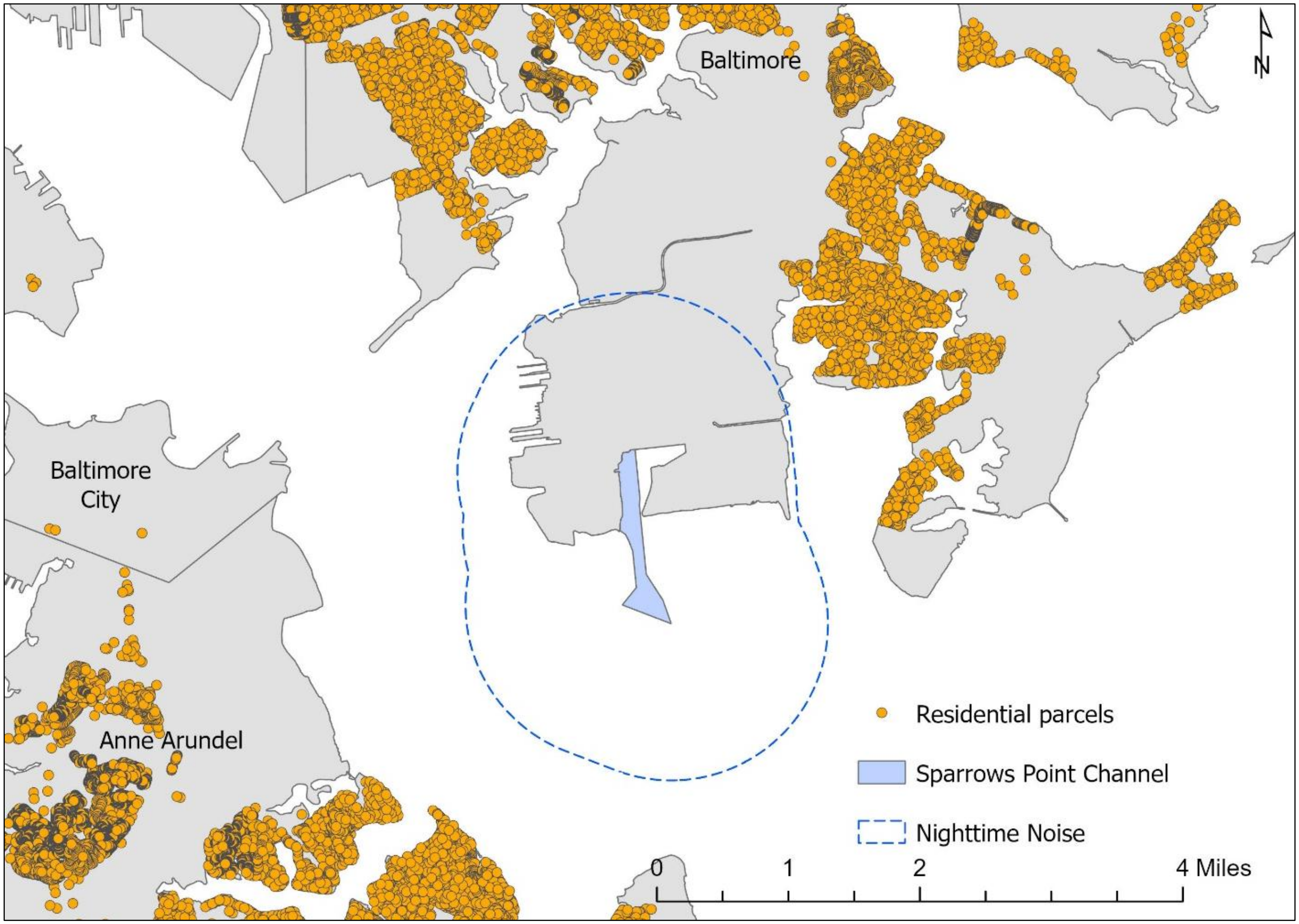


Figure 60. Projected Extent of 55 dBA Sound Level for Construction Elements – Terminal Development and Channel Improvements

The nighttime limit (acceptable noise level) for residential areas is 55 dBA. The dashed line indicates the average attenuation of noise to acceptable residential levels, but some variability would occur due to atmospheric and weather conditions.



Terminal Operation – Sustained Daytime Noise

Sustained daytime noise from terminal operations would generate noticeable impacts. Operation of the terminal would involve a variety of activities and equipment use, including container ship traffic, vessel unloading to the container storage yard with STS cranes, container transfer to truck or rail, and truck and rail traffic out of the facility. Shore power would be available for container vessels, which would limit engine noise at the terminal. The site currently operates as a terminal for Ro-Ro and bulk cargo, and terminal operations would result in the continuation of current activities (i.e., vessel visits, truck, and rail traffic) but with greater frequency of ship arrivals.

Several primary pieces of equipment (STS, RTG, and RMG cranes) would be electric, while empty container handlers, terminal tractors, and reach stackers would have diesel engines. The electric STS cranes generate noises of about 73 dBA at 50 feet, so even multiple cranes working close to each other would not impact sensitive receptors. Technical specifications for rubber-tired and RMG cranes did not include noise levels, but if they are electric, as planned, they would not produce disruptive noise for nearby residences, given that the noise levels would be consistent with other large, electrified equipment (e.g., STS cranes). Multiple empty container handlers and terminal tractors would be working simultaneously, but maximum noise levels from many of these pieces of equipment working in close proximity should not exceed 91 dBA at 50 feet, using data from Table 50 and effects of equipment combinations described in the introduction of Section 4.16.2. Noise at this level would attenuate to acceptable daytime residential levels in about 1,000 feet (0.2 mile). Noticeable ship and truck traffic increases due to terminal operations are projected, but no noise impacts would occur because the level of noise would not exceed allowable levels, and trucks are using routes that are outside neighborhoods (see Section 4.18.1).

Terminal Operation – Periodic Noise

Container stacking has the potential to generate periodic noise both day and night, but impacts on sensitive receptors would not be significant. The noise associated with containers being stacked is about 84 dBA at 50 feet (Table 50). Noises at this level should attenuate to acceptable periodic daytime noise levels (i.e., 60 dBA) within about 800 feet (0.2 mile) and acceptable periodic nighttime noise levels (i.e., 50 dBA) within about 2,500 feet (0.5 mile). There are no sensitive receptors within this area. However, under atypical atmospheric conditions that promote sound propagation, these sounds could reach the waterfront in northern Anne Arundel County, approximately 11,000 feet (2.1 miles) away to the south, across open water. Those same atmospheric conditions would not have as substantial effects on other neighborhoods to the northwest, west, and east, although noise impacts could occasionally occur. For these neighborhoods, equipment, containers, and other on-land features would attenuate noise to a greater extent than open water.

Terminal Operation – Nighttime Noise

Nighttime noise impacts from routine terminal operations would not be significant. Under typical atmospheric conditions, noise would be well within acceptable levels, but potential regulatory exceedances during less typical atmospheric or weather conditions are possible. Vessels would call on the new terminal day and night, and the types of equipment described in the sustained noise section would also be used at night. Noises from the loudest pieces of equipment (terminal tractors and empty container handlers) would attenuate to acceptable nighttime levels within about 3,200 feet (0.6 mile) and would not impact sensitive receptors under typical atmospheric conditions. However, under less typical atmospheric conditions that promote sound propagation, noise impacts could become noticeable along the waterfront in northern Anne Arundel County. Those same atmospheric conditions would not have as substantial effects on other neighborhoods to the northwest, west, and east, although noise impacts could occasionally occur. For these neighborhoods, equipment, containers, and other on-land features would attenuate noise to a greater extent than open water. Over time, diesel equipment may be transitioned to electric, which would have the effect of reducing future noise levels from terminal operations.

4.16.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

Sustained Daytime Noise

Noise from construction of the High Head Industrial Basin DMCF would attenuate to levels below acceptable daytime levels of 65 dBA at the nearest sensitive receptors, resulting in no impacts. Equipment used for inflow at the High Head Industrial Basin DMCF would include a hydraulic unloader, bulldozers, front-end loaders, and excavators (Table 49). The maximum noise levels associated with these activities would be in the range of 91 dBA at 50 feet.

The nearest sensitive receptors to the High Head Industrial Basin DMCF are residences about 2,600 feet (0.5 mile) away (Figure 61). Sustained daytime noise from High Head Industrial Basin DMCF construction and inflow activities would attenuate to about 57 dBA before reaching the nearest residences. However, greater attenuation would be likely due to ground cover (i.e., vegetation, trees, infrastructure) and barriers (i.e., warehouses and other buildings) between the source and receptors, effects not included in the model results shown. The modeled noise levels of 57 dBA at the nearest residences are within acceptable residential limits of 65 dBA.

Periodic Noise

No periodic noise impacts would occur from construction or placement of dredged material.

Nighttime Noise

No nighttime noise impacts would occur from placement of dredged material. No construction activities at the High Head Industrial Basin DMCF would occur at night.

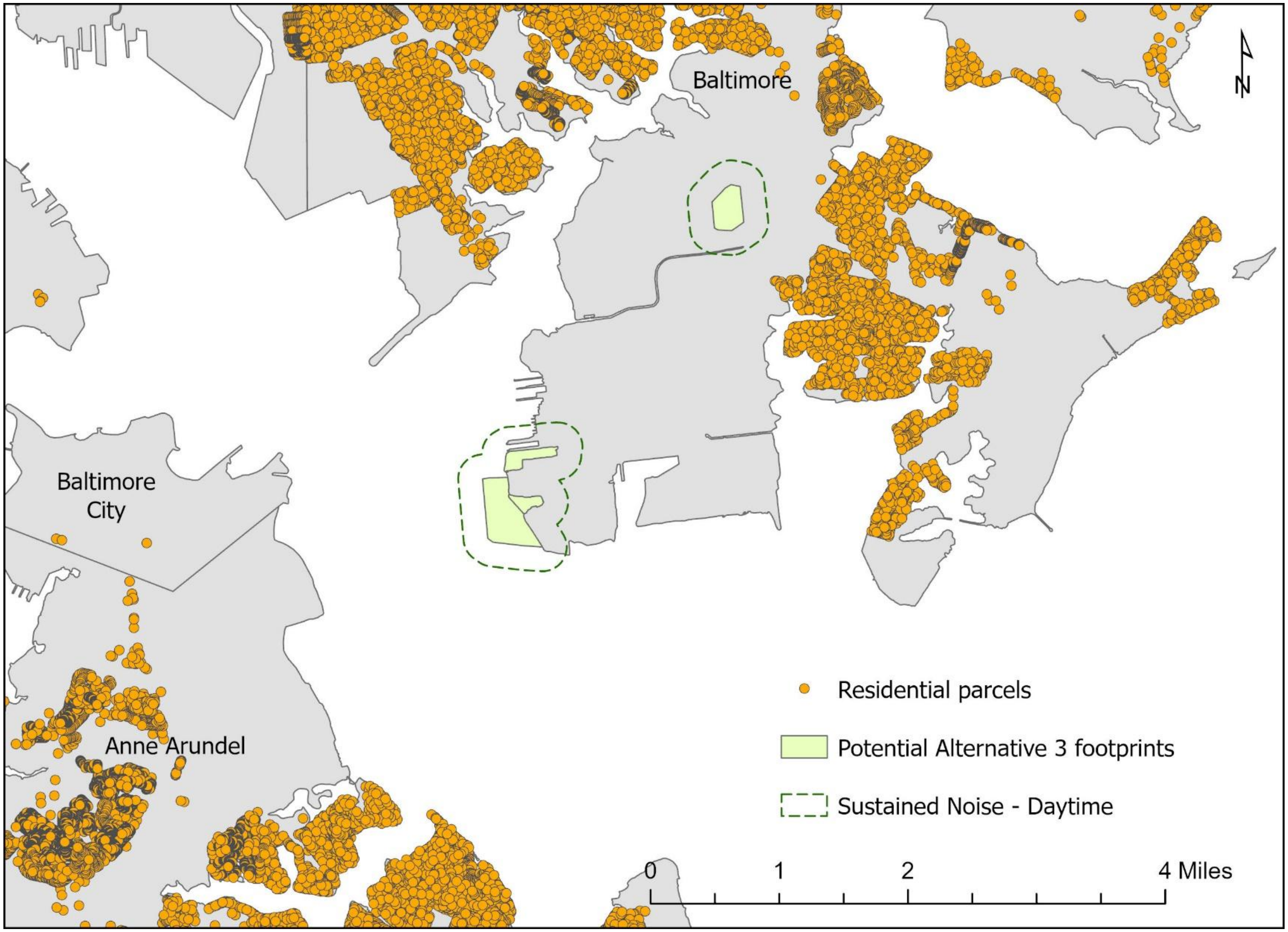
Coal Pier Channel DMCF at Sparrows Point

Sustained Daytime Noise

Noise analysis for the 100-acre DMCF (considered during the NEPA process but ultimately dismissed from detailed analysis; see Section 2.1.1.1) was analyzed and is provided to evaluate the maximum possible impact of any offshore DMCF, including the Coal Pier Channel DMCF. A daytime noise level of 91 dBA would typically attenuate to an acceptable residential level of 65 dBA within 1,000 feet (0.2 mile) (Figure 61).

Figure 61. Projected Extent of 65 dBA Sound Level for the Combined Options Alternative

The daytime limit (acceptable noise level) for residential areas is 65 dBA. The dashed line indicates the average attenuation of noise to acceptable residential levels, but some variability would occur to atmospheric and weather conditions.



The nearest sensitive receptors to the proposed Coal Pier Channel DMCF are about 7,800 feet (1.5 miles) away across Bear Creek to the north and about 11,000 feet (2.1 miles) away across the Patapsco River in northern Anne Arundel County. Sustained daytime noise generated by the offshore DMCF and subsequent dredged material placement would attenuate to 47 dBA in Turner Station and 46 dBA in northern Anne Arundel County, below acceptable daytime residential levels.

Periodic Noise

No periodic noise impacts would occur from construction or placement of dredged material.

Nighttime Noise

No construction activities at the Coal Pier Channel DMCF would occur at night, and no nighttime noise impacts would occur from placement of dredged material.

Existing Nearshore MPA DMCFs

No new impacts on community noise would occur because the MPA DMCFs are existing placement sites.

Existing Ocean Disposal Site

No new impacts on community noise would occur because NODS is an existing USEPA-designated ocean placement site.

4.16.2.4 Preferred Alternative – Dredged Material Placement

The impacts on community noise from the Preferred Alternative would be the same as those described for the Combined Options Alternative, except noise associated with the construction of the Coal Pier Channel DMCF would not occur. Noise associated with construction of the High Head Industrial Basin DMCF would be the same, but the construction period would extend an additional two months.

4.16.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on community noise include those that would result in changes to the soundscape.

- Activities associated with Key Bridge debris removal and reconstruction will have temporary and localized effects on community noise, especially for those residential communities to the west of Sparrows Point (e.g., Turner Station, Watersedge), due to the close proximity of these neighborhoods to the Key Bridge.
- Ongoing maintenance dredging activities, including those in Curtis Creek, cause similar temporary impacts to those described for the SPCT project dredging activities. Dredging would generate sustained noise that would attenuate to acceptable residential levels within about 2,000 feet under typical conditions.
- Similar to the SPCT project, impacts from the Bear Creek Superfund Site activities may result in temporary and localized impacts on community noise.

The SPCT project would not result in significant noise impacts. Construction and operation of the terminal would not result in sustained daytime noise impacts; noise would attenuate to acceptable residential levels before reaching neighboring communities. Periodic and nighttime noise during construction and operation of the terminal and dredging activities could reach sensitive receptors under atypical atmospheric or weather conditions that promote sound propagation. Sustained daytime noise from constructing the Coal Pier Channel and High Head Industrial Basin DMCFs would attenuate to acceptable levels, and there would be no periodic daytime or nighttime noise impacts from construction or dredged material placement.

The proposed SPCT project would not significantly impact community noise in the project area; therefore, the SPCT project would not make a substantial contribution to the impacts of planned actions and environmental trends on community noise.

4.17 Socioeconomics

4.17.1 Affected Environment

4.17.1.1 Study Area

The study area for socioeconomics includes the areas that are likely to have the most substantial social and economic effects from the proposed project. Three reporting scales are used. The first includes the 17 US Census tracts that are adjacent to proposed project activities (Figure 62). The second scale includes the two counties (Baltimore and Anne Arundel) and Baltimore City, which encompass these tracts. The third scale is the state of Maryland. All three scales are relevant to encompass the economic impacts (jobs, economic activity, tax revenues) that would occur throughout Maryland from the project. Local and state economic impacts are analyzed here as the most relevant, although there could be impacts beyond the state due to purchases that occur elsewhere.

4.17.1.2 Commercial Fishing

The waters near the study area are used by domestic and international shippers, as well as recreational and commercial boaters. Water use by recreational boaters is discussed in Section 4.14.

> A **pound net** is a visible passive (stationary) gear type used for the live entrapment of fish species.

Commercial fishing and commercial crabbing are limited in the Patapsco River, and most of the effort occurs east of the former Key Bridge. The volume and value of fish caught in the Patapsco River have an average annual value (based on data from 2013 to 2023) of about $78,000 for fish and $244,000 for blue crabs (Table 53) (Lewis 2024). Ten fish species were commercially harvested in the Patapsco River between 2013 and 2023 (Table 54) (Lewis 2024). Striped bass account for about 76% of the volume and 93% of the value of commercial fish caught in the Patapsco River from 2013 through 2023. Only one registered pound net is located in the Patapsco River at the northwest corner of Coke Point (Figure 63) (MDNR 2024g), though a variety of gear types are used in the river. There is no historic oyster bottom and currently no commercial shellfishing in the Patapsco River.

Table 53. Volume and Value of Commercial Fish Landings by Year in the Patapsco River

Year	Fish		Blue Crab	
	Pounds	Value	Pounds	Value
2013	48,620	$172,028	135,414	$241,112
2014	39,707	$130,609	100,038	$166,340
2015	15,372	$53,689	149,073	$209,361
2016	23,645	$53,066	204,878	$266,721
2017	10,532	$37,951	178,403	$258,202
2018	18,712	$55,159	92,694	$132,122
2019	15,269	$39,434	99,238	$142,514
2020	10,922	$20,715	125,174	$217,425
2021	7,646	$25,290	145,908	$339,006
2022	22,224	$57,349	140,960	$273,886
2023	78,402	$210,972	278,010	$436,630
Total	291,051	$856,262	1,649,790	$2,683,319
Average	26,459	$77,842	149,981	$243,938

Source: MDNR 2024

Table 54. Total Volume and Value of Commercial Landings by Species in the Patapsco River, 2013 to 2023

Species	Pounds	Dollars
Striped bass (*Morone saxatilis*)	220,326	$800,037
White perch (*Morone americana*)	23,541	$22,677
Gizzard shad (*Dorosoma cepedianum*)	15,817	$4,046
Channel catfish (*Ictalurus punctatus*)	12,823	$6,695
Atlantic menhaden (*Brevoortia tyrannus*)	7,465	$1,343
Common eel (*Anguilla anguilla*)	5,619	$14,272
Northern snakehead (*Channa argus*)	1,585	$3,568
Snapping turtle (*Chelydra serpentina*)	1,226	$1,653
Common carp (*Cyprinus carpio*)	622	$329
Catfish (general)	607	$394
Atlantic croaker (*Micropogonias undulatus*)	597	$578
Blue catfish (*Ictalurus furcatus*)	560	$222
Flathead catfish (*Pylodictis olivaris*)	200	$88
Crappie (*Pomoxis* spp.)	58	$348
Yellow perch (*Perca flavescens*)	5	$10

Source: MDNR 2024

Figure 62. Census Tracts That Comprise the Study Area for Socioeconomics

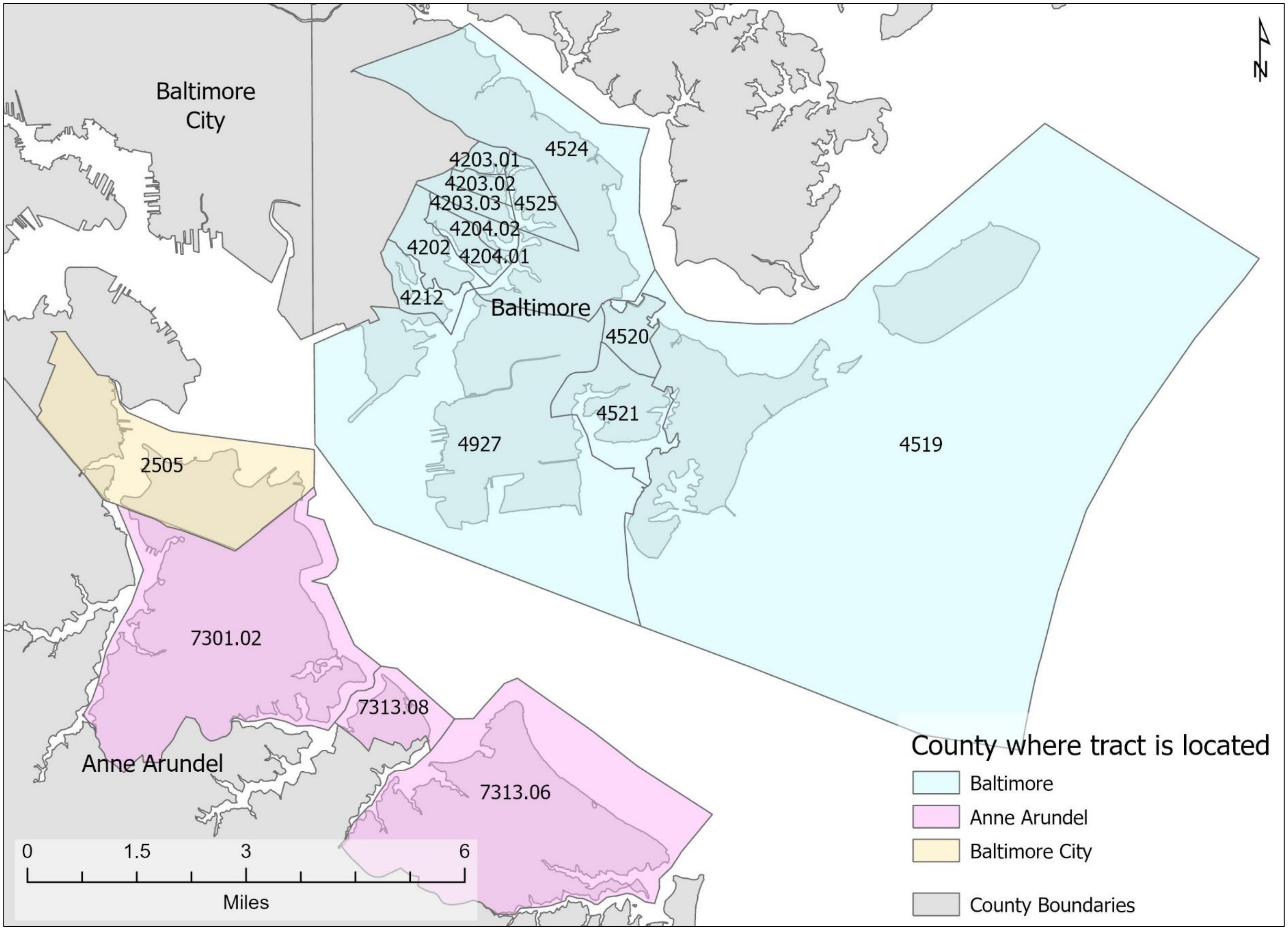
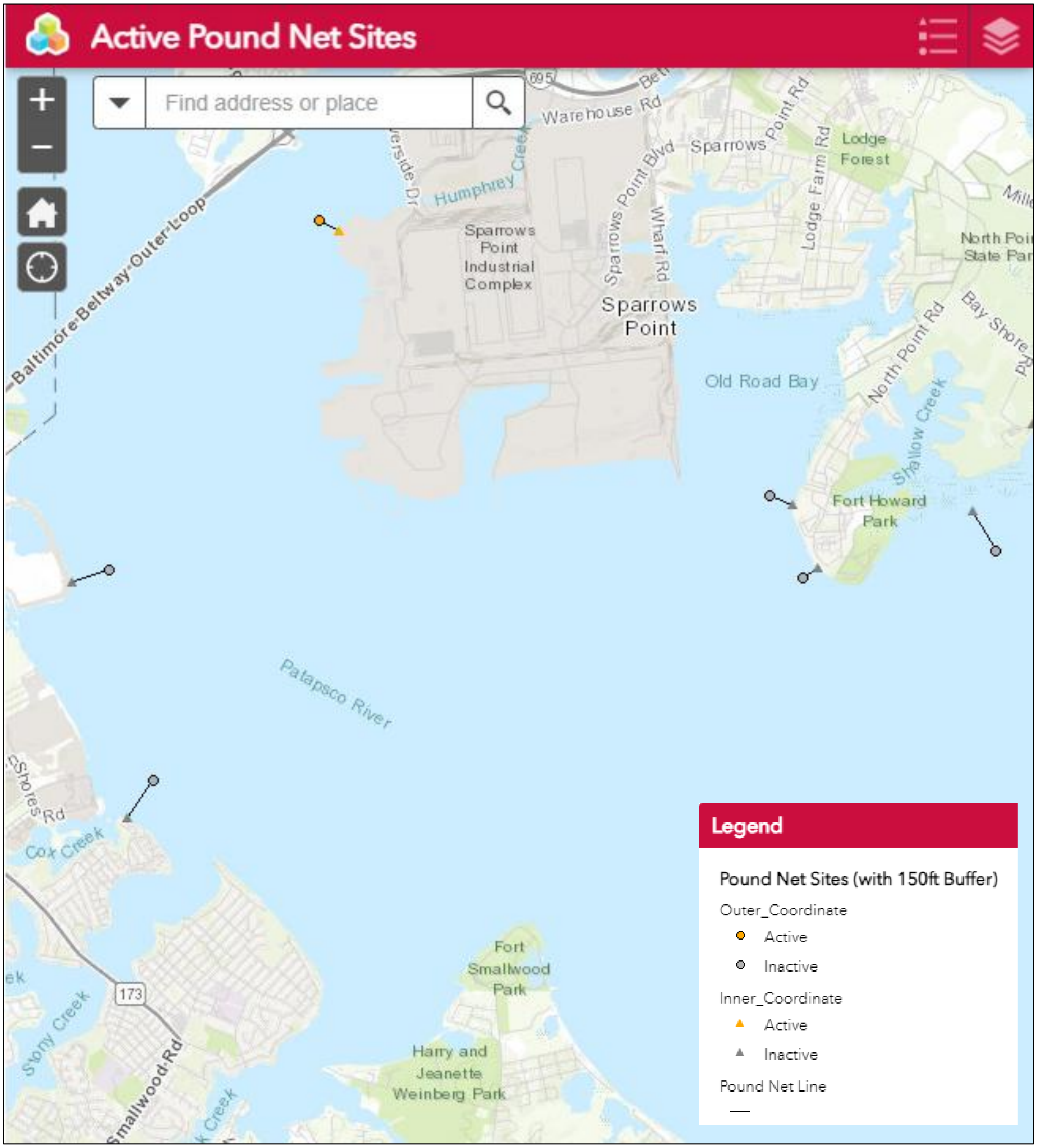


Figure 63. Pound Nets in the Socioeconomics Study Area

Source: MDNR 2024g



4.17.1.3 Cultural Context

The landscape, heritage, and recreational opportunities found in the socioeconomics study area combine to create a distinctive social and cultural environment. The Baltimore region, including the areas that surround Sparrows Point, is made up of distinct neighborhoods with individual character and history. History is woven into many Baltimore neighborhoods through its parks that were converted from prior military installations, historic streets and buildings, and legacies of past economic activities. During World Wars I and II, the Bethlehem Steel plant produced steel for war efforts, and in the 1950s, Sparrows Point was the site of the world’s largest steel plant. Neighborhoods near Sparrows Point were developed to house the many workers employed at the plant. The waterfront setting is a major contributor to the region’s culture, supporting the shipping industry, a vibrant sailing community, the acclaimed National Aquarium in Baltimore, and culinary highlights of Maryland blue crab and local oysters. Baltimore has a vibrant arts community, and people from Baltimore have made notable contributions to music, literature, and visual arts.

4.17.1.4 Population Characteristics

Many of the census tracts in the study area have demographic characteristics similar to the county or city average; however, tracts also reveal high spatial variability. There are 21 public and private K-12 schools in the study area, although none are in close proximity to project elements (Figure 64). Across the 17 tracts that make up the socioeconomics study area, the total population is about 66,000 people (University of Minnesota 2024) (Table 55). The age demographics of the tract containing the SPCT project area (4927) are similar to the demographics for Baltimore County as a whole (Table 55). Education levels are variable, and people (aged 25+) with a bachelor’s degree or more range from 6.0 to 44.9% across the census tracts. For Baltimore County, 41% of people have this level of educational attainment, which is comparable to the state rate of 42%. Many of the tracts have percentages of owner-occupied housing units above the Baltimore County rate mean of 62.6%; however, the tract containing the SPCT project area has a much lower rate of 22.6% (Table 56). The percentage of people who are unemployed generally ranges from 0.2 to 11.9% across tracts in the socioeconomic study area, with one tract recording much higher unemployment at 21.9%, compared to a Baltimore County average of 5.2% (University of Minnesota 2024) (Table 57).

Income levels and non-white population percentages are variable. The tract containing the SPCT project area (4927) has the largest percentage of low-income (54%) and non-white residents (68%) among the census tracts evaluated (University of Minnesota 2024). The percentage of low-income residents in this tract is well above the Baltimore County level of 23% and the non-white percentage is somewhat above the Baltimore County level of 44%. Across all tracts, the low-income population dips as low as 7.4% in Anne Arundel tract 7313.06, which is much lower than the Anne Arundel County (14%), Baltimore County (22.7%), or Baltimore City (37.6%) rates. Ten tracts in the study area have >25% low-income population, and three tracts have >50% non-white population, which meets the state’s definition of underserved communities. Middle Eastern / North African residents may identify as white in the current Census but will have the ability to identify as Middle Eastern / North African in future Censuses. This change in categories could shift some portions of the study area population from white to non-white, but the magnitude of the change is unknown.

Figure 64. Schools in the Socioeconomics Study Area

Source: National Center for Education Statistics 2024

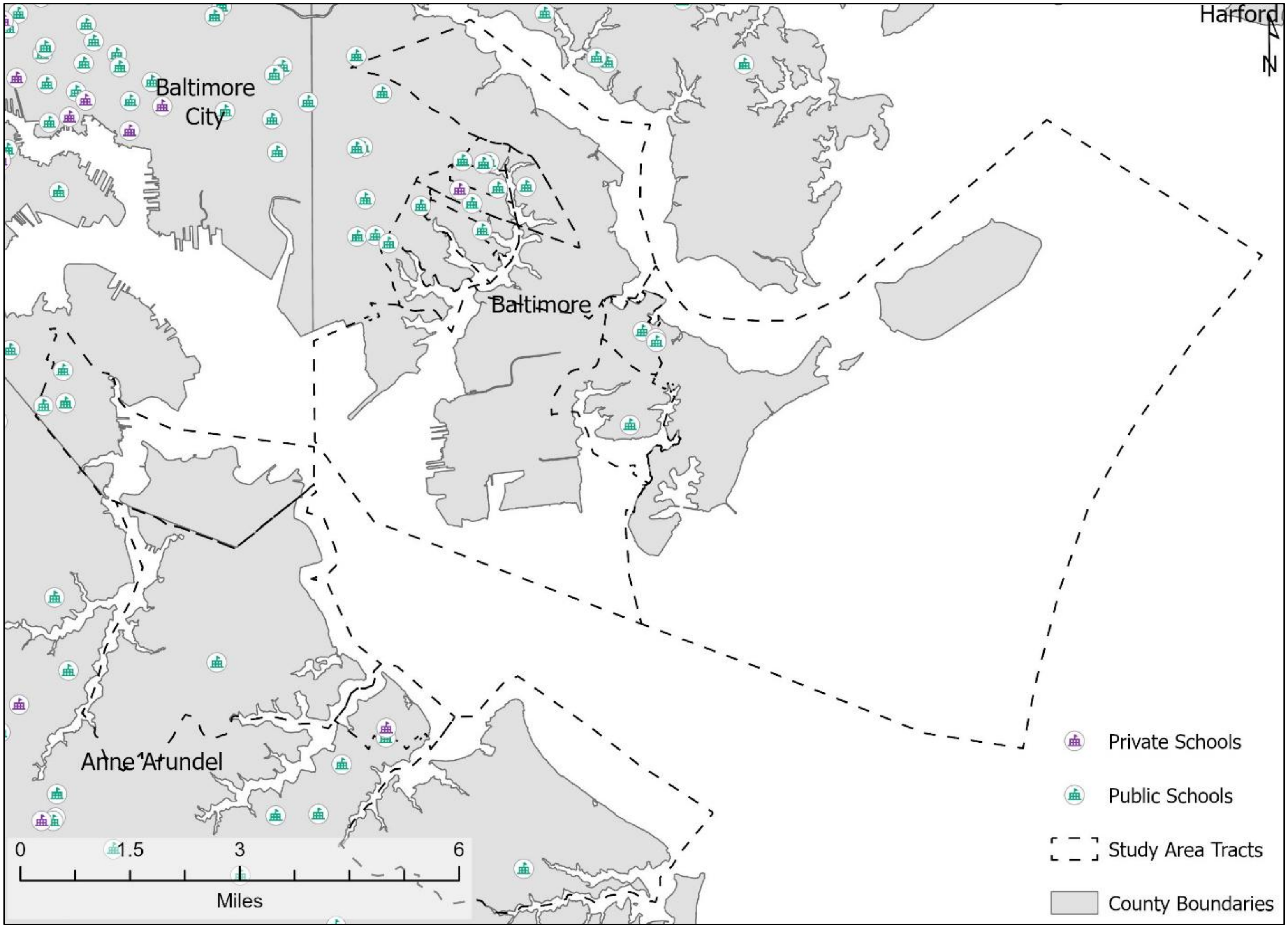


Table 55. Total Population and Age Characteristics, 2018 to 2022

County	Tract Number	Total Population	Percent Under 5	Percent Under 18	Percent 65 and older
Baltimore	County	850,737	5.7	21.6	17.6
Baltimore	42020	3,308	5.0	17.7	24.7
Baltimore	4203.01	2,335	7.2	18.0	12.2
Baltimore	4203.02	2,422	10.2	30.7	12.0
Baltimore	4203.03	1,158	5.8	16.8	20.9
Baltimore	4204.01	7,426	6.0	29.3	6.3
Baltimore	4204.02	1,931	6.5	28.6	12.0
Baltimore	4212	1,839	2.7	11.6	22.5
Baltimore	4519	2,663	9.8	24.5	17.2
Baltimore	4520	2,710	2.3	15.0	29.1
Baltimore	4521	3,353	7.2	22.1	16.5
Baltimore	4524	3,571	2.4	21.7	20.9
Baltimore	4525	4,243	7.1	34.5	10.8
Baltimore	4927 [1]	3,002	7.0	19.0	14.3
Anne Arundel	County	588,109	6.0	22.4	15.4
Anne Arundel	7301.02	11,619	7.2	23.1	5.2
Anne Arundel	7313.06	6,367	6.4	17.4	17.1
Anne Arundel	7313.08	4,194	5.5	16.5	15.2
Baltimore City	County	584,548	6.1	20.4	14.8
Baltimore City	2505	4,251	7.8	23.1	8.8

Source: University of Minnesota 2024

Notes:

1 – Tract containing the proposed project

Table 56. Race, Ethnicity, Education, and Language Characteristics, 2018 to 2022

County	Tract Number	Percent Non-white	Percent Hispanic	Percent High School Graduate	Percent with Bachelor's Degree or Beyond	Percent Households with Limited English
Baltimore	County	44.1	6.1	91.7	41.2	2.3
Baltimore	4202	18.5	8.1	91.7	9.6	1.1
Baltimore	4203.01	29.9	8.1	82.7	17.2	1.7
Baltimore	4203.02	27.7	7.3	87.4	24.1	0.0
Baltimore	4203.03	14.5	0.0	81.0	6.0	0.0
Baltimore	4204.01	53.0	11.5	81.9	14.0	5.3
Baltimore	4204.02	29.8	12.1	87.5	25.0	5.1
Baltimore	4212	18.7	6.6	92.4	13.4	3.3
Baltimore	4519	3.6	1.9	92.1	39.6	0.0
Baltimore	4520	16.8	0.0	94.3	21.3	0.0
Baltimore	4521	14.1	0.0	87.8	22.2	1.9
Baltimore	4524	12.2	1.2	90.1	17.5	0.0

County	Tract Number	Percent Non-white	Percent Hispanic	Percent High School Graduate	Percent with Bachelor's Degree or Beyond	Percent Households with Limited English
Baltimore	4525	27.0	4.9	86.1	12.9	0.0
Baltimore	4927 [1]	68.9	11.7	90.7	8.7	0.7
Anne Arundel	County	32.6	8.7	93.5	44.1	1.5
Anne Arundel	7301.02	45.4	9.2	96.4	44.9	3.4
Anne Arundel	7313.06	8.4	4.6	94.7	36.0	1.8
Anne Arundel	7313.08	8.8	4.2	92.5	17.8	0.0
Baltimore City	County	71.6	5.9	87.1	34.9	2.0
Baltimore City	2505	59.3	13.0	78.6	14.6	1.5

Source: University of Minnesota 2024

Notes:

1 – Tract containing the proposed project.

Table 57. Income, Employment, and Housing Unit Characteristics, 2018 to 2022

County	Tract Number	Per Capita Income	Percent Low Income	Percent Unemployed	Total Housing Units	Percent Housing Units Owner-occupied
Baltimore	County	$46,603	22.7	5.2	349,471	62.6
Baltimore	4202	$41,166	20.0	1.3	1,575	77.1
Baltimore	4203.01	$26,123	43.8	11.9	1,098	34.9
Baltimore	4203.02	$27,850	29.2	5.3	1,026	47.0
Baltimore	4203.03	$37,926	27.1	21.9	528	83.9
Baltimore	4204.01	$25,642	52.1	9.3	2,248	40.1
Baltimore	4204.02	$32,109	37.4	9.6	759	72.5
Baltimore	4212	$34,374	39.3	6.0	799	82.2
Baltimore	4519	$69,606	11.0	1.9	1,180	73.1
Baltimore	4520	$36,738	20.4	2.5	1,109	79.4
Baltimore	4521	$64,042	15.1	4.6	1,451	75.1
Baltimore	4524	$40,158	25.9	6.5	1,332	84.2
Baltimore	4525	$27,833	37.0	4.4	1,395	70.7
Baltimore	4927 [1]	$26,200	54.4	6.2	1,669	22.6
Anne Arundel	County	$56,187	14.2	4.2	233,163	71.4
Anne Arundel	7301.02	$52,375	10.4	4.6	4,381	77.0
Anne Arundel	7313.06	$70,145	7.4	0.2	2,401	93.0
Anne Arundel	7313.08	$39,902	17.8	3.1	1,640	81.7
Baltimore City	County	$37,845	37.6	6.9	293,555	40.2
Baltimore City	2505	$32,619	34.2	5.7	2,510	45.1

Source: University of Minnesota 2024

Notes:

1 – Tract containing the proposed project.

4.17.1.5 Economy, Employment, Labor Force, and Industry

Sparrows Point is now a logistics and distribution hub. Sparrows Point is a major local employer of residents in the neighboring tracts. A third-party analysis of commuting patterns used cell phone captures to estimate the number and origin of regular daily visits. In the first four months of 2023, the analysis estimated a daily on-site population of 19,000 to 22,000, including workers and truckers. About 30% of workers are coming from nearby Dundalk, Sparrows Point, and Essex, with many of the remaining workers coming from elsewhere across the Greater Baltimore area.

Employment across economic sectors in the 17 census tracts that make up the socioeconomic study area shares some similarities with but also differs from Baltimore County and the state. The employed civilian population in the census tracts is about 33,000 people, and the largest employment sector is educational services, healthcare, and social assistance (20.4%). The other large employment sectors for the neighboring census tracts are the retail trade, professional science and management, transportation, warehousing and utilities, and construction sectors (Table 58, Figure 65). Employment in the transportation, warehousing, and utilities sector is much higher in the neighboring census tracts (10.5%) than in Baltimore County (6.0%) or the state of Maryland (5.0%). Compared to the census tracts in the study area, Baltimore County and the state have higher proportions of employment in educational services, healthcare and social assistance, public administration, and professional services. The arts, entertainment, and tourism sector has similarly modest levels of employment across regions of 7 to 8%. The percentage employed in agriculture, forestry, mining, and fishing is low across all regions (less than 1%).

Table 58. Employment by Region and Economic Sector, 2018 to 2022

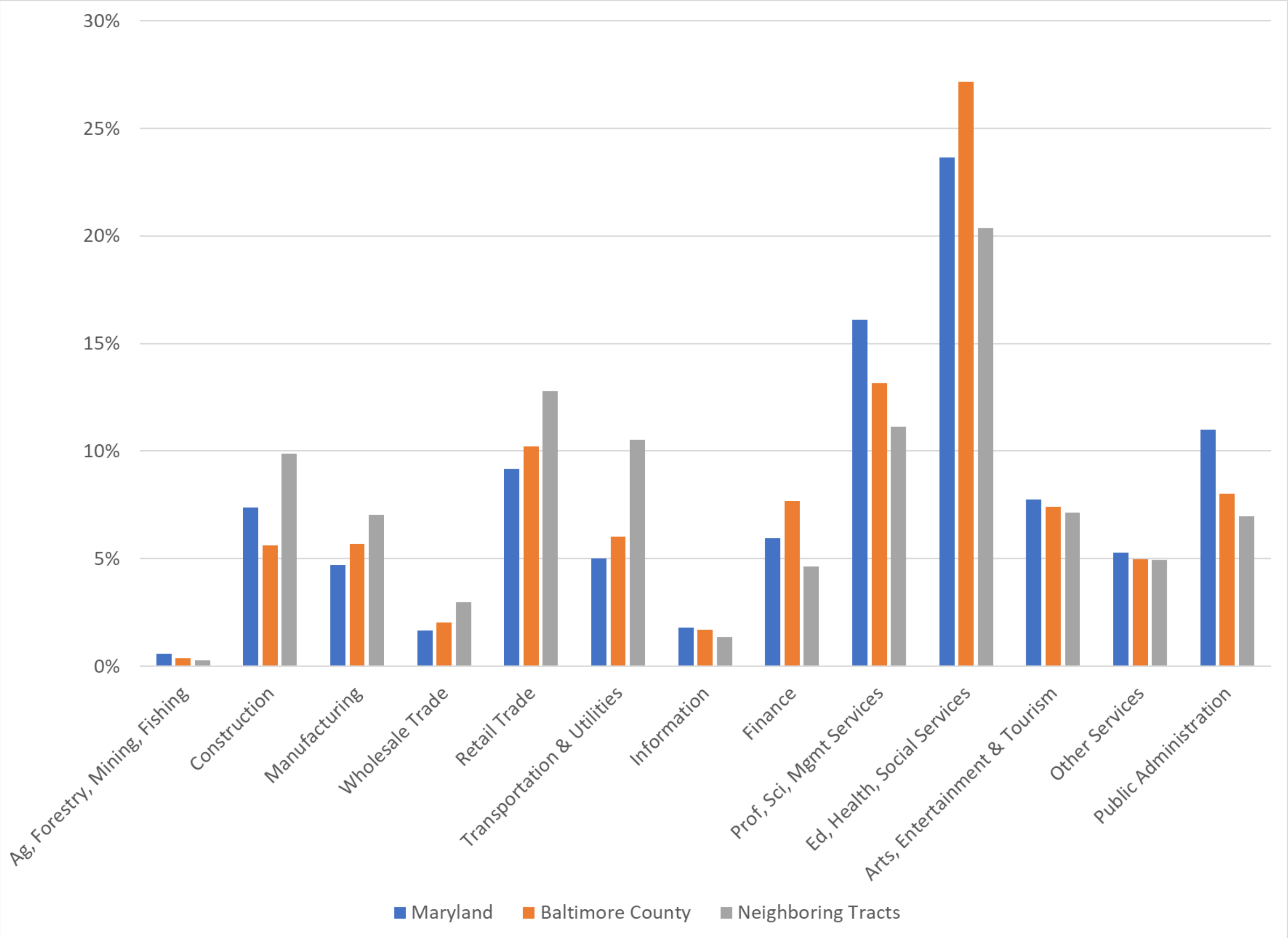
Employment Sectors	Maryland	Baltimore County	Socioeconomics Study Area Tracts
Employed civilian population	3,131,413	429,630	33,279
Agriculture, forestry, fishing and hunting, mining	17,490 (0.6%)	1,614 (0.4%)	95 (0.3%)
Construction	231,015 (7.4%)	24,188 (5.6%)	3,290 (9.9%)
Manufacturing	147,279 (4.7%)	24,383 (5.7%)	2,337 (7.0%)
Wholesale trade	51,837 (1.7%)	8,673 (2.0%)	989 (3.0%)
Retail trade	286,887 (9.2%)	43,956 (10.2%)	4,254 (12.8%)
Transportation and warehousing, utilities	156,937 (5.0%)	25,886 (6.0%)	3,507 (10.5%)
Information	55,833 (1.8%)	7,226 (1.7%)	453 (1.4%)
Finance and insurance, real estate, rental and leasing	186,439 (6.0%)	32,971 (7.7%)	1,543 (4.6%)
Professional, scientific and management, administrative, waste management	504,340 (16.1%)	56,492 (13.1%)	3,703 (11.1%)
Educational services, health care, social assistance	740,425 (23.6%)	116,651 (27.2%)	6,775 (20.4%)
Arts, entertainment and recreation, accommodation, and food services	242,931 (7.8%)	31,855 (7.4%)	2,379 (7.1%)
Other services	165,530 (5.3%)	21,323 (5.0%)	1,639 (4.9%)
Public administration	344,470 (11.0%)	34,412 (8.0%)	2,315 (7.0%)

Source: University of Minnesota 2024

Figure 65. Employment by Economic Sector and Region

This chart presents the employment sectors for the state of Maryland, Baltimore County, and the socioeconomic study area tracts. The matching data for this chart is presented above in Table 58.

Source: University of Minnesota 2024



4.17.2 Environmental Consequences

The socioeconomic effects of the proposed project would include the economic impacts on the local and regional economy from the construction and operation of new business and transportation alternatives. These effects are modeled to generate quantitative estimates. Other effects are qualitatively evaluated, and they represent potential disruptions to selected economic sectors during or after construction and changes in socio-demographics from job creation.

Economic Impacts in Maryland

The economic impacts of a new project can be quantified in terms of multiple indicators including the jobs, incomes, business sales, and tax revenues generated by project spending. Economic impacts are generated through direct, indirect, and induced effects on economic sectors. Direct effects are those that result from purchases or job creation associated with the project development and operation. Indirect effects are associated with purchases and sales by the businesses that supply inputs to the businesses that receive direct project spending, and additional rounds of new spending that propagate through the economy. Induced effects are generated when households spend new income to purchase goods and services at businesses that are unrelated to project construction and operation. The indirect and induced effects are often referred to as multiplier effects and their magnitude is a function of the economic structure of the region used in analysis.

This section describes potential direct, indirect, and induced economic impacts that would result from each proposed alternative for construction and operation of the terminal. Impacts are assessed as multi-region effects where job creation would occur in the local region (Anne Arundel County, Baltimore County, and Baltimore City), and indirect and induced effects are assessed for the local region and the state of Maryland.

Methods

Assessment of the economic impacts of each stage of project development involved four steps:

1. Estimate the number and duration of jobs in various industries required to complete each phase of each alternative.
2. Develop an economic input-output model for the immediate impact region and the rest of the state of Maryland.
3. Use employment estimates to estimate impacts associated with the project.
4. Estimate the average annual economic impacts and cumulative economic impacts over the project period.

IMPLAN is an economic model built on data aggregated from multiple sources to represent an area’s economic structure. The model uses local data on the size and type of businesses in a region and interactions (purchases, taxes, and transfers) among business (or industry) sectors, governments, and households, as the basis for modeling economic impacts. To model impacts, new spending (or new job creation) is distributed to the appropriate economic sectors (i.e., 546 industry categories), resulting in increased output (or employment). This new spending on activities, such as planning, constructing, or managing a project, increases industry-specific activity that, in turn, necessitates increased purchases of inputs from other businesses (goods and services) and households (labor). Resulting economic impacts are classified in IMPLAN as employment (jobs created), labor income (employee compensation and proprietor income), value added (contribution to Gross Domestic Product), total output (gross value of industry production), and tax revenues (income taxes, taxes on corporate profits, social insurance tax, excise and sales taxes, customs / duty). These impacts represent the various ways that economic activity is stimulated as a result of new spending or new hiring. IMPLAN is a widely used tool for economic impact analysis and was used to model economic impacts of the proposed project using data from 2022.A multi-regional input-output model was used for the analysis. Multi-region models are used to evaluate effects within the area receiving the direct spending (or job creation) and also include the indirect and induced effects within a broader region that includes businesses and households that interact with businesses in the region of direct job creation. In this analysis, estimated direct jobs created with the construction and operation of the terminal were modeled in the local region (Anne Arundel County, Baltimore County, and Baltimore City) with indirect and induced impacts modeled for the rest of the state of Maryland. Not all indirect and induced industry and household purchases would occur in the local region, so additional impacts are captured when the rest of the state is included in the modeling. Expected employment in each phase of each alternative (Table 59) was allocated to specific industrial sectors (e.g., construction of non-residential structures, water transportation) and modeled for the local region.

Economic impacts from the model generate average annual projections that were multiplied by the varying durations of project construction and operational phases to create total impacts per project phase. Phases evaluated include the common elements related to terminal construction (e.g., wharf construction, paving, building construction), dredging, and material placement; terminal operations; and DMCF construction (Table 59). The inclusion of dredging and placement activities among the common elements differs from other impact sections that include placement impacts with DMCF construction. The socioeconomic impacts differ because economic activity associated with placement was not separable from dredging and included the same level of effort (i.e., jobs).

Jobs created by construction activity were assigned to IMPLAN sectors based on the type of structure being built (i.e., new non-residential structures, new commercial structures). Dredging jobs were assigned to the sand and gravel mining sector, following a recommendation from IMPLAN (Clouse 2020). Long-term terminal jobs were assigned to the sector of support activities for transportation, which includes Port facility operation, wharf operation, and loading and unloading services.

Assumptions and Sources of Uncertainty

Model choices described in this section are typical for this type of regional economic analysis conducted to represent effects within a fixed geographic region. As with any model, results can vary with modeling choices, model structure, data quality, and the size of the region modeled.

- The analysis is for the state of Maryland, and the direct jobs were assumed to occur in the 3-county region closest to the proposed new terminal. Using a larger region for analysis tends to increase the measured economic impacts since more businesses and households will generate indirect and induced effects.
- This analysis does not include any forecasts of future growth, so as employment or output change over time, economic impacts from operations will diverge from the annual impacts generated here, which are based on expected employment levels necessary for terminal operations.
- IMPLAN is an industry standard input-output model that evaluates economic impacts based on national and local data sources. Local businesses and households may have purchasing patterns that

differ from national averages and therefore model output can differ from analyses based on local data.

- The model used an estimate of the direct jobs needed to complete construction and conduct terminal operations as inputs. An alternative approach is to use spending by economic sector as input, which could yield somewhat different results.

Table 59. Direct Employment and Duration by Project Phase and Alternative

Alternative	Phase	Direct Employment (number of jobs)	Duration (months)	IMPLAN Industry [1]
No-action Alternative	NA	Not estimated	NA	NA
Common to Both Action Alternatives – Terminal Development and Channel Improvements	Electrical	24	34	56
	Upland civil (miscellaneous)	15	32	56
	Paving	24	28	56
	Gate area	12	11	56
	Utilities (water and storm)	12	4	56
	Wharf construction	125	30	56
	Building construction	27	32	55
	Rail (crane and intermodal / rail yard)	18	10	56
	Dredging and placement (seasonal)	35	24	29
	Dredging and placement (year-round) [2]	6	36	29
	Terminal operations	1,050	NA	420
Combined Options Alternative and Preferred Alternative – Dredged Material Placement	DMCF construction	30	27	56

Notes:

1 – IMPLAN Industry 29 is sand and gravel mining, 55 is construction of new commercial structures, including farm structures, and 56 is construction of other new nonresidential structures

2 – Dredging activities are seasonal, but a subset of dredging employees would likely be engaged in other related tasks during the rest of the year

NA = not applicable

4.17.2.1 No-action Alternative

Economic Impacts

Impacts were not quantified for the No-action Alternative because the nature and magnitude of future activities are highly uncertain. The details of any future development of Coke Point have not been determined but would include the continued remediation of impacted soil and groundwater, as well as paving and building consistent with the rest of the TPA property. Continued periodic maintenance dredging of the Sparrows Point Channel, as well as continued operation of warehouses, handling of Ro-Ro and bulk cargo, and other current activities, would increase jobs and economic activity in the local region and state.

Commercial Fishing Impacts

No impacts on commercial fishing would occur because the No-action Alternative would not contain any in-water activities.

4.17.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Economic Impacts from Construction

The construction activities would take just under 3 years to complete. Jobs created during each phase would not necessarily be full-time equivalents because some phases would be less than a year in duration, which were accounted for when calculating job-years. During this period, about 1,090 job-years of employment are expected (Table 60) with labor income of about $80 million and industry output of about $203 million (Table 61). This is equivalent to about 364 average annual jobs over the 3 years of construction and dredging. The average annual salary of all jobs would be about $74,000. Additionally, about $2.9 million in county and $6.2 million in state tax revenues are expected.

Table 60. Estimated Total Employment Impacts from Elements Associated with the Terminal Development and Channel Improvements over the 3-year Construction Period

Phase	Direct Jobs	Duration (years)	Direct Job-years	Total job-years [1]
Electrical	24	2.83	68	110
Backland civil (miscellaneous)	15	2.67	40	65
Paving	24	2.33	56	91
Gate area	12	0.92	11	18
Utilities (water and storm)	12	0.33	4	6
Wharf construction	125	2.50	313	506
Building construction	27	2.67	72	107
Rail (crane and intermodal / rail yard)	18	0.83	15	24
Dredging (seasonal) [2]	35	2.00	70	131
Dredging (year-round)	6	3.00	18	32
Total	**NA**	**NA**	**667**	**1,091**

Notes:

1 – Sum of direct, indirect, and induced jobs in the local region and the rest of the state of Maryland

2 – Seasonal jobs would last 8 months per year, so the total duration is 2 years.

Totals may not sum due to rounding.

NA = not applicable

Table 61. Estimated Economic Impacts from Elements Associated with the Terminal Development and Channel Improvements over the Construction Period

Region	Employment (job-years)	Labor Income	Value Added	Output	Tax Revenues		
					City / County	State	Federal
Local region	1,022	$76,164	$103,294	$188,672	$2,454	$5,579	$16,496
Rest of Maryland	69	$4,182	$8,279	$14,319	$450	$616	$1,024
Total [1]	**1,091**	**$80,345**	**$111,574**	**$202,991**	**$2,904**	**$6,195**	**$17,520**

Notes:

1 – Values represent the sum of direct, indirect, and induced impacts in the local region and the rest of the state of Maryland.

Dollar values in $1,000s, 2024 dollars.

Economic Impacts from Terminal Operations

Once constructed, the operation of the terminal would generate jobs in the specialized transportation sector that includes Port facility operation, wharf operation, and loading and unloading services. About 800 direct jobs on the terminal and about 250 direct office jobs are anticipated. These direct jobs would generate an additional 540 indirect and induced jobs in the local region, bringing the total employment impacts (including direct, indirect, and induced) to nearly 1,600 in the local region with additional 87 jobs in the rest of the state (Table 62). These are annual values that would persist in perpetuity. The terminal operations jobs would generate about $102 million in labor income and $194 million in industry output annually. Average annual salary for all jobs would be about $61,000, compared with per capita income of about $47,000 in Baltimore County (US Census 2022). These jobs would also generate more than $3 million in annual county tax revenue and about $6.2 million in annual state tax revenues.

Table 62. Estimated Total Economic Impacts of Ongoing Terminal Operations

Region	Employment (job-years)	Labor Income	Value Added	Output	Tax Revenues		
					City / County	State	Federal
Local region	1,577	$97,013	$101,384	$177,945	$2,545	$5,496	$19,666
Rest of Maryland	87	$5,072	$9,823	$16,319	$503	$693	$1,233
Total [1]	1,664	$102,085	$111,208	$194,264	$3,048	$6,189	$20,899

Notes:

1 – Sum of direct, indirect, and induced jobs in the local region and the rest of the state of Maryland

Values are per year, and jobs are ongoing. Dollar values in $1,000s, 2024 dollars.

Cultural Context

Given the existing level of jobs and economic activity in the construction, transportation, and warehousing sectors in the local area, the project is not anticipated to significantly impact the economic structure or socio-demographics of the region. The creation of over 300 average annual jobs in the local region during the 3-year construction phase and almost 1,600 jobs for operations could reduce unemployment and increase incomes during these phases. New workers could move to or stay temporarily in the area, potentially increasing demand for housing and services. However, the new jobs would be a small percentage of total employment, so effects would not be significant.

Commercial Fishing Impacts

Commercial fishing is not known to be occurring in the Sparrows Point Channel. However, increased vessel traffic associated with terminal construction, operations, and dredging has the potential to create space / use conflicts if commercial fishing vessels are also using the channel.

4.17.2.3 Combined Options Alternative – Dredged Material Placement

Economic Impacts

Construction of the High Head Industrial Basin and Coal Pier Channel DMCFs, including dredged material placement, would take about 27 months of labor activity, creating 109 job-years of employment (about 48 average annual jobs) (Table 63). This level of employment would generate about $8 million in labor income and about $19 million in industry output. These jobs would have an average annual salary of almost $74,000. Construction of the onshore and offshore DMCFs would generate almost $252,000 in county taxes and $536,000 in state taxes.

Table 63. Estimated Economic Impacts for DMCF Construction over the 27-month Construction Period

Region	Employment (job-years)	Labor Income	Value Added	Output	Tax Revenues		
					City / County	State	Federal
Local Region	103	$7,650	$9,855	$18,013	$211	$480	$1,635
Rest of Maryland	7	$391	$771	$1,336	$40	$56	$96
Total [1]	109	$8,041	$10,626	$19,349	$252	$536	$1,731

Notes:
Dollar values are in thousands and 2024 dollars.
1 – Sum of direct, indirect, and induced jobs in the local region and the rest of the state of Maryland

Activities related to the proposed terminal and DMCF construction and dredged material placement would generate employment and substantial economic activity. Including the elements associated with the terminal development and channel improvements, this alternative would generate a total of about 1,200 job-years of employment and $222 million in industry output. Average annual salaries across all jobs would be around $74,000. This alternative, including terminal development, would generate about $3.2 million in county tax and $6.7 million in state tax revenue during their active periods.

Commercial Fishing Impacts

High Head Industrial Basin DMCF

The construction of the High Head Industrial Basin DMCF would not have any impacts on commercial fishing.

Coal Pier Channel DMCF at Sparrows Point

The Coal Pier Channel DMCF would be located just over a mile to the south of an active pound net and would not co-occur with the existing pound net location. Although construction noise could deter fish use of the area for 2 to 3 years, construction would be unlikely to limit vessel activity. Overall effects on commercial fishing would not be significant.

Existing Nearshore MPA DMCFs

No new socioeconomic impacts would occur because the MPA DMCFs are existing placement sites.

Existing Ocean Disposal Site

No new socioeconomic impacts would occur because NODS is an existing USEPA-designated ocean placement site.

4.17.2.4 Preferred Alternative – Dredged Material Placement

The impacts on socioeconomics from the Preferred Alternative would be the same as those described for the Combined Options Alternative.

4.17.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on socioeconomics include those that would affect jobs and economic activity.

- The Key Bridge debris removal and reconstruction projects will generate jobs and economic activity and reopen a critical transportation corridor in the region. Similarly, the Bear Creek Superfund Site will generate short-term job opportunities. These three projects could have short-term localized impacts on commercial fishing, as areas would be closed during construction, but no long-term impacts on commercial fishing are anticipated.
- Ongoing maintenance dredging activities, including those for Curtis Creek, cause similar temporary impacts to those described for the SPCT project dredging activities. Dredging could contribute to localized and temporary commercial fishing impacts.

Economic impacts associated with the SPCT project would be beneficial. Terminal and DMCF construction would generate employment and economic activity in the region during the period of construction. Terminal operations would generate jobs and economic activity in perpetuity. Any commercial fishing impacts from the SPCT project would be less than significant.

The proposed SPCT project would not significantly impact socioeconomics in the project area; therefore, the SPCT project would not make a substantial contribution to the impacts of planned actions and environmental trends on socioeconomics in the region.

4.18 Traffic

4.18.1 Affected Environment

The project area is served by a major interstate (I-695) (Figure 66). I-695 is the main interstate that encircles Baltimore. During the planning for this project, the Key Bridge collapsed on March 24, 2024, after being hit by a cargo vessel. The collapse of the Key Bridge immediately altered traffic conditions in the Baltimore region as the Key Bridge serves as a vital element of I-695. Two interstates, I-895 and I-95, provide alternate routes but these are inadequate to handle the daily traffic. Additionally, both interstates have tunnels so that these roads are closed to tractor trailers with hazardous materials. State and federal agencies immediately began planning for the reconstruction of the Key Bridge and it is anticipated that the bridge will reopen in 2028. The analysis in this Draft EIS assumes that the Key Bridge will be operational about the same time as the SPCT project construction is completed and becomes operational and therefore the Key Bridge availability is assumed for this traffic analysis.

I-695 and three major surface roads connect the TPA property to I-695 (Bethlehem Boulevard, Sparrows Point Boulevard, and Peninsula Parkway Expressway) (Figure 66). Bethlehem Boulevard is a two-lane major collector that provides access between the TPA property and I-695. Sparrows Point Boulevard is a four-lane divided roadway also providing access between the TPA property and I-695. Peninsula Expressway is a four-lane divided highway leading north from the intersection with Bethlehem Boulevard and providing access to I-695. The proximity of these major surface roads to the TPA property focuses traffic in the immediate vicinity of the TPA campus.

Traffic at TPA has been studied as part of TPA's Master Plan process since 2015 to understand how TPA's development of Sparrows Point would impact local traffic. The traffic study was last formally updated in 2021 based on the development of the site that had been completed at that time, as well as the projected future development based on the quantity and types of buildings and operators that are anticipated (The Traffic Group 2024a). The 2021 study assessed the future Average Daily Traffic (ADT) on the main access roads into the TPA property assuming full buildout of the TPA Master Plan (Table 64).

Table 64. Average Daily Traffic on Main Access Roads into the TPA Property

Road	ADT Inbound	ADT Outbound
Bethlehem Boulevard	5030	5030
Sparrows Point Boulevard	9040	9040
Peninsula Expressway	6050	6050

The results of the 2021 traffic study, projecting full buildout of the TPA property, informed the improvements required to various roadways and intersections to ensure that the level of service of the roadways and intersections was appropriate for the projected traffic volumes (The Traffic Group 2024a). This includes roadway improvements recently completed by TPA at Bethlehem Boulevard and Wharf Road.

As part of the ongoing traffic analysis for the TPA property, traffic counts of actual traffic volume were conducted in 2023 to compare actual traffic volumes to the engineering projections (The Traffic Group 2024b). Comparing these actual traffic counts to the projected traffic volume from the 2021 Traffic Study, 2023 actual traffic counts were 37% less during than projected for morning peak hour and 49% less than projected during the evening peak hour for all the traffic coming in and out of TPA. The methodology for the 2021 study over-projected the anticipated volume of traffic based on the amount of development completed to date (The Traffic Group 2024b). The 2021 study identified potential impacts on specific roadways. Since that study, TPA made upgrades to infrastructure based on the assumptions and projected impacts. In 2024, a new study was done to understand current conditions based on development completed to date. The study also updated development plans, including adding SPCT, and developed new projected future impacts. Key findings of the 2024 study show that current traffic based on the amount of completed development is lower than what the traffic study projected in 2021. All traffic from the terminal is expected to drive on Shipyard Road and Bethlehem Boulevard to connect directly to I-695. Based on this volume and traffic pattern, all roadways and intersections impacted are well within capacity metrics.

Figure 66. Major Roads Near the Project Area and Traffic Count Locations

4.18.2 Environmental Consequences

Traffic projections used in this analysis include construction (terminal development and channel improvements), dredged material placement (DMCF construction and material placement actions), and operation of the terminal after construction (The Traffic Group 2024c).

4.18.2.1 No-action Alternative

Traffic conditions would continue as described in Section 4.18.1. The Coke Point area of the TPA property would likely be developed in a yet-to-be-determined manner in the future, which would impact traffic during construction phases and after construction is completed, depending on the extent and type of development. For the purposes of traffic projections, in the 2021 study, development was assumed to be an additional 4,752,000 square feet of warehouse space. Once completed, future development of Coke Point would result in a projected additional 7,554 daily trips (The Traffic Group 2021). Peak hours would be substantially impacted by the warehousing and manufacturing plan at the TPA property. Along both Bethlehem Boulevard North and West, approximately 596 additional morning peak hour trips would be generated as part of the No-action Alternative. Approximately 598 trips would be generated during the evening peak hour.

4.18.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Based on the TPA Master Plan and the location of the SPCT within the TPA property, inbound traffic to the terminal for construction and operation would be directed from I-695 to westbound Bethlehem Boulevard, then south on Shipyard Road to the terminal. Similarly, outbound traffic from the terminal for construction and operation would be directed north on Shipyard Road, then east on Bethlehem Boulevard to access I-695. Traffic would increase on Bethlehem Boulevard due to construction workers accessing the site and the additional personnel that would be required to operate the site post-construction.

During construction activities, traffic would increase on Bethlehem Boulevard (North and West), which are the major roads providing access to the site. Traffic impacts would vary by construction phase with the maximum number of additional workers on-site daily estimated to be 339, during many phases of construction the number of workers would be less (The Traffic Group 2024c). These workers would be expected to arrive at or before 6 a.m. and to depart around 4 p.m. Peak traffic hours for these roads typically occur from 6 a.m. to 7 a.m. and from 5:15 p.m. to 6:15 p.m., meaning that many of the construction workers would be arriving and departing outside of peak traffic hours for the affected roads. Using the 2021 analysis, traffic levels were modeled for the years of construction (2025 to 2028) considering construction traffic and expected growth in the area and within the TPA property. Results indicate that roads would still be at between 25 and 58% of capacity (The Traffic Group 2024c).

Once the terminal is operational, approximately 3,814 additional daily trips attributed to the terminal are expected along both Bethlehem Boulevard North and South. Along both roads, approximately 3,180 of the daily trips would be attributed to the trucks accessing the site, and 634 of the daily trips would be taken by employees at the site (The Traffic Group 2024c). Peak traffic hours (6 a.m. to 7 a.m. and from 5:15 p.m. to 6:15 p.m.) would experience increases in traffic. The combined daily trips generated by SPCT activities on Bethlehem Boulevard North and West for the morning peak hour would be approximately 517 trips. The combined daily trips generated on Bethlehem Boulevard North and West for the evening peak hour would also be approximately 517. Two hundred trips would be taken by trucks accessing SPCT while employees would take the remaining 317 trips (The Traffic Group 2024c).

To understand how the new terminal operations would impact traffic flow on local roads, The Traffic Group performed additional analysis to determine the impact that the changes to the TPA Master Plan would have on the traffic flow (Table 65). The traffic study was updated based on the current TPA master plan and the types and quantities of development anticipated, as well as based on the truck and employee traffic volume anticipated at SPCT. For SPCT, based on the volume of activity anticipated in the first year of operation (2028), the ADT was 4,390 vehicles, with 72% being tractor trailers, and the peak hour traffic was 1,034 vehicles, with 39% being tractor trailers.

Table 65. Updated Modeled Traffic Volumes including SPCT and Future Growth at Tradepoint for Key Local Roads, Sparrows Point

Road	ADT Inbound				ADT Outbound			
	2021 Counts	2024 Study	2024 Counts	% Change from 2021	2021 Counts	2024 Study	2024 Counts	% Change from 2021
Bethlehem Blvd.	5,030	5,200	NA	3%	5,030	5,200	NA	3%
Bethlehem Blvd.	5,030	NA	3,485	-31%	5,030	NA	3,338	-34%
Sparrows Point Blvd.	9,040	10,000	NA	11%	9,040	10,000	NA	11%
Peninsula Expressway	6,050	7,100	NA	17%	6,050	7,100	NA	17%

Notes:

NA = not applicable

This updated analysis projects that all impacted intersections would operate at a minimum Level of Service “C,” and that all the roads studied with long-term growth projections are well within capacity and service metrics. Therefore, while local long-term impacts on traffic would be expected, they would be well within the capacity of the existing roadways and would not impact the level of service local drivers would experience. The updated 2024 study shows that the volume of traffic at TPA is 37 to 49% lower than projections based on the current stage of development (The Traffic Group 2024b).

4.18.2.3 Combined Options Alternative – Dredged Material Placement

Traffic impacts for dredged material placement options are all focused on construction-related impacts. Once the dredged material is placed and construction is complete, the DMCFs would be closed, and there would be no traffic associated with long-term operation.

High Head Industrial Basin DMCF

Construction activities at High Head Industrial Basin would not have a noticeable impact on traffic, as peak employment is expected to be between 25 and 30 construction workers, with an average of 15 to 20 construction workers over a 97-month period. This small increase in local traffic would not be noticeable given the traffic volume on local roads.

Coal Pier Channel DMCF at Sparrows Point

Construction of the Coal Pier Channel DMCF and placement of dredged material would be completed from work vessels, so traffic changes would be limited to the areas from which the different vessels depart. Traffic in the vicinity of the SPCT project would not be impacted.

Existing Nearshore MPA DMCFs

No new impacts on traffic would occur, as dredged material would be transported to the MPA DMCFs via vessel.

Existing Ocean Disposal Site

No new impacts on traffic would occur, as dredged material would be transported to NODS via vessel.

4.18.2.4 Preferred Alternative – Dredged Material Placement

The impacts on traffic from the Preferred Alternative would be the same as those described for the Combined Options Alternative.

4.18.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on traffic include those that would increase or decrease traffic loads.

- The purpose of the Key Bridge Construction project is to replace “a critical link in the regional and interstate transportation network,” lost in the 2024 collapse of the Key Bridge. Debris removal and reconstruction of the Key Bridge will have temporary impacts on localized traffic, but long-term, the project will alleviate current traffic congestion caused by the loss of the Key Bridge.

Construction of the terminal and DMCF would temporarily increase traffic, and operation of the terminal would result in long-term increases in traffic on local roads. An analysis of projected increases associated with the construction and operation of the SPCT project indicated that total traffic on local roads would not be significantly impacted.

The proposed SPCT project would not significantly impact traffic over the long term; therefore, the SPCT project would not make a substantial contribution to the overall beneficial impacts of planned actions and environmental trends on traffic in the region.

4.19 Navigation

4.19.1 Affected Environment

4.19.1.1 Existing and Future Navigation Conditions

The navigation study area includes the Sparrows Point Channel, a non-federal channel, and the intersection of Sparrows Point Channel with the federal Brewerton Channel, including the portion of the federal channel that is used as a turning basin by Ro-Ro vessels. For purposes of this analysis, the impacts assessment focuses on the Sparrows Point Channel, a non-federal channel, and the federal Brewerton Channel, which would involve the greatest increase in the amount of vessel movements.

> A **Ro-Ro carrier** is a roll-on / roll-off cargo ship designed to carry wheeled cargo (e.g., cars, trucks, motorcycles, semi-trailer trucks, buses, trailers, railroad cars, tractors, and farm equipment) that can be driven on and off the ship on their own wheels.

Ships reach the Sparrows Point Channel by traveling one of two routes along the Chesapeake Bay navigational channel system. Smaller vessels have the ability to travel south through the Chesapeake and Delaware Canal, which links the Delaware River with the northern end of the Chesapeake Bay. The Chesapeake and Delaware Canal, owned and operated by the Corps Philadelphia District, is maintained to a depth of -35 feet MLLW, limiting the size of vessels able to use this channel but making it suitable for Ro-Ro carriers. The Chesapeake and Delaware Canal is used regularly by Ro-Ro carriers and general cargo and bulk cargo vessels. The majority of vessels that come to Sparrows Point arrive from the south using the -50-foot MLLW federal navigation channel, which extends 150 nautical miles from the mouth of the Chesapeake Bay to the Port. These two options provide flexibility to arrange trade routes that minimize distances between ports of call.

According to the Waterborne Commerce Statistics Center, in 2019, Baltimore was the 15th largest US container port in terms of TEU throughput. Container cargo comes to the Port from Europe, Asia, South America, and the Mediterranean. Containers received at the new terminal would be delivered to customers throughout the Midwest and East Coast via rail or truck. The TPA property is served by two Class I railroads, CSX Transportation and Norfolk Southern, and TPA operates a short-line railroad, Tradepoint Rail, which would provide connectivity between these Class I railroads. The new terminal would be located within 700 miles of major cities and population centers in the Northeast and Midwest.

> A vessel may stop at an intermediate port between its port of origin and its destination port. This stop is termed the **port of call** and may be needed for a variety of reasons, such as cargo operations, stocking up on supplies, crew change, or bad weather conditions.

4.19.1.2 Existing Navigation Features and Operational Behaviors

Vessels that require more than 35 feet of water depth to safely navigate must enter the Baltimore Harbor via the mouth of the Chesapeake Bay, transiting the 150 nautical miles from the bay to Sparrows Point using the 50-foot federal navigation channel system. The Maryland Approach Channels and Harbor Channels, which allow vessel passage from the Chesapeake Bay Bridge into Baltimore Harbor, are constructed and maintained to widths ranging from 600 to 700 feet. Broad-beamed vessels must wait at the Annapolis Anchorage, south of the Chesapeake Bay Bridge, to allow other wide-beam vessels to clear the channels before approaching the Port.

The Sparrows Point Channel is accessed from the -50-foot MLLW Brewerton Channel, a federal navigation channel. At the junction of the federal navigation channel, the Sparrows Point Channel flares to a width of approximately 960 feet to provide a turning basin that allows Ro-Ro vessels to turn within the Brewerton Channel and narrows to the nominal channel width of 250 feet. The outer portion of the existing Sparrows Point Channel to the existing finger pier is permitted to -47 feet MLW. The inner portion of the channel is permitted to -42 feet MLW and includes a space to allow the vessels to turn for docking and egress.

Larger Ro-Ro vessels perform the turning evolution in the turning basin on the inbound transit so the vessel can berth starboard side to berth. In 2023, 125 Ro-Ro vessels visited Sparrows Point, entering the channel either by rotating in the turning basin and backing down the Sparrows Point Channel or rotating inside the Sparrows Point Channel, adjacent to the west berth. Vessels need approximately 20 minutes to rotate before they move completely out of the Brewerton Channel and into the Sparrows Point Channel to berth. The method selected is based on pilot preference, wind direction, and conditions. The larger Ro-Ro vessels perform the turning evolution on the inbound transit so the vessel can berth starboard side to berth.

> The SPCT project would require review and permission under the Corps' **Section 408** program, which was established under Section 14 of the Rivers and Harbors Act of 1899. This program allows for alterations or modifications to USACE Civil Works projects by non-USACE entities. Specifically, it requires prior approval from the Chief of Engineers for any work or alteration that might impact the intended use, structural integrity, or public interest of federally authorized projects, such as navigation channels. The Section 408 permission, if granted, would include conditions that would ensure that the Sparrows Point Channel improvements and intended use would not impair the usefulness of the federal project nor be injurious to the public interest and would not adversely impact the existing use or continued maintenance of the Brewerton Channel (a federally authorized and maintained channel). These impacts would include safety, use by existing shipping traffic, maintenance dredging cycles and volume of material, and future dredged material placement capacity for the existing the federal Civil Works project.

Existing Terminal Facilities

The Sparrows Point Channel currently services a total of four berths. Two of the berths are located at the inner basin and service Ro-Ro, general cargo, and bulk carriers. In 2023, 125 Ro-Ro vessels, 42 general cargo vessels, and 34 bulk cargo vessels visited Sparrows Point using the Sparrows Point Channel. The existing bulkhead has a total length of 2,200 feet and is maintained to a depth of -42-foot MLW. The additional two berths are located on the finger pier, which is 1,150 feet long and is maintained to a depth of -47 feet MLW. The finger pier is able to service vessels on both sides of the pier. The typical vessel calls at this pier are bulk carriers.

4.19.2 Environmental Consequences

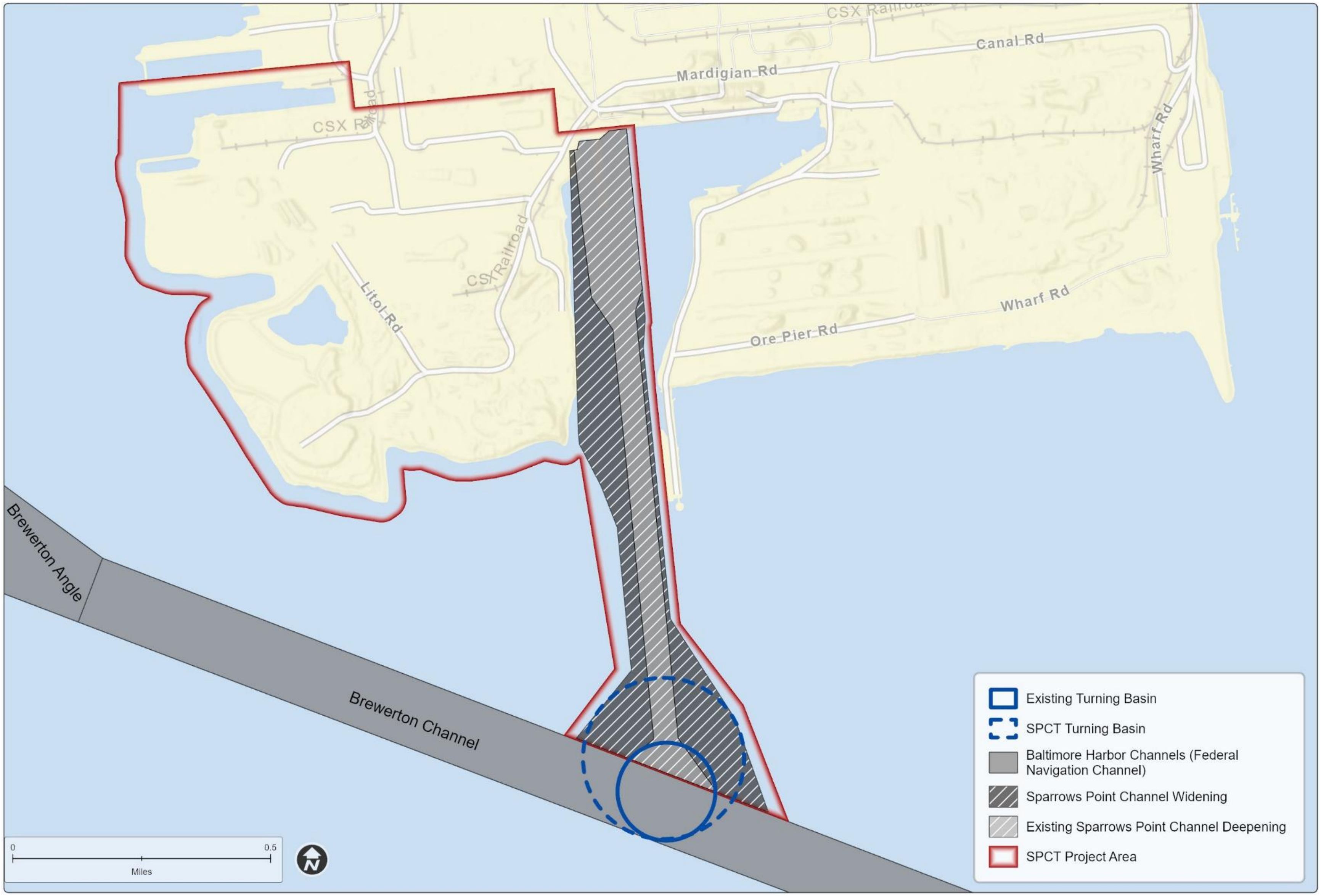
4.19.2.1 No-action Alternative

Under the No-action Alternative, vessel traffic within the Chesapeake Bay navigational channel system approaching the Port as described in Section 4.19.1 would continue. Ro-Ro operations, which currently use 157 acres of landside area for parking and logistics, would likely be expanded onto 170 acres on the eastern half of Coke Point. Doubling the size of the landside area would increase the number of Ro-Ro vessels using the Brewerton Channel and Sparrows Point Channel from 125 in 2023 to approximately 225 to 275 vessels by 2030. Maintenance dredging of the Sparrows Point Channel would continue with no change.

4.19.2.2 Common to Both Action Alternatives – Terminal Development and Channel Improvements

Dredging of the Sparrows Point Channel would only impact the Brewerton Channel during dredging for the proposed turning basin at the southern portion of the existing non-federal channel, where the two channels meet (Figure 67). This would require coordination with the Corps and the USCG to alert vessels and avoid impacts on navigation in this area. Dredging would occur within this area over 1 construction year, lasting approximately 7 months. During this time, there would be a small increase in construction-related vessel activity near the channels' intersection, with likely not more than 10 vessels operating over the course of a week, which would not materially alter vessel traffic in the area. Coordination with the Corps and the USCG would occur in compliance with the required dredging permit conditions and stipulations included in the Section 408 permission. Dredging the remainder of the Sparrows Point Channel (areas north of the turning basin) would not impact navigation in the Brewerton Channel.

Figure 67. Proposed Modifications of the Turning Basin Adjacent to the Brewerton Channel



Following construction, the SPCT would increase the vessel traffic to the Port, which received over 2,500 vessels in 2021 (USDOT 2024b). TTT anticipates approximately 500 vessels calling the terminal as a result of 10 regular weekly services from the vessel lines. Of these vessels, approximately 150 would result from new weekly services to the Port of Baltimore. As a result, on average, an additional three vessels per week would be navigating the Brewerton Channel to enter the Sparrows Point Channel, an increase of 6% compared to the 2021 vessel volumes. The initial vessel traffic assumptions are based on the current size of container vessels that call the ports on the East Coast of the United States. Once larger vessels begin to call the Port of Baltimore, each vessel would be able to move a larger quantity of containers. This would lead to an expected corresponding decrease in overall vessel calls over time.

Inbound vessels to the Port would navigate northbound along the Brewerton Channel. At the mouth of the Sparrows Point Channel, inbound vessels would rotate within the enlarged turning basin within the Brewerton Channel so the vessels can berth starboard side to the berth. Container vessels would represent a new vessel type using this area but would navigate through the Brewerton Channel, turning basin, and Sparrows Point Channel in the same way as the existing Ro-Ro vessels currently maneuver and operate. TTT would be responsible for the operations and maintenance of the expanded Sparrows Point Channel. TTT would also be responsible for the operations and maintenance associated with shoaling at the edge of the Sparrows Point Channel turning basin and Brewerton Channel.

4.19.2.3 Combined Options Alternative – Dredged Material Placement

High Head Industrial Basin DMCF

Construction of the High Head Industrial Basin DMCF would occur in an upland area and would have no impact on navigation in the federal channel. Placement of dredged material at this DMCF would require transport of dredged material from the Sparrows Point Channel to the west side of Sparrows Point, where the material would be slurried and hydraulically pumped to the DMCF. This transport would occur outside of the Brewerton Channel and would not impact vessel traffic in the federal navigation channel. Placement of the dredged material at High Head Industrial Basin DMCF would occur over 3 construction years.

Installation of the temporary outfall and diffuser extension needed to discharge effluent from the High Head Industrial Basin DMCF would not impact navigation. A temporary exclusion zone may be implemented during installation and removal, but the proposed installation area is not located in close proximity to a federal navigation channel. The outfall pipe and diffuser would be anchored to the bottom and would not be expected to impact navigation for recreational vessels transiting between Bear Creek and the Patapsco River.

Coal Pier Channel DMCF at Sparrows Point

Increased vessel traffic supporting construction of the Coal Pier Channel DMCF would occur, but this would be temporary and outside of the Brewerton Channel. An exclusion zone in the vicinity of the DMCF dike construction would exist outside of the federal channel near the mouth of Bear Creek. Vessels using areas outside the federal channel would need to navigate to avoid the exclusion zone, which could temporarily alter their routes along the western shore of Coke Point. Exclusion zones would only be in place as long as necessary to ensure public safety during dike construction. Following completion of the DMCF construction, transport of dredged material from the Sparrows Point Channel to the DMCF would occur outside the Brewerton Channel and would have no impact on navigation. Transport to the DMCF would occur over 2 to 3 construction years.

Existing Nearshore MPA DMCFs

Impacts on navigation would be limited to transport of the dredged material to the existing MPA DMCFs. Transport from the Sparrows Point Channel to the MPA DMCFs would require dredged material barges and scows with tugs to cross the Brewerton Channel. Dredging activities would occur over a 3-year period. Transits of dredged material would be coordinated with the harbor pilots, the Corps and the USCG to avoid impacts on scheduled shipping traffic within the federal channel.

Existing Ocean Disposal Site

Impacts on navigation would be limited to transport of the dredged material to NODS, an existing USEPA-designated ocean placement site. Transport from the Sparrows Point Channel to NODS would require transport vessels to use the Chesapeake Bay navigational channel system, approximately 152 nautical miles. These barges and tugs would not require a 50-ft deep channel for transits and would only use the federal channel system if / as necessary for transit efficiency and safety. Dredging, transport, and placement activities would occur over 2 construction years. Although there could be some impact on navigation, it would be temporary and limited through coordination with the Corps and the USCG.

4.19.2.4 Preferred Alternative – Dredged Material Placement

The impacts on navigation from the Preferred Alternative would be the same as those described for the Combined Options Alternative.

4.19.3 Planned Actions and Environmental Trends

The planned actions and environmental trends that would have an impact on navigation include those that would increase or decrease vessel traffic.

- Key Bridge debris removal and reconstruction activities will have temporary impacts on navigation but will have long-term beneficial effects on navigation. The collapse of the Key Bridge temporarily closed the Port of Baltimore to vessel traffic until the federal channel could be cleared of debris and reopened. The new bridge will increase the vertical clearance of the bridge by 45 feet when compared to the original bridge, providing clearance for larger vessels. While the demolition and reconstruction of the Key Bridge will have temporary impacts on navigation, the project will have significant, long-term beneficial impacts on navigation safety.
- Maintenance dredging activities, including those for Curtis Creek, can have temporary impacts on navigation when federal channels are dredged, but overall, maintenance dredging has beneficial impacts on navigation. Maintenance dredging is required to keep the federal channels open and accessible and to allow safe passage to commercial and other vessels.
- Dredging and capping at the Bear Creek Superfund Site will have similar impacts on navigation as the SPCT project. The impacts on navigation will be short-term and localized to the immediate vicinity of the project site, which is outside federal navigation channels.

The SPCT project would have short-term localized impacts on navigation associated with the expansion of the Sparrows Point Channel (a non-federal channel) and the construction of the Coal Pier Channel

DMCF. Both activities would occur outside federal navigation channels except where the Sparrows Point Channel meets the federal Brewerton Channel (a federal channel). The improvements to the Sparrows Point Channel would require Section 408 approval by the Corps. Dredging in close proximity to the federal channel would require coordination with the Corps and the USCG for the duration of the dredging (approximately 7 months). Transport of dredged material to Masonville or Cox Creek DMCFs or to the NODS could impact navigation. Transport to any of these facilities would require crossing and use of federal navigation channels. These impacts would be limited in duration and would be minimal in consideration of the vessel traffic using these channels. Because the Preferred Alternative does not include the Coal Pier Channel DMCF, the Preferred Alternative would have fewer impacts on navigation than the Combined Options Alternative.

The proposed SPCT project would not significantly impact navigation over the long term; therefore, the incremental impact of the SPCT project on navigation would not change the overall beneficial impacts of planned actions and environmental trends on navigation in the region.

5. Irretrievable or Irreversible Commitments of Resources Involved in the Implementation of the Recommended Plan

Irreversible commitments of resources are those resulting from impacts on resources so they cannot be completely restored to their original condition. The labor, capital, and material resources expended in the planning and construction of this project would be irreversible and irretrievable commitments of human, economic, and natural resources.

Terminal construction and channel expansion (widening and deepening) would impact approximately 112 acres of open water / bottom habitat through excavation. Approximately 4.2 MCY of material would be dredged. Of this, approximately 330,000 CY is slag that would be reused on-site during construction of the project. Approximately 1.57 MCY of the dredged material, from the southern portion of the Sparrows Point Channel, would be placed at the NODS. Therefore, of the total 4.2 MCY of material to be dredged, approximately 1.9 MCY would be placed back into the aquatic environment and / or reused, and 2.95 MCY of sediment would be placed into DMCFs. However, placing dredged material in DMCFs would result in the permanent removal of contaminated sediments from the Sparrows Point Channel and the aquatic system.

Construction and operation of the SPCT would consume fossil fuels, a non-renewable resource, for heavy equipment and for vehicles during construction and to operate the terminal for the life of the project. The estimated total volume of fossil fuels expended during the 4 years of the construction phase is approximately 8.08 million gallons of diesel fuel, which would release criteria pollutants and air toxics into the atmosphere. This estimate assumes that all equipment and vehicles used would consume diesel fuel. Irreversible and irretrievable commitments of resources during construction would be unavoidable, but this level of use would be short-term.

Operation of the SPCT would require a combination of traditional fossil fuel-powered equipment alongside electric equipment. Diesel-powered equipment and machinery used to support operations at the terminal would include reach stackers, empty container handlers, terminal tractors, locomotive / rail-based transportation, and emergency generators. Vessels would rely on conventional diesel engines while navigating but would use alternative shore power while berthing and docked. Shore power would reduce fossil fuel use and emissions, as ships would rely on grid-based electricity instead of burning fuel oil. Additionally, the terminal would be partially electrified with electric-powered STS, RMG, and RTG cranes, and the terminal design would provide infrastructure for future electrical equipment. Overall, the SPCT would use an estimated 38,981 gallons of diesel fuel annually for the life of its operation. Although the amount of fossil fuels used would be small in relation to overall use in the region, it would be irreversibly and irretrievably committed.

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6. Consultation and Coordination

6.1 Consultation and Coordination

The Corps involved the public through public meetings and other outreach throughout the project. A proactive approach was taken to inform and involve the public, resource agencies, local government, and other interested parties about the project and to identify any public concerns.

6.2 Early Agency Coordination

Several collaborative efforts were accomplished early in the process. MDE coordinates monthly JE Meetings "to provide a potential applicant on large, complicated or non-standard projects with informal regulatory feedback." Participating agencies include MDE, the Corps, Baltimore District, USEPA, USFWS, NOAA, MDNR, MHT, CAC, BPW, and Baltimore County. TTT attended the June 28, 2023, JE Meeting to introduce the proposed project to these agencies, and the agencies provided initial input on the initial proposed project. TTT continued engagement with agencies through JE Meetings and meetings with specific agencies to discuss proposed field and desktop studies.

At the August 30, 2023, JE Meeting, TTT presented an update on study plan development in consultation with agencies and an analysis of potential alternatives to their initial proposed action in response to comments from the June 28, 2023, meeting. Participating agencies provided feedback on the proposed alternatives. TTT continued meeting with the Corps and other federal and state agencies to complete study plan development, review updates to changes to alternatives, and discuss study results as studies progressed. TTT continued to engage with the agencies to discuss updates on study results and changes to the proposed action at JE Meetings on November 29, 2023, February 28, 2024, June 26, 2024, and August 28, 2024.

In addition to the JE Meetings, TTT coordinated frequently throughout 2023 and 2024 with the federal and state agencies regarding study plans for aquatic resource surveys (benthos, plankton, water quality and fish), sediment evaluations, wetland delineation and habitat surveys, bird surveys, recreation surveys, air quality impact analysis, and other needed studies.

6.3 FAST-41 Agency Coordination

TTT requested that the project be included in the FAST-41 program and on September 25, 2023, the Corps notified the Federal Permitting Improvement Steering Council, the agency that leads the FAST-41 program, that the Corps had determined the project is covered under FAST-41.

By email on October 16, 2023, the Corps invited five federal agencies to be cooperating agencies under NEPA, all of whom accepted. Cooperating agencies include the USEPA, USFWS, NOAA NMFS, USCG, and the Corps Civil Works Division. Seven state / local agencies agreed to be participating agencies in the NEPA process: MDE, MDNR, MHT, CAC, MPA, BPW, and Baltimore County. Four federally recognized tribes were invited to participate (Delaware Nation, Delaware Tribe of Indians, Eastern Shawnee Tribe of Oklahoma, and Pamunkey Tribe); however, the Corps did not receive responses from the Tribes. The official FAST-41 kick-off meeting for the project occurred November 8, 2023.

6.4 Public Scoping

The Corps initiated public scoping with the publication of the Notice of Intent to prepare an EIS in the Federal Register, dated December 18, 2023. The Corps conducted two public scoping meetings, January 23, 2024 (in-person) and January 25, 2024 (virtual) to inform participants about the proposed project and to solicit comments for consideration in the development of the Draft EIS. Federal and state agencies, Tribes, public and private organizations, and members of the public that have a potential interest in the proposed action, including minority, low-income, and / or disadvantaged communities, were invited to participate in the US Army's NEPA and decision-making processes.

The Corps accepted written comments at the in-person meeting and via conventional mail and email. A total of 18 correspondences (letters, emails, and comment cards submitted at the in-person public meeting) were received. Of these, five letters were received from regulatory agencies, the remaining letters were from individuals and organizations.

Letters were received from the following regulatory agencies: USEPA, USFWS Chesapeake Bay Field Office, NOAA NMFS, National Park Service, and MDE. These agencies noted the need to fully examine the impacts on the resources in the project area from the range of alternatives that will be considered. Resources identified include aquatic ecosystems (including biological, physical, and chemical aspects), air quality (including impacts on climate change from greenhouse gases), special status species, socioeconomics, environmental justice, cultural resources, and recreational resources.

The Corps received letters from the following organizations: Chesapeake Bay Association, Inc., Greater Baltimore Committee, World Trade Center Institute, Maryland Chamber of Commerce, Association of Maryland Pilots, Baltimore Port Alliance, International Union of Operating Engineers – Local 37, Essex Middle River Civic Council, and Maryland Economic Development Corporation. These organizations generally support the proposed project.

The North Point Peninsula Council, Inc. and several individuals submitted letters with questions and comments about the proposed project. Commenters asked questions regarding the proposed design of the offshore DMCF and who will regulate the design and construction, especially regarding the safety of the DMCF. Comments noted the historical uses at Coke Point and previous studies documenting water and sediment characteristics related to those historic activities. Commenters raised questions about the potential impacts on aquatic resources and human health related to dredging and about monitoring during and after dredging and other construction activities. Other comments discussed the potential impacts on recreational boating and commercial shipping in the project area and in the federal channel leading into the Port of Baltimore. Commenters inquired about measures to avoid impacts on other ships using the Brewerton Channel and about the cargo coming to the new terminal. These questions and comments were considered in the development of the Draft EIS to ensure that substantive questions raised during scoping were addressed within the scope of the analysis in the Draft EIS.

6.5 Public Review of the Draft EIS

The Draft EIS was made available to federal, state, and local agencies, Tribes, and the public for review and comment for 60 days. The Corps published a Notice of Availability for the Draft EIS in the Federal Register, dated January 10, 2025, concurrent with the start of the 60-day public comment period. Additionally, interested organizations and individuals were sent the Notice of Availability. A list of those who were sent a copy of the Draft EIS, along with a request to review and provide comments, is provided in Appendix H. Two public hearings were held during the 60-day public comment period. An in-person public hearing was held February 25, 2025, at Sollers Point Multipurpose Center from 5 pm to 9 pm, and a virtual public hearing was held February 27, 2025, from 2 pm to 6 pm. The purpose of these hearings was to receive public comment on the Draft EIS, the impacts analysis, and proposed mitigation. Comments were accepted through March 11, 2025. A total of 59 written letters were received, and additional comments were received through oral testimony at both public hearings. Appendix C provides the Corps' response to agency and public comments.

6.5.1 Summary of Agency and Public Comments on the Draft EIS

The Corps received comments in support of and opposition to the proposed action. Some commenters asked detailed questions about aspects of the impact analysis. Commenters also expressed concern about proposed mitigation and the potential impacts on natural and recreational resources. As noted in Section 2.1.1 of this Final EIS, following public comment on the Draft EIS and based on continuing design and investigations, the applicant altered their proposed project (the Preferred Alternative in this Final EIS) to remove the construction of an in-water DMCF. With this change the need for federal mitigation was eliminated, also eliminating concerns associated with the proposed mitigation. Responses to comments can be found in Appendix C.

6.6 Required Coordination

The Final EIS is being circulated to known federal, state, and local agencies and Tribes. Interested organizations and individuals are also being sent the Notice of Availability. A list of those who are being sent a copy of this document, along with a request to review and provide comments, is provided in Appendix H.

Coordination under the MSA, ESA, and Coastal Zone Management Act (CZMA) has been ongoing since the project began. Draft documents supporting compliance with these acts have been sent to the lead agency, respectively, for each law:

- Essential Fish Habitat Assessment (Appendix F)
- Biological Assessment (Appendix G)
- Coastal Zone Management Act Federal Consistency Determination (Appendix I)

Coordination under the MMPA has been initiated by TTT. An application for an Incidental Harassment Authorization will be prepared to facilitate issuance of approved incidental takes and approval of a Marine Mammal Monitoring Plan that would be implemented during pile driving activities during the specified seasonal window for marine mammal activity.

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7. Environmental Compliance

Pertinent public laws applicable to the SPCT Project are presented below. In some situations, the laws have been previously discussed, and prior section references are provided.

National Environmental Policy Act of 1969, as amended (42 USC 4321 et seq.)

NEPA requires that all federal agencies use a systematic, interdisciplinary approach to protect the environment. NEPA requires the preparation of an EIS for any major federal action that could have a significant impact on the quality of the human environment and the preparation of an EA for those federal actions that do not cause a significant impact but do not qualify for a categorical exclusion. Section 102 of NEPA authorized and directed that, to the fullest extent possible, the policies, regulations and public law of the United States shall be interpreted and administered in accordance with the policies of NEPA. A Notice of Intent to prepare an EIS for the SPCT project was published in the Federal Register on December 18, 2023, and the Draft EIS was posted for public review in the Federal Register on January 10, 2025.

Clean Air Act, as amended (42 USC 7401 et seq.)

The Clean Air Act regulates air emissions from stationary and mobile sources. The law authorizes USEPA to establish NAAQS to protect public health and public welfare and to regulate emissions of hazardous air pollutants. Based on ambient levels of a pollutant compared with the established national standards for that pollutant, regions are designated as either being in attainment or non-attainment. Table 37 presents the federal attainment status for Baltimore County, which is in non-attainment for several parameters.

Emissions of the three non-attainment / maintenance pollutants in the AQCR, NO_X, SO_2, and $PM_{2.5}$, were estimated for both construction (direct emissions) and operations (indirect emissions) phases of the Preferred Alternative. Annual emissions of SO_2 and $PM_{2.5}$ are well below the *de minimis* thresholds and do not require further analysis. Direct NO_X emissions exceed the *de minimis* threshold of 50 tpy under the Preferred Alternative. NO_X emissions from this project in excess of the *de minimis* threshold have not been included in the Maryland SIP budget, and the Preferred Alternative and therefore cannot be presumed to conform and must be mitigated. Through consultation with MDE and USEPA, it was determined that mitigation through emission reduction credit offsets was the appropriate path for mitigating these emissions, and TTT agreed to obtain the required emission reduction credit offsets.

Clean Water Act (33 USC 1251 et seq.)

The Clean Water Act regulates discharges of pollutants into US waters and sets water quality standards to protect surface waters, including rivers, lakes, and wetlands. It primarily authorizes the USEPA to implement pollution control programs and requires permits for discharges under the NPDES.

Coordination is underway to ensure the recommended plan is in compliance with the Clean Water Act of 1977 and subsequent amendments. A Section 401 Water Quality Certificate is required for the project and is part of an application that was submitted to the state by TTT. On July 10,2025, MDE issued the Water Quality Certificate (Appendix B).

Compliance under Section 404(b)(1) was previously completed for the MPA DMCFs and the NODS. Further, 404(b)(1) is not required for the High Head Industrial Basin DMCF, an upland facility, which instead is subject to NPDES permitting (See Section 4.6.2.3).

Coastal Barriers Resources Act and Coastal Barriers Improvement Act of 1990 (16 USC 3501-3510)

The Coastal Barrier Resources Act and its amendments prohibit the spending of new federal expenditures that tend to encourage development or modification of coastal barriers that are within the defined Coastal Barrier Resource System. Sparrows Point is neither an existing or proposed Coastal Barrier Resources Act system unit or an otherwise protected area. Therefore, no consultation with USFWS is required specific to Coastal Barrier Resources Act.

Coastal Zone Management Act of 1972 (16 USC 1451–1466)

The proposed project is within the coastal zone, which is managed under MDNR’s Coastal Zone Management Program.

A federal consistency determination in accordance with 15 CFR 930 Subpart C was made stating that the recommended plan is consistent with the enforceable policies of the State of Maryland’s federally approved coastal management program. The CZMA analysis was presented in the Draft EIS and shared with the MDE by letter dated December 19, 2024 (Appendix I). On August 27, 2025, the Board of Public Works approved the Tidal Wetlands License. When the Tidal Wetlands License is issued MDE will include concurrence with the CZMA analysis, this will be included in the ROD. The CZMA analysis (Appendix I) when combined with the Final EIS and with MDE’s concurrence serve as documentation that the Preferred Alternative is in full compliance with the CZMA.

Endangered Species Act of 1973 (16 USC 1531 et seq.)

Federal special status species can fall under the jurisdiction of USFWS (terrestrial and freshwater species) or NMFS (marine and anadromous species). For this project, no aquatic species under USFWS jurisdiction are potentially present in the project area.

Consultation with NMFS pursuant to the ESA was initiated in 2023 and will continue throughout the NEPA and project permitting processes. A Draft BA was prepared and submitted to NMFS in December 2024. Following publication of the Draft EIS, NMFS provided their concurrence with the conclusions in the Draft EIS and BA. During the same time, TTT revised the proposed project, identified in this Final EIS, and developed the Preferred Alternative. A revised BA for the Preferred Alternative is included as Appendix G. By letter dated May 13, 2025, NMFS concurred that the proposed action is not likely to adversely affect NMFS ESA-listed species or designated habitat, concluding consultation.

Fish and Wildlife Coordination Act (16 USC 661–667e)

The Fish and Wildlife Coordination Act requires federal agencies to consult with the USFWS, NMFS, and the fish and wildlife agencies of states where the “waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted or otherwise controlled or modified” by any agency under a federal permit or license. Consultation is to be undertaken for the purpose of “preventing loss of and damage to wildlife resources.” The intent is to give fish and wildlife conservation equal consideration with other purposes of water resources development projects. The Corps has satisfied all requirements for the Fish and Wildlife Coordination Act but will continue to coordinate with NMFS through the remainder of design development and construction phase.

Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801 et seq.)

The Magnuson-Stevens Fishery Conservation and Management Act is the primary law governing marine fisheries management in US federal waters. Pursuant to Section 305 (b)(2) of this act, the Corps is required to prepare an EFH Assessment for the SPCT project. The assessment is provided in Appendix F. NMFS consultation with Conservation Recommendations and the Corps' response to the Conservation Recommendations is in Appendix B. See Section 4.9 for an analysis of impacts on EFH in the project area. Coordination with NMFS for EFH will be ongoing through the remainder of the project.

Marine Mammal Protection Act of 1972 (16 USC 1361-1423h)

The Marine Mammal Protection Act, enacted in 1972, prohibits, with certain exceptions, the taking of marine mammals in US waters and by US citizens on the high seas, and the importation of marine mammals and marine mammal products into the US. The NMFS Multi-Species Tool for modeling underwater noise impacts was used to estimate the impacts of construction activities on bottlenose dolphins (high-frequency cetaceans) that could be in the project area. Based on the analysis, TTT is working with the NOAA Incidental Take Program to refine inputs to the underwater noise model, assess sound attenuation measures, and develop monitoring plans to comply with the requirements of the Marine Mammal Protection Act. See Section 4.10 for the detailed analysis of potential impacts on marine mammals. The Corps and TTT will continue to consult with NMFS to ensure continued compliance with the Marine Mammal Protection Act.

Marine Protection, Research, and Sanctuaries Act of 1972

The MPRSA "regulates the disposition of material into the ocean and prohibits the dumping of material into the ocean that would unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities (33 U.S.C. 1401 et seq)." Section 103 of MPRSA authorizes the Corps to issue permits for the placement of dredged materials into the ocean, such as NODS, an approved site for ocean placement of dredged material. The applicant conducted a comprehensive tiered dredged material testing program in accordance with 40 CFR 220-228 (Ocean Dumping Regulations) and submitted the results to the Corps and the USEPA for review to determine the suitability of the material for transport to and placement at the NODS. Only material that meets the limiting permissible concentration as defined by 40 CFR Part 227.27 is approved under this provision. The applicant developed a tiered testing program to evaluate the proposed dredged material, identified dredge units that meet the limiting permissible concentration, and prepared a report documenting the sediment testing results for each dredge unit for review and consideration by the Corps and USEPA. The Corps requested USEPA concurrence by letter dated June 9, 2025, and USEPA issued a letter on July 16, 2025, indicating their concurrence, with required conditions.

Migratory Bird Treaty Act (16 USC 703-712) and Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds"

The MBTA prohibits the intentional taking or harming of any migratory bird, its eggs, nests, or young without an appropriate federal permit. The definition of take in this context is "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50 CFR 10.12; 16 USC 703). Almost all native birds, including any bird listed in wildlife treaties between the United States and several other countries are covered by the MBTA. A "migratory bird" includes the living bird, any parts of the bird, its nest, or eggs. The SPCT project would cause temporary impacts on birds both during construction and operations. Impacts from wharf development would be limited to disturbance caused by activity and noise during construction and operations. During two surveys of the project area in 2024, including one with USFWS, no nesting activity was identified within the project area. Construction of the High Head Industrial Basin DMCF would require removal of forested and shrub habitat, which could affect migratory birds. To avoid impacts on nesting birds, no vegetation removal would occur between April 15 and August 15, the primary nesting season for birds in Maryland. A bald eagle nest is known to occur within the TPA property, but the nest is well beyond the 660 feet required by USFWS to protect nesting activity. The lack of landside natural areas at the site, expansive open water adjacent to the site, and the small number of birds observed on the water during the June 2024 bird survey suggest that impacts from dredging, construction, and operation of the terminal on birds and their habitat would be minimal. The project would not cause a direct take of birds, nests, eggs, or nestlings. Construction of the High Head Industrial Basin DMCF would remove upland, aquatic, and riparian habitat and cause birds to avoid the project area during construction. Nine species observed during the June 2024 fauna survey would no longer be supported at the High Head Industrial Basin, including least tern, a state-listed threatened species but would expect to disperse to nearby adjacent habitat. The proposed SPCT project is not expected to result in the take of migratory birds. The recommended plan is in compliance with the MBTA and Executive Order 13186.

Section 106 of the National Historic Preservation Act of 1966, as amended (54 USC 306108)

The National Historic Preservation Act of 1966, as amended, and its implementing regulations require the Corps, in consultation with the MHT, to consider the effects of the undertaking on historic properties in the project area. If any historic properties listed on or eligible for inclusion in the National Register of Historic Places will be adversely affected, the Corps must develop mitigation measures in coordination with the MHT. Coordination with the MHT and tribal nations has determined that the proposed project would not have an effect on historic properties. The MHT letters are in Appendix B.

Rivers and Harbors Act of 1899 (33 USC 403, 408 et seq.)

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army, acting through the Corps, for the construction of any structure in or over any navigable water of the United States. Section 408 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army, acting through the Corps, for a private entity to make alterations to, or temporarily or permanently occupy or use any federally authorized Civil Works project under 33 USC 408. The Sparrows Point Channel, a non-federal channel, would be widened at its connection to the Brewerton Channel, a federal navigation channel, to create a turning basin. The applicant submitted an initial application on October 2, 2023, to the Corps requesting authorization. Additional information was submitted throughout the project in response to requests from the Corps and to provide updated information as the design evolved. This EIS was prepared to meet environmental compliance requirements prior to the issuance of any Section 10 permit and 408 Authorization. No work will occur prior to the issuance of required permits and authorizations. The Preferred Alternative is in compliance with the Rivers and Harbors Act.

Resource Conservation and Recovery Act, as amended (42 USC 6901 et seq.)

RCRA controls the management and disposal of hazardous waste. “Hazardous and/or toxic wastes,” classified by RCRA, are materials that may pose a potential hazard to human health or the environment due to quantity, concentration, chemical characteristics, or physical characteristics. The Preferred Alternative does not include the management or disposal of hazardous waste. The recommended plan is in compliance with RCRA.

Comprehensive Environmental Response, Compensation and Liability Act (42 USC 9601 et seq.)

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) governs the liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous substance disposal sites. There are no Superfund sites in the project area. The recommended plan is in compliance with CERCLA.

Executive Order 11990, “Protection of Wetlands”

This Executive Order directs federal agencies to avoid undertaking or assisting in new construction located in wetlands unless no practicable alternative is available. A wetland delineation was completed and a site visit conducted with the Corps. The Corps and MDE determined that there were no wetlands within the project area. Tidal waters would be impacted by the Preferred Alternative and are addressed but no wetlands would be impacted. The recommended plan is in compliance with Executive Order 11990.

Executive Order 11988, “Protection of Floodplains”

Executive Order 11988 directs federal agencies to evaluate the potential effects of proposed actions on floodplains. Such actions should not be undertaken that directly or indirectly induce growth in the floodplain unless there is no practicable alternative. The impacts of the Preferred Alternative on floodplains are fully analyzed in Section 4.3. The Preferred Alternative is in compliance with Executive Order 11988 and would have no effect on floodplains.

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The Draft and Final SPCT EISs were prepared collaboratively among the following agencies and organizations.

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9. References

ABC Baltimore. 2023. Dolphin Spotted in Baltimore's Inner Harbor. Accessed November 2024. https://www.wmar2news.com/aroundtown/dolphin-spotted-in-baltimores-inner-harbor.

ARM Group, LLC. 2023. *Phase II Investigation Report: Area A: Parcel A15.* Prepared For Tradepoint Atlantic. June.

Auld, A.H., and J.R. Schubel. 1978. Effects of suspended sediment on fish eggs and larvae: A laboratory assessment. *Estuarine and Coastal Marine Science*. 6(2): 153-164.

Baker, J.D. and T.P. Tracy. 2023. *Maryland Fishing and Hunting Licenses, Permits, and Stamps*. Maryland Department of Legislative Services, Office of Policy Analysis. January.

Balazik, M. 2017. First verified occurrence of the shortnose sturgeon in the James River, Virginia. *Fishery Bulletin* 115:196-200. February.

Baltimore County. 2015. *A Citizen's Guide to Zoning (and other Land Use Regulations). Baltimore County, Maryland.* Accessed April 2024. https://resources.baltimorecountymd.gov/Documents/Planning/citizensguidetozoning/citizensguide.pdf.

Baltimore County. 2023. "Zoning Regulations." Updated December 8, 2023. Accessed April 2024. https://library.municode.com/md/baltimore_county/codes/zoning_regulations.

Baltimore County. 2024. "Code of Ordinances." Updated February 12, 2024. Accessed April 2024. https://library.municode.com/md/baltimore_county/codes/code_of_ordinances.

Barco, S, and W. M. Swingle. 2014. Marine Mammal Species Likely to be Encountered in the Coastal Waters of Virginia from Analysis of Stranding Data. VAQF Scientific Report #2014- 07a. Prepared for the Virginia Department of Mines, Minerals and Energy

Blackenship, K. 2021. "Shortnose sturgeon found in Potomac." Bay Journal. Accessed September 2024. https://www.bayjournal.com/news/fisheries/shortnose-sturgeon-found-in-potomac/article_b23d386d-a4a6-5f61-bd42-f970e29909dc.html.

Blake, N. J., J.J. Culter, and L.J. Doyle. 1996. *Impacts and direct effects of sand dredging for beach renourishment on the benthic organisms and geology of the west Florida shelf.* US Department of the Interior, Minerals Management Service, Office of International Activities and Marine Minerals.

Boicourt, W.C. and P. Olson. 1982. *A hydrodynamic study of the Baltimore Harbor system.* Tech. Rep. 82-10. Chesapeake Bay Institute, The Johns Hopkins University, MD.

Brooks, R.A., Purdy, C.N. Bells, S.S., Sulak, K.J. 2006. The benthic community of the eastern US continental shelf: a literature synopsis of benthic faunal resources. *Continental Shelf Research* 26, 804-818.

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.

California Department of Transportation (Caltrans). 2020. *Technical Guidance for the Assessment of Hydroacoustic Effects of Pile Driving on Fish*. Accessed May 2024. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/hydroacoustic-manual-a11y.pdf.

Casper, B.M., M.E. Smith, M.B. Halvorsen, H. Sun, T.J. Carlson, and A.N. Popper. 2013. Effects of exposure to pile driving sounds on fish inner ear tissues. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology* 166:2, 352–360.

Centers for Disease Control and Prevention. 2022. "What Noises Cause Hearing Loss?" Accessed April 2024. https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html.

CH2M Hill. 2001. *Sitewide Investigation Groundwater Study Report*. Prepared for Bethlehem Steel Corporation, Sparrows Point Division, Maryland. December.

Chesapeake Bay Benthic Monitoring Program (CBBMP). 2004. "Chesapeake Bay Benthic Monitoring Program, Benthic Habitat." Accessed March 2024. https://www.baybenthos.versar.com/benthos/habitat.htm.

Chesapeake Bay Program (CBP). 2015. *Forage Fish Outcome Management Strategy.* 2015-2025. Version 2.

Chesapeake Bay Program (CBP). 2020. *Five species that provide a vital link in the Chesapeake Bay food web.* Watershed Science Story. May.

Chesapeake Bay Program (CBP). 2024a. "Plankton in the Ecosystem." Accessed August 2024. https://www.chesapeakebay.net/discover/ecosystem/plankton.

Chesapeake Bay Program (CBP). 2024b. "Shortnose Sturgeon." Accessed February 2024. https://www.chesapeakebay.net/discover/field-guide/entry/shortnose-sturgeon.

Chesapeake Bay Program (CBP). 2024c. "Kemp's Ridley Sea Turtle." Accessed February 2024. https://www.chesapeakebay.net/discover/field-guide/entry/kemps-ridley-sea-turtle.

Chesapeake Bay Program (CBP). 2024d. "Bottlenose Dolphin." Accessed November 2024. https://www.chesapeakebay.net/discover/field-guide/entry/bottlenose-dolphin.

Clouse, C. 2020. "Canal Dredging." IMPLAN Blog, IMPLAN Group, LLC. October 19, 2020. Accessed May 2024. https://support.implan.com/hc/en-us/community/posts/360052012953-Canal-Dredging?page=1#community_comment_360014587633.

Dernie, K.M., M.J. Kaiser, R.M. Warwick. 2003. Recovery rates of benthic communities following physical disturbance. *Journal of animal ecology*, 72(6), 1043-1056.

Du, J., J. Shen, K. Park, Y.P. Wang, and X. Yu. 2018. Worsened physical condition due to climate change contributes to the increasing hypoxia in Chesapeake Bay. *Science of the Total Environment* 630, 707-717.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2003. *Reconnaissance Study of Sparrows Point as a Containment Site for Placement of Harbor Dredged Material: Environmental Conditions.* Prepared for Maryland Port Administration. December.

EA Engineering, Science and Technology, Inc., PBC. (EA). 2007. *Dredge Point Monitoring: Clamshell Dredging in the Upper Chesapeake Bay Approach Channels to the Port of Baltimore and Baltimore Harbor Channels*. Prepared for US Army Corps of Engineers – Baltimore District. April.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2009. *Site Assessment for the Proposed Coke Point Dredged Material Containment Facility at Sparrows Point.* Prepared for the Maryland Port Administration. November.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2010a. *Coke Point Dredged Material Containment Facility: Pre-Pilot Study Sediment Characterization, Baltimore County, Maryland.* Prepared for Maryland Port Administration. Under Contract to Maryland Environment Service. May.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2010b. *Proposed Coke Point Dredged Material Containment Facility at Sparrows Point, Baltimore, Maryland: Additional Offshore Delineation. Draft Report.* Prepared for Maryland Port Administration. Under Contract to Maryland Environment Service. August.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2011. *Risk Assessment of Offshore Areas Adjacent to the Proposed Coke Point Dredged Material Containment Facility at Sparrows Point.* Prepared for Maryland Port Administration. Under Contract to Maryland Environmental Service. May.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2014. *Marine Protection, Research and Sanctuaries Act (MPRSA) Section 103 Evaluation: Brewerton Channel, Chesapeake Bay, Maryland. Final Report.* Prepared for USEPA Region 3. Submitted by USACE Baltimore District, in coordination with Maryland Department of Transportation (MDOT) Maryland Port Administration (MPA). March.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2020. *Marine Protection, Research and Sanctuaries Act (MPRSA) Section 103 Evaluation: Brewerton Channel, Chesapeake Bay, Maryland. Final Report.* Prepared for USEPA Region 3. Submitted by USACE Baltimore District, in coordination with Maryland Department of Transportation (MDOT) Maryland Port Administration (MPA). April.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2022. *Evaluation of Dredged Material: Sparrows Pont Terminal, Tradepoint Atlantic, Baltimore, Maryland.* Prepared for Tradepoint Atlantic. Final Technical Memorandum. September.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2023. *Sparrows Point Container Terminal Recreation and Commercial Vessel Survey Report*. October.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024a. *Aquatic Resource Surveys Seasonal Report – Summer 2023, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland.* Prepared for Moffatt & Nichol. March.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024b. *Aquatic Resource Surveys Seasonal Report – Fall 2023, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. March.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024c. *Aquatic Resource Surveys Seasonal Report – Winter 2024, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. April.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024d. *Aquatic Resource Surveys Seasonal Report – Spring 2024, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. July.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024e. *Evaluation of Dredged Material for Ocean Placement. Sparrows Point Container Terminal, South and Mid-Channel, Patapsco River, Baltimore County, Maryland.* September.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024f. *Technical Memorandum: Modified Elutriate Testing for the North Channel Dredging Units, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland.* December 2024.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024g. *Aquatic Resource Surveys Seasonal Report – Summer 2024, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. September.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024h. *Ecological Resources Survey, High Head Industrial Bason, Sparrows Point Container Terminal, Baltimore, Maryland*. Prepared for Moffatt & Nichol. September.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024i. *Submerged Aquatic Vegetation Survey Report – Spring and Summer 2024, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. September.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024j. *Ecological Resource Surveys of Coke Point for Sparrows Point Container Terminal, Baltimore, Maryland*. Prepared for Moffatt & Nichol. August.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2025a. *Technical Memorandum: Sediment Quality Evaluation - Coal Pier Channel Dike Alignment. Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland.* June 2025.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2025b. *Evaluation of Dredged Material for Upland Placement. Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland.* June.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2025c. *Technical Memorandum: Air Quality Assessment for Sparrows Point Container Terminal.* June 2025.

Engelhaupt, A., Aschettino, J., Jefferson, T., Engelhaupt, D., Richlen, M. 2016. Occurrence, Distribution, and Density of Marine Mammals Near Naval Station Norfolk and Virginia Beach, Virginia: Final Report. Prepared for Naval Facilities Engineering Command Atlantic.

Enviroanalytics Group and Arm Group, Inc. 2018. *Assessment of Current Groundwater to Surface Water Discharges from the Coke Point Area, Tradepoint Atlantic, Sparrows Point, Maryland.*

Enviroanalytics Group and Arm Group, Inc. 2019. *Former Coke Oven Area (Coa) Interim Measures Supplemental Investigation Report, Tradepoint Atlantic, Sparrows Point, Maryland.*

Epsilon Associates, Inc. (Epsilon). 2006. *Hudson River PCBs Superfund Site: Phase 1 Final Design Report, Attachment J – Noise Impact Assessment*. Prepared for General Electric Co. March 21, 2006. Accessed May 2024. https://www3.epa.gov/hudson/pdf/2006_03_21%20Phase%20I%20FDR%20ATTACHMENT%20J.pdf.

Evans, J., A. Norden, F. Cresswell, K. Insley, and S. Knowles. 1997. Sea Turtle Strandings in Maryland, 1991 through 1995. *The Maryland Naturalist* 41(1-2): 23-34

Federal Emergency Management Agency (FEMA). 2011. *Coastal Construction Manual Principles and Practices of Planning, Siting, Designing, Constructing, and Maintaining Residential Buildings in Coastal Areas (Fourth Edition) FEMA P-55/Volume I.* August.

Federal Emergency Management Agency (FEMA). 2021. *FEMA Fact Sheet: Using the Limit of Moderate Wave Action to Build Resilient Coastal Communities.* May.

Federal Emergency Management Agency (FEMA). 2023a. *"National Flood Hazard Layer."* Federal Insurance Rate Map Panels 2400100555G and 2400100535G, effective May 2014. Accessed February 2024. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd.

Federal Emergency Management Agency (FEMA). 2023b. *Guidance for Flood Risk Analysis and Mapping Coastal Wave Runup and Overtopping*. November.

Federal Highway Administration (FHWA). 2006. *FHWA Roadway Construction Noise Model User's Guide*. Accessed May 2024. https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf.

Federal Highway Administration (FHWA). 2012. *Tappan Zee Hudson River Crossing Project*. Final Environmental Impact Statement. August.

Federal Highway Administration (FHWA). 2015. Guidelines for the Visual Impact Assessment of Highway Projects (No. FHWA-HEP-15-029).

Federal Highway Administration (FHWA). 2017. *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* Accessed May 2024. https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide00.cfm.

Fisheries Hydroacoustic Working Group (FHWG). 2008. *Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities*. June.

Fiske, S.J. and D. Callaway. 2020. *Ethnographic Resource Study: Subsistence Fishing on the Potomac and Anacostia Rivers*. January.

Funk, W.H. 2020. "If you see a sea turtle in the Chesapeake, consider yourself very lucky." Bay Journal. April. Accessed February 2024. https://www.bayjournal.com/archives/if-you-see-a-sea-turtle-in-the-chesapeake-consider-yourself-very-lucky/article_9656a622-73cb-5228-a7e7-07751a4dc049.html.

Garland, C.F. 1952. *A study of water quality in Baltimore Harbor.* Publication No. 96, Chesapeake Biological Laboratory, Department of Research and Education, Solomons Island, MD.

IMPLAN Model. 2024. Using user inputs and IMPLAN Group LLC, IMPLAN System 2022 data and software. 16905 Northcross Dr., Suite 120, Huntersville, NC 28078. www.IMPLAN.com.

Johnson, A. 2018. White Paper on the Effects of Increased Turbidity and Suspended Sediment on ESA Listed Species from Projects Occurring in the Greater Atlantic Region. *Greater Atlantic Region Policy Series* 18: 2.

Karr, J.R., K.D. Fausch, P.L. Angermeier, P.R. Yant, and I.J. Schlosser. 1986. *Assessing Biological Integrity in Running Waters: A Method and its Rationale*. Special Publication 5, Illinois Natural History Survey. Champaign, Illinois.

Konecranes. 2017. *Konecranes Liftace Empty Container Handlers Technical Specifications*. Accessed May 2024. https://www.konecranes.com/sites/default/files/download/kc-td-liftace-ech-01.pdf.

Kozera, Inc. 2023. *Test Boring Logs (CB-1 through CB-9), TPA Sparrows Point Container Terminal, Patapsco River, Sparrows Point, Baltimore, Maryland.*

Laughlin, J. 2006. *Washington State Parks Cape Disappointment Wave Barrier Project: Underwater sound levels associated with pile driving at the Cape Disappointment Boat Launch Facility, Wave Barrier Project.* Washington State Department of Transportation, p. 45.

Lewis, C. 2024. Unpublished Maryland Department of Natural Resources Data. March.

Lippson, A.J. and R.L. Lippson. 1994. *Life in the Chesapeake Bay.* The Johns Hopkins University Press, Baltimore, Maryland.

Litwiler, T. and K. Insley. 2014. Sea Turtle Tagging Study. Presentation, Maryland Department of Natural Resources Fisheries Service Feature Story.

Long, E.R. and D.D. MacDonald. 1998. Recommended uses of empirically derived sediment quality guidelines for marine and estuarine ecosystems. *Human and Ecological Risk Assessment* 4(5):1019-1039.

Long, E.R., D.D. MacDonald, S.L. Smith, and F.D. Calder. 1995. Incidence of adverse biological effects within ranges of chemical concentration in marine and estuarine sediments. *Environmental Management* 19(1):81-97.

Lorenz, D. 2022. "Light Pollution Atlas 2022." Accessed May 2024. https://djlorenz.github.io/astronomy/lp2022/.

MacDonald, D.D., R.S. Carr, F.D. Calder, E.R. Long, and C.G. Ingersoll. 1996. Development and evaluation of sediment quality guidelines for Florida coastal waters. *Ecotoxicology* 5(4):253-278.

Marshall Day Acoustics. 2016. *SICTL Noise Compliance Assessment, January 2016*. Prepared for Hutchinson Ports Australia. Accessed May 2024. https://www.hutchisonports.com.au/wp-content/uploads/2017/02/SICTL-OperationalNoiseMonitoringReportJanuary2016.pdf.

Maryland Department of the Environment (MDE). 2019. *Innovative Reuse and Beneficial Use of Dredged Material.* Guidance Document.

Maryland Department of the Environment (MDE). 2000. *Assessment of Impacts from the Hart-Miller Dredged Material Containment Facility, Maryland. Year 18 Technical Report (September 1999 – 2000).*

Maryland Department of the Environment (MDE). 2023. *Maryland Department of the Environment. Current Air Quality Conditions.* Baltimore, MD. Accessed October 2024. https://mde.maryland.gov/programs/air/airqualitymonitoring/pages/index.aspx.

Maryland Department of Natural Resources (MDNR). 2016. *Loggerhead Sea Turtle Fact Sheet*. Accessed February 2024. https://dnr.maryland.gov/fisheries/Documents/Loggerhead_Turtle.pdf.

Maryland Department of Natural Resources (MDNR). 2021. *List of Rare, Threatened and Endangered Species in Baltimore County*. Wildlife Heritage Service. November.

Maryland Department of Natural Resources (MDNR). 2024a. "Marine Mammal and Sea Turtle Stranding Response Program." Accessed February 2024. https://dnr.maryland.gov/fisheries/pages/oxford/stranding.aspx.

Maryland Department of Natural Resources (MDNR). 2024b. "Field Guide to Maryland's Turtles (Order Testudines), Green Sea Turtle (*Chelonia mydas*)." Accessed July 2024. https://dnr.maryland.gov/wildlife/Pages/plants_wildlife/herps/Testudines.aspx?TurtlesName=Green%20Sea%20Turtle%20%20%28Chelonia%20mydas%E2%80%8B%E2%80%8B%29.

Maryland Department of Natural Resources (MDNR). 2024c. "Field Guide to Maryland's Turtles (Order Testudines), Leatherback Sea Turtle (*Dermochelys coriacea*)." Accessed July 2024. https://dnr.maryland.gov/wildlife/Pages/plants_wildlife/herps/Testudines.aspx?TurtlesName=Leatherback%20Sea%20Turtle%20%28Dermochelys%20coriacea%E2%80%8B%E2%80%8B%29.

Maryland Department of Natural Resources (MDNR). 2024d. "Field Guide to Maryland's Turtles (Order Testudines), Loggerhead Sea Turtle (*Caretta caretta*)." Accessed July 2024. https://dnr.maryland.gov/wildlife/Pages/plants_wildlife/herps/Testudines.aspx?TurtlesName=Loggerhead%20Sea%20Turtle%20%20%28Caretta%20caretta%E2%80%8B%E2%80%8B%29.

Maryland Department of Natural Resources (MDNR). 2024e. "Endangered Fish Species: Threatened and Endangered Fish Species and Fish Species in Need of Conservation in Maryland." Accessed August 2024. https://dnr.maryland.gov/fisheries/Pages/endangered.aspx.

Maryland Department of Natural Resources (MDNR). 2024f. "License Free Fishing Areas." Accessed July 2024. https://dnr.maryland.gov/fisheries/pages/license-free.aspx.

Maryland Department of Natural Resources (MDNR). 2024g. "Chesapeake Bay Pound Nets." Accessed April 2024. https://dnr.maryland.gov/fisheries/pages/poundnets/index.aspx.

Maryland Department of Natural Resources (MDNR). 2024h. *Next Generation Adaptation Plan*.

Maryland Department of Planning. 2010a. Maryland Land Use Land Cover - County Land Use Land Cover 2010 GIS Data. Accessed May 2024. https://data-maryland.opendata.arcgis.com/datasets/97717f333baf4e79abb7ab8098a99ee5_0/about.

Maryland Department of Planning. 2010b. *Maryland Department of Planning Land Use/Land Cover Classification Definitions*.

Maryland Department of Transportation (MDOT). 2016. Effectiveness of Nest Site Restoration for the Endangered Northern Map Turtle. Report 2: Use of Artificial Nesting Sites and Wildlife Exclusion Fence to Enhance Nesting Success. MDOT State Highway Administration. October.

Maryland Dredged Material Management Program. 2023. *Cox Creek Dredged Material Containment Facility (DMCF).* Accessed December 2024. https://maryland-dmmp.com/wp-content/uploads/2024/12/COX_CREEK_FACT_SHEET_11_24.pdf.

Maryland Dredged Material Management Program. 2024. *Masonville Dredged Material Containment Facility (DMCF).* Accessed December 2024. https://maryland-dmmp.com/wp-content/uploads/2024/12/MV_FACT_SHEET_11_24.pdf.

Maryland Port Administration (MPA). 2022. *Dredged Material Placement, Right Of Entry Application.* Maryland Department of Transportation. Updated October 2022.

Maryland Transportation Authority (MDTA). 2024a. *Chesapeake Bay Crossing Study Tier 2 NEPA, Notice of Intent to Prepare an Environmental Impact Statement Additional Project Information Document.* November.

Maryland Transportation Authority (MDTA). 2024b. *Categorical Exclusion I-695 (Baltimore Beltway) over Patapsco River Francis Scott Key Bridge Rebuild Project Baltimore City, Anne Arundel County, and Baltimore County, Maryland.* Accessed August 2024. https://www.keybridgerebuild.com/images/equity_environment/FSK_CE_07.17.2024_w_Attachments.pdf.

Mazzini, P.L.F. and C. Pianca. 2022. Marine Heatwaves in the Chesapeake Bay. *Frontiers in Marine Science* 8:750265.

Mid-Atlantic Fishery Management Council (Mid-Atlantic FMC). 1988. *Fishery Management Plan for the Summer Flounder Fishery*. MAFMC with the National Marine Fisheries Service, New England FMC, and South Atlantic FMC. October.

Mid-Atlantic Fishery Management Council (Mid-Atlantic FMC). 1996a. *Amendment 8 to the Summer Flounder Fishery Management Plan: Fishery Management Plan and Final Environmental Impact Statement for the Scup Fishery*. MAFMC with Atlantic States Marine Fisheries Commission, NMFS, New England FMC, and the South Atlantic FMC.

Mid-Atlantic Fishery Management Council (Mid-Atlantic FMC). 1996b. *Amendment 9 to the Summer Flounder Fishery Management Plan: Fishery Management Plan and Final Environmental Impact Statement for the Black Sea Bass Fishery*. MAFMC with Atlantic States Marine Fisheries Commission, NMFS, New England FMC, and the South Atlantic FMC. June.

Mid-Atlantic Fishery Management Council (Mid-Atlantic FMC). 1998a. *Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan*. MAFMC with Atlantic States Marine Fisheries Commission, NMFS, New England FMC, and the South Atlantic FMC. October.

Mid-Atlantic Fishery Management Council (Mid-Atlantic FMC). 1998b. *Amendment 1 to the Bluefish Fishery Management Plan*. MAFMC with Atlantic States Marine Fisheries Commission, NMFS, New England FMC, and the South Atlantic FMC. October.

Mid-Atlantic Fishery Management Council (Mid-Atlantic FMC). 2011. *Amendment 11 to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan*. MAFMC with Atlantic States Marine Fisheries Commission, NMFS, New England FMC, and the South Atlantic FMC. May.

Mid-Atlantic Fishery Management Council (Mid-Atlantic FMC). 2024. "About the Council." Accessed March 2024. https://www.mafmc.org/about.

Molnar, M., D. Buehler, R. Oestman, J. Reyff, K. Pommerenck, and B. Mitchell. 2020. *Technical Guidance for the Assessment of Hydroacoustic Effects of Pile Driving on Fish*. California Department of Transportation Division of Environmental Analysis. Accessed October 2024. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/hydroacoustic-manual-a11y.pdf.

Najjar, R.G., C.R. Pyke, M. Adams, D. Breitburg, C. Hershner, M. Kempf, R. Howarth, M.R. Mulholland, M. Paolisso, D. Secor, K. Sellner, D. Wardrop, and R. Wood. 2010. Potential climate-change impacts on the Chesapeake Bay. *Estuarine, Coastal and Shelf Science* 86, 1-20.

National Center for Education Statistics. 2024. Education Demographic and Geographic Estimates (EDGE) Geodata: Open Data K-12 Schools. Accessed November 2024. https://data-nces.opendata.arcgis.com/search?groupIds=455147561fd3416daa180395fb4e9237.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 1998. *Recovery Plan for the Shortnose Sturgeon (Acipenser brevirostrum).* Prepared by the Shortnose Sturgeon Recovery Team for the National Marine Fisheries Service, Silver Spring, Maryland.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2007. *Magnuson-Stevens Fishery Conservation and Management Act*. Second Printing, as amended through January 12, 2007.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2010. "Biological Assessment of Shortnose Sturgeon *Acipenser Brevirostrum*." Accessed May 2024. https://www.fisheries.noaa.gov/resource/document/biological-assessment-shortnose-sturgeon-acipenser-brevirostrum.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2018. *Northeast Multispecies Fishery Management Plan Resource Guide: Windowpane Flounder (Scophthalmus aquosus), Bibliography.* NRCL Subject Guide 2018-05. February.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2021. "Essential Fish Habitat Assessment for Consultations: Guidelines for completing an EFH assessment." Accessed May 2024 at: https://www.fisheries.noaa.gov/new-england-mid-atlantic/habitat-conservation/essential-fish-habitat-assessment-consultations.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022a. Understanding Sound in the Ocean. Accessed May 2024. https://www.fisheries.noaa.gov/insight/understanding-sound-ocean.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022b. Multi-Species Pile Driving Calculator Tool. Accessed May 2024. https://www.fisheries.noaa.gov/resource/data/multi-species-pile-driving-calculator-tool.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022c. National Marine Fisheries Service Endangered Species Act Biological Opinion: USACE Permit for the Edgemoor Container Port (NAP-2019-278-23), GARFO-2022-03516. March 30, 2022. Greater Atlantic Regional Fisheries Office. Accessed October 2024. https://repository.library.noaa.gov/view/noaa/41694.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022d. National Marine Fisheries Service Endangered Species Act Section 7 Biological Opinion USACE Permit for the New Jersey Wind Port (NAP-2019-01084-39). GARFO-2021-02227. Greater Atlantic Regional Fisheries Office. February 25, 2022. Accessed October 2024. https://repository.library.noaa.gov/view/noaa/37549.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022e. "ESA Section 7 Mapper." Accessed May 2024. https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=a85c0313b68b44e0927b51928271422a.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2023a. "Windowpane Flounder." Accessed February 2024. https://www.fisheries.noaa.gov/species/windowpane-flounder.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2023b. "Atlantic sturgeon." Accessed February 2024. https://www.fisheries.noaa.gov/species/atlantic-sturgeon.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2023c. "Section 7 Species Presence Table: Sea Turtles in the Greater Atlantic Region." Accessed July 2024. https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-presence-table-sea-turtles-greater.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2023d. "Section 7 Effects Analysis: Turbidity in the Greater Atlantic Region." Accessed July 2024. https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-effects-analysis-turbidity-greater-atlantic-region.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024a. "Chesapeake Bay: Healthy Fisheries." Accessed March 2024. https://www.fisheries.noaa.gov/topic/chesapeake-bay/overview.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024b. Multi-Species Pile Driving Calculator Tool. Accessed June 2025. https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance-other-acoustic-tools.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024b. "Laws & Policies: Magnuson-Stevens Act." Accessed July 2024. https://www.fisheries.noaa.gov/topic/laws-policies/magnuson-stevens-act.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024c. Initial Consultation Letter for Technical Assistance on the Sparrows Point Container Terminal Project. Greater Atlantic Regional Fisheries Office.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024d. "Summer Flounder." Accessed March 2024. https://www.fisheries.noaa.gov/species/summer-flounder.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024e. "Black Sea Bass." Accessed February 2024. https://www.fisheries.noaa.gov/species/black-sea-bass.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024f. "Bluefish." Accessed February 2024. https://www.fisheries.noaa.gov/species/bluefish.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024g. "Atlantic butterfish." Accessed February 2024. https://www.fisheries.noaa.gov/species/butterfish.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024h. "Common Bottlenose Dolphin." Accessed November 2024. https://www.fisheries.noaa.gov/species/common-bottlenose-dolphin.

Nelson, D.A. and J.L. Wheeler. 1997. *The influence of dredging-induced turbidity and associated contaminants upon hatching success and larval survival of winter flounder, Pleuronectes americanus, a laboratory study.* Final report, Grant CWF #132-R, to Connecticut Department of Environmental Protection, by National Marine Fisheries Service, Milford CT.

Nelson, D.M, M. Monaco, S. Jury, S. Stone, J. Field, T. Lowery, C. Williams, and L. Andreasen. 2017. *Estuarine Living Marine Resources: Mid-Atlantic regional distribution and abundance* (NCEI Accession 0162403). NOAA National Centers for Environmental Information. Dataset. doi:10.7289/v5445jkv.

Nguyen, T.-H. and I.-H. Khoo. 2013. *Noise Mapping of Container Terminals at the Port of Los Angeles Final Report*. METRANS Project 11-26. Accessed May 2024. https://www.metrans.org/assets/research/11-26_Nguyen-Khoo_Final_0_0.pdf.

Nieminen, A. 2017. *Seen But Not Heard: The Need to Reduce Crane Noise*. Port Technology, Edition 73: Spring 2017. Accessed May 2024. https://www.porttechnology.org/wp-content/uploads/2019/05/KONECANES.pdf.

Packer, D.B., Griesbach, S.J., Berrien, P.L., Zetlin, C.A, Johnson, D.L., and W.W Morse. 1999. Essential Fish Habitat Source Document: Summer flounder, Paralichthys dentatus, Life History and Habitat Characteristics. NOAA Technical Memorandum, NMFS-NE-151.

Performance.gov. 2024. "Permitting Dashboard, Federal Infrastructure Projects: FAST-41 Covered Projects." Accessed February 12, 2024. https://www.permits.performance.gov/projects/fast-41-covered.

Pipkin, W. 2021. "Dolphins 'all over the place' in Chesapeake Bay." Bay Journal. Accessed November 2024. https://www.bayjournal.com/news/wildlife_habitat/dolphins-all-over-the-place-in-chesapeake-bay/article_cadf6018-d7f4-11eb-a325-6bda03246968.html.

Popper, A.N. and Hawkins, A.D. 2019. An overview of fish bioacoustics and the impacts of anthropogenic sounds on fishes. *Journal of Fish Biology* 94: 692–713.

Popper, A.N., Plachta, D.T.T., Mann, D.A., Higgs, D. 2004. Response of clupeid fish to ultrasound: a review. *ICES J. Mar. Sci.* 61(7):1057–1061.

Robert B. Balter Company. 2018. *Geotechnical Sampling and Testing – Revised. Maintenance Dredging – Phase 1-13-WL-0966(R2).* Sediment Sampling Program – Maryland Port Administration Testing, Sparrows Point, MD.

Robert B. Balter Company. 2019. *Geotechnical Sampling and Testing – Revised. Maintenance Dredging – Phase 2-13-WL-0966(R2).* Sediment Sampling Program – Maryland Port Administration Testing, Sparrows Point, MD.

Sklenicka, P. and J. Zouhar. 2018. Predicting the visual impact of onshore wind farms via landscape indices: A method for objectivizing planning and decision processes. *Applied Energy* 209, 445–454.

Smardon, R.C., J.F. Palmer, A. Knopf, and K. Grinde. 1988. *Visual Resources Assessment Procedure for US Army Corps of Engineers*.

Stanley, J.A., P.E. Caiger, B. Phelan, K. Shelledy, T.A. Mooney, and S.M. Van Parijs. 2020. Ontogenetic variation in the auditory sensitivity of black sea bass (Centropristis striata) and the implications of anthropogenic sound on behavior and communication. *Journal of Experimental Biology* 223(13).

TetraTech, Inc. 2024. *Engineering Evaluation/Cost Analysis Bear Creek Sediments Site Baltimore, Maryland*. Prepared for USEPA Region 3. January 2024. Final.

The Traffic Group. 2021. *Updated Master Plan Traffic Impact Analysis*. March.

The Traffic Group. 2024a. *Tradepoint Atlantic Container Terminal Traffic Analysis Report*. January.

The Traffic Group. 2024b. *Tradepoint Atlantic Container Terminal Traffic Analysis Memo*. September.

The Traffic Group. 2024c. *Tradepoint Atlantic Container Terminal Traffic Analysis Report*. April.

Tradepoint Atlantic (TPA). 2023a. *TP Parcel B10 – Coke Oven Area Annual Interim Measures Progress Report 2022*. *Tradepoint Atlantic, Sparrows Point, Maryland*. Prepared by ARM Group LLC. March.

Tradepoint Atlantic (TPA). 2023b. *Phase II Investigation Report. Area A: Parcel A15, Tradepoint Atlantic, Sparrows Point, Maryland*. Prepared by ARM Group LLC. June.

Tradepoint Atlantic (TPA). 2023c. *Stormwater Pollution Prevention Plan (SWPPP) for Tradepoint Atlantic.* Prepared by ARM Group LLC. June.

Tradepoint Atlantic (TPA). 2024. *Dredge Standards, Impact, and Modeling.* Presentation. Dated 12 September 2024.

University of Minnesota. 2024. "Integrated Public Use Microdata Series, International (IPUMS) National Historical Geographic Information System: Version 18.0. American Community Survey, 5-year data (2018-2022)." Accessed April 2024. www.nhgis.org.

University of Rhode Island (URI). 2017. "Discovery of Sound in the Sea: Pile Driving." Accessed May 2024. https://dosits.org/animals/effects-of-sound/anthropogenic-sources/pile-driving/.

US Army Corps of Engineers (Corps). 2003. *Evaluation of Dredged Material Proposed for Disposal at Island, Nearshore, or Upland Confined Disposal Facilities – Testing Manual*. ERDC/EL TR-03-1. Final Report. U.S. Army Engineering Research and Development Center, Vicksburg, Mississippi. January.

US Army Corps of Engineers (Corps). 2009. *Final Mid-Bay Island Ecosystem Restoration Integrated Feasibility Report and Environmental Impact Statement*. US Army Corps of Engineers, Baltimore District. Volume 1. April.

US Army Corps of Engineers (Corps). 2011. *Missouri River Commercial Dredging Final Environmental Impact Statement*. Accessed May 2024. https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/8150.

US Army Corps of Engineers (Corps). 2015. *North Atlantic Coast Comprehensive Study: Resilient Adaptation to Increasing Risk*. Final Report. January.

US Army Corps of Engineers (Corps). 2017a. *New York and New Jersey Harbor Deepening Project. Benthic Recovery Report. Contract Areas S-AK-2 and S-AK-3*. Final Report. March.

US Army Corps of Engineers (Corps). 2017b. *Baltimore Harbor and Channels Dredged Material Management Plan Update. Final Report*. October.

US Army Corps of Engineers (Corps). 2023. Public Notice PN-23-39 NAB-2022-61295 (USCG/Curtis Creek/Dredging). Issued 25 September 2023. Accessed: December 2024. https://www.nab.usace.army.mil/Missions/Regulatory/Public-Notices/Public-Notice-View/Article/3535017/pn-23-39-nab-2022-61295-uscgcurtis-creekdredging/.

US Army Corps of Engineers (Corps). 2024a. *Record of Environmental Consideration Documentation for Categorical Exclusion under the National Environmental Policy Act, Francis Scott Key Bridge Wreckage Removal from the Fort McHenry Federal Navigation Channel.* June. Accessed August 2024. https://www.nab.usace.army.mil/Portals/63/docs/FSKB/REC_FtHenryChannel_June2024_508%20compliant.pdf?ver=GtInLY6CeCqv0i6UFko7JA%3d%3d.

US Army Corps of Engineers (Corps). 2024b. *Baltimore Harbor & Channels, MD & VA* Fact Sheet. February 2024. Accessed: December 2024. https://usace.contentdm.oclc.org/digital/collection/p16021coll11/id/541.

US Census Bureau. 2022. Per capita income in past 12 months (in 2022 dollars) – Baltimore County, MD (2018-2022). Quick Facts. Accessed May 2024. https://www.census.gov/quickfacts/fact/table/baltimorecountymaryland,US/INC910222.

US Department of Transportation (USDOT). 2024a. "Bureau of Transportation Statistics: Information about the Port of Baltimore." Accessed May 2024. https://www.bts.gov/current-transportation-statistics/information-about-port-baltimore.

US Department of Transportation (USDOT). 2024b. "Port Performance Freight Statistics Program Port Profiles 2024, Baltimore, MD." Accessed October 2024. https://explore.dot.gov/views/PortProfiles2024/ProfileDashboard?%3Aembed=y&%3AisGuestRedirectFromVizportal=y&Port_ID=700.

US Environmental Protection Agency (USEPA). 1992. *Final Environmental Impact Statement (FEIS). The Designation of an Ocean Dredged Material Site Offshore, Norfolk, Virginia.* November.

US Environmental Protection Agency (USEPA). 1994. *Chesapeake Bay Benthic Community Restoration Goals*. Prepared for US Environmental Protection Agency, Chesapeake Bay Program Office, Annapolis, Maryland, and The Governor's Council on Chesapeake Bay Research Fund, Chesapeake Bay Research and Monitoring Division, Tidewater Administration, Maryland Department of Natural Resources, Annapolis, Maryland. December.

US Environmental Protection Agency (USEPA). 2000. *Mid-Atlantic Regional Implementation Manual: Dredged Material Evaluation for Norfolk and Dam Neck Ocean Disposal Sites.* Environmental Services Division, Philadelphia, Pennsylvania.

US Environmental Protection Agency (USEPA). 2022. *Port Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions*. EPA-420-B-22-011. Accessed June 2025. https://www.epa.gov/state-and-local-transportation/port-emissions-inventory-guidance.

US Environmental Protection Agency (USEPA). 2016. "What Climate Change Means for Maryland." Accessed October 2024. https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-md.pdf.

US Environmental Protection Agency (USEPA). 2022. *Federal Register – Air Plan Approval; Maryland; Clean Data Determination and Approval of Select Attainment Plan Elements for the Anne Arundel County and Baltimore County, MD Sulfur Dioxide Nonattainment Area.* Accessed June 2025. https://www.federalregister.gov/documents/2022/11/02/2022-23709/air-plan-approval-maryland-clean-data-determination-and-approval-of-select-attainment-plan-elements.

US Environmental Protection Agency (USEPA). 2024a. *Regional Screening Levels – Generic Tables.* USEPA Office of Risk Assessment, Washington, DC. May.

US Environmental Protection Agency (USEPA). 2024b. *National Recommended Water Quality Criteria.* USEPA, Office of Water, Washington, DC.

US Environmental Protection Agency (USEPA). 2025. *Nonattainment Areas for Criteria Pollutants (Green Book).* Accessed June 2025. https://www3.epa.gov/airquality/greenbook/anayo_md.html.

US Environmental Protection Agency and US Army Corps of Engineers (USEPA and Corps). 1991. *Evaluation of Dredged Material Proposed for Ocean Disposal: Testing Manual.* EPA-503/8-91/001. Commonly called "The Green Book." Office of Water, Washington, D.C. February.

US Environmental Protection Agency and US Army Corps of Engineers (USEPA and Corps). 2008. *Southeast Regional Implementation Manual (SERIM): Requirements and Procedures for Evaluation of the Ocean Disposal of Dredged Material in Southeastern U.S. Atlantic and Gulf Coast Waters.* EPA 904-B-08-001.

US Environmental Protection Agency and US Army Corps of Engineers (USEPA and Corps). 2019. *Site Management and Monitoring Plan for the Norfolk Ocean Disposal Site (NODS).* February.

US Fish and Wildlife Service (USFWS). 2024a. *Record of project representative's no effect determination for 'Sparrows Point Container Terminal.'* November 26, 2024.

US Fish and Wildlife Service (USFWS). 2024b. "Northern Long-eared Bat." Accessed July 2024. https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis.

US Fish and Wildlife Service (USFWS). 2024c. "Tricolored Bat." Accessed July 2024. https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus.

US Fish and Wildlife Service (USFWS). 2024d. "Monarch." Accessed July 2024. https://www.fws.gov/species/monarch-danaus-plexippus.

US Fish and Wildlife Service (USFWS). 2024e. "Atlantic Sturgeon." Accessed July 2024. https://www.fws.gov/species/atlantic-sturgeon-acipenser-oxyrinchus-oxyrinchus.

US Geological Survey (USGS). 2024. "Coastal Change Hazards Portal v1.1.74." Accessed October 2024. https://marine.usgs.gov/coastalchangehazardsportal/.

Versar, Inc. 2002. *Methods for Calculating the Chesapeake Bay Benthic Index of Biotic Integrity*. Prepared for Maryland Department of Natural Resources. Revised: 11 November 2002.

Versar, Inc. 2017. *Long-term Benthic Monitoring and Assessment Component Level 1 Comprehensive Report. Chesapeake Bay Water Quality Monitoring Program, July 1984 to December 2016.* December. Vol 1.

Versar, Inc. 2022. *Long-term Benthic Monitoring and Assessment Component Level 1 Comprehensive Report. Chesapeake Bay Water Quality Monitoring Program*, *July 1984 to December 2021*. December. Vol 1.

Virginia Institute of Marine Science (VIMS). 2009. "Atlantic sturgeon." Accessed February 2024. https://www.vims.edu/research/facilities/fishcollection/_archive/highlights/atlantic_sturgeon.php.

Virginia Institute of Marine Science (VIMS). 2024. "SAV Monitoring & Restoration: Interactive SAV Map." Accessed September 2024. https://www.vims.edu/research/units/programs/sav/access/maps/.

Wang, H., H. Liu, and K. Park. 2004. *The Development of a Water Quality Model for Baltimore Harbor, Back River, and the Adjacent Upper Chesapeake Bay.* Report to Maryland Department of the Environment. Special Report No. 386.

The Washington Post. 2018. Dolphins are now appearing by the hundreds in the Chesapeake Bay. Accessed November 2024. https://www.washingtonpost.com/local/dolphins-appearing-by-the-hundreds-in-chesapeake-bay/2018/05/18/1334abe0-5790-11e8-b656-a5f8c2a9295d_story.html.

Washington State Department of Transportation (WSDOT). 2006a. *Guidance for Addressing Noise Impacts in Biological Assessments, Noise Impact Assessment.* Accessed October 2024. http://www.wsdot.wa.gov/TA/Operations/Environmental/NoiseChapter011906.pdf.

Washington State Department of Transportation (WSDOT). 2006b. *Biological Assessment Preparation for Transportation Projects – Advanced Training Manual.* Olympia, WA.

Weisberg, S.B., J.A. Ranasinghe, D.M. Dauer, L.C. Schaffner, R.J. Diaz, and J.B. Frithsen. 1997. An estuarine benthic index of biotic integrity (B-IBI) for Chesapeake Bay. *Estuaries* 20: 149-158.

Wenger, A.S., C.A. Rawson, S. Wilson, S.J. Newman, M.J. Travers, S. Atkinson, N. Browne, D. Clarke, M. Depczynski, P.L.A. Erftemeijer, R.D. Evans, J.A. Hobbs, J.L. McIlwain, D.L. McLean, B.J. Saunders, and E. Harvey. 2018. Management strategies to minimize the dredging impacts of coastal development on fish and fisheries. Conservation Letters. 2018;11: e12572.

Wilber, D.H. and D.G. Clarke. 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.

Wilsey, C., B. Bateman, L. Taylor, J.X. Wu, G. LeBaron, R. Shepherd, C. Koseff, S. Friedman, and R. Stone. 2019. *Survival by Degrees: 389 Bird Species on the Brink*. National Audubon Society: New York.

Zastrow, C.E. and E. Houde. 1991. *Spawning, fecundity, hatch-date frequency and young-of-the-year growth of bay anchovy Anchoa mitchilli in mid-Chesapeake Bay*. Marine Ecology Progress Series. Vol 73. July.

Zhang, H., Y. Wang, C. Liang, S. Liu, and W. Xian. 2022. Estuarine Ichthyoplankton Studies-A Review. *Frontiers in Marine Science*. Vol 9. May.

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10. Glossary

Aesthetics – Perception of beauty, art, and taste. Refers to the visual and sensory appeal of an object, environment, or experience.

Atmospheric inversion – Weather phenomenon where a layer of cooler air is trapped near the ground by a layer of warmer air above it. Also known as a temperature inversion, it prevents air from rising and dispersing, which can lead to the accumulation of pollutants and poor air quality in the lower atmosphere.

A-weighted decibel (dBA) – Unit of sound level measurement that adjusts the decibel scale to reflect the human ear's sensitivity to different frequencies. Humans are generally more sensitive to sounds between 1,000 and 5,000 Hertz and less sensitive to very low or very high frequencies.

Base Flood Elevation (BFE) – Computed elevation to which floodwater is expected to rise during a base flood (a flood with a 1% annual chance of occurring, also called a 100-year flood); used to determine areas at risk of flooding.

Beach seine – Long net that is set from the shore at one end and then circled about a school of fish and drawn ashore.

Berth face – Vertical side of a wharf structure that supports mooring devices and energy-absorbing fender systems, which accommodate vessels at berth. The design and construction of the berth face are crucial for ensuring the safety and stability of ships during their stay at the port.

Berth pocket – Dredged or excavated area adjacent to a dock where a ship can moor. It provides the necessary depth for vessels to berth safely, allowing for loading and unloading of cargo or passengers.

Best Management Practice (BMP) – Strategy, technique, or measure implemented to prevent or reduce pollution, manage resources sustainably, or enhance environmental quality. BMPs are used to minimize negative impacts on the environment.

Bioaccumulation studies – Tests that measure the extent to which organisms absorb and accumulate contaminants from their environment, particularly from ingestion of sediments or water. In laboratory tests, organisms are exposed to sediments from the dredging area, and following a defined exposure period, their tissues are analyzed to quantify contaminant levels. These studies provide information regarding the potential for chemicals found in sediment to move through the food chain.

Bottom trawl – Fishing method in which a large, weighted net is dragged along the seafloor to herd and capture bottom-dwelling fish or other marine species.

Brownfield – Land that was previously used for industrial purposes and has the potential presence of hazardous substances, pollutants, or contaminants. It is typically an abandoned or underused industrial or commercial facility where redevelopment is complicated by environmental contamination.

Bubble curtain – Noise attenuation system used underwater to reduce the transmission of sound. A perforated hose or pipe placed on the river bottom releases a continuous stream of compressed air, forming a vertical wall of rising bubbles around the noise source.

Channel widener – Portion of a waterway that is dredged or expanded to increase its width, allowing for easier navigation and passage of larger ships; used to improve the efficiency and safety of shipping routes.

Clamshell bucket – Excavating or dredging tool with two hinged, clam-like jaws that close to scoop up loose materials, such as soil, sand, or sediment.

Clean Air Act – Comprehensive federal law enacted in the United States in 1970 (and amended in 1977 and 1990) to regulate air pollution and protect air quality. It authorizes the US Environmental Protection Agency (USEPA) to establish national standards for air quality, limit emissions of hazardous air pollutants from industrial sources, and enforce compliance to safeguard public health and the environment.

Clean Water Act – A federal law that regulates discharges of pollutants into US waters and sets water quality standards to protect surface waters, including rivers, lakes, and wetlands. It primarily authorizes the US Environmental Protection Agency (USEPA) to implement pollution control programs and requires permits for discharges under the National Pollutant Discharge Elimination System (NPDES).

Coking – Process in which coal is heated to very high temperatures in the absence of oxygen, removing any impurities. The resulting coke, a porous substance that is nearly all carbon, is used to produce steel.

Computational domain – spatial area or volume over which numerical calculations are performed in modeling or simulations. It represents the physical environment being modeled, such as air flow around an object or fluid flow in a channel.

Container yard – Designated area in a port or terminal where shipping containers are stored, stacked, and organized before or after being loaded onto a ship, truck, or train.

Cooperating agency – A federal agency, other than a lead agency, that has jurisdiction (i.e., authority to approve or deny permits or enforce regulations related to the proposed project) or special expertise concerning an environmental issue or resource affected by the proposed project. Cooperating agencies for this Sparrows Point Container Terminal project are the US Environmental Protection Agency (USEPA), US Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS), US Coast Guard (USCG), and the Corps Civil Works Division.

Criteria pollutants – Group of six common air pollutants regulated under the National Ambient Air Quality Standards (NAAQS) due to their potential to harm human health and the environment. The criteria pollutants are particulate matter (PM_{10} and $PM_{2.5}$), ground-level ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead (Pb).

Cumulative Sound Exposure Level (SEL_{cum}) – Measure used in acoustics to represent the total energy of sound exposure over a period of time. It is the cumulative sum of sound exposure levels (SELs) across multiple sound events, accounting for both the intensity and duration of noise exposure.

Cushion block – Padding or block made from various materials (e.g., wood, nylon, rubber) placed between two surfaces to absorb shock, vibration, or impact. During pile driving, cushion blocks are used to absorb and distribute the energy from the hammer blows, thus reducing the intensity of the underwater noise generated during pile driving.

Design vessel – Representative ship conceptualized and engineered according to particular criteria and specifications used for the planning and design of maritime structures, facilities, and navigational channels.

Dredged material containment facility (DMCF) – Man-made confinement structure, site, or area used for the dredged material is stored or treated; often used to contain potentially contaminated sediments and prevent them from being released into the environment.

Dredging units – Used to delineate and characterize sediments within a proposed dredging area. The sediments with each DU are sampled and tested separately for physical, chemical, and biological properties. Based on the results of the testing, the volume (cubic yards) of material from each DU can be managed separately with respect to feasible disposal options and BMPs that may be required.

Electrofishing – Technique used in fisheries management to temporarily stun fish by applying an electric field to the water, immobilizing the fish, making it easier to capture, count, or study them. Afterward, the fish typically recover and are released back into the water.

Empty container handlers or reach stackers – Industrial vehicles used in ports, terminals, and warehouses to lift, move, and stack empty shipping containers. Reach stackers are equipped with extendable arms to reach and place containers in high stacks or tight spaces.

Endangered Species Act of 1973 (ESA) – Law enacted to protect and recover species at risk of extinction and the ecosystems in which they are found. The ESA provides mechanisms for listing species as endangered or threatened, prohibits harm to these species, and designates critical habitat areas to support their recovery.

Entrainment – Unintentional capture or drawing in of small aquatic organisms (e.g., fish eggs, larvae, plankton) into industrial water intakes or by dredging equipment. This process can cause harm or death to the organisms involved.

Environmental Bucket – Specialized dredging bucket designed to minimize the environmental impact by reducing the amount of sediment resuspension and leakage during the lifting and transportation of dredged materials. It helps contain contaminants and prevent them from entering the surrounding water during material removal.

Essential fish habitat (EFH) – Areas that are necessary for fish to spawn, breed, feed, or grow to maturity. EFH is designated by Fishery Management Councils in the United States to ensure that important habitats for commercially and ecologically significant fish species are protected and conserved.

Fishery Management Councils – Regional organizations established by the Magnuson-Stevens Fishery Conservation and Management Act to manage fishery resources in federal waters of the United States. Each council is responsible for developing fishery management plans for sustainable fishing practices, habitat protection, and stock conservation in their respective regions.

Fixing America's Surface Transportation Act of 2015 (FAST-41) – Federal law aimed at improving the efficiency and timeliness of environmental reviews and permitting processes for large infrastructure projects. FAST-41 creates a coordinated framework for interagency review to streamline project approvals and reduce delays in sectors such as transportation, energy, and ports.

Flood Insurance Rate Map (FIRM) – Maps produced by the Federal Emergency Management Agency (FEMA) that show flood hazards, including flood zones, floodplain boundaries, and base flood elevations (BFEs).

Gantry cranes – Large, overhead cranes that consist of a bridge structure supported by two or more legs that move along rails or wheels. They are designed for lifting and transporting heavy loads and are essential for handling heavy loads in industrial settings.

Gate entry complex – secured access point that includes various components designed to control and monitor the entry and exit of vehicles, cargo, and personnel, enhancing security, ensuring compliance with regulations, and facilitating efficient operations within a facility.

Gillnet – Type of fishing net that hangs vertically in the water with floats on the top and weights on the bottom. Fish are caught when they attempt to swim through the net and become entangled by their gills.

Glare – Bright, intense light that causes discomfort or reduces visibility. Glare can occur from natural sources, like the sun, or artificial sources, such as streetlights, vehicle headlights, or reflective surfaces.

Graving dock – Type of dry dock used for shipbuilding, repair, or maintenance, where the dock is flooded to allow a vessel to enter, then drained so the ship is supported on blocks for work. Graving docks are permanent, land-based structures that provide access to the hull of the ship for cleaning, painting, or repairs.

Groundwater – Water that exists beneath the Earth’s surface, filling the porous spaces in soil, sediment, and rock formations. It is stored in and slowly moves through geological formations known as aquifers. Groundwater is a crucial component of the Earth's hydrological cycle, contributing significantly to drinking water supplies, irrigation for agriculture, and maintaining river flows and ecosystems, especially during dry periods.

Habitat Areas of Particular Concern (HAPC) – Specific area within essential fish habitat that are considered especially important due to their ecological significance, sensitivity, or vulnerability (e.g., spawning or nursery grounds); they often receive additional protection to ensure the sustainability of fish populations.

Hydraulic gradient – Rate of change in water level per unit distance in an aquifer or other groundwater system. It represents the direction and rate at which groundwater flows due to differences in pressure, with water moving from areas of higher pressure to areas of lower pressure.

Hydrodynamics – In a river system refers to the study of water movement, including how it flows, transports sediments, interacts with riverbeds and banks, and responds to changes in the environment, such as seasonal water levels, topography, and human interventions. River hydrodynamics is fundamental in understanding how rivers shape landscapes, support ecosystems, and respond to environmental changes, both natural and human induced.

Ichthyoplankton – Planktonic (drifting) life stages of fish, including fish eggs and larvae, found in aquatic environments. Ichthyoplankton are an important part of the food web.

Impingement – Process by which larger aquatic organisms, such as fish or invertebrates, are trapped against the intake screens of industrial water systems. Impingement can cause injury or death to these organisms.

Infiltration – Process by which water on the ground surface enters the soil or other permeable materials. Infiltration is an important part of the hydrological cycle, contributing to groundwater recharge.

Innovative reuse – Use of dredged material in the development or manufacturing of commercial, industrial, horticultural, agricultural, or other products and includes upland uses of dredged material.

Innovative Reuse and Beneficial Use of Dredged Material Program – Initiative managed by the Maryland Department of the Environment (MDE) aimed at promoting the sustainable and productive use of dredged material from Maryland's waterways. Given the significant volume of dredged material generated annually through the maintenance of navigational channels in the Chesapeake Bay and surrounding waters, this program seeks to reduce the environmental impact of disposal while turning dredged material into valuable resources.

Intermodal / rail yard – Facility where shipping containers are transferred between different modes of transportation, such as from ship to rail or from rail to truck. These yards are designed to efficiently handle intermodal freight, which consists of cargo that is transported in standardized containers that can be easily transferred between ships, trucks, and trains without needing to unpack the cargo.

Isopleth – Line on a map or chart connecting points of equal value for a specific variable, such as temperature, pressure, or sound intensity.

Interim measure – Short-term actions taken to address immediate threats to human health or the environment caused by the release of hazardous waste. These measures are typically implemented during the corrective action process at facilities subject to Resource Conservation and Recovery Act (RCRA) before comprehensive long-term solutions can be designed and implemented.

Knot – Unit of speed equivalent to one nautical mile (or 1.15 statute miles per hour).

Light – Day and night illumination levels; an important element of visual character.

Limit of moderate wave action – Area where wave heights could exceed 1.5 feet. The limit of moderate wave action helps define areas that are at risk from not only inundation but also wave-related impacts, such as erosion, structural damage, and storm surge effects.

Magnuson-Stevens Fisheries Conservation and Management Act of 1976 (MSA) – Primary law that governs the management and conservation of marine fisheries in federal waters. Establishes Fishery Management Councils, sets limits on overfishing, promotes sustainable fisheries, and protects essential fish habitats.

Marginal wharf – Waterfront structure where ships dock directly alongside a shoreline or seawall. The defining feature of a marginal wharf is that it runs parallel to the shoreline and allows vessels to load and unload cargo or passengers without the need for the ship to enter a dock basin.

Marine Protection, Research, and Sanctuaries Act – Also known as the Ocean Dumping Act, this law regulates the dumping of material into ocean waters to prevent marine pollution and authorizes the designation of marine sanctuaries for conservation, research, and public benefit.

Maximum Sound Level (L_{max}) – Maximum level of sound recorded over a given time period, measured in decibels (dB). L_{max} is often used in noise monitoring to assess peak noise events and their potential impacts, such as loud traffic or industrial activities.

Mud line – Boundary or interface where the water and sediment meet, below which the riverbed or river bottom exists.

National Ambient Air Quality Standards (NAAQS) – Pollution thresholds set by the US Environmental Protection Agency (USEPA) under the Clean Air Act to protect public health and the environment. These standards specify allowable concentrations of certain pollutants in outdoor air, focusing on primary standards (protective of human health, especially vulnerable populations) and secondary standards (protect of public welfare, including ecosystems, visibility, crops, and buildings). NAAQS apply to six common pollutants known as criteria pollutants.

National Environmental Policy Act of 1969 (NEPA) – US environmental law requiring federal agencies to consider the environmental impacts of their actions and decisions. Federal agencies are required to systematically assess the environmental impacts of their proposed actions and consider alternative ways of accomplishing their missions, which are less damaging to and protective of the environment. NEPA mandates the preparation of environmental assessments and environmental impact statements to ensure informed decision-making and public involvement in projects that may affect the environment.

National Pollutant Discharge Elimination System (NPDES) – Regulatory program established under the Clean Water Act of 1972 and administered by the US Environmental Protection Agency (USEPA) and authorized by state environmental agencies. It is a permitting system that regulates point sources (specific, identifiable, and discrete locations from which pollutants are discharged) of water pollution. The program's primary goal is to control and minimize the discharge of pollutants into surface waters to protect water quality and public health.

Nature-based solutions (NbS) – Actions that protect, sustainably manage, and restore natural or modified ecosystems to address societal challenges, such as changing weather patterns, disaster risk, and food and water security, while simultaneously providing benefits for biodiversity and human well-being. NbS emphasize working with nature rather than against it, offering a holistic approach to environmental management that enhances ecosystem health and resilience. Examples of NbS include restoring wetlands, reforestation, and green infrastructure in urban areas.

Noise attenuation – Reduction of sound intensity as it travels through a medium or is blocked by barriers. Noise attenuation can occur naturally (e.g., as sound waves dissipate over distance) or be enhanced through the use of soundproofing materials or noise barriers to minimize noise pollution.

North American Vertical Datum of 1988 (NAVD 88) – Standardized vertical datum used in North America for measuring elevations above or below mean sea level. This datum is essential for mapping, surveying, construction, floodplain management, and other applications that require accurate elevation data. By serving as a unified reference system, NAVD 88 provides consistency in elevation data across regions, which is crucial for projects involving water management and infrastructure development.

Optical character recognition (OCR) – technology used to automatically scan, recognize, and convert printed or handwritten text from images or documents into machine-readable data. In a terminal, OCR can identify and track cargo containers, vehicles, and other critical information in real-time, enhancing efficiency, and supporting better logistical management.

Overdepth allowance – Additional depth below the target dredging depth from which material may be removed due to excavation inaccuracies in the dredging process. The type of dredging equipment, the site-specific physical conditions (e.g., wind, waves, currents, tides), and design of the dredging prism influence overdepth. The depth to which sediments are characterized for physical and chemical constituents includes the overdepth allowance that is applied to the project.

Overland wave propagation – Movement of floodwaters as waves travel across the floodplain, away from the primary river or stream channels. This can occur during storm surges or heavy rainfall events where water inundates the land surface.

Participating agency – Any federal, state, tribal, regional, or local agency with an interest in the project. The standard for participating agency status is more encompassing than the standard for cooperating agency status. Cooperating agencies are, by definition, participating agencies, but not all participating agencies are cooperating agencies. Participating agencies for this Sparrows Point Container Terminal project are Maryland Department of the Environment (MDE), Maryland Department of Natural Resources (MDNR), Maryland Historical Trust (MHT), the Critical Area Commission for the Chesapeake and Atlantic Coast Bays (CAC), Maryland Port Administration (MPA), Maryland Board of Public Works (BPW), and Baltimore County.

Peak Sound Pressure Level (SPL_{peak}) – Measure of the maximum instantaneous pressure variation in a sound wave, expressed in decibels (dB). SPL_{peak} represents the highest amplitude of a sound wave during a specific time frame and is used to quantify loud, impulsive sounds.

Perimeter dike – Embankment or barrier constructed around the perimeter of an area, such as a reservoir or dredged material containment facility, to prevent the flow of water or sediments. Perimeter dikes are often used in flood control, land reclamation, and environmental management to contain or direct water.

Pilings – Posts or columns, typically made of wood, steel, or concrete, driven into the ground or seabed to support structures, such as bridges, piers, or buildings.

Ponar grab sampler – Device used in aquatic environments to collect sediment samples from the bottom of a water body. It consists of two jaws that close when the sampler is lowered to the seabed, allowing for the collection of surface sediments and benthic organisms.

Port of call – Port where a ship stops during its voyage to load or unload cargo or passengers. It is a scheduled stop along the ship's route, often serving logistical, commercial, or regulatory purposes.

Pound net – Stationary fishing net used in coastal waters that consists of vertical netting walls supported by stakes or pilings, which guide fish into a central area or enclosure (the "pound") where they are trapped.

Probable Effects Level (PEL) – In the context of sediment quality guidelines for aquatic life, the concentration above which effects are more frequently observed. It represents a threshold where there is a higher probability that exposure to contaminants will result in adverse biological effects, such as reduced growth, reproduction issues, or mortality in aquatic organisms. Sediment contaminant concentrations above the PEL are generally considered a potential risk to aquatic life, warranting further investigation or potential remedial action.

Regional Screening Levels (RSLs) – Contaminant concentration thresholds developed by the US Environmental Protection Agency (USEPA) to assess human health concerns at contaminated sites. These screening levels provide a baseline for determining whether contaminants present in sediment, soil, or water require further investigation or remediation.

Resource Conservation and Recovery Act (RCRA) –Federal law enacted in 1976 to regulate the management and disposal of solid and in a way that protects human health and the environment. Administered by the US Environmental Protection Agency (USEPA), RCRA establishes a framework for the proper handling, treatment, and disposal of waste materials, with specific regulations aimed at reducing hazardous waste generation and encouraging recycling and resource recovery.

Revetment – Sloping structure made of stone, concrete, or other materials that is built to prevent erosion or protect shorelines, riverbanks, or embankments from wave action, flooding, or currents.

Rivers and Harbors Act of 1899 – Prohibits unauthorized obstruction or alteration of navigable waters in the United States, including construction of structures like bridges, dams, or piers. Administered by the US Army Corps of Engineers (Corps), it is one of the oldest federal environmental laws and aims to protect navigation.

Roll-on / roll-off carrier (Ro-Ro) – Type of vessel designed to carry wheeled cargo, such as cars, trucks, trailers, or railroad cars, that can be driven on and off the ship using built-in ramps. Used primarily for the transport of vehicles across seas and oceans.

Root mean square (RMS) – Statistical measure of the magnitude of a varying quantity, calculated as the square root of the average of the squares of the values. Commonly used in engineering and physics to determine the effective value of a waveform or signal, particularly in measuring sound levels.

Sediment – Particles of rock, minerals, organic matter, or other materials that have been broken down through processes like weathering and erosion and settled to the bottom of a water body. Sediment can vary greatly in size and composition, from tiny clay particles to larger sand, gravel, or even boulders, and is often categorized by sizes.

Sediment Quality Guidelines (SQGs) – Standards or benchmarks used to assess the potential impact of sediment-bound contaminants on aquatic life. These guidelines help in evaluating whether concentrations of specific chemicals in sediment could be harmful to organisms living in or around aquatic environments. SQGs are typically derived from toxicity studies and field data and are expressed as concentration levels (i.e., Threshold Effects Level [TEL] and Probable Effects Level [PEL]) for various contaminants, such as heavy metals or organic compounds. SQGs help monitor sediment health, identify areas of potential risk, prioritize clean-up efforts, and establish regulatory standards for sediment quality to protect and sustain aquatic ecosystems.

Setback – Minimum distance a house, building or other structure must be from the property line.

Ship-to-shore crane – Large, specialized crane used in container ports to load and unload containers between ships and the shore. These cranes are mounted on the dock and extend over the ship to move cargo containers efficiently between the vessel and the terminal.

Slag – By-product of steel making, produced when impurities in the raw materials are separated out during the conversion from iron to steel. Slag can be used in various applications, such as construction aggregates and cement production.

SPCT project area – Includes Coke Point, the Sparrows Point Channel out to the juncture with the Brewerton Channel, the High Head Industrial Basin, and Coal Pier Channel.

Standard elutriate – Created using water / sediment mixtures to simulate the potential release of chemicals from sediment into the water column when sediment is placed in open water. The elutriate is analyzed to determine the concentration of chemical constituents that may be released into the water column, helping to predict impacts on water quality and aquatic life.

Supernatant – In wastewater treatment, the relatively clear liquid that lies above settled solids after a sedimentation or clarification process. It forms during primary and secondary treatment stages when heavier particles settle to the bottom of a tank.

Threshold Effects Level (TEL) – In the context of sediment quality guidelines for aquatic life, the concentration below which adverse biological effects on aquatic life are rarely observed. Sediment concentrations at or below the TEL suggest a low risk of harmful effects to benthic species. The TEL serves as a conservative, protective benchmark, indicating that the likelihood of toxic effects increases as contaminant concentrations exceed this threshold.

Total Maximum Daily Load (TMDL) – Regulatory term of the Clean Water Act that represents the maximum amount of a pollutant that a water body (e.g., river, lake, estuary) can receive daily while still meeting water quality standards. TMDLs are established to restore impaired waters by addressing pollutants that cause water quality degradation. Once a TMDL is established, states and local agencies implement strategies to limit pollutant levels to help improve water quality and support designated uses, such as recreation, drinking water, and aquatic habitats.

Toxicity Characteristic Leaching Procedure (TCLP) – Laboratory test established by the US Environmental Protection Agency (USEPA) under the Resource Conservation and Recovery Act (RCRA) to simulate leaching of contaminants from solid materials, like sediments or industrial waste. The results of the test are used to classify waste and to determine appropriate disposal options.

Trophic structure – Hierarchical organization of feeding relationships within an ecosystem, representing how energy flows through different levels of organisms. It starts with primary producers (e.g., plants or algae) at the base, followed by primary consumers (herbivores), secondary consumers (carnivores), and higher-level predators. Trophic structure provides insight into the balance and interactions among species in an ecosystem.

Turbidity – Measure of water clarity, describing the presence of suspended particles such as silt, clay, organic matter, algae, and microorganisms in water. High turbidity levels reduce light penetration, affecting photosynthesis in aquatic plants, making it harder for predators to locate prey, clog fish gills, interfere with egg development, and transport pollutants like heavy metals or bacteria. Low turbidity is generally associated with healthier aquatic ecosystems. Turbidity can occur naturally (e.g., storm events, plankton blooms), but construction activities, such as dredging, can increase turbidity.

Turning basin – Area in a harbor or waterway where ships can safely turn around without risk of grounding or collision. It is usually a wider section of the waterway, allowing large vessels to rotate or change direction, especially when preparing to dock or depart from a port.

Twenty-foot equivalent unit (TEU) – Standard unit of measurement used in the shipping and container industry to describe the capacity of cargo containers and container ships. One TEU represents the dimensions of a standard shipping container that is 20 feet long, 8 feet wide, and 8.5 feet high. It is used as a universal reference for cargo volume, allowing for consistent tracking of container sizes and ship capacities.

Ultra large container vessel (ULCV) – Large cargo ship designed specifically to transport large quantities of shipping containers across the ocean. These vessels typically have a capacity of more than 14,000 twenty-foot equivalent units (TEUs) and can exceed 400 meters in length and 200 feet in width.

Visual character – Distinct pattern of elements that make one landscape different from another. Character is created by the combined effect of natural and built elements. The elements that contribute to visual character include landforms, topography, vegetation (structure and diversity), water, coastal edges, viewscapes, architecture, land use patterns, urban design elements, and cultural landmarks, among other features.

Visual quality – How people perceive and appreciate landscapes based on their distinctive visual characteristics. People value a sense of order and coherence in a landscape and the unique qualities that make landscapes culturally significant. Visual quality is assessed in terms of the presence of preferred elements and public sensitivities and concerns.

Waste Load Allocation (WLA) – Set the amount of specific pollutants that can be safely released into a river, lake, or other body of water from specific sources, such as factories or treatment plants, without harming the water's health or quality. WLA is an essential part of the TMDL calculation. These limits help ensure that water quality objectives are met and are essential for managing and reducing pollution in streams, rivers, lakes, and coastal waters.

Water column bioassays – Tests conducted to determine the toxicity of water or elutriate samples. In these bioassays, early life stages of aquatic organisms, such as fish, crustaceans, or bivalves are exposed to the samples, and their responses (e.g., mortality, growth inhibition) are observed to evaluate the potential for impacts on aquatic life.

Water Body Use Classes – Define the intended uses and water quality standards needed to support those uses. By setting and enforcing standards for each class, MDE aims to manage pollution sources and preserve water quality across its diverse waterways. Each class has specific criteria to protect activities (e.g., swimming, fishing, providing habitats for aquatic life). Water bodies are classified based on location, ecological significance, and recreational or commercial value.

Wave runup – The height to which waves run up the slope of a revetment, bank, or dike above the still water level. In a setting like the Baltimore Harbor, wave runup is generally more influenced by anthropogenic (human-made) structures and the specific design of the harbor compared to the more natural processes on an open coast.

Wave setup – The increase in the average water level due to the breaking of waves as they approach the shore. This setup occurs as the momentum from the waves is transferred to the water body, raising the water level above the expected tide level.

Whole sediment bioassays – Tests that expose benthic organisms directly to sediment samples to determine the sediment toxicity. Survival of the benthic organisms is measured following a defined exposure period. These bioassays provide information related to how sediments containing contaminants may affect sediment-dwelling organisms following placement of the material in open water.

Zooplankton – Tiny, drifting animals that float in oceans, seas, and freshwater bodies. They are an essential component of the aquatic food chain, feeding on phytoplankton (microscopic plants) and serving as food for larger animals, such as fish, whales, and other marine species. Examples of zooplankton include small crustaceans, jellyfish larvae, and the larval stages of fish.

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11. Index

Appendix A: Applicable Federal Statutes and Anticipated Permits and Approvals

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APPENDIX A: APPLICABLE FEDERAL STATUTES AND ANTICIPATED PERMITS AND APPROVALS

This Final Environmental Impact Statement (EIS) must operate within the constraints of various federal statutes. The US Army Corps of Engineers (Corps), in preparing this Final EIS, must conform to and meet the goals of these federal statutes. Additionally, Tradepoint TiL Terminal, LLC must obtain permits and approvals through a Joint Permit Application. These permits would contain stipulations protective of resources that must be followed during construction activities, if the Sparrows Point Container Terminal project is implemented. Table A-1 lists the federal statutes applicable to the National Environmental Policy Act (NEPA) process, and Table A-2 presents the anticipated permits and approvals.

Table A-1. Federal Statutes Applicable to the NEPA Process

Federal Statutes (as Amended)	Responsible Agency
15 CFR part 930: Federal Consistency with Approved Coastal Management Programs	NOAA
40 CFR part 6: Procedures for Implementing NEPA and Assessing the Environmental Effects Abroad of EPA Actions	USEPA
40 CFR part 93, Subpart B: General Conformity Rule	USEPA
50 CFR part 17: Endangered and Threatened Wildlife and Plants	USFWS
50 CFR part10.13: List of Migratory Birds	USFWS
Abandoned Shipwreck Act of 1987	NPS
American Indian Religious Freedom Act of 1978	Multiple Federal Agencies
Archeological and Historic Preservation Act of 1974	NPS
Archaeological Resources Protection Act of 1979	NPS
Bald and Golden Eagle Protection Act of 1940	USFWS
Clean Air Act of 1970	USEPA
Clean Water Act of 1972	Corps
Coastal Zone Management Act of 1972	NOAA
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund)	USEPA
Emergency Planning and Community Right-to-Know Act of 1986	USEPA
Endangered Species Act of 1973	USFWS
Estuary Protection Act of 1968	USDOI, Corps
Federal Noxious Weed Act of 1974	USDA
Federal Water Project Recreation Act of 1965	USFWS
Fish and Wildlife Conservation Act of 1980	USFWS
Fish and Wildlife Coordination Act of 1934	USFWS
Magnuson-Stevens Fishery Conservation and Management Act of 1976	NMFS
Marine Mammal Protection Act of 1972	NMFS, USFWS, MMC
Marine Protection, Research, and Sanctuaries Act of 1972	Corps, USEPA
Migratory Bird Conservation Act of 1929	USFWS
Migratory Bird Treaty Act of 1918	USFWS
National Environmental Policy Act of 1969	Multiple Federal Agencies

Federal Statutes (as Amended)	Responsible Agency
National Historic Preservation Act of 1966	ACHP, MHT, NPS
Native American Graves Protection and Repatriation Act of 1990	USDOI, NPS
Noise Control Act of 1972	USEPA
North American Wetlands Conservation Act of 1968	USFWS
Occupational Health and Safety Act of 1970	USEPA
Plant Protection Act of 2000	USDA
Resource Conservation and Recovery Act of 1976	USEPA
River and Harbor Act of 1954 / Flood Control Act of 1954	Corps
Rivers and Harbors Act of 1899	Corps
Solid Waste Disposal Act of 1965	USEPA
Submerged Lands Act of 1953	NOAA
Water Quality Act of 1965	USEPA
Water Resources Development Act of 1986	Corps
Watershed Protection and Flood Prevention Act of 1954	USDA-NRCS

Notes:

ACHP = Advisory Council on Historic Preservation

CFR = Code of Federal Regulations

Corps = US Army Corps of Engineers

MMC = Marine Mammal Commission

MHT = Maryland Historical Trust

NMFS = National Marine Fisheries Service

NOAA = National Oceanic and Atmospheric Administration

NPS = National Park Service

NRCS = Natural Resources Conservation Service

USDA = US Department of Agriculture

USDOI = US Department of the Interior

USEPA / EPA = US Environmental Protection Agency

USFWS = US Fish and Wildlife Service

Table A-2. Anticipated Permits and Approvals to be Obtained through the Joint Permit Application

Permit / Approval / Agreement	Agency	Permit Regulatory Action
Tidal Wetlands License	MDE / BPW	A license is required for filling of tidal open water and vegetated tidal wetlands, construction of piers and / or associated in-water structures, construction of shore erosion control structures, dredging, and marsh establishment (living shorelines).
Section 401 Water Quality Certification	MDE	A State Water Quality Certification, which ensures the protection of waters of the State, is necessary for activities requiring a Corps Section 404 permit.
Federal Coastal Zone Consistency Determination	MDE	The Coastal Zone Management Act of 1972 (CZMA) gives states with Federally approved coastal programs the lead in coordinating and strengthening coastal zone management activities of all levels of government.
Section 404 Permit	Corps	Issued by the Corps to regulate the discharge of dredged material or fill material into WOTUS.
Section 10 Permit	Corps	Regulates certain activities in or affecting “navigable” WOTUS. Regulated activities include dredging, filling, structures, and any other permanent or semi-permanent modification that may affect navigation.
Section 408 Review / Permission	Corps	Evaluates and authorizes changes to Civil Works projects with respect to proposed alterations to ensure that alterations are not injurious to public interest and do not impair the intended use.
Marine Protection Research and Sanctuaries Act (MPRSA) Section 103 Permit	Corps	Placement of dredged material at USEPA-designated ocean placement sites requires compliance with Section 103 of the MPRSA. Tiered testing of the dredged material is required to demonstrate no adverse effects to the marine environment.
Industrial Surface Water Discharge Permit / National Pollution Discharge Elimination System (NPDES) permit (Clean Water Act Section 402)	MDE	Combined Federal and State permit required under Section 402 of the Clean Water Act. Required for any project that will discharge effluent / wastewater to surface WOTUS to ensure compliance with State water quality standards.
Dam Safety Permit / Waterway Construction Permit	MDE	Required for construction of new dams and alterations to existing impoundments to verify that structures are built to appropriate standards and operated to protect public safety.
Water Appropriation or Use Permit	MDE	Required for any activity that withdraws water from the surface waters or ground waters of the State of Maryland.
General Conformity Determination	USEPA	Required for review to ensure the project conforms with the State Implementation Plan (SIP) for air quality standards in non-attainment or maintenance areas.

Permit / Approval / Agreement	Agency	Permit Regulatory Action
Minor New Source Review (NSR) Permit to Construct	MDE	Authorization to construct a stationary source with emissions that meet air quality standards, subject to conditions to minimize emissions
Maryland State Permit to Operate	MDE	Permit to operate stationary sources, ensuring compliance with air quality standards during ongoing operations.

Notes:

BPW = Maryland Board of Public Works

Corps = US Army Corps of Engineers

CZMA = Coastal Zone Management Act

MDE = Maryland Department of the Environment

MPRSA = Marine Protection Research and Sanctuaries Act

NPDES = National Pollution Discharge Elimination System

NSR = New Source Review

SIP = State Implementation Plan

USEPA = US Environmental Protection Agency

WOTUS = Waters of the United State

Appendix B: Agency Consultation Letters

FAST-41 Initiation Letters & Responses

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DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 16, 2023

Operations Division

Ms. Christine Vaccaro
Protected Resources Division
Greater Atlantic Regional Fisheries Office
National Marine Fisheries Service
55 Great Republic Drive
NOAA Fisheries Service
Gloucester, Massachusetts 01930

Dear Ms. Vaccaro:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The purpose of this letter is to invite the National Marine Fisheries Service to be a Cooperating Agency in the National Environmental Policy Act process and to invite you to participate in the FAST-41 inter-agency work group. Your designation as a cooperating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The proposed Project has been placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023 (Permitting Dashboard) in accordance with the Joint Memorandum of the Office of Management and Budget/Council on Environmental Quality dated January 13, 2017 and entitled: “Guidance to Federal Agencies Regarding the Environmental Review and Authorizations Process for Infrastructure Projects”.

FAST-41 requires the lead federal agency, the Corps, to develop and maintain a Coordinated Project Plan (CPP) and project permitting timetable. The final CPP is required by November 24, 2023. The CPP, which must be created amongst the applicable cooperating agencies, is a concise plan for coordinating public and agency participation in, and completion of, any required federal environmental review and authorization for the project. The Corps is in the process of developing the CPP and project permitting timetable for the proposed Project to meet the requirements and intent of FAST-41, and to guide public and agency participation throughout the remainder of the federal environmental review and authorization process, which will be tracked on the Permitting Dashboard. We look forward to you providing relevant expertise regarding potential environmental impacts on our inter-agency work group to facilitate the National Environmental Policy Act process.

As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

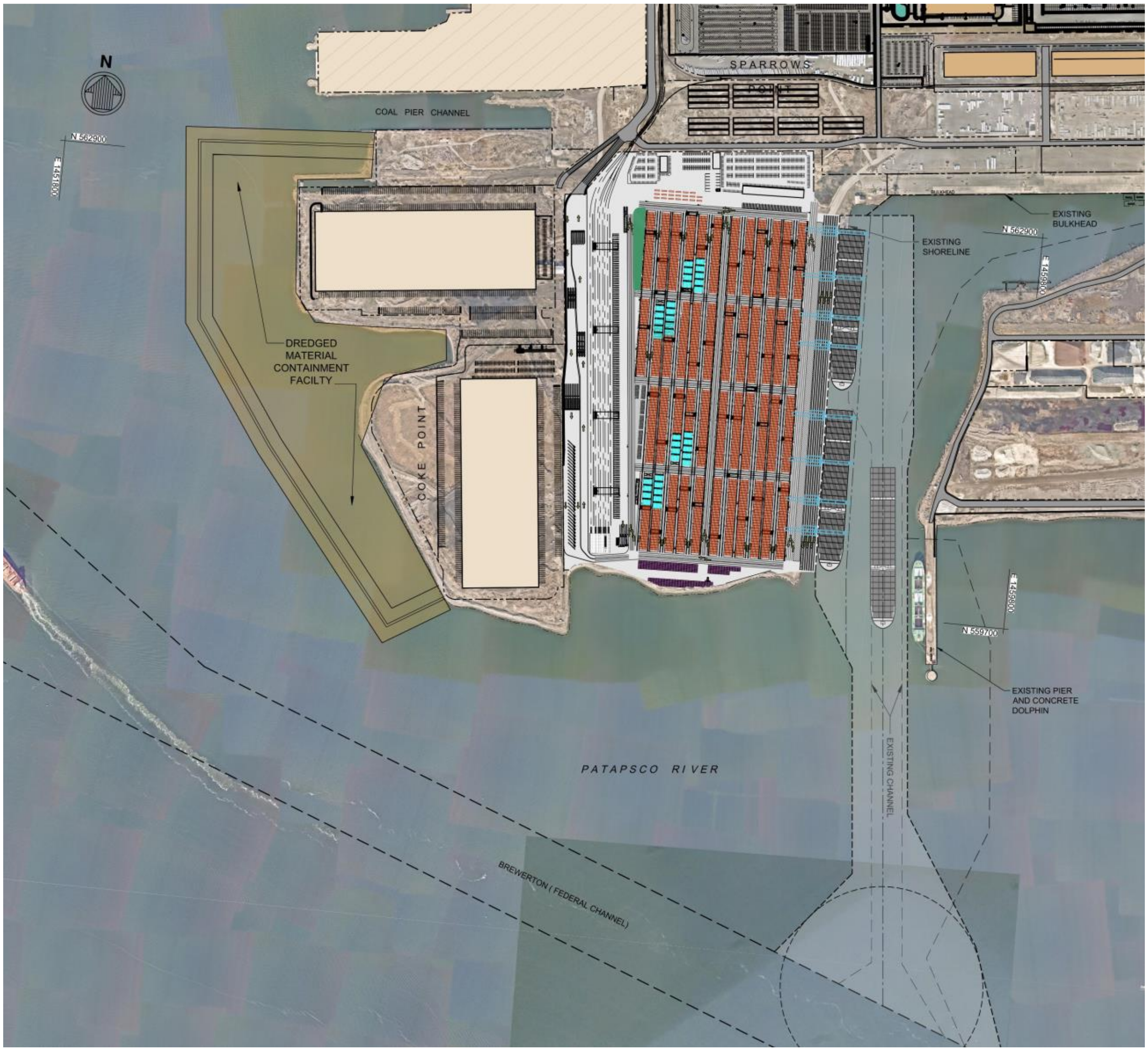
Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure



SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

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

October 27, 2023

Wade Chandler, Chief
Regulatory Branch
U.S. Army Corps of Engineers
Baltimore District
2 Hopkins Plaza
Baltimore, Maryland 21201

RE: Sparrows Point Container Facility Cooperating Agency Invitation

Dear Mr. Chandler:

Thank you for your October 16, 2023, letter inviting us to be a cooperating agency in the National Environmental Policy Act (NEPA) process for the Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (SPCT) project in the Patapsco River at Sparrows Point, Baltimore County, Maryland. The SPCT project includes expanding an existing navigation channel and identifying a suitable Dredged Material Containment Facility (DMCF) to receive the resulting sediments. In accordance with the Council on Environmental Quality's NEPA Implementing Procedures (40 CFR §1501.6, Cooperating agencies), we accept your invitation to participate as a cooperating agency to help foster a collaborative process and interagency coordination on these projects.

Because our role and degree of involvement as a cooperating agency is dependent on existing staff and fiscal resources, our contribution to the process will be limited to participating in project meetings and providing written comments in response to your documents prepared as part of the NEPA process. We will provide technical information identifying aquatic species and habitats of concern, identification of issues to be considered and evaluated during the NEPA process and guidance on evaluating, avoiding and minimizing project effects to our trust resources. At this time, we are unable to undertake any data collection, conduct analyses or to prepare any sections of the NEPA documents as our staff and resources are fully committed to other obligatory programs of NOAA Fisheries.

Please note that our involvement as a cooperating agency does not constitute an endorsement of this project, nor does it obviate the need for consultations required under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), Fish and Wildlife Coordination Act (FWCA), and the Endangered Species Act (ESA). As project design moves forward, should adverse impacts to EFH or other NOAA trust resources be anticipated, consultation with us under the Section 305(b) of MSA and FWCA is required. Similarly, potential impacts to species protected under the ESA should be coordinated with our Protected Resources Division. Please also be aware the proposed timelines for all projects posted on the Permitting Dashboard that include NOAA Fisheries milestones must be provided to us for review and approval prior to their posting.

Thank you for the opportunity to participate as a cooperating agency on the SPCT project. We look forward to continued coordination as these projects move forward. If you have any questions regarding this matter, please contact Jonathan Watson (jonathan.watson@noaa.gov) in our Annapolis field office and Brian Hopper (brian.d.hopper@noaa.gov) in our Protected Resources Division regarding threatened and endangered species listed by us under the ESA.

Sincerely,

Louis A. Chiarella
Assistant Regional Administrator
for Habitat and Ecosystem Services

cc: J. DaVia, M. Teresi (USACE NAB)
D. Youngkin (NMFS OPR)
C. Vaccaro B. Hopper, (NMFS PRD)
J. Watson, K. Greene (NMFS HESD)

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 16, 2023

Operations Division

Mr. Lou Chiarella, Assistant Regional Administrator
Greater Atlantic Region Habitat and Ecosystem Services Division
National Marine Fisheries Service
55 Great Republic Drive
NOAA Fisheries Service
Gloucester, Massachusetts 01930

Dear Mr. Chiarella:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The purpose of this letter is to invite the National Marine Fisheries Service to be a Cooperating Agency in the National Environmental Policy Act process and to invite you to participate in the FAST-41 inter-agency work group. Your designation as a cooperating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The proposed Project has been placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023 (Permitting Dashboard) in accordance with the Joint Memorandum of the Office of Management and Budget/Council on Environmental Quality dated January 13, 2017 and entitled: "Guidance to Federal Agencies Regarding the Environmental Review and Authorizations Process for Infrastructure Projects".

FAST-41 requires the lead federal agency, the Corps, to develop and maintain a Coordinated Project Plan (CPP) and project permitting timetable. The final CPP is required by November 24, 2023. The CPP, which must be created amongst the applicable cooperating agencies, is a concise plan for coordinating public and agency participation in, and completion of, any required federal environmental review and authorization for the project. The Corps is in the process of developing the CPP and project permitting timetable for the proposed Project to meet the requirements and intent of FAST-41, and to guide public and agency participation throughout the remainder of the federal environmental review and authorization process, which will be tracked on the Permitting Dashboard. We look forward to you providing relevant expertise regarding potential environmental impacts on our inter-agency work group to facilitate the National Environmental Policy Act process.

As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

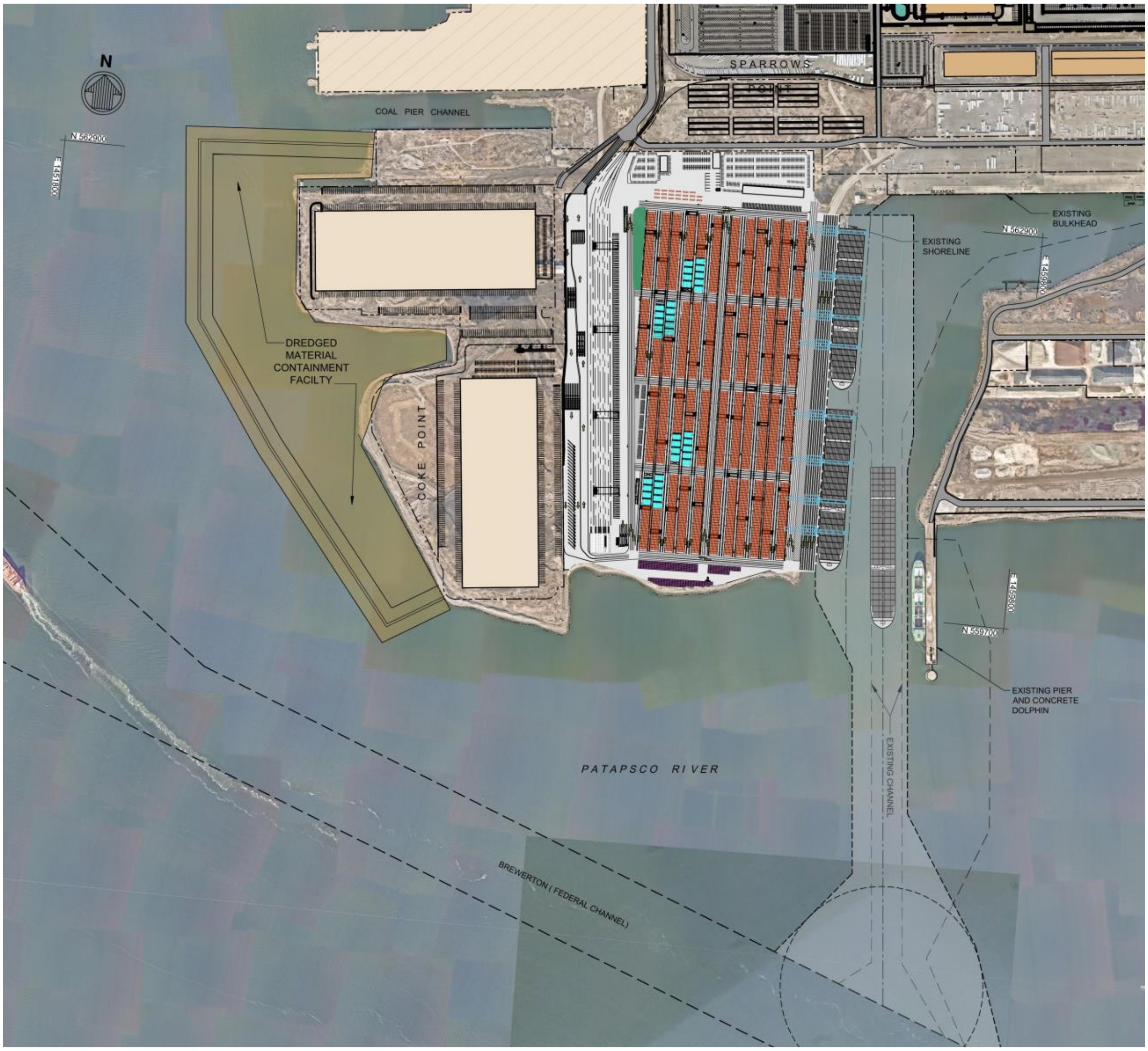
Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

To identify how we can better serve you, we need your help. Please take the time to fill out our customer service survey at: https://regulatory.ops.usace.army.mil/customer-service-survey/



SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 16, 2023

Operations Division

Mr. Robert Lewis
408 Coordination POC
United States Army Corps of Engineers
Baltimore District, Operations Division
2 Hopkins Plaza
Baltimore, Maryland 21201

Dear Mr. Lewis:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The purpose of this letter is to invite the United States Army Corps of Engineers, Baltimore District, Operations Division, Section 408 Review, to be a Cooperating Agency in the National Environmental Policy Act process and to invite you to participate in the FAST-41 inter-agency work group. Your designation as a cooperating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

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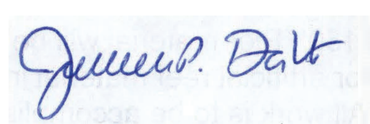
As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

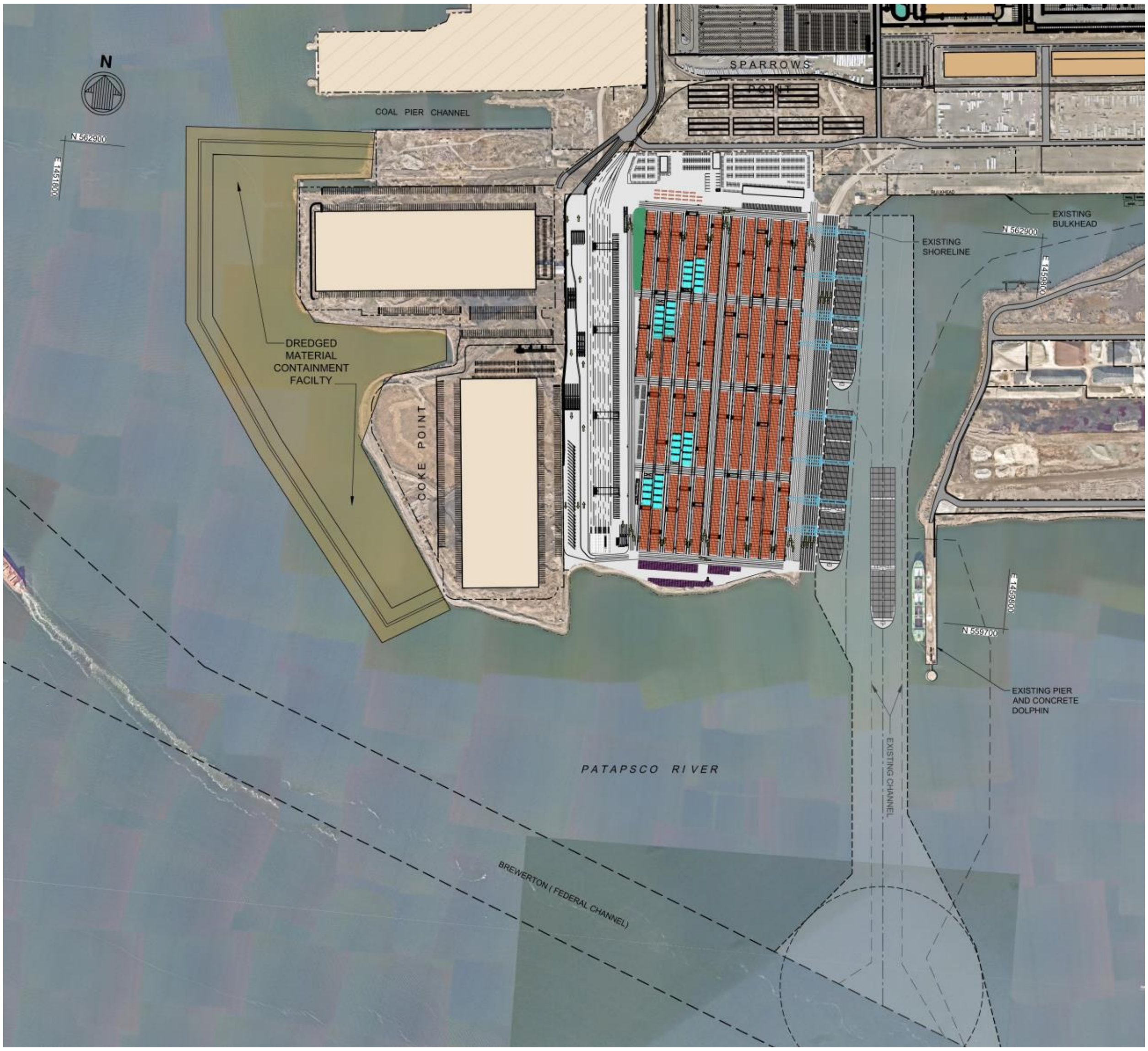
Sincerely,



Wade B. Chandler
Chief, Regulatory Branch

Enclosure

To identify how we can better serve you, we need your help. Please take the time to fill out our customer service survey at: https://regulatory.ops.usace.army.mil/customer-service-survey/



SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

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

October 18, 2023

Operations Division

Ms. Maria Teresi
U.S. Army Corps of Engineers
Baltimore District
Operations Division
Regulatory Branch

Dear Ms. Teresi,

This is in response to your letter dated October 16, 2023, regarding Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for the Tradepoint TiL Terminals LLC Section 408 request to dredge and widen the existing Sparrows Point approach channel and basin, construct a marine terminal at Coke Point, and construct a tidal open water dredged material containment facility (DMCF) in the Patapsco River.

The U.S. Army Corps of Engineers, Baltimore District Operations Division, Section 408 Review Team will review the Section 408 request in accordance with Engineer Circular 1165-2-220, Policy and Procedural Guidance for Processing Requests to Alter US Army Corps of Engineers Civil Works Projects dated September 10, 2018. The Section 408 Review Team will be a cooperating agency and will participate in the FAST-41 inter-agency work group.

If you have any questions concerning this matter, please contact Mr. Rob Lewis, Section 408 Program Manager, at (410) 962-2708 or via email at robert.l.lewis@usace.army.mil.

Sincerely,

Robert L. Lewis
Section 408 Coordinator
Baltimore District

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 16, 2023

Operations Division

LCDR Avery L. Winston
Commanding Officer
United States Coast Guard
2401 Hawkins Point Road
Baltimore, Maryland 21223

Dear LCDR Winston:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The purpose of this letter is to invite the United States Coast Guard to be a Cooperating Agency in the National Environmental Policy Act process and to invite you to participate in the FAST-41 inter-agency work group. Your designation as a cooperating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The proposed Project has been placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023 (Permitting Dashboard) in accordance with the Joint Memorandum of the Office of Management and Budget/Council on Environmental Quality dated January 13, 2017 and entitled: "Guidance to Federal Agencies Regarding the Environmental Review and Authorizations Process for Infrastructure Projects".

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As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

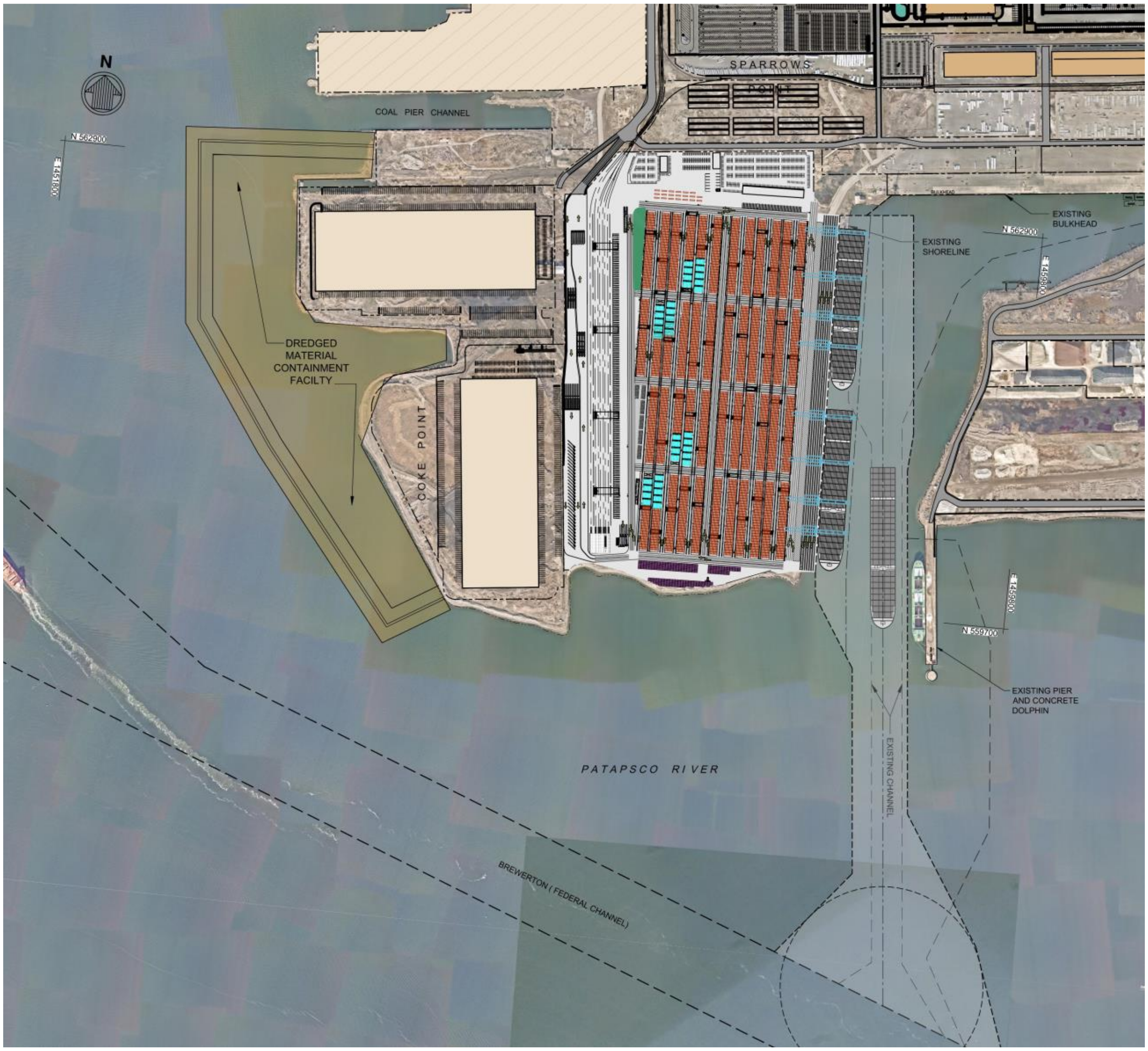
Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

To identify how we can better serve you, we need your help. Please take the time to fill out our customer service survey at: https://regulatory.ops.usace.army.mil/customer-service-survey/



SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

From:	Smoak, Baxter B CDR USCG SEC MD/NCR (USA)
To:	Teresi, Maria N CIV USARMY CENAB (USA); Newkirk, Kate M LCDR USCG SEC MD/NCR (USA)
Cc:	Oconnell, David E CAPT USCG SEC MD/NCR (USA); Damon, Caren C CDR USCG SEC MD/NCR (USA); Davia, Joseph P CIV USARMY CENAB (USA); SMB-SectorMarylandNCR-Waterways
Subject:	RE: NAB-2023-61200 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal) // Coordinating/Participating Agency letter - USCG
Date:	Monday, October 16, 2023 4:13:19 PM

Maria,

Thank you for your email, and we look forward to our role as a Cooperating Agency for the NEPA inter-agency work group for the new terminal and DMCF at Sparrow's Point.

Sector Maryland-NCR's primary POC for this will be LCDR Kate Newkirk. She is in copy and can be reached at kate.m.newkirk@uscg.mil or (410) 576-2519/(410) 365-8141.

Regards,
Baxter

Baxter B. Smoak, CDR
Chief, Prevention Department

U.S. Coast Guard
Sector Maryland-National Capital Region
2401 Hawkins Point Rd
Baltimore, MD 21226

410-576-2619 (Desk)
443-955-8693 (Mobile)
571-607-7851 (MS Teams)

From: Oconnell, David E CAPT USCG SEC MD/NCR (USA) <David.E.OConnell@uscg.mil>
Sent: Monday, October 16, 2023 3:47 PM
To: Teresi, Maria N CIV USARMY CENAB (USA) <Maria.Teresi@usace.army.mil>
Cc: Davia, Joseph P CIV USARMY CENAB (USA) <Joseph.DaVia@usace.army.mil>; Newkirk, Kate M LCDR USCG SEC MD/NCR (USA) <Kate.M.Newkirk@uscg.mil>; Smoak, Baxter B CDR USCG SEC MD/NCR (USA) <Baxter.B.Smoak@uscg.mil>
Subject: RE: NAB-2023-61200 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal) // Coordinating/Participating Agency letter - USCG

Maria,

Thank you for your letter we will respond accordingly by the deadline.

Respectfully,

CAPT David O'Connell

Commander, Sector Maryland-NCR
2401 Hawkins Pt Rd, Bldg 70
Baltimore, MD 21226
410-576-2564

From: Teresi, Maria N CIV USARMY CENAB (USA) <Maria.Teresi@usace.army.mil>
Sent: Monday, October 16, 2023 3:34 PM
To: Oconnell, David E CAPT USCG SEC MD/NCR (USA) <David.E.OConnell@uscg.mil>
Cc: Davia, Joseph P CIV USARMY CENAB (USA) <Joseph.DaVia@usace.army.mil>; Teresi, Maria N CIV USARMY CENAB (USA) <Maria.Teresi@usace.army.mil>; Newkirk, Kate M LCDR USCG SEC MD/NCR (USA) <Kate.M.Newkirk@uscg.mil>; Smoak, Baxter B CDR USCG SEC MD/NCR (USA) <Baxter.B.Smoak@uscg.mil>
Subject: NAB-2023-61200 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal) // Coordinating/Participating Agency letter - USCG

Good Afternoon Captain O'Connell,
Please see attached subject Cooperating Agency letter.
Thank You,
Maria N. Teresi
Biologist, MD North Section
USACE, Baltimore District, Operations Division, Regulatory Branch
ofc: 410.962.4501
cell: 410.375.0398
email: maria.teresi@usace.army.mil

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 16, 2023

Operations Division

Mr. Adam C. Ortiz
Office of the Regional Administrator
United States Environmental Protection Agency
1600 John F. Kennedy Boulevard
Philadelphia, Pennsylvania 19103-2852

Dear Mr. Ortiz:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The purpose of this letter is to invite the United States Environmental Protection Agency to be a Cooperating Agency in the National Environmental Policy Act process and to invite you to participate in the FAST-41 inter-agency work group. Your designation as a cooperating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The proposed Project has been placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023 (Permitting Dashboard) in accordance with the Joint Memorandum of the Office of Management and Budget/Council on Environmental Quality dated January 13, 2017 and entitled: "Guidance to Federal Agencies Regarding the Environmental Review and Authorizations Process for Infrastructure Projects".

FAST-41 requires the lead federal agency, the Corps, to develop and maintain a Coordinated Project Plan (CPP) and project permitting timetable. The final CPP is required by November 24, 2023. The CPP, which must be created amongst the applicable cooperating agencies, is a concise plan for coordinating public and agency participation in, and completion of, any required federal environmental review and authorization for the project. The Corps is in the process of developing the CPP and project permitting timetable for the proposed Project to meet the requirements and intent of FAST-41, and to guide public and agency participation throughout the remainder of the federal environmental review and authorization process, which will be tracked on the Permitting Dashboard. We look forward to you providing relevant expertise regarding potential environmental impacts on our inter-agency work group to facilitate the National Environmental Policy Act process.

As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

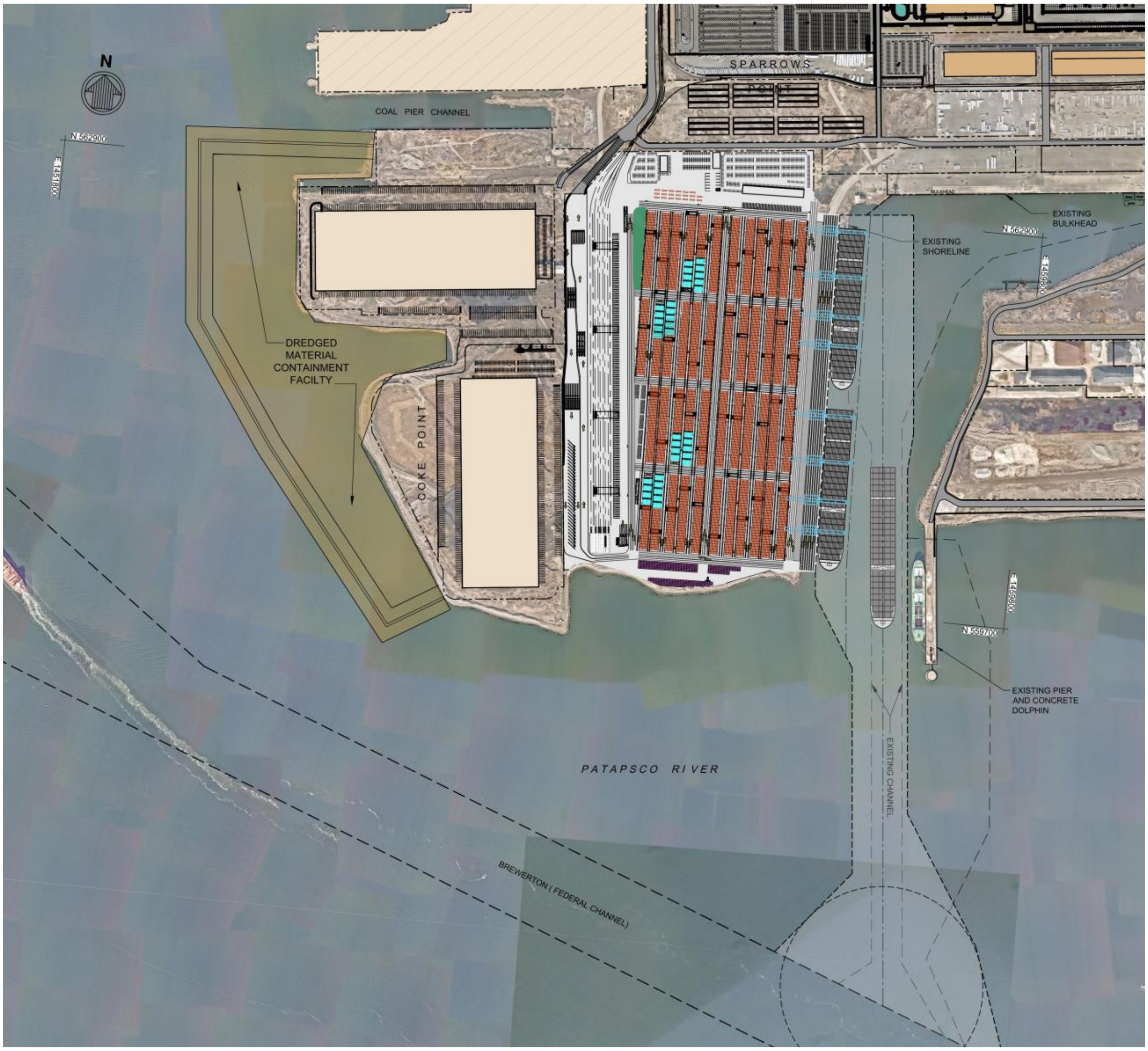
Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

To identify how we can better serve you, we need your help. Please take the time to fill out our customer service survey at: https://regulatory.ops.usace.army.mil/customer-service-survey/



SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

REGION 3
PHILADELPHIA, PA 19103

October 25, 2023

VIA ELECTRONIC MAIL

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

RE: Cooperating Agency Invitation for the Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal Project

Dear Ms. Teresi:

The U.S. Environmental Protection Agency (EPA) accepts the invitation extended by the U.S. Army Corps of Engineers (USACE), Baltimore District to participate as a Cooperating Agency in the preparation of a study under the National Environmental Policy Act (NEPA) and to take part in the interagency work group for the Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal Project (Project), located at Sparrows Point, in Baltimore County, Maryland.

The proposed Project would construct a new marine container terminal at Sparrows Point. The proposal includes dredging approximately 4 million cubic yards of material to widen and deepen the existing Tradepoint approach channel and turning basin and construction of a dredged material containment facility in the Patapsco River. The proposed Project has been determined to be covered pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41); it was placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023.

The Council on Environmental Quality has determined that a Cooperating Agency has the responsibility to assist the lead agency by involvement in the NEPA process. This participation includes engaging in the scoping process, assisting with identification of potential environmental issues and potential impacts on environmental resources, including areas where the Cooperating Agency has special technical expertise, and making staff available to support and enhance the lead agency's interdisciplinary capabilities. As a Cooperating Agency for the Project's NEPA analysis, we will support the Project's development by providing comments on general NEPA compliance, Clean Water Act (CWA) Section 404 and Clean Air Act (CAA) compliance, and environmental justice. We also expect to coordinate with our Superfund and Emergency Management Division and Land, Chemicals, and Redevelopment Division.

The benefits of a Cooperating Agency engagement in the preparation of NEPA documents include disclosing relevant information early in the study's environmental analysis and establishing a mechanism for addressing intergovernmental issues. Other benefits include fostering intra- and intergovernmental trust and a common understanding and appreciation for various governmental roles in the NEPA process, as well as facilitating agencies' adoption of environmental documents.

Given reasonable timeframes, we would be pleased to review forthcoming environmental documents. As noted, status as a Cooperating Agency should not be construed as expressing agreement with the lead agencies on the conclusions drawn from the NEPA documents or selection of the preferred alternative. In addition, EPA has independent responsibilities related to the NEPA, including our responsibilities pursuant to Section 309 of the Clean Air Act (CAA), Sections 402(d) and 404(b), (c), and (q) of the CWA.

Thank you for the opportunity to engage as a Cooperating Agency on the Project. We look forward to working with you to ensure that a robust study is developed. As you prepare your NEPA documents, please feel free to reach out to the Region 3 NEPA staff contact for this project, Carrie Traver. She can be reached at Traver.Carrie@epa.gov or by phone at 215-814-2772.

Sincerely,

TIMOTHY WITMAN

Digitally signed by TIMOTHY WITMAN
Date: 2023.10.25 14:10:19 -04'00'

Timothy Witman
Chief, Environmental Assessment Branch
Office of Communities, Tribes and Environmental Assessment

cc: Permitting Council (fast.fortyone@fpisc.gov)
Christine Mazzarella (EPA WB)
Moshood Oduwole (EPA RCRA)
Evelyn Sorto (EPA SEMD)

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 16, 2023

Operations Division

Ms. Genevieve LaRouche, Project Leader
Chesapeake Bay Ecological Services Field Office
United States Fish and Wildlife Service
177 Admiral Cochrane Drive
Annapolis, MD 21401

Dear Ms. LaRouche:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The purpose of this letter is to invite the United States Fish and Wildlife Service to be a Cooperating Agency in the National Environmental Policy Act process and to invite you to participate in the FAST-41 inter-agency work group. Your designation as a cooperating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The proposed Project has been placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023 (Permitting Dashboard) in accordance with the Joint Memorandum of the Office of Management and Budget/Council on Environmental Quality dated January 13, 2017 and entitled: "Guidance to Federal Agencies Regarding the Environmental Review and Authorizations Process for Infrastructure Projects".

FAST-41 requires the lead federal agency, the Corps, to develop and maintain a Coordinated Project Plan (CPP) and project permitting timetable. The final CPP is required by November 24, 2023. The CPP, which must be created amongst the applicable cooperating agencies, is a concise plan for coordinating public and agency participation in, and completion of, any required federal environmental review and authorization for the project. The Corps is in the process of developing the CPP and project permitting timetable for the proposed Project to meet the requirements and intent of FAST-41, and to guide public and agency participation throughout the remainder of the federal environmental review and authorization process, which will be tracked on the Permitting Dashboard. We look forward to you providing relevant expertise regarding potential environmental impacts on our inter-agency work group to facilitate the National Environmental Policy Act process.

As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

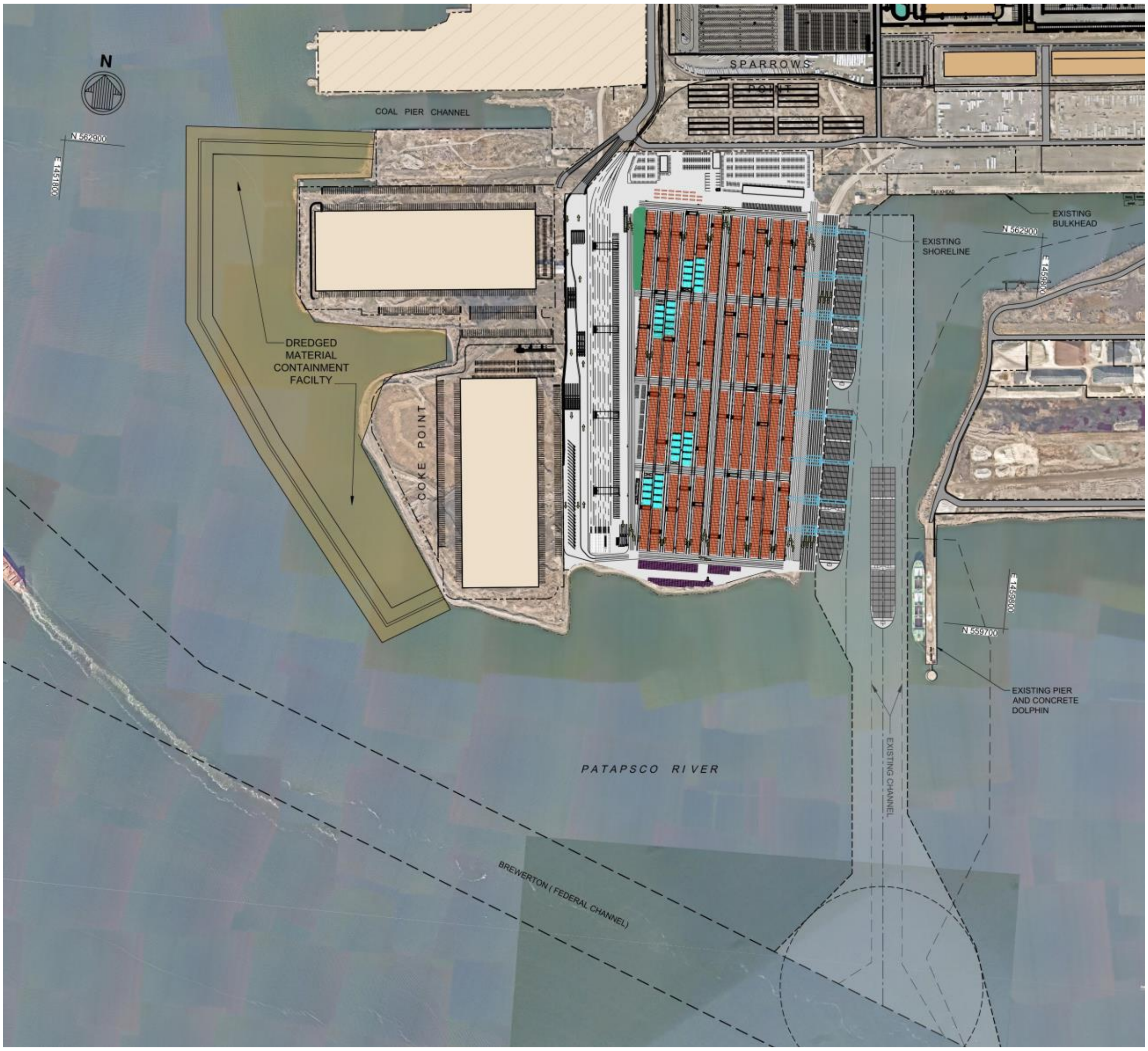
Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

To identify how we can better serve you, we need your help. Please take the time to fill out our customer service survey at: https://regulatory.ops.usace.army.mil/customer-service-survey/



SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

From:	Li, Ray
To:	Teresi, Maria N CIV USARMY CENAB (USA); Hastie, Kyla; LaRouche, Genevieve
Cc:	Davia, Joseph P CIV USARMY CENAB (USA); Thompson-Slacum, Julie; Callahan, Carl R; Simon, Spencer
Subject:	[Non-DoD Source] Re: [EXTERNAL] NAB-2023-61200 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal) // Coordinating/Participating Agency letter - FWS
Date:	Monday, October 30, 2023 2:13:18 PM

Hi Maria -

The U.S. Fish and Wildlife Service (FWS), Chesapeake Bay Field Office accepts the U.S. Army Corps of Engineers' invitation to be a Cooperating Agency for the Tradepoint TIL Terminals LLC / Sparrows Point Container Terminal project. Carl Callahan, Julie Slacum, and I will be the FWS contacts for the project, and we will brief our management team and National FAST-41 Coordinator, as needed, so please remove the other FWS contacts from the project email list.

Thanks,

Ray

From: Teresi, Maria N CIV USARMY CENAB (USA) <Maria.Teresi@usace.army.mil>
Sent: Monday, October 16, 2023 2:53 PM
To: Hastie, Kyla <kyla_hastie@fws.gov>; LaRouche, Genevieve <Genevieve_LaRouche@fws.gov>
Cc: Davia, Joseph P CIV USARMY CENAB (USA) <Joseph.DaVia@usace.army.mil>; Teresi, Maria N CIV USARMY CENAB (USA) <Maria.Teresi@usace.army.mil>; Thompson-Slacum, Julie <julie_thompson-slacum@fws.gov>; Callahan, Carl R <Carl_Callahan@fws.gov>; Li, Ray <ray_li@fws.gov>
Subject: [EXTERNAL] NAB-2023-61200 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal) // Coordinating/Participating Agency letter - FWS

Good Afternoon Ms. Hastie & Ms. LaRouche,

Please see attached subject Coordinating/Participating Agency letter.

Thank You,

Maria N. Teresi
Biologist, MD North Section
USACE, Baltimore District, Operations Division, Regulatory Branch
ofc: 410.962.4501
cell: 410.375.0398
email: maria.teresi@usace.army.mil

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 16, 2023

Operations Division

Ms. Kyla Hastie
Acting Regional Director, Northeast Region
United States Fish and Wildlife Service
300 Westgate Center Drive
Hadley, Massachusetts 01035

Dear Ms. Hastie:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The purpose of this letter is to invite the United States Fish and Wildlife Service to be a Cooperating Agency in the National Environmental Policy Act process and to invite you to participate in the FAST-41 inter-agency work group. Your designation as a cooperating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The proposed Project has been placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023 (Permitting Dashboard) in accordance with the Joint Memorandum of the Office of Management and Budget/Council on Environmental Quality dated January 13, 2017 and entitled: "Guidance to Federal Agencies Regarding the Environmental Review and Authorizations Process for Infrastructure Projects".

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As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

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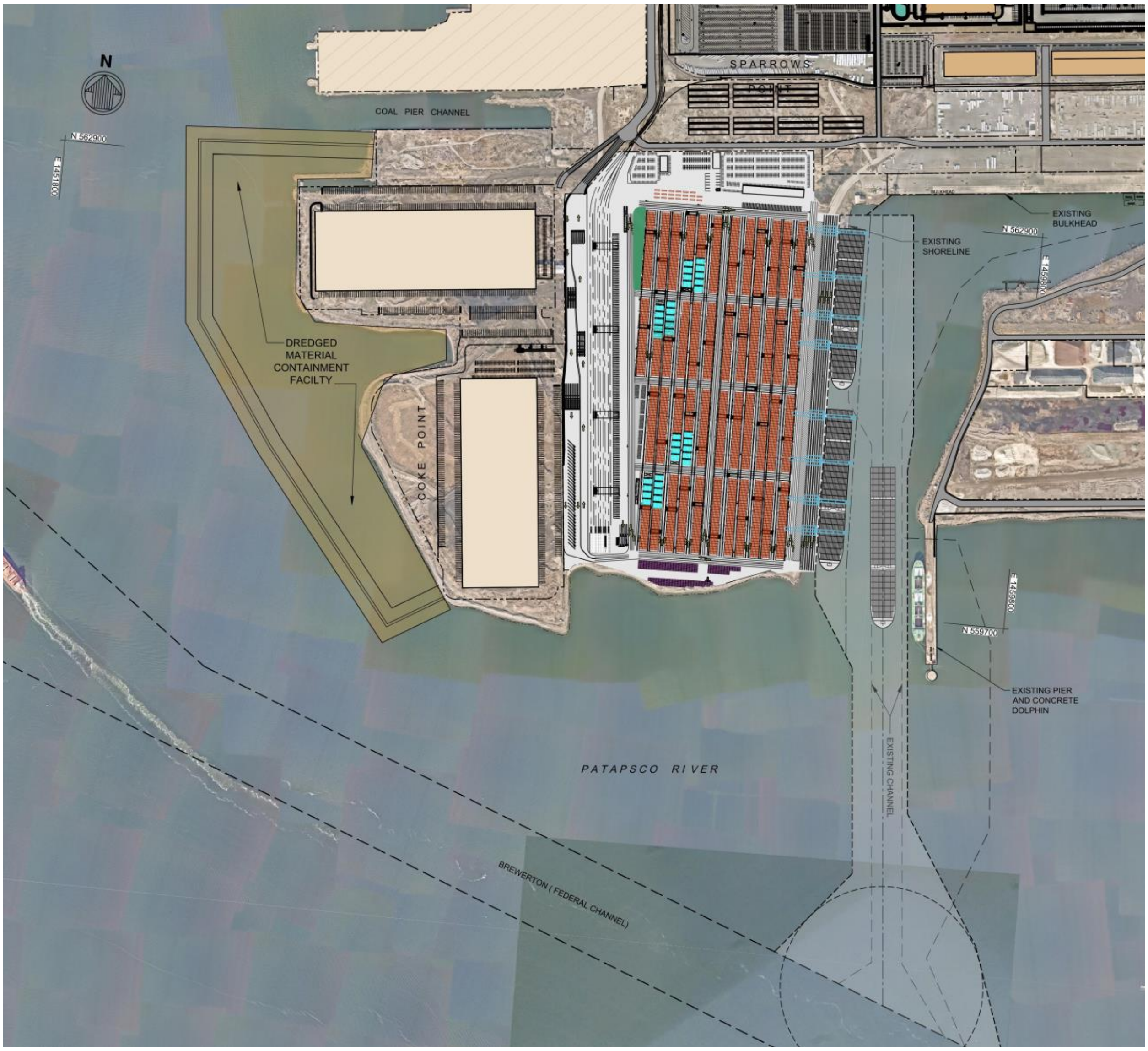

SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 27, 2023

Operations Division

Ms. Carissa Speck
Historic Preservation Director
P.O. Box 825
Anadarko, OK 73005

Dear Ms. Speck:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The purpose of this letter is to invite the Delaware Nation in the National Environmental Policy Act process and to invite you to coordinate/participate in the FAST-41 inter-agency work group. Your designation as a participating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

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As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

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Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

James P. Dalt

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

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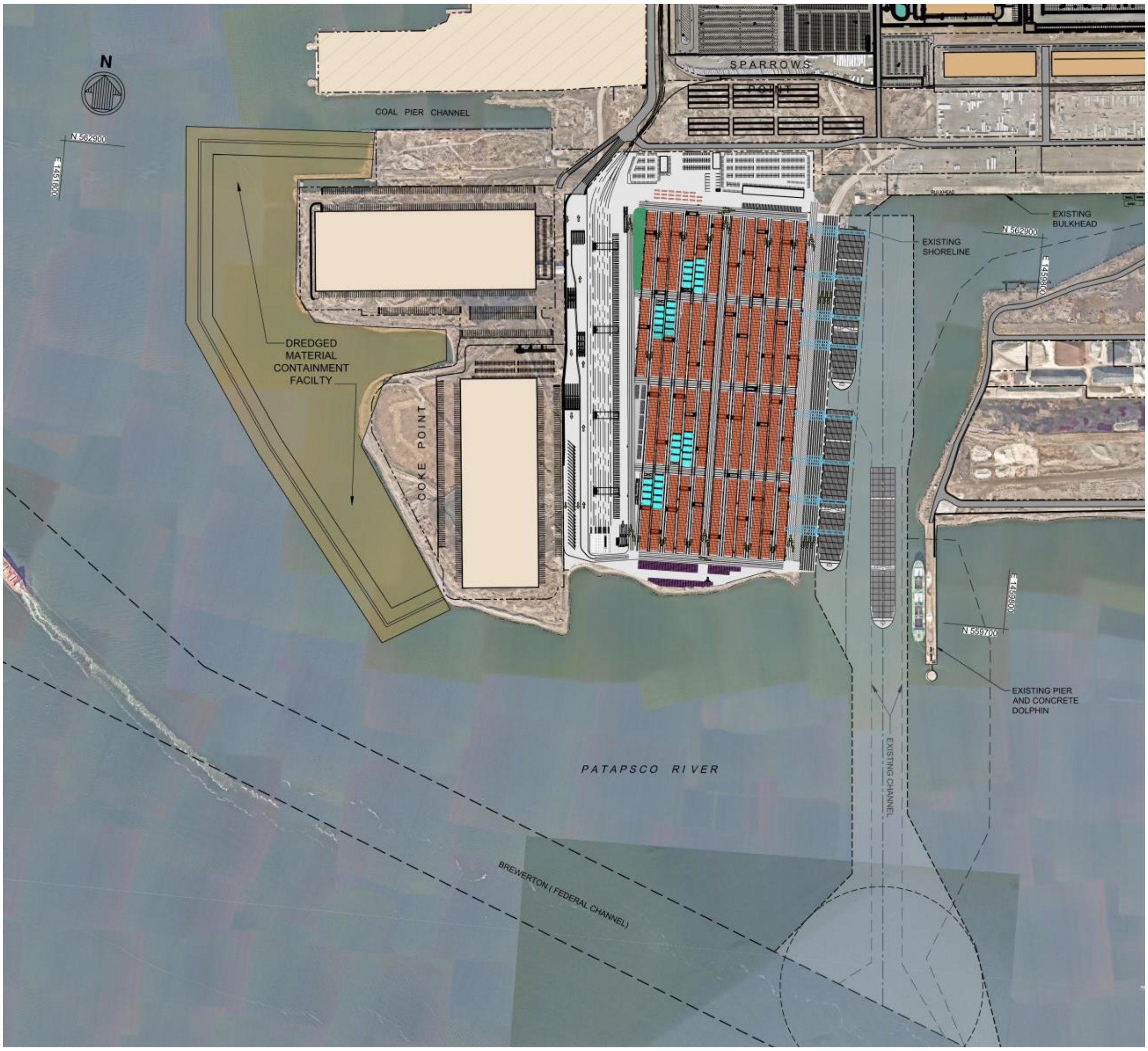

SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 27, 2023

Operations Division

Ms. Susan Bachor
Deputy Director, THPO
126 University Circle
Stroud Hall, Room 437
East Stroudsburg, PA 18301

Dear Ms. Bachor:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The purpose of this letter is to invite the Delaware Tribe of Indians in the National Environmental Policy Act process and to invite you to coordinate/participate in the FAST-41 inter-agency work group. Your designation as a participating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

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As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

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Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

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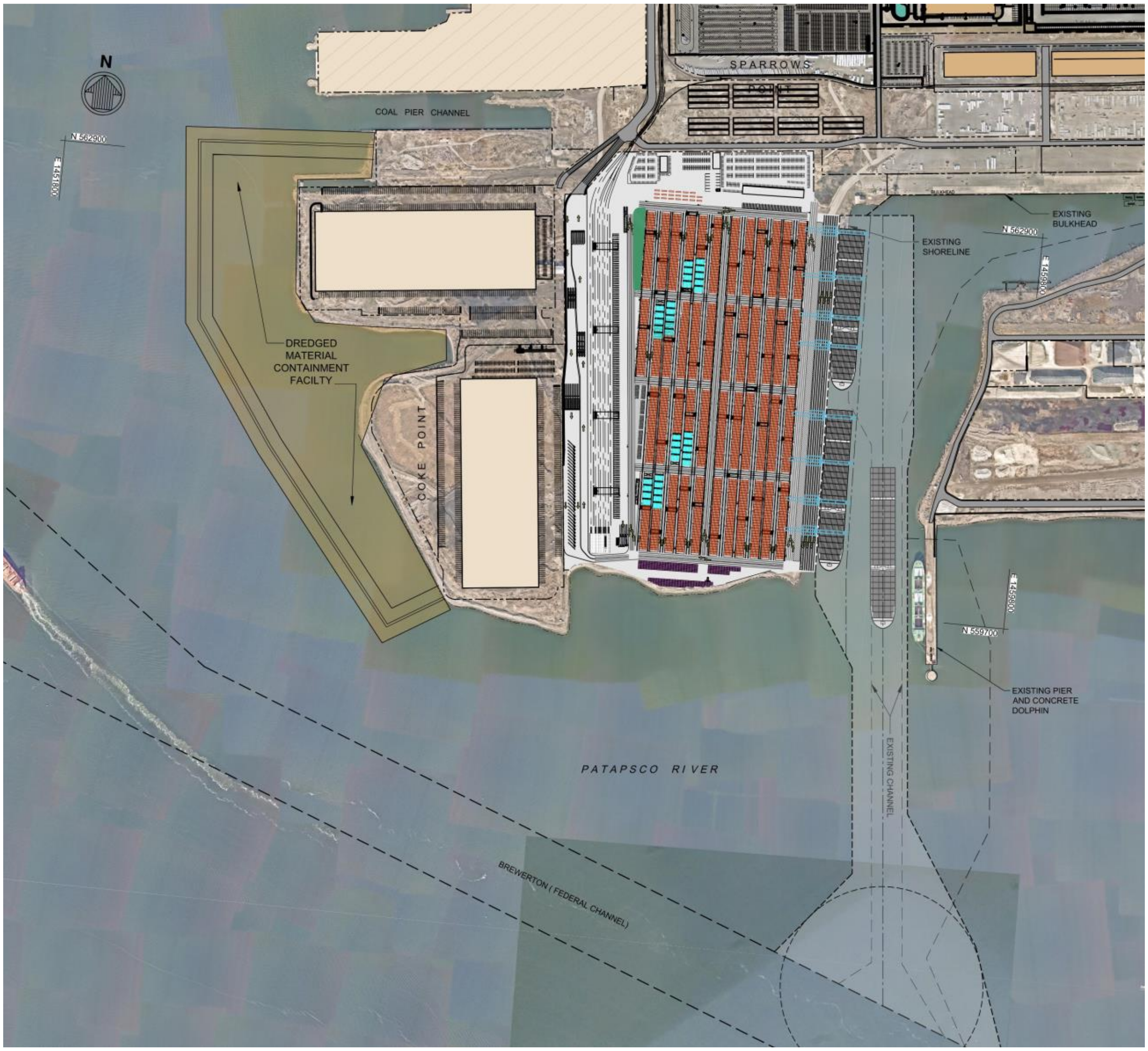

SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 27, 2023

Operations Division

Mr. Paul Barton
Tribal Historic Preservation Officer
70500 E. 128 Road
Wyandotte, OK 74370

Dear Mr. Barton:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The purpose of this letter is to invite the Eastern Shawnee Tribe of Oklahoma in the National Environmental Policy Act process and to invite you to coordinate/participate in the FAST-41 inter-agency work group. Your designation as a participating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

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As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

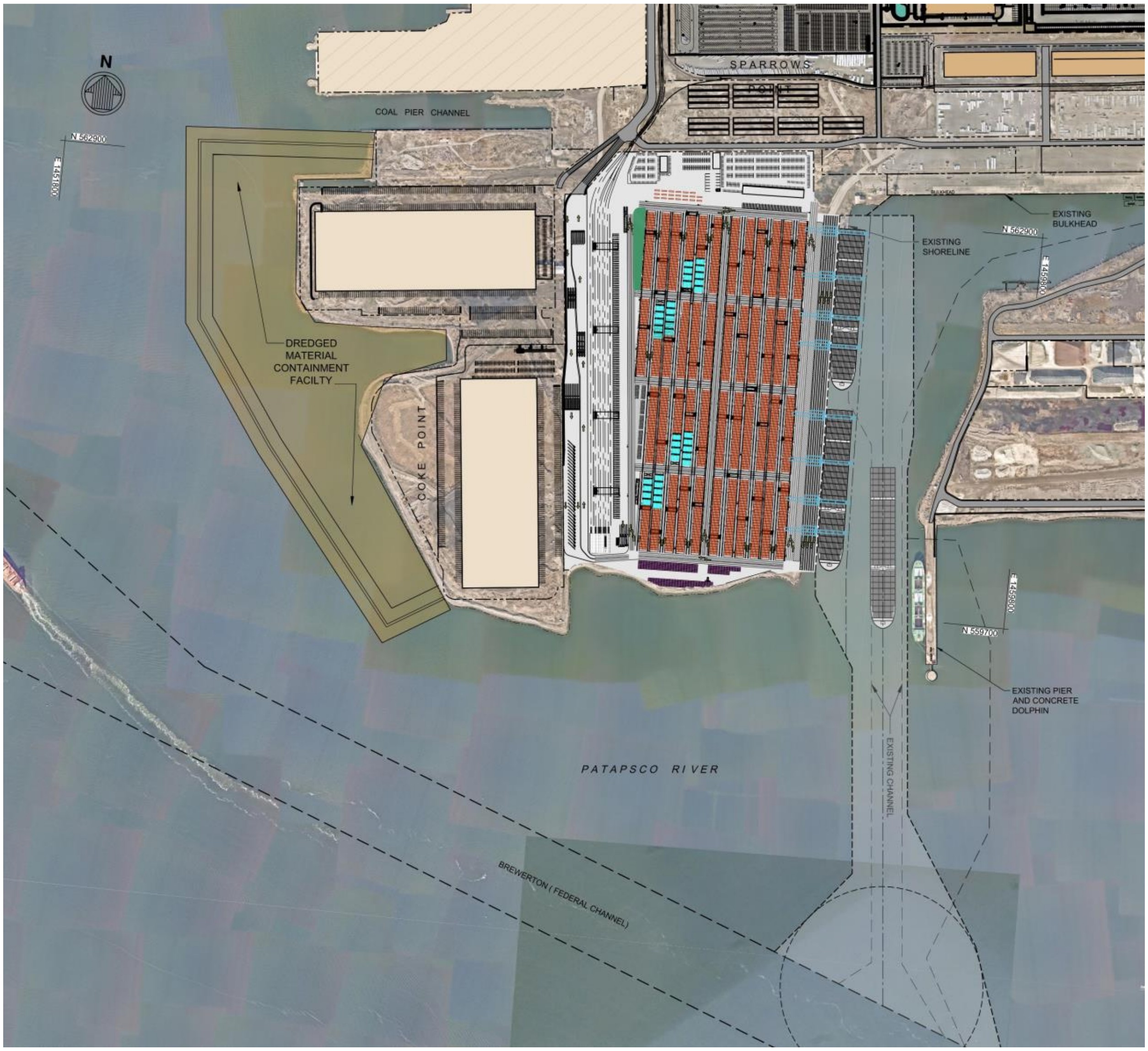
Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

To identify how we can better serve you, we need your help. Please take the time to fill out our customer service survey at: https://regulatory.ops.usace.army.mil/customer-service-survey/



SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 27, 2023

Operations Division

Ms. Shaleigh R. Howells
Cultural Resources Director
1054 Pocahontas Trail
King William, VA 23086

Dear Ms. Howells:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The purpose of this letter is to invite the Pamunkey Tribe in the National Environmental Policy Act process and to invite you to coordinate/participate in the FAST-41 inter-agency work group. Your designation as a participating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

The proposed Project has been placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023 (Permitting Dashboard) in accordance with the Joint Memorandum of the Office of Management and Budget/Council on Environmental Quality dated January 13, 2017 and entitled: "Guidance to Federal Agencies Regarding the Environmental Review and Authorizations Process for Infrastructure Projects".

FAST-41 requires the lead federal agency, the Corps, to develop and maintain a Coordinated Project Plan (CPP) and project permitting timetable. The final CPP is required by November 24, 2023. The CPP, which must be created amongst the applicable cooperating agencies, is a concise plan for coordinating public and agency participation in, and completion of, any required federal environmental review and authorization for the project. The Corps is in the process of developing the CPP and project permitting timetable for the proposed Project to meet the requirements and intent of FAST-41, and to guide public and agency participation throughout the remainder of the federal environmental review and authorization process, which will be tracked on the Permitting Dashboard. We look forward to you providing relevant expertise regarding potential environmental impacts on our inter-agency work group to facilitate the National Environmental Policy Act process.

As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

James P. Dalt

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

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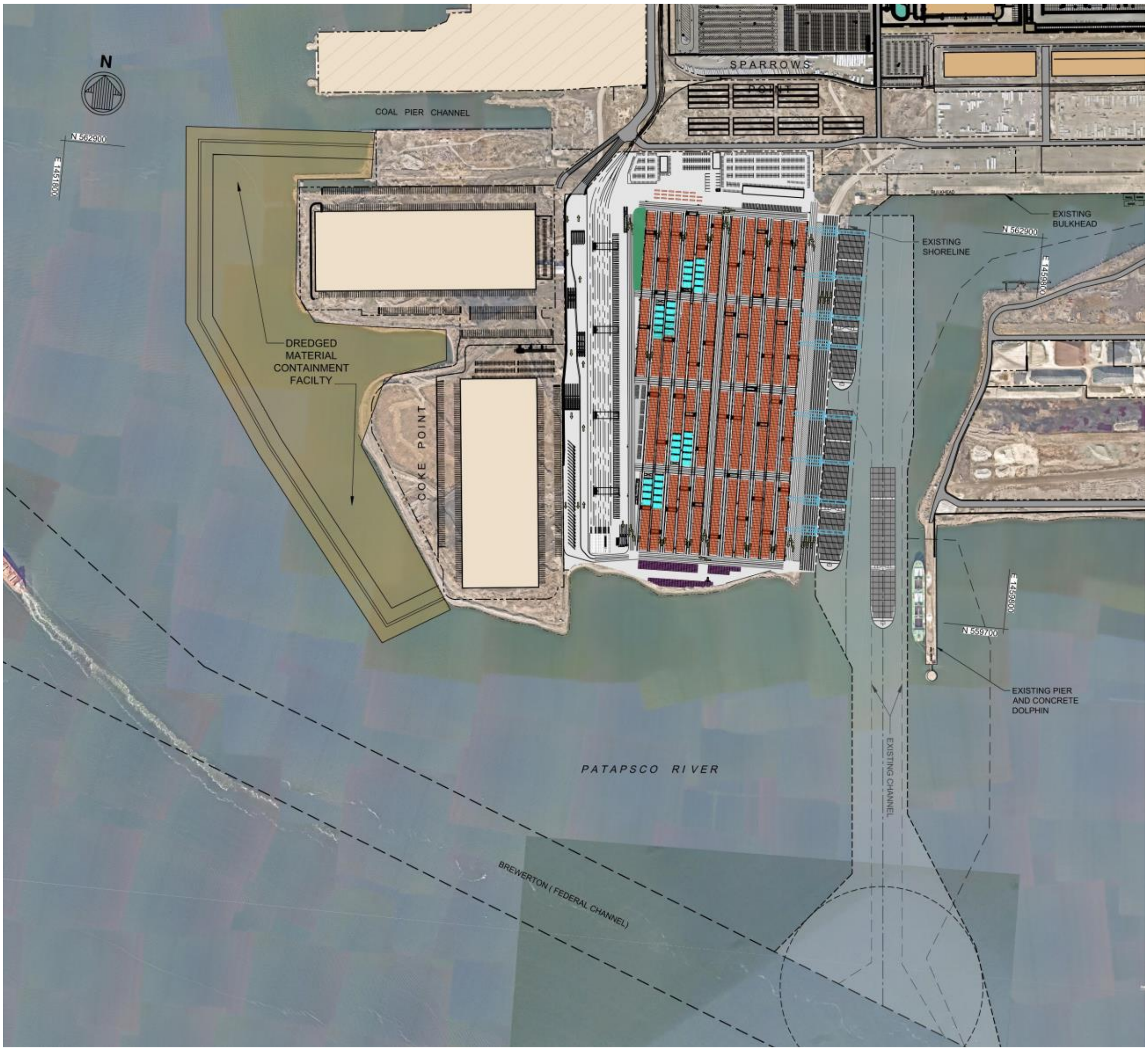

SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 25, 2023

Operations Division

Mr. William Morgante, Wetlands Administrator
Maryland Board of Public Works
Louis L. Goldstein Treasury Building
80 Calvert Street
Annapolis, MD 21401

Dear Mr. Morgante:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The purpose of this letter is to invite the Maryland Board of Public Works in the National Environmental Policy Act process and to invite you to coordinate/participate in the FAST-41 inter-agency work group. Your designation as a participating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

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As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

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Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

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Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

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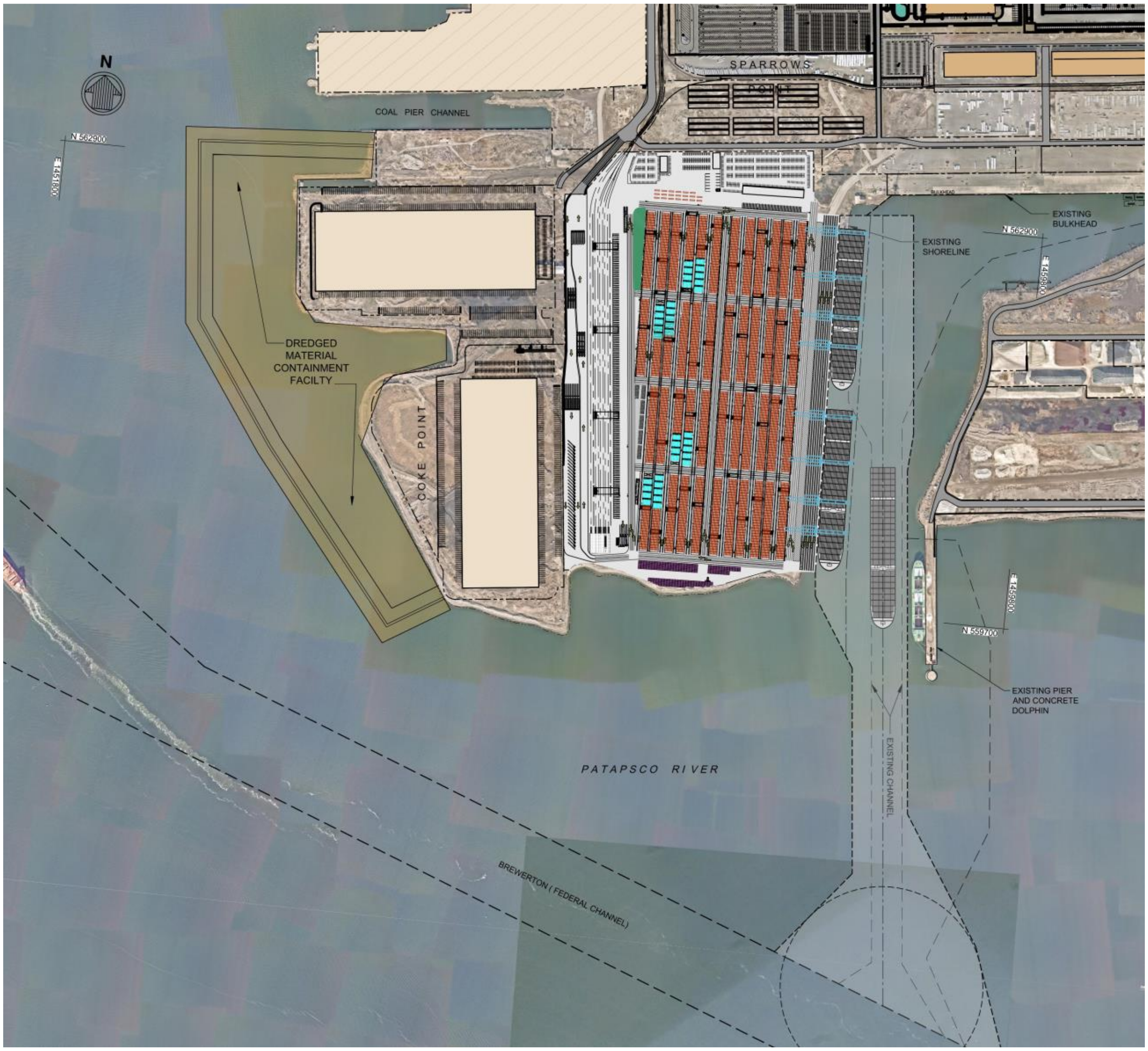

SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 16, 2023

Operations Division

Ms. Heather Nelson
Program Manager
Wetlands and Waterways Protection Program
Maryland Department of Environment
1800 Washington Boulevard
Baltimore, Maryland 21230

Dear Ms. Nelson:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

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The purpose of this letter is to invite the Maryland Department of the Environment to be a Coordinating/Participating Agency in the National Environmental Policy Act process and to invite you to coordinate/participate in the FAST-41 inter-agency work group. Your designation as a coordinating/participating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

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As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

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Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

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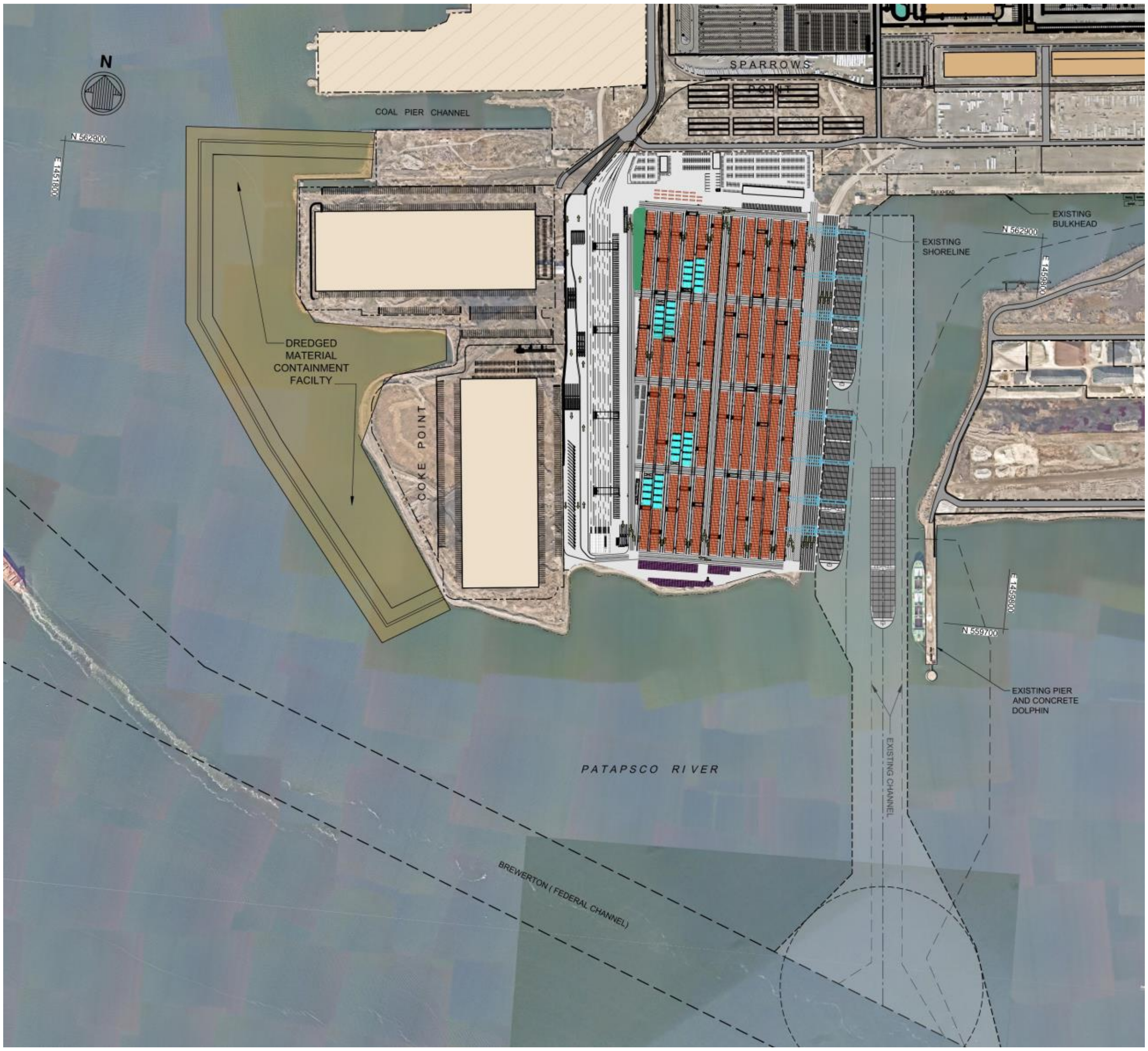

SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

From:	Heather Nelson -MDE-
To:	Teresi, Maria N CIV USARMY CENAB (USA)
Cc:	fast.fortyone@fpisc.gov; Matthew Rowe -MDE-; Lee Currey -MDE-
Subject:	[Non-DoD Source] NAB-2023-61200 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal) // Coordinating/Participating Agency letter - MDE
Date:	Monday, October 30, 2023 4:42:11 PM
Attachments:	State-MDE_NAB-2023-61200.20231016.AgencyInvitationForFAST-41Process.pdf

Good afternoon Maria,

The Maryland Department of the Environment (MDE), Wetlands and Waterways Protection Program (WWPP) hereby accepts the invitation dated October 16, 2023 (attached) to be a part of the FAST-41 interagency work group and to be a participating agency in the National Environmental Policy Act (NEPA) process for construction of a new marine terminal and dredged material containment facility in the Patapsco River at Sparrows Point, Baltimore County. As stated in the invitation, MDE's participation in the NEPA process and FAST-41 workgroup does not imply support for the project or override MDE's existing statutory and regulatory responsibilities.

Please note that other Programs within MDE, including those in the Land and Materials Administration, may have oversight or authority related to the project that may need to be coordinated during the NEPA process. If you would like to engage directly or through WWPP with other MDE contacts, please let me know and we will provide contact information. Since the email was submitted to me within WWPP without a list of carbon copies, I am unclear if you have solicited from MDE as an Agency or with other affected Administrations or Programs within MDE or singular with only WWPP. Additionally, please note that my correct email address is hnelson@maryland.gov. Unfortunately, the October 16th letter did not reach me until October 25, 2023 as my email was incorrect on your transmission.

We look forward to continued coordination on this important project with you, and others within MDE as needed, in NEPA's FAST-41 process for this project.

--

Heather L. Nelson
Program Manager
Wetlands and Waterways Protection Program
Water and Science Administration
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230
hnelson@maryland.gov
410-537-3528 (O)
443-472-9970 (C)
Website | Facebook | Twitter

Click here to complete a three question customer experience survey.

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 16, 2023

Operations Division

Mr. Tony Redman
Program Director, Environmental Review
Maryland Department of Natural Resources
580 Taylor Avenue, B-3
Annapolis, Maryland 21401

Dear Mr. Redman:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

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The purpose of this letter is to invite the Maryland Department of Natural Resources to be a Coordinating/Participating Agency in the National Environmental Policy Act process and to invite you to coordinate/participate in the FAST-41 inter-agency work group. Your designation as a coordinating/participating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

The proposed Project has been placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023 (Permitting Dashboard) in accordance with the Joint Memorandum of the Office of Management and Budget/Council on Environmental Quality dated January 13, 2017 and entitled: "Guidance to Federal Agencies Regarding the Environmental Review and Authorizations Process for Infrastructure Projects".

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As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

James P. Dalt

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

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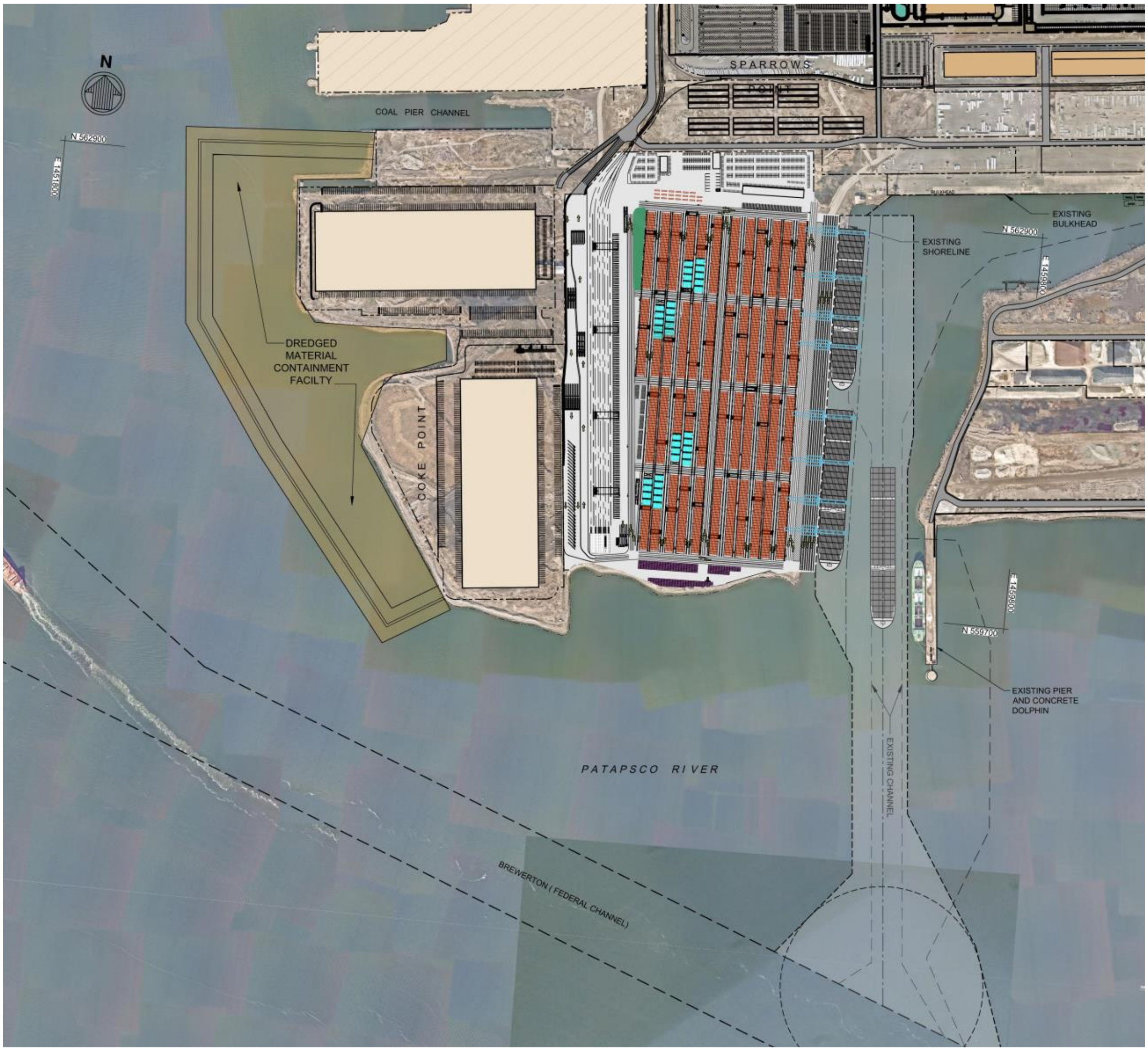

SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 16, 2023

Operations Division

Ms. Beth Cole
Administrator, Project Review and Compliance
Maryland Historical Trust
Maryland Department of Planning
100 Community Place
Crownsville, Maryland 21032

Dear Ms. Cole:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

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The purpose of this letter is to invite the Maryland Historical Trust to be a Participating Agency in the National Environmental Policy Act process and to invite you to coordinate/participate in the FAST-41 inter-agency work group. Your designation as a participating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

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Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

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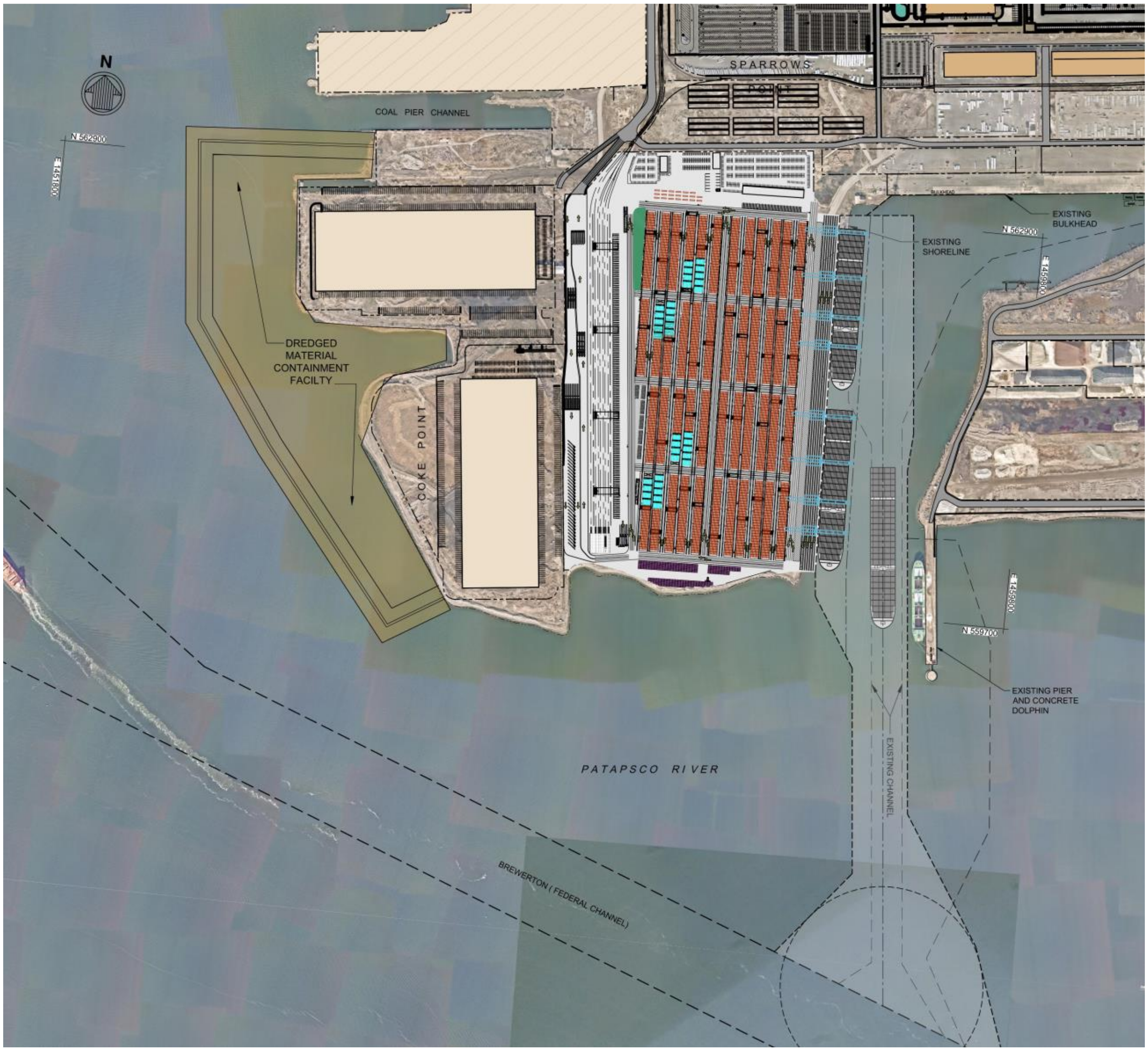

SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 27, 2023

Operations Division

Mr. Brian Miller, Acting Executive Director
Maryland Port Administration
401 E. Pratt Street
Baltimore, Maryland 21202

Dear Mr. Miller:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

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The purpose of this letter is to invite the Maryland Port Administration in the National Environmental Policy Act process and to invite you to coordinate/participate in the FAST-41 inter-agency work group. Your designation as a participating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

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Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

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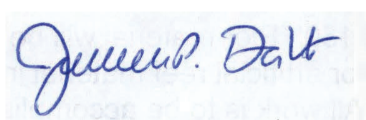
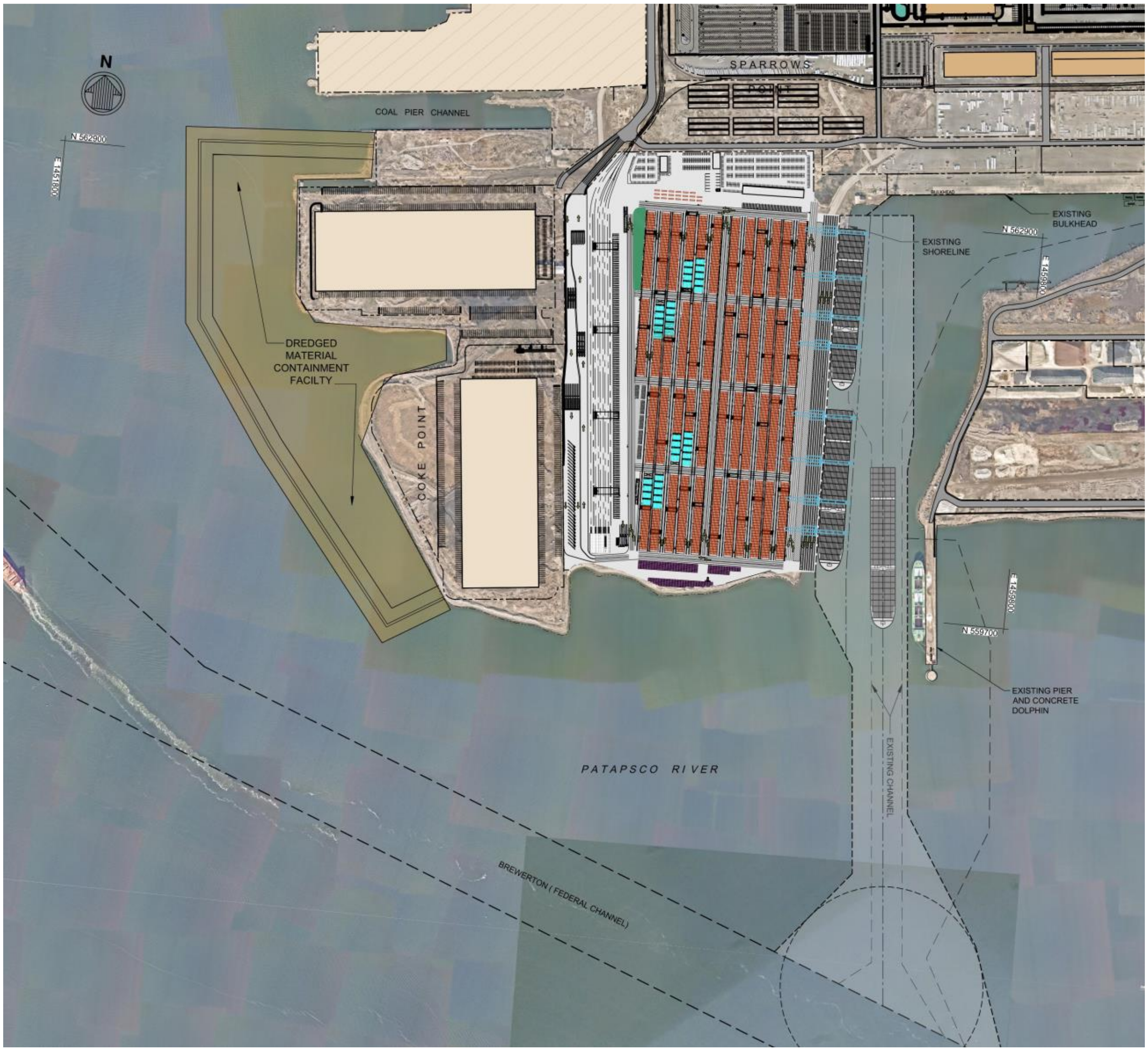


Wade B. Chandler
Chief, Regulatory Branch

Enclosure

To identify how we can better serve you, we need your help. Please take the time to fill out our customer service survey at: https://regulatory.ops.usace.army.mil/customer-service-survey/



SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2930

October 25, 2023

Operations Division

Mr. Horacio Tablada, Director
Baltimore County Department of Environmental
Protection and Sustainability
County Office Building
111 W. Chesapeake Avenue, Room 305
Towson, Maryland 21204

Dear Mr. Tablada:

On September 11, 2023, Tradepoint TIL Terminals LLC submitted a notice of the initiation of a proposed covered project pursuant to Title 41 of the Fixing America's Surface Transportation Act (FAST-41) for Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (Project). Pursuant to 42 U.S.C. § 4370m-2(b)(2)(ii), on September 25, 2023, the Federal Permitting Improvement Steering Council (Permitting Council) Executive Director added the Project to the Permitting Dashboard.

The Project proposes to construct a new marine container terminal and dredged material containment facility in the Patapsco River, Sparrows Point, Baltimore County, Maryland. The work would include dredging approximately 4 million cubic yards of material to widen the existing Tradepoint approach channel and turning basin to a depth of -50 feet, and construction of a container terminal and a 100-acre tidal open water dredged material containment facility. See enclosed conceptual drawing (Enclosure).

The purpose of this letter is to invite the Baltimore County Department of Environmental Protection and Sustainability to be a Participating Agency in the National Environmental Policy Act process and to invite you to coordinate/participate in the FAST-41 inter-agency work group. Your designation as a participating agency does not imply you support the applicant's proposed project, nor does it diminish or otherwise modify your agency's independent statutory obligations and responsibilities under applicable federal laws, regulations, and Executive Orders.

The proposed Project has been placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023 (Permitting Dashboard) in accordance with the Joint Memorandum of the Office of Management and Budget/Council on Environmental Quality dated January 13, 2017 and entitled: "Guidance to Federal Agencies Regarding the Environmental Review and Authorizations Process for Infrastructure Projects".

FAST-41 requires the lead federal agency, the Corps, to develop and maintain a Coordinated Project Plan (CPP) and project permitting timetable. The final CPP is required by November 24, 2023. The CPP, which must be created amongst the applicable cooperating agencies, is a concise plan for coordinating public and agency participation in, and completion of, any required federal environmental review and authorization for the project. The Corps is in the process of developing the CPP and project permitting timetable for the proposed Project to meet the requirements and intent of FAST-41, and to guide public and agency participation throughout the remainder of the federal environmental review and authorization process, which will be tracked on the Permitting Dashboard. We look forward to you providing relevant expertise regarding potential environmental impacts on our inter-agency work group to facilitate the National Environmental Policy Act process.

As lead agency for the Project, we have determined that your agency may have financing, environmental review, authorization, or other responsibilities with respect to the Project, and we invite you to become a participating or a cooperating agency in the environmental review and authorization management process. 42 U.S.C. §4370m-2(a)(2)(A)(ii); 42 U.S.C. §§ 4370m(4) & (17).

Please respond to this request no later than October 30, 2023. 42 U.S.C. §4370m-2(a)(2)(B). Unless you inform us in writing by the date above that your agency either: (i) has no jurisdiction or authority with respect to the Project; or (ii) does not intend to exercise any authority related to, or submit comments on, the Project, we will designate your agency as a cooperating agency. 42 U.S.C. § 4370m-2(a)(3)(A).

Please submit your response to Ms. Maria N. Teresi at maria.teresi@usace.army.mil, and cc the Permitting Council at fast.fortyone@fpisc.gov.

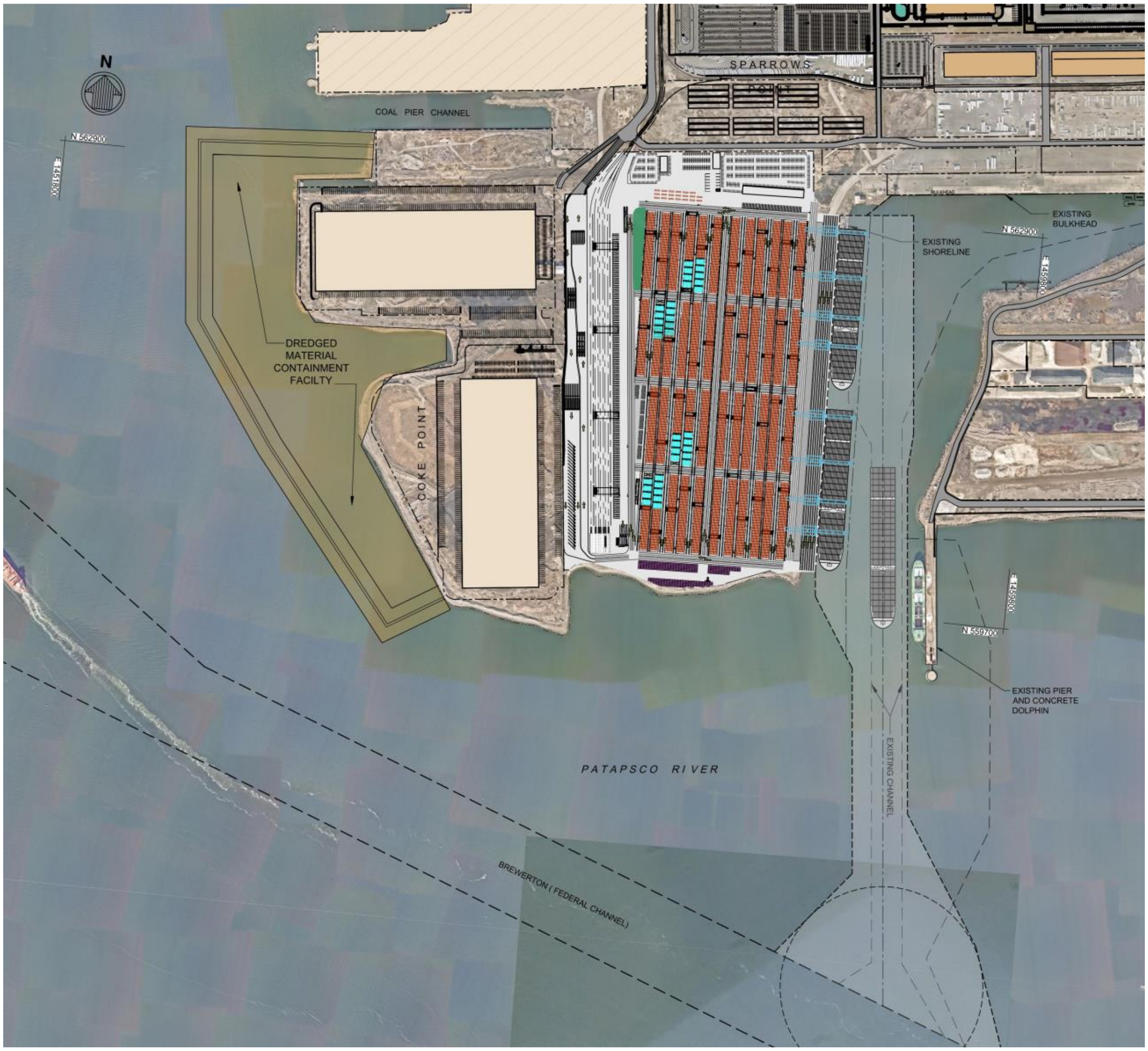
Please contact Ms. Maria N. Teresi at maria.teresi@usace.army.mil with any questions.

Sincerely,

Wade B. Chandler
Chief, Regulatory Branch

Enclosure

To identify how we can better serve you, we need your help. Please take the time to fill out our customer service survey at: https://regulatory.ops.usace.army.mil/customer-service-survey/



SPCT Conceptual Plan, Patapsco River, Baltimore County, MD

Enclosure

From: Horacio Tablada
To: Teresi, Maria N CIV USARMY CENAB (USA)
Cc: fast.fortyone@fpisc.gov; Sameer Sidh; D"Andrea Walker
Subject: [Non-DoD Source] FAST-41 for Tradepoint TIL Terminals LLC/Sparrows Point
Date: Monday, October 30, 2023 1:54:00 PM
Attachments: County-BA_NAB-2023-61200.20231025.AgencyInvitationForFAST-41Process.pdf

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Maria Teresi,
Baltimore County has reviewed this project and has no jurisdiction or [regulatory] authority with respect to the proposed Project since it is all on the water. Baltimore County Department of Environmental Protection and Sustainability (DEPS) has authority on site development, Stormwater Management plans on the land side but this part of the project does not cover that. MDE does have the regulatory authority for on water structures through their wetlands permits.

Thanks,
HT
Horacio Tablada, Director
DEPS

Clean Water Act Section 401

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Water and Science Administration ● Wetlands and Waterways Program
1800 Washington Boulevard ● Suite 430 ● Baltimore, Maryland 21230
410-537-3745 ● 800-633-6101 ● www.mde.maryland.gov

Pre-Filing Meeting Request

All fields with an asterisk * are required unless noted otherwise.
Use the *SUBMIT by EMAIL* button to send your request. READ the sending instructions.
Optionally, save this form, attach it to an email, and return it to: *wetlandspreap.mde@maryland.gov*

Project Location

Complete all of the following project location fields

Site Address

If a site address is not available, be sure to describe the project location in the available field below.

House, lot, or location number:
Street name: 6995 Bethlehem Boulevard, Suite 100
* City: Baltimore | * State: MD | * Zip: 21219

http://www. latlong.net

*** Latitude / * Longitude**: 39.211212 | -76.490349

***County**: Select a county: Baltimore County

***ADC Map**
(ADC map coordinates not required for Allegany, Garrett or Somerset counties)

Map#	Alpha	Number	Edition
90	F	6	

Describe project location
(eg.,200 yards NE of Rte 50 / Tempo Road)
Not needed if exact address is shown above.

The project will be on the Coke Point peninsula within the TPA development at Sparrows Point.

Property Owner

Mailing address may be different from Project location address.

** At least one telephone*

*** Full name**: Tradepoint TiL Terminals LLC
* Mailing address: 6995 Bethlehem Boulevard, Suite 100
* City, State Zip: Baltimore, MD 21219
Telephone Home:
Work: 410-382-6667
Cell:
Email: tcaso@tradepointatlantic.com

Primary Contact

** At least one telephone*

*** Full name**: Tom Caso
Company: Tradepoint TiL Terminals LLC
* Mailing address: 6995 Bethlehem Boulevard, Suite 100
* City, State Zip: Baltimore, MD 21219
Telephone Work: 410-382-6667
Cell:
Email: tcaso@tradepointatlantic.com

Project

*** This project request is:**
(Place an 'x' in the box for WQC)

Water Quality Certification (WQC): X

Description of Project
Include the following (if known):
ACOE Category, ACOE reviewer,
Tracking # and AI #

See attachment A

By submitting this form, the property owner grants permission to the representatives of the Maryland Department of the Environment to enter the property during business hours for the purpose of making observations of the proposed project site. If this form is being submitted by the primary contact and not the property owner, the primary contact certifies that he or she is the agent authorized to act on behalf of the property owner and, as the agent, has obtained the property owner's permission for the representatives of the Maryland Department of the Environment to enter the property during business hours for the purpose of making observations of the proposed project site.

Submit by Email | Print Form | Clear Form

Background

The Maryland Department of the Environment (MDE) received a Joint Permit Application August 22, 2023 for the proposed Sparrows Point Container Terminal (SPCT) project to construct a new container terminal (the terminal) in the Port of Baltimore (Port). The permit was submitted by Tradepoint TiL Terminal, LLC (TTT or applicant), a joint venture between Tradepoint Atlantic (TPA) and Terminal Investments Limited. MDE responded with an acknowledgement letter on August 25, 2023, providing the following information: tracking number: 202361200; permit number: 23-NT-0178; and AI number: 141713.

The US Army Corps of Engineers, Baltimore District (Corps), received an application for a Department of the Army permit (Corps number NAB–2023–61200) on August 25, 2023 for the proposed SPCT project. The permit was submitted by TTT.

Overview of the Applicant's Proposed Project

The proposed SPCT would be located in Baltimore County, Maryland within the TPA property on a 330-acre area on the southwest peninsula of Sparrows Point known as Coke Point Peninsula (Coke Point) (Figure 1). The historical uses of this site include coking operations as part of the former Bethlehem Steel Mill. The site is entirely human-made land, created by filling in a portion of the Patapsco River with steel mill slag over several decades. Previously developed areas within the site are currently undergoing demolition and razing of structures. Sparrows Point, with its industrial history, is an example of a brownfield. In recent years, Sparrows Point has been undergoing a major redevelopment initiative aimed at transforming the site into a hub for modern industrial and commercial activities. The SPCT project would continue to redevelop the site.

The proposed terminal would consist of a +/- 3,000-foot marginal wharf with ship-to-shore (STS) cranes, a container yard, gate complex, intermodal/rail yard, and various support structures. To provide vessel access to the wharf, the project would include deepening and widening of the existing Sparrows Point Channel and turning basin, which would require dredging and placement of approximately 4.2 million cubic yards (MCY) of dredged material. The proposed project would include the construction of an offshore dredged material containment facility (DMCF) in the Coal Pier Channel adjacent to Coke Point and an upland DMCF on TPA property at the High Head Industrial Basin, as well as use of exiting permitting nearshore DMCFs managed by MPA (Cox Creek and/or Masonville DMCFs), and an ocean placement site (Norfolk Ocean Disposal Site [NODS]).

The proposed project would increase the overall container capacity of the Port by 70%. The project represents a long-term commitment by TTT to link the world's largest containership company, Mediterranean Shipping Company, to the Port for the next century. The terminal would leverage the Howard Street Tunnel Vertical Clearance Improvement Project by providing the closest link from an East Coast port to the American Midwest. This link, along with the increased capacity that would be provided by the terminal, would give the Port a major competitive advantage over other regional ports along the Eastern Seaboard of the United States. The new terminal would be located less than 50 miles from Washington, DC and would directly serve the third largest consumer market in the United States. Nearly $1 billion would be invested in the terminal with project development estimated to create more than 1,100 direct local jobs. The project would serve as an important economic driver for the region by promoting other indirect economic growth while also providing environmental benefits by addressing legacy environmental contamination through site remediation and capping. The project would be built using sustainable best practices through electrification efforts to greatly reduce the facility's carbon footprint.

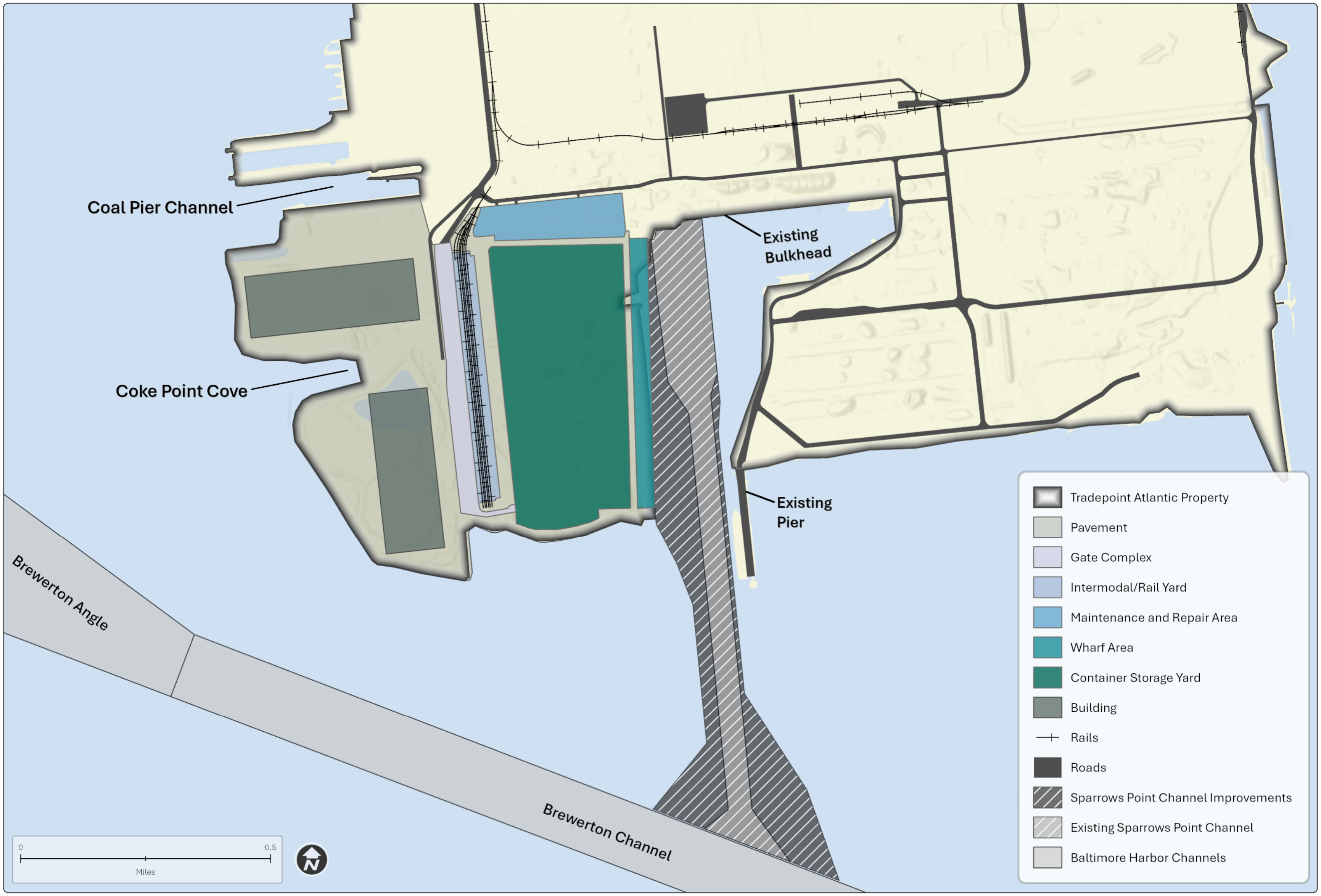
Purpose of the Proposed Action

The purpose of the proposed action is to develop the SPCT, a new terminal and associated facilities that would be located on Coke Point within the Patapsco River in Baltimore, Maryland.

Need for the Proposed Action

The applicant's proposed project would address several economic and shipping logistical concerns. The SPCT project would enhance the economic strength of the Port by increasing its overall container capacity. This, along with the on-dock rail and Howard Street Tunnel Vertical Clearance Improvement Project, would increase the throughput of containers through the Port. The proposed project would not only provide direct jobs at the project site but would also provide a foundation for sustained regional economic growth within the Port and throughout the region. By strengthening and growing the Port, the project aligns with Presidential Executive Order 14017, "America's Supply Chains," which aims to enhance the United States' supply chain efficiencies and resiliency.

Figure 1. SPCT Proposed Project



From:	Teresi, Maria N CIV USARMY CENAB (USA)
To:	Matthew Wallach -MDE-; Kerry Doyle
Cc:	Pete Haid; Tom Caso; Boltz, Suzie; Derrick, Peggy
Subject:	EPA Final Determination 7 AUG 2025: 401(a)(2) NAB-2023-61200 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal)
Date:	Thursday, August 7, 2025 2:13:52 PM

Good afternoon Matt & Kerry,

Please see EPAs 401 determination below.

Thank You,

Maria N. Teresi

Biologist, MD North Section
USACE, Baltimore District, Operations Division, Regulatory Branch
ofc: 410.962.4501
cell: 410.375.0398
email: maria.teresi@usace.army.mil

From: Mazzarella, Christine <Mazzarella.Christine@epa.gov>
Sent: Thursday, August 7, 2025 9:37 AM
To: Teresi, Maria N CIV USARMY CENAB (USA) <Maria.Teresi@usace.army.mil>
Cc: French, Emily <french.emily@epa.gov>
Subject: [Non-DoD Source] 401(a)(2) NAB-2023-61200 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal)

Hi Maria,

EPA has received the notification pursuant to section 401(a)(2) of the CWA for the NAB-2023-61200 (Sparrows Point Container Terminal) project. Based on the review of the information available to EPA regarding the discharge, EPA has determined that it will not send a 'may affect' notification to neighboring jurisdictions. You may proceed with processing of the license or permit.

Have a good day!

Christine Mazzarella
Wetlands Branch | Water Division | USEPA Region 3

Four Penn Center
1600 John F Kennedy Blvd
Mail Code 3WD10
Philadelphia, PA 19103-2852

215-814-5756 | mazzarella.christine@epa.gov

July 10, 2025

Tradepoint TiL Terminals (TTT) LLC
Attn: Kerry Doyle, VP
6995 Bethlehem Blvd. Suite 100
Baltimore, Maryland 21219
kdoyle@tradepointatlantic.com

Re: Agency Interest Number: 141713
Tracking Number: 202361200
Tidal Authorization Number: 23-WL-0762 / 24-WQC-0045

Dear Mr. Doyle:

Your project did not qualify for approval under the Maryland State Programmatic General Permit (MDSPGP); therefore a separate review and issuance of the federal permit will be required by the U.S. Army Corps of Engineers. The federal permit is not attached.

Additionally, your project required a Wetlands License to be approved and issued by the Maryland Board of Public Works (BPW). The Wetlands License will be sent to you by BPW's Wetlands Administrator.

A project that does not qualify for approval under the MDSPGP requires an individual Water Quality Certification (WQC) to be issued by the Maryland Department of the Environment, which is attached. Please take a moment to read and review your WQC to ensure that you understand the limits of the authorized work and all of the general and special conditions.

You should not begin any work until you have obtained all necessary State, local, and federal authorizations. Please contact Matthew Wallach at matthew.wallach@maryland.gov or 410-207-0893 with any questions.

Sincerely,

Jonathan Stewart, Chief
Tidal Wetlands Division

STATE OF MARYLAND
DEPARTMENT OF THE ENVIRONMENT
WATER AND SCIENCE ADMINISTRATION
WATER QUALITY CERTIFICATION

24-WQC-0045

EFFECTIVE DATE:	**July 10, 2025**
CERTIFICATION HOLDERS:	**Tradepoint TiL Terminals (TTT) LLC**
ADDRESS:	**6995 Bethlehem Blvd. Suite 100** **Baltimore, Maryland 21219** **Attn. Kerry Doyle**
PROJECT LOCATION:	**6995 Bethlehem Blvd** **Sparrows Point, Baltimore County** **8-digit Watershed (02130903)**

UNDER AUTHORITY OF SECTION 401 OF THE FEDERAL WATER POLLUTION CONTROL ACT AND ITS AMENDMENTS AND IN ACCORDANCE WITH §9-313 THROUGH §9-323, INCLUSIVE, OF THE ENVIRONMENT ARTICLE, ANNOTATED CODE OF MARYLAND, THE WATER AND SCIENCE ADMINISTRATION ("ADMINISTRATION") HAS DETERMINED THAT THE REGULATED ACTIVITY DESCRIBED IN THE REQUEST FOR CERTIFICATION FOR THE PROPOSED CONTAINER TERMINAL AND DREDGING ASSOCIATED WITH US ARMY CORPS AUTHORIZATION 2023-61200, WILL NOT VIOLATE MARYLAND'S WATER QUALITY STANDARDS, IF CONDUCTED IN ACCORDANCE WITH THE CONDITIONS OF THIS CERTIFICATION AND WITH ALL TERMS AND CONDITIONS OF THIS CERTIFICATION.

THIS CERTIFICATION DOES NOT RELIEVE THE APPLICANT OF RESPONSIBILITY FOR OBTAINING ANY OTHER APPROVALS, LICENSES, OR PERMITS IN ACCORDANCE WITH FEDERAL, STATE, OR LOCAL REQUIREMENTS AND DOES NOT AUTHORIZE COMMENCEMENT OF THE PROPOSED PROJECT. A COPY OF THIS REQUIRED CERTIFICATION HAS BEEN SENT TO THE CORPS OF ENGINEERS. THE CERTIFICATION HOLDER SHALL COMPLY WITH THE CONDITIONS LISTED BELOW.

PROJECT DESCRIPTION

Construct a container terminal in the Port of Baltimore. The Sparrows Point Container Terminal (SPCT) will consist of a +/-3,000-foot marginal wharf extending a maximum of 128.5 feet channelward of the proposed mean high water line; with up to nine ship-to-shore cranes, a container yard, gate complex, intermodal/rail yard, and various support structures. The project includes deepening and widening the existing Sparrows Point Channel and turning basin by mechanically dredging approximately 4.2 million cubic yards (MCY) of dredged material to a maximum dredging depth of -52.22 feet at mean low water, excavation within the uplands, placement of stone or concrete revetment along the shoreline and beneath the wharf, and the construction of new stormwater outfalls. The dredge material will be placed at multiple authorized placement options with a total capacity of 4.87 MCY, including the construction of the High Head Industrial Basin Dredged Material Containment Facility (DMCF), which includes a temporary discharge to Bear Creek.

The Administration satisfied statutory and regulatory public notice requirements by placing this WQC on Public Notice from January 10, 2025, to March 21, 2025 on the Maryland Department of the Environment's Public Notice webpage, in the Maryland Register on December 27, 2024, the Baltimore Sun on January 15, 2025, the Dundalk Eagle on January 16, 2026, and the Capital Gazette on January 15, 2025.

GENERAL CONDITIONS

1. All water quality-related performance standards and conditions required by the Department in any state issued authorization for activities in tidal wetlands, nontidal wetlands, their 100-year floodplains, nontidal wetlands buffers, or nontidal wetland expanded buffers to ensure that any discharges will not result in a failure to comply with water quality standards in COMAR 26.08.02 or any other water quality requirements of state law or regulation shall be met.

2. This Certification does not obviate the need to obtain required authorizations or approvals from other State, federal or local agencies as required by law.

3. All additional authorizations or approvals, including self-certifying General Permits issued by the Department, shall be obtained and all conditions shall be completed in compliance with such authorizations.

4. The proposed project shall be constructed in accordance with the approved final plan by the Department, or, if Department approval is not required, the plan approved by the U.S. Army Corps of Engineers, and its approved revisions.

5. All fill and construction materials not used in the project shall be removed and disposed of in a manner which will prevent their entry into waters of this State.

6. This Certification does not authorize any injury to private property, any invasion of rights, or any infringement of federal, state, or local laws or regulations.

7. The Certification Holder shall allow authorized representatives of the Department access to the site of authorized activities during normal business hours to conduct inspections and evaluations of the operations and records necessary to assure compliance with this Certification.

8. No stockpiles of any material shall be placed in Waters of the U.S. or state or private tidal wetlands.

9. Temporary construction trailers or structures, staging areas and stockpiles shall not be located within tidal wetlands, nontidal wetlands, nontidal wetlands buffers, or the 100-year floodplain unless specifically included on the Approved Plan.

10. This Certification is valid for the project identified herein and the associated U.S. Army Corps of Engineers authorization 2023-61200 until such time that it expires or is not administratively extended.

SPECIAL CONDITIONS

1. All Critical Area requirements shall be followed and all necessary authorizations from the Critical Area Commission ("Commission") shall be obtained. This Certification does not constitute authorization for disturbance in the 100-foot Critical Area Buffer. "Disturbance" in the Buffer means clearing, grading, construction activities, or removal of any size of tree vegetation. Any anticipated Buffer disturbance requires prior written approval, before commencement of land disturbing activity, from local jurisdiction in the form of a Buffer Management Plan.

2. If the authorized work is not performed by the property owner or is not otherwise exempt from the licensing requirement, all work performed under this Tidal Wetlands License shall be conducted by a marine contractor licensed by the Marine Contractors Licensing Board (MCLB) in accordance with Title 17 of the Environment Article of Annotated Code of Maryland and COMAR 26.30. The licensed marine contractor shall be authorized for the appropriate license category to perform or solicit to perform the activities within this authorization, if applicable. A list of licensed marine contractors and their license category may be obtained by contacting the MCLB at 410-537- 3249, by e-mail at MDE.MCLB@maryland.gov, or by accessing the Maryland Department of the Environment, Environmental Boards webpage at: https://mde.maryland.gov/programs/water/WetlandsandWaterways/Pages/ LicensedMarineContractors.aspx.

3. The issuance of this Certification is not a validation or authorization by the Department for any of the existing structures depicted on the plan sheets on the subject property that is not part of the authorized work description, nor does it relieve the Certification Holder of the obligation to resolve any existing noncompliant structures and activities within tidal wetlands.

4. The Certification Holder shall perform no dredging between April 1 and October 1 of any year due to the presence of anadromous fish.

5. Dredge Material Disposal and Best Management Practice (BMP) Plan: No dredging activity can commence prior to the Tidal Wetlands Division's approval of the Dredge Material Disposal and BMP Plan. The Dredge Material Disposal and BMP Plan shall be submitted for review and approval at least 30 days prior to the commencement of any dredging in this Certification. The Certification Holder shall implement and comply with the Dredge Material Disposal and BMP Plan, which will detail support for the implementation of appropriate practices to protect water quality, marine life, and estuarine habitat; and will include the criteria for when an environmental bucket for dredging and water-tight trucks and scows for transport will be used. The Dredge Material Disposal and BMP Plan shall also detail the sequence of dredging activity that includes DMCF construction, dredging schedule, placement approval letters from accepting facilities, and dredge transportation activities. The Dredge Material Disposal and BMP Plan can only be modified upon approval by the Tidal Wetlands Division.

6. The Certification Holder shall conduct subsequent maintenance dredging within the scope of tidal wetlands license 23-WL-0762 in terms of authorized dredge area and authorized depths. The Certification Holder shall:
    a. Dredge no more than 500 cubic yards of material at each maintenance dredging.
    b. Comply with all applicable conditions of this Certification.
    c. Submit a detailed dredged material disposal plan to be approved by the Water and Science Administration, Tidal Wetlands Division prior to the start of dredging.
    d. Notify and receive approval from the Water and Science Administration, Compliance Program, a minimum of 10 days prior to the start of each maintenance dredging operation.

7. The Certification Holder shall demonstrate delineation of the dredge area and receive approval from the Water and Science Administration's Compliance Division prior to the start of dredging.

8. The Certification Holder shall conduct a post-dredge bathymetric survey and forward it to the Water and Science Administration, Tidal Wetlands Division, within 45 days after the termination of any phase of dredging.

9. The Certification Holder shall dispose of dredged material only at the dredge disposal site(s) approved in Wetland License 23-WL-0762. The Certification Holder shall submit an application for modification of the License to MDE for approval of any dredge disposal site not authorized within the License.

10. Pile Driving Best Management Practice (BMP) Plan: No pile-driving activity can commence prior to the Tidal Wetlands Division's approval of the Pile Driving BMP Plan. The Pile Driving BMP Plan shall be submitted for review and approval at least 30 days prior to the commencement of any pile driving activity in this Certification. The Certification Holder shall implement and comply with the Pile Driving BMP Plan, which will detail support for the implementation of appropriate practices to protect water quality, marine life, and estuarine habitat, and include the use of zones of safe fish passage, soft starts, the use of a vibratory hammer, and the quantity of pile driving hours per day. The Pile Driving BMP Plan can only be modified upon approval by the Tidal Wetlands Division.

11. The Certification Holder shall not allow debris to enter the waterway. The Certification Holder shall immediately remove all debris inadvertently introduced into the waterway as a result of any construction activity. Debris shall be reused where possible and approved by the Department or disposed of at an upland (non-wetland) disposal site and in a manner that does not adversely impact surface or subsurface waterflow into or out of tidal wetlands.

12. The Certification Holder shall submit approved Sediment and erosion control plans and stormwater management plans to MDE for approval prior to initiation of work in regulated areas. All work shall be performed in accordance with the required Soil Erosion and Sediment Control Plan as approved by MDE. Runoff or accumulated water containing sediment or other suspended materials shall not be discharged into waters of the State unless treated by an approved sediment control device or structure. Any proposed changes to approved sediment and erosion control plans or stormwater management plans during construction shall be forwarded to the approving authority for approval prior to implementation.

13. If the project requires any on-site facility that requires a General Discharge Permit application, the Certification Holder shall apply to the Water and Science Administration, Industrial Discharge Permits Division, for review and approval, as determined necessary, prior to the commencement of work. The Certification Holder shall send confirmation to the Tidal Wetlands Division.

14. The Certification Holder shall apply to the Land Management Administration, Land Restoration Program (LRP) for review and approval of the High Head Industrial Basin DMCF. The Certification Holder shall send the approved LRP Plan to the Tidal Wetlands Division prior to the commencement of construction.

15. The Certification Holder shall apply to the Water and Science Administration, Wastewater Pollution Prevention & Reclamation Program for review and approval of a NPDES Permit modification as required, to include the discharge related to the High Head Industrial Basin DMCF. The Certification Holder shall send the approved LRP Plan to the Tidal Wetlands Division prior to the commencement of construction.

16. Turbidity Monitoring Plan: No work authorized in this Certification can commence prior to the Tidal Wetlands Division's approval of the Turbidity Monitoring Plan. The Turbidity Monitoring Plan shall be submitted for review and approval at least 30 days prior to the commencement of any work in this Certification. The Certification Holder shall implement and comply with the Turbidity Monitoring Plan, which will detail support for the implementation of appropriate practices to protect water quality, marine life, and estuarine habitat, and include testing/monitoring turbidity related to dredging, shoreline stabilization activity, and outfalls. It will provide benchmarks and corrective actions if those benchmarks are exceeded. The Turbidity Monitoring Plan can only be modified upon approval by the Tidal Wetlands Division.

17. The Certification Holder shall design and construct the stone or concrete revetment to prevent the loss of fill material to waters of the State of Maryland.

18. The Certification Holder shall not use asphalt rubble in the revetment. Prior to the emplacement of the revetment, all rebar is to be cut off flush with the concrete. After emplacement of the revetment, any rebar exposed as a result of the concrete breaking during the emplacement is to be cut flush with the concrete. Except for the larger material placed along the leading edge of the revetment, the concrete shall be broken prior to emplacement so that random sized interlocking pieces are formed.

19. The Certification Holder shall hold a pre-construction meeting with the Maryland Department of the Environment Compliance Program, Maryland Board of Public Works, the US Army Corps of Engineers (Baltimore Regional Office), and other agency stakeholders to provide the opportunity for all to review and discuss the construction plans and conditions. All meeting participants shall be notified of this meeting a minimum of 14 days prior to the date of the meeting.

20. A professional engineer (PE), registered in the State of Maryland and qualified in dike and design and construction, shall be designated as the Engineer in Charge (EIC) and supervise the construction of the dike walls for the High Head Industrial Basin DMCF.

21. Prior to the DMCF operation and receipt of the dredged material, the EIC shall provide a completed "Dike Completion Report" to the Tidal Wetlands Division within sixty (60) days following construction of the DMCF dike to the final design elevation. The Report shall provide a project history, as-built drawings, and certify to the Tidal Wetlands Division that the dike is structurally sound and is ready to receive dredged material.

22. Stormwater discharges shall have a velocity no greater than four feet per second for the two-year storm in order to prevent erosion in the receiving waterway or wetland.

23. Mitigation Plan: Mitigation is required for 3.08 acres of impact related to the permanent fill placed in State tidal wetlands in accordance with COMAR 26.24. The Certification Holder shall submit a Mitigation Plan to the Tidal Wetlands Division within 90 days following approval of Wetlands License 23-WL-0762. Upon approval of the Mitigation Plan, if the Tidal Wetlands Division determines that a Joint Permit Application (JPA) is required, the Licensee shall submit a JPA within 30 days following the Tidal Wetlands Division's determination. The Certification Holder shall implement the mitigation plan in accordance with the approved plan and schedule. The Mitigation Plan can only be modified upon approval by the Tidal Wetlands Division.

24. The Certification Holder shall remove the DMCF discharge structure, which includes the 24-inch diameter pipe extension and diffuser prior to the expiration of Wetlands License 23-WL-0762. If dewatering activity exceeds the expiration date of the State License, the Certification Holder shall submit a JPA to the Tidal Wetlands Division at least 30 days prior to the expiration of the License for the removal of the temporary structures.

STATEMENTS OF NECESSITY & CITATIONS

1. Statement of Necessity for General Conditions 1-4, and Special Conditions 1-7, 9-18, 20-24: These conditions are necessary to ensure that water quality standards are met, and designated uses are maintained.

   Citations: Federal and state laws which authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.10G(3); COMAR 26.23.02.06; COMAR 26.17.01; COMAR 26.23; COMAR 26.24

2. Statement of Necessity for General Conditions 5, 8, 9, and Special Conditions 11, 12, 17: Fill or construction material within or adjacent to regulated resources and the loss of fill material may cause discharges resulting in turbidity in excess of water quality standards and interfere with designated uses of growth and propagation of fish, other aquatic life, wildlife; and other designated uses; and fail to meet general water quality criteria that waters not be polluted by substances in amounts sufficient to be unsightly or create a nuisance.

   Citation: 26.08.02.03B(1)-B(2); COMAR 26.23; COMAR 26.24; COMAR 26.17.04

3. Statement of Necessity for General Condition 6: This condition is necessary to clarify the scope of this certification to ensure compliance with water quality regulations, without limiting restrictions through other requirements.

   Citation: Federal and state laws which authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08, COMAR 26.08.02.10E; COMAR 26.23.02.06; COMAR 26.17.04; COMAR 26.23; COMAR 26.24

4. Statement of Necessity for General Condition 7, and Special Conditions 10, 12, 15, 16, 19, 24: Conditions of certification involve precise actions to comply with water quality standards. Site inspection may be necessary to ensure that limits, methods, and other requirements are met to ensure that water quality standards are met and designated uses are maintained. These conditions are necessary to ensure that the activity was conducted, and project completed according to the terms of the authorization/certification, while allowing for review of in-field modifications which may have resulted in discharges to ensure that water quality standards were met. Designated uses include support of estuarine and marine aquatic life and shellfish harvesting and for growth and propagation of fish, other aquatic life, and wildlife.

   Citation: Federal and state laws that authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.03B(1)(b); COMAR 26.08.02.03B(2); COMAR 26.23.02.06; COMAR 26.23; COMAR 26.24; COMAR 26.17.04

5. Statement of Necessity for General Condition 10: This condition is necessary to qualify the period of applicability of the terms and conditions of this Certification to be protective of Maryland water quality standards.

   Citations: Federal and state laws which authorize this condition include but are not limited to: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; 40 C.F.R. 121, 15 C.F.R. 930, Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.17.04; COMAR 26.23; COMAR 26.24

6. Statement of Necessity for Special Conditions 2, 20 and 21: Expertise for conducting certain activities is required to ensure that there is no violation of water quality standards or interference with designated uses. This condition is necessary to ensure that discharges will be conducted in a manner that does not violate water quality criteria nor interfere with designated uses.

   Citations: COMAR 26.08.02.02B(2)-B(4); COMAR 26.08 02.03B(2)(d)-(e); COMAR 26.08.02.03B(1)(b); 26.08.02.03B(2); COMAR 23.02.04.04

7. Statement of Necessity for Special Condition 4: A time-of-year restriction is necessary to protect aquatic species. Access to the upper reaches of rivers and tributaries to habitat suitable for spawning is essential to support migrating fish populations. Disturbance during the closure period would interfere directly or indirectly with designated uses.

   Citations: COMAR 26.08.02.02.B(3); COMAR 26.08.02.03-3.C(2)d.(5); 33 U.S.C. § 1341(a), (b), &(d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR26.08; COMAR26.24

8. Statement of Necessity for Special Conditions 5-7, and 9: These conditions are necessary to ensure that dredged material is removed in a manner that prevents its re-entry into the waters of the United States or waters of the State, where its release may result in failure to meet turbidity standards and failure to meet designated uses. Discharge of dredged material may interfere with designated uses or support of estuarine and marine aquatic life and shellfish harvesting and may result in impacts to water quality, clarity, growth, and propagation of fish, other aquatic life, and wildlife.

   Citations: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.10G(3); COMAR26.24; COMAR26.08.02.01B(2); COMAR 26.08.02.02B(1) COMAR 26.08.02.02B(3); COMAR26.08.02.03B

9. Statement of Necessity for Special Conditions 5-8: The conditions are necessary to ensure that water depths and limits on the scope of dredging are appropriate post-dredging, to support designated uses of fishing and water contact recreation and growth and propagation of fish, other aquatic life, and wildlife; and ensure that no discharges are unsightly, create a nuisance, change to an objectionable color or interfere with designated uses or would violate water quality standards for water clarity and turbidity.

   Citations: COMAR 26.08.02.01B(2); COMAR 26.08.02.02B(1) COMAR 26.08.02.02B(3); COMAR26.08.02.03B

10. Statement of Necessity for Special Condition 5, 9, 10, 12, 15, 16: Requirements for additional plans that include BMPs and monitoring are necessary to protect migratory and resident fish, mammals, and other aquatic life; and to ensure that limits, methods, and other requirements are met to ensure that water quality standards are met and designated uses are maintained.

    Citation: COMAR 23.02.04.11A-D; COMAR 23.02.04.12B; COMAR 23.02.04.12E COMAR 26.24.05.01B; COMAR 26.08.02.02.B.(3); COMAR 26.08.02.03-3.C.(2)d.(5); 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.24.

11. Statement of Necessity for Special Conditions 10, 12, 16: Requirements for avoidance, minimization, and additional plans that include best management practices and monitoring are necessary to protect migratory and resident fish, mammals, and other aquatic life; and to ensure that limits, methods, and other requirements are met to ensure that water quality standards are met and designated uses are maintained.

    Citations: COMAR 23.02.04.11A-D; COMAR 23.02.04.12B; COMAR 23.02.04.12E; COMAR 26.24.05.01B; COMAR 26.08.02.02.B(3); COMAR 26.08.02.03-3.C(2)d.(5); 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR26.08; COMAR26.24

12. Statement of Necessity for Special Conditions 10, 14, 16, 21: Unauthorized discharges may enter regulated waters as a result of activity or structural failure. A plan to address and monitor for unauthorized discharges will prevent or address further violations of water quality standards or failure of water to meet designated uses, including uses of growth and propagation of fish, other aquatic life, wildlife, as well as general water quality criteria that waters would not be polluted by substances in amounts sufficient to be unsightly or create a nuisance.

    Citations: Md. Ann. Code, Env. Article § 9-303.1, § 9-313- 9-316, § 9-319- 9-325, § 9-327 and § 9-328; COMAR 26.08.02.01; COMAR 26.08.02.02; COMAR 26.08.02.03

13. Statement of Necessity for Special Conditions 13 and 15: These conditions are necessary to ensure that water quality standards are met under circumstances for discharges relating to upland industrial activities so that designated uses of waters are maintained. Discharge of materials associated with industrial activities may enter waters of the United States or waters of the State and interfere with designated uses, including surface and groundwater flows necessary for the support of drinking waters and the growth and propagation of fish, other aquatic life, and wildlife.

    Citations: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 & 4; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR26.08; COMAR26.08.02.10G(3); COMAR 26.17.04; COMAR 26.23; COMAR 26.24; COMAR26.23.02.06, COMAR 26.08, COMAR 26.08.02.10E; COMAR 26.08.02.09C(3); COMAR26.08.02.03B(1)(b); COMAR 26.08.02.03B(2); COMAR 26.08.02.03-3; COMAR 26.08.02.02B(2); COMAR 26.08.02.02B(4); COMAR 26.08.02.02B(6); COMAR 26.08.02.02B(8)

14. Statement of Necessity for Special Condition 18: Proper placement and alignment of the discharge material will maintain habitat and maintain designated uses for support of estuarine and marine aquatic life and support of designated uses for growth and propagation of fish, other aquatic life, and wildlife.

    Citations: Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.24; COMAR 26.08; COMAR 26.08.02.02B(1)(d); COMAR 26.08.02.02B(3); COMAR 26.08.02.03B(1)(b); COMAR 26.08.02.02B(2); COMAR 26.08.02.10E.(2); COMAR 26.24

15. Statement of Necessity for Special Condition 22: The condition is necessary to ensure that the discharge will not result in additional eroded sediment entering waters of the United States in amounts that interfere with designated uses and/or violate water quality standards for turbidity and clarity or general water quality criteria. Discharges from the facility may contribute additional concentrated pollutants, heated waters, and erosion to downstream waters without proper design of the facility. Effects of the discharge may result in waters failing to meet designated uses.

    Citations: COMAR 26.08.02.02B(1); COMAR 26.08.02.02B(3); COMAR 26.08.02.03B; COMAR 26.08.02.03-3A; COMAR 26.08.02.03-3C.

16. Statement of Necessity for Special Conditions 23: Mitigation is required to ensure that waters continue to meet designated uses, as losses of wetlands or waterways result in water quality degradation. Wetlands provide essential habitat, water quality, food, and movement corridors for wildlife. Losses may result in discharges that interfere with designated uses, including the growth and propagation of fish, other aquatic life, and wildlife through loss of stream channel habitat and wetlands.

    Citations: 33 U.S.C. § 1341(a), (b), & (d); 33 U.S.C. § 1251(b); 33 U.S.C. § 1370; Md. Ann. Code, Env. Article, Title 1, Subtitles 3 and 4; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 5, Subtitles 5 and 9; Md. Ann. Code, Env. Article, Title 9, Subtitle 3; Md. Ann. Code, Env. Article, Title 16; COMAR 26.08; COMAR 26.08.02.01; COMAR 26.08.02.02; COMAR 26.08.02.07; COMAR 26.08.02.10; COMAR 26.17.04; COMAR 26.23; COMAR26.23.02.06; COMAR 26.24.

17. Statement of Necessity for Special Condition 24: This condition is necessary to ensure that the placement does not interfere with navigational safety and designated uses for water contact recreation and fishing, nor create a nuisance.

    Citations: COMAR 26.08.02.01B(1) and B(2); COMAR 26.08.02.03B(1)(a); COMAR 26.08.02.03B(2)(d)

CERTIFICATION APPROVED

Jul 10, 2025

D. Lee Currey, Director
Water and Science Administration

Date

Tracking Number: 202331200
Agency Interest Number: 141713

Effective Date: July 10, 2025

Enclosure: Plan Sheets dated June 5, 2025

cc: WSA Inspection & Compliance Program
Army Corps of Engineers

Marine Protection, Research, and Sanctuaries Act, Section 103 Concurrence Letters

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REGION 3
PHILADELPHIA, PA 19103

July 16, 2025

Mr. Joseph DaVia, Chief
Maryland North Section
Baltimore District,
U.S. Army Corps of Engineers
2 Hopkins Plaza
Baltimore, Maryland 21201

Dear Mr. DaVia:

Thank you for your June 9, 2025 request for concurrence on the suitability for ocean disposal of dredged material from the Sparrows Point Channel (SPC) pursuant to Section 103 of the Marine Protection Research and Sanctuaries Act (MPRSA). Section 103 of the MPRSA specifies that all proposed operations involving transportation and dumping of dredged material into ocean waters be evaluated for potential environmental impacts. The Secretary of the Army has the responsibility for this evaluation using criteria developed by the Administrator of the U.S. Environmental Protection Agency (EPA).

The EPA has completed its review of the draft final Evaluation of Dredged Material for Ocean Placement, Sparrows Point Channel South and Mid Channel, dated September 2024, and contingent upon the conditions included in this letter, concurs that the proposed dredged material meets the Ocean Disposal Criteria found in 40 Code of Federal Regulations (CFR) Part 227. An overview of the project and the conditions are described below.

Project Overview

The U.S. Army Corps of Engineers (USACE) is evaluating dredging within SPC to support construction of a container terminal. The project proponent is Tradepoint TIL Terminal, LLC (TTT). The existing SPC is 1.2 statute miles long in the Patapsco River in Baltimore, Maryland and is currently permitted to -42 feet (ft) mean low water (MLW) across the west side approach, turning basin, and existing terminal and to -47 ft MLW across the eastern features, including the east side approach and berthing area. The existing channel is proposed to be deepened and widened for container vessel access. TTT is proposing to dredge a total of approximately 1.65 million cubic yards (mcy) material to a maximum depth of -52 ft mean lower low water (-50 ft MLLW with 2 ft of overdepth). The total volume of material requested for ocean placement is approximately 1.57 mcy. The dredged material is proposed to be placed at the Norfolk Ocean Dredged Material Disposal Site (NODS).

The EPA conducted an independent determination of compliance with the Ocean Disposal Criteria based on the following:

Exclusionary Criteria

In accordance with 40 CFR § 227.13(b), dredge material that meets the criteria set forth in the following paragraphs (b)(1), (2), or (3) of this section is environmentally acceptable for ocean dumping without further testing under this section:

1. Dredged material is composed predominantly of sand, gravel, rock, or any other naturally occurring bottom material with particle sizes larger than silt, **and** the material is found in areas of high current or wave energy such as streams with large bed loads or coastal areas with shifting bars and channels; or

2. Dredged material is for beach nourishment or restoration and is composed predominantly of sand, gravel or shell with particle sizes compatible with material on the receiving beaches; or

3. When the material proposed for dumping is substantially the same as the substrate at the proposed disposal site; **and** the site from which the material would be dredged is far removed from known existing and historical sources of pollution to provide reasonable assurance that such material has not been contaminated by such pollution.

The material in the SPC does not meet the exclusionary criteria set forth under 40 CFR § 227.13(b).

Evaluation of Bulk Sediment and Water Quality Criteria (WQC)

Sediments from 45 locations within the project area were collected and used to create 15 dredging unit (DU) composites: three from the existing channel (proposed maintenance dredging area) and 12 from the widening areas (proposed new work area). The dredging units from both the existing channel and the widening areas characterized sediment from the surface to -52 ft MLLW. Sediment from DU3 did not meet the Limiting Permissible Concentration (LPC) for benthic bioaccumulation; therefore, sediment from the corresponding area is not being requested for ocean placement, and only 14 DUs were fully tested for MPRSA Section 103 compliance and subject to this evaluation.

Sediment from SPC consisted primarily of silt and clay ranging from 93.9% to 99.1%. The grain size of the DUs was most similar to the subsurface material collected from the Willoughby Bank Reference Area. Per sediment sampling, polychlorinated biphenyl (PCB) congeners, polyaromatic hydrocarbons, chlorinated pesticides, dioxin/furan congeners, and several metals were detected at sample sites. Nine of the detected metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver and zinc) had concentrations between the threshold effect level (TEL) and probable effect level (PEL) values, and in five DUs, three metals exceeded their respective PEL values (lead, nickel, and zinc).

Dioxin and furan congeners were detected in all of the DUs, and in four DUs, the concentration of one compound (2,3,7,8-TCDD) exceeded the interim Sediment Quality Guidelines (SQG). The dioxin toxic equivalents ranged from 7.38 to 20.1 ng/kg, and all of the DUs exceeded the interim SQG. Five chlorinated pesticides were detected within the DUs, though none of the concentrations exceeded TEL values. Thirteen different PAHs had concentrations between their respective TEL and PEL values; however, in one DU, one PAH exceeded its PEL value by a factor of 1.56. The total PAH concentration for the same DU exceeded the TEL by a factor of 1.96. PCBs in all DUs exceeded the TEL by factors ranging from 1.83 to 2.89.

The standard elutriates, site water, and receiving water were analyzed and compared to the EPA saltwater acute water quality criteria (WQC) for aquatic life. Ammonia exceeded the acute WQC by factors ranging from 1.09 to 2.93. The laboratory reporting limit (RL) for cyanide exceeded the USEPA acute saltwater criterion by a factor of ten in each of the elutriates. As cyanide is the most restrictive constituent, its dilution factor was used to determine WQC LPC compliance with the Tier II Short-Term Fate (STFATE) model for elutriates. STFATE modeling showed that total cyanide required a dilution factor of 9 to comply with the acute cyanide criteria inside the boundary of NODS. Model results indicated a dilution ranging from 118-fold to 136-fold would be achieved within the boundaries of the site within 4 hours following placement of dredged material and the elutriate would travel a maximum distance of 4,101 feet from the location of the discharge. Barge volumes up to 20,000 cy of dredged material could be placed at NODS based on the STFATE model and rate of dilution.

Based on information above, the standard elutriates from SPC meet the LPC for WQC for placement at the NODS.

Acute Water Column Toxicity

Acute water column bioassays were conducted using the following three species: *Mytilus* sp. (blue mussel), *Americamysis bahia* (opossum shrimp), and *Menidia beryllina* (inland silverside) to evaluate development and survival of test organisms when exposed to project sediment elutriate. The *A. bahia* and *M. beryllina* tests measured effects to organism survival (LC_{50}), and the *Mytilus* sp. tests measured developmental effects to embryos (EC_{50}).

For *Mytilus* sp., using untreated sediment, the 48-hour EC_{50} value was >100% elutriate. Normal development in the 100% untreated elutriates ranged from 69 to 80%. In eight of the 14 elutriates, normal development was at least 10% less than the laboratory control, which was a statistically significant difference. Using ammonia-purged sediment, the 48-hour EC_{50} value was >100% elutriate and normal development in the 100% elutriates ranged from 76 to 84%. Laboratory controls had normal embryo development ranging from 74 to 84%. Seven of the 14 DU elutriates were at least 10% less than the laboratory control and statistically different.

A. bahia and *M. beryllina* both had a 96-hr LC_{50} of >100% elutriate for each sample, and survival after 96 hours of exposure ranged from 98 to 100% and 96 to 100%, respectively. Survival was not significantly different from the laboratory control for either *A. bahia* and *M. beryllina,* indicating that the elutriates were not acutely toxic to these species.

For the SPC water column bioassays, *A. bahia* and *M. beryllina* had an EC_{50}/LC_{50} that was greater than 100% elutriate for each DU and none of the samples had significantly lower survival than the laboratory controls. However, survival for *Mytilus* sp. in eight of the DU elutriates was statistically different (lower) than the laboratory control. The results of the untreated and ammonia-purged elutriates indicated that ammonia was not the primary constituent contributing to water column toxicity. STFATE modeling was conducted to determine if the results of the water column bioassays would meet the water column toxicity LPC for ocean placement. Results indicated that the required dilution would be achieved at distances ranging from 3,677 to 3,960 ft from the point of discharge. During the 4-hour mixing period, dilutions ranging from 118- to 135-fold would be achieved, and the elutriate would travel a maximum distance of 4,101 ft from the point of discharge.

Based on the results of the water column bioassays and STFATE modeling, the SPC elutriates meet the LPC for water column toxicity for maximum discrete discharge volumes of 20,000 cubic yards at NODS; the material complies with 40 CFR § 227.6(c)(2) and 227.27(b).

Whole Sediment Bioassay Evaluation

For the 10-day whole sediment bioassay, *Ampelisca abdita* (marine amphipod) and *Leptocheirus plumulosus* (estuarine amphipod) were exposed to the SPC sediment and overlying water to determine survival outcomes as statistically compared to survival in the Willoughby Bank Reference Site subsurface sediments.

A. abdita and *L. plumulosus* survival in SPC sediments ranged from 90-93% and 96-100%, respectively. None of the survival results were significantly different from the reference site survival for either *A. abdita* or *L. plumulosus*. Exposure to SPC sediments did not exceed the allowable percent difference (20%) of mortality in the reference sediment; therefore, SPC sediments meet the LPC for benthic toxicity for placement at the NODS.

Bioaccumulation Evaluation

To evaluate chronic exposure to SPC sediments, a 28-day benthic bioaccumulation exposure study with *Nereis virens* (sand worm) and *Macoma nasuta* (blunt-nose clam) was performed to determine survival and the potential uptake of contaminants in organism tissue. Per the bulk sediment chemistry results, tissue samples were analyzed for metals, dioxin/furan congeners, PCB congeners, PAHs, pesticides (DDT series and alpha-BHC only), SVOCs (bis-2[ethylhexyl]phthalate only), lipids, and percent moisture and were statistically compared to the reference site.

The results of the bioaccumulation study demonstrated that metals, one pesticide (4,4'-DDT), and total PCBs did not exceed the USFDA Action/Guidance/Tolerance Values. While mean concentrations of 4,4'-DDD in clam tissue statistically exceeded mean reference tissues in DU1 and 4,4'-DDE in clam tissue statistically exceeded mean reference tissues in DU1 and DU11, they did not exceed South Atlantic Bight background tissue concentrations. Mean concentrations of OCDD in clam tissue for DU1, DU6, and DU9 statistically exceeded mean reference tissue concentrations, but did not statistically exceed mean pre-test tissue concentrations. In addition, the mean dioxin TEQ (ND=0) for clam tissue at DU1, DU6, and DU9 did not statistically exceed mean reference tissue concentrations. Lead exceeded the reference site tissue concentrations in clam tissue for DU1, DU2, DU10, and DU11, but they did not exceed South Atlantic Bight background tissue concentrations.

Based on the assessment of chemical analyses performed, it is not anticipated that ocean placement of the dredged material from SPC at the NODS will result in ecologically significant bioaccumulation of contaminants. Therefore, the dredged material meets the LPC for bioaccumulation and complies with the benthic criteria of 40 CFR Part 227.13 (c)(3).

Conclusion

In conclusion, SPC sediments meet the criteria for the LPC for WQC, water column toxicity, benthic toxicity, and benthic bioaccumulation, indicating that ocean placement of the dredged material at the NODS is a viable placement option.

Therefore, the EPA concurs with disposal at the NODS for up to approximately 1.57 mcy of suitable material to be dredged by TTT from the SPC in the Patapsco River, Baltimore, Maryland subject to meeting all the conditions in this letter. Disposal of a quantity greater than 1.57 mcy and/or material from a depth greater than **-52 ft MLLW** shall require a new concurrence.

The following conditions are consistent with, but updated from, the most recent Site Management and Monitoring Plan (SMMP, 2019) for the NODS. Disposal will occur within boundaries of the site and at least 100 meters (330 ft.) from the perimeter of the disposal site.

1. Material placed at NODS disposal site from SPC shall not exceed 20,000 cy of material at any given time.
2. TTT will conduct a bathymetric survey of the disposal site before and after the project activities and provided to the EPA within 15 days of completion of survey to ensure proper placement of materials and compliance with the disposal site conditions.
3. The USACE Baltimore District shall provide the EPA with a copy of the final authorization documents/permit within 5 days of signature by USACE Baltimore District.
4. Each disposal vessel will have an Electronic Tracking System and the USACE Baltimore District will maintain all vessel tracking data associated with the project.
5. Dredged material disposal shall be conducted in a manner to maximize NODS capacity and minimize mounding of material. The dumps shall be scattered throughout designated disposal zones and not placed repeatedly at one location. Depths at the time of disposal will be monitored to determine if adjustment of disposal methods is needed to prevent unacceptable mounding.
6. All disposal activities shall be completed, and vessel disposal doors closed prior to leaving the area within the 100-meter NODS buffer zone and site boundaries. Should the doors not close properly, the barge must circle the site disposal zone (inside the 100-meter buffer) three times before leaving the site. All such incidents of equipment malfunction must be reported to the EPA within 24 hours along with a declaration that the problem has been resolved, and the barge is back in working order.
7. TTT shall report via email or telephone any anticipated, potential, or actual variances from compliance with these conditions, to the District Engineer and the Regional Administrator within 24 hours of discovering such a situation.
8. TTT will provide the EPA with a disposal summary report within 15 days after completion of the project.

This concurrence is conditions upon implementation of the above requirements and is valid for a term of three years from **July 16, 2025**. Use of the NODS after **July 16, 2028** will require further evaluation of the proposed dredge material. Should you have any questions regarding this concurrence or use of the NODS, please contact me at 215-814-3397 or Emily French, Life Scientist, 701 Mapes Rd, Fort Meade, MD 20755, or french.emily@epa.gov.

Sincerely,

MICHELLE PRICE-FAY

Digitally signed by MICHELLE PRICE-FAY
Date: 2025.07.16 18:03:43 -04'00'

Michelle H. Price-Fay, Director
Water Division

Section 7 of the Endangered Species Act – Terrestrial Species Consultation

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

In Reply Refer To: 11/26/2024 14:22:31 UTC
Project code: 2025-0021673
Project Name: Sparrows Point Container Terminal

Federal Nexus: yes
Federal Action Agency (if applicable): Army Corps of Engineers

Subject: Record of project representative's no effect determination for 'Sparrows Point Container Terminal'

Dear Suzie Boltz:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on November 26, 2024, for 'Sparrows Point Container Terminal' (here forward, Project). This project has been assigned Project Code 2025-0021673 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the **Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey)**, invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat and/or Tricolored Bat

Based upon your IPaC submission and a standing analysis, your project has reached the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	No effect

Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	No effect

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate.

To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

Next Steps

If there are no updates on listed species, no further consultation/coordination for this project is required with respect to the species covered by this key. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the Chesapeake Bay Ecological Services Field Office and reference Project Code 2025-0021673 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

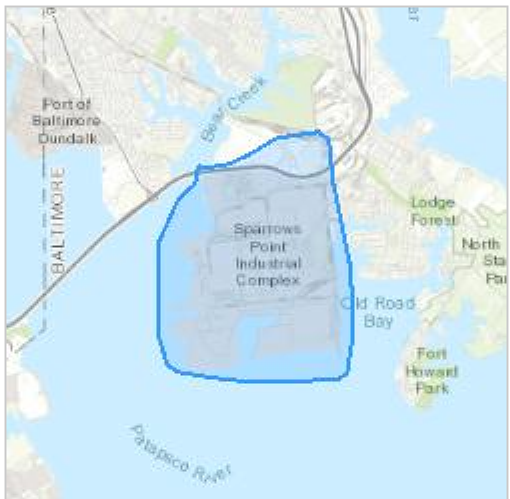
Sparrows Point Container Terminal

2. Description

The following description was provided for the project 'Sparrows Point Container Terminal':

> Construct a new container terminal at Sparrows Point and dredge the Sparrows Point Channel, deepening and expanding the existing navigation channel.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.2223429,-76.48176079928334,14z



DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the species covered by this determination key. Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for those species.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No
2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No
3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No
4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No
5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes
6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   Yes

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

10. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

11. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    No

12. Will the action cause effects to a bridge?

    Note: Covered bridges should be considered as bridges in this question.

    No

13. Will the action result in effects to a culvert or tunnel at any time of year?

    No

14. Are trees present within 1000 feet of the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: [https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.](https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines)

    Yes

15. Does the action include the intentional exclusion of bats from a building or structure?

    Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

    No
16. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No
17. Will the action cause construction of one or more new roads open to the public?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No
18. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic permanently or temporarily on one or more existing roads?

    Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    Yes
19. Will the increased vehicle traffic occur on any road that lies between any two areas of contiguous forest that are each greater than or equal to 10 acres in extent and are separated by less than 1,000 feet? Bats may cross a road by flying between forest patches that are up to 1,000 feet apart.

    Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forested area if the forested patches, added together, comprise at least 10 acres.

    No
20. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

    Note: For information regarding NSF/ANSI 60 please visit https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects

    No

21. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

    No

22. Will the action include drilling or blasting?

    Yes

23. Will the drilling or blasting produce noise or vibrations above existing background levels that will affect suitable summer habitat for northern long-eared bats and/or tricolored bats?

    Note: Additional information defining suitable suitable summer habitat for the northern long-eared bat and/or tricolored bat, can be found in Appendix A in the USFWS' Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines

    No

24. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

    No

25. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

    No

26. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

    Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS’ Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

27. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS’ Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

28. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

    Yes

29. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

    No

30. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

    Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

    No

31. Does the project intersect with the 0- 9.9% forest density category?

    Automatically answered
    Yes

32. Does the project intersect with the 10.0- 19.9% forest density category map?

    Automatically answered
    Yes

33. Does the project intersect with the 20.0- 29.9% forest density category map?

    Automatically answered
    No

34. Does the project intersect with the 30.0- 100% forest density category map?

    Automatically answered
    No

35. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 0.5 acre in total extent?

    Yes

36. Does the action area intersect the northern long-eared bat species list area?

    Automatically answered
    Yes

37. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Automatically answered
    No

38. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

39. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
    If unsure, answer "Yes."

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

40. Does the action area intersect the tricolored bat species list area?

    Automatically answered
    Yes

41. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

42. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities?
    (If unsure, answer ""Yes."")

    Note: If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (Tillandsia usneoides), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see Appendix A in the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    No

43. Do you have any documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

12

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Suzie Boltz
Address: 225 Schilling Circle, Suite 400
City: Hunt Valley
State: MD
Zip: 21031
Email sboltz@eaest.com
Phone: 4104588272

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers
Name: Maria Teresi
Email: Maria.Teresi@usace.army.mil
Phone: 4109624501

You have indicated that your project falls under or receives funding through the following special project authorities:

- FAST-41

National Historic Preservation Act Section 106 Initiation and Concurrence Letters

SPARROWS POINT CONTAINER TERMINAL PORT OF BALTIMORE

20230323

RECEIVED AUG 01 2023

BY:____________

F
COE
EJC/
ERL/JBN

Beth Cole, Administrator,
Review and Compliance
Maryland Historical Trust
100 Community Place, 3rd Floor
Crownsville, MD 21032

The Maryland Historical Trust has determined that this undertaking will have no adverse effect on historic properties.

Becky Roman Date August 22, 2023

Subject: Agency Coordination Initiation for the Proposed Sparrows Point Container Terminal

Dear Ms. Cole,

Thank you for your participation in the 28 June 2023 Joint Evaluation Committee meeting where the proposed Sparrows Point Container Terminal (SPCT), a joint venture (JV) between Tradepoint Atlantic and Terminal Investments Limited (TPA/TiL), was presented and discussed. The new container terminal represents a long-term commitment by the JV Partnership to link the world's largest containership company (Mediterranean Shipping Company (MSC)) to the Port of Baltimore for the next century. Nearly $1B will be invested in the terminal and it will serve as an important economic driver for the region, estimated to provide over 1,000 local jobs. The terminal will provide the Port of Baltimore a major competitive advantage along the U.S. Eastern Seaboard, allowing Baltimore and Maryland to remain competitive with other major East Coast ports for years to come and even gaining a substantial advantage over other ports. The new facility will be located less than 50 miles from Washington, D.C., and will serve the third largest consumer market in the U.S. The new terminal will also have an intermodal yard with on-terminal rail access at Coke Point, which will take advantage of the closest link to the Midwest from any of the U.S. ports.

The TPA/TiL JV has initiated consultation and coordination with the US Army Corps of Engineers (USACE) and anticipates that an Environmental Impact Statement (EIS) will be required as part of the permitting process to comply with the National Environmental Policy Act (NEPA). We presented our project at the June 28 Joint Evaluation Committee to introduce the project to committee members. To facilitate the development of the EIS, the JV is initiating discussions with the Maryland Historical Trust (MHT) and other agencies regarding the proposed project and pertinent information that will be needed to complete a thorough analysis of the proposed project, including alternatives, potential impacts, and required mitigation efforts. We are writing to provide background information on the proposed project.

Sparrows Point Container Terminal – Overview

The proposed SPCT will be located in Baltimore, Maryland within the Tradepoint Atlantic Development, on a +/- 168-acre area on the southwest peninsula of Sparrows Point known as Coke Point (Figures 1 and 2). The historical uses of this site include coking operations as part of the former Bethlehem Steel Mill. The site is currently undeveloped. The proposed terminal will

Structures: ZNA ELR 8/22/2023

SPCT

consist of a +/- 3,000 ft wharf with STS cranes, a container yard, gate complex, Intermodal/Rail Yard and various support structures. To provide vessel access to the wharf, the project includes dredging and placement of an anticipated 3.5 – 4.5 million cubic yards of dredged material for the necessary widening and deepening of the existing access channel and turning basin. The proposed project plan also includes the potential construction of an offshore Dredged Material Containment Facility (DMCF) on the west side of Coke Point to provide placement capacity for a portion of the dredged material. Other placement options, such as innovative re-use, ocean placement, and upland placement onsite or offsite at other permitted facilities are also being assessed to accommodate a portion of the dredged material. Figure 2 provides an overview of the area being evaluated for the proposed offshore DMCF.

Proposed Next Steps

As discussed during the 28 June JE Meeting, we have identified several studies that may be needed to inform the NEPA/EIS process (Attachment A). With respect to cultural resources, we know the Sparrows Point peninsula includes the Sparrows Point Shipyard District and contributing properties. Our proposed project is located south of this district. We plan to complete a review and analysis of existing information regarding known historic properties within the proposed project area (Figure 2). We have not yet identified a proposed area of potential effect (APE). Alternatives development is ongoing and some alternatives under consideration include areas outside the current project area. We will develop a proposed APE for your review once our research is complete and alternatives development has advanced so that we understand the extent of the proposed action.

Once we complete our initial review of existing information and have developed our proposed APE, we will provide this information to you and request to officially initiate Section 106 consultation. Thank you again for your participation in the JE meeting. We appreciate your time and input, and your interest and willingness to work with us on this important project for the JV, the Port of Baltimore, and the local region.

Sincerely,

P Haid

Peter Haid
Senior Vice President, Environmental
Tradepoint Atlantic
T 443.649.5055 C 732.841.7935
phaid@tradepointatlantic.com

Attachment A – preliminary list of proposed studies

SPARROWS POINT CONTAINER TERMINAL
PORT OF BALTIMORE

Dixie Henry
Review and Compliance
Maryland Historical Trust
100 Community Place, 3rd Floor
Crownsville, MD 21032

April 26, 2024

Subject: Section 106 Agency Coordination for the Proposed Sparrows Point Container Terminal (SPCT) - Underwater Archeological Surveys

Dear Ms. Henry,

As a follow-up to the February 28, 2024, Joint Evaluation (JE) Meeting, attached for Maryland Historical Trust (MHT) review is an underwater archeological survey performed on the Coke Point Dredged Material Containment Facility Area of Potential Effect in 2012. This area coincides with the current SPCT project area. The attached study, *Phase I Submerged Cultural Resources Investigation for the Coke Point Dredged Material Containment Facility at Sparrows Point, Baltimore, Maryland* was competed by R. Christopher Goodwin and Associates to support a proposed project by Maryland Port Administration. The study includes an overview of previous studies in the area and underwater surveys conducted in 2012 within the current project area (Figure 1). We are providing this document for your review and use for the SPCT project.

Should you have any questions or require additional information, please do not hesitate to reach out. We look forward to continued coordination with MHT on this project.

Sincerely,

P. Haid

Peter Haid
Senior Vice President, Environmental
Tradepoint Atlantic
T 443.649.5055 C 732.841.7935
phaid@tradepointatlantic.com

CC: Maria Teresi, USACE, Baltimore District
Attachment A – *Phase I Submerged Cultural Resources Investigation for the Coke Point Dredged Material Containment Facility at Sparrows Point, Baltimore, Maryland;* R. Christopher Goodwin & Associates, Inc., 2012.

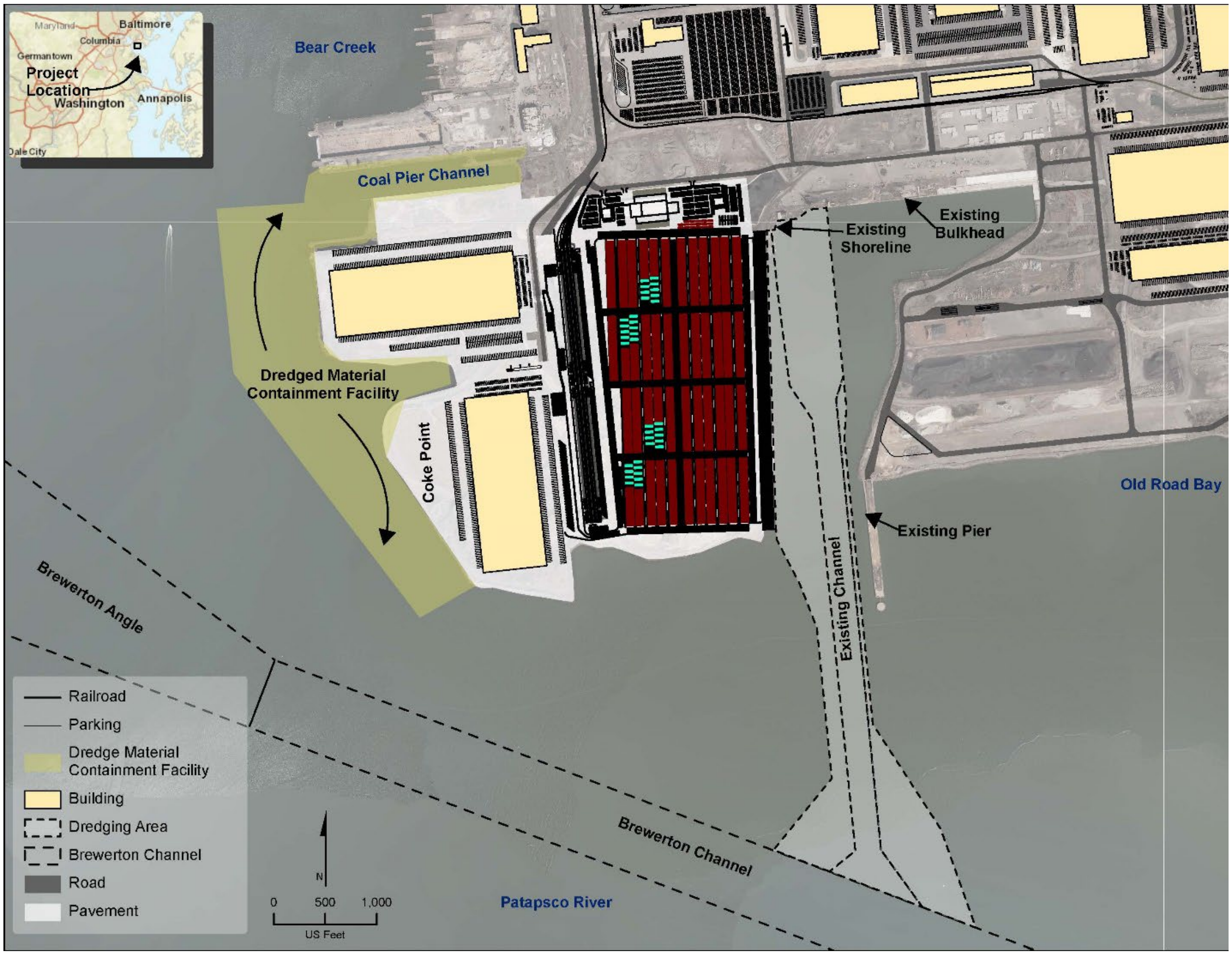


Figure 1. Sparrows Point Container Terminal General Arrangement and Offshore DMCF

JOINT EVALUATION COMMENT FORM
U.S. ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
MARYLAND

COMMENTING AGENCY:

☐	Environmental Protection Agency	☐	Maryland Department of the Environment
☐	NMFS Habitat Conservation and Ecosystem Services Division	☐	Maryland Department of Natural Resources
☐	National Marine Fisheries Service Protected Resources Division	✓	Maryland Historical Trust
☐	U.S. Fish and Wildlife Service	☐	United States Coast Guard
☐	Other:		

CAT B Coordination:

☐	Exceeds Cat A Thresholds
☐	NHPA Coordination
☐	Exempt State Activities
☐	U.S. Coast Guard
☐	ESA FWS

APPLICATION: NAB- NAB-2023-61200 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal)

AUTHORITY: ✓ Section 10 of the Rivers and Harbors Act ✓ Section 404 of the Clean Water Act

PERMIT TYPE:

☐	MD-SPGP-6	Category ☐ A ☐ B	Activity:
☐	Nationwide Permit (2021)	#	
☐	TMDL-RGP		
☐	Letter of Permission		
✓	Individual Permit	PN# 25-06	Link: https://www.nab.usace.army.mil/Missions/Regulatory/Public-Notices/Public-Notice-View/Article/4024758/spn-25-06-nab-2023-61200-m

DESCRIPTION OF WORK:

The purpose of this joint public notice is to announce the scheduling of joint public hearings, and to solicit comments from the public regarding the application, water quality certification request, and draft Environmental Impact Statement (EIS) for the proposed Sparrows Point Container Terminal in the Patapsco River, Baltimore, Maryland.

Please refer to the detailed purpose and work description in the SPN 25-06 located at the link above.

The comment period closes on March 21, 2025.

LOCATION OF WORK: In the Patapsco River at Sparrows Point, Baltimore County, Maryland.(Latitude: 39.202827, Longitude -76.488273).

COMMENT PERIOD ENDS: 15 days from 1/10/25
30 days from 1/10/25 for MHT and NMFS-HESD

COMMENT: (**ALL** -Please respond within **15 days** of this notification for the shaded items.)

☐	NO ACTION (No review by agency)
☐	NO COMMENT (Agency reviewed with no feedback)
✓	NO OBJECTION (Agency reviewed)
☐	CONCUR
☐	AUTHORIZATION BY MDSPGP/IP/NWP IS APPROPRIATE
☐	AUTHORIZATION BY MDSPGP/IP/NWP IS APPROPRIATE WITH CONDITIONS (specified below)
☐	WILL SEND LETTER INDICATING COMMENTS
☐	INDIVIDUAL PERMIT REVIEW SHOULD BE REQUIRED (justification below)
☐	REQUEST ADDITIONAL INFORMATION (specified below)
☐	PROJECT SHOULD BE DISCUSSED AT JOINT EVALUATION MEETING

APPLICATION:

☐	30-DAY EXTENSION OF TIME REQUESTED TO COMPLETE REVIEW

DETERMINATION:

WETLANDS LICENSE/PERMIT/WATER QUALITY CERTIFICATION	
☐	Has been issued:
☐	Will probably be issued with special conditions (specified below)

HISTORIC AND ARCHEOLOGICAL PROPERTIES CONSULTATION	
✓	No historic or archeological resources present
☐	A review of MHT files and your submittal indicates that this project is unlikely to affect significant historic and archeological properties
☐	Potential affect (will send letter indicating comments)

FISH AND WILDLIFE COORDINATION ACT (FWCA)	
☐	No FWCA recommendations necessary
☐	FWCA recommendations provided below. Note: A response to NMFS is not required If only FWCA recommendations are issued. Please send an electronic copy of the permit, if issued

ESSENTIAL FISH HABITAT CONSULTATION (Magnuson-Stevens Fishery Conservation and Management Act)	
☐	No additional EFH Conservation Recommendations (CRs) are necessary to protect EFH
☐	NMFS has issued an EFH general concurrence or programmatic CRs that apply to this action
☐	Due to the nature and scope of the action, an expanded EFH consultation is necessary
☐	EFH Conservation Recommendations are necessary (specified below)

Submerged Aquatic Vegetation: within 50 feet of Virginia Institute of Marine Science (VIMS) mapped SAV for the most recent 5-year period. ☐ Y ☑ N

Attached EFH Assessment Worksheet ☑ YES ☐ NO (the proposed project is not within designated EFH)

ENDANGERED SPECIES ACT CONSULTATION	
☐	Federally listed rare, threatened, or endangered species
☐	State listed rare, threatened, or endangered species

NLAA Verification Form forwarded to NMFS-PRD under separate email ☐ YES ☐ NO (No Effect) ☐ N/A (non-tidal)

REMARKS:

COMMENTS:

SIGNATURE OF REVIEWER: ____________________________________ DATE ________________
(*Please select agency at top of form.*)

CORPS POINT OF CONTACT:

Maria N. Teresi
maria.teresi@usace.army.mil

MDE POINT OF CONTACT:

Matt Wallach
matthew.wallach@maryland.gov

From:	Teresi, Maria N CIV USARMY CENAB (USA)
To:	Dixie Henry -MHT-
Cc:	Davia, Joseph P CIV USARMY CENAB (USA); Nasteff, Nicole M CIV USARMY CENAB (USA); Matthew Wallach -MDE-; Troy Nowak -MHT-
Subject:	NAB-2023-61200 (Sparrows Point Container Terminal) // Continuation of Consultation Under the NHPA, Section 106 for the Proposed SPCT
Date:	Wednesday, July 9, 2025 2:53:00 PM
Attachments:	SPCT Temporary Diffuser Figures_2025.June.pdf

Good afternoon Dixie,

The Corps prepared a Draft Environmental Impact Statement (EIS) to evaluate the proposed Sparrows Point Container Terminal (SPCT) in Baltimore County, Maryland. The purpose of this email is to provide updates on the Preferred Alternative.

Following public comment on the Draft EIS, additional investigations, and continued engineering analysis by Tradepoint TiL Terminal, LLC (TTT), a new alternative for dredged material placement was developed. This new alternative was developed based on the results of additional geotechnical evaluations and design progression at both the Coal Pier Channel and the High Head Industrial Basin and subsequent chemical testing of sediments in the proposed exterior dike alignment for the Coal Pier Channel Dredged Material Placement Facility (DMCF). Results of the geotechnical investigations indicated that the dike of the High Head Industrial Basin DMCF could be elevated incrementally to provide more dredged material placement capacity. In addition, results of the geotechnical and sediment chemical testing along the exterior dike of the proposed Coal Pier Channel DMCF indicated that although the DMCF was feasible to construct at this location, both the geotechnical and chemical properties of the sediments would pose constructability and environmental challenges. Furthermore, the Coal Pier Channel DMCF would place dredged material in tidal waters, while using the High Head Industrial Basin DMCF for placement of this dredged material would eliminate the need to place dredged material in tidal waters. For these reasons, it was determined that the Preferred Alternative in the Final EIS should not include the Coal Pier Channel DMCF, instead it should include an increase in the height of the dike and the capacity of the High Head Industrial Basin DMCF.

Concurrently, as TTT was refining the design of the High Head Industrial Basin DMCF, TTT determined that a new temporary outfall with a multiport diffuser would be required off the west side of the shipyard to accommodate effluent discharge from dredged material dewatering at the High Head Industrial Basin DMCF. The leader pipe to the new temporary outfall would be routed over land to the west side of the shipyard and the feeder line would extend offshore / channelward approximately 500 feet from the shoreline (Figure 1). The effluent from the dredged material dewatering would flow to the new temporary outfall through a 24-inch diameter pipe and feeder line to an approximate 100-foot long, 18-inch multiport diffuser head aligned perpendicular to the current. The temporary diffuser system would be south of, and outside the footprint of, the Bear Creek Superfund Site. The feeder line from the new temporary outfall would be secured on the bottom using straps / clamps and anchors. The existing National Pollution Discharge Elimination System (NPDES) permit would be modified as necessary through the Maryland Department of the Environment Wastewater Pollution Prevention and Reclamation Program. The diffuser system would only be operational for the duration of active dewatering and consolidation of dredged material at the High Head Industrial Basin DMCF.

In 2024, TTT provided a previous underwater study of the project area, *Phase I Submerged Cultural Resources Investigation for the Coke Point Dredged Material Containment Facility at Sparrows Point, Baltimore, Maryland*, competed by R. Christopher Goodwin and Associates (RCG&A) to support a proposed project by Maryland Port Administration. The study included an overview of previous studies in the area (Figure 2). One of the studies reviewed in the 2012 report was a 2005 survey that covered the area where the temporary outfall and diffuser would be located. “In 2005, RCG&A acting on behalf of the MES [Maryland Environmental Service], conducted field investigations in three discrete project areas within the greater Baltimore Harbor (Pelletier et al. 2005).” Pelletier et al. (2005) concluded that “none of the identified targets were assessed as representing archeological resources eligible for listing in the National Register of Historic Places.” Pelletier et al. (2005) “also analyzed the sites of two previously charted wrecks in the Sparrows Point area. Each site revealed dense sets of magnetic anomalies and in one case, acoustic anomalies consistent with historic wrecks. The report recommended that these potential wreck sites should be avoided.”

Based on this report, the Corps has determined that the temporary outfall and diffuser could be constructed and installed while avoiding impacts to known underwater archaeological resources. Furthermore, an inadvertent discovery plan would be in place during construction activities. Therefore, the Corps has determined that there would be *no adverse effect to cultural resources*. We kindly request MHT’s comments within 30 days of receipt of this email. If you have questions or require additional supporting information, please let me know.

Thank You,
Maria N. Teresi
Biologist, MD North Section
USACE, Baltimore District, Operations Division, Regulatory Branch

ofc: 410.962.4501
cell: 410.375.0398
email: maria.teresi@usace.army.mil

From: Maryland Historical Trust
To: Teresi, Maria N CIV USARMY CENAB (USA)
Subject: [Non-DoD Source] MHT e106 project review – MHT Completed Comments
Date: Friday, July 11, 2025 5:22:00 PM

Date:	July 11, 2025
To:	Maria Teresi USACE
Project Name:	Standard Individual Permit (EIS) Agency Coordination Request: (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal)
County:	Baltimore County
Agency:	Corps of Engineers
Project #:	NAB-2023-61200
Second Agency:	-- Not noted --
MHT Log #:	202503509

MHT Response: Thank you for providing the Maryland Historical Trust the opportunity to comment on the above-referenced undertaking using the MHT e106 system. The Maryland Historical Trust has reviewed the submitted project for its effects on historic and archeological resources, pursuant to Section 106 of the National Historic Preservation Act of 1966 and/or the Maryland Historical Trust Act of 1985. We offer the following comments and/or concurrence with the agency's findings:

No historic properties will be affected by the proposed undertaking. Additional consultation with our office may be required if there are any significant changes in project scope or location.

Thank you for your cooperation in this review process. Since the MHT response is now complete, this response will appear in the Completed section of your project dashboard. No hard copy of this response or attachments will be sent. If you have questions, please contact the following MHT project reviewers:

Troy Nowak troy.nowak@maryland.gov

Maryland Historical Trust
Project Review and Compliance
100 Community Place
Crownsville, MD 21032
mht.section106@maryland.gov

MHT.Maryland.gov
Planning.Maryland.gov

State of Maryland Dredged Material Management Program

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MDOT
MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

August 12, 2024

Kerry Doyle
Managing Director
Tradepoint Atlantic
1600 Sparrows Point Blvd.
Baltimore, MD 21219

Dear Mr. Doyle,

This letter concerns Tradepoint TiL Terminal, LLC's ("Tradepoint's") request to the Maryland Port Administration (MPA) for the ability to place dredged material at MPA's Cox Creek and/or Masonville Dredged Material Facilities (DMCFs) associated with its application to the U.S. Army Corps of Engineers for a permit to construct the Sparrows Point Container Terminal (SPCT Project). It is MPA's understanding that Tradepoint anticipates that it will need placement capacity for approximately 4.2 million cubic yards of dredged material removed to widen and deepen the existing access channel and turning basin that will serve the SPCT Project.

As we have discussed, in Maryland, dredged material is managed through the State of Maryland's Dredged Material Management Program (the "State's Dredged Material Program") which is rooted in the Dredged Material Management Act of 2001 codified at Md. Code Ann., Envir. ("Envir.") § 5-1101, *et seq.* The State's Dredged Material Program is a comprehensive process used to establish short-term and long-term placement capacity requirements, develop long-term dredging placement plans, and to identify potential new placement sites. The State's Dredged Material Program relies on, and incorporates, input from a variety of stakeholders, including citizens, environmental groups, and State and Federal agencies.

Due to the limited available placement capacity at MPA's Cox Creek and Masonville DMCFs, and the fact that the Cox Creek DMCF is identified as the federal standard for dredged material that North Atlantic Branch of the U.S. Army Corps of Engineers dredges from the Baltimore Harbor Channel segments of the Baltimore Harbor and Channel federal project, the State must prioritize conserving capacity at the Masonville and Cox Creek DMCFs for maintenance dredging of the Federal 50-foot navigation channel that serves all the private and public marine terminals in the Port of Baltimore. Based upon a careful evaluation of dredging projects already scheduled for placement at Cox Creek and Masonville, and after conserving 560,000 cubic yards of capacity per year for the U.S Army Corps' Federal 50-foot maintenance project, MPA has determined that it could accept a total of 1.25 million cubic yards of dredged material from the SPCT Project phased over four years in the amounts as follows:

- Fiscal Year 2026 – 350,000 cy
- Fiscal Year 2027 – 200,000 cy
- Fiscal Year 2028 – 400,000 cy
- Fiscal Year 2029 – 300,000 cy

Finally, please note that notwithstanding MPA's commitment to reserving this capacity, any placement of dredged material from the SPCT Project is subject to Tradepoint's submission of an application for each phase of dredging and placement, MPA's approval of the application, execution of MPA's Right of Entry Agreement for Placement at the DMCF, and all other applicable law and permitting, including, but not limited to, physical and chemical characterization of the dredged material complying with MPA required specifications.

MPA greatly appreciates the strong partnership we have developed with TPA, and it looks forward to continuing to work together to deliver a strong, resilient and competitive Port of Baltimore.

Sincerely,

Robert Munroe
Deputy Executive Director

Cc: Jonathan T. Daniels
Holly Miller

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

Wes Moore
Governor
Aruna Miller
Lieutenant Governor
Paul J. Wiedefeld
Secretary
Jonathan T. Daniels
Executive Director

November 19, 2024

TO: USACE Baltimore District Regulatory 408 POC

SUBJECT: Request to Alter US Army Corps of Engineers Civil Works Projects Pursuant to 33 USC 408 – **Local Sponsor Statement of No Objection**

The Maryland Port Administration (Sponsor) is the Non-Federa1 Local Sponsor to the U.S. Army Corps of Engineers Baltimore District for the *Baltimore Harbor and Channels Project (Brewerton Channel)* Civil Works Project (USACE Project).

The Sponsor is aware of the Section 408 Request by the Sparrows Point Container Terminal to alter the USACE Project to deepen and widen the existing Sparrows Point approach channel and basin to support the construction of a marine terminal at Coke Point.

The Sponsor does not object to the Section 408 Request nor its review by the U.S. Army Corps of Engineers.

Sincerely,

Holly L. Miller
Director of Navigation, Innovation, and Stewardship
Maryland Port Administration

Appendix C: Public Review of the Draft Environmental Impact Statement – Comments and Responses

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APPENDIX C: PUBLIC REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT – COMMENTS AND RESPONSES

The Draft Environmental Impact Statement (EIS) for the Sparrows Point Container Terminal was made available to federal, state, and local agencies, Tribes, and the public for review and comment for 60 days. The US Army Corps of Engineers (Corps) published a Notice of Availability for the Draft EIS in the Federal Register, dated January 10, 2025, concurrent with the start of the 60-day public comment period. Additionally, interested organizations and individuals were sent the Notice of Availability. Two public hearings were held during the 60-day public comment period — an in-person public hearing on February 25, 2025, and a virtual public hearing on February 27, 2025. The purpose of these hearings was to receive public comment on the Draft EIS, the impacts analysis, and proposed mitigation. Comments were accepted through March 11, 2025. A total of 59 written letters were received, and additional comments were received through oral testimony at both public hearings.

As noted in Section 6.5.1 of the Final EIS, the Corps received comments in support of and opposition to the proposed action. Some commenters asked detailed questions about aspects of the impact analysis. Commenters also expressed concern about proposed mitigation and the potential impacts on natural and recreational resources. As noted in Section 2.1.1 of this Final EIS, following public comment on the Draft EIS and based on continuing design and investigations, the applicant altered their proposed project (the Preferred Alternative in this Final EIS) to remove the construction of an in-water DMCF. With this change the need for federal mitigation was eliminated, also eliminating concerns associated with the proposed mitigation.

This appendix provides the agency and public comment letters that were submitted during the public comment period. In Tables C-1 and C-2, the Corps has summarized the substantive comments received from agencies and the public, respectively, and provided responses to those summarized comments.

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Agency Comments

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KATHERINE A. KLAUSMEIER
County Executive

HORACIO TABLADA, *Director*
Department of Environmental Protection and Sustainability

March 19, 2025

Matt Wallach
Natural Resources Planner
Tidal Wetlands Division
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230

RE: MDE-23-WL-0762/24-WQC-0045/202361518
USACE- SPN-25-06NAB-2023-61200-M07
TRADEPOINT TIL TERMINALS LLC/Sparrows Point Container Terminal
6995 Bethlehem Boulevard
Baltimore, Maryland 21219

Dear Matt Wallach,

Overall, the Baltimore County Department of Environmental Protection and Sustainability (DEPS) is supportive of the Sparrows Point Container Terminal (SPCT) project. Most comments and concerns focus on the disturbance of contaminated sediments and the of feasibility of the proposed mitigation projects.

Environmental Impact Statement - Executive Summary

General Comments

1. The Critical Area Commission (CAC) is in discussion with DEPS concerning the mitigation proposal to convert uplands to tidal wetlands and open water.
2. A bald eagle's nest is in the vicinity of the proposed tidal waters/wetlands creation mitigation areas. Please confirm the distance of the proposed mitigation locations with regard to the nest are appropriate and will not be detrimental to the birds.
3. There are possible contamination issues with the excavation of shoreline in terms of disturbing existing contaminated areas. The shoreline at the new Baltimore County Sparrows Point Park was not disturbed because of contamination on site and the recreation area was required to be capped.
4. Alternative mitigation measures appear more likely to meet with Critical Area approval.
5. Will SPCT be required to complete all mitigation prior to issuance of USACE permit and MDE license?

Matt Wallach
Tradepoint TiL Terminals, LLC/Sparrows Point Container Terminal
March 19, 2025

ES-3 Combined Dredge Material Placement Options Alternative-
High Head Industrial Basin Dredge Material Containment Facility (HHIB)

1. How will the 1.7 MCY of dredge material (DM) be placed? Hydraulic, watertight truck?
2. What is the capacity of the proposed HHIB? Are there plans for future expansion?
3. What is the duration of the dredging/placement operations?
4. Does the HHIB design allow for DM bulking, typically 3 times the volume of dredge material placed?
5. What is the source of the water used to create a slurry for hydraulic placement of dredge material? What is the volume (gallons/day) that will be withdrawn from the water source?
6. Has the water currently in the High Head Pond been sampled to determine if it is suitable for discharge prior to the construction of the HHIB? Will SPCT be required to obtain a discharge permit or Water Quality Certificate for effluent discharge?
7. Will the dredge material be offloaded in close proximity to the EPA designated Bear Creek Superfund site?
8. What conditions will be imposed to ensure sediment from the Superfund site will not be resuspended?
9. What is the "safe" distance for the water intake from Bear Creek to ensure contaminated sediments from the adjacent superfund site are not resuspended and potentially mixed in the slurry placed at HHIB?
10. Will discharge permits be required for the outfall structure(s) of the HHIB DMCF?
11. What water quality standards will to be met prior to discharge into the Baltimore Harbor watershed (Bear Creek) as some sediment will go through the outfall as well as soluble contaminants?
12. How long will the DM take to dewater?

Coal Pier Channel (CPC)

13. Where will the 55,000 CY of contaminated overburden (material) be placed?
14. How long will the placed DM in the CPC take to dewater?
15. What is the duration of the placement operation?

Existing Open Ocean Disposal Site

16. What is the status of the permit authorizing the transport and disposal at the Norfolk Ocean Disposal site?

ES-4 Potential Environmental Impacts
Sediments

17. Was the DM categorization provided by MDE or SPCT?
18. Will construction and dredging activities impact the Superfund site adjacent?
19. Will construction and dredging resuspend sediment from the adjacent Superfund site? e.g. boat wake, prop wash from tug boats, barges, mooring, anchorage, etc.

20. Has there been any hydrodynamic modeling with regard to sediment transport? Will the effluent from the HHIB outfall result in a change to the hydrodynamics to the adjacent Superfund site that will be remediated and capped?

ES-6 Mitigation

21. Is there a need for “restoration” at the proposed mitigation sites?
22. What are the goals of the mitigation sites?
23. Will any of the DM be use beneficially at the mitigation sites?
24. Are there any historical preservation considerations with regard to the African-American owned marina?
25. Has a JPA been submitted for the mitigation site(s) or are they included with the JPA for dredging?
26. The Southeast Peninsula and Craighill Lighthouse Peninsula are exposed to high energy from waves and storm surge. The fetch at these locations ranges between >3.5 miles from the S and SW to >16 miles from the SE.
27. How does the tidal open water transition to upland?
28. How will creating open water by the removal of the Southeast Peninsula impact the adjacent Jones Creek navigation channel? The Southeast Peninsula effectively acts as a jetty.
29. Will the removal of the Southeast Peninsula result in siltation of the Jones Creek Channel and loss of channel capacity?
30. The description of the Bethlehem Boulevard mitigation site is vague. The proposed area is adjacent to the superfund site. Best management practices must be employed to ensure construction activities do not resuspend sediment and/or compromise the cap of the Superfund site. Additionally, the site may not be appropriate for “nature-based solutions” and wetland creation due to the high wave energy from the >4 mile fetch from the southwest.
31. How does removing the High Pier Wharf provide mitigation within the Sparrows Point Channel? The proposed mitigation area is in a shipping channel and will be subject to disturbances from the proposed maintenance dredging and on-going port activities.
32. Derelict Fishing Gear – The proposed locations are not in close is proximity to the impacted area and outside the Baltimore Harbor watershed.
33. Creating and/or seeding oyster reefs at the Fort Carroll location will be challenging as the water typically lacks the salinity for long term oyster survival and reproduction.

Please contact David Riter, Waterway Restoration Supervisor, at driter@baltimorecountymd.gov or at (410-887-2904), if you have any questions related to these comments.

Sincerely,

Horacio Tablada
Director

20 March 2025

United States Army Corps of Engineers
Baltimore District – Regulatory Branch
Attn: Ms. Maria N. Teresi
2 Hopkins Plaza
Baltimore, Maryland 21201

Subject: SPN-25-06 (202361200): Tradepoint TIL Terminals LLC - Sparrows Point Container Terminal, Patapsco River, Baltimore County

Dear Ms. Teresi:

The above referenced project and the associated draft Environmental Impact Statement for the project has been reviewed by the Department of Natural Resources for associated ecological impacts. The applicant proposes to construct a new container terminal in the Port of Baltimore within the Tradepoint Atlantic development on a 330-acre area on the southwest peninsula of Sparrows Point known as Coke Point Peninsula. The proposed terminal would consist of a +/- 3,000-foot marginal wharf with up to nine ship-to-shore cranes, a container yard, gate complex, intermodal/rail yard, and various support structures. To provide vessel access to the wharf, the project would include deepening and widening of the existing Sparrows Point Channel and turning basin, which would require mechanical dredging and placement of approximately 4.2 million cubic yards (MCY) of dredged material resulting from a combination of new work and maintenance dredging. The maximum proposed dredging depth with -2 feet of over depth would be -52 feet at mean lower low water. It is anticipated that post-construction, future maintenance dredging would be required on average once every 10 years resulting in an estimated additional volume of approximately 125,000 cubic yards (CY) of dredged material to be disposed of at that time.

The proposed project would include the construction of an offshore dredged material containment facility (DMCF) on the west side of Coke Point in the existing in-water Coal Pier Channel, to provide placement capacity for a portion of the dredged material. The DMCF would be created by constructing a water-side berm across the mouth of the existing channel, to provide placement capacity for approximately 750,000 cubic yards of dredged material. The DMCF would permanently fill approximately 19.6 acres of tidal waters. Of the remaining dredge material, approximately 1.2 to 1.7 MCY would be placed on-site at the upland High Head Industrial Basin DMCF, approximately 1.25 MCY from the maintenance dredging would be placed at the existing Masonville DMCF located in Anne Arundel County, Maryland and/or Cox Creek DMCF located in Baltimore, Maryland, owned by the Maryland Port Administration, and approximately 1.5 MCY will be barged to Norfolk Ocean Disposal Site (NODS), a designated offshore disposal area located in the Atlantic Ocean, approximately 17 miles from the entrance to the Chesapeake Bay. The High Head Industrial Basin DMCF would involve constructing a DMCF with the capacity to hold 1.2 to 1.7 MCY of dredged material. The DMCF would have an exterior dike elevation of approximately +30 feet, in the existing High Head Industrial Basin located approximately 2.5 miles northeast of the terminal project area within the Tradepoint Atlantic property. Appendix B of the draft EIS outlines a draft mitigation plan for the unavoidable new impacts to tidal waters from the construction and new work dredging. Compensatory mitigation would be achieved through a combination of on-site and off-site mitigation projects.

To ensure that impacts to aquatic resources at the project site are first avoided, and then minimized to the maximum extent possible, we request that the following concerns and recommendations be fully incorporated into the review of the proposed activities:

1. To minimize impacts to spawning anadromous and resident fish species, the proposed dredging of the entrance channel, turning basin and construction of the containment dike across the mouth of the Coal Pier Channel for the DMCF should be conducted during the period 1 October through 31 March of any year.

2. The discussion of the construction for the High Head Industrial Basin DMCF in the draft EIS does not address if the water filling the existing basin will be removed prior to the placement of dredged material and if it would be pumped out of the basin how and where that water be discharged. The plans for the construction of the DMCF should detail the disposal of the water currently in the basin in a manner that does not result in a direct release into the adjacent tidal waters without treatment for quantity and quality before discharge.

3. Proposed compensatory mitigation projects:
    a. The two of the three sites identified in the draft EIS for conversion from uplands to tidal aquatic habitat, North Point and Pleasant Yacht Clubs and Craighill Lighthouse Peninsula have submerged aquatic vegetation documented adjacent to or within 500 yards of the areas to converted from uplands to tidal waters based on the most recent five years of coverage from the annual VIMS Submerged Aquatic Vegetation Surveys. Impacts to submerged aquatic vegetation should be avoided. Any work in the tidal waters at these locations would have a time-of-year restriction during the period 15 April through 15 October of any year.
    b. The removal of the High Pier Wharf should not be counted as part of the mitigation package. The structure was removed in 2018 and should not be retroactively counted as mitigation for this project. In addition, the area which it had occupied is to be dredged to minus 52 feet which will render the area of limited benefit to aquatic organisms and be subjected to periodic maintenance dredging.
    c. Derelict crab pot removal could have a role in the overall mitigation package. However, this mitigation activity is also being considered by other projects which may reduce the viability of this approach as mitigation for this project.
    d. We support the concept of expanding oyster habitat as a part of the mitigation package. The Fort Carroll site identified in the draft EIS is a possibility however it would be worth expanding the potential sites to include areas that could have a higher survival potential of the planted oysters. Mr. Chris Judy (chris.judy@maryland.gov) in the Department's Shellfish Division should be contacted for guidance on the feasibility and suitability of any oyster mitigation associated with this project.

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

Sincerely,

Tony Redman, Director
Environmental Review Program

cc: Matt Wallach, MDE-Tidal Wetlands

REGION 3
PHILADELPHIA, PA 19103

March 20, 2025

Mr. Wade Chandler, Chief
Regulatory Branch
Baltimore District, U.S. Army Corps of Engineers
2 Hopkins Plaza
Baltimore, MD 21201-2903

Dear Mr. Chandler,

Thank you for the opportunity to review the Public Notice and associated documentation for a Clean Water Act section 404 permit application to discharge dredged or fill materials into waters of the United States associated with the Sparrows Point Container Terminal project (NAB-2023-61200) in Baltimore, MD. The public notice was published on January 10, 2025 and closes on March 21, 2025. EPA's review is intended to ensure that the proposed project complies with the Clean Water Act (CWA) Section 404(b)(1) Guidelines ("Guidelines") (40 C.F.R. Part 230), which provide the substantive environmental review criteria for CWA Section 404 permit applications. EPA's comments, provided herein, are based upon the PN, the CWA Section 404 permit application, the provided PRM plan, and site visit conducted on March 6, 2025 with other regulatory and resource agencies.

The proposed terminal would consist of a +/- 3,000-foot marginal wharf with up to nine ship-to-shore cranes, a container yard, gate complex, intermodal/rail yard, and various support structures. To provide vessel access to the wharf, the project would include deepening and widening of the existing Sparrows Point Channel and turning basin, requiring mechanical dredging and placement of approximately 4.2 million cubic yards (MCY) of dredged material. The project would include the construction of two new dredged material containment facilities (DMCFs), one on the west side of Coke Point in the existing in-water Coal Pier Channel, and another at the High Head Industrial Basin DMCF on Tradepoint Atlantic (TPA) property. Material would also be placed at the existing Masonville DMCF located in Anne Arundel County, Maryland and/or Cox Creek DMCF located in Baltimore, Maryland, owned by the Maryland Port Administration, and approximately 1.5 MCY would be barged to Norfolk Ocean Disposal Site (NODS), a designated offshore disposal area located in the Atlantic Ocean, approximately 17 miles from the entrance to the Chesapeake Bay.

EPA recognizes the importance of this project, and we support USACE issuing a final permit consistent with regulations in a timely manner. Based on the information available for review, EPA's enclosed technical outline recommendations on the proposed discharges and compensatory mitigation, for the USACE to consider in determining compliance with the Guidelines.

Please note, additional comments on the project's Draft Environmental Impact Statement (DEIS), prepared Pursuant to the National Environmental Policy Act (NEPA) were provided under a separate cover letter. EPA will continue to work with the applicant and USACE on the requirements to determine suitability of dredge material for ocean disposal from the project area at Norfolk Offshore Disposal Site (NODS), as defined by Section 103 of the Marine, Protection, Research, and Sanctuaries Act. Upon receipt of the Section 103 request from USACE, EPA will compete an independent evaluation of the suitability of material for ocean disposal within 45 days.

Thank you again for the opportunity to provide comments on this project. EPA remains committed to continuing to work with the USACE to address the enclosed comments. Should you have any questions, please do not hesitate to contact Emily French at (410) 305-2679 and Aaron Blair at (215) 814-2070.

Sincerely,

CHRISTINE MAZZARELLA

Digitally signed by CHRISTINE MAZZARELLA
Date: 2025.03.20 12:49:29 -04'00'

Christine Mazzarella, Acting Chief
Wetlands Branch

Cc: Maria Teresi, US Army Corps of Engineers, Baltimore District

Enclosure

Technical Enclosure: SPN-25-06 NAB-2023-61200-M07 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal)

1. To better understand the direct discharges of dredged or fill material, EPA recommends updating the application with a clear tabulation of all proposed permanent impacts, including the open water fill associated with the revetment and the marginal wharf (pilings and shading). EPA also recommends providing a map that includes the location of the marginal wharf and revetment.

After all practicable avoidance and minimization measures have been incorporated, compensatory mitigation is evaluated to offset unavoidable impacts to waters of the United States authorized through the issuance of Department of the Army permits (40 CFR 230.10(d) and Part 230, Subparts H and J). EPA is generally supportive of the conceptual mitigation plan, which incorporates multiple mitigation approaches including open water restoration, multi-habitat restoration and creation, enhancement, derelict crab trap removal, and oyster reef creation/replenishment, both onsite within the Trade Point Atlantic (TPA) property as well as offsite. EPA recommends updating the compensatory mitigation plan based on the following comments.

2. During the March 6, 2025 site visit, the agencies discussed a potential deficit with the compensatory mitigation acreage. EPA recommends updating the mitigation plan with additional opportunities, on or off-site of the TPA property, to address the potential deficit.
3. Removal of the High Pier Wharf is proposed to generate 1.62 acres of mitigation credits of open water, retroactively, since the pier has already been removed. However, this mitigation area would be impacted by dredging operations associated with the proposed project through channel deepening and regular vessel operations. EPA recommends providing additional information to support its inclusion in the mitigation plan and if the credits should be adjusted accordingly.
4. The shoreline at the proposed Bethlehem Boulevard mitigation area, along Bear Creek, is currently comprised mostly of rock, rubble, iron slag, and construction debris and is limiting growth of desirable buffer species. EPA recommends any restoration at this site include removal and proper disposal of the existing shoreline base material. In addition, the Bear Creek mitigation site has the potential to contain industrial contaminants in the offshore and nearshore environments. EPA recommends avoidance of earth disturbance in the areas of known contamination and that clean substrate be placed in the mitigation area to prevent resuspension of legacy contaminants.
5. EPA appreciates the proposed onsite mitigation which includes shoreline restoration and installation of marsh grasses. EPA recommends the applicant provide fetch analyses to support the proposed project and to better understand the energy conditions at the sites and risks of shoreline erosion. An appropriate fetch analysis should include information about wind speed, duration, direction, and distance over water.
6. Please explain whether the four mitigation areas proposed would have sandy beach features, and, if so, whether public access would be restricted in order to protect them while marsh plantings are established. This is particularly critical for the Bethlehem site, which is adjacent to the Bear Creek Superfund site.
7. Much of the mitigation proposed on the TPA property would create shallow water by removing historic disposal materials including slag. EPA recommends developing monitoring methods and

success criteria for these shallow water areas. Monitoring could include water quality monitoring, fish or sediment infauna abundance or diversity, sediment toxicity or fish tissue toxicity. For additional information, please see page 32 of A Review of Compensatory Mitigation in Estuarine and Marine Habitats.[1] EPA is available to assist in development of monitoring methods or performance standards in the final compensatory mitigation plan.

8. EPA recommends the use of natural material, such as stone or oyster or other aquatic organism shell, rather than proprietary materials, such as the Atlantic Reefmaker structures mentioned in the DEIS, which contain PVC, where hard substrate is proposed on or offsite to provide barriers, wave baffling or as surface area for bivalves or other sessile organisms. EPA does not expect appreciable oyster growth on hard substrate placed within on-site mitigation areas consistent with historical rates of oyster growth in the upper Bay.
9. Oyster reef creation and replenishment is included as part of the proposed Mitigation Plan. EPA recommends evaluating restoration opportunities south of the Bay Bridge in more saline waters and in conjunction with an existing restoration effort, so oysters will have a higher likelihood of becoming part of a self-sustaining population. Success metrics can be set using the Chesapeake Bay Program's Oyster Restoration Metrics, which has been used to evaluate large-scale oyster restoration over the past decade in the Bay: https://www.chesapeakebay.net/what/publications/oyster-restoration-success-metrics.
10. It appears there may be opportunities to reuse suitable material excavated from the site such as concrete free of contaminants and exposed rebar. EPA recommends coordination with MDDNR and NMFS-HESD to assist in site-specific design criteria.
11. EPA appreciates the applicant's interest in SAV as mitigation and willingness to use the *Small Scale SAV restoration in the Chesapeake Bay* publication as a guide. EPA recommends consultation with MD DNR to evaluate species and to create monitoring requirements and performance standards. For instance, *Ruppia maritima*, which may be suitable for colonizing degraded habitat, could be better suited than the proposed *Vallisneria americana*.
12. While not currently included in the conceptual mitigation plan, EPA recommends the revised tidal mitigation plan include a site protection mechanism, in accordance with the Guidelines (230.94 and 230.97), that includes prohibitions on activities that would conflict with the goals of the aquatic resource mitigation site.
13. EPA recommends the final compensatory mitigation plan also include:
    a. An explanation of what the DEIS calls "over-excavation to subgrade elevations followed by placement of clean fill materials," including how excavation depths and volumes will be determined;
    b. A description of proposed cobble size and which species is anticipated to benefit from its use;
    c. A justification of the mitigation ratio proposed for derelict crab pot removal.
    d. A long-term management plan for the site, which includes measures addressing invasive species treatment, revegetation methods, re-seeding (of SAV and/or oyster spat) the site at defined intervals in the future, and trash removal.

[1] https://www.epa.gov/system/files/documents/2023-02/Estuarine_Marine_Mitigation_Report_Feburary-2023.pdf

From:	Derrick, Peggy
To:	Pfingsten, Rich
Cc:	Boltz, Suzie
Subject:	FW: Joint USACE and MDE comments on the proposed mitigation
Date:	Friday, March 21, 2025 3:36:09 PM

Peggy Derrick
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From: Matthew Wallach -MDE- <matthew.wallach@maryland.gov>
Sent: Friday, March 21, 2025 3:32 PM
To: Pete Haid <phaid@tradepointatlantic.com>; Derrick, Peggy <pderrick@eaest.com>; Tom Caso <tcaso@tradepointatlantic.com>
Cc: Maria.Teresi@usace.army.mil; Voelker, Nicole M CIV USARMY (USA) <Nicole.M.Voelker@usace.army.mil>; Joe DaVia -CIV USARMY CENAB (USA)- <joseph.davia@usace.army.mil>; Tammy Roberson -MDE- <tammy.roberson@maryland.gov>
Subject: Joint USACE and MDE comments on the proposed mitigation

Pete, Tom and Peggy,

Based on the proposed mitigation discussed in the DEIS, the March 6 site visit, and feedback received from participating resource agencies, MDE and USACE offer the following comments:

Required mitigation:

As previously discussed, MDE and USACE will require mitigation for the fill associated with the DMCF. MDE is also requiring mitigation for the impacts associated with the wharf. For the purposes of State-required mitigation, please add the acreage of all proposed stone placed between the current MHWL and the channelward face of the wharf.

Comments on Mitigation Types:

High Pier Wharf Removal. USACE and MDE will not accept this acreage as mitigation for this project. Please remove this from the proposed calculations.

Open Water Creation:

- MDE and USACE will not grant any credit for the open water creation as a result of the wharf creation. Please do not include this in your calculations.
- MDE and USACE support the proposed open water creation on the West side of the Sparrows Point peninsula. However, we offer the following recommendations: Southeast Peninsula: there should be a breakwater, groin, or some type of wave attenuation feature to protect Old Road Bay from new wave energy that may be caused by the removal of this peninsula. Yacht club locations: Please consider the current North Point Yacht club ramp as the location for the future ramp. This location is the only area along these shorelines where there is no documented SAV and it provides easier access to the channel. Placing the proposed ramp in a cove area may impact SAV and may be susceptible for silting in. We are aware that these recommendations will result in less open water created than 11.6 acres that was proposed. Additional opportunities: USACE and MDE recommend exploring opportunities to create open water including shallow water habitat and low tidal marsh in the area between the finger pier and the Southeast Peninsula on the South Shore of Sparrows Point.

Habitat Creation: Please separate "perimeter sills" from "reefs". If the sill is intended to function as a reef, it must be designed as a reef in order to receive credit. A marsh may be protected with a proposed reef. If that was the proposal, then that reef will be a component of mitigation and will have its own performance standards and monitoring requirements.

Substrate improvements: The only substrate improvements that USACE and MDE will consider will require removal and/or capping of areas that have existing contamination. Please remove any currently proposed shallow water improvements that are based on sand/stone placement that do not involve a cap or removal of contaminated soils.

USACE and MDE recommend that this is reconsidered and is added to the mitigation package. This can be done on or off site, at any area where contamination exists that is currently impacting aquatic organisms and the food web.

Marsh Creation/Marsh Enhancement/Phragmites management: USACE and MDE support this and suggest expanding this. However, please keep in mind that designs that require less fill and have features for aquatic species are preferred. Any marsh creation or enhancement/phragmites management project must have a layer of clean sand placed prior to planting tidal vegetation.

SAV Creation: USACE and MDE recommend consideration for adding SAV planting in Jones Creek, Old Road Bay, and Bear Creek.

Crab pot removal: USACE and MDE will only consider this activity in the immediate and adjacent 8-digit watersheds.

Oyster Reef creation: USACE and MDE will accept a project at Fort Carroll that involves improvements to the bottom substrate (Stone/rubble), seeding with spat on shell - this mitigation will likely involve multiple seedlings including one beyond year 10 to be acceptable at this location.

Based on the proposed mitigation, and our comments above, it appears that you have not met the required mitigation.

USACE and MDE suggest reaching out to the following organization(s):

Greenvest. Greenvest is currently working with Baltimore City on implementing the Middle Branch Resiliency Initiative (MBRI). Some of these projects may be able to qualify as mitigation.

Contact: Andrew Forbes, Senior Project Manager. Andrew@greenvest.com 410-987-5500

Baltimore County. Baltimore County may have shoreline projects identified that can serve as mitigation. These projects must have open water components and should not be dependent on large amounts of fill to improve habitat.

Contact: David Riter, Waterway Restoration Supervisor, Baltimore County. driter@baltimorecountymd.gov 410-887-2904

Chesapeake Bay Foundation (CBF) manages the oyster reef at Fort Carroll. USACE and MDE have agreed to this type of mitigation for another project. USACE and MDE can provide a contact if requested.

USACE and MDE hope for a balanced approach that includes open water creation, shoreline work at TPA, potential MBRI projects or other area project, Fort Carroll Oysters, and substrate improvements with removal/capping - with the largest amount of credit going to open water creation and approximately equal amounts of credit for each of the other projects.

USACE may consider nontidal dam removal in the Patapsco River watershed to meet the mitigation requirement. If this is considered, please note that a dam removal that does not allow access for tidal species will not count for the State's mitigation requirements. However, MDE can consider alternative forms of mitigation for the requirements that exceed the federal requirements.

Matt Wallach
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Sparrows Point Container Terminal
Draft Environmental Impact Statement
NMFS-HESD Technical Assistance
March 13, 2025

On January 10, 2025, the U.S. Army Corps of Engineers Baltimore District (the District) published Special Public Notice 25-06 along with the draft Environmental Impact Statement (dEIS) for the proposed Sparrows Point Container Terminal (SPCT) project. The District is the lead federal agency for this project, which is proceeding under the FAST-41 framework and, as such, is on the Federal Permitting Dashboard. The target milestone for initiation of the Essential Fish Habitat (EFH) consultation is March 16, 2025 with a target completion date on or before May 15, 2025. Based on the information provided, we have determined that we have sufficient information to initiate EFH consultation pursuant to the Magnuson Stevens Fishery Conservation and Management Act. These comments are intended to preview our EFH Conservation Recommendations in pursuit of an efficient permitting timeline.

Prior to initiation of the EFH assessment, NOAA Fisheries' Habitat and Ecosystem Services Division (HESD) staff has reviewed the materials provided along with the dEIS. We also attended a site visit with Tradepoint Atlantic (applicant) and other state/federal agency partners on March 6, 2025. We appreciate these efforts to provide us with complete information to inform our review. During that site visit, we discussed the proposed action, reviewed existing site conditions, and discussed the conceptual compensatory mitigation plan. That site visit and the associated discussions were invaluable to inform these initial comments.

Impacts and Mitigative Measures

(1) The shaded open water habitat underneath the new proposed terminal wharf structure (3.5 acres, approx) is not considered as a permanent impact that should be offset as part of this action. We recommend the district reconsider this approach. The shading and decreased water quality and increased scour/sedimentation effects of large pile supported structures warrant compensatory mitigation. Studies from other similar structures have demonstrated the degraded habitat value of these areas and can be provided upon request.

(2) We typically issue several recommendations associated with dredging of contaminated sediments to mitigate the release of contaminants into the water column where they may be more easily incorporated into the aquatic food web. Many of these measures were described in your EFH assessment and includes the following:

   (a) For mechanical dredging, employ a closed bucket (aka "environmental bucket" dredge

   (b) For mechanical dredging, slow the rate of deployment near the bottom and retrieval near the water surface (i.e., within 2 meters) to the maximum extent possible to mitigate sediment escapement and mobilization.

   (c) To the extent practicable, avoid dredging during periods of peak biological productivity in Chesapeake Bay (i.e., generally April 15 through October 15) to minimize transfer of suspended contaminant-laden sediments into aquatic food web. Dredging contaminated areas within this time frame should be conducted behind a turbidity curtain to minimize the spread of contaminated sediments.

    (d) Employ a water-tight scow to receive and transport dredged sediments and prohibit any overflow of waters from the scow during operations.
    (e) Limit overdepth dredging to one (1) foot
(3) Any surface tidal water used to slurry dredged material for placement into the DMCF(s) should only be pumped with proper intake screening (1mm wedgewire screen or better technology with intake velocities ≤ 0.5 feet per second) to mitigate the impingement/entrainment of fish larvae and eggs. Were this activity to be proposed only during winter (i.e., December 1 to February 1) we may not object to a waiver of this condition, as planktonic eggs/larvae are unlikely to be present at this time.
(4) We typically recommend that impact pile driving not occur during the spring spawning season (February 15 to June 15) to avoid impacts to spawning anadromous fish during their migrations, unless a sufficient zone of safe fish passage can be maintained during pile driving operations. Based on the noise modeling results presented, this time of year restriction is likely necessary here during this period of the year, unless the results of in-water monitoring during test-pile operations can demonstrate that such a zone equivalent to half of the Patapsco River at the project location can be maintained at levels below the 150 dB behavioral threshold, likely with the aid of protective measures including contained bubble curtains. The current modeling results call into question whether this zone will be realized, if the assumed attenuation values are realized in the field. We are willing to discuss the details of the noise mitigation plan as details are further developed.
(5) Soft start recommendations for pile driving activities typically include the following language: "Use a soft start each day of pile driving, after a break of 30 minutes or more, and if any increase in pile installation or removal intensity is required. Build up power slowly from a low energy start-up over a 20-minute period to warn fish to leave the vicinity. This buildup shall occur in uniform stages to provide a constant increase in output."
(6) The dredging of contaminated sediments is presented as a net benefit in the dEIS. However the proposed dredging will also create benthic habitats that are exposed to extended hypoxic conditions, as described in your EFH assessment. This will result in depauperate benthic communities in this area. For that reason, it is unclear to us that a net benefit will be realized, as habitat and benthic forage value will be permanently diminished by the action.
(7) Please note that consideration of the effects of climate change are no longer required to be included as part of your EFH assessment and can be removed from the final EIS. We do, however, encourage you to consider the synergistic effects of this action along with well-documented changing environmental conditions such as sea-level rise and marine heat waves (Nardi et al. 2025).

Compensatory Mitigation

The proposed Phase I compensatory mitigation plan (Table 7 reprinted from the dEIS below) includes several proposed actions intended to offset the permanent fill of 19.8 acres of aquatic habitats. We offer the following comments to ensure that a suitable compensatory mitigation plan is developed that will ensure no-net loss of function for our trust resources, in accordance with NOAA's Mitigation Policy for Trust Resources (NAO 216-123).

Table 7. On-Site and Off-Site Mitigation Concepts for Recommended Sites

Mitigation Type	Mitigation Measure	Proposed Mitigation Ratio	Credit (acres)	Yacht Basins, Craighill Lighthouse Peninsula and Southeast Peninsula	High Pier Wharf	Bethlehem Boulevard
Open water restoration action [1]	Uplands conversion to tidal open water and tidal wetlands / multi-habitat restoration and creation	1:1		11.6 acres		
	Tidal open water restoration with wharf / dock and pier removal and shallow to deepwater habitat improvements	1:1		0.34 acres / 2,660 linear feet	1.62 acres	
Multi-habitat restoration and creation action [2]	Perimeter sill (natural stone sill, reef castles / balls)	2:1				0.21 acres / 1,850 linear feet (0.105 acres credit)
	Shallow water bottom substrate and habitat improvements	2:1				6.5 acres (3.25 acres credit)
	Tidal wetland creation with Nature-based Solutions and shallow water habitat improvements	2:1				1.75 acres (0.875 acres credit)
Enhancement and terrestrial action [2]	Invasive species (*Phragmites*) management	4:1		1.05 acres (0.26 acres credit)		1.8 acres (0.45 acres credit)
Derelict crab trap removal [3]	Derelict crab trap removal in middle Chesapeake Bay		1.3			
Oyster reef creation / replenishment [3]	Oyster reef restoration / seeding at location to be determined		TBD			
Totals Credits [4]	**Total credits provided = 19.8 acres**		1.3 acres	12.2 acres	1.62 acres	4.68 acres

Notes:
1 – On-Site, In-Kind Mitigation Efforts
2 – On-Site, Out-of-Kind Mitigation Efforts
3 – Off-Site, Out-of-Kind Mitigation Efforts – Acreage may be adjusted if additional mitigation acreage needed
4 – Total credits are based on mitigation ratios.

(8) During our March 6, 2025 site visit, the applicant inquired whether the historical degradation of the Coal Pier Channel could be considered when setting compensatory mitigation ratio requirements. We do not support lessening the ratio of offset required for converting tidal open water to an upland dredged material containment facility. This permanent conversion will preclude all future aquatic habitat functions. No habitat equivalency analysis exists to form the basis for such an adjustment, nor were sufficient data collected throughout the 19.8 acre area to justify this adjustment. In other districts, such permanent fills would be required to be offset at a higher ratio (e.g., 3:1) for out-of-kind mitigation. From that perspective, maintaining the proposed 2:1 ratio for out-of-kind enhancement reflects the current functions and values of the Coal Pier Channel.

(9) We anticipated that the creation of open water associated with the Terminal Wharf construction will be of limited ecological value, because these areas will subsequently be

covered by the Terminal Wharf. Therefore, it is unclear whether this area should receive a 1:1 restoration credit as part of the impact calculation.

(10) In those areas where “Open water restoration action” is proposed, the exact details of the restoration approach will be critical to ensure that functions and values are offset through the restoration/creation activities at these sites. For example, we have no indication of the relative breakdown of proposed habitat types, or whether existing special aquatic sites (e.g., submerged aquatic vegetation, intertidal flats, emergent tidal wetlands) will be impacted through these actions. We offer the following general guidance for the proposed on-site restoration projects:

(a) Geotechnical surveys should be completed to ensure that the existing substrates/sediments do not present elevated levels of contaminants, such that the compensatory mitigation projects would enhance the delivery of contaminants to the aquatic foodweb. Thus far, no information has been provided to document the suitability of the underlying sediments to support healthy subtidal/intertidal habitats. Furthermore, any contamination may require measures to mitigate the release of contaminants during project construction. This could include working behind dewatered cofferdams and/or deploying turbidity curtains.

(b) The presence of submerged aquatic vegetation (SAV) has been noted in the vicinity of several considered mitigation sites. Over the past several decades, resource and regulatory agencies have agreed that, if an area supported SAV in any of the past five (5) years of mapping by the Virginia Institute of Marine Sciences (see: https://mobjack.vims.edu/sav/savwabmap/), it constituted SAV habitat. Please ensure that no direct or indirect impacts to this existing habitat are proposed as part of the compensatory mitigation action. Additional surveys during the spring (May 15 - June 15) and summer (July 15 - Sept 15) can help to delineate existing bed extents and inform project design, along with the delineations provided by VIMS. We recommend that the applicant undertake these surveys this spring to facilitate project planning.

(c) Impacts to subtidal habitats associated with the proposed DMCF are best offset through the creation/enhancement of productive aquatic habitats. Subtidal biogenic habitats such as oyster reefs and SAV are among the most productive for fish and nekton. Other productive habitats include fringing low-marsh edge, tidal creeks, and intertidal flats. Irregularly-flooded high marsh, typically dominated by *Spartina patens*, does not provide the same productivity for aquatic resources by virtue of being inaccessible to aquatic organisms at most stages of the tide. As such, high marsh should not be a major component of a mitigation strategy to offset open-water fills. More information about habitat features that support productive aquatic communities and the results of tidal restoration activities are presented in publications such as Litvin et al. (2018), Weinstein et al. (2019), and Broome et al. (2019) and can be provided upon request.

(d) Nearshore areas on-site are not likely to support sustained oyster growth and this benefit should not be claimed/assumed based on the deployment of nature-like wave attenuation structures or other hard bottom substrates (e.g., cobble).

(e) It may be possible to convert uplands to tidal shallows (MLW > depth > - 1m MLW) that support SAV, though this benefit should not be assumed based solely on target elevation, since wave energies and other water quality parameters also dictate habitat suitability for SAV. We would not object to a higher mitigation credit ratio being awarded for the creation of persistent SAV beds, though they would be held to restoration standards that dictate bed extent, species composition, and density. Target restoration areas should only be planted with and dominated by native species (e.g., Vallisneria americana), with non-native constituents comprising a minor proportion of the restoration site. We do not support seeding SAV without associated performance measures as a mitigative approach due, in part, to the potential to waste viable seed in unsuitable/unmanaged areas.

(11) The applicant proposes to satisfy 1.62 acres of open water restoration through the removal of the High Pier Wharf (HPW), which occurred in 2018. We do not support the inclusion of this pier removal in the compensatory mitigation plan for several reasons. First, the removal of a structure 7 years ago is not suitable to offset impacts today, as the current conditions represent the baseline environmental conditions. Second, it is unclear whether the District would typically require that impacts associated with such a structure be offset through compensatory mitigation. Therefore, removing the HPW could not similarly offset impacts associated with DMCF construction. Second, it is unclear whether the permanent fill of the wharf could be considered to account for the entire 1.62 acres, or whether the permanent fill was only associated with the pilings. Certainly the remaining open water underneath the pier was impacted by the shading from the superstructure; however, it is unclear whether the pier removal adequately restored these areas in a manner that offsets the fill associated with the proposed DMCF. Finally, the area restored by the HPW removal will be dredged to -50 ft MLW as part of the activity, further diminishing the value of the restored habitat due to the anticipated incursion of hypoxic waters at those depths.

(12) Three sites are currently contemplated in the dEIS for conversion of uplands to create aquatic habitats. This includes North Point and Pleasant Yacht Clubs, Craighill Lighthouse Peninsula, and Southeast Peninsula. We offer the following comments specific to those sites:

(a) *North Point and Pleasant Yacht Clubs*

(i) Ensure that mitigation activities at this site will not impact existing SAV.

(ii) Any future boat ramp construction should be sited in a manner that does not result in vessel traffic operating through a mapped SAV bed.

(iii) Emergent tidal wetlands likely currently exist at this site and may be impacted by the proposed project. An assessment of these current habitats would help to ensure that areas dominated by native wetland vegetation are incorporated into the overall project plans. Remediation of areas of *Phragmites australis* should be considered enhancement and credited as such.

(b) Craighill Lighthouse Peninsula

(i) Because SAV has been delineated in the cove just to the north of this site, open water creation approaches should include measures to maintain a

suitable wave climate in this area. This could include the deployment of subtidal reef-like structures to break wind-driven wave energy directed from the south.

(c) *Southeast Peninsula*

(i) During the site visit, the applicant indicated that residents at Port Howard expressed concern that the removal of the historical slag fill on the southeast peninsula may adversely affect their properties and navigation channels for recreational boaters. It appeared that this concern may lead the applicant to consider leaving a portion of the existing slag and/or constructing a stone breakwater on this peninsula to attenuate wave energy. We are concerned that such approaches may not maximize the aquatic habitat benefits associated with remediation at this site. Our preferred approach would be to remove all fill material down to an approximate elevation of -5’ MLW and then install reef-like structures to attenuate wave energy while allowing tidal currents to move across the point. This could be presented as a community benefit, as it will likely attract recreationally-valuable fish species such as striped bass, which typically congregate around points where bait is concentrated. Bathymetry data collected around the existing peninsula and surrounding waters would help to inform the design of such an approach and our comments on the proposal.

(13) Potential sites for further evaluation include Coke Point Cove (CPC) and the shoreline and associated bulkhead located to the south of the former powerplant intake canal. We offer the following comments on those two potential sites:

(a) Based on the monitoring results, the CPC appears to support a high density of benthic organisms and serve as an aggregation point for fish, including Alosines. It is also an area that presents elevated levels of contaminants (e.g., benzene, Polycyclic aromatic hydrocarbons [PAHs]) and, thus, may be a hot spot for contaminant delivery into the aquatic food web. Habitat enhancements in this area could improve the existing ecological functions. We recommend that any enhancements here be accompanied with localized sediment remediation (e.g., excavation and/or capping) to minimize the delivery of contaminants to the aquatic food web. We would also request more information regarding how the shoreline in the CPC may be affected by the proposed upland developments and whether it will receive increased upland runoff following site development, which may limit the realized ecological uplift at the site.

(b) The removal of the historical bulkhead at the powerplant intake canal and associated shoreline enhancement may also present similar habitat benefits through wetland enhancement and the removal of the historical bulkhead..

(14) We offer the following comments on the Bethlehem Road site:

(a) Wetland enhancement is proposed through the removal of *Phragmites australis* and, as we understand, this will be achieved through excavation of the existing rhizomes. We support this approach and the associated 4:1 enhancement ratio, provided the underlying sediments at the site are suitable for subsequent wetland establishment. We look forward to working with the applicant to develop a more detailed restoration plan for these wetlands and encourage the incorporation of guidance offered in Comment (10)(c) above to maximize aquatic habitat value of the resulting site. Given the likelihood that *Phragmites australis* could become re-established at the site in the future, we would also expect any enhancement plan to be accompanied by a long-term management plan that details how this invasive species and other potential challenges will be managed in perpetuity.

(b) While we can support terrestrial habitat restoration at this site, it should only fulfill a minor component of the overall restoration action, given the lack of habitat value for aquatic resources. Furthermore, upland remediation should be configured in a way that allows for marsh migration under anticipated sea-level rise. Similar to wetland creation/enhancement measures, terrestrial activities should include a plan that details goals, performance measures, and adaptive management strategies to maximize the habitat benefits of the site.

(c) Based on our discussions during the site visit, the proposed shallow water habitat improvements primarily entails the placement of cobble substrate based on assumed habitat benefits. We are not aware of estuarine fish species in the mid-Atlantic region that prefer cobble substrates and/or use them for spawning activities in settings such as this. Sand would likely be a more appropriate natural sediment type in this area. Therefore, we are not certain that this component of the mitigation plan is appropriate to offset the permanent loss of tidal open water, based on the cursory information provided. We would support shallow water improvement that addressed historical contamination, through sediment removal and/or capping, or the removal of significant marine debris deposits. The applicant expressed concern with contaminated sediment remediation as a compensatory mitigation action, due to potential overlap with the EPA Superfund program, though we still encourage consideration of its inclusion. Finally, any bottom habitat remediation should only be credited as enhancement, similar to the *Phragmites australis* remediation proposal.

(d) The placement of stone sills, while necessary to attenuate wave energy, should not be considered as a compensatory measure. We work to avoid offsetting filling aquatic habitat as a method for offsetting the fill of other aquatic habitats. However, we would not object to the placement of sills as an attending feature to a restoration project.

(15) We may not object to derelict crab trap removal as a minor component of the overall compensatory mitigation package, but note that the creation/restoration of self-sustaining aquatic habitats will likely present a greater benefit for our trust resources.

(16) We support continued evaluation of expanding productive oyster reef habitat within a suitable designated oyster sanctuary (e.g., Fort Carroll, Love Point). For more information on nearby sanctuaries see [MDNR's Shellfish Mapping Tool](). As discussed, this would entail placing suitable material (e.g., clean concrete, cobbles) on the bottom to build vertical relief and then placing spat-on-shell on top of this substrate. Re-seeding will be required to maintain function into the future. Please contact Chris Judy (Chris.Judy@maryland.gov) for guidance from the Maryland Department of Natural

Resource Shellfish Program regarding site suitability and approaches. We also request that you keep NMFS-HESD informed of any developments in this planning.

Works Cited

Broome, S.W., C.B. Craft, and M.R. Burchell. 2019. Tidal marsh creation. pgs 789 - 816 *in* Coastal wetlands: An integrated ecosystem approach, Second Edition. G.E. Perillio, E. Wolanski, D.R. Cahoon, and C. Hopkinson, eds. Elsivier. Cambridge, Massachusetts.

Litvin, S.Y., M.P. Weinstein, M. Sheaves, and I. Nagelkerken. 2018. What makes nearshore habitats nurseries for nekton? An emerging view of the nursery role hypothesis. Estuaries and Coasts 41: 1539-1550

Nardi, R.U., P.L. Mazzini, and R.K. Walter. 2025. Climate change and variability drive increasing exposure of marine heatwaves across US estuaries. Scientific Reports 15:7831.

Weinstein, M.P., R. Hazen, and S.Y. Litvin. 2019. Response of nekton to tidal salt marsh restoration, a meta-analysis of restoration trajectories. Wetlands. 39: 575-585.

From:	Teresi, Maria N CIV USARMY CENAB (USA)
To:	Boltz, Suzie
Cc:	Nasteff, Nicole M CIV USARMY CENAB (USA); Pete Haid; Tom Caso; Derrick, Peggy; Struzinski, Anita; Kristin King; Matthew Wallach -MDE-; Davia, Joseph P CIV USARMY CENAB (USA)
Subject:	FW: [EXTERNAL] SPN-25-06 NAB-2023-61200-M07 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal) - NPS Questions
Date:	Friday, March 7, 2025 10:56:55 AM

Hi Suzie,

We received the following questions from NPS today.

Thank You,

Maria

From: Eberle, Mark D <mark_eberle@nps.gov>
Sent: Friday, March 7, 2025 8:27 AM
To: Teresi, Maria N CIV USARMY CENAB (USA) <Maria.Teresi@usace.army.mil>
Cc: Davia, Joseph P CIV USARMY CENAB (USA) <Joseph.DaVia@usace.army.mil>; Sams, Cheryl A <Cheryl_Sams@nps.gov>; Sauter, Marie <marie_frias@nps.gov>; Stewart, Robert J <Robert_Stewart@nps.gov>; Pardue, Scott <Scott_Pardue@nps.gov>; Ross, Jacob A <Jacob_Ross@nps.gov>
Subject: [Non-DoD Source] Re: [EXTERNAL] SPN-25-06 NAB-2023-61200-M07 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal) - NPS Questions

Hi Maria,

The National Park Service had a few clarifying questions on the Sparrows Point Container Terminal Public Notice. Please see the below bullets:

- As discussed on Page 6 of the project document mitigation options, how will *Phragmites* control be completed and maintained for the life of the project?
- With the removal of the Francis Scott Key Bridge as a limiting factor on the size of container ship traffic in Baltimore Harbor, what maritime traffic studies are planned or underway on the increased size and number of ships that are expected in the project area?
- How will the cumulative effects of this additional ship traffic in the area being analyzed and addressed in the EIS?
- How are the safety and recreational experience of non-commercial water trail traffic traveling on the Captain John Smith Chesapeake National Historic Trail and the Star-Spangled Banner National Historic Trail being analyzed and addressed in the EIS?

Please let me if you need further clarification on our questions or would like to discuss in a

meeting-
Thanks,
Mark

Mark Eberle

External Review Coordinator / Resource Planning Specialist
National Park Service

Interior Region 1, North Atlantic-Appalachian

Resource Planning and Compliance Division

1234 Market Street, 20th Floor, Philadelphia, PA 19107

Cell Phone: 267-315-1631

General Work Hours and Schedule: M: office 8:00am-4:00pm; T-F: telework 8:00am-4:30pm

RPC Division SharePoint Site

NPS Mission: *To conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations. Organic Act, 1916.*

From: Grayson, Chatel S CIV USARMY CENAB (USA) <Chatel.Grayson@usace.army.mil>
Sent: Friday, January 10, 2025 6:31 AM
Cc: Teresi, Maria N CIV USARMY CENAB (USA) <Maria.Teresi@usace.army.mil>; Nasteff, Nicole M CIV USARMY CENAB (USA) <Nicole.M.Voelker@usace.army.mil>; Davia, Joseph P CIV USARMY CENAB (USA) <Joseph.DaVia@usace.army.mil>
Subject: [EXTERNAL] SPN-25-06 NAB-2023-61200-M07 (Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal)

DO NOT REPLY TO THIS EMAIL

Notice to all interested parties:

The U.S. Army Corps of Engineers, Baltimore District Regulatory Branch has published a new public notice on our website. Please click on the following link to view them:

https://www.nab.usace.army.mil/Missions/Regulatory/Public-Notices/Year/

Project Name: Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal

Corps File No.: NAB-2023-61200-M07

Waterbody: Patapsco River

City: Dundalk

County: Baltimore

State: Maryland

Comment Period: January 10, 2025, to March 21, 2025

Current public notices are displayed in chronological order on our website. Click on the specific project link for a full viewing of the public notice documents and its associated drawings (if any) and on the project manager's name to send an email comment directly to the Project Manager.

Comments made in reference to a public notice should include your name, address, and phone number. Also, please be sure to include the public notice number or application number on all correspondence to the District.

REGION 3
PHILADELPHIA, PA 19103

March 17, 2025

Mr. Wade Chandler
United States Army Corps of Engineers
Chief, Regulatory Branch - Baltimore District
2 Hopkins Plaza
Baltimore, Maryland 21201
NAB-SPCT@usace.army.mil

Attn: Ms. Maria N. Teresi

RE: EPA Comments on the Draft Environmental Impact Statement for the Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal Project; Baltimore County Maryland, CEQ No. 20250004

Dear Mr. Chandler:

The U.S. Environmental Protection Agency (EPA) has reviewed the U.S. Army Corps of Engineers (USACE), Baltimore District's Draft Environmental Impact Statement (EIS) for the Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal Project (SPCT or Project), located at Sparrows Point in Baltimore County, Maryland. This letter provides EPA's comments pursuant to the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA). The CAA Section 309 role is unique to EPA. It requires EPA to review and comment on any proposed federal action subject to NEPA's environmental impact statement requirements and to make its comments public.

The proposed Project would construct a new marine container terminal at Sparrows Point. The proposal includes dredging approximately 4.25 million cubic yards of material to widen, deepen, and create a turning basin within the existing Tradepoint approach channel at its connection to the Brewerton Channel. The original proposal included construction of a dredged material containment facility (DMCF) in the Patapsco River that would have resulted in significant permanent impacts to aquatic communities. Therefore, the USACE is proposing a Combined Options Alternative which includes multiple options for dredged material placement, including at the High Head Industrial Basin, Coal Pier Channel DMCF, Masonville and Cox Creek DMCF, and the Norfolk Ocean Disposal Site.

The Project was determined to be covered under Title 41 of the Fixing America's Surface Transportation Act (FAST-41) and was placed on the FAST-41 Infrastructure Projects Permitting Dashboard on September 25, 2023. EPA agreed to participate as a Cooperating Agency for the Project's interagency workgroup in October 2023 and provided comments on its Notice of Intent to Prepare an EIS in February 2024 and administrative Draft EIS in August and October 2024.

EPA's review of the Draft EIS did not identify significant public health, welfare, or environmental quality concerns to be addressed in the Final EIS or supplemental NEPA analysis. We provide the attached recommendations to improve the clarity of the Final EIS and Record of Decision, as well as the environmental outcome of the proposed action. Please note that EPA Region 3's Wetlands Branch is preparing additional comments in response to the Project's Public Notice, which will be provided under separate cover to USACE to support their determination of compliance with the Clean Water Act (CWA) Section 404(b)(1) Guidelines (40 C.F.R. Part 230), consistent with EPA's responsibilities under CWA Section 404. Those comments are referenced generally in the attachment, but not repeated in full.

EPA appreciates the opportunity to review the Draft EIS and looks forward to continued participation in the interagency workgroup. If you have any questions regarding our comments, please feel free to contact me directly at witman.timothy@epa.gov or 215-814-2775, or contact Ms. Jamie Davis, Region 3 NEPA staff contact for the project, at 215-814-5569 or davis.jamie@epa.gov.

Sincerely,

Digitally signed by TIMOTHY WITMAN
Date: 2025.03.17 13:43:25 -04'00'

Timothy Witman
NEPA Branch Manager
US EPA Mid-Atlantic Region 3

cc: U.S. NOAA, Jonathan Watson
U.S. FWS, Ray Li

Enclosure - March 17, 2025
EPA Detailed Technical Comments on the Draft Environmental Impact Statement For the Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal Project

General
Following the Council on Environmental Quality (CEQ)'s interim final rule rescinding the regulations at 40 CFR Part 1500 (90 FR 11221 and 10610), CEQ advises in their February 19, 2025 *Memorandum on the Implementation of the National Environmental Policy Act*[1] that federal agencies should implement NEPA according to their existing practices and procedures consistent with CEQ's final 2020 rule, Executive Order 14154, *Unleashing American Energy,* current CEQ guidance, and the text of NEPA as amended by the Fiscal Responsibility Act of 2023. EPA therefore recommends the Final EIS and Record of Decision avoid referencing 40 CFR Part 1500 and cite statutory authorities and USACE regulations for implementing NEPA where possible instead.

Air Quality
No-Action Alternative
The no-action alternative in this analysis does not use baseline emissions for the general conformity determination for ozone and NOx. The no-action scenario should reflect the current state of the Sparrows Point project area and not take into consideration any future potential alternative industrial or other use.

General Conformity Applicability Analysis/Total of Direct and Indirect Emissions/Supporting Documentation
Net emissions calculations should include the total direct and indirect emissions from the construction and operations phases, per the requirements of 40 CFR 93.158. It is unclear from the general description of site activity and equipment/vehicles/vessels if all activity has been accounted for.

We recommend providing more information detailing how the emissions estimates for the SPCT project were calculated. A more detailed annual schedule of activity/operations and a list of construction and operational vehicles could be provided as an appendix to the Final EIS to clarify the annual activity and the related emissions from such activity. Furthermore, emissions could be broken down in a table by equipment/vehicle type to show the annual activity and related direct and indirect emissions to further delineate the contribution to annual emissions totals for the pollutants covered by general conformity.

EPA recommends that a project schedule/timeline be included as an appendix to the Final EIS that shows the annual activity (e.g., construction schedule), including a detailed list of specific vehicles/ equipment/marine vessels to be used on site during that period (including age, engine size, emissions control category, etc.), as well as the activity/use of that equipment. For direct emissions, this should include all emissions sources at the project site and inside the nonattainment area (including marine activity, such as dredging and supply operations) inside the 3-mile state seaward boundary of the nonattainment area. Indirect emissions should account for activity foreseeably to be caused by the action outside of the immediate project area, but within the nonattainment area. This could include

[1] https://ceq.doe.gov/docs/ceq-regulations-and-guidance/CEQ-Memo-Implementation-of-NEPA-02.19.2025.pdf

additional nonattainment area supply traffic from trucks and marine vessels, employee vehicle emissions, etc.

General Conformity Applicability Analysis/Stated 2027 VOC emissions exceed General Conformity *de minimis* Threshold

Per 40 CFR 93.153, the General Conformity *de minimis* threshold for VOCs in a serious non-attainment area is 50 tons per year (tpy), as indicated in Table 40 of the Draft EIS.

Table 40 shows that the VOC emissions in 2027 are estimated to be greater than 50 tpy, exceeding the applicable *de minimis* threshold for a Serious nonattainment area under the 2015 ozone NAAQS for the annual emissions level of the VOC precursor.

Conformity Determination/Emissions Offsets

If electing to demonstrate conformity through use of emissions offsets under 40 CFR 93.158(d), any required analyses must be completed as part of the final conformity determination. The conformity determination should identify specific mitigation measures and quantify their benefits (which are contemporaneous to the year(s) of the action where mitigation is necessary) to fully offset all emissions of a precursor for years of the action in which the *de minimis* is exceeded. A commitment to purchase available offsets prior to construction, and proof of purchase of those offsets not yet obtained or available, should be included in the final conformity determination. If offsets are not obtainable before the Final EIS or Record of Decision, that decision should contain a condition to do so prior to a final Record of Decision or commencement of project action. Demonstration of general conformity is required prior to commencement of the action.

Permitting

Air permitting requirements such as Minor New Source Review and State Operating Permit requirements are included in Appendix A, but we do not see any discussion of other potentially applicable Clean Air Act requirements such as New Source Performance Standards (NSPS) (40 CFR Part 60) or Maximum Achievable Control Technology standards (MACT) (40 CFR Part 63). While NSPS or MACT may not apply during construction, if there are any permanently installed stationary or backup engines at the site, they may be subject to NSPS or MACT requirements. It would be helpful to clarify this in the Final EIS.

Electrification

The document states on page 214 that "during operation, the terminal would be partially electrified, and the use of shore power would significantly reduce emissions from ships at berth." The document bases emissions estimated in Table 44 on assuming partial electrification. The Final EIS should indicate if there are commitments to implement electrified equipment, and if not, new Operational Emissions will need to be analyzed. The EPA report, *Shore Power Technology Assessment at U.S. Ports – 2022 Update*, may be useful for this analysis, as it compares technical and operational strategies for using shore power systems to reduce emissions at port facilities and includes a calculator tool for estimating site-specific air pollutant emissions reductions from shore power system components. The report and calculator tool are available at the EPA Ports Initiative's Shore Power website.[2]

[2] https://www.epa.gov/ports-initiative/shore-power-technology-assessment-us-ports

The proposal to place 1.5 million cubic yards (MCY) of sediment at the Norfolk Ocean Disposal Site (NODS) will require the material to be transported approximately 175 miles. The Final EIS should identify the number of expected barge trips this will require and the aggregate impact to air emissions over the expected years of this activity.

The EPA publication, *Port Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions*[3] (EPA-420-B-22-011 April 2022), is available at EPA's Ports Initiative website[4] and may be helpful for the Project's emissions analysis.

Water Resources

As stated in our cover letter, the EPA Region 3 Wetlands Branch (WB) is preparing comments in response to the Public Notice which will be provided under separate cover to USACE to support their determination of compliance with the CWA Section 404(b)(1) Guidelines (40 C.F.R. Part 230). Generally, EPA WB is seeking clarity on direct impacts to aquatic resources. Furthermore, while generally supportive of the mitigation concepts proposed, EPA recommends providing additional information, such as the location and suitability of the material to be placed, to better evaluate the adequacy of the proposed mitigation plan to offset the project impacts. We refer you to their letter for specific recommendations.

Based on sediment testing results, a number of contaminants of concern (COCs) appear to be present within the area proposed for dredging. The DEIS states, "the removal of sediments with legacy contaminants would result in an improvement of surficial sediments which would improve water quality," including "contaminants that may serve as a long-term source to the waters around Coke Point and the Lower Patapsco River." As acknowledged in the Draft EIS (Section 4.2), dredging activities may resuspend or expose buried contaminated sediments. To better support the assertion of net water quality improvement and inform implementation of best management practices in Table 5, EPA recommends providing additional information evaluating the potential impacts that could be associated with disturbance of the existing sediment, including any available information regarding how long disturbed sediments are likely to remain resuspended and how far resuspended contaminants are likely to travel from the point of dredging before resettling. Additionally, please clarify the meaning of "long-term source."

Marine, Protection, Research, and Sanctuaries Act (MPRSA)

EPA WB continues to work with SPCT and USACE on the requirements to determine suitability of dredged material for ocean disposal from the project area at Norfolk Offshore Disposal Site (NODS), as defined by Section 103 of the Marine, Protection, Research, and Sanctuaries Act. Upon receipt of the Section 103 request from USACE, EPA will complete an independent evaluation of the suitability of material for ocean disposal within 45 days.

Proposed Mitigation Concepts

The Executive Summary and Section 3.3 state that "proposed mitigation concepts continue to be evaluated and refined. Final mitigation plans will be developed in conjunction with National Marine Fisheries Service's guidance and direction." Additionally, it states "there may be multiple approaches

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[3] https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1014J1S.pdf

[4] https://www.epa.gov/state-and-local-transportation/port-emissions-inventory-guidance

that could be taken to create in-kind or out-of-kind mitigation options for each area." We appreciate the March 6, 2025 agency site visit and encourage continued coordination in the development of mitigation plans, including with EPA's Wetlands Branch who will review mitigation proposals for the project's CWA Section 404 permit compliance.

Appendix B notes that the mitigation site proposed for multi-habitat restoration and creation is located immediately north of the Bear Creek Superfund site. We recommend that SPCT continue to coordinate with EPA's Superfund program and seek opportunities to build upon this remediation work.

For multi-habitat restoration and creation mitigation options, Section 3.3.1 and Appendix B describe how rock and boulder piles, natural cobble, gravel, clean fill, and sand will be placed immediately behind the proposed perimeter sill or reef structures to improve the bottom substrate for the restored habitat. We recommend forthcoming mitigation plans detail how these introduced materials, and the sediments and nutrients that accrete around them, will stay confined within the mitigation area and avoid dispersing into deeper channels of the river.

We recommend identifying in the Final EIS the functional criteria and monitoring and adaptive management framework that will be used to ensure the long-term success of the dredged material disposal and mitigation proposals, in coordination with invasive species management plans.

Invasive Species Management

The Draft EIS discusses Phragmites control in the mitigation proposal but not how other potential terrestrial and aquatic invasive species will be controlled at the mitigation and project areas. Invasive species may spread by construction and maintenance activities, as they typically thrive in disturbed areas, as well as by future shipping activities, via ballast water and hull fouling. The Final EIS and future site operations may benefit from a more thorough evaluation of the current presence and potential future spread of invasive species at the proposed mitigation and project sites, as well as a discussion of best management practices that would reduce their dispersal. Additional information is available at the USDOT Maritime Administration's Water Quality website[5] and 2011 publication, *Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species*.[6]

Biological Resources

The Project is expected to have both temporary and long-term impacts on fish and essential fish habitat. Please ensure the Final EIS discusses the results, current status, and projected schedules for ongoing coordination between the USACE and project sponsors and the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and other stakeholders to address issues as they are identified and to disseminate project updates.

Public Participation

EPA encourages the USACE continue its "policy of open communication with interested parties and invites public participation" to discuss the input and concerns of the affected stakeholders. The Final EIS should describe how concerns or recommendations were used to develop potential mitigation

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[5] https://www.maritime.dot.gov/innovation/meta/water-quality

[6] https://www.maritime.dot.gov/sites/marad.dot.gov/files/docs/ports/office-environment/9576/biofoulingguidelines2011.pdf

options or to further avoid or minimize impacts to human health and the environment, and how the USACE plans to keep the public informed as the project progresses and throughout its mitigation and monitoring period.

From:	Nasteff, Nicole M CIV USARMY CENAB (USA)
To:	Tom Caso; Teresi, Maria N CIV USARMY CENAB (USA)
Cc:	Pete Haid; Boltz, Suzie; Derrick, Peggy
Subject:	RE: SPCT - ESA & EFH Update
Date:	Friday, February 14, 2025 2:00:36 PM
Attachments:	20250210.NMFS_PRD_comments_Draft BA_Sparrows Point Container Terminal_bdh_NN.pdf

Hi Tom,

We recently received feedback on the Biological Assessment (BA) from the NMFS Protected Resources Division for ESA listed species. Mr. Hopper provided comments directly on the BA PDF and I added some additional clarification that I received after a call with Mr. Hopper today.

Thank you,
Nicole

Nicole (Voelker) Nasteff, PhD
Biologist, Maryland North Section
U.S. Army Corps of Engineers, Baltimore District
410.962.1847 (desk)
410.936.0197 (cell)
Nicole.M.Voelker@usace.army.mil

From: Tom Caso <tcaso@tradepointatlantic.com>
Sent: Wednesday, February 5, 2025 3:14 PM
To: Teresi, Maria N CIV USARMY CENAB (USA) <Maria.Teresi@usace.army.mil>
Cc: Pete Haid <phaid@tradepointatlantic.com>; Suzanne Boltz <sboltz@eaest.com>; Peggy Derrick <pderrick@eaest.com>; Nasteff, Nicole M CIV USARMY CENAB (USA) <Nicole.M.Voelker@usace.army.mil>
Subject: [Non-DoD Source] SPCT - ESA & EFH Update

Maria,

We had a call with Fast-41 today, and they were requesting an update on the ESA and EFH documents. Have you heard anything from NFMS on those? I don't believe that we received any feedback on them as of yet. The milestone for the dashboard for those packages to be considered complete is 3/17/25, so I just want to make sure that if there are any deficiencies or additional information needed that we have time to provide it and maintain those milestones.

Let me know what you hear from NMFS, or if we need to set up a discussion with USACE/NMFS to review.

Thanks
Tom

Tom Caso

Vice President

TRADEPOINT ATLANTIC
6995 Bethlehem Blvd
Baltimore, MD 21219
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tcaso@tradepointatlantic.com

Draft
National Marine Fisheries Service Endangered Species Act Section 7 Consultation Biological Assessment for the Sparrows Point Container Terminal Project

Patapsco River, Baltimore County, Maryland

Prepared for

NOAA Fisheries, Habitat and Ecosystem Services Division
Mid-Atlantic Habitat Conservation Branch

Prepared by

US Army Corps of Engineers, Baltimore District

December 2024

1 Introduction

Pursuant to Section 7(a) of the Endangered Species Act, the US Army Corps of Engineers has prepared a Biological Assessment for all proposed actions that occur within coastal waters of the United States. This assessment is being prepared to address the impacts on protected species of the proposed Sparrow's Point Container Terminal (SPCT) Project to construct a new container terminal (the terminal) in the Port of Baltimore (the Port). The action is proposed by Tradepoint TiL Terminal (TTT), LLC, a joint venture between Tradepoint Atlantic (TPA) and Terminal Investments Limited (TIL).

This Biological Assessment is the result of informal agency consultation between the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS or NOAA Fisheries) and TTT. In June 2023, TTT sent a project introduction letter to NOAA Fisheries providing a project overview and requesting initial agency input. NOAA Fisheries responded confirming the list of federally managed species that may occur within the vicinity of the Proposed Action. TTT also coordinated with NMFS in several Joint Evaluation Committee meetings conducted in 2023 and 2024 to discuss agency comments during preparation of the Draft Environmental Impact Statement (EIS) for the proposed action. Additional virtual calls were held with NMFS Office of Protected Resource in October and November 2024 to further discuss project effects.

This document is consistent with requirements specified in Section 7 of the ESA and serves to request NMFS concurrence on the determinations made in Section 5 of the Biological Assessment. This section (Section 1) includes the introduction, purpose, and need as well as the general project location. The remainder of this Biological Assessment is organized as follows:

- Section 2—Description of the Proposed Action
- Section 3—Description of the Action Area Environment
- Section 4—ESA Protected Species in the Action Area
- Section 5—Effects of the Proposed Action on ESA Listed Species
- Section 6—Potential Avoidance and Minimization
- Section 7—Effects of Climate Change
- Section 8—Determination of the Biological Assessment

TTT has separately coordinated with NMFS to evaluate potential impacts to federally listed species and critical habitats in accordance with Section 305 (b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act on impacts to essential fish habitat.

1.1 Purpose and Need

The purpose of the Proposed Action is to develop the SPCT, a new terminal and associated facilities that would be located on Coke Point within the Patapsco River in Baltimore County, Maryland. The action would include terminal construction, dredging a new channel to support the terminal, and placement of the dredged material. The applicant's proposed project would address several economic and shipping logistical concerns. The SPCT project would enhance the economic strength of the Port of Baltimore by increasing its overall container capacity. This, along with the on-dock rail and Howard Street Tunnel project, would increase the throughput of containers through the Port. The proposed project would not

Summary of Comments on App C-04 - Public Comment Letters.pdf

Page: 38

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/3/2025 10:02:18 AM -05'00'

if the BA has been prepared pursuant to section 7 of the ESA, then the assessment will address the impacts of ESA-listed species

Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:35:51 PM -05'00'

suggest replacement of "protected species" with "ESA-listed species under NMFS jurisdiction". Protected species is a more general term than ESA-listed species, which are the focus of this BA.

Number: 2 Author: brian.d.hopperSubject: Comment on Text Date: 2/3/2025 10:04:23 AM -05'00'

you might want to consider rewording this because the BA is really a result of the informal consultation (that would be the LOC), but it is prepared as part of a request for consultation.

Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:37:55 PM -05'00'

The BA is developed as the analysis supporting the request for informal consultation.

The result of the informal consultation would be a Letter of Concurrence (LOC).

only provide direct jobs at the project site but would also provide a foundation for sustained regional economic growth within the Port and throughout the region. By strengthening and growing the Port, the project will enhance the United States' supply chain efficiencies and resiliency.

1.2 Project Location

The proposed SPCT would be located in Baltimore County, Maryland, within the Tradepoint Atlantic development on a 330-acre area on the southwest peninsula of Sparrows Point known as Coke Point Peninsula (Coke Point) (Figure 1). The historical uses of this site include coking operations as part of the former Bethlehem Steel Mill. The site is entirely human-made land, which was created by filling in a portion of the Patapsco River with steel mill slag over several decades. Previously developed areas within the site are currently undergoing demolition and razing of structures. Sparrows Point, with its industrial history, is an example of a brownfield. In recent years, Sparrows Point has been undergoing a major redevelopment initiative aimed at transforming the site into a hub for modern industrial and commercial activities. The SPCT project would continue to redevelop the site.

The Action Area for this project includes the area of in-water and [1] upland work (further described in Section 2), including the construction of a dredged material containment facility (DMCF) in the Coal Pier Channel and in the High Head Industrial Basin, as well as use of the transit routes from Sparrows Point through the Patapsco River, Chesapeake Bay and to the Atlantic Ocean for potential disposal of a portion of the dredged material. Details on the Proposed Action are provided in Section 2.

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/3/2025 10:24:35 AM -05'00'

is there a pathway for the upland work to affect ESA listed species? if not, it wouldn't be considered part of the action area; however, vessel traffic routes to and from the Port should be included.

Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:38:46 PM -05'00'

For example, is upland work completely in the dry? turbidity plumes, acoustic effects, and vessel traffic are examples that should be considered.

Figure 1. SPCT Project Area

2 Description of the Proposed Action

The proposed terminal would consist of a ±3,000-foot marginal wharf with ship-to-shore cranes, a container yard, gate complex, intermodal/rail yard, and various support structures. To provide vessel access to the wharf, the project would include deepening and widening of the existing Sparrows Point Channel and turning basin, which would require dredging and placement of approximately 4.2 million cubic yards (MCY) of dredged material (Figure 2). The proposed project would include the construction of an offshore DMCF within the Coal Pier Channel to provide placement capacity for a portion of the dredged material. A DMCF in the High Head Industrial Basin will receive additional material placement. This is in an upland area of the Sparrows Point site and does not have ESA species. Additional options for disposal of dredged material that may affect waters with ESA species are also discussed in Section 2.2. Details on each in-water activity are presented below.

2.1 Dredging

The existing Sparrows Point Channel would be widened and deepened to provide vessel access to the terminal, and the entrance would continue to connect to the Brewerton Channel (Figure 2). The Sparrows Point Channel would be dredged using a clamshell bucket on a barge. The entrance would be widened to create a turning basin 1,650 feet in diameter, transitioning gradually to a nominal channel width of 450 feet. The vessels would require a minimum berth pocket width of 250 feet adjacent to the channel. Based on the vessel simulations, additional width was added to provide passing clearance between the existing finger pier and the SPCT berth face. To provide additional passing distance while minimizing additional dredged material volume, the berth face would be angled such that the dredging of the berth and channel is wider at the southern end of the terminal and tapers to the north. The navigable depth would be -50 feet mean lower low water. The maximum proposed dredging depth would be -50 feet mean lower low water plus -2 feet of overdepth allowance. Following construction, maintenance dredging of the Sparrows Point Channel would be required. It is anticipated that maintenance dredging would be required on average once every 10 years with an additional volume of approximately 12,500 cubic yards (CY) per year added to the existing maintenance dredging for Sparrows Point Channel.

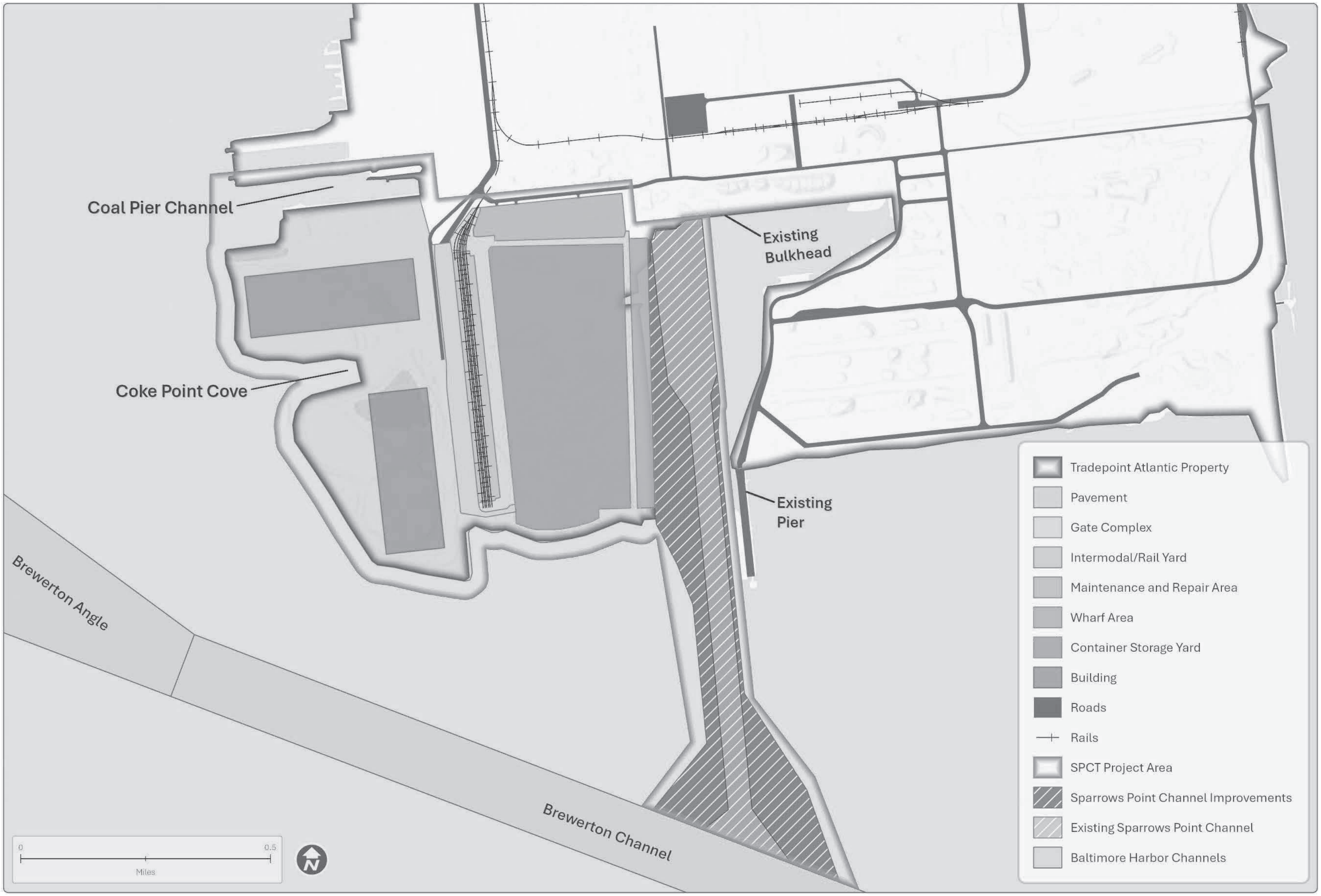
The project would require approximately 4.2 MCY of dredging to meet the required design width and depth for the vessels. The 4.2 MCY of dredged material would include 330,000 CY of slag (discussed below) and approximately 3.87 MCY of dredged material that would not be reused elsewhere on-site and would require appropriate placement.

Dredging would occur as designated by the [1] time-of-year restrictions required to protect aquatic life, as determined through consultation with NMFS and the Maryland Department of Natural Resources (MDNR). Dredging would be staged to align with construction phasing and would also be guided by dredged material placement. As noted above, the total dredged material volume would be approximately 4.2 MCY including approximately 3.87 MCY of silt, clay, and sand material and 330,000 CY of slag. Dredging would be performed mechanically using waterborne equipment, a clamshell bucket, and landside equipment, where possible and practical.

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/10/2025 1:43:54 PM -05'00'
please specify the TOYRs

Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:40:29 PM -05'00'
provide time of year restrictions anticipated to be recommended by the agencies - for example anadromous fish time of year restriction February 15th through June 15th.

Figure 2. SPCT Proposed Action - Terminal and Channel Dredging



Dredging of the wharf area would occur in conjunction with the wharf installation. The first step would be to mechanically excavate in-water slag material from the landside, where practical. The slag would be placed into trucks and transported to a designated on-site stockpiling location for reuse as fill or for dike construction. The remaining slag would be dredged using waterborne equipment, as necessary. The slag would be placed into scows (small barges), transported to shore, mechanically offloaded into trucks, and transported to a designated on-site location for stockpiling and reuse. Dredging of the silt and clay material underneath slag would be performed using waterborne equipment, a clamshell bucket, and landside equipment, where possible and practical. The silt and clay material would be placed into scows and transported to the designated DMCF. The silt and clay material would be mechanically dredged using waterborne equipment and a clamshell bucket. Dredging plans are included in Attachment A.

2.2 Dredged Material Placement

Evaluation of dredged material placement alternatives was conducted by TTT in consultation with the Joint Evaluation Committee in meetings during 2023 and 2024. Numerous placement alternatives were considered and eliminated (Figure 3), while a combination of alternatives was retained and selected as part of the Proposed Action (Figure 3).

2.2.1 Placement Alternatives Considered but Eliminated

The alternatives that were considered but eliminated from consideration include:

- A 100-acre DMCF in the Patapsco River, resulting in a loss of 100 acres of open water. This was eliminated due to agency concern over permanent impacts on the aquatic community.
- An offshore 35-acre DMCF in the Patapsco River (encompassing the Coal Pier Channel), resulting in a loss of 35 acres of open water. The 35-acre concept was further reduced to 19 acres based on combined use of other placement options, including Maryland Port Administration DMCFs and the Norfolk Ocean Disposal Site.
- A DMCF in Coke Point Cove on the west side of Coke Point was considered, but determined not needed, as constructing a DMCF in the Coal Pier Channel would provide more volume for dredged material and avoid loss of the more abundant benthic community within Coke Point Cove.
- Use of an existing DMCF at Hart-Miller Island to place all 4.2 MCY of dredged material from SPCT. This was considered thoroughly and included legislative efforts and a robust public outreach program. The public engagement process revealed long-held community reservations regarding the use of Hart-Miller Island for the placement of dredged material. During this time, TTT was also engaged in discussions with the State Agencies who operate Hart-Miller Island, and these discussions brought forth significant concerns regarding the facility’s readiness to accept dredged material, which introduced considerable risk in achieving the dredged material placement schedule for the project. Ultimately, TTT announced that they had decided to withdraw from the process, expressing concern that the project could affect TPA’s longstanding commitment to community partnerships.
- An upland DMCF at Coke Point was considered. However, constructing an on-land DMCF would limit the constructability and available cargo and container storage space of the proposed SPCT. The viability of the terminal is reliant on the ability to efficiently move goods through the Port and

into the adjacent markets. Losing this location for the buildings would not allow the terminal to function in a way that meets the overall goals of the project.

- Other land-based placement sites in Virigina, New Jersey, and Pennsylvania were considered. All options were either infeasible due to facility limitations, additional transport costs for material, or schedule and economical constraints due to time to transport material (delaying overall dredging operations).

2.2.2 Placement Alternatives Retained with the Proposed Action

The combination of options retained for the Proposed Action represented the most feasible options with the least environmental impacts for dredged material placement and reduced concerns from the community and the regulating agencies. The Proposed Action involves several material placement options (Figure 3):

1. Creation of an in-water DMCF at the Coal Pier Channel to contain dredged material
2. Placement of dredged material in the High Head Industrial Basin on TPA property
3. Ocean Placement at the Norfolk Ocean Disposal Site in the Atlantic Ocean
4. Placement at an existing DMCF managed by the Maryland Port Administration (Cox Creek or Masonville)

The Proposed Action could involve a combination of the options listed above. The High Head Industrial Basin does not contain ESA species. Placement of a portion of the dredged material at the Norfolk Ocean Disposal Site or at existing DMCFs would comply with all applicable permits and approvals for those active sites. Therefore, the description of the Proposed Action and analysis later in this Biological Assessment focuses on the placement option of creating an in-water DMCF at the Coal Pier Channel.

A new offshore DMCF would be at the mouth of the Coal Pier Channel, an in-water area along the west shoreline of Coke Point, to provide placement capacity for dredged material (Figure 3). The DMCF would permanently fill approximately 19 acres of tidal waters. A sand dike would be constructed across the mouth of the basin to provide a containment area for dredged material. This sand dike would be built to an elevation of +15 feet and have a 3:1 side slope protected with riprap. It would be constructed on relatively firm foundation material. The upland perimeter dike would be approximately 4 feet high above grade and would be constructed to an elevation of +15 feet. The estimated capacity of this placement area is approximately 750,000 CY.

Dredged material would be mechanically placed into scows, transported to an offloading location, and hydraulically pumped into the Coal Pier Channel DMCF. Water would be withdrawn from the river to be slurried with the dredged material. Once the sediments are hydraulically offloaded into the DMCF, the water would be recirculated/recycled to the maximum extent possible back to the unloader and used for the continued pumping operation to reduce the amount of additional water needed. Recycling water during pumping would reduce the total volume of water requiring discharge from the DMCF to a permitted outfall.

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/3/2025 12:42:05 PM -05'00'
if this is an option, then it will need to be included in the effects analysis.

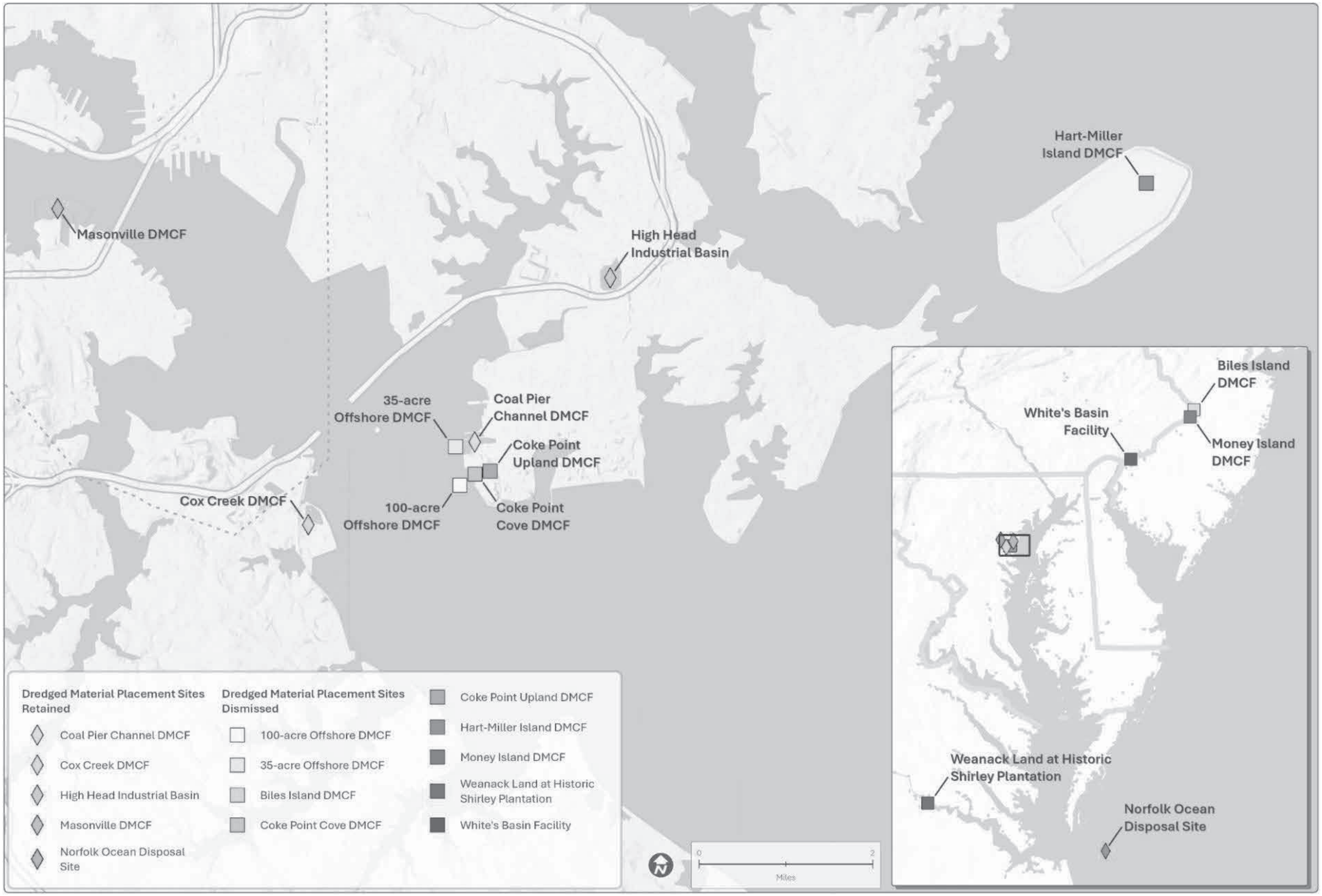
Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:41:08 PM -05'00'
include vessel route to disposal site and water quality impacts when materials are deposited.

Number: 2 Author: brian.d.hopperSubject: Comment on Text Date: 2/3/2025 12:42:40 PM -05'00'
what about Cox Creek and Masonville?

Number: 3 Author: brian.d.hopperSubject: Comment on Text Date: 2/3/2025 1:04:45 PM -05'00'
so construction involves the placement of sand and rip rap, but how?

Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:42:05 PM -05'00'
Info of interest to address this comment: sequence of construction, materials used, equipment (e.g., clamshell), and how material will be placed.

Figure 3. Map of Dredged Material Placement Options Retained and Eliminated



The DMCF perimeter dike would be constructed in phases and the dike material would be placed in phases. Material placement would not exceed the allowable elevation of the DMCF and would maintain a minimum of 2 feet of freeboard. Construction of the DMCF perimeter would be completed in approximately 7 months.

Dredging would be performed in two to three phases, and each phase would be approximately 1 year apart to allow for optimal dewatering and consolidation of the placed material. The volume of dredged material placed into the DMCF for each phase would be appropriate for the DMCF capacity at the time of placement.

2.3 Pile Driving for Terminal Construction

Marine structure design includes an open-type (steel pipe pile-supported) marginal wharf structure, consisting of a steel pipe pile-supported relieving platform integral to the wharf. Piles for the relieving platform would be located on land, not in-water. A pile-supported mooring dolphin would also be installed to allow for safe mooring. Use of a mooring dolphin also minimizes the length of the constructed wharf. The mooring dolphin, accessed by a short catwalk, would be placed at the southern end of the wharf structure, providing a mooring point for vessel mooring lines. Piles for the mooring dolphin and wharf would be located in-water. The wharf would serve as a platform to receive containers offloaded from the vessels. More information on the types and sizes of piles, number of piles to be used and duration of pile driving, and impact on underwater noise is discussed in Section 5. Plans for wharf construction pile driving are included in Attachment A.

Number: 1 Author: brian.d.hopper Subject: Comment on Text Date: 2/10/2025 1:44:58 PM -05'00'

You've included the plans in an attachment, but could you please include information here about the # of piles, size, and installation. Also, is there a TOYR for pile driving?

Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:14:56 PM -05'00'

table if available preferred. if known, duration for driving each category of pile.

3 Description of the Action Area Environment

This section presents a high-level overview of resources and environment within the Action Area, with a focus on resources in or near Sparrows Point as this would be the area of the most direct impacts from the action.

3.1 Sediment

Sediments around Coke Point consist of a soft, fine-grained silty top layer above deep layers of clay and sands. Some surficial sediments along the shoreline of Coke Point contain slag or gravel mixed with the soft, fine-grained sediments from activities on land and from the human-made construction of Coke Point. Within the vicinity of the channel improvements, the silty surface layer overlays deep materials that predominantly consist of native clays in the South Channel and consist of a combination of native clays and sands in the North Channel (Kozera, Inc. 2023; EA Engineering, Science, and Technology, Inc., PBC [EA] 2024a,c).

The column of sediment in the South Channel is uniform with little layering or stratification of material types. Within the deepening area of the South Channel segment, the sediments are primarily comprised of a combination of silt and clay. The column of sediment in the North Channel includes layers of differing material types. Within the deepening area in the North Channel and in the west widener, the silty top materials extend from the sediment surface to varying depths.

Sediments within the Action Area have been the subject of numerous past investigations (EA 2003, 2009, 2010a, 2010b, 2011) as well as recent investigations to support the Proposed Action. The past studies of offshore sediment identified elevated concentration of metals, semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). Results of a subsequent risk assessment found that several offshore areas with impacted sediments on the west and south side of Coke Point contribute to elevated risk for human health and ecological communities. These areas are not proposed for dredging. In previous studies, benzene, ethylbenzene, and toluene were detected in the subsurface sediment near the mouth of the Coal Pier Channel, and sheens and hydrocarbon odors were noted in the subsurface samples on the east side of the Coal Pier Channel and at the mouth of the Coal Pier Channel (EA 2009).

For the Proposed Action, surficial sediment quality was evaluated to support assessment of aquatic resources (EA 2024b) (Figure 4). Surface and subsurface sediment was evaluated to support widening and deepening of the SPCT channel and to assess sediment quality with respect to upland placement of the material within an on-site DMCF and potential ocean placement. Around the Coke Point Peninsula, PAHs and metals are the constituents that most frequently exceed probable effects levels (PELs) for aquatic life. While these areas are not proposed for dredging, they serve as impacted habitat for benthic organisms and many smaller fish that are prey for ESA listed species. Collectively, nine metals, 13 individual PAHs, total PAHs, and dioxin toxic equivalency quotients exceeded PELs in the offshore surficial sediments surrounding the peninsula. The highest total PAHs were detected in surficial sediments in Coke Point Cove on the west side (SPCT23-01) and along the southeast side (SPCT23-06) of Coke Point with concentrations in Coke Point Cove approximately 10 times higher than concentrations on the southeast side of the peninsula. The highest concentrations of metals were detected in the nearshore area on the southwest side of Coke Point (SPCT23-03). The location near the Brewerton Channel (SPCT23-05) was furthest offshore and had the fewest PEL exceedances.

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/3/2025 2:46:20 PM -05'00'

Be sure to include the maximum extent of each stressor in teh action area.

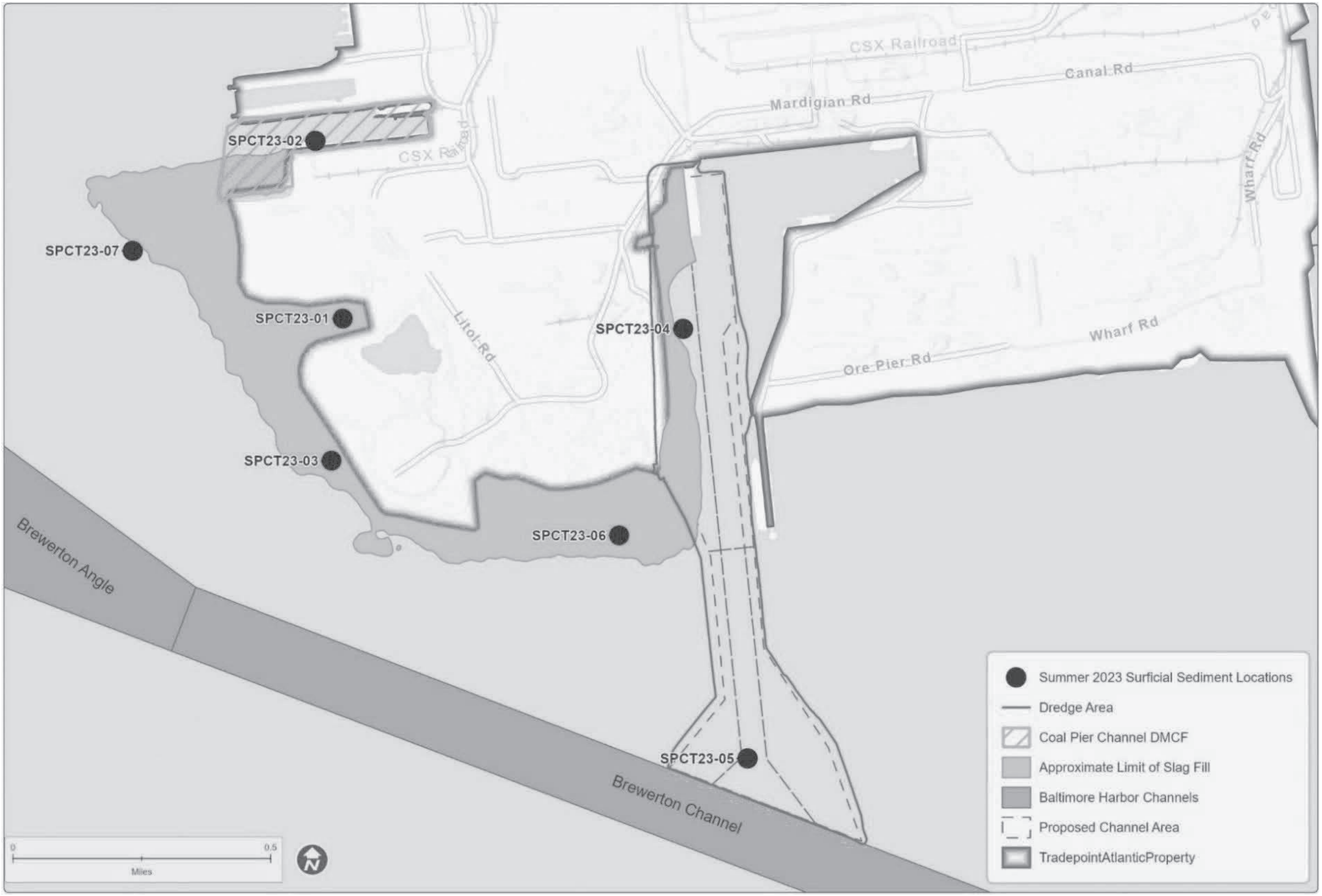
Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:16:01 PM -05'00'

may include the definition of action area under the ESA, includes things beyond direct project footprint.

Number: 2 Author: brian.d.hopperSubject: Sticky Note Date: 2/3/2025 2:08:49 PM -05'00'

The section describing the action area typically starts with this: 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). For this project, the action area includes…

Figure 4. Surficial Sediment Sampling Locations for the 2023 Aquatic Resources Studies



Within the Coal Pier Channel, chemical concentrations of six metals (chromium, copper, lead, nickel, silver, and zinc), two PAHs (acenaphthylene and naphthalene), and the dioxin toxicity equivalency quotient in surficial sediments in the central portion of the channel exceeded PEL values (EA 2024a). These sediments will be encapsulated by the Coal Pier Channel DMCF.

Sediments in the southern portion of the main SPCT channel, which is proposed for dredging, are predominantly fine-grained silts and clays. Metals, PCBs, PAHs, SVOCs, chlorinated pesticides, and dioxin/furan congeners were detected most frequently in the sediments. In the northern portion of the channel, sediments are mostly sand and fine-grained silts and clays. Metals, PCBs, PAHs, SVOCs, chlorinated pesticides, dioxin/furan congeners, volatile organic compounds, total petroleum hydrocarbons, and oil and grease were detected most frequently in the sediments.

3.1.1 Water Quality

Surface water provides habitat and resources for fish and wildlife, means for shipping of goods and for transit of people, and a place for recreation and fishing. State of Maryland surface waters affected by the SPCT project are the tidal waters of the Patapsco River in the vicinity of Coke Point and near the mouth of Bear Creek. The tidal waters surrounding the project area and extending eastward into the Upper Chesapeake Bay are classified as Use Class II (Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting) by the Maryland Department of the Environment. The individual designated uses of Use Class II waters include: growth and propagation of fish, other aquatic life, and wildlife; water contact sports; leisure activities involving direct contact with surface water; fishing; agricultural water supply; industrial water supply; propagation and harvesting of shellfish; seasonal migratory fish spawning and nursery use; seasonal shallow-water submerged aquatic vegetation (SAV) use; open-water fish and shellfish use; seasonal deep-water fish and shellfish use; and seasonal deep-channel refuge use.

3.1.1.1 Physical Conditions

Baltimore Harbor includes an approximate 15-statute-mile tidal portion of the Patapsco River with water depths generally less than 20 feet with the exception of the federal navigation channels and other state and private access channels that are dredged to provide safe navigation for waterborne commerce. Surface water circulation and exchange within the harbor are governed by the effects of wind, tides, salinity-based density gradients, and river flows (Garland 1952; Boicourt and Olson 1982). Vertical stratification of the water column is common, particularly in areas of deeper waters (such as the navigation channels) where denser (heavier), saltier and cooler bottom waters move upstream with incoming tides and remain below less dense (lighter) freshwater or low salinity surface waters moving downstream towards the Chesapeake Bay. Due to water column density, salinity stratification, limited vertical mixing, and use of dissolved oxygen by organisms and chemical degradation processes, low dissolved oxygen concentrations in deep bottom waters are often present below the requirements to support aquatic life, particularly in late summer and fall. The severity of this condition in the Patapsco River varies from year to year based on precipitation and freshwater inflow and is most common in deep water areas, including the navigation channels.

Within the SPCT area, Coke Point is surrounded by the Patapsco River to the west and south, and the existing Sparrows Point Channel to the east. Surface water quality in these areas is affected by river flow and precipitation, daily tides, and the groundwater flow patterns under Coke Point. Water depths in the SPCT project area vary and range from less than 2 feet up 15 feet in the nearshore areas, from approximately 15 feet up to 45 feet in the west and south offshore areas, and from approximately 10 feet up to 47 feet in the proposed channel improvements footprint. Water quality measurements recorded in the vicinity of Coke Point during seasonal nutrient surveys in Summer and Fall 2023 and Winter and Spring 2024 (EA 2024a, 2024d, 2024e, 2024f) indicated that water temperature, salinity, pH, and dissolved oxygen varied by season and water depth. Within the project area, salinities are typically classified as oligohaline (≤0.5 to 5 parts per thousand [ppt]) within the winter and spring and as either low mesohaline (≥5 to 12 ppt) or high meohaline (≥12 ppt to 18 ppt) during the summer and fall. Salinities in the project area ranged from 1.6 to 17.8 ppt with highest salinities measured in summer and fall bottom waters. Water temperature ranged from 41.2 to 81.7 degrees Fahrenheit (°F) with highest and lowest water temperatures measured in summer and winter season surface waters, respectively. Dissolved oxygen ranged from 0.5 to 13.4 milligrams per liter (mg/L) with low dissolved oxygen and hypoxic conditions measured in the summer season bottom waters. pH ranged from 7.1 to 10.2, with highest and lowest pH values measured in the winter and spring/summer, respectively. Turbidity (measured as nephelometric turbidity units [NTUs]) ranged from 1.0 to 32.3 NTU and tended to be higher in bottom waters, regardless of season.

3.1.1.2 Nutrients

Excess nitrogen and phosphorus have been identified as a concern for Baltimore Harbor surface waters, and the inputs and the total maximum daily load for these nutrients are managed and regulated by the Maryland Department of the Environment through the National Pollutant Discharge Elimination System process. Overall in the SPCT area, total nitrogen concentrations were higher in winter and spring (between 1 and 2 mg/L) and lower in summer and fall (less than 1 mg/L). Most nitrogen was present in dissolved form in winter and spring and was as a combination of particulate and dissolved nitrogen in summer and fall. Total phosphorus concentrations were generally higher in summer and fall and varied by sampling location. Most phosphorus was present bound to particulates in fall, winter, and spring; highest dissolved phosphorus was present during summer. Organic carbon concentrations in the SPCT project area surface waters ranged from 2.4 mg/L in winter to 4.4 mg/L in summer.

3.1.1.3 Chemistry

Characterization of surface water chemistry around Coke Point has been investigated through several decades of study of the offshore area. Data collected between 2003 and 2011 were used to model potential risks to human health, fish, benthos, and wildlife and to identify the geographic areas contributing the most to risks. Most chemicals in surface water were either below benchmarks protective of human health or aquatic life or were comparable to concentrations found throughout the Lower Patapsco River. PAHs were the only chemicals identified in surface water as posing potential risks. For aquatic life, PAHs in surface water posed risks in the western and southern offshore areas of Coke Point, while benzene was identified within Coke Point Cove.

3.1.1.4 Surface Water Quality in the Dredging Area and Coal Pier Channel

Seasonal water column measurements collected in 2023 and 2024 in the vicinity of the Sparrows Point Channel indicated a stratified water column with respect to salinity at both locations (approximately 30 feet and 45 feet deep, respectively). The combined seasonal data for these locations indicated that salinity ranged from approximately 2 to 11 ppt in surface waters and from approximately 5 to 18 ppt in bottom waters throughout the year. Water column stratification with hypoxic conditions (low dissolved oxygen concentrations) was present in bottom waters in the summer at both locations. Seasonal water column measurements collected in 2023 and 2024 from the Coal Pier Channel indicated a uniform water column with respect to water temperature and pH. Higher salinities in bottom waters were measured in summer, fall, and winter. Hypoxic conditions were present in the bottom waters during the summer sampling event; dissolved oxygen was measured at a concentration of 1.3 mg/L at a bottom depth of approximately 22 feet. Concentrations of nutrients in surface water were consistent with those described for the overall surface waters adjacent to Coke Point. Historical surface water samples collected at two locations in the Coal Pier Channel DMCF footprint indicated that PAHs in surface waters exceeded ecological risk benchmarks (EA 2011).

3.1.2 Biological Resources

The discussion of biological resources for this Biological Assessment focuses primarily on those resources within waters within the immediate Action Area and provides a high-level overview. Detailed seasonal reports for aquatic resource studies conducted for the Proposed Action can be provided to NMFS upon request (EA 2024b, 2024c, 2024d, 2024e, 2024f).

3.1.2.1 Benthos

Within the larger Chesapeake Bay region, the abundance, species diversity, and biomass of many benthic species has declined over the past 40 years, with significant decline in these metrics and the overall benthic community score noted in sampling stations in the Baltimore Harbor (Versar, Inc. 2017). The decline in these community metrics at the Baltimore Harbor stations has been attributed to seasonal hypoxic (low oxygen in bottom waters) conditions. Benthic fauna samples were collected as part of aquatic studies for the Proposed Action and the community health determined at sample locations throughout the SPCT area using the Chesapeake Bay Benthic Index of Biotic Integrity. Two sample locations were within the SPCT dredging area and one within the Coal Pier Channel (Figure 5).

Benthic habitat within the dredging area and Coal Pier Channel was classified as high mesohaline mud, with salinity between 12 and 18 ppt and more than 40% silt-clay content. Across all sampling locations, 22 unique benthic macroinvertebrate taxa were collected. Of these, nine taxa were polychaetes (bristle worms), five were bivalves (clams and mussels), and three were crustaceans. The remaining taxa included ribbon worms, segmented worms, and snails. Only one taxon was collected within the Coal Pier Channel and no taxa were collected from the southernmost sampling location within the dredging footprint. However, the northern portion of the dredging footprint had four taxa collected. Benthic abundance was lowest within Coal Pier Channel (6.8 organisms per square meter) compared to Coke Point Cove to the south which had 13,170 organisms per square meter. Overall community Benthic Index of Biotic Integrity scores classified all sample locations as either degraded or severely degraded, except for the benthic community along the southeast shoreline of Coke Point, which met restoration goals and will not be disturbed. The benthic community in the Coal Pier Channel was classified as degraded and the community in the dredging area was classified as severely degraded.

Figure 5. Benthic Fauna Sampling Locations

3.1.2.2 General Fish Community

The Chesapeake Bay supports 348 species of fish at some point in their life cycle (NMFS 2024a). The distribution of fish populations is dependent upon water quality factors (temperature, pH, salinity), larval recruitment, availability of prey species (fish and benthic organisms), and migration patterns (Lippson and Lippson 1994). Atlantic menhaden (*Brevoortia tyrannus*) has been the top fishery in the Chesapeake Bay for several decades with over 150,000 metric tons caught per year. The striped bass (*Morone saxatilis*) fishery stocks suffered a decline during the 1970s and 1980s due to overfishing and are in the recovery process. Although not currently overfished, stocks remain low, largely due to loss of spawning habitat and pollution in the Chesapeake Bay (Chesapeake Bay Program [CBP] 2020). Important predator fish species (including those that are part of commercially significant fisheries) rely on smaller prey species, such as bay anchovy (*Anchoa mitchilli*), Atlantic menhaden, and American shad (*Alosa sapidissima*) (Zastrow and Houde 1991, CBP 2020). Sturgeon (both Atlantic and Shortnose) have the potential to be present in the SPCT area. Habitat requirements for these ESA species, as well as discussion of presence in the Action Area is presented in Section 4.

The fish community within and adjacent to the SPCT area varies by season and water depth. A summary of the individual fish collected during aquatic surveys for the Proposed Action is provided in Table 1. The highest number of unique species was observed in the summer with 17 unique species (1,772 individual fish) collected in the waters in and around the SPCT project area. During the fall collections, the number of unique and total number of individual fish collected declined to nine unique species and 818 individual fish. In the winter, even fewer unique species and individual fish were captured in the vicinity of the project area (three unique species and 12 individual fish for all locations combined). The following spring (2024), 5,629 total fish were captured with most of the individuals collected along the southern shoreline of Coke Point and downstream of the project area. Within the SPCT dredging area (Figure 6), the total number of fish captured in all seasons was 1,293, largely Atlantic silverside, bay anchovy, herring sp., and Atlantic croaker.

Based on the seasonal survey data, fish assemblages and abundance in habitats in and around the SPCT project appear to be highly driven by seasonal water temperature and salinity. In the spring, hypoxia was only present at sampling location 5 (downstream of the SPCT project area), which had the lowest bottom dissolved oxygen and bottom temperature. Low dissolved oxygen during the summer months in the deeper water areas may also affect fish distribution, as pelagic species are mobile and will avoid areas area with low dissolved oxygen. Fish moving upstream from the Chesapeake Bay can thrive in the higher summer salinities and move downstream away from the project area as the salinity and water temperature decrease throughout the water column in the late fall and winter months.

Figure 6. Fish Survey Locations

Table 1. Summary of Individual Fish Collected by Each Method per Season

Fish Species	Sampling Method and Season										
	Beach Seine			Gillnet				Bottom Trawl			
	Summer	Fall	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring
Atlantic croaker (Micropogonias undulatus)	6	0	72	2	0	0	0	26	2	3	342
Atlantic menhaden (Brevoortia tyrannus)	195	0	0	74	0	0	9	4	0	1	0
Atlantic silverside (Menidia menidia)	755	539	263	0	0	0	0	0	0	0	0
Banded killifish (Fundulus diaphanus)	1	7	5	0	0	0	0	0	0	0	0
Bay anchovy (Anchoa mitchilli)	6	78	557	0	0	0	0	379	151	8	231
Bluefish (Pomatomus saltatrix)	0	0	0	3	0	0	0	0	0	0	0
Blueback herring (Alosa aestivalis)	0	3	0	0	0	0	1	0	0	0	2
Gizzard shad (Dorosoma cepedianum)	5	0	0	1	4	0	3	0	0	0	0
Herring (Alosa spp.)	0	0	4,662	0	0	0	0	0	0	0	0
Hogchoker (Trinectes maculatus)	0	0	0	0	0	0	0	1	0	0	1
Inland silverside (Menidia beryllina)	4	0	61	0	0	0	0	0	0	0	0
Northern pipefish (Syngnathus fuscus)	0	0	0	0	0	0	0	1	0	0	0
Pipefish species	1	0	0	0	0	0	0	0	0	0	0
Pumpkinseed sunfish (Lepomis gibbosus)	22	0	0	0	1	0	0	0	0	0	0
Spot (Leiostomus xanthurus)	0	0	0	4	0	0	8	170	0	0	1
Striped bass (Morone saxatilis)	1	0	0	10	0	0	2	0	0	0	0
Striped killifish (Fundulus majalis)	0	33	8	0	0	0	0	0	0	0	0
Summer flounder (Paralichthys dentatus)	0	0	0	0	0	0	0	3	0	0	0
Weakfish (Cynoscion regalis)	0	0	0	2	0	0	0	3	0	0	0
White perch (Morone americana)	74	3	1	0	0	0	0	19	0	0	19
Total individuals	**1,070**	**660**	**5,629**	**96**	**5**	**0**	**23**	**606**	**153**	**12**	**596**

3.1.2.3 Other Protected and Special Status Species

In addition to ESA species (discussed in Section 4), the SPCT area may support other protected species under Section 7(a)(2) of the Endangered Species Act, as well as the bottlenose dolphin. TTT is consulting the NMFS Office of Protected Resources regarding these species. State listed special status species are also potentially present in the Action Area. Four species including a turtle and three mussels are on the Maryland Department of Natural Resources List of Rare, Threatened, and Endangered Species of Baltimore County (MDNR 2021) as in Baltimore County and five species are on the MDNR in need of conservation list (MDNR 2016). Through environmental review, it was determined the MDNR List of Rare, Threatened and Endangered Species were unlikely to be in the project area due to habitat requirements. Table 2 lists the species that have potential to be in the project area from the in need of conservation list.

Table 2. Aquatic Species in Need of Conservation in Baltimore County in the SPCT Project Area

Species	State Status or Rank	Required Habitat	Potentially Present in SPCT Project Area?
American shad (*Alosa sapidissima*)	In need of conservation	Spawn in freshwater tributaries of Chesapeake Bay.	Yes; suitable habitat for foraging is available.
Atlantic menhaden (*Brevoortia tyrannus*)	In need of conservation	Found in all salinity zones within the Chesapeake Bay.	Yes; found in project area fish surveys.
Hickory Shad (*Alosa mediocris*)	In need of conservation	Spawn in freshwater tributaries of estuaries and bays	Yes; suitable habitat for foraging is available.
Striped bass (*Morone saxatilis*)	In need of conservation	Found in fresh or salt water in estuaries and bays	Yes; found in project area fish surveys.
Yellow Perch (*Perca flavescens*)	In need of conservation	Found in brackish waters of Chesapeake Bay.	Yes; suitable habitat is available.

Sources: MDNR 2016

3.1.3 Hydrodynamics

The Action Area near Sparrows Point is adjacent to and within the mainstem of the Patapsco River about 6 miles south of Baltimore Harbor. The tides in Baltimore Harbor are characterized as semi-diurnal with two high tides and two low tides per day. Spring and neap tides are experienced in Baltimore Harbor in two-week cycles where the tide range is largest during spring tides and smallest during neap tides. The mean tide range reported at the Fort McHenry tide gauge (NOAA CO-OPS Station 8574680) is relatively low at 1.15 feet, which results in low current velocities throughout the harbor. Modeled tidal currents under existing conditions were evaluated and assessed near Sparrows Point for the Proposed Action. The highest current speeds (0.25 to 0.41 knots) were modeled in the Brewerton Channel adjacent to Sparrows Point. Tidal current velocities measured at the southwest corner of Sparrows Points, as well as between Fort Carroll and the former Key Bridge site were between 0.20 to 0.33 knots. The lowest modeled current velocities were within the L-shaped basin at Sparrows Point and were less than 0.02 knots. The modeled current velocities were generally higher during flood tides than during ebb tides.

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Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/10/2025 1:38:32 PM -05'00'

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4 ESA Species in the Action Area

Consultation with NMFS pursuant to Section 7(a) of the ESA was initiated in 2023 during the National Environmental Policy Act (NEPA) process. The applicant consulted NMFS's ESA Section 7 Mapper (NMFS 2022e), an online mapping tool, which indicated that Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) and Shortnose Sturgeon (I) may be present in the SPCT project area. In a letter dated February 16, 2024, NMFS identified the two sturgeon species plus four federally listed sea turtle species under its jurisdiction that may occur in the waters in or adjacent to the SPCT project area (NMFS 2024c; Table 3); the project area does not contain any designated critical habitat. Federally protected species can also fall under the jurisdiction of US Fish and Wildlife Service (USFWS); however, no aquatic species under USFWS jurisdiction are potentially present with the Action Area.

Detailed descriptions for each ESA species including habitat descriptions, natural history and stock status are described below. Per consultation with NMFS, bottlenose dolphins should be considered in the Biological Assessment for the Proposed Action. As such, information on the habitat and documented usage of the Action Area is also included in this section.

4.1 Atlantic Sturgeon

The Atlantic Sturgeon is one of two subspecies of *A. oxyrinchus*, the other being the Gulf sturgeon, *A. o. desotoi*. Atlantic Sturgeon populations occur along the eastern coast of North America from Hamilton Inlet, Labrador, Canada, to Cape Canaveral, Florida. An anadromous species, Atlantic sturgeon spawn in freshwater of tidal-affected rivers that are part of a coastal estuary. Tagging records and the relatively low rate of gene flow observed provide evidence that Atlantic sturgeon return to their natal river to spawn (Atlantic Sturgeon Status Review Team (ASSRT) 2007). NOAA Fisheries has delineated US populations of Atlantic sturgeon into five Distinct Population Segments (DPSs) – the Gulf of Maine, New York Bight, Chesapeake Bay, Carolina, and South Atlantic. Effective 6 April 2012, NOAA Fisheries listed the New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs as endangered, and the Gulf of Maine DPS as threatened. While individuals from the Chesapeake Bay DPS are the most likely to be present, fish from all five DPSs may occur within the Action Area. NOAA Fisheries developed a recovery outline to commence the recovery planning process for Atlantic sturgeon (NOAA Fisheries Protected Resources 2018). In this section, general information for all DPSs life history and habitat requirements are discussed, as well as information specific to the individuals from all DPSs that may utilize the Chesapeake Bay, including documented observations of Atlantic sturgeon within the Action Area.

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/3/2025 2:49:57 PM -05'00'
To clarify, we have not yet initiated consultation under sec 7. The prior coordination was a form of techincal assistance.

Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:46:55 PM -05'00'
According to Federal Permitting Dashboard: The ESA consultation package was submitted 1/15/25 and NOAA is to determine package complete 3/17/25.

From Brian: if revised draft is available before 3/17, please share. Please reach out immediately for assistance or questions on sections. A word version is also appreciated so that track changes edits can be recommended.

Table 3. ESA Species Potentially Present in the SPCT Project Area

Species	ESA Status	Life Stage(s)/Behavior/Locations	Distinct Population Segment (DPS)	Time(s) of Year Potentially in Area	Federal Register	Recovery Plan
Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)	E (GOM DPS status is T)	Adults, subadults, and juveniles / migrating and foraging / throughout Chesapeake Bay	All DPSs (adults / subadults) Chesapeake Bay DPS (juveniles)	3/15 – 11/30 (adults/subadults) 1/1 – 12/31 (juveniles)	77 FR 5880 and 77 FR 5914; CH 82 FR 39160	N/A
Shortnose Sturgeon (*Acipenser brevirostrum*)	E	Adults / migrating and foraging / throughout Chesapeake Bay	N/A	3/01 – 11/30	32 FR 4001	NMFS 1998
Loggerhead Sea Turtle (*Caretta caretta*)	T	Adults and juveniles / migrating and foraging / Massachusetts (S of Cape Cod) through Virginia	Northwest Atlantic	5/1 – 11/30	76 FR 58868	NMFS and USFWS 2008
Green Sea Turtle (*Chelonia mydas*)	T	Adults and juveniles / migrating and foraging / Massachusetts (S of Cape Cod) through Virginia	North Atlantic	5/1 – 11/30	81 FR 20057	NMFS and USFWS 1991
Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)	E	Adults and juveniles / migrating and foraging / Massachusetts (S of Cape Cod) through Virginia	N/A	5/1 – 11/30	35 FR 18319	NMFS et al. 2011
Leatherback Sea Turtle (*Dermochelys coriacea*)	E	Adults and juveniles / migrating and foraging / Massachusetts (S of Cape Cod) through Virginia	N/A	5/1 – 11/30	35 FR 8491	NMFS and USFWS 1992

Notes:

DPS = Distinct Population Segment

USFWS = US Fish and Wildlife Service

T = Threatened, E = Endangered, ESA = Endangered Species Act, DPS = Distinct Population Segment; GOM = Gulf of Maine

4.1.1 Life History and Habitat Requirements

Atlantic Sturgeon are estuarine dependent anadromous fish that can live an average of 60 years (ASSRT 2007). Atlantic Sturgeon are bottom feeders and can be present in freshwater, marine, and estuarine systems in various life cycles. Atlantic Sturgeon require freshwater habitat to spawn with fast flowing water and hard substrates (NMFS 2017, ASSRT 2007). Spawning occurs in natal rivers, with females producing between 400,000 to 4 million eggs (Hilton et al. 2016). Water temperature plays a critical role in spawning and in the mid-Atlantic, spawning typically occurs between April and Map (Hilton et al. 2016). Once hatched, larvae remain demersal on the hard bottom substrate until the post yolk sac larvae stage, when they drift downstream and settle on the river bottom to forage (Kynard and Horgan 2002). Young-of-year and juvenile Atlantic Sturgeon reside in lower salinity areas of their natal rivers or estuary (Hilton et al. 2016). Older juveniles become more salt tolerant and can utilize higher salinity areas. Juveniles consume benthic invertebrates as well as insect larvae and small aquatic insects. Juvenile sturgeon will remain in their natal estuary for several years before migrating to the open ocean in the sub-adult stage (ASSRT 2007, Dadswell 2006, Hilton et al. 2016). Migrating and foraging juveniles typically use main river channels deep enough where water is continuously flowing, which ensures growth and development of juveniles (NFMS 2019).

Subadults inhabit a marine environment and once reaching the adult stage, they stay in marine or estuarine waters with depths less than 160 feet until they are ready to spawn. Subadult and adult Atlantic Sturgeon consume benthic macroinvertebrates and crustaceans, as well as smaller fish (ASSRT 2007, Savoy 2007). During fall and winter, Atlantic Sturgeon will move into deeper waters for overwintering, including waters off the coast of Virginia and North Carolina, while many groups move around within different areas of the mid-Atlantic Bight (Erickson et al. 2011). Adults and subadults opportunistically forage the full extent of rivers, preferring the salt front areas and main channels where there is continuous flow to support staging, resting, and full passage (NMFS 2019).

4.1.2 Atlantic Sturgeon in the Chesapeake Bay

The Chesapeake Bay DPS of Atlantic Sturgeon includes Atlantic Sturgeon spawned in the watersheds that drain into the Chesapeake Bay and into coastal waters (including bays and sounds) from the Delaware-Maryland border at Fenwick Island to Cape Henry, Virginia, as well as Atlantic Sturgeon held in captivity that are progeny of such fish (50 Code of Federal Regulations 224.101).

Atlantic Sturgeon are present in the waters of the Chesapeake Bay and its adjacent bays and tributaries. Atlantic Sturgeon are born in freshwater, move to estuarine waters to grow and mature, migrate to the sea, and return to freshwater areas to spawn (NMFS 2023a). Spawning within the Chesapeake Bay occurs largely in Virginia tributaries (James River) (Secor 2002), outside of the project area and larger Baltimore Harbor area. Due to the habitat and salinity in project area, spawning and early life stages are not expected to occur (NMFS 2024b). Atlantic Sturgeon typically require lower salinities for spawning in natal rivers. Juveniles and adults may be transient in the project area, but typically stay near their natal rivers or migrate to the open ocean. Only subadult and adult Atlantic Sturgeon could occur within the Patapsco River area. Subadult Atlantic Sturgeon behavior in the Chesapeake Bay is similar to the adults and they will be present in the Bay from late March (Balazik and Musick 2015) through November and could utilize the full extent of the bay while also migrating and foraging the Chesapeake's tributaries (Horne and Stence 2016).

This species had historically large populations throughout the Chesapeake Bay; however, their populations have declined largely due to heavy fishing and degradation of spawning and nursery habitat (Virginia Institute of Marine Science 2009). Atlantic Sturgeon are also listed as endangered by MDNR.

4.2 Shortnose Sturgeon

Shortnose Sturgeon is federally listed as endangered throughout its range and listed as endangered by MDNR. NMFS implemented a recovery plan for Shortnose Sturgeon in 1998 (NMFS 1998). Shortnose Sturgeon are fish that occur in rivers and estuaries along the East Coast of the United States and Canada (Shortnose Sturgeon Status Review Team [SSSRT] 2010). In this section, life history, habitat requirements, information specific to the Chesapeake Bay populations, including documented observations of Shortnose Sturgeon within the Action Area are discussed.

4.2.1 Life History and Habitat Requirements

Shortnose Sturgeon are slow growing and late maturing, often living beyond 40 years. Yolk-sac larvae of Shortnose Sturgeon can drift with river currents and are typically concentrated near the spawning area for the first month. Shortnose Sturgeon utilize most of a river system but often remain in important resting and feeding aggregations for extended time periods (Hastings et al. 1987, Kieffer and Kynard 1993 SSRT 2010). Adults have varying migratory patterns that often depend on the river system. Shortnose Sturgeon migrate from overwintering locations upstream to spawning grounds during the spring in northern rivers and in late winter/early spring in southern rivers (Dadswell 1979, Kynard 1997). Spawning areas are typically located in the farthest upstream reach of rivers with no barriers (SSSRT 2010). Shortnose Sturgeon move from spawning areas downstream to foraging areas in low-salinity bottom waters of estuaries for much of the year (SSRT 2010). They feed on a variety of benthic organisms including mollusks, crustaceans, and worms. Individuals in the Chesapeake Bay spend most of the year in the lower part of the river in which they were born, migrating to deeper waters in winter (CBP 2024). Due to the habitat and salinity in the project area, spawning and early life stages are not expected to occur (NMFS 2024a).

4.2.2 Shortnose Sturgeon in Chesapeake Bay

Unfavorable water conditions, such as low oxygen, pollution, and habitat alteration, have caused significant declines in the Chesapeake Bay population.

Transient adult Shortnose Sturgeon could be present in the waters of the Chesapeake Bay and adjacent bays and tributaries to opportunistically forage; however, historical studies have indicated that Shortnose Sturgeon in the Chesapeake Bay are rare with only one individual observed in the lower Chesapeake Bay and just over 70 in the upper Chesapeake Bay over ten years (1996 through 2006) (Balazik 2017). The most recent report of a Shortnose Sturgeon in the lower Chesapeake Bay and tributaries was a catch in the Potomac River near the Chain Bridge in April 2021 (Blankenship 2021). Additionally, a study was conducted in the upper Chesapeake Bay mainstem, lower Susquehanna River, and C and D Canal during 1998 and 2000 during NMFS review of the Baltimore Harbor and Channels Federal Navigation Project. This involved bottom gillnetting 19 locations within the upper Chesapeake Bay and did not capture any sturgeon (SSRT 2010). While some foraging may occur in the Potomac River, no spawning in the Chesapeake Bay or tributaries has been documented (SSRT 2010). Various life stage individuals could be present along the transport routes from the SPCT area to either the Norfolk Ocean Disposal Site (NODS) or a Maryland Port Administration (MPA) DMCF.

4.3 Sea Turtles

Four species of ESA-listed threatened or endangered sea turtles under NMFS jurisdiction are seasonally present in Chesapeake Bay —Northwest Atlantic Ocean DPS of loggerhead sea turtle (*Caretta caretta*; threatened), North Atlantic DPS of green sea turtle (*Lepidochelys kempii*; threatened), Kemp's ridley sea turtle (*Lepidochelys kempii*; endangered), and leatherback sea turtle (*Dermochelys coriacea*; endangered) (NMFS 2024a).

Sea turtle species share similar habitats and are widely distributed throughout their range occupying vast open ocean habitat and inshore areas. Juvenile sea turtles live a pelagic existence before returning inshore as they mature. The primary diet of sea turtles can vary by species and includes marine vegetation, benthic invertebrates, and other small marine animals (NMFS 2023b). Although some sea turtle individuals have been observed as far north as Maine, the Chesapeake Bay is typically the northernmost limit for their range (Funk 2020).

According to the NMFS Biological Opinion prepared for the Nice Bridge Project on the Potomac River, the most abundant species in the Chesapeake Bay is loggerhead sea turtle followed by Kemp's ridley sea turtles. Distribution and abundance models by Duke University suggest that Kemp's ridley are abundant near the mouth of the Chesapeake Bay (DiMatteo & Sparks 2023 as cited in NMFS 2023c). Green sea turtles are also present and leatherback sea turtles also occur less frequently, in the Chesapeake Bay.

The Chesapeake Bay is an important developmental and foraging habitat for sea turtles in the summer months (Evans et al. 1997; Litwiler and Insley 2014), but sea turtles are not likely to be as far north in the Chesapeake Bay as the SPCT project area, due to lower salinity waters. Loggerheads, leatherback, and green sea turtles are typically found in the Chesapeake Bay in Maryland in the southern portions of the state near Worcester County (MDNR 2016, 2024c, 2024d, 2024e. 2024f). Kemp's ridley turtles use eelgrass beds in the lower portions of the Chesapeake Bay during summer months (CBP 2024c).

In the project area (and larger Baltimore Harbor), suitable vegetation and salinity for sea turtles is not available. For this reason, only those impacts on sea turtles associated with increased vessel traffic in the Lower Chesapeake Bay (where barges and other vessels may be transiting to the project area) and from the SPCT project area to the NODS are the impacts evaluated in this Biological Assessment.

4.4 Bottlenose Dolphin

The Bottlenose Dolphin (*Tursiops truncatus*) is not protected under the ESA but is protected under the Marine Mammal Protection Act (MMPA). Bottlenose Dolphins thrive in temperate or tropical marine waters and estuaries of temperate waters (NMFS 2024b) and are able to use the lower reaches of rivers (CBP 2024d). Bottlenose dolphins are abundant along the Virginia coast and within the Chesapeake Bay. They consume fish, squid, and small crustaceans. There are various North Atlantic Stocks, many of which are designated as depleted under the MMPA.

According to consultation with NMFS Office of Protected Resources in November 2024, Bottlenose Dolphins have the potential to be present as transient individuals in the lower Patapsco River of the Action Area and the transit route from SPCT to MPA DMCFs. They have a higher likelihood of occurrence along the southern and lower Chesapeake Bay transit route to the NODS in the Atlantic Ocean. They can be found in the lower Chesapeake Bay, most typically in the summer. Bottlenose dolphins primarily use the lower Chesapeake Bay in the summer with most usage near the James and

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Because they are not listed under the ESA, you can remove bottlenose dolphin.

Elizabeth Rivers in Virginia. They are seen annually in Virginia from April through November with approximately 65 strandings occurring each year (Barco and Swingle 2014, Engelhaupt 2016). Dolphins are commonly sighted in areas far south of the SPCT area including the mouths of the Potomac and Rappahannock Rivers (Bay Journal 2021). The most robust sighting data near the mouth of the Patapsco River and within the entire Chesapeake Bay is based on citizen science, where reports are logged via the Dolphin Watch app supported by University of Maryland, Center for Environmental Science. These data are available from 2017 through 2022. Annual sightings have increased. The increase in annual sightings could be a result of an increase in dolphin movements within the region and/or an increase in public awareness and use of the app to log sightings. The highest recorded number of dolphin sightings within the entire Chesapeake Bay was 500 individuals in July 2022. There have been only 1 to 2 sightings per summer month in the Patuxent River between 2017 and 2022; however, this is likely an underestimate as data are dependent upon citizen reporting. Sightings are less frequent farther north in the Patapsco River and Baltimore Harbor areas and typically occur when these waters have higher than normal salinity in the summer months. Recent observations near the project area include a single dolphin using waters in the Inner Harbor (9 miles north of SPCT; ABC Baltimore 2023) and at the mouth of the Patapsco River (approximately 5 miles south of SPCT; The Washington Post 2018).

5 Effects of the Proposed Action on ESA Species

In-water construction activities for the proposed action will comply with any applicable environmental windows for sensitive species to be determined by NMFS. This section includes a summary of impacts on federally managed fish species and their life stages (as identified in Table 1) and the designated ESA species in the Proposed Action Area. The analysis focuses on impacts that reduce the quality or quantity of habitat for ESA species or pose a direct risk of physical injury. Not all stressors listed below are evaluated for every ESA species. Species evaluated for impacts from each stressor are listed in parentheses after the stressor.

The impacts evaluated for ESA species are:

- **Underwater Noise** from pile driving (both Sturgeon species and Bottlenose Dolphin)
- **Turbidity** from channel dredging, pile driving, and DMCF construction (both Sturgeon species and Bottlenose Dolphin)
- **Habitat Alteration** from channel dredging and DMCF construction (both Sturgeon species)
- **Vessel Traffic** from construction, dredged material transport, and long-term use of the SPCT (both Sturgeon species, Bottlenose Dolphin, and Sea Turtles); and
- **Impingement and Entrainment** from hydraulic operations for offloading dredged material (both Sturgeon species).

5.1 Underwater Noise from Pile Driving

Noise impacts from anthropogenic sources (e.g., in-water construction activities such as pile driving) have the potential to impact fish and other marine species that rely on hearing underwater to forage, communicate, detect predators, and navigate (NMFS 2022a). Receptor response to noise varies by the types and characteristics of the noise source, distance from the source, water depth, receptor sensitivity, and temporal scale. Noise can be intermittent or continuous, steady or impulsive, and it may be generated by either mobile or stationary sources.

5.1.1 Noise Impact Types and Scenario Overview

Construction activities that could generate noise with the potential to impact fish and marine mammals are associated with the construction of the SPCT terminal. These activities include:

1. Installation of steel pilings during construction of the marginal wharf with piling diameters of 24, 30, and 36 inches
2. Installation of steel pilings during construction of mooring dolphins with piling diameters of 24 inches
3. Water-based near-shore demolition activities before construction of the terminal
4. Potential concurrent construction of the marginal wharf and mooring dolphins

During construction, the noise generated by pile driving could rise to the level of affecting sturgeon and dolphins as driving can produce loud, impulsive sound waves. Other activities such as dredging or vessel traffic would produce some noise, but not at levels that would impact fish. Activities involving driving of piles are the scenarios that were modeled to assess underwater noise impacts on fish.

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The details on the pile driving activities for each construction scenario are summarized in During the terminal design process, measures to reduce the overall number of piles necessary for the terminal wharf structure were used to the extent practicable.

Table 4. In-water Pile Driving Activities

Activity	Approximate Activity Duration (days)	Average Number of Piles Installed per Day	Number and Diameter of Steel Piles	Method of Pile Driving
Wharf piling installation	243	6	150 24-inch piles 600 30-inch piles 600 36-inch piles	Impact and vibratory
Mooring dolphin piling installation	20	3	60 24-inch piles	Impact and vibratory
Concurrent wharf piling and mooring dolphin piling installation	20	9	120 36-inch piles (maximum expected for wharf piling) 60 24-inch piles	Impact and vibratory
Water-based demolition	20	NA	Varied	Vibratory

Acoustic thresholds for the onset of underwater acoustic impacts from pile driving activities were calculated for fish and dolphins in the project area using the Optional Multi-Species Pile Driving Calculator Tool, VERSION 1.2-Multi-Species: 2022, provided on the NMFS website (NMFS 2022b). General assumptions were used in the model with the best available project information and technical guidance to estimate the impacts of underwater sound on fishes. More specific assumptions associated with each scenario are discussed below.

Both vibratory and impact hammers are proposed to be used to install piles for the terminal construction. Impact pile driving produces intense, broadband (a sound signal that includes acoustic energy across a wide range of frequencies), impulsive sounds in which the sound pressure is very large at the instant of the impact and then decays rapidly with distance; the duration of the peak pressure pulse is usually only a few milliseconds (University of Rhode Island [URI] 2017). The majority of energy in pile impact pulses is at frequencies between 100 and 400 hertz (Hz) (Matuschek and Betke 2009).

Vibratory pile driving produces a continuous sound with peak pressures lower than those observed in pulses generated by impact pile driving. Sound signals generated by vibratory pile driving usually consist of a low fundamental frequency of 20 to 40 Hz (URI 2017). Low-frequency signals produce long sound wavelengths. These long-wavelength signals encounter fewer suspended particles as they pass through the water and thus their energy is absorbed more slowly (Hatch and Wright 2007). As a result, low-frequency signals travel farther than higher-frequency signals. Therefore, noise produced by a vibratory hammer can travel farther in water than noise produced by an impact hammer, despite having a lower peak pressure at the source.

5.1.2 Noise Modeling Considerations and Inputs

5.1.2.1 Geographic Range of Noise Impacts

The geographic extent of underwater noise impacts from pile driving is dependent on factors such as the type of pile driving equipment, length of time spent pile driving, and environmental conditions. The

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extent to which fishes and marine mammals (including dolphins) react to sound varies among species, their life stage, inter- and intra-specific interactions, and other environmental conditions. Guidelines on the impact of impulsive sounds on the behavior of fishes are found in the *National Marine Fisheries Service: Summary of Endangered Species Act Acoustic Thresholds (Marine Mammals, Fishes, and Sea Turtles)*, specifically the 2008 Fisheries Hydroacoustic Working Group (FHWG) criteria (FHWG 2008). Non-injury behavioral responses of fishes range from strong avoidance by virtually all individuals to tolerance and habituation (Anderson 1990; Fiest 1992). It is anticipated that impacts from noise sources would be the same for all fish species (less than and greater than 2 grams) potentially present within the project area. All fish species in the area could potentially use the pelagic and bottom habitat near the sound source, and there are no data indicating that a particular fish species would be more sensitive to impulsive sound than another.

5.1.2.2 Fish Physiology and Morphology

Though the injury criteria distinguish between fish of different sizes (fish weighing less than 2 grams and those weighing 2 grams or more), the criteria do not distinguish between fish of different hearing sensitivity. However, criteria are expected to be conservative and protective of pelagic and demersal fish potentially present within the project area. It is worth noting that the hearing sensitivity of fish varies by species and has been linked to morphology, specifically the presence of a swim bladder, the proximity of the swim bladder to the ear, and the presence of adaptations that link the swim bladder to the ear. Fish with swim bladders closest to the ear and those with specialized adaptations are most sensitive to sound since they are stimulated by sound pressure via the gas within the swim bladder as well as by particle motion, whereas fish without swim bladders and fish without swim bladders near the ear are only stimulated by particle motion (Popper and Hawkins 2019).

Within the different morphological groups, hearing sensitivity also varies by species; for example, black sea bass (*Centropristis striata*), is fairly sensitive to sound compared to related species (Stanley et al. 2020). Several species of clupeid fishes are able to detect and respond to ultrasonic sounds, likely due to an ear specialization unique to clupeids (Popper et al. 2004). Clupeid fishes are of particular concern given proximity of the site to migratory corridors for anadromous herrings. Blueback herring (*Alosa aestivalis*), unidentified herring species, Atlantic menhaden (*Brevoortia tyrannus*), and gizzard shad (*Dorosoma cepedianum*), all clupeid fishes, were found during surveys, indicating that fish with high hearing sensitivity may be in the project area during pile driving. Though given the sensitivity to underwater sound, it is still anticipated that these fish would be protected using the FHWG criteria.

Bottlenose dolphins are in the mid-frequency cetacean functional hearing group with an estimated auditory bandwidth of 150 Hz – 160 kHz (Southhall et al. 2007). Bottlenose Dolphins may have an echolocation range of 100 to 600 meters in ocean environments.

5.1.2.3 Acoustic Thresholds – Fish and Dolphins

The calculations from the NMFS Multi-Species Pile Driving Calculator Tool were used to create a multi-ring buffer of isopleths (i.e., sound contours) diminishing in 1 decibel (dB) increments from the sound source. These thresholds are the lowest level where injury could occur (FHWG 2008) and are used to indicate the distance from the noise source where fishes and dolphins are anticipated to potentially be exposed to injury or disturbance.

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The modeled fish and marine mammal thresholds for physical injury and behavioral disturbance were used to determine the distances to onset of physical injury and behavioral disturbances (Tables 5 and 6). Thresholds for behavioral disturbance were available only for all marine mammals in the Multi-Species Tool, while physical injury thresholds were available for mid-frequency cetaceans which include dolphins. Physical injuries to fish from noise sources can include inner ear tissue damage and hearing loss (Casper et al. 2013) and rupture or damage to the swim bladder (California Department of Transportation [Caltrans] 2020). Behavioral disturbances include showing a brief awareness of the sound, small movements, or escape responses to move away from the noise source entirely (URI 2017). Thresholds for these effects are measured by evaluating the cumulative sound exposure level over the duration of a noise event (SEL_{cum}), the maximum instantaneous sound pressure over the duration of a noise event (SPL_{peak}), and the root mean square (RMS) pressure.

The NMFS Multi-Species Tool for modeling underwater noise impacts was also used to estimate the impacts of construction activities on bottlenose dolphins that could be in the project area. Table 6 shows guidance to onset to noise levels for the onset of physical injury and behavioral disturbance in marine mammals (including dolphins).

The intensity of pile driving noise is greatly influenced by factors such as the types of piles and hammers and the physical environment in which the driving activity takes place. Since site-specific sound monitoring data are not available, reasonable noise source levels that would be likely to result from pile driving during construction, or proxy sound levels, from the NMFS calculator were selected (Table 5). Proxy sound levels were selected based on the pile size and type. When possible, sound levels from water depths similar to the maximum water depth expected in SPCT project area (-52 feet following dredging for SPCT) were selected. However, the sources of the available monitoring data vary and values from shallower water depths were used in sound modeling when values from deeper water depths were not available.

Different types of sound pressure effects can cause different reasonable noise source levels that may result from pile driving. The peak pressure effect occurs from impact driving, as opposed to vibratory driving, which creates a more constant sound pressure with no peak decibel level. The peak effect from impact driving is the greatest value of the sound signal and is measured in dB re 1 μPa (underwater noise in decibels referenced to a pressure of 1 micropascal) used to specify the intensity of sound underwater (NMFS 2022c). The RMS pressure effect is the average intensity of the sound signal over time, which is applied to both impact and vibratory driving. The sound effect level (SEL) is the measure of energy that considers both the level and duration of exposure to the sound (Table 5) (NMFS 2022c). SEL is measured in units of dB re 1 μPa^2 s (underwater noise in decibels referenced to a pressure of 1 micropascal squared seconds).

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. Underwater Noise Modeling Inputs

Pile Type/Activity	Installation Method	Maximum Number of Hammers Used Concurrently	Impact Driving Strikes per Pile1	Vibratory Driving Estimated Minutes Time to Drive Each Pile2 (minutes)	Peak (dB re 1 μPa)	SEL (dB re 1 μPa² s)	RMS3 (dB re 1 μPa)	Proxy Value Water Depth (feet)	Proxy Sou
wharf piling	Vibratory	3	NA	90	NA	NA	153	9.8	Caltra
	Impact	3	600	NA	207	178	199	49	Caltra
wharf piling	Vibratory	3	NA	120	NA	NA	172	26 to 36	Caltra
	Impact	3	750	NA	210	177	195	9.8	Caltra
wharf piling	Vibratory	3	NA	180	NA	NA	175	16	Caltra
	Impact	3	900	NA	210	183	198	33	Caltra
mooring dolphin piling	Vibratory	1	NA	120	NA	NA	153	9.8	Caltra
	Impact	1	600	NA	207	178	194	49	Caltra
ent 36-inch wharf and 24-oring dolphin piling5	Vibratory	4	NA	120	NA	NA	175	16	Caltra
	Impact	4	800	NA	210	183	199	33	Caltra
ased demolition6	Vibratory	2	NA	NA	NA	NA	180	16	Caltra

s per pile for impact driving and time to drive each pile for vibratory pile driving estimated based on the driving logs of recent projects. For the concurrent scenario, a weighted average based on averag was used to estimate values.

ter-based demolition, activity types and durations may vary. Modeling assumed constant use of both vibratory hammers during work hours (10 hours).

MS proxy values are based on the noise of a single hammer and have been adjusted to account for multiple impact hammers being used concurrently, as per guidelines in the Washington State Depar tation Biological Assessment Preparation Manual (WSDOT 2020; described in Section 4.8.2.2). To determine the full range of noise levels, underwater noise modeling for wharf piling activities assume he hammers would be driving the same pile size.

values selected from Optional Multi-Species Pile Driving Calculator Tool, VERSION 1.2-Multi-Species: 2022 (NMFS 2022b).

alues for Peak and SEL values in the concurrent scenario defaulted to the larger values between the two pile sizes and are based on 36-inch piles. Calculation of RMS for multiple impact hammers fo ogy above.

types are unknown for water-based demolition, modeling used the maximum RMS proxy value for vibratory pile driving.

applicable; SEL = sound exposure level; RMS = root mean square; dB re 1 μPa = underwater noise in decibels referenced to a pressure of 1 micropascal; dB re 1 μPa²s = underwater noise in decibe ed to a pressure of 1 micropascal squared seconds

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Table 6. Fish and Marine Mammal Impact Pile Driving Injury Guidance

Fish Weight	Onset of Physical Injury		Onset of Behavioral Disturbance
	SEL_{cum}	SPL_{peak}	RMS
Fishes weighing 2 grams or more	187 dB	206 dB	150 dB
Fishes weighing 2 grams or less	183 dB	206 dB	150 dB
Mid-frequency cetaceans	185 dB	230 dB	--
All marine mammals	--	--	160 dB

5.1.2.4 Sound Proxy Values

The maximum number of hammers for each activity associated with the construction of the terminal is included in Table 5. The RMS proxy values are based on the noise of a single hammer and have been adjusted to account for multiple impact hammers being used concurrently. The Washington State Department of Transportation Biological Assessment Preparation Manual (Washington State Department of Transportation [WSDOT] 2020) presents the rules for combining noise levels. To combine noise levels, only the three loudest pieces of equipment are considered. The two lower noise levels are combined first and then the result is combined with the loudest noise level. For each activity in Table 5, the noise levels for each hammer are assumed to be the same. To combine noise from two pieces of equipment that are within 0 to 1 dB of each other, 3 dB is added to the higher value to combine noise levels. To add the third piece of equipment to the combined noise level (now 3 dB greater), 2 dB is added to the combined noise level. Thus, for two hammers being used concurrently, 3 dB was added to the RMS proxy value, and for three or five hammers being used, 5 dB was added to the RMS proxy value. The underwater noise modeling for wharf piling installation assumed that the hammers would be driving to the same pile size to determine the worst-case (highest) noise levels.

Also presented in Table 5, the impact pile driving RMS proxy value for 24-inch piles is greater than that for the larger pile types and the SEL proxy value for 24-inch piles is greater than that for 30-inch piles. Larger piles are associated with higher recorded underwater sound levels (Jimenez et al. 2020). However, underwater sounds are influenced by more than the type of hammer and pile. The physical environment of the site, including temperature, water depth (pressure), salinity, and presence of obstacles, can influence sound. Generally, sound travels faster in warmer, deeper water with higher salinity (Sinay 2024). Temperature and salinity measurements were not given for the proxy values, but the sound levels for the different piles were recorded in different water depths. Underwater sound is dependent on pressure, which varies with depth. At greater water depths, pressure increases, which compresses the water molecules and increases the speed of sound (Sinay 2024).

5.1.2.5 Sound Attenuation

A sound reduction measure was included in the modeling for noise impacts from SPCT construction. The NMFS Multi-Species Tool used for noise modeling does not include a sound reduction for use of a cushion block but does include a 5 dB reduction for use of a bubble curtain surrounding the work area. A cushion block is frequently used during pile driving to reduce sound propagation. TPA evaluated recent studies and reports along with recently accepted sound reductions for modeling fish impacts for wharf construction projects in the Philadelphia area.

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The Washington Department of Transportation (WSDOT 2006a) conducted a study to evaluate the effectiveness of wood, micarta, and nylon cushion blocks in reducing underwater sound during the driving of 12-inch diameter steel pipe piles generation (Molnar et al. 2020). A range of decibel reduction for wood cushion blocks was reported to be between 11 and 26 dB (WSDOT 2006b as cited in Caltrans 2009). The range of 11 to 26 dB reduction for wood cushion blocks originated from a technical report that measured sound levels during pile driving using different cap materials (Laughlin 2006). The study is limited and included use of a wood cushion block while pile driving one 12-inch diameter standard steel pile and one 12-inch pile with 1.5-foot-wide interlocking steel 'wings' at two different water depths at the Cape Disappointment boat launch facility near Ilwaco, Washington (Laughlin 2006). At least two recent ESA Biological Opinions from NMFS Greater Atlantic Regional Fisheries Office (NMFS 2022c, 2022d) contained noise modeling for impacts from wharf construction projects in the Philadelphia area. For these biological opinions, the parameters used in the acoustic calculator tool included proxy sound levels with a 11 dB attenuation to account for a cushion block, the most conservative reduction in the range presented in Caltrans 2009.

Based on the understanding of the NMFS Multi-Species tool's conservative sound reduction allowance for attenuation measures, guidance documents on the effectiveness of different attenuation measures including cushion blocks, and recent biological NMFS consultations for similar projects, the following sound reductions were utilized in the noise modeling for this project:

1. Sound attenuation of 5 dB with use of a bubble curtain during impact pile driving; and
2. Sound attenuation of 11 dB with use of a wood cushion block during impact pile driving.

The noise level parameters were decreased by 5 and 11 dB for modeling impact pile driving thresholds with the effective use of a bubble curtain or wood cushion block for the largest noise producing activity. This decibel reduction applies only to the use of an impact hammer for driving piles, as cushion blocks are not used on vibratory hammers. As discussed during recent consultation with NMFS in November 2024, TTT presents the result of both modeling a 5- and 11-dB reduction, with the understanding that in-field verification of the cushion block would need to be completed in coordination with NMFS.

5.1.3 Noise Modeling Impacts to Fish

The results presented in this Biological Assessment show the distances to the following impacts:

1. Onset of behavioral disturbance from a vibratory hammer with no sound reduction measure for each activity;
2. Physical injury and behavioral disturbance from an impact hammer with no sound reduction measure;
3. Physical injury and behavioral disturbance from an impact hammer with the use of a bubble curtain (-5db) for the largest noise producing activity only (concurrent wharf and mooring dolphin piling installation).
4. Physical injury and behavioral disturbance from an impact hammer with the use of a cushion block (-11db) for the largest noise producing activity only (concurrent wharf and mooring dolphin piling installation).

Noise modeling results are presented in figures based on two in-water sound source locations for the SPCT pile driving activities — one location within the embayment on the east side of Coke Point and one location outside the embayment on the south tip of the Coke Point peninsula. While noise impacts without sound attenuation are presented below and in Table 5, figures presented in this document represent concurrent wharf and mooring dolphin piling installation via impact driving with a bubble curtain and cushion block (modeled separately) as well as the maximum distance to behavioral disturbance due to vibratory driving during water-based demolition (since no mitigation is applied to vibratory driving). This construction scenario produced the largest sound impacts in the model. Results for the additional construction activities with lesser noise impacts (raw model outputs) are included in Attachment B.

5.1.3.1 Noise Impacts to Fish without Sound Attenuation Measures

Marginal Wharf Pilings

Wharf pilings are 24, 30, and 36 inches in diameter (Table 4). As summarized in Table 7, the largest maximum distance to peak onset (SPLpeak) of physical injury in any size fishes is 61 feet (approximately 0.01 mile) for impact driving of a 30- or 36-inch steel pipe. The maximum distance to cumulative (SELcum) of physical injury is within 5,200 feet (approximately 1 mile) for any size fish is based on 36-inch steel pipe. Data used to develop the proxy sound values were from different water depths. The distance for behavioral disturbance in any size fishes from impact driving of wharf piles is largest for the driving of 24-inch piles (60,625 feet or 11.5 miles). Sound behaves differently at varying depths; therefore, depending on the water depth, a larger sound impact may not always be correlated to a larger diameter pile. For vibratory impact, the distance to onset of behavioral disturbances for fishes increases with increasing pile size.

Mooring Dolphin Pilings

Mooring dolphin pilings are 24-inch steel pipes driven by both impact and vibratory hammers. The distance to peak onset (SPL_{peak}) of physical injury in any size fish is 38 feet or less than 0.01 mile (Table 7). The distance to cumulative (SEL_{cum}) of physical injury is within 1,220 feet (approximately 0.2 mile) for fish larger than 2 grams and within 2,253 feet (approximately 0.4 mile) for fish weighing less than 2 grams. Behavioral disturbance occurs within 28,140 feet (approximately 5.3 miles) regardless of fish weight. For vibratory driving, behavioral disturbance occurs within 52 feet for any size fish.

Concurrent Wharf Piling and Mooring Dolphin Piling

The model indicates that concurrent 36-inch wharf piling and 24-inch mooring dolphin piling installation has the largest potential noise impact area. A 20-day period for concurrent activities is used to estimate when both wharf piling and mooring dolphin piling may occur simultaneously (Table 4), and it is assumed that the maximum wharf piling size (36 inches) is what will be installed during the concurrent activities. For concurrent impact driving, the distance to peak onset (SPL_{peak}) of physical injury in any size fish is within 61 feet (approximately 0.01 mile) (Table 7). For injury from concurrent impact driving, the maximum distance for physical injury for any size fish is within 5,200 feet (approximately 1 mile), while the onset for distance for behavioral disturbance for any size fish is within 60,625 feet (11.5 miles). For concurrent vibratory driving, behavioral disturbance occurs within 1,523 feet (approximately 0.3 mile) for any size fish.

Concurrent wharf and mooring dolphin piling installation and water-based demolition activities were modeled for a vibratory hammer. For behavioral disturbance, the maximum distance to onset of impact is 3,281 feet from the sound source from in-water demolition; concurrent wharf and mooring dolphin piling installation would have a maximum distance of 1,523 feet. For activities inside and near the mouth of the embayment, the noise impact distance would leave a zone of passage in the mainstem of the Patapsco River approximately 12,000- and 10,700- feet wide where fish could transit and avoid noise impact, respectively. Because no sound attenuation was modeled for vibratory pile driving, distances to impacts remain the same regardless of mitigation used and are shown in Figures 7 and 8.

In-Water Demolition

Precise activities and pile sizes to be removed during water-based demolition are yet to be determined and would be finalized closer to project construction. For modeling, it is assumed that only vibratory impacts would be produced during removal of existing in-water structures. Modeling predicts that fishes of any size may experience behavioral disturbance within a distance of 3,281 feet (approximately 0.6 mile) from demolition activities (Table 7). This activity has the largest potential area of behavioral disturbance from removal of in-water structures using vibratory hammers. No sound mitigation was modeled for vibratory hammer use.

5.1.3.2 Noise Impacts to Fish with Sound Attenuation of 5db (bubble curtain)

The model indicates that concurrent 36-inch wharf piling and 24-inch mooring dolphin piling installation has the largest potential noise impact area (section 4.1.3.1). This scenario was modeled again with use of a 5db sound reduction for a bubble curtain (Table 8).

For the concurrent wharf and mooring dolphin piling installation with a bubble curtain (-5db), the distance to the peak onset of physical injury for any size fishes is 28 feet and the distance to the onset of physical injury is 2,414 feet. Behavioral disturbance onset occurs within 28,139 feet from either sound source location. For pile driving activities occurring inside and outside the embayment (Figures 9 and 10), the noise impact distance would not leave a zone of passage during pile driving activities.

5.1.3.3 Noise Impacts to Fish with Sound Attenuation of 11db (cushion block)

The model indicates that concurrent 36-inch wharf piling and 24-inch mooring dolphin piling installation has the largest potential noise impact area (section 4.1.3.1). This scenario was modeled again with use of a 11db sound reduction for a bubble curtain (Table 8).

For the concurrent wharf and mooring dolphin piling installation with a cushion block, the distance to the peak onset of physical injury for any size fish is 11 feet and the distance to the onset of physical injury is 961 feet. Behavioral disturbance onset occurs within 11,203 feet (or 2.1 miles) from either sound source location. For pile driving activities occurring inside the embayment (Figure 11), the noise impact distance would leave a zone of passage in the mainstem of the Patapsco River approximately 4,000 feet wide where fish could transit and avoid noise impact. A zone of passage approximately 2,000 feet wide would be present when pile driving activities occur closer to the mouth of the embayment (Figure 12). In addition to use of a cushion block to reduce sound propagation, a soft-start (gradual startup of impact pile driving) may be used to produce small sound waves that would encourage fish to move away from the project area before pile driving begins. Construction on the south end of Coke Point (outside of the embayment) may be phased to avoid impact driving of steel piles during the time-of-year restriction window for fish based on agency guidance.

Table 7. Maximum Distances to Fish Sound Thresholds from Impulsive Sources (without sound attenuation)

Activity	Pile Count and Size/Type	Vibratory Hammer Distance to Onset of Behavioral Disturbance[1] (feet)	Impact Hammer Distance to Onset of Behavioral Disturbance (feet)	Impact Hammer Distance to Onset of Physical Injury (feet)		
		150 dB RMS (any size fish)	150 dB RMS (any size fish)	206 dB SPL_{peak} (any size fish)	187 dB SEL_{cum} (fish greater than 2 grams)	183 dB SEL_{cum} (fish less than 2 grams)
Wharf piling	150, 24-inch steel pipe piles	52	60,625	38	1,936	2,414
Wharf piling	600, 30-inch steel pipe piles	961	32,808	61	1,927	2,070
Wharf piling	600, 36-inch steel pipe piles	1,523	51,998	61	5,200	5,200
Mooring dolphin piling	60, 24-inch steel pipe piles	52	28,140	38	1,220	2,253
Concurrent wharf and mooring dolphin piling	120, 36-inch steel pipe piles[2] 60, 24-inch steel pipe piles	1,523	60,625	61	5,200	5,200
In-water demolition	Varied	3,281	NA	NA	NA	NA

Notes:

1. For vibratory pile driving, only behavioral thresholds exist for fish.

2. For concurrent wharf and mooring dolphin piling installation, it is unknown which size piles will be installed at that time and the maximum size for wharf pile installation was assumed. The average daily pile installation rate for the wharf piling activity (6 piles per day) was assumed to estimate the number of wharf piles that would be installed in this 20-day time period.

Figure 7. Maximum Distance to Noise Impacts from Vibratory Hammer – Wharf Construction Within Turning Basin

Figure 8. Maximum Distance to Noise Impacts from Vibratory Hammer – Wharf Construction at Southern Point Outside of Turning Basin

Table 8. Maximum Distances to Fish Sound Thresholds from Impulsive Sources for the Largest Noise Producing Activity with Sound Attenuation

Activity	Pile Count and Size/Type	Vibratory Hammer Distance to Onset of Behavioral Disturbance[1] (feet)	Impact Hammer Distance to Onset of Behavioral Disturbance (feet)	Impact Hammer Distance to Onset of Physical Injury (feet)		
		150 dB RMS (any size fish)	150 dB RMS (any size fish)	206 dB SPL_{peak} (any size fish)	187 dB SEL_{cum} (fish greater than 2 grams)	183 dB SEL_{cum} (fish less than 2 grams)
Concurrent wharf and mooring dolphin piling (no attenuation)	120, 36-inch steel pipe piles[2] 60, 24-inch steel pipe piles	1,523	60,625	61	5,200	5,200
Concurrent wharf and mooring dolphin piling with 5db attenuation	120, 36-inch steel pipe piles[2] 60, 24-inch steel pipe piles	1,523	28,139	28	2,414	2,414
Concurrent wharf and mooring dolphin piling with 11db attenuation	120, 36-inch steel pipe piles[2] 60, 24-inch steel pipe piles	1,523	11,203	11	961	961

Notes:

1. For vibratory pile driving, only behavioral thresholds exist for fish. Sound attenuation not applied to vibratory driving.

2. For concurrent wharf and mooring dolphin piling installation, it is unknown which size piles will be installed at that time and the maximum size for wharf pile installation was assumed. The average daily pile installation rate for the wharf piling activity (6 piles per day) was assumed to estimate the number of wharf piles that would be installed in this 20-day time period.

NA = not applicable

Figure 9. Maximum Distance to Noise Impacts from Impact Hammer – Wharf Construction Within Turning Basin with -5db Sound Attenuation

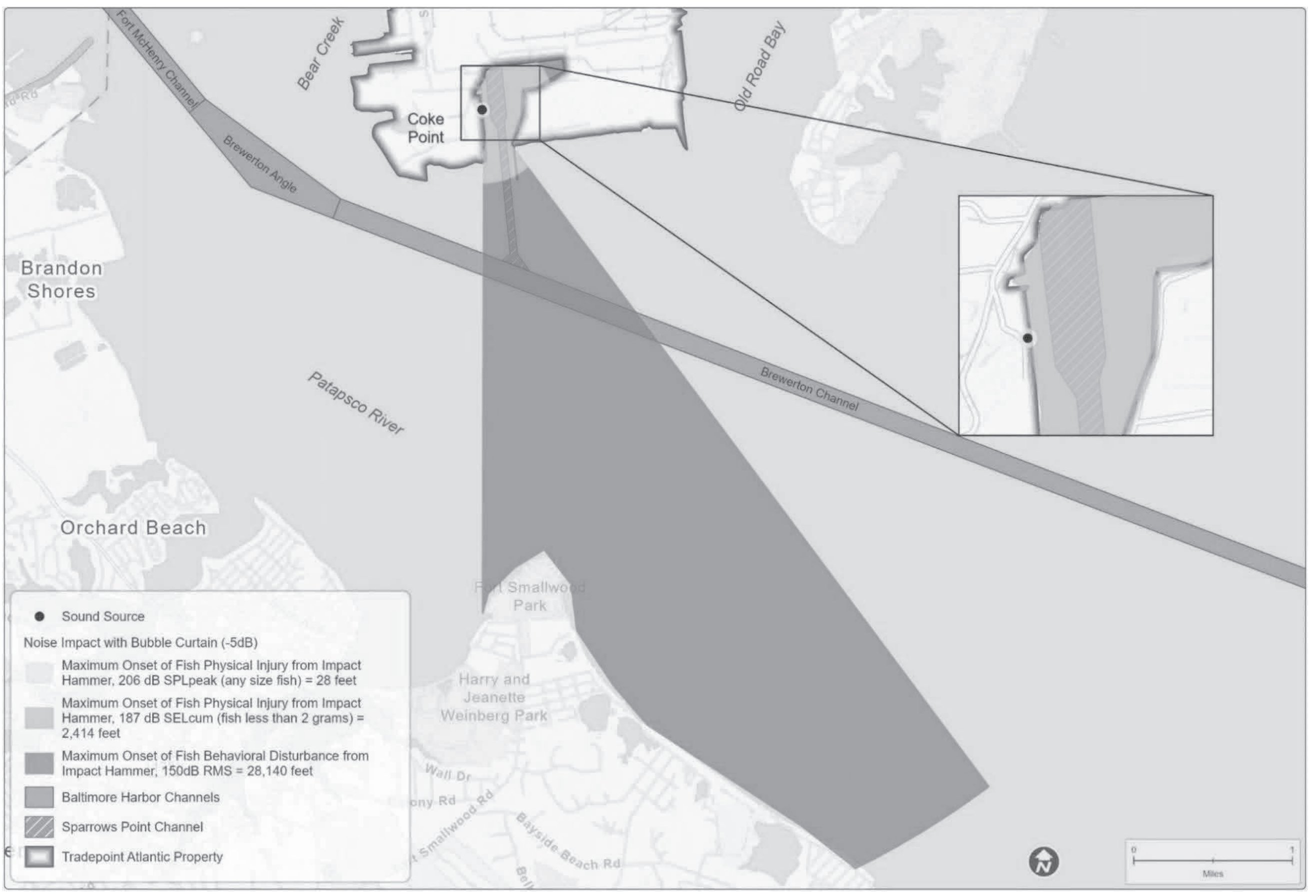

Figure 10. Maximum Distance to Noise Impacts from Impact Hammer – Wharf Construction at Southern Point Outside of Turning Basin with -5db Sound Attenuation

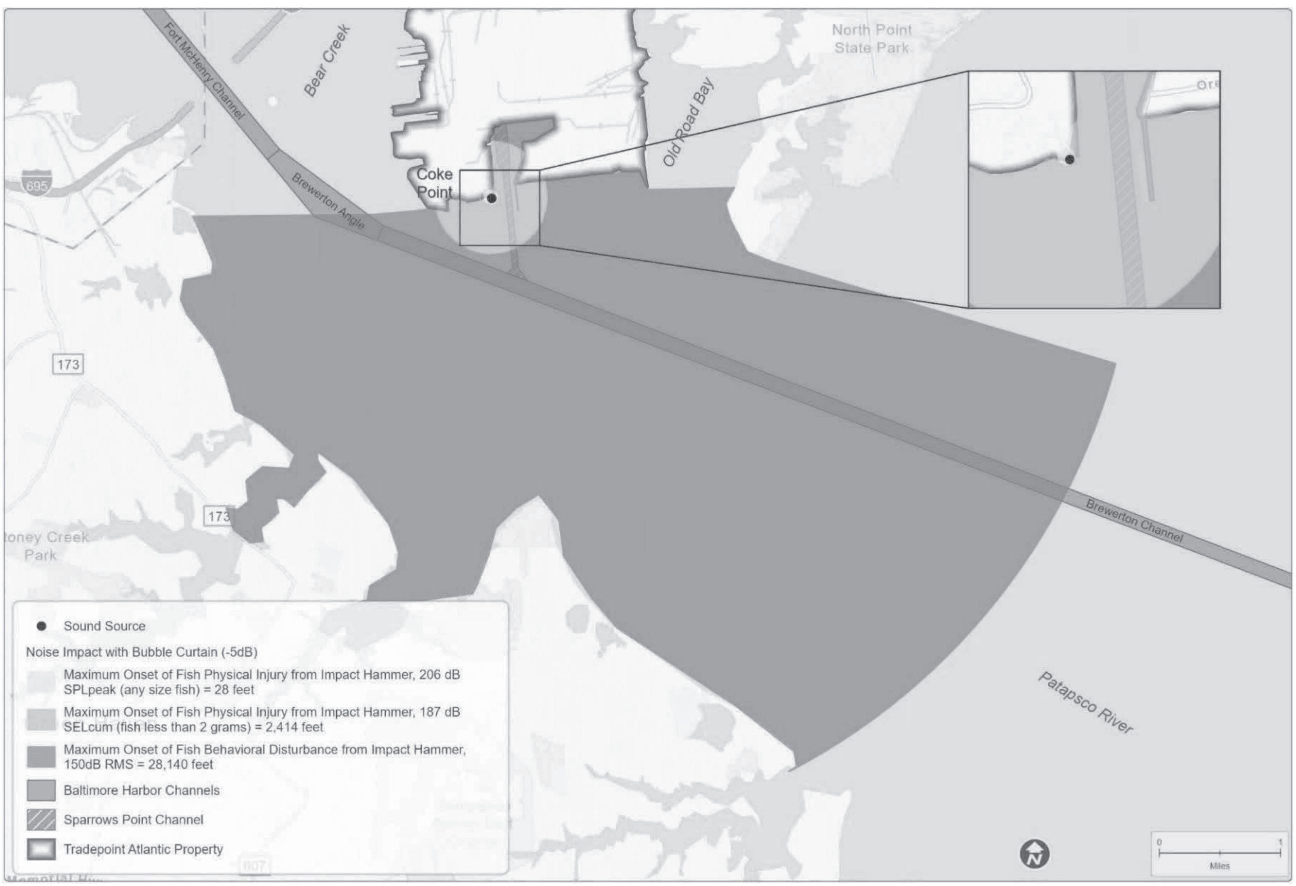

Figure 11. Maximum Distance to Noise Impacts from Impact Hammer – Wharf Construction Within Turning Basin with -11db Sound Attenuation

Figure 12. Maximum Distance to Noise Impacts from Impact Hammer – Wharf Construction at Southern Point Outside of Turning Basin with -11db Sound Attenuation

5.1.4 Noise Impacts to Dolphins

Assuming a 5B reduction in sound from a bubble curtain and an 11 dB reduction in sound mitigation provided by use of the wood cushion block for impact pile driving the anticipated zones of impact for injury and behavior disturbance (applied to the largest noise producing activity, concurrent wharf piling and mooring dolphin) are found in Table 9 and shown in Figures 13 through 16.

5.1.4.1 Sound Attenuation of 5 dB

The maximum distance to onset of physical injury from impact driving occurs at 0.7 feet from both installation of a 36-inch wharf piling and concurrent wharf and mooring dolphin piling installation (Figure 13) for the highest sound wave and 202 feet over the course of the sound event. The maximum distance on onset of behavioral disturbance from impact driving occurs at 6,202 feet.

Distances of behavioral effects from vibratory pile driving are largest from both installation of a 36-inch wharf piling and concurrent wharf and mooring dolphin piling installation (152,283 feet or 28 miles) and for physical injury from vibratory driving, distances are largest during water-based demolition activities (270 feet). Sound attenuation measures are not applied to vibratory driving.

5.1.4.2 Sound Attenuation of 11 dB

The maximum distance to onset of behavioral disturbance for marine mammals (including dolphins) from an impact hammer (with a cushion block for sound attenuation reduction) is 2,414 feet from the installation of a 36-inch wharf piling and concurrent wharf and mooring dolphin piling installation for the highest sound wave and 80 feet over the course of the sound event. The maximum distance to onset of physical injury from impact driving occurs at 0.3 feet from both installation of a 36-inch wharf piling and concurrent wharf and mooring dolphin piling installation.

Distances of behavioral effects from vibratory pile driving are largest from both installation of a 36-inch wharf piling and concurrent wharf and mooring dolphin piling installation (152,283 feet or 28 miles) and for physical injury from vibratory driving, distances are largest during water-based demolition activities (270 feet). Sound attenuation measures are not applied to vibratory driving.

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Table 9. Maximum Distances to Marine Mammals Sound Thresholds from Impulsive Sources for the Largest Noise Producing Activity with Sound Attenuation (where applicable)

Activity	Pile Count and Size/Type	Distance to Onset of Behavioral Disturbance for All Marine Mammals (including dolphins) (feet)		Distance to Onset of Physical Injury for Mid-Frequency Cetacean (feet)		
		Impact Hammer 160 dB RMS	Vibratory Hammer 120 dB RMS	Impact Hammer 230 dB SPL_{peak}	Impact Hammer 185 dB PTS SEL_{cum}	Vibratory Hammer 198 dB PTS SEL_{cum}
Wharf piling	150, 24-inch steel pipe piles	2,414	5,200	0.2	24	3
Wharf piling	600, 30-inch steel pipe piles	7,068	96,084	2	126	56
Wharf piling	600, 36-inch steel pipe piles	2,070	152,283	0.3	66	117
Mooring dolphin piling	60, 24-inch steel pipe piles	1,120	5,200	0.2	15	2
Concurrent wharf and mooring dolphin piling	120, 36-inch steel pipe piles[1] 60, 24-inch steel pipe piles	13,061	152,283	1.5	435	142
Concurrent wharf and mooring dolphin piling (5 dB attenuation)	120, 36-inch steel pipe piles[1] 60, 24-inch steel pipe piles	6,062	152,283	0.7	202	142
Concurrent wharf and mooring dolphin piling (11 dB attenuation)	120, 36-inch steel pipe piles[1] 60, 24-inch steel pipe piles	2,414	152,283	0.3	80	142
Water-based demolition	Varied	NA	328,084	NA	NA	270

Notes:

1. For vibratory pile driving, only behavioral thresholds exist for marine mammals. Sound attenuation not applied to vibratory driving.

2. For concurrent wharf and mooring dolphin piling installation, it is unknown which size piles will be installed at that time and the maximum size for wharf pile installation was assumed. The average daily pile installation rate for the wharf piling activity (6 piles per day) was assumed to estimate the number of wharf piles that would be installed in this 20-day time period.

NA = not applicable

PTS = permanent threshold shift

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Figure 13. Maximum Distance to Noise Impacts from Impact Hammer – Wharf Construction Within Turning Basin with -11db Sound Attenuation (Dolphins)

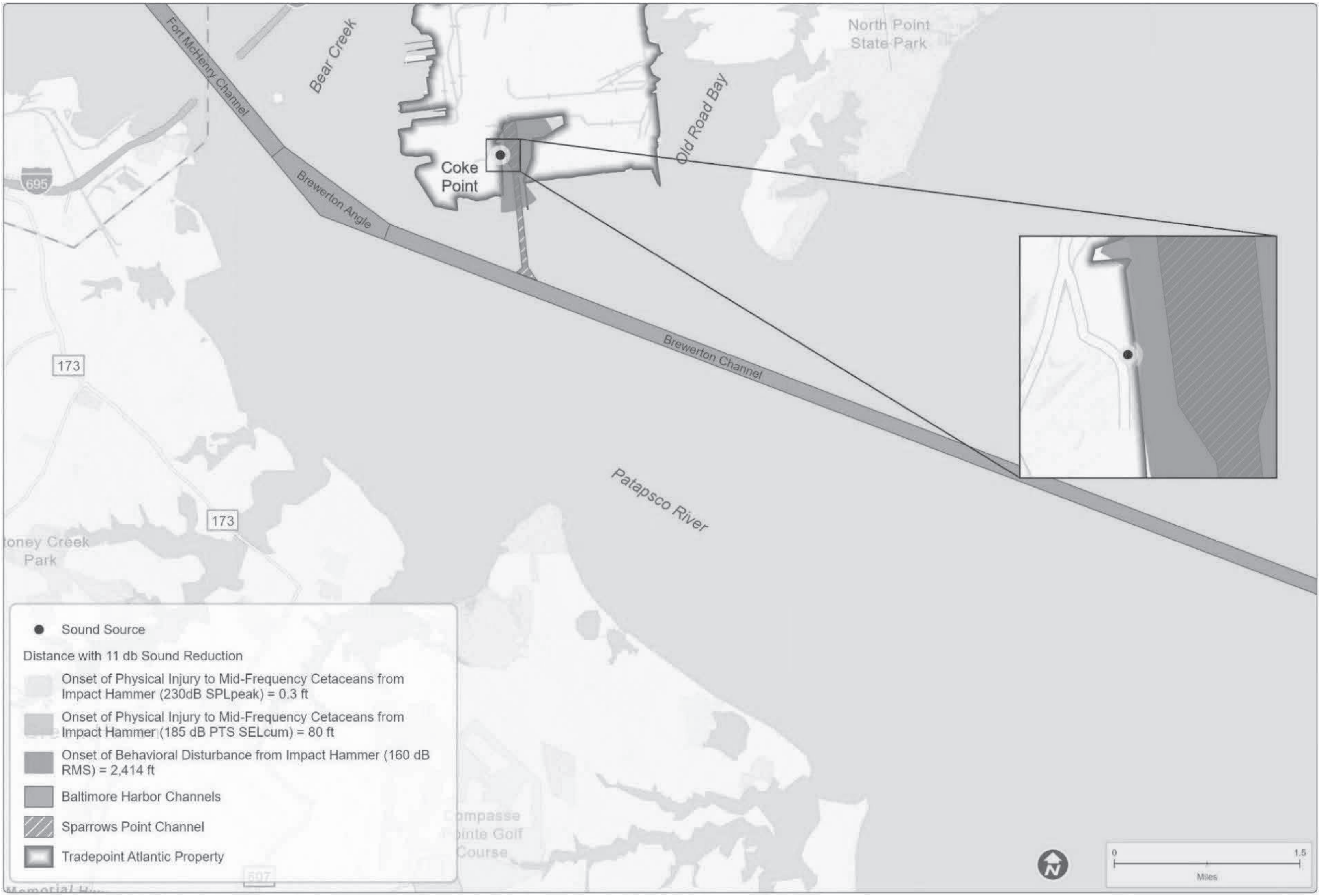

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Figure 14. Maximum Distance to Noise Impacts from Impact Hammer – Wharf Construction at Southern Point Outside of Turning Basin with -11db Sound Attenuation (Dolphins)

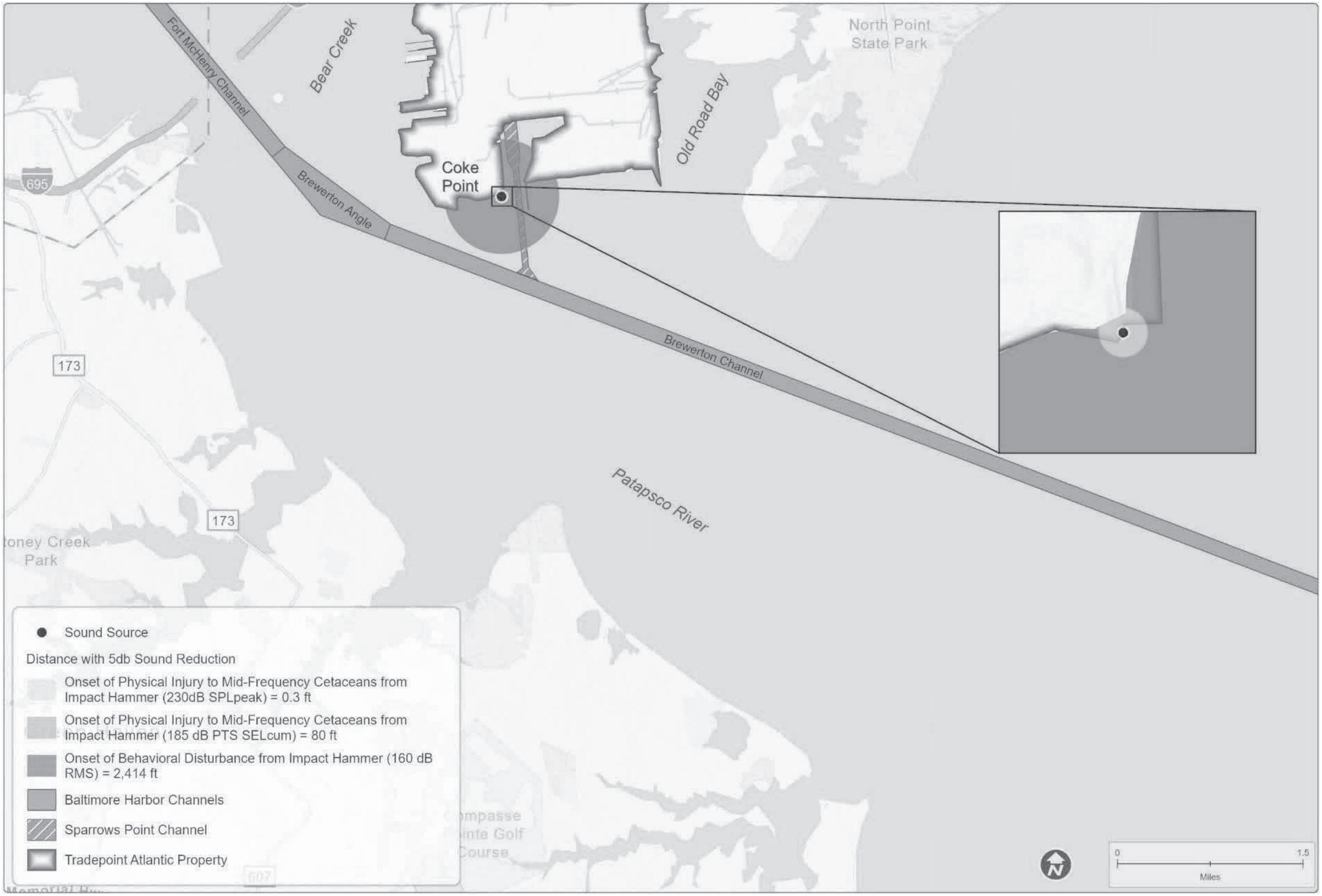

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Figure 15. Maximum Distance to Noise Impacts from Impact Hammer – Wharf Construction Within Turning Basin with -5db Sound Attenuation (Dolphins)

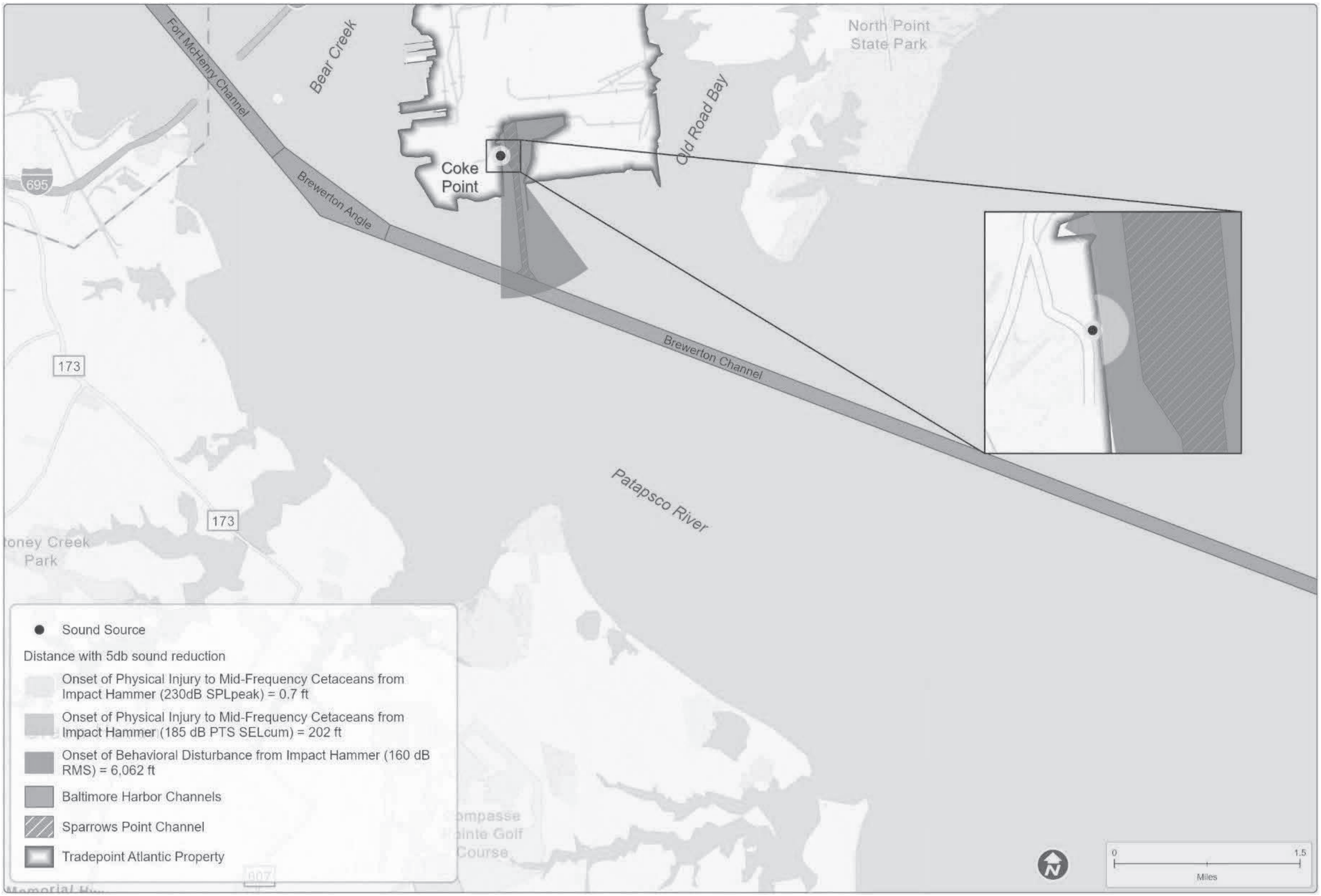

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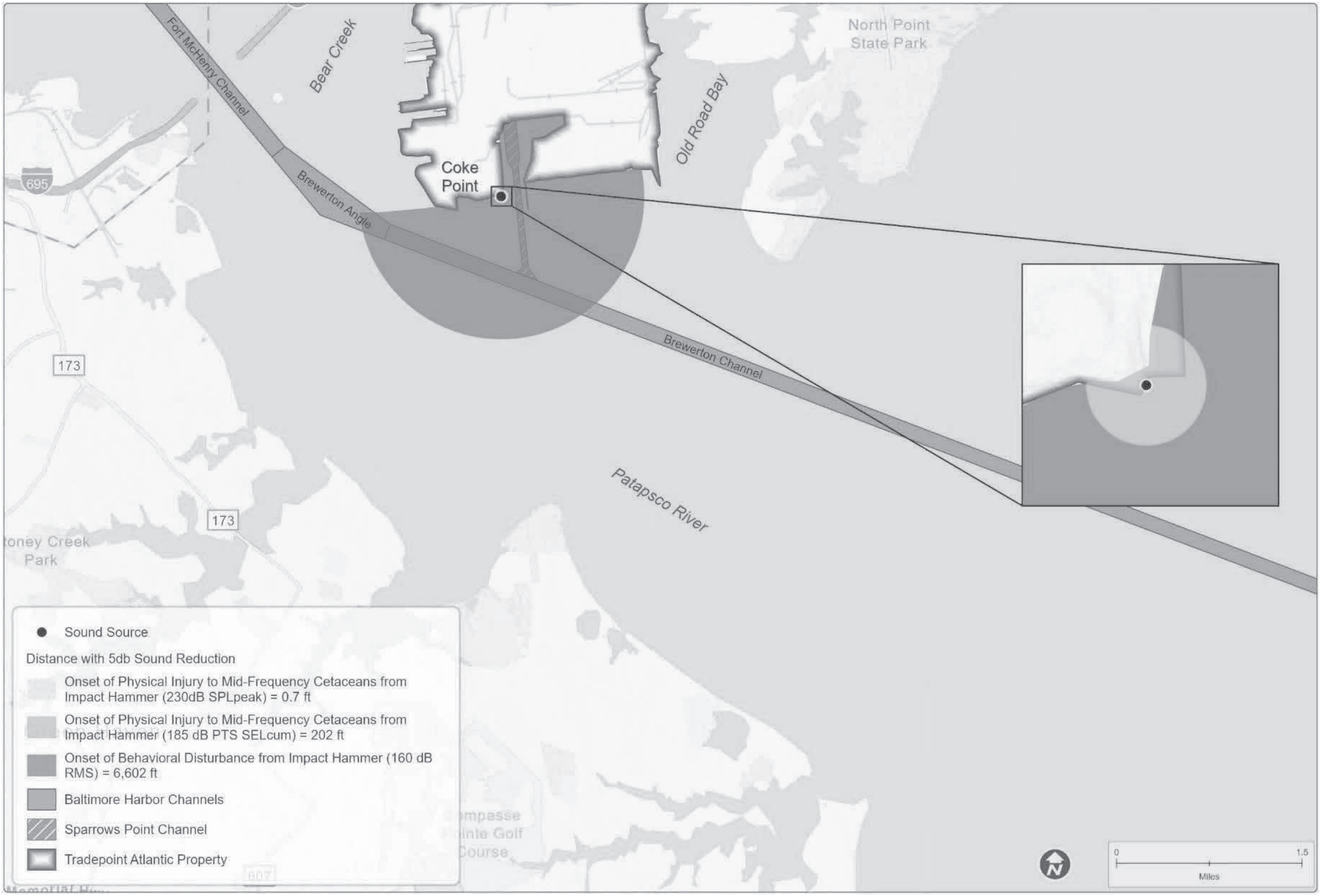
Figure 16. Maximum Distance to Noise Impacts from Impact Hammer – Wharf Construction at Southern Point Outside of Turning Basin with -5db Sound Attenuation (Dolphins)



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5.1.5 Summary of Noise Impacts

For fish, the largest noise producing activity without any sound reduction results in a maximum noise impact distance that spans with width of the Patapsco River in the SPCT area. TTT is coordinating with NMFS on use of sound attenuation measures to reduce sound impacts on fishes and dolphins. As recommended in the NMFS Multi-Species Model, a conservative 5db reduction for a bubble curtain was modeled. Use of this reduction does not allow for a zone of passage in the river where fish could avoid the sound generated from the SPCT construction. For dolphins, a 5 dB reduction would allow a zone of passage. TTT is working with NMFS on appropriate best management practices (BMPs) for minimizing impacts to dolphins during times of year when they may be present.

Based on the guidance in recent reports and approved Biological Opinions (NMFS 2022c, d) use of an 11 dB reduction for a cushion block would allow passage for fish to avoid sound impacts from pile driving occurring both in the embayment and toward the southern extent of Coke Point closer to the Patapsco main stem. TTT will continue to consult with NMFS on verification methods to ensure the 11db reduction is achieved and a zone of passage during the spring migration period is present during construction.

5.2 Water Column Turbidity

Turbidity is measured in the field in NTU. Water with higher turbidity will often have higher concentrations of total suspended solids (TSS), which can be measured in samples sent to a laboratory. Although there are natural contributors to turbidity within a water body (e.g., storm events, plankton blooms), construction activities such as dredging can increase turbidity. Turbidity from dredging and wharf construction and from the Coal Pier Channel DMCF construction has the potential to impact ESA species. For the purposes of the evaluation of impacts from turbidity, DMCF construction includes construction of the enclosure dike. Impacts to ESA species from habitat alteration due to material placement within the DMCF are discussed in section 5.3.

5.2.1 Turbidity from Dredging and Wharf Construction (Pile Driving)

NMFS has estimated TSS concentrations associated with certain in-water activities, including mechanical dredging of fine-grained material, based on numerous studies in the greater Atlantic region. Based on these studies, elevated suspended sediment concentrations at several hundreds of mg/L above background may be present near the bucket but would settle rapidly within a 2,400-foot radius of the dredge location. Based on the extremely low currents within the embayment the turbidity radius is expected to be significantly less within the embayment. The 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 mg/L; see summary of scientific literature in Burton 1993; Wilber and Clarke 2001). Turbid conditions during dredging can be controlled to minimize impacts on fish by using BMPs and completing activities during times of year when certain species are less active within the project area.

For pile driving, NMFS has estimated TSS concentrations associated with the disruption of bottom sediments from this activity based on a study performed in the Hudson River. Elevated TSS concentrations of approximately 5.0 to 10.0 mg/L above background levels were produced within approximately 300 feet (91 meters) of the pile being driven (Federal Highway Administration 2012).

Based on the data from the studies noted above, the maximum expected distance for movement of resuspended sediment from the dredging and pile driving operations would affect a portion of the total

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We should address how we can still justify an NLAA determination if there is no zone of passage. For example, if pile driving will only occur for X# of hours per day for X# of days, or during a time of year when fish are unlikely to be present, etc.

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Number: 4 Author: brian.d.hopperSubject: Comment on Text Date: 2/6/2025 12:52:41 PM -05'00'
what about potential exposure to contaminants?

Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:48:30 PM -05'00'
subsection(s) of analysis of sediments and potential effects to ESA listed species. Brian offered to assist in determination of effects to ESA species once the contaminants are provided.

width of the Patapsco River (2,400 feet [0.4 mile] or 17.1 % of the total 14,000 feet [2.6 miles] of available river width). The expected distance of movement of resuspended sediment is less than half the distance to the end of the southern shore of the Sparrows Point peninsula in either direction. Any resuspended sediment will remain well within the industrial shoreline of the TPA property.

5.2.1.1 Eggs and Larvae

Eggs and larvae of Atlantic Sturgeon and Shortnose Sturgeon would not be present in the Patapsco River, as this is not a spawning river for either species. Habitat conditions do not support this life stage. Therefore, turbidity from the Proposed Action would have no effect on sturgeon eggs or larval stages.

5.2.1.2 Juveniles and Adults

Impacts from suspended sediments due to dredging on juveniles and adults would be likely short-term and temporary, as individuals would be able to move away from the dredging areas. It is possible that transient migrating and foraging individuals may be present for either Sturgeon species, although documentation as far north in the Chesapeake Bay as SPCT is infrequent. Studies have shown that sturgeon may alter their normal movements due to suspended sediments, but juvenile and adult sturgeon are anticipated to swim through sediment plumes to avoid the area (NMFS 2023d).

Time-of-year restrictions on dredging would also reduce impacts on adult and juvenile sturgeon individuals if they are present in the project dredging area. Dredging BMPs, such as use of an environmental bucket, could also be implemented to minimize impacts related to resuspended sediment. Based on sediment plume studies in similar environments, it is anticipated that the maximum movement of any resuspended sediment from the dredging operations would temporarily reduce the quality of foraging habitat in a portion of the Patapsco River. Sufficient areas of similar pelagic or demersal habitat are present for use by juvenile and adult individuals outside of and adjacent to the direct dredging area. There is also similar available habitat outside of the project work area within the river covering about 4 miles (or 22,000 feet) from the former Key Bridge eastward to Rock Point.

5.2.1.3 Bottlenose Dolphin

Studies have found that high levels of turbidity can decrease the visual hunting ability of the Bottlenose Dolphin, reducing their ability to find prey, as well as make it more difficult to navigate increasing the risk of collision with obstacles (Cockcroft et al. 1991, McBride-Kebert and Tom 2021). Because Bottlenose Dolphins are infrequently documented as far north in the Patapsco River as the SPCT area, it is unlikely that individuals would be present to be impacted by turbidity from the Proposed Action. Given the width of the river in this area, any transient individuals would have sufficient area to avoid suspended sediment. Exact levels of TSS that impact Bottlenose Dolphins (and other marine mammals) is not known.

5.2.2 Turbidity from DMCF Construction

Placement of material to build the sand enclosure dike for the Coal Pier Channel DMCF could cause temporary turbidity in surrounding waters from both sand placement through the water column and disturbance of existing bottom sediments from sand placement overtop. The alignment of the dike across the opening of the Coal Pier Channel is approximately 660 linear feet. Once the perimeter dike is completed (approximately 7 months), dredged material would be placed inside the enclosed DMCF, filling 19 acres of open water. This habitat alteration impact is discussed in section 5.3.

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Sand is a coarser-grained material that settles out of the water column faster than finer-grained material, resulting in suspended sediment remaining in the water column in a localized area for a short duration. BMPs would be utilized to limit the amount of suspended sediment escaping the immediate placement area (see Section 7).

5.2.2.1 Eggs and Larvae

Eggs and larvae of Atlantic Sturgeon and Shortnose Sturgeon would not be present in the Patapsco River, as this is not a spawning river for either species. Habitat conditions do not support this life stage. Therefore, turbidity from the Proposed Action would have no effect on sturgeon eggs or larval stages.

5.2.2.2 Juveniles and Adults

Sturgeon species may exhibit behavioral and physiological effects when exposed to increased turbidity levels of 1,000 mg/L above ambient conditions for more than two weeks (NMFS 2023d). Turbidity will temporarily decrease the quality of foraging habitat for sturgeon within the Action area. Turbidity level at the bucket (maximum levels from mechanical dredging) are expected to be well below 1,000 mg/L, as noted in Section 5.2.1. above. However, the mobile life stages of Atlantic Sturgeon (juvenile, subadult, and adult) and Shortnose Sturgeon (adult) potentially present in the area would be able to move away from the construction area to avoid these impacts from turbidity. It is unlikely that impacts on Atlantic and Shortnose Sturgeon would rise above minor and short term from the minor changes to the water column. Any turbidity resulting from pumping the dredged material into the DMCF would be contained within the dike and would not impact the surrounding habitat for ESA or special status species.

Placement of the sand could also disturb existing sediments at the mouth of Coal Pier Channel. The movement of the bottom sediments during placement of the sand would be limited due to the shallow sediment depth, the small size of the dike, and the proximity to the shoreline. Depending on site conditions, BMPs to reduce sediment resuspension (e.g., turbidity curtain) could be employed (see Section 6). Therefore, sediments resuspended during dike construction would be expected to be minimal. Given that the material to create the perimeter dike would be sand and the soft sediments underlying the Coal Pier Channel are shallow, the impacts would be limited to temporary and localized effects on the water column during construction, having minimal impact on fish species.

5.2.2.3 Bottlenose Dolphin

Effects from turbidity from DMCF construction would be the same as those described above in section 5.2.1.

5.2.3 Biological Assessment Determination – Turbidity

Turbidity resulting from dredging, pile driving, and DMCF construction has the potential to temporarily reduce the quality of foraging habitat for transient sturgeon or Bottlenose Dolphins utilizing the SPCT area, with the largest impacts occurring to juvenile life stages of sturgeon. However, due to the temporary nature of turbidity and the use of BMPs during operations, turbidity from the Proposed Action **may affect, but is not likely to adversely affect** Atlantic Sturgeon and Shortnose Sturgeon as the impact would be insignificant (too small to be meaningfully measured or detected).

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/6/2025 11:50:56 AM -05'00'

remove

Number: 2 Author: brian.d.hopperSubject: Comment on Text Date: 2/10/2025 3:06:09 PM -05'00'

you should make your NLAA determination at the conclusion. here, you just need to say if the impacts are insignificant of discountable.

Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:49:33 PM -05'00'

each stressor gets determined if effect is insignificant or extremely unlikely. When considering the sum of all stressors in total is when the agency may determine NLAA.

5.3 Habitat/Bottom Alteration

5.3.1 Habitat Alteration from Dredging and Wharf Construction

Removal of the river bottom sediments from dredging to deepen and widen the channel would create deeper water habitat which is more prone or subject to low dissolved oxygen conditions in the summer months within and adjacent to the existing Sparrows Point Channel. Wharf construction would also cause shading of some existing open water habitat. The river bottom in the action area is a soft-bottom environment, comprised mainly of silt and clay and deeper sand in the north portion of the channel; no SAV is present.

5.3.1.1 Eggs and Larvae

Eggs and larvae of Atlantic Sturgeon and Shortnose Sturgeon would not be present in the Patapsco River, as this is not a spawning river for either species. Habitat conditions do not support this life stage. Therefore, habitat alteration from the Proposed Action would have no effect on sturgeon eggs or larval stages.

5.3.1.2 Juveniles and Adults

The removal of bottom sediment resulting from channel dredging would impact any juveniles and adult sturgeon that would be directly utilizing sediment bottom for foraging in the dredging footprint. Dredging would result in a loss of the benthic community currently within the area, reducing foraging opportunities for sturgeon species. With deepening of the channel, the potential for water column stratification would increase, resulting in lower dissolved oxygen concentrations in deep bottom water, particularly in the summer months. This could also affect fish usage of bottom waters, as they will avoid waters that do not contain enough oxygen. This would also reduce potential prey sources for sturgeon and special status species that consume benthic organisms.

Additionally, dredging the channel to attain the preferred alignment for the wharf would include removal of existing shoreline, resulting in the creation of approximately 6.3 acres of new open water habitat. Construction of the wharf would result in shading approximately 8.9 acres of open water habitat — 3.3 acres of existing open water and 5.6 acres of new open water habitat. Shading of these areas would impact benthic and water column productivity. Installation of the mooring dolphin and wharf pilings would result in the permanent loss of 0.2 acres of bottom habitat. These habitat changes would cause localized impacts on benthic organisms and prey thus impacting any foraging sturgeon in the project area.

5.3.2 Habitat Alteration from Material Placement in the DMCF

Dredged material placement within a constructed DMCF at Coal Pier Channel would result in a loss of 19 acres of open water. It is also possible, but not likely, that individual adults and juveniles within the footprint would be trapped within the enclosed DMCF. Migrating and foraging sturgeon typically utilize main river channels with water deep enough to ensure continuous flow to support both growth of juveniles and staging and resting areas for adults and subadults. It is therefore unlikely that suitable habitat for the lifestages of sturgeon potentially present in the Action Area is available within the Coal Pier Channel.

The DMCF would also bury the benthic organisms within its footprint, removing the benthic communities as a possible food source for sturgeon species. Although the Coal Pier Channel has a degraded benthic community and sediment contamination, it is utilized by fish year round (EA 2024b to f). These impacts directly reduce the quantity of habitat within the Action Area.

5.3.2.1 Bottlenose Dolphin

While transient Bottlenose Dolphins have been documented in the Patapsco River, it is not anticipated that dolphins would reside within the project area, as typical higher salinity habitat is not available. Given the width of the river in the SPCT area, it is expected that transient dolphins would utilize the main river channel for any opportunistic foraging. Therefore, the loss of 19 acres of open water within the more isolated Coal Pier Channel is not expected to adversely affect Bottlenose Dolphin individuals within the area.

5.3.3 Biological Assessment Determination- Habitat Alteration

Habitat alteration resulting from wharf construction would have insignificant impacts on ESA species. Habitat alteration in the dredging area due to the deepening of the channel would reduce the quality of bottom habitat by reducing the likelihood of a benthic community re-establishing; however, this area is not expected to support foraging ESA species. Creation of the Coal Pier Channel DMCF would directly reduce the quantity of habitat in the Action Area by filling 19 acres of open water within an area that is isolated from the main river channel which is more suitable habitat for ESA species. As such, habitat alteration from the Proposed Action **may affect, but is not likely to adversely affect** ESA species as the impact would be insignificant (too small to be meaningfully measured or detected).

5.4 Impingement/Entrainment

ESA species (Atlantic and Shortnose Sturgeon) could potentially be caught by the equipment used to mechanically dredge the SPCT channel and to hydraulically offload the material to a DMCF. Juvenile and adult fish can potentially become impinged or entrained (depending upon size and life stage) in the clamshell dredge bucket, although this is expected to be infrequent. Capture by clamshell dredge bucket is uncommon and would only impact fish that spend most of their time on the seafloor and unable to move away from the operation; any adult or juvenile sturgeon may feed on benthic organisms but would also be utilizing other water column areas and likely be able to avoid the bucket. When surface water is pumped to slurry dredged material for hydraulic offloading, fish may become caught on the pipe screen (depending upon the size of the fish and the size of the openings of any fish screen that may be used on the pipe) or be pulled into the pipe past the screen. Eggs and larvae would be the life stages most susceptible to entrainment in the hydraulic pipe, however these life stages would not be present in the dredging area. It should be noted that any hydraulic pumping operation would comply with requirements from MDNR and/or NMFS to reduce impingement/entrainment impacts, which may include using an intake screen with a specific size mesh openings and limiting intake velocities.

5.4.1 Biological Assessment Determination- Impingement/Entrainment

Impingement or entrainment of ESA species from SPCT operations is possible, however given the size and life stages of sturgeon that could be present in the project area, it is unlikely that individuals would be subject to impingement or entrainment. This impact is not expected to be able to be meaningfully measured or detected and could be alleviated with modifications (fish screens), impingement or entrainment from the Proposed Action **may affect, but is not likely to adversely affect** ESA species as the impact would be insignificant.

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/6/2025 11:50:25 AM -05'00'

remove

Number: 2 Author: brian.d.hopperSubject: Comment on Text Date: 2/10/2025 10:41:35 AM -05'00'

can you briefly explain why? is there data from benthic surveys? is that habitat too degraded?

Number: 3 Author: brian.d.hopperSubject: Comment on Text Date: 2/10/2025 10:43:18 AM -05'00'

save this for you final determination. for each stressor you just need to establish whether the impacts are insignificant or discountable.

Number: 4 Author: brian.d.hopperSubject: Comment on Text Date: 2/10/2025 10:43:40 AM -05'00'

see comment above

5.5 Vessel Traffic

The SPCT project area is located within the Port, which is in the top 20 ports in the United States by tonnage and number of vessels handled annually (US Department of Transportation [USDOT] 2024a), including a variety of ship types (e.g., bulk carriers, general cargo ships, tankers, container ships). More than 2,500 vessels called on the Port in 2021 (USDOT 2024b). Vessel traffic is analyzed as a potential stressor to ESA species during both construction and long-term operation of SPCT.

5.5.1 Construction Vessel Traffic

5.5.1.1 Sturgeon

The proposed project would result in minor and temporary increases in vessel traffic as the vessels transit around the project site and to and from the project site to the NODS or to existing MPA DMCFs. In the immediate project area, there would be a small increase in vessel activity, likely not more than 10 vessels operating at any one time, which will not significantly increase vessel usage of the area. Impacts to sturgeon resulting from increased vessel traffic can include bottom disturbance from mooring or propeller wake. Additionally, collision with vessels could be a source of anthropogenic mortality and injury for aquatic species as a result of being struck by boat hulls or propellers (Brown and Murphy, 2010). The vessels that will be used to transport sediment from the dredging area to the DMCF or other disposal areas include tugboats and bottom dump scow barges. The vessels will likely travel at speeds of no more than 10 knots to minimize risks of strikes along the transport routes. During dredging and material offloading to the Coal Pier Channel DMCF, there could be minor and temporary bottom disturbances including spud piles into the sediment to hold barges in position, temporary piles to serve as moorings for barges, and anchors and mooring balls/lines to also serve as temporary moorings for barges.

5.5.1.2 Dolphin and Sea Turtles

While vessel strikes with marine mammals and turtles are possible, strikes are a rare cause of injury or mortality. The minimal increase in vessels during SPCT construction would not be expected to increase the risk of strikes with marine mammals or bottlenose dolphins. Vessel strikes remain a relatively rare cause of mortality to sea turtles and an increase in vessel traffic in the action area would not necessarily translate into an increase in vessel strike events. Most collisions with sea turtles are found to be from recreational boat traffic as these are often traveling at higher speeds in waterways (National Research Council 1990) and the speed of the vessel (Hazel et al. 2007, Sapp 2010). Sea turtles are thought to be able to avoid injury from slower moving vessels because they may be able to maneuver and avoid the vessel (Sapp 2010 as cited in NMFS 2023).

During transport of the material from SPCT to the NODS, there would be a slightly higher risk of vessel traffic impacts to Bottlenose Dolphins or sea turtles. The type of vessel traffic impact is expected to be similar to those already present in these trafficked routes.

Overall, the addition of project vessels during construction would be intermittent, temporary, and restricted to the project area on any given day so that any increased effects from vessels to ESA species would be too small to be meaningfully measured or detected.

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/10/2025 10:14:07 AM -05'00'
thanks for dividing this into construction vessel traffic and vessel traffic during operation.

Number: 2 Author: brian.d.hopperSubject: Comment on Text Date: 2/10/2025 10:15:42 AM -05'00'
I think we should expand the discussion about baseline vessel traffic in the action area.

Author: e1opxnmv Subject: Sticky Note Date: 2/14/2025 2:50:01 PM -05'00'
Waterborne Commerce Data may provide additional info. Quantify level of vessel traffic existing and what will project add to that baseline?

Number: 3 Author: brian.d.hopperSubject: Comment on Text Date: 2/6/2025 11:08:37 AM -05'00'
good! thanks for acknowledging this but be sure to include this in the description of the action area.

Number: 4 Author: brian.d.hopperSubject: Comment on Text Date: 2/6/2025 11:04:19 AM -05'00'
remove

Number: 5 Author: brian.d.hopperSubject: Comment on Text Date: 2/6/2025 11:04:33 AM -05'00'
remove

Number: 6 Author: brian.d.hopperSubject: Comment on Text Date: 2/6/2025 11:06:17 AM -05'00'
remove

Number: 7 Author: brian.d.hopperSubject: Comment on Text Date: 2/6/2025 11:04:15 AM -05'00'
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5.5.2 Long-term Operations Vessel Traffic

Once constructed, operation of the SPCT would increase vessel traffic by approximately 300 vessels per year, an increase of approximately 20% over the Port calls logged in 2021 (USDOT 2024abl). Sturgeon would be expected to move away from the areas of the activity or access to foraging or migrating areas would not be impacted. Adding these project vessels to the existing baseline is not likely to increase the risk that any vessel in the area will affect ESA species on a yearly basis.

5.5.3 Biological Assessment Determination- Vessel Traffic

Because the SPCT is in a heavily utilized area of the Port, because the long-term operation increases vessels by only 20% above the current usage, and the minimal risk of a vessel impacting ESA species, vessel traffic from the Proposed Action **may affect, but is not likely to adversely affect** ESA species as the impact would be insignificant.

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/6/2025 12:54:42 PM -05'00'
what is the life span of the Port? in other words, how many years of vessel traffic do we need to consider?

Number: 2 Author: brian.d.hopperSubject: Comment on Text Date: 2/6/2025 11:46:16 AM -05'00'
a 20% increase sounds like a big jump. we should work a little bit on this section to support the NLAA determination. i have some examples i can provide.

6 Potential Avoidance and Minimization

Multiple potential avoidance and minimization measures are being considered for the Proposed Action to reduce overall impacts on the aquatic environment. Those which apply to ESA species are briefly described in Table 10. These measures are considered potential measures that would be finalized following completion of the project design and construction sequencing. Use of any of these measures (or a combination of measures) would be stipulated as permit conditions by regulatory agencies.

Table 10. List of Potential Avoidance and Minimization Measures to Reduce Impacts on ESA Species

Potential Avoidance/Minimization Measure	Potential Benefit to ESA Species
Follow time-of-year restrictions (if required by regulatory agencies) for pile driving and dredging	Avoids impacts sensitive life stages of ESA species and other aquatic resources.
Implement BMPs for Bottlenose Dolphin, if required by NMFS	Minimizes impacts to transient dolphins in the area.
Use a "soft start" method for impact hammer during pile driving	Creates a warning for mobile ESA species to move away from the project area
Use a cushion block and/or bubble curtain during impact driving of piles	Reduces the intensity and distance for underwater noise propagation.
Limit the daily window for pile driving activities to 10 to 12 hours or less of daytime operations	Reduces duration of noise impacts on ESA species
Use a vibratory hammer (if/where feasible) followed by use of an impact hammer for individual piles	Reduces the duration of the underwater noise created by impact hammer.
Operate construction vessels in adequate water depths. Use shallow draft vessels that maximize the navigational clearance between the vessel and the bottom in shallow areas.	Avoids propeller scour or grounding in ESA species habitat.
For pile removal activities, cut the existing pile(s) at the mudline (where possible) to avoid sediment re-suspension during extraction.	Reduces turbidity impacts on ESA species.
Surround the area of demolition, pile removal, and (as applicable) other bottom disturbing construction activities with a full-height, weighted turbidity curtain in areas where sediment contaminants may be present at concentrations of concern.	Minimizes potential for sediments to be resuspended and leave the immediate vicinity and impact ESA species.
Use an environmental-type bucket where feasible and where necessary based on sediment chemical data to minimize sediment release from the bucket while ascending through the water column.	Reduces water column turbidity impacts on ESA species.

Number: 1 Author: brian.d.hopperSubject: Comment on Text Date: 2/5/2025 10:31:02 AM -05'00'
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Potential Avoidance/Minimization Measure	Potential Benefit to ESA Species
Implement operational controls during dredging. These may include: 1. Perform dredging such that the dredge bucket is not overfilled on each deployment, reducing release of sediment. 2. Control the ascent of the bucket in the water column to minimize incidental release while moving through the water column. 3. Control the descent of the bucket to minimize hard contact with the bottom and resuspension of sediment upon bucket contact. 4. Prohibit dragging of the dredge bucket along the sediment surface.	Reduces water column turbidity impacts on ESA species.
Place dredged material in a barge or scow in a manner that maintains sufficient freeboard to eliminate the potential for material leaving/spilling from the barge during transport to the material offloading or placement area.	Reduces water column turbidity impacts on ESA species.

7 Effects of Climate Change

Climate change in the Patapsco River and Baltimore Harbor area is affecting sea level, the severity and frequency of precipitation events, and the probability of extreme heat. Global Mean Sea Level scenarios are projections used to estimate potential future sea level rise based on different greenhouse gas emission pathways, climate sensitivities, and ice sheet dynamics. The five scenarios are categorized as *low*, *intermediate-low*, *intermediate*, *high*, and *extreme*. By 2100, regional sea level is expected to rise by 3.9 feet under the *intermediate* scenario, and by 5.2 under the *intermediate high* scenario, whereas the global sea level is expected to rise 3.3 and 4.9 feet, respectively (Sweet et al. 2022). The Coastal Vulnerability Index is a tool used to assess the vulnerability of coastal areas to the effects of sea level rise and other coastal hazards. It integrates multiple physical and environmental factors (e.g., geomorphology, tide range, wave height, relative sea level rise) to provide a relative measure of risk for different sections of the coastline. Although the project area is subject to sea level rise, coastal vulnerability in the Sparrows Point area is considered low (US Geological Survey 2024).

It is not anticipated that the effects of climate change would amplify or exacerbate the adverse effects (as described in section 4) of the proposed action on ESA species. The actions would be not likely to adversely affect ESA and would not be increased due to effects of sea level rise that are already occurring and projected to occur. These effects can include increased water temperatures, acidification of waters, or change in flow regimes.

US Army Corps of Engineers Responses to Agency Comments

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Table C-1. Public Review of the Draft Environmental Impact Statement – Agency Comments and US Army Corps of Engineers Responses

Item	Organization	Letter Date	Comment	Primary Topic	Response
1.	Baltimore County	3/19/2025	2. A bald eagle's nest is in the vicinity of the proposed tidal waters/wetlands creation mitigation areas. Please confirm the distance of the proposed mitigation locations with regard to the nest are appropriate and will not be detrimental to the birds.	Special Status	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has reduced the overall impact on tidal waters and reduced the mitigation requirements. TTT is working with MDE to develop a detailed mitigation plan addressing MDE mitigation requirements. The bald eagle's nest is more than 660' from any proposed work.
2.	Baltimore County	3/19/2025	3. There are possible contamination issues with the excavation of shoreline in terms of disturbing existing contaminated areas. The shoreline at the new Baltimore County Sparrows Point Park was not disturbed because of contamination on site and the recreation area was required to be capped.	Sediment / Water Quality	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has reduced the overall impact on tidal waters and reduced the mitigation requirements. TTT is working with MDE to develop a detailed mitigation plan addressing MDE mitigation requirements. Mitigation will not include the excavation of the shoreline.
3.	Baltimore County	3/19/2025	1. How will the 1.7 MCV of dredge material (DM) be placed? Hydraulic, watertight truck?	Alternatives / High Head	The dredged material will be placed into the High Head DMCF hydraulically from watertight scows.
4.	Baltimore County	3/19/2025	2. What is the capacity of the proposed HHIB? Are there plans for future expansion?	Alternatives / High Head	High Head is a single-use DMCF. By increasing the exterior dike elevation from +30 feet NAVD88 to +40 feet NAVD88, or approximately 33 feet above grade, the estimated capacity would be 1.7 million cubic yards (MCY) of material. There are no plans for future expansion of the facility.
5.	Baltimore County	3/19/2025	3. What is the duration of the dredging/placement operations?	Alternatives / High Head	Dredged material is anticipated to occur over three dredging seasons.
6.	Baltimore County	3/19/2025	4. Does the HHIB design allow for OM bulking, typically 3 times the volume of dredge material placed?	Alternatives / High Head	The design capacity for High Head allows for bulking of the material.
7.	Baltimore County	3/19/2025	5. What is the source of the water used to create a slurry for hydraulic placement of dredge material? What is the volume (gallons/day) that will be withdrawn from the water source?	Alternatives / High Head	As noted in the Draft EIS (page 28), "Water would be added to the dredged material to facilitate hydraulic pumping. This added water would be recycled back from the DMCF to the unloader, limiting the volume of water needed for pumping, but additional water from the Patapsco River may be needed." The use of surface waters and the volume of water withdrawn from the Patapsco River will comply with conditions of a Water Appropriation and Use Permit issued by MDE. To the extent possible, slurry water from the DMCF will be recirculated and reused in this process to reduce the volume of surface water required for withdrawal. The volume of surface water necessary to slurry the material is estimated to range from 0 to 5 million gallons per day during active dredging operations.
8.	Baltimore County	3/19/2025	6. Has the water currently in the High Head Pond been sampled to determine if it is suitable for discharge prior to the construction of the HHIB? Will SPCT be required to obtain a discharge permit or Water Quality Certificate for effluent discharge?	Alternatives / High Head	The water within the basin is currently being sampled and discharged regularly pursuant to the Baltimore City Back River Wastewater Treatment Plant NPDES permit. TTT is currently working with MDE to obtain appropriate permits for discharges of effluent associated with the operation of the DMCF, including a new or modified NPDES permit.
9.	Baltimore County	3/19/2025	7. Will the dredge material be offloaded in close proximity to the EPA designated Bear Creek Superfund site?	Alternatives / High Head	Offloading of the dredged material will occur at the shipyard in the Patapsco River, well south of the mouth of Bear Creek and the Superfund site.
10.	Baltimore County	3/19/2025	8. What conditions will be imposed to ensure sediment from the Superfund site will not be resuspended?	Alternatives / High Head	A diffuser for effluent for the existing outfall 14, including effluent from the High Head Industrial Basin DMCF, will be required. The exact location is being evaluated.
11.	Baltimore County	3/19/2025	9. What is the "safe" distance for the water intake from Bear Creek to ensure contaminated sediments from the adjacent superfund site are not resuspended and potentially mixed in the slurry placed at HHIB?	Alternatives / High Head	Offloading of dredged material will occur at the shipyard, south of the Bear Creek superfund site, so no slurry water will be used from the vicinity of the Superfund site.
12.	Baltimore County	3/19/2025	10. Will discharge permits be required for the outfall structure(s) of the HHIB DMCF?	Alternatives / High Head	TTT is currently working with MDE to obtain appropriate permits. Either a new NPDES permit or a modification to the TPA's existing NPDES permit will be required.

Item	Organization	Letter Date	Comment	Primary Topic	Response
13.	Baltimore County	3/19/2025	11. What water quality standards will to be met prior to discharge into the Baltimore Harbor watershed (Bear Creek) as some sediment will go through the outfall as well as soluble contaminants?	Alternatives / High Head	TTT is currently working with MDE to obtain appropriate permits. Water quality discharge criteria will be developed through the permitting process.
14.	Baltimore County	3/19/2025	12. How long will the DM take to dewater?	Alternatives / High Head	The dewatering rate will be established during final design and engineering.
15.	Baltimore County	3/19/2025	13. Where will the 55,000 CY of contaminated overburden (material) be placed?	Alternatives / Coal Pier	The Coal Pier Channel DMCF is no longer part of the proposed action.
16.	Baltimore County	3/19/2025	14. How long will the placed OM in the CPC take to dewater?	Alternatives / Coal Pier	The Coal Pier Channel DMCF is no longer part of the proposed action.
17.	Baltimore County	3/19/2025	15. What is the duration of the placement operation?	Alternatives / Coal Pier	The Coal Pier Channel DMCF is no longer part of the proposed action.
18.	Baltimore County	3/19/2025	2. A bald eagle's nest is in the vicinity of the proposed tidal waters/wetlands creation mitigation areas. Please confirm the distance of the proposed mitigation locations with regard to the nest are appropriate and will not be detrimental to the birds.	Special Status	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has reduced the overall impact on tidal waters and reduced the mitigation requirements. TTT is working with MDE to develop a detailed mitigation plan addressing MDE mitigation requirements. The bald eagle's nest is more than 660' from any proposed work.
19.	Baltimore County	3/19/2025	3. There are possible contamination issues with the excavation of shoreline in terms of disturbing existing contaminated areas. The shoreline at the new Baltimore County Sparrows Point Park was not disturbed because of contamination on site and the recreation area was required to be capped.	Sediment / Water Quality	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has reduced the overall impact on tidal waters and reduced the mitigation requirements. TTT is working with MDE to develop a detailed mitigation plan addressing MDE mitigation requirements. Mitigation will not include the excavation of the shoreline.
20.	Baltimore County	3/19/2025	16. What is the status of the permit authorizing the transport and disposal at the Norfolk Ocean Disposal site?	Alternatives / Norfolk Ocean Disposal Site	The USACE has received the Marine Protection, Research, and Sanctuaries Act (MPRSA) Section 103 concurrence from USEPA Region 3 (dated 16 July 2025). It is anticipated that the Section 103 permit will be issued with a Clean Water Act Section 404 permit and the Rivers and Harbors Act Section 10 permit.
21.	Baltimore County	3/19/2025	17. Was the OM categorization provided by MOE or SPCT?	Sediment	TTT provided the material characterization to MDE, and MDE has reviewed the categorization of the material.
22.	Baltimore County	3/19/2025	18. Will construction and dredging activities impact the Superfund site adjacent?	Sediment	No construction or dredging activity is planned near the Superfund site.
23.	Baltimore County	3/19/2025	19. Will construction and dredging resuspend sediment from the adjacent Superfund site? e.g. boat wake, prop wash from tug boats, barges, mooring, anchorage, etc.	Sediment	No construction or dredging activity is planned near the Superfund site.
24.	Baltimore County	3/19/2025	20. Has there been any hydrodynamic modeling with regard to sediment transport? Will the effluent from the HHIB outfall result in a change to the hydrodynamics to the adjacent Superfund site that will be remediated and capped?	Sediment	The projected effluent flow from the High Head Industrial Basin DMCF is well within the NPDES permitted flow rates for the existing outfall and significantly below past flow rates. No impacts on the Superfund site are expected.
25.	Maryland Department of Natural Resources	3/20/2025	To minimize impacts to spawning anadromous and resident fish species, the proposed dredging of the entrance channel, turning basin and construction of the containment dike across the mouth of the Coal Pier Channel for the DMCF should be conducted during the period 1 October through 31 March of any year.	Best Management Practices	Comment noted. TTT will comply with time-of-year restrictions that are stipulated within the project's state and federal permit conditions and allowed by agency waivers and/or approvals.
26.	Maryland Department of Natural Resources	3/20/2025	The discussion of the construction for the High Head Industrial Basin DMCF in the draft EIS does not address if the water filling the existing basin will be removed prior to the placement of dredged material and if it would be pumped out of the basin how and where that water be discharged. The plans for the construction of the DMCF should detail the disposal of the water currently in the basin in a manner that does not result in a direct release into the adjacent tidal waters without treatment for quantity and quality before discharge.	Alternatives	The water within the basin is currently being sampled and discharged regularly pursuant to the Baltimore City Back River Wastewater Treatment Plant NPDES permit. TTT is currently working with MDE to obtain appropriate permits for discharges of effluent associated with the operation of the DMCF, including a new or modified NPDES permit. The water level will be brought down to the lowest feasible point before construction.

Item	Organization	Letter Date	Comment	Primary Topic	Response
27.	US Environmental Protection Agency	3/20/2025	To better understand the direct discharges of dredged or fill material, EPA recommends updating the application with a clear tabulation of all proposed permanent impacts, including the open water fill associated with the revetment and the marginal wharf (pilings and shading). EPA also recommends providing a map that includes the location of the marginal wharf and revetment.	Open Water Impacts	Comment noted. The Final EIS will be updated to include an impact table and a map of the marginal wharf and revetment.
28.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	The dredging of contaminated sediments is presented as a net benefit in the DEIS. However the proposed dredging will also create benthic habitats that are exposed to extended hypoxic conditions, as described in your EFH assessment. This will result in depauperate benthic communities in this area. For that reason, it is unclear to us that a net benefit will be realized, as habitat and benthic forage value will be permanently diminished by the action.	Aquatic resources	The Final EIS will be edited to acknowledge the benthic habitat value in the new work dredging area.
29.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	Please note that consideration of the effects of climate change are no longer required to be included as part of your EFH assessment and can be removed from the final EIS. We do, however, encourage you to consider the synergistic effects of this action along with well-documented changing environmental conditions such as sea-level rise and marine heat waves (Nardi et al. 2025).	Aquatic resources	Comment noted. The project has been designed to account for future sea level rise, and the elevation of the new facilities will be approximately 5 feet higher than existing port facilities.
30.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	Citations: Broome, S.W., C.B. Craft, and M.R. Burchell. 2019. Tidal marsh creation. pgs 789 - 816 in Coastal wetlands: An integrated ecosystem approach, Second Edition. G.E. Perillio, E. Wolanski, D.R. Cahoon, and C. Hopkinson, eds. Elsivier. Cambridge, Massachusetts. Litvin, S.Y., M.P. Weinstein, M. Sheaves, and I. Nagelkerken. 2018. What makes nearshore habitats nurseries for nekton? An emerging view of the nursery role hypothesis. Estuaries and Coasts 41: 1539-1550 Nardi, R.U., P.L. Mazzini, and R.K. Walter. 2025. Climate change and variability drive increasing exposure of marine heatwaves across US estuaries. Scientific Reports 15:7831. Weinstein, M.P., R. Hazen, and S.Y. Litvin. 2019. Response of nekton to tidal salt marsh restoration, a meta-analysis of restoration trajectories. Wetlands. 39: 575- 585.	References	Comment noted.
31.	National Park Service	3/7/2025	With the removal of the Francis Scott Key Bridge as a limiting factor on the size of container ship traffic in Baltimore Harbor, what maritime traffic studies are planned or underway on the increased size and number of ships that are expected in the project area?	Navigation	The Chesapeake Bay Bridge remains a limiting factor on the size of vessels transiting northward to the Port of Baltimore. No increase in vessel size is possible without changes to the Bay Bridge.
32.	National Park Service	3/7/2025	How will the cumulative effects of this additional ship traffic in the area being analyzed and addressed in the EIS?	Navigation	With the CEQ chair's February 2025 guidance to revert to the 2020 NEPA regulations, cumulative effects are no longer to be analyzed.
33.	National Park Service	3/7/2025	How are the safety and recreational experience of non-commercial water trail traffic traveling on the Captain John Smith Chesapeake National Historic Trail and the Star-Spangled Banner National Historic Trail being analyzed and addressed in the EIS?	Recreation	The impact analysis currently addresses impacts on recreational boaters. The analysis in the Final EIS will be expanded to specifically address impacts on visitors using the two NPS water trails.
34.	US Environmental Protection Agency	3/17/2025	Following the Council on Environmental Quality (CEQ)'s interim final rule rescinding the regulations at 40 CFR Part 1500 (90 FR 11221 and 10610), CEQ advises in their February 19, 2025 Memorandum on the Implementation of the National Environmental Policy Act1 that federal agencies should implement NEPA according to their existing practices and procedures consistent with CEQ's final 2020 rule, Executive Order 14154, Unleashing American Energy, current CEQ guidance, and the text of NEPA as amended by the Fiscal Responsibility Act of 2023. EPA therefore recommends the Final EIS and Record of Decision avoid referencing 40 CFR Part 1500 and cite statutory authorities and USACE regulations for implementing NEPA where possible instead.	General Draft Environmental Impact Statement	Comment noted.

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35.	US Environmental Protection Agency	3/17/2025	The no-action alternative in this analysis does not use baseline emissions for the general conformity determination for ozone and NOx. The no-action scenario should reflect the current state of the Sparrows Point project area and not take into consideration any future potential alternative industrial or other use.	Air Quality	The current air quality status of the region, with respect to NAAQS attainment and General Conformity, is fully described in the Affected Environment section of the Air Quality chapter. The no-action alternative section of the Air Quality chapter accurately describes that without the proposed action, the expected container volume will continue to pass through East Coast ports, not even partially electrified, and without alternative shore power. The resulting reduction in emissions from the proposed action is summarized in Table 39. The net operational emissions from the proposed partially electrified terminal with alternative shore power are summarized in Table 42.
36.	US Environmental Protection Agency	3/17/2025	Net emissions calculations should include the total direct and indirect emissions from the construction and operations phases, per the requirements of 40 CFR 93.158. It is unclear from the general description of site activity and equipment/vehicles/vessels if all activity has been accounted for.	Air Quality	Total direct and indirect emissions are included for both construction and operational phases. Additional narrative details will be added to clarify this.
37.	US Environmental Protection Agency	3/17/2025	We recommend providing more information detailing how the emissions estimates for the SPCT project were calculated. A more detailed annual schedule of activity/operations and a list of construction and operational vehicles could be provided as an appendix to the Final EIS to clarify the annual activity and the related emissions from such activity. Furthermore, emissions could be broken down in a table by equipment/vehicle type to show the annual activity and related direct and indirect emissions to further delineate the contribution to annual emissions totals for the pollutants covered by general conformity.	Air Quality	The Final EIS references the SPCT Air Quality Technical Report. Appendix A of this report presents the assumptions and calculations related to construction activities. Appendix B provides a summary and breakdown of the ACAM model by construction phase. Appendix C can be referenced for detailed calculations for operational emissions. Additional information can clarify the emissions calculation methodologies that follow the most up-to-date construction and operational schedules.
38.	US Environmental Protection Agency	3/17/2025	EPA recommends that a project schedule/timeline be included as an appendix to the Final EIS that shows the annual activity (e.g., construction schedule), including a detailed list of specific vehicles/ equipment/marine vessels to be used on site during that period (including age, engine size, emissions control category, etc.), as well as the activity/use of that equipment. For direct emissions, this should include all emissions sources at the project site and inside the nonattainment area (including marine activity, such as dredging and supply operations) inside the 3-mile state seaward boundary of the nonattainment area. Indirect emissions should account for activity foreseeably to be caused by the action outside of the immediate project area, but within the nonattainment area. This could include additional nonattainment area supply traffic from trucks and marine vessels, employee vehicle emissions, etc.	Air Quality	A project schedule and timeline, including construction and operational phases, will be added as an appendix to the Final EIS. Within the narrative of the document, the term 'direct emissions' refers to all construction-related emissions, while 'indirect emissions' refers to all operational-related emissions. In addition to accounting for direct emissions from onsite activities occurring within the 3-mile seaward boundary, the assessment may be expanded to include indirect emissions from offsite activities within the nonattainment area. Direct emissions were calculated using established methods and boundaries. A geographic advantage of the Port of Baltimore is its proximity to Midwestern markets via rail, with Frederick, Maryland, approximately 75 miles west of the Port of Baltimore, used as a general boundary for rail-connected inland distribution. East of the Port of Baltimore, marine routes are primarily outside of the 3-mile ozone nonattainment/maintenance area boundary.
39.	US Environmental Protection Agency	3/17/2025	Per 40 CFR 93.153, the General Conformity de minimis threshold for VOCs in a serious non-attainment area is 50 tons per year (tpy), as indicated in Table 40 of the Draft EIS. Table 40 shows that the VOC emissions in 2027 are estimated to be greater than 50 tpy, exceeding the applicable de minimis threshold for a Serious nonattainment area under the 2015 ozone NAAQS for the annual emissions level of the VOC precursor.	Air Quality	The calculations in the Final EIS have been updated based on a more accurate list of expected equipment to be used. The re-calculated emissions for VOCs are well below the threshold of 50 tons per year.
40.	US Environmental Protection Agency	3/17/2025	If electing to demonstrate conformity through use of emissions offsets under 40 CFR 93.158(d), any required analyses must be completed as part of the final conformity determination. The conformity determination should identify specific mitigation measures and quantify their benefits (which are contemporaneous to the year(s) of the action where mitigation is necessary) to fully offset all emissions of a precursor for years of the action in which the de minimis is exceeded. A commitment to purchase available offsets prior to construction, and proof of purchase of those offsets not yet obtained or available, should be included in the final conformity determination. If offsets are not obtainable before the Final EIS or Record of Decision, that decision should contain a condition to do so prior to a final Record of Decision or commencement of project action. Demonstration of general conformity is required prior to commencement of the action	Air Quality	The intent of the use of emissions offsets in the conformity determination will be included in the Final EIS.

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41.	US Environmental Protection Agency	3/17/2025	Air permitting requirements such as Minor New Source Review and State Operating Permit requirements are included in Appendix A, but we do not see any discussion of other potentially applicable Clean Air Act requirements such as New Source Performance Standards (NSPS) (40 CFR Part 60) or Maximum Achievable Control Technology standards (MACT) (40 CFR Part 63). While NSPS or MACT may not apply during construction, if there are any permanently installed stationary or backup engines at the site, they may be subject to NSPS or MACT requirements. It would be helpful to clarify this in the Final EIS.	Air Quality	The proposed terminal will have stationary emission units requiring minor New Source Review preconstruction permits, and the facility will be required to maintain a state operating permit. It will also include stationary engines subject to NSPS and MACT rules. The Final EIS will be revised as stated.
42.	US Environmental Protection Agency	3/17/2025	The document states on page 214 that "during operation, the terminal would be partially electrified, and the use of shore power would significantly reduce emissions from ships at berth." The document bases emissions estimated in Table 44 on assuming partial electrification. The Final EIS should indicate if there are commitments to implement electrified equipment, and if not, new Operational Emissions will need to be analyzed. The EPA report, Shore Power Technology Assessment at U.S. Ports – 2022 Update, may be useful for this analysis, as it compares technical and operational strategies for using shore power systems to reduce emissions at port facilities and includes a calculator tool for estimating site- specific air pollutant emissions reductions from shore power system components. The report and calculator tool are available at the EPA Ports Initiative's Shore Power website.2	Air Quality	Table 42 and Appendix C of the Draft EIS identifies and characterizes the port equipment expected to be electrified during operations, in addition to the shore power usage for vessels at berth and delineates between equipment expected to be fuel-powered, with emissions from the latter quantified accordingly. The Final EIS will be updated to more clearly specify the extent of electrification commitments using the tool provided as a guide to make any adjustments accordingly.
43.	US Environmental Protection Agency	3/17/2025	The proposal to place 1.5 million cubic yards (MCY) of sediment at the Norfolk Ocean Disposal Site (NODS) will require the material to be transported approximately 175 miles. The Final EIS should identify the number of expected barge trips this will require and the aggregate impact to air emissions over the expected years of this activity.	Air Quality	Calculations depicting material transport to NODS can be referenced in Appendix C-3. The calculations will be revised to reflect the impact of the action, considering the barge capacity, number of trips, schedule, and travel distance.
44.	US Environmental Protection Agency	3/17/2025	The EPA publication, Port Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions3 (EPA- 420-B-22-011 April 2022), is available at EPA's Ports Initiative website4 and may be helpful for the Project's emissions analysis.	Air Quality	Calculations depicting material transport to NODS can be referenced in Appendix C-3. The calculations will be revised to reflect the impact of the action, considering the barge capacity, number of trips, schedule, and travel distance.

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45.	US Environmental Protection Agency	3/17/2025	Based on sediment testing results, a number of contaminants of concern (COCs) appear to be present within the area proposed for dredging. The DEIS states, "the removal of sediments with legacy contaminants would result in an improvement of surficial sediments which would improve water quality," including "contaminants that may serve as a long-term source to the waters around Coke Point and the Lower Patapsco River." As acknowledged in the Draft EIS (Section 4.2), dredging activities may resuspend or expose buried contaminated sediments. To better support the assertion of net water quality improvement and inform implementation of best management practices in Table 5, EPA recommends providing additional information evaluating the potential impacts that could be associated with disturbance of the existing sediment, including any available information regarding how long disturbed sediments are likely to remain resuspended and how far resuspended contaminants are likely to travel from the point of dredging before resettling. Additionally, please clarify the meaning of "long-term source."	Sediment / Water Quality	Mechanical dredging with the use of an environmental bucket has been shown to be effective for controlling turbidity and is commonly used within the dredging industry in areas with known contaminants. Studies conducted by multiple entities have documented that fine-grained sediments resuspended from mechanical dredging operations settle within several hundred feet of the point of dredging. TPA has conducted monitoring of turbidity during maintenance dredging with an environmental bucket in the existing Sparrows Point Channel. The results of these studies indicated that the highest turbidity was localized to the upper portion of the water column in the immediate vicinity of the dredge and dissipated to background concentrations at a distance of approximately 300 feet from the point of dredging. Based on the results of plume studies and based on the low current velocity in the north channel/turning basin area (approximately 0.02 knots), any suspended sediments resulting from dredging in the north channel area would be expected to remain localized within the turning basin. The northern portion of the channel is located within the turning basin. The turning basin acts as a confined space for a turbidity plume; the confined space contains and restricts movement of the plume. Many studies have documented the behavior and movement of Total Suspended Solids (TSS), and turbidity associated with clamshell dredging operations. The National Marine Fisheries Service has estimated TSS concentrations associated with mechanical dredging of fine-grained material to be several hundred milligrams per liter (mg/L) above background near the bucket (point of dredging), with rapid settlement within a 2,400-foot radius of the dredge location. Dredge point monitoring studies of clamshell dredging in the Baltimore Harbor by the US Army Corps of Engineers (USACE) indicated that TSS concentrations were similar to background concentrations within approximately 240 feet from the point of dredging. Studies conducted by the USACE for dredging activities in Newark Bay and the Kill Van Kull indicated that turbidity plumes in the upper water column reached background levels within 600 feet of the point of dredging. The MDE regulation COMAR 26.24.02.06 provides a presumptive safe dredging distance of 1,500 feet from shellfish areas during seasonal prohibition periods. Each of these studies provides weight-of-evidence that the movement of suspended sediment from mechanical dredging operations in the south portion of the Sparrows Point Channel would be limited to a maximum of 0.5 miles from the point of dredging. This distance is located within the roughly two-mile extent of the southern shoreline of Sparrows Point and is far removed from the nearest residential properties that are located several miles away. Long-term source refers to legacy contaminants that were introduced into the water body decades ago.
46.	US Environmental Protection Agency	3/17/2025	EPA WB continues to work with SPCT and USACE on the requirements to determine suitability of dredged material for ocean disposal from the project area at Norfolk Offshore Disposal Site (NODS), as defined by Section 103 of the Marine, Protection, Research, and Sanctuaries Act. Upon receipt of the Section 103 request from USACE, EPA will complete an independent evaluation of the suitability of material for ocean disposal within 45 days.	Norfolk Ocean Disposal Site Permitting	Comment noted.

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47.	US Environmental Protection Agency	3/17/2025	The Draft EIS discusses Phragmites control in the mitigation proposal but not how other potential terrestrial and aquatic invasive species will be controlled at the mitigation and project areas. Invasive species may spread by construction and maintenance activities, as they typically thrive in disturbed areas, as well as by future shipping activities, via ballast water and hull fouling. The Final EIS and future site operations may benefit from a more thorough evaluation of the current presence and potential future spread of invasive species at the proposed mitigation and project sites, as well as a discussion of best management practices that would reduce their dispersal. Additional information is available at the USDOT Maritime Administration's Water Quality website5 and 2011 publication, Guidelines for the Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species.6	Invasive Species Final Environmental Impact Statement / Best Management Practices	Requirements to prevent the introduction of invasive and exotic species via ballast water exchange are provided at 33 CFR § 151.1510 - Ballast water management requirements. The US Coast Guard enforces these regulations.
48.	US Environmental Protection Agency	3/17/2025	The Project is expected to have both temporary and long-term impacts on fish and essential fish habitat. Please ensure the Final EIS discusses the results, current status, and projected schedules for ongoing coordination between the USACE and project sponsors and the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and other stakeholders to address issues as they are identified and to disseminate project updates.	Agency Coordination Final Environmental Impact Statement	Comment noted. TTT is working with NMFS on the EFH and BA.
49.	US Environmental Protection Agency	3/17/2025	EPA encourages the USACE continue its "policy of open communication with interested parties and invites public participation" to discuss the input and concerns of the affected stakeholders. The Final EIS should describe how concerns or recommendations were used to develop potential mitigation options or to further avoid or minimize impacts to human health and the environment, and how the USACE plans to keep the public informed as the project progresses and throughout its mitigation and monitoring period.	Public Comment Final Environmental Impact Statement	Comment noted.
50.	Baltimore County	3/19/2025	1. The Critical Area Commission (CAC) is in discussion with DEPS concerning the mitigation proposal to convert uplands to tidal wetlands and open water.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
51.	Baltimore County	3/19/2025	21. Is there a need for "restoration" at the proposed mitigation sites?	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
52.	Baltimore County	3/19/2025	22. What are the goals of the mitigation sites?	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
53.	Baltimore County	3/19/2025	23. Will any of the DM be use beneficially at the mitigation sites?	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
54.	Baltimore County	3/19/2025	24. Are there any historical preservation considerations with regard to the African- American owned marina?	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
55.	Baltimore County	3/19/2025	25. Has a JPA been submitted for the mitigation site(s) or are they included with the JPA for dredging?	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
56.	Baltimore County	3/19/2025	26. The Southeast Peninsula and Craighill Lighthouse Peninsula are exposed to high energy from waves and storm surge. The fetch at these locations ranges between >3.5 miles from the Sand SW to >16 miles from the SE.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
57.	Baltimore County	3/19/2025	27. How does the tidal open water transition to upland?	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

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58.	Baltimore County	3/19/2025	28. How will creating open water by the removal of the Southeast Peninsula impact the adjacent Jones Creek navigation channel? The Southeast Peninsula effectively acts as a jetty.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
59.	Baltimore County	3/19/2025	29. Will the removal of the Southeast Peninsula result in siltation of the Jones Creek Channel and loss of channel capacity?	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
60.	Baltimore County	3/19/2025	30. The description of the Bethlehem Boulevard mitigation site is vague. The proposed area is adjacent to the superfund site. Best management practices must be employed to ensure construction activities do not resuspend sediment and/or compromise the cap of the Superfund site. Additionally, the site may not be appropriate for "nature-based solutions" and wetland creation due to the high wave energy from the >4 mile fetch from the southwest.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
61.	Baltimore County	3/19/2025	31. How does removing the High Pier Wharf provide mitigation within the Sparrows Point Channel? The proposed mitigation area is in a shipping channel and will be subject to disturbances from the proposed maintenance dredging and on-going port activities.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
62.	Baltimore County	3/19/2025	32. Derelict Fishing Gear - The proposed locations are not in close is proximity to the impacted area and outside the Baltimore Harbor watershed.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
63.	Baltimore County	3/19/2025	33. Creating and/or seeding oyster reefs at the Fort Carroll location will be challenging as the water typically lacks the salinity for long term oyster survival and reproduction.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
64.	Maryland Department of Natural Resources	3/20/2025	Proposed compensatory mitigation projects: a. The two of the three sites identified in the draft EIS for conversion from uplands to tidal aquatic habitat, North Point and Pleasant Yacht Clubs and Craighill Lighthouse Peninsula have submerged aquatic vegetation documented adjacent to or within 500 yards of the areas to converted from uplands to tidal waters based on the most recent five years of coverage from the annual VIMS Submerged Aquatic Vegetation Surveys. Impacts to submerged aquatic vegetation should be avoided. Any work in the tidal waters at these locations would have a time-of-year restriction during the period 15 April through 15 October of any year. b. The removal of the High Pier Wharf should not be counted as part of the mitigation package. The structure was removed in 2018 and should not be retroactively counted as mitigation for this project. In addition, the area which it had occupied is to be dredged to minus 52 feet which will render the area of limited benefit to aquatic organisms and be subjected to periodic maintenance dredging. c. Derelict crab pot removal could have a role in the overall mitigation package. However, this mitigation activity is also being considered by other projects which may reduce the viability of this approach as mitigation for this project. d. We support the concept of expanding oyster habitat as a part of the mitigation package. The Fort Carroll site identified in the draft EIS is a possibility however it would be worth expanding the potential sites to include areas that could have a higher survival potential of the planted oysters. Mr. Chris Judy (chris.judy@maryland.gov) in the Department's Shellfish Division should be contacted for guidance on the feasibility and suitability of any oyster mitigation associated with this project.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
65.	US Environmental Protection Agency	3/20/2025	During the March 6, 2025 site visit, the agencies discussed a potential deficit with the compensatory mitigation acreage. EPA recommends updating the mitigation plan with additional opportunities, on or off-site of the TPA property, to address the potential deficit.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

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66.	US Environmental Protection Agency	3/20/2025	Removal of the High Pier Wharf is proposed to generate 1.62 acres of mitigation credits of open water, retroactively, since the pier has already been removed. However, this mitigation area would be impacted by dredging operations associated with the proposed project through channel deepening and regular vessel operations. EPA recommends providing additional information to support its inclusion in the mitigation plan and if the credits should be adjusted accordingly.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
67.	US Environmental Protection Agency	3/20/2025	The shoreline at the proposed Bethlehem Boulevard mitigation area, along Bear Creek, is currently comprised mostly of rock, rubble, iron slag, and construction debris and is limiting growth of desirable buffer species. EPA recommends any restoration at this site include removal and proper disposal of the existing shoreline base material. In addition, the Bear Creek mitigation site has the potential to contain industrial contaminants in the offshore and nearshore environments. EPA recommends avoidance of earth disturbance in the areas of known contamination and that clean substrate be placed in the mitigation area to prevent resuspension of legacy contaminants.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
68.	US Environmental Protection Agency	3/20/2025	EPA appreciates the proposed onsite mitigation which includes shoreline restoration and installation of marsh grasses. EPA recommends the applicant provide fetch analyses to support the proposed project and to better understand the energy conditions at the sites and risks of shoreline erosion. An appropriate fetch analysis should include information about wind speed, duration, direction, and distance over water.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
69.	US Environmental Protection Agency	3/20/2025	Please explain whether the four mitigation areas proposed would have sandy beach features, and, if so, whether public access would be restricted in order to protect them while marsh plantings are established. This is particularly critical for the Bethlehem site, which is adjacent to the Bear Creek Superfund site.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
70.	US Environmental Protection Agency	3/20/2025	Much of the mitigation proposed on the TPA property would create shallow water by removing historic disposal materials including slag. EPA recommends developing monitoring methods and success criteria for these shallow water areas. Monitoring could include water quality monitoring, fish or sediment infauna abundance or diversity, sediment toxicity or fish tissue toxicity. For additional information, please see page 32 of A Review of Compensatory Mitigation in Estuarine and Marine Habitats.1 EPA is available to assist in development of monitoring methods or performance standards in the final compensatory mitigation plan.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
71.	US Environmental Protection Agency	3/20/2025	EPA recommends the use of natural material, such as stone or oyster or other aquatic organism shell, rather than proprietary materials, such as the Atlantic Reefmaker structures mentioned in the DEIS, which contain PVC, where hard substrate is proposed on or offsite to provide barriers, wave baffling or as surface area for bivalves or other sessile organisms. EPA does not expect appreciable oyster growth on hard substrate placed within on-site mitigation areas consistent with historical rates of oyster growth in the upper Bay.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
72.	US Environmental Protection Agency	3/20/2025	Oyster reef creation and replenishment is included as part of the proposed Mitigation Plan. EPA recommends evaluating restoration opportunities south of the Bay Bridge in more saline waters and in conjunction with an existing restoration effort, so oysters will have a higher likelihood of becoming part of a self-sustaining population. Success metrics can be set using the Chesapeake Bay Program's Oyster Restoration Metrics, which has been used to evaluate large-scale oyster restoration over the past decade in the Bay: https://www.chesapeakebay.net/what/publications/oyster-restoration-success- metrics.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

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73.	US Environmental Protection Agency	3/20/2025	It appears there may be opportunities to reuse suitable material excavated from the site such as concrete free of contaminants and exposed rebar. EPA recommends coordination with MDDNR and NMFS-HESD to assist in site-specific design criteria.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
74.	US Environmental Protection Agency	3/20/2025	EPA appreciates the applicant's interest in SAV as mitigation and willingness to use the Small Scale SAV restoration in the Chesapeake Bay publication as a guide. EPA recommends consultation with MD DNR to evaluate species and to create monitoring requirements and performance standards. For instance, Ruppia maritima, which may be suitable for colonizing degraded habitat, could be better suited than the proposed Vallisneria americana.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
75.	US Environmental Protection Agency	3/20/2025	While not currently included in the conceptual mitigation plan, EPA recommends the revised tidal mitigation plan include a site protection mechanism, in accordance with the Guidelines (230.94 and 230.97), that includes prohibitions on activities that would conflict with the goals of the aquatic resource mitigation site.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
76.	US Environmental Protection Agency	3/20/2025	EPA recommends the final compensatory mitigation plan also include: An explanation of what the DEIS calls "over-excavation to subgrade elevations followed by placement of clean fill materials," including how excavation depths and volumes will be determined; A description of proposed cobble size and which species is anticipated to benefit from its use; A justification of the mitigation ratio proposed for derelict crab pot removal. A long-term management plan for the site, which includes measures addressing invasive species treatment, revegetation methods, re-seeding (of SAV and/or oyster spat) the site at defined intervals in the future, and trash removal.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
77.	US Environmental Protection Agency	3/20/2025	5. EPA appreciates the proposed onsite mitigation which includes shoreline restoration and installation of marsh grasses. EPA recommends the applicant provide fetch analyses to support the proposed project and to better understand the energy conditions at the sites and risks of shoreline erosion. An appropriate fetch analysis should include information about wind speed, duration, direction, and distance over water.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
78.	US Environmental Protection Agency	3/20/2025	7. Much of the mitigation proposed on the TPA property would create shallow water by removing historic disposal materials including slag. EPA recommends developing monitoring methods and success criteria for these shallow water areas. Monitoring could include water quality monitoring, fish or sediment infauna abundance or diversity, sediment toxicity or fish tissue toxicity. For additional information, please see page 32 of A Review of Compensatory Mitigation in Estuarine and Marine Habitats. EPA is available to assist in development of monitoring methods or performance standards in the final compensatory mitigation plan.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
79.	US Environmental Protection Agency	3/20/2025	10. It appears there may be opportunities to reuse suitable material excavated from the site such as concrete free of contaminants and exposed rebar. EPA recommends coordination with MDDNR and NMFS-HESD to assist in site-specific design criteria.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
80.	US Environmental Protection Agency	3/20/2025	12. While not currently included in the conceptual mitigation plan, EPA recommends the revised tidal mitigation plan include a site protection mechanism, in accordance with the Guidelines (230.94 and 230.97), that includes prohibitions on activities that would conflict with the goals of the aquatic resource mitigation site.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

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81.	US Environmental Protection Agency	3/20/2025	13. EPA recommends the final compensatory mitigation plan also include: a. An explanation of what the DEIS calls "over-excavation to subgrade elevations followed by placement of clean fill materials," including how excavation depths and volumes will be determined;	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
82.	US Environmental Protection Agency	3/20/2025	13. EPA recommends the final compensatory mitigation plan also include: b. A description of proposed cobble size and which species is anticipated to benefit from its use;	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
83.	US Environmental Protection Agency	3/20/2025	13. EPA recommends the final compensatory mitigation plan also include: d. A long-term management plan for the site, which includes measures addressing invasive species treatment, revegetation methods, re-seeding (of SAV and/or oyster spat) the site at defined intervals in the future, and trash removal.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
84.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	Overall, CBF and BWB support the majority of mitigation efforts under study for this project. The re-creation of wetlands and aquatic habitats that had been lost during the long industrial history of Sparrows Point will improve water quality and aid in revitalization of tidal emergent wetlands and nearshore/shallow water ecosystems. We encourage and support oyster reef restoration to the maximum extent practicable, as it would directly improve water quality through natural filtration and establish structures that serve as preferred habitat for many aquatic species.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
85.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	However, from comments offered during public meetings and outreach received by Blue Water Baltimore and the Chesapeake Bay Foundation in recent weeks, we understand that there is significant community concern regarding the open water taking mitigation proposed in the draft EIS, specifically the removal of structures and fill associated with the Pleasant and North Point Yacht Clubs. Though we support removing human-made substrate from former open water habitat, we also understand that community members who choose to recreate on the waterway also tend to defend and conserve it. Given that there are additional protrusions and areas of artificial fill along the Sparrows Point shoreline, we suggest distributing some of these mitigation efforts to those locations, if possible, to spare one or both of these clubs.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
86.	US Army Corps of Engineers and Maryland Department of the Environment	3/21/2025	USACE and MDE hope for a balanced approach that includes open water creation, shoreline work at TPA, potential MBRI projects or other area project, Fort Carroll Oysters, and substrate improvements with removal/capping - with the largest amount of credit going to open water creation and approximately equal amounts of credit for each of the other projects. USACE may consider nontidal dam removal in the Patapsco River watershed to meet the mitigation requirement. If this is considered, please note that a dam removal that does not allow access for tidal species will not count for the State's mitigation requirements. However, MDE can consider alternative forms of mitigation for the requirements that exceed the federal requirements.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
87.	US Army Corps of Engineers and Maryland Department of the Environment	3/21/2025	As previously discussed, MDE and USACE will require mitigation for the fill associated with the DMCF. MDE is also requiring mitigation for the impacts associated with the wharf. For the purposes of State-required mitigation, please add the acreage of all proposed stone placed between the current MHWL and the channelward face of the wharf.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

Item	Organization	Letter Date	Comment	Primary Topic	Response
88.	US Army Corps of Engineers and Maryland Department of the Environment	3/21/2025	High Pier Wharf Removal. USACE and MDE will not accept this acreage as mitigation for this project. Please remove this from the proposed calculations.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
89.	US Army Corps of Engineers and Maryland Department of the Environment	3/21/2025	MDE and USACE will not grant any credit for the open water creation as a result of the wharf creation. Please do not include this in your calculations.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
90.	US Army Corps of Engineers and Maryland Department of the Environment	3/21/2025	MDE and USACE support the proposed open water creation on the West side of the Sparrows Point peninsula. However, we offer the following recommendations: Southeast Peninsula: there should be a breakwater, groin, or some type of wave attenuation feature to protect Old Road Bay from new wave energy that may be caused by the removal of this peninsula. Yacht club locations: Please consider the current North Point Yacht club ramp as the location for the future ramp. This location is the only area along these shorelines where there is no documented SAV and it provides easier access to the channel. Placing the proposed ramp in a cove area may impact SAV and may be susceptible for silting in. We are aware that these recommendations will result in less open water created than 11.6 acres that was proposed. Additional opportunities: USACE and MDE recommend exploring opportunities to create open water including shallow water habitat and low tidal marsh in the area between the finger pier and the Southeast Peninsula on the South Shore of Sparrows Point.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
91.	US Army Corps of Engineers and Maryland Department of the Environment	3/21/2025	Habitat Creation: Please separate "perimeter sills" from "reefs". If the sill is intended to function as a reef, it must be designed as a reef in order to receive credit. A marsh may be protected with a proposed reef. If that was the proposal, then that reef will be a component of mitigation and will have its own performance standards and monitoring requirements.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
92.	US Army Corps of Engineers and Maryland Department of the Environment	3/21/2025	Substrate improvements: The only substrate improvements that USACE and MDE will consider will require removal and/or capping of areas that have existing contamination. Please remove any currently proposed shallow water improvements that are based on sand/stone placement that do not involve a cap or removal of contaminated soils. USACE and MDE recommend that this is reconsidered and is added to the mitigation package. This can be done on or off site, at any area where contamination exists that is currently impacting aquatic organisms and the food web.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
93.	US Army Corps of Engineers and Maryland Department of the Environment	3/21/2025	Marsh Creation/Marsh Enhancement/Phragmites management: USACE and MDE support this and suggest expanding this. However, please keep in mind that designs that require less fill and have features for aquatic species are preferred. Any marsh creation or enhancement/phragmites management project must have a layer of clean sand placed prior to planting tidal vegetation.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
94.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	The shaded open water habitat underneath the new proposed terminal wharf structure (3.5 acres, approximately) is not considered as a permanent impact that should be offset as part of this action. We recommend the district reconsider this approach. The shading and decreased water quality and increased scour/sedimentation effects of large pile supported structures warrant compensatory mitigation. Studies from other similar structures have demonstrated the degraded habitat value of these areas and can be provided upon request.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

Item	Organization	Letter Date	Comment	Primary Topic	Response
95.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	During our March 6, 2025 site visit, the applicant inquired whether the historical degradation of the Coal Pier Channel could be considered when setting compensatory mitigation ratio requirements. We do not support lessening the ratio of offset required for converting tidal open water to an upland dredged material containment facility. This permanent conversion will preclude all future aquatic habitat functions. No habitat equivalency analysis exists to form the basis for such an adjustment, nor were sufficient data collected throughout the 19.8 acre area to justify this adjustment. In other districts, such permanent fills would be required to be offset at a higher ratio (e.g., 3:1) for out-of-kind mitigation. From that perspective, maintaining the proposed 2:1 ratio for out-of-kind enhancement reflects the current functions and values of the Coal Pier Channel.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
96.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	We anticipated that the creation of open water associated with the Terminal Wharf construction will be of limited ecological value, because these areas will subsequently be covered by the Terminal Wharf. Therefore, it is unclear whether this area should receive a 1:1 restoration credit as part of the impact calculation.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
97.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	In those areas where "Open water restoration action" is proposed, the exact details of the restoration approach will be critical to ensure that functions and values are offset through the restoration/creation activities at these sites. For example, we have no indication of the relative breakdown of proposed habitat types, or whether existing special aquatic sites (e.g., submerged aquatic vegetation, intertidal flats, emergent tidal wetlands) will be impacted through these actions. We offer the following general guidance for the proposed on-site restoration projects: (a) Geotechnical surveys should be completed to ensure that the existing substrates/sediments do not present elevated levels of contaminants, such that the compensatory mitigation projects would enhance the delivery of contaminants to the aquatic food web. Thus far, no information has been provided to document the suitability of the underlying sediments to support healthy subtidal/intertidal habitats. Furthermore, any contamination may require measures to mitigate the release of contaminants during project construction. This could include working behind dewatered cofferdams and/or deploying turbidity curtains.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

Item	Organization	Letter Date	Comment	Primary Topic	Response
98.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	(b) The presence of submerged aquatic vegetation (SAV) has been noted in the vicinity of several considered mitigation sites. Over the past several decades, resource and regulatory agencies have agreed that, if an area supported SAV in any of the past five (5) years of mapping by the Virginia Institute of Marine Sciences (see: https://mobjack.vims.edu/sav/savwabmap/), it constituted SAV habitat. Please ensure that no direct or indirect impacts to this existing habitat are proposed as part of the compensatory mitigation action. Additional surveys during the spring (May 15 June 15) and summer (July 15 - Sept 15) can help to delineate existing bed extents and inform project design, along with the delineations provided by VIMS. We recommend that the applicant undertake these surveys this spring to facilitate project planning. (c) Impacts to subtidal habitats associated with the proposed DMCF are best offset through the creation/enhancement of productive aquatic habitats. Subtidal biogenic habitats such as oyster reefs and SAV are among the most productive for fish and nekton. Other productive habitats include fringing low- marsh edge, tidal creeks, and intertidal flats. Irregularly-flooded high marsh, typically dominated by Spartina patens, does not provide the same productivity for aquatic resources by virtue of being inaccessible to aquatic organisms at most stages of the tide. As such, high marsh should not be a major component of a mitigation strategy to offset open-water fills. More information about habitat features that support productive aquatic communities and the results of tidal restoration activities are presented in publications such as Litvin et al. (2018), Weinstein et al. (2019), and Broome et al. (2019) and can be provided upon request.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
99.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	Nearshore areas on-site are not likely to support sustained oyster growth and this benefit should not be claimed/assumed based on the deployment of nature-like wave attenuation structures or other hard bottom substrates (e.g., cobble). It may be possible to convert uplands to tidal shallows (MLW > depth > - 1m MLW) that support SAV, though this benefit should not be assumed based solely on target elevation, since wave energies and other water quality parameters also dictate habitat suitability for SAV. We would not object to a higher mitigation credit ratio being awarded for the creation of persistent SAV beds, though they would be held to restoration standards that dictate bed extent, species composition, and density. Target restoration areas should only be planted with and dominated by native species (e.g., Vallisneria americana), with non-native constituents comprising a minor proportion of the restoration site. We do not support seeding SAV without associated performance measures as a mitigative approach due, in part, to the potential to waste viable seed in unsuitable/unmanaged areas.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
100.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	The applicant proposes to satisfy 1.62 acres of open water restoration through the removal of the High Pier Wharf (HPW), which occurred in 2018. We do not support the inclusion of this pier removal in the compensatory mitigation plan for several reasons. (see letter for more rationale)	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

Item	Organization	Letter Date	Comment	Primary Topic	Response
101.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	North Point and Pleasant Yacht Clubs Ensure that mitigation activities at this site will not impact existing SAV. Any future boat ramp construction should be sited in a manner that does not result in vessel traffic operating through a mapped SAV bed. Emergent tidal wetlands likely currently exist at this site and may be impacted by the proposed project. An assessment of these current habitats would help to ensure that areas dominated by native wetland vegetation are incorporated into the overall project plans. Remediation of areas of Phragmites australis should be considered enhancement and credited as such.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
102.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	Craighill Lighthouse Peninsula (i) Because SAV has been delineated in the cove just to the north of this site, open water creation approaches should include measures to maintain a suitable wave climate in this area. This could include the deployment of subtidal reef-like structures to break wind-driven wave energy directed from the south.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
103.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	Southeast Peninsula (i) During the site visit, the applicant indicated that residents at Port Howard expressed concern that the removal of the historical slag fill on the southeast peninsula may adversely affect their properties and navigation channels for recreational boaters. It appeared that this concern may lead the applicant to consider leaving a portion of the existing slag and/or constructing a stone breakwater on this peninsula to attenuate wave energy. We are concerned that such approaches may not maximize the aquatic habitat benefits associated with remediation at this site. Our preferred approach would be to remove all fill material down to an approximate elevation of -5' MLW and then install reef-like structures to attenuate wave energy while allowing tidal currents to move across the point. This could be presented as a community benefit, as it will likely attract recreationally- valuable fish species such as striped bass, which typically congregate around points where bait is concentrated. Bathymetry data collected around the existing peninsula and surrounding waters would help to inform the design of such an approach and our comments on the proposal.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
104.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	Potential sites for further evaluation include Coke Point Cove (CPC) and the shoreline and associated bulkhead located to the south of the former powerplant intake canal. We offer the following comments on those two potential sites: Based on the monitoring results, the CPC appears to support a high density of benthic organisms and serve as an aggregation point for fish, including Alosines. It is also an area that presents elevated levels of contaminants (e.g., benzene, Polycyclic aromatic hydrocarbons [PAHs]) and, thus, may be a hot spot for contaminant delivery into the aquatic food web. Habitat enhancements in this area could improve the existing ecological functions. We recommend that any enhancements here be accompanied with localized sediment remediation (e.g., excavation and/or capping) to minimize the delivery of contaminants to the aquatic food web. We would also request more information regarding how the shoreline in the CPC may be affected by the proposed upland developments and whether it will receive increased upland runoff following site development, which may limit the realized ecological uplift at the site. The removal of the historical bulkhead at the powerplant intake canal and associated shoreline enhancement may also present similar habitat benefits through wetland enhancement and the removal of the historical bulkhead.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

Item	Organization	Letter Date	Comment	Primary Topic	Response
105.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	We offer the following comments on the Bethlehem Road site: Wetland enhancement is proposed through the removal of Phragmites australis and, as we understand, this will be achieved through excavation of the existing rhizomes. We support this approach and the associated 4:1 enhancement ratio, provided the underlying sediments at the site are suitable for subsequent wetland 6 establishment. We look forward to working with the applicant to develop a more detailed restoration plan for these wetlands and encourage the incorporation of guidance offered in Comment (10)(c) above to maximize aquatic habitat value of the resulting site. Given the likelihood that Phragmites australis could become re-established at the site in the future, we would also expect any enhancement plan to be accompanied by a long-term management plan that details how this invasive species and other potential challenges will be managed in perpetuity. While we can support terrestrial habitat restoration at this site, it should only fulfill a minor component of the overall restoration action, given the lack of habitat value for aquatic resources. Furthermore, upland remediation should be configured in a way that allows for marsh migration under anticipated sea-level rise. Similar to wetland creation/enhancement measures, terrestrial activities should include a plan that details goals, performance measures, and adaptive management strategies to maximize the habitat benefits of the site.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
106.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	Based on our discussions during the site visit, the proposed shallow water habitat improvements primarily entails the placement of cobble substrate based on assumed habitat benefits. We are not aware of estuarine fish species in the mid- Atlantic region that prefer cobble substrates and/or use them for spawning activities in settings such as this. Sand would likely be a more appropriate natural sediment type in this area. Therefore, we are not certain that this component of the mitigation plan is appropriate to offset the permanent loss of tidal open water, based on the cursory information provided. We would support shallow water improvement that addressed historical contamination, through sediment removal and/or capping, or the removal of significant marine debris deposits. The applicant expressed concern with contaminated sediment remediation as a compensatory mitigation action, due to potential overlap with the EPA Superfund program, though we still encourage consideration of its inclusion. Finally, any bottom habitat remediation should only be credited as enhancement, similar to the Phragmites australis remediation proposal. The placement of stone sills, while necessary to attenuate wave energy, should not be considered as a compensatory measure. We work to avoid offsetting filling aquatic habitat as a method for offsetting the fill of other aquatic habitats. However, we would not object to the placement of sills as an attending feature to a restoration project.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
107.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	We may not object to derelict crab trap removal as a minor component of the overall compensatory mitigation package, but note that the creation/restoration of self- sustaining aquatic habitats will likely present a greater benefit for our trust resources.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

Item	Organization	Letter Date	Comment	Primary Topic	Response
108.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	We support continued evaluation of expanding productive oyster reef habitat within a suitable designated oyster sanctuary (e.g., Fort Carroll, Love Point). For more information on nearby sanctuaries see MDNR's Shellfish Mapping Tool. As discussed, this would entail placing suitable material (e.g., clean concrete, cobbles) on the bottom to build vertical relief and then placing spat-on-shell on top of this substrate. Re-seeding will be required to maintain function into the future. Please contact Chris Judy (Chris.Judy@maryland.gov) for guidance from the Maryland Department of Natural Resource Shellfish Program regarding site suitability and approaches. We also request that you keep NMFS-HESD informed of any developments in this planning.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
109.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	(10) (a) Geotechnical surveys should be completed to ensure that the existing substrates/sediments do not present elevated levels of contaminants, such that the compensatory mitigation projects would enhance the delivery of contaminants to the aquatic food web. Thus far, no information has been provided to document the suitability of the underlying sediments to support healthy subtidal/intertidal habitats. Furthermore, any contamination may require measures to mitigate the release of contaminants during project construction. This could include working behind dewatered cofferdams and/or deploying turbidity curtains.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
110.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	(10) (b) The presence of submerged aquatic vegetation (SAV) has been noted in the vicinity of several considered mitigation sites. Over the past several decades, resource and regulatory agencies have agreed that, if an area supported SAV in any of the past five (5) years of mapping by the Virginia Institute of Marine Sciences (see: https://mobjack.vims.edu/sav/savwabmap/), it constituted SAV habitat. Please ensure that no direct or indirect impacts to this existing habitat are proposed as part of the compensatory mitigation action. Additional surveys during the spring (May 15 June 15) and summer (July 15 - Sept 15) can help to delineate existing bed extents and inform project design, along with the delineations provided by VIMS. We recommend that the applicant undertake these surveys this spring to facilitate project planning.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
111.	National Oceanic and Atmospheric Administration National Marine Fisheries Service	3/13/2025	(10) (c) Impacts to subtidal habitats associated with the proposed DMCF are best offset through the creation/enhancement of productive aquatic habitats. Subtidal biogenic habitats such as oyster reefs and SAV are among the most productive for fish and nekton. Other productive habitats include fringing low-marsh edge, tidal creeks, and intertidal flats. Irregularly-flooded high marsh, typically dominated by Spartina patens, does not provide the same productivity for aquatic resources by virtue of being inaccessible to aquatic organisms at most stages of the tide. As such, high marsh should not be a major component of a mitigation strategy to offset open-water fills. More information about habitat features that support productive aquatic communities and the results of tidal restoration activities are presented in publications such as Litvin et al. (2018), Weinstein et al. (2019), and Broome et al. (2019) and can be provided upon request.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
112.	National Park Service	3/7/2025	As discussed on Page 6 of the project document mitigation options, how will Phragmites control be completed and maintained for the life of the project?	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

Item	Organization	Letter Date	Comment	Primary Topic	Response
113.	US Environmental Protection Agency	3/17/2025	As stated in our cover letter, the EPA Region 3 Wetlands Branch (WB) is preparing comments in response to the Public Notice which will be provided under separate cover to USACE to support their determination of compliance with the CWA Section 404(b)(1) Guidelines (40 C.F.R. Part 230). Generally, EPA WB is seeking clarity on direct impacts to aquatic resources. Furthermore, while generally supportive of the mitigation concepts proposed, EPA recommends providing additional information, such as the location and suitability of the material to be placed, to better evaluate the adequacy of the proposed mitigation plan to offset the project impacts. We refer you to their letter for specific recommendations.	Wetlands Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
114.	US Environmental Protection Agency	3/17/2025	The Executive Summary and Section 3.3 state that "proposed mitigation concepts continue to be evaluated and refined. Final mitigation plans will be developed in conjunction with National Marine Fisheries Service's guidance and direction." Additionally, it states "there may be multiple approaches that could be taken to create in-kind or out-of-kind mitigation options for each area." We appreciate the March 6, 2025 agency site visit and encourage continued coordination in the development of mitigation plans, including with EPA's Wetlands Branch who will review mitigation proposals for the project's CWA Section 404 permit compliance.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
115.	US Environmental Protection Agency	3/17/2025	Appendix B notes that the mitigation site proposed for multi-habitat restoration and creation is located immediately north of the Bear Creek Superfund site. We recommend that SPCT continue to coordinate with EPA's Superfund program and seek opportunities to build upon this remediation work.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
116.	US Environmental Protection Agency	3/17/2025	For multi-habitat restoration and creation mitigation options, Section 3.3.1 and Appendix B describe how rock and boulder piles, natural cobble, gravel, clean fill, and sand will be placed immediately behind the proposed perimeter sill or reef structures to improve the bottom substrate for the restored habitat. We recommend forthcoming mitigation plans detail how these introduced materials, and the sediments and nutrients that accrete around them, will stay confined within the mitigation area and avoid dispersing into deeper channels of the river.	Mitigation	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.
117.	US Environmental Protection Agency	3/17/2025	We recommend identifying in the Final EIS the functional criteria and monitoring and adaptive management framework that will be used to ensure the long-term success of the dredged material disposal and mitigation proposals, in coordination with invasive species management plans.	Mitigation / Final Environmental Impact Statement	TTT has revised the proposed action, and the Coal Pier Channel DMCF is no longer included, eliminating the need for placement of dredged material in tidal waters. This change has eliminated the federal mitigation requirements.

Public Comments

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Turner Station Conservation Teams, Inc.

323 Sollers Point Road
Dundalk, MD 21222
www.turnerstation.org

President: **Gloria E. Nelson**
Vice President: **Michael Thompson**
Secretary: **Maurisha Graves White**
Treasurer: **Arkia Wade**

March 21, 2025

Maryland Department of Environment
Wetland and Waterways Protection Program
Att: Mr. Matthew Wallach
1800 Washington Boulevard, Suite 430
Baltimore, MD 21230

RE: Tracing Number 23-WL-0762/2023612000/24-WQC-0045

Dear Mr. Wallach:

The Turner Station Conservation Teams Inc. is committed to advocating for the needs and well-being of Turner Station residents. For a decade, we have partnered with Trade Point Atlantic and have witnessed their successful creation of a global logistics center that has attracted world-class companies and thousands of jobs.

The Sparrows Point Container Terminal (SPCT) represents the final major phase of Trade Point Atlantic's redevelopment of the Sparrows Point Peninsula. As the third-largest container facility on the East Coast, the SPCT will play a vital role in regional economic growth and competitiveness while fulfilling Trade Point Atlantic's commitment to environmental cleanup.

Turner Station, as a neighboring environmental justice community, has endured a long history of environmental challenges, including Chromium remediation at the Dundalk Marine Terminal, proximity to Grey's Landfill, and the ongoing Bear Creek Superfund site remediation. Given this history, we recognize the importance of ensuring that SPCT's development follows the highest environmental and public health standards.

The Turner Station Conservation Teams (TSCT) supports the implementation of best management practices (BMPs) during the dredging and construction of the SPCT to protect our community and the surrounding environment. We respectfully submit the following recommendations to mitigate environmental and health risks associated with dredging, water quality, and flooding:

DREDGING BEST MANAGEMENT PRACTICES

- **Turbidity Curtains & Silt Screens:** Deploy floating barriers around dredging sites to contain suspended sediments and prevent contamination from reaching Turner Station's waterways.
- **Dredging Windows to Protect Aquatic Life:** Schedule dredging during periods of low fish and shellfish activity to minimize ecological disruption.
- **Confined Disposal & Beneficial Use:** Ensure contaminated sediments are fully encapsulated and not reintroduced into the ecosystem. Clean dredged material should be prioritized for wetland restoration near Turner Station.

- **Real-Time Water Quality Monitoring:** Install continuous monitoring stations near Turner Station to track turbidity, heavy metals, and other pollutants, with data made publicly accessible.
- **Dredge Material Testing & Reporting:** Conduct comprehensive pre- and post-dredging analyses of sediment quality, particularly for chromium, lead, and PAHs from Bethlehem Steel's legacy pollution.
- **Encapsulation & Sealing of Contaminated Sediment:** Ensure that Stage 3 sediment removal includes full encapsulation of toxic materials to prevent recontamination.

WATER QUALITY BEST MANAGEMENT PRACTICES

- **Enhanced Filtration Systems:** Implement advanced sediment filtration and treatment before discharging dredged water into Bear Creek and other water bodies.
- **Stormwater Runoff Controls:** Utilize green infrastructure (e.g., bioswales, permeable pavement) to prevent contaminated runoff from construction and operational areas.
- **Wetland Buffers & Living Shorelines:** Support the creation of vegetated buffers and living shorelines around Turner Station to improve water quality and mitigate erosion.
- **Stronger Regulatory Oversight & Accountability:** Require third-party environmental audits to ensure compliance with all water quality protection standards.

FLOOD RISK MITIGATION BEST MANAGEMENT PRACTICES

- **Updated Hydrologic Modeling:** Conduct detailed modeling to ensure SPCT's construction does not exacerbate local flooding, considering sea-level rise projections.
- **Green Infrastructure for Flood Mitigation:** Expand urban green spaces and tree planting in Turner Station to improve stormwater absorption and reduce flooding risks.
- **Infrastructure Resilience Investments:** Advocate for stronger levees, floodwalls, and improved drainage infrastructure to protect Turner Station from potential flooding impacts.
- **Community-Based Early Warning Systems:** Establish a flood alert system linked to real-time sensors to notify residents of flood risks in a timely manner.

The proposed Sparrows Point Container Terminal project presents an opportunity to pursue the most responsible and sustainable redevelopment of one of the most environmentally challenged areas on the Sparrows Point Peninsula. However, it is imperative that federal and state agencies work collaboratively to ensure that this project prioritizes the environmental and public health needs of nearby communities, particularly Turner Station.

TSCT remains neutral regarding SPCT's development but strongly advocates for the implementation of the above BMPs to protect our community's health, environment, and long-term resilience. We appreciate your consideration of our recommendations and look forward to continued engagement in the planning and oversight of this project.

Sincerely,

Gloria E. Nelson

Gloria E. Nelson

President

Turner Station Conservation Teams, Inc.

323 Sollers Point Road
Dundalk, MD 21222
www.turnerstation.org

President: **Gloria E. Nelson**
Vice President: **Michael Thompson**
Secretary: **Maurisha Graves White**
Treasurer: **Arkia Wade**

March 21, 2025

United States Army Corps of Engineers
Baltimore District – Regulatory Branch
Attn: Ms. Maria N. Teresi
2 Hopkins Plaza
Baltimore, MD 21201

~~Re: USACE Application Number NAB-2023-61200-M07~~

Dear Ms. Teresi,

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Sincerely,

Gloria E. Nelson

Gloria E. Nelson

President

CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

BLUE WATER BALTIMORE

March 21, 2025

United States Army Corps of Engineers
Baltimore District – Regulatory Branch
Attn: Ms. Maria N. Teresi
2 Hopkins Plaza
Baltimore, Maryland 21201

Via E-mail: NAB-SPCT@usace.army.mil

RE: **NAB-2023-61200-M07**
(Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal)

Dear Ms. Teresi:

Thank you for the opportunity to provide comments on the Department of the Army Permit Application and Draft Environmental Impact Statement (DEIS) for the proposed Sparrows Point Container Terminal in the Patapsco River, Baltimore, Maryland. Chesapeake Bay Foundation (CBF) and Blue Water Baltimore (BWB) have long-standing interest in Bear Creek, the Patapsco River, and surrounding communities like Turner Station, which have endured decades of environmental injustice from the operations and closure of Bethlehem Steel.

Blue Water Baltimore is a 501(c)(3) nonprofit organization with offices located at 1801 E. Oliver Street, Baltimore MD 21213. Blue Water Baltimore, home of the Baltimore Harbor Waterkeeper, maintains its licensure as a Waterkeeper organization through the Waterkeeper Alliance and is responsible for protecting the Patapsco River and Back River watersheds, including all of the neighborhood streams and rivers that discharge into the Patapsco and Back Rivers. Blue Water Baltimore represents members who use these rivers for recreation and sustenance and who actively support Blue Water Baltimore's collective efforts to protect Baltimore's waterways. Blue Water Baltimore's mission is to protect and restore the Baltimore Harbor and the greater Patapsco and Back Rivers and their tributaries through enforcement, fieldwork, and citizen action on behalf of its members in order to make these waterways suitable for recreation (including fishing and swimming), to improve public health, and to improve the health of the aquatic ecosystems.

CBF is a 501(c)(3) nonprofit organization with its headquarters located at 6 Herndon Avenue, Annapolis, MD 21403. CBF submits these comments on its own behalf as well as on behalf of over 6,500 members in the Baltimore metropolitan area. CBF has invested almost two decades restoring a living oyster reef at the nearby Fort Carroll oyster sanctuary in the Patapsco River and conducts frequent environmental education cruises through our award-winning education program. Because of this investment in time and resources, we have engaged with Tradepoint Atlantic over the past decade as they proceed with upland cleanup operations on Sparrows Point peninsula. Specifically, our engagement has focused on assuring cleanup standards include the evaluation of ecotoxicological pathways for pollution plumes from the upland site that could affect fish, invertebrates and aquatic birds that are found in abundance around Fort Carroll and its restored oyster reefs. We have also focused on the offshore contamination in the sediment in Bear Creek, including the Bear Creek Sediment Superfund site, and adjacent to the Coke Point peninsula. Byproducts of the century of steelmaking at the site, studies show that these contaminated sediments still pose a risk to human health and the environment under certain circumstances.

On the whole, we find the alternatives explored in the DEIS to provide reasonable consideration for the environmental impacts of this extensive project. Below, we document our remaining concerns and suggestions to minimize impacts to the environment and surrounding communities from the construction and operation of the Sparrows Point Container Terminal.

Dredge Material Management Alternatives

Blue Water Baltimore and the Chesapeake Bay Foundation are disappointed to see that the preferred alternative for dredged material management for this project has shifted from the proposed 100-acre offshore dredged material containment facility (DMCF) at Coke Point as described at public meetings for the Notice of Intent to conduct the Environmental Impact Assessment for the Sparrows Point Container Terminal last year. *See DEIS at* 10-12. This option would have benefitted water quality around Sparrows Point and beyond, due to both capping of legacy contamination in river sediments and preserving capacity for dredged material containment at state facilities in the Baltimore Harbor.

For context, in 2001, the Maryland General Assembly passed the Dredged Material Management Act (DMMA). The act mandated a 20-year dredged material management plan for the State. To meet the requirements of the act, the State's Dredged Material Management Program (DMMP) was created, and the Harbor Team was established as part of the DMMP in 2003. Since that time, the Maryland Port Administration (MPA) has expended remarkable time and resources to identify viable placement options for material dredged from Baltimore Harbor, which constitutes material that is dredged west of the Rock Point-North Point line. In 2003, the Harbor Team developed a slate of recommendations for the State of Maryland regarding dredged material placement and reuse of harbor materials, including (1) renovation of the Cox Creek DMCF; (2) study of new DMCFs at Masonville, BP/Fairfield and the Coke Point Peninsula of Sparrows Point; and (3) study of innovative reuses of dredged material. The Cox Creek and Masonville DMCF options later came to fruition, while the BP/Fairfield DMCF was ultimately deemed to be infeasible. While MPA is still exploring innovative reuses of dredged material, this leaves a massive gap in containment capacity that was always meant to be filled by the Coke Point DMCF.

As is reflected in both the 2011 Harbor Team Report and MPA's 2019 DMMP Annual Report, a state-operated DMCF at Coke Point is still the most suitable solution for the Port's outstanding dredged material needs. The proposed facility was expected to provide additional storage capacity for material from federally maintained shipping channels to the benefit of all Port users, and importantly, it would have capped toxic sediments in Bear

Creek, minimizing future environmental risks. Existing state-operated DMCFs at Masonville Cove and Cox Creek provide critical dredged material dewatering and storage while protecting water quality and enhancing adjacent natural areas, including increasing public access.

The Chesapeake Bay Foundation and Blue Water Baltimore see the 100-acre offshore Coke Point DMCF option at Sparrows Point Container Terminal as a "win-win" on several levels. First, it would stand in for the MPA-managed DMCF on Coke Point planned back in 2003, albeit as a private facility, and alleviate capacity "pinch points" for material from the federally maintained shipping channels in the Port. Without the onshore Coke Point facility, MPA has been forced to pursue alternative dredge material management possibilities; commenters have concerns about the environmental impacts of those practices. One proposed plan for additional capacity, confined aquatic disposal (CAD), could result in significant disturbances to sections of the Patapsco River bottom on a recurring basis and have been subject to limited study in Maryland.

Second, the offshore DMCF would cap a large area of toxic sediments that lay at the bottom of Bear Creek and the Patapsco River, a legacy of the steelmaking industry at Sparrows Point. Toxicity testing commissioned by CBF in 2015 clearly demonstrates that the most highly contaminated sediments persist at the Tin Mill Canal Outfall, designated as the Bear Creek Sediments Superfund site. However, harmful levels of contaminants including PAHs and various metals have been carried beyond this origin point. We understand federal agencies have requested that open water taking be minimized, but we feel that the capping of these sediments would result in net-positive impacts to the overall ecosystem.

If, indeed, the 100-acre offshore DMCF is technically infeasible, there are benefits to the option including a 35-acre offshore DMCF encompassing the Coal Pier Channel and some of the adjacent tidal waters. It strikes a balance between the original 100-acre proposed structure and the current 19-acre design and would provide additional capacity for on-site dredged material management. According to Table 1 in Section 2.1.1.1 of the draft EIS, the 35-acre offshore DMCF would have held 1.0 MCY. Combined with the 1.57 MCY placed at the Norfolk Ocean Disposal Site and the 1.2 to 1.7 MCY available at the High Head Industrial Basin DMCF, capacity would very nearly meet or potentially exceed the estimated 4.2 MCY of storage required for terminal construction, minimizing impact on MPA's storage capacity. Our secondary preference for this "middle ground" approach is informed by a long-term concern for Patapsco River ecosystems. In addition to alleviating pressure on the Port's DMCFs, slightly extending the Coal Pier Channel DMCF would have the added benefit of further capping legacy contaminated sediments adjacent to the peninsula, though not to the same extent as the 100-acre offshore DMCF option. As mentioned in the draft EIS, contaminated sediments also persist within the Coal Pier Channel itself and would be capped.

In a similar vein, we understand TPA's concern regarding the height of the proposed upland DMCF at High Head Industrial Basin, and that public input has played a role in the decisions made to limit the final elevation to 32'. However, as described in section 4.13.2.3 of the draft EIS, "the site has limited visibility to sensitive viewers due to the existence of trees, buildings, trainyards, landfills, and other development that would block views". Buildings surrounding the existing basin are described as 50' in height, much taller than the proposed final crest height of the DMCF. Slightly increasing the height of the DMCF would alleviate pressure on other dredged material placement options while not contributing to a decrease in quality of viewshed surrounding Sparrows Point. The additional capacity given by slightly raising the dike walls surrounding the High Head DMCF would potentially allow TPA to manage a portion of its own maintenance dredging capacity needs, which are a new addition to the MPA's existing long-term dredge material management plan.

As a final note on dredge material placement, we understand that the majority of dredge material placement from TPA to the Port DMCFs would take place early in the project sequence, as both the Coal Pier Channel and High Head locations require dredging prior to use as DMCFs. Given the timeline, should any material need to be placed at Port facilities, we suggest that the Port and TPA enter into a reciprocal agreement wherein additional capacity in the High Head or Coal Pier Channel DMCFs could be reserved for dredge material from the Port's navigation channels.

Mitigation

Overall, CBF and BWB support the majority of mitigation efforts under study for this project. The re-creation of wetlands and aquatic habitats that had been lost during the long industrial history of Sparrows Point will improve water quality and aid in revitalization of tidal emergent wetlands and nearshore/shallow water ecosystems. We encourage and support oyster reef restoration to the maximum extent practicable, as it would directly improve water quality through natural filtration and establish structures that serve as preferred habitat for many aquatic species.

However, from comments offered during public meetings and outreach received by Blue Water Baltimore and the Chesapeake Bay Foundation in recent weeks, we understand that there is significant community concern regarding the open water taking mitigation proposed in the draft EIS, specifically the removal of structures and fill associated with the Pleasant and North Point Yacht Clubs. Though we support removing human-made substrate from former open water habitat, we also understand that community members who choose to recreate on the waterway also tend to defend and conserve it. Given that there are additional protrusions and areas of artificial fill along the Sparrows Point shoreline, we suggest distributing some of these mitigation efforts to those locations, if possible, to spare one or both of these clubs.

Best Management Practices

CBF and BWB support the use of all potential Best Management Practices (BMPs) listed for use during construction. In addition to observing time-of-year restrictions, we wish to emphasize the importance of best practices for pile driving to minimize impacts on dolphins, migratory fish, and other aquatic life during installation of the over 1,400 piles. Minimizing sediment disturbance and transport through the use of environmental dredge methods and silt curtains will protect benthic organisms and vegetation from disturbance and sedimentation. In addition, we recommend in situ monitoring for underwater noise and turbidity during pile driving and construction activities, with accompanying standards for stop work orders if protective limits are exceeded.

Intake of surface water and effluent discharge from dredge material dewatering must be carefully managed to ensure minimal impacts on the Patapsco River, including appropriate screening to prevent fish entrainment. Maximize recycling of slurry water and treat discharge if necessary to maintain surface water quality. Strict adherence to all sediment and erosion control protocols and stormwater management permits must be enforced, and these practices must be engineered to reflect realistic rainfall intensity and volume (including the 13% multiplier from NOAA's MARISA tool, which is slated for inclusion in the next stormwater design manual promulgated by the Maryland Department of the Environment).

Electrification

While partial electrification of the proposed terminal does lessen emissions as compared to a traditional, diesel-fueled port, we strongly suggest that the final plan for the Sparrows Point Container Terminal include full electrification of all facilities. The Chesapeake Bay Foundation has supported prior efforts by Tradepoint Atlantic to reach this goal, including submitting a letter of support for TPA's USEPA Clean Ports Program Grant application in May of 2024. Equipment such as stackers, handlers, terminal tractors, and on-site rail transport are all available in fully electric models. Solar panels and battery storage could serve as backup power generation, reducing or eliminating the need for diesel generators.

Reducing greenhouse gas emissions from port activities not only reduces harmful air emissions impacting the health of workers on site and nearby residents, but also lessens nitrogen oxide emissions to the Patapsco River and the Chesapeake Bay and reduces contributions to climate change, which has already and continues to cause expensive and dangerous impacts to coastal and inland communities. Other co-benefits of full electrification include environmental justice, as nearby communities have long been overburdened with industrial emissions; reduction in noise pollution, which will impact the terminal's human and animal neighbors; and facilitating the growth of the renewable energy sector through corporate leadership.

Conclusion

Blue Water Baltimore and the Chesapeake Bay Foundation preferentially support DMCF alternatives that cap contaminated sediments in Bear Creek to the maximum extent practicable, and encourage TPA to continue to work in partnership with MPA and other state and federal agencies as appropriate to achieve the strongest possible environmental outcomes for the waters surrounding Sparrows Point. We also encourage consideration of additional electrification of terminal processes, as the associated reductions in greenhouse gas and nitrogen oxide emissions are critical for human health and the health of the Patapsco River and the Chesapeake Bay. We look forward to seeing proactive management of potential environmental impacts during construction and operation, and to seeing successful mitigation practices along the Sparrows Point shoreline and beyond.

Sincerely,

Allison M. Colden
Maryland Executive Director
Chesapeake Bay Foundation, Inc.

Alice Volpitta
Baltimore Harbor Waterkeeper
Blue Water Baltimore, Inc.

WHITE MARSH TRANSPORT

February 10th, 2025

United States Army Corps of Engineers

Baltimore District – Regulatory Branch

Attn: Ms. Maria N. Teresi

2 Hopkins Plaza

Baltimore, Maryland 21201

RE: USACE Application Number NAB-2023-61200-M07

Dear Ms. Teresi:

First and foremost, I write to you in support of the Sparrows Point Container Terminal (SPCT) Project by Tradepoint TiL Terminal, LLC; a joint venture between Tradepoint Atlantic and Terminal Investments Limited to construct a new container terminal at Tradepoint Atlantic increasing the global position of the Port of Baltimore. My perspective, unique to many others, is founded from the only privately owned and occupied property within the Steel Mill site from 2014 to current. My father was born and raised in this community, graduated from Sparrows Point High School, and we actively participate in community relations. I am a second-generation, family- owned and operated, trucking and warehousing business rooted with over fifty employees who call this community "Home." One of my greatest accomplishments is providing the opportunity for one to transform his life, to change his circumstances, and better the outcome for next generations simply with the stability of a steady income and career. The completion and success of the Sparrows Point Container Terminal project has the promise to offer this same joy to the community at a much grander scale.

In 2014, Tradepoint Atlantic undertook the daunting task of cleaning and redeveloping the former Sparrows Point Steel Mill; a 3,300-acre abandoned and desolate industrial site in southeastern Baltimore County. In 2014, we purchased our property on Reservoir Road; I watched the Steel Mill evolve from what one could compare to a third-world country, bleak and lifeless, into a promising, industrialized compound.

Over the last ten years, Tradepoint has followed through with their commitment to rectifying the environmental legacy lingering from steel making; yet their vision remains focused on the revitalization of the site into a new global epicenter for commerce and returning thousands of jobs to the dire Baltimore region. Tradepoint Atlantic continues to be steadfast, proactive, transparent and accountable as the process endures. TPA and their partners continue to find a balance between executing this bold vision for the Sparrows Point community, engaging key government officials, examining multiple professional opinions, reviewing numerous expert suggestions and proposals, while including community stakeholders and their concerns.

As a mother, I can understand the concerns other parents, guardians, mentors and community figureheads may have regarding the misconceived processes and actions required to accomplish such an impressive project. Most specifically, the progressions and impacts which dredging material could have on water quality, aquatic life, and environmental longevity. I continue to attend community meetings to encourage those who are skeptical to do their own research beyond the independent findings, and government reports which produce synonymous evidence disproving the community's concern. Tradepoint's concerted effort to keep information updated and accessible on a streamlined and user-friendly website, allows one to feel confident and proceed in good-faith.

The Sparrows Point Container Terminal is an integral part of TPA's bold vision as it represents the next major phase of Sparrows Point's rebirth and redevelopment. This strategically valuable economic development opportunity builds on the successful improvements of the former Sparrows Point Steel Mill and the growth of the Port of Baltimore. The support, approval, and completion of the Sparrows Point Container Terminal would offer the surrounding communities career opportunities, and generational prosperity. Additionally, this project will result in billions of dollars of new investment and infrastructure throughout the region further yielding significant economic, environmental, and societal benefits for the residents of Baltimore and the State of Maryland.

The Sparrows Point area is beginning to see the benefits of Tradepoint's environmental and community stewardship as area waters run cleaner, trees and grass are flourishing on plats where industrial facilities once stood, and a new economy supporting thousands of jobs has taken shape. The proposed Sparrows Point Container Terminal project presents a transformative opportunity to pursue the most responsible and productive use of one of the most environmentally challenged areas of the Sparrows Point peninsula. I strongly support this project and encourage federal and state agencies to work in concert to help ensure Sparrow Point Container Terminal's timely completion and communal success.

Sincerely,

Holly Marcin
Holly@WMTransport.com
Vice President of Operations
White Marsh Transport Inc

From: Lincoln Player
To: NAB-SPCT
Subject: [Non-DoD Source] EIS Comment
Date: Friday, February 14, 2025 12:35:44 AM

To whom it may concern,

While I do believe the Sparrows Point Container Terminal project may be a great economic benefit to the country and state of Maryland, I think there were a few things poorly conceived in the EIS draft. While there was substantial information on dredging operations and material offloading, there was too little information on the effects of vessel traffic. I acknowledge that there was some information given about the possible effects of traffic, but I think it was altogether fragile in its wording. The EIS specifically says "The vessels will likely travel at speeds of no more than 10 knots" (616). Using the word "likely" shows that vessel speeds and traffic are little more than an afterthought to the effect on the ocean fauna, specifically fish and endangered species. I believe vessel traffic is an especially important issue because it is a long-term effect. I believe many of these long-term effects were not considered regarding water/vessel traffic.

From: Abigail Cole
To: NAB-SPCT
Subject: [Non-DoD Source] Comment on Sparrows Point Container Terminal Draft EIS
Date: Saturday, February 15, 2025 7:04:32 PM

USACE Application Number NAB-2023-61200-M07

The inclusion of environmental justice was great to see.

Since majority of the impact comes from the dredging of and then the storage of the dredged material, it would make sense to not just have a no alternative which doesn’t meet the goals of the project and one that requires such extensive dredging. I believe there needs to be a third alternative where project goals are met with reduced dredging performed.

As part of this concern with dredging, there is not an inclusion on future environmental impact of the resettlement of soil material. There was no discussion on the direction of ocean currents or whether or not the substrate will resettle in undesirable ways preventing the smooth entrance of ships into the dock. If there is a possibility of this resettlement of substrate, what further environmental impact that would cause along with if there would need to be future need of dredging the area or not and what impact that might have.

Another consideration I did not see is about the quality of the soil, it was made clear that the soil contains contaminants and that it would make the site that the soil is being removed from more healthy but will it not also make the sites they are moved to more dangerous for human and animal life? It is important to consider what impact the leaching of those contaminants in their new location may have.

- Abigail Cole

Don Mohler
Chair, Sparrows Point Alliance
301 Montrose Avenue
Catonsville, MD
21228
dmohler23@gmail.com

2/14/25

United States Army Corps of Engineers
Baltimore District – Regulatory Branch
Attn: Ms. Maria N. Teresi
2 Hopkins Plaza
Baltimore, Maryland 21201

RE: USACE Application Number NAB-2023-61200-M07

Dear Ms. Teresi:

I am honored to Chair the Sparrows Point Alliance, a coalition of community and business groups in Baltimore County who are supporting the Sparrows Point Container Terminal Project from Tradepoint TiL Terminal, LLC, a joint venture between Tradepoint Atlantic and Terminal Investments Limited to construct a new container terminal at Tradepoint Atlantic within in the Port of Baltimore.

As the former Baltimore County Executive, I was at the table in 2014 when Tradepoint Atlantic took over an abandoned steel mill in Sparrows Point. Over the last ten years Tradepoint has followed through with their vision and commitment to address the environmental legacy from steel making and transform the site into a new global center for commerce, returning thousands of jobs to the Baltimore region. To date, Tradepoint Atlantic has been true to their work, engaging key government and community stakeholders while executing on their bold vision for Sparrows Point. Their success exceeds all expectations that I had at the time. I am confident they will do the same with this joint venture.

The Sparrows Point Container Terminal is an important part of that bold vision as it represents the next major phase of Sparrows Point's rebirth and redevelopment. This strategically valuable economic development opportunity builds on the successful redevelopment of the former Sparrows Point Steel Mill and the growth of the Port of Baltimore. It will elevate and sustain the state's port and industrial economy for generations to come. Additionally, this project will result in billions of dollars of new investment and the creation of thousands of additional new jobs throughout the region further yielding significant economic, environmental, and societal benefits for the residents of Baltimore and the State of Maryland.

The proposed Sparrows Point Container Terminal project presents a transformative opportunity to pursue the most responsible and productive use of one of the most environmentally challenged areas of the Sparrows Point peninsula. I strongly support this project and encourage federal and state agencies to work together to ensure Sparrow Point Container Terminal's completion and success.

Sincerely,

Donald I. Mohler III

Donald I. Mohler III
Former Baltimore County Executive and Chair of the Sparrows Point Alliance

RE: Danger Presented for the Upper Chesapeake Bay and Patapsco River Basin by a Proposed Deep Water Berth Dredging Project being proffered by TradePoint Atlantic (TPA) at Sparrows Point Peninsula< Maryland 21219

We, the CONCERNED COMMUNITIES of the Chesapeake Bay Watershed need your help in a potentially critical issue of negative environmental impact which will harm all life in our immediate Region; pursuant to the proposed Dredge methodology posited by TradePoint Atlantic (TPA) at Sparrows Point Peninsula.

This Communication is a request for IMMEDIATE ACTION from all Agencies, NGOs, Government and all Interested Parties who hold the ongoing continued Recovery of our Beloved Chesapeake Bay Watershed in their minds and hearts. The specific focus in this Matter is the Health and Safety of ALL LIFE in the Upper Chesapeake Bay and Patapsco River Basin. This Matter addresses the proposed 4.2 million cubic yard Dredge Project proposed by TPA. Their proposed Dredge Methodology would employ Clam Shell Buckets and Barges to handle this mass Dredge volume; this volume will be removed in an area that is 0.2 square miles. In comparison; the entire Annual Dredging of the Patapsco River is 1.25 million cubic yards across 9 miles in the Basin. Thus, the single TPA Dredge Project exceeds a full 3 Dredgings of our Patapsco River Basin.

What raises our communities resistance ire; is the fact that TPA are presenting their Project and stating to the People; that the sediment being targeted in the Sparrows Point Ore Pier Inlet is virtually, mostly CLEAN with NO Hazardous or Toxic Wastes; a few contaminated sites were mildly contaminated !!!

The Sediment surrounding the entire Sparrows Point Peninsula are Documented and Determined; over the last 50 years; by ALL FEDERAL, STATE, and LOCAL Agencies; including MDE, EPA, and USACE as: EPA Resource Conservation Recovery Act (RCRA) High Priority Contaminated; and; United States Army Corps of Engineers (USACE) Hazardous, Toxic, Radioactive Waste (HTRW, DMMP 2005). Any and all, Major Dredging Proposals have been DENIED by all Agencies over the last 34 years.

Maryland State Waters and Ambient Air; the actual material property that would be impacted by this TPA Dredging; is directly and wholly ownedby the taxpaying citizensof these United States of America; especially in this Matter; by the taxpaying Citizens of the State of Maryland and Baltimore County. The Open Waters of the State of Marylandare exclusively the Property of the People.

To Date; there are thousands of analytical dataheld by every Agency; over the last 37 years (we have copies and validation) which unimpeachably illustrate by concentration levels and CDC ATSDR validating that the sediment surrounding Sparrows Point Peninsula is undeniably anything BUT CLEAN !!!

TPA; as of December 10, 2024; in a private committee; has stated that based on 1 new Geotechnical Chemical Sediment Analysis; that the sediment in their target dredge site is predominately CLEAN; with some minor contamination spots. This TPA statement is supposition; due in point of fact: that NO ANALYTICAL REPORT has been presented for Review to validate this TPA Claim.

PLEASE NOTE: A single Report from TPA flies in the face and contradicts 42+ years of unimpeachable scientific analyses; data; and legal determinations by all Federal; State; and Local Agencies and all Major Courts on Environmental Record; which clearly shows proven, veritas vetting that the entire Sparrows Point Peninsula is surrounded offshore by Hazardous , Toxic; and Heavy Metal Waste; which was pumped out in the open water via 191 outfall pipes surrounding the entire circumference; without control; over 120 years of steelmaking; until the onset of our Coastal Zone Management Act (CZMA) around 1992 for Pre-Treatment. Further; with no dredging ever occurring over the last 34 years at Sparrows Point Peninsula; How can TPA state that RCRA High Priority Contamination (EPA)/ HTRW (USACE) SUDDENLY DISAPPEARED from Sparrows Point Peninsula without removal ?

Should this TPA Dredge Project be allowed to be executed as planned; without stringent Environmental Law Mandates; We the People will lose all positive environmental remediation and Quality of Life Restoration gains that have been hard won over the last 53 years. If this Project progresses without immediate action to halt the current course of action stated by TPA; and; legally enforce proper stringent methodology to ensure no release of Hazardous,Toxic, and Heavy Metal Waste into the Open Waters and Ambient Air: our Publicly Owned Property will once again be lost and unusable for ALL LIFE in our immediate Region.
This TPA Dredge Project; if not strictly controlled; enforced; and monitored by Environmental Agencies; will leave us right back where we started 53 years ago with lifeless waterways that cannot be used by We the People; herein.

There is a Solution to this dilemma; TPA could use one of its original 2017 Dredge Project Blueprints for its Deep Water Marine Berth Project as follows:

1. - Construct a Containment at the High Head Transfer Pond; (wherein the Steel Manufacturers imported up to 183 million gallons of water to and from Back River Waste Water Treatment Plant in Baltimore County. This operation is now shut down. TPA is choosing to use this Site for the Dredge Deposition Site; however, they are leaning towards cutting corners and reducing construction expenditures to meet their contractual timeline of at least 1 active Berth by the Close of Spring 2028).
2. - The appropriate containment would be constructed up to a Height of 90 feet above sea level and infused throughout with EPOXY RESIN POLYMER which will chemically and atomically bind all hazardous; toxic; and heavy metal waste at the valence level; effectively fusing and binding all the sins of our steelmaking forefathers frozen in place for at least 2,000 years. Further; there is a new powdered Epoxy Resin Polymer; which can be added to the sediment waste stream at the entry point into the containment; which separates the hazardous, toxic, and heavy metal waste out of the 70/30 slurry and settles all contaminants to the bottom.
3. - The actual dredging of the Ore Pier Inlet must be undertaken with a straight Hydraulic Suction Dredge; with the appropriate high pressure pump(s); which would be sent directly to the High Head Containment via a 36 inch constructed continuous pipeline; overland across the Sparrows Point Peninsula.
4. - Next; the effluent water from the containment would be filtered at site with a mobile tertiary level water filtration system (the types used by FEMA; USACE; ETC during and following major hurricanes and flooding situations. Finally, the treated wastewater could then be released into the Tin Mill Canal; where it would travel the 7200 feet to the Humphrey's Creek Wastewater Treatment Facility. After completion of this process; all contamination is removed and the water from the wastewater plant would enter into the Bear Creek Tributary; cleaner than the final receiving waters in the Creek.
5. This Methodology is the only option acceptable to the majority of Stakeholders in our Region

   We are not denying the TPA growth potential; however; after decades of fighting and working to restore our Air, Land, and Waterways; We the People will not condone or tolerate negative environmental damages that would reverse our 53 years of concentrated Restoration Gains

This Communication Plea is being distributed to everyone throughout the Chesapeake Bay Watershed; all 64,000 square miles. We have only one attempt to ensure the continued Recovery of our waterways !
We need every concerned Citizen; all NGOs; and all Environmental Agencies to speak out and act on this Urgent Matter which can negatively effect and affect ALL LIFE in our Chesapeake Bay Watershed.

Please feel free to contact me by Phone; and/or; Email to join our movement.
Please contact any; and all; Parties to make your voices heard; LOUD and CLEAR !!!

Whatever happens; here and now; will write; and; execute the Fate and Future for ALL LIFE in this Region. I do not idly raise this Alert; the Future of all Current and Forthcoming Generations of Life is now in your hands. enclosed herein are some evidence of what is contained at Sparrows Point Peninsula; nothing is theorized; these pieces are Public Information directly from our Government Agencies Records

Awaiting your timely Response, as ever in Service, I am,

Russell S. Donnelly
Environmental Analyst
SouthEastern Communities Against Pollution (SECAP) - (46 years - 1979- Current)
LNG Opposition Team Chair - (18 years - 2006 - Current)
Baltimore Commission for Environmental Quality - (9 years - 09/2007 - 07/2016)
Save Our Streams (SOS) Coordinator District 7 - (10 years - 03/ 1979 -09/1989)
Registered Expert Witness pursuant to Sparrows Point Peninsula - In all Federal; State; and Local Courts - (18 years - 03/2006 - Current)
2114 Oak Road
Sparrows Point, Maryland 21219-2214
Phone: 410-916-5226
Email: irsd7@verizon.net

gbc POSITION STATEMENT

Oral Testimony - Joint Public Notice

SPN-25-06 NAB-2023-61200-M07
Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal

February 25, 2025

Position: Support

Good afternoon,

My name is Patrick Hosford, Director of Strategy and Research at the Greater Baltimore Committee (GBC). On behalf of the GBC, we express our strong support for the vision and plan outlined by Tradepoint Atlantic and the Sparrows Point Container Terminal (SPCT) project.

As the leading voice for the private sector in the Baltimore region, the GBC actively collaborates with private and public sector partners to foster a dynamic and inclusive regional economy. We are committed to ensuring our region remains a top destination for innovation, capital, and sustained investment.

The SPCT project represents a transformative, once-in-a-generation opportunity for Sparrows Point, the Baltimore Region, and the entire State of Maryland. With $1 billion in private investment, SPCT is projected to contribute over $1.57 billion annually to Maryland's GDP. This project will spur significant economic growth, generating 1,100 well-paying union jobs in Baltimore, with an additional 7,000 jobs connected to the container terminal's operations.

Building upon the site's historic economic impact, SPCT's long-term investment in the Baltimore Region is poised to dramatically expand the Port of Baltimore's container capacity and grow Maryland's Transportation and Logistics sector by 12.9% and increase the Port of Baltimore's container capacity by 70%.

As responsible stewards, the SPCT project incorporates modern environmental safeguards and best practices for the site's materials, fulfilling Tradepoint Atlantic's commitment to the clean up and revitalization of the former mill.

The SPCT project complements other critical investments, such as the Howard Street Tunnel expansion project, enabling double-stack cargo transport. SPCT's added capacity will attract vessels currently calling at other East Coast ports due to berth limitations, enhancing Baltimore's competitiveness and shoring up our positioning on the Eastern seaboard. This will further bolster the Port of Baltimore's already significant $70 billion economic impact.

The substantial economic impact of the SPCT project is crucial for our region's growth and competitiveness. The events of last year underscored the vital role of our port economy, its thousands of jobs, and the businesses that rely on area's continued success. As a strategic logistics hub, the Baltimore Region has an opportunity to solidify its economic future with the SPCT project. For all these reasons, we support the SPCT project and its unparalleled economic impact.

Thank you.

GREATER BALTIMORE COMMITTEE
111 South Calvert Street • Suite 1700 • Baltimore, Maryland • 21202-6180
(410) 727-2820 • www.gbc.org

WHITE MARSH TRANSPORT

February 10th, 2025

RECEIVED
FEB 26 2025
Tidal Wetlands Division
Wetlands and Waterways Program

Maryland Department of the Environment

Wetlands and Waterways Protection Program

Attn: Mr. Matthew Wallach

1800 Washington Boulevard, Suite 430

Baltimore, Maryland 21230-1708

RE: MDE Tracking Numbers 23-WL-0762/202361200/24-WQC-0045

Dear Mr. Wallach:

First and foremost, I write to you in support of the Sparrows Point Container Terminal (SPCT) Project by Tradepoint TiL Terminal, LLC; a joint venture between Tradepoint Atlantic and Terminal Investments Limited to construct a new container terminal at Tradepoint Atlantic increasing the global position of the Port of Baltimore. My perspective, unique to many others, is founded from the only privately owned and occupied property within the Steel Mill site from 2014 to current. My father was born and raised in this community, graduated from Sparrows Point High School, and we actively participate in community relations. I am a second-generation, family- owned and operated, trucking and warehousing business rooted with over fifty employees who call this community "Home." One of my greatest accomplishments is providing the opportunity for one to transform his life, to change his circumstances, and better the outcome for next generations simply with the stability of a steady income and career. The completion and success of the Sparrows Point Container Terminal project has the promise to offer this same joy to the community at a much grander scale.

In 2014, Tradepoint Atlantic undertook the daunting task of cleaning and redeveloping the former Sparrows Point Steel Mill; a 3,300-acre abandoned and desolate industrial site in southeastern Baltimore County. In 2014, we purchased our property on Reservoir Road; I watched the Steel Mill evolve from what one could compare to a third-world country, bleak and lifeless, into a promising, industrialized compound.

Over the last ten years, Tradepoint has followed through with their commitment to rectifying the environmental legacy lingering from steel making; yet their vision remains focused on the revitalization of the site into a new global epicenter for commerce, and returning thousands of jobs to the dire Baltimore region. Tradepoint Atlantic continues to be steadfast, proactive, transparent and accountable as the process endures. TPA and their partners continue to find a balance between executing this bold vision for the Sparrows Point community, engaging key government officials, examining multiple professional opinions, reviewing numerous expert suggestions and proposals, while including community stakeholders and their concerns.

As a mother, I can understand the concerns other parents, guardians, mentors and community figureheads may have regarding the misconceived processes and actions required to accomplish such an impressive project. Most specifically, the progressions and impacts which dredging material could have on water quality, aquatic life, and environmental longevity. I continue to attend community meetings to encourage those who are skeptical to do their own research beyond the independent findings, and government reports which produce synonymous evidence disproving the community's concern. Tradepoint's concerted effort to keep information updated and accessible on a streamlined and user-friendly website, allows one to feel confident and proceed in good-faith.

The Sparrows Point Container Terminal is an integral part of TPA's bold vision as it represents the next major phase of Sparrows Point's rebirth and redevelopment. This strategically valuable economic development opportunity builds on the successful improvements of the former Sparrows Point Steel Mill and the growth of the Port of Baltimore. The support, approval, and completion of the Sparrows Point Container Terminal would offer the surrounding communities career opportunities, and generational prosperity. Additionally, this project will result in billions of dollars of new investment and infrastructure throughout the region further yielding significant economic, environmental, and societal benefits for the residents of Baltimore and the State of Maryland.

The Sparrows Point area is beginning to see the benefits of Tradepoint's environmental and community stewardship as area waters run cleaner, trees and grass are flourishing on plats where industrial facilities once stood, and a new economy supporting thousands of jobs has taken shape. The proposed Sparrows Point Container Terminal project presents a transformative opportunity to pursue the most responsible and productive use of one of the most environmentally challenged areas of the Sparrows Point peninsula. I strongly support this project and encourage federal and state agencies to work in concert to help ensure Sparrow Point Container Terminal's timely completion and communal success.

Sincerely,

Holly Marcin
Holly@WMTransport.com
Vice President of Operations
White Marsh Transport Inc

Don Mohler
Chair, Sparrows Point Alliance
301 Montrose Avenue
Catonsville, MD
21228
dmohler23@gmail.com

RECEIVED
FEB 20 2025
Tidal Wetlands Division
Wetlands and Waterways Program

2/14/25

Maryland Department of the Environment
Wetlands and Waterways Protection Program
Attn: Mr. Matthew Wallach
1800 Washington Boulevard, Suite 430
Baltimore, Maryland 21230-1708

RE: MDE Tracking Numbers 23-WL-0762/202361200/24-WQC-0045

Dear Mr. Wallach:

I am honored to Chair the Sparrows Point Alliance, a coalition of community and business groups in Baltimore County who are supporting the Sparrows Point Container Terminal Project from Tradepoint TiL Terminal, LLC, a joint venture between Tradepoint Atlantic and Terminal Investments Limited to construct a new container terminal at Tradepoint Atlantic within in the Port of Baltimore.

As the former Baltimore County Executive, I was at the table in 2014 negotiating with Tradepoint when it took over an abandoned steel mill in Sparrows Point. Over the last ten years they has followed through with their vision and commitment to address the environmental legacy from steel making and transform the site into a new global center for commerce, returning thousands of jobs to the Baltimore region. To date, Tradepoint Atlantic has been true to their work, engaging key government and community stakeholders while executing on their bold vision for Sparrows Point. Their success exceeds all expectations that I had at the time. I am confident they will do the same with this joint venture.

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Sincerely,

Donald I. Mohler III
Former Baltimore County Executive and Chair of the Sparrows Point Alliance

Good Evening.

My Name is Mike Funk. I am the Training Director for the International Union of Operating Engineers Local 37 Training school. Our Business Manager, Mark McQuay, regrets that he could not be here tonight.

Our school trains heavy equipment operators that help build a modern and thriving Baltimore and Maryland.

Our union makes sure that those operators, and all our members, make a good living so they can support their families and contribute to a healthy economy.

Our operators are on the frontlines of revitalization – as former industrial areas become new cityscapes, and as industrial sites are remade to provide for current and future trade needs.

We support Tradepoint Atlantic's Sparrows Point Container terminal project. We do so with no hesitation.

Over the last 10 years or more, Local 37 has worked with Tradepoint Atlantic and we have built a great relationship.

We have seen firsthand TPA's commitment to doing things the right way. We have seen their commitment to smart, stable, long term site development. We have seen their commitment to environmental stewardship. <u>We have made sure that they are committed to good wages and benefits, safe working conditions, and fair treatment</u> – in both the work to prepare and develop Sparrows Point, and also in the daily work to service shippers and customers of TPA.

On any given day, approximately 120 Local 37 members and apprentices work at the site. At any given time, TPA and Local 37 are planning and coordinating to make sure that the site's development moves forward and that its services are top notch.

We know TPA.

Given our shared success, we have no hesitation supporting TPA. We know that here again, TPA will respect the environmental aspects of the terminal's development – in dredging work, water management, and surface work. They work with the community, federal and State agencies, and partners to avoid problems and to solve them quickly when they arise.

We know that our members and the community will benefit from helping create a world class terminal facility. Local 37 – and operating engineers around country and world – know that global trade (exporting and importing) makes for better living standards. The best ports – with the newest terminal technologies and innovations – see the best of those standards. Building and supporting those terminals is what we do, and we know that Maryland and the country cannot fall behind in trading and shipping infrastructure.

Local 37 has had work at Sparrows Point for decades and we want to see decades more of work. (We saw the bad decades too and want to avoid those circumstances ever recurring.) We want decades of prosperity for our members and Baltimore and Maryland and beyond. This terminal project will provide that.

So again, I say that Local 37 supports TPA and the development of the Sparrows Point Container Terminal. The permits needed for TPA to proceed should be approved.

From: Charles Davlin
To: NAB-SPCT; matthew.wallach@maryland.gov
Subject: [Non-DoD Source] Tradepoint Atlantic - Proposed Containter Port Public Comment
Date: Wednesday, February 12, 2025 9:12:51 AM

I am on the HOA Board at the Sheltered Harbor townhome development on Bear Creek in Dundalk. I estimate that there are approximately 200 homeowners in our immediate area (existing or in the process of being developed) which is within a close distance of the Chesterwood Road rail crossing.
We are concerned by the prospect of increased rail activity in our neighborhood that will result from the proposed Tradepoint Atlantic Container Port. There are two main concerns;
1) Noise - Without an automated crossing, trains are required to blast their horns multiple times in a pattern several times when they are passing by. This can be throughout the night and day. It is already disruptive, so any increase in the activity will be even more so.
2) Safety - There is concern that the additional train traffic without an automated crossing gate could lead to accidents with cars and people crossing.
We would like to ask that a portion of the container port project budget be directed to building an automated crossing or that CSX be required to install one at this location - with the added revenue to both entities from the increase in traffic from the port, this seems reasonable and as the area has become more residential in recent years and continues along that path, I think this is a common request.
Thank you for your consideration and we are available for any questions.
Regards.
Charles Davlin

D.W. KOZERA, INC
PROFESSIONAL ENGINEERS AND GEOLOGISTS

March 13, 2025

United States Army Corps of Engineers
Baltimore District – Regulatory Branch
Attn: Ms. Maria N. Teresi
2 Hopkins Plaza
Baltimore, Maryland 21201

RE: USACE Application Number NAB-2023-61200-M07

Dear Ms. Teresi:

We write to you in support of Sparrows Point Container Terminal Project from Tradepoint TiL Terminal, LLC, a joint venture between Tradepoint Atlantic and Terminal Investments Limited to construct a new container terminal at Tradepoint Atlantic within in the Port of Baltimore.

As the lead federal agency under the National Environmental Policy Act (NEPA), we would like to thank you for facilitating a thorough social, economic, and environmental impact review of this project.

In 2014, Tradepoint Atlantic undertook the massive effort to clean up and redevelop the former Sparrows Point Steel Mill, a 3,300-acre abandoned industrial site in southeastern Baltimore County. Over the last ten years Tradepoint has followed through with their vision and commitment to address the environmental legacy from steel making and transform the site into a new global center for commerce, returning thousands of jobs to the Baltimore region. To date, Tradepoint Atlantic has been true to their work, engaging key government and community stakeholders while executing on their bold vision for Sparrows Point.

The Sparrows Point Container Terminal is an important part of that bold vision as it represents the next major phase of Sparrows Point's rebirth and redevelopment. This strategically valuable economic development opportunity builds on the successful redevelopment of the former Sparrows Point Steel Mill and the growth of the Port of Baltimore. It will elevate and sustain the state's port and industrial economy for generations to come. Additionally, this project will result in billions of dollars of new investment and the creation of thousands of additional new jobs throughout the region further yielding significant economic, environmental, and societal benefits for the residents of Baltimore and the State of Maryland.

The proposed Sparrows Point Container Terminal project presents a transformative opportunity to pursue the most responsible and productive use of one of the most environmentally challenged areas of the Sparrows Point peninsula. We strongly support this project and encourage federal and state agencies to work in concert to help ensure Sparrow Point Container Terminal's completion and success.

Sincerely,

Shana Carroll, PE | President
D.W. Kozera, Inc.

PLEXUS GROUP

03/13/2025

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Baltimore District – Regulatory Branch
Attn: Ms. Maria N. Teresi
2 Hopkins Plaza
Baltimore, Maryland 21201

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Sincerely,

Cristina Vena, President/CEO

6400 Frankford Ave., Suite 17
Baltimore, MD 21206

PLEXUS GROUP

03/13/2025

Maryland Department of the Environment
Wetlands and Waterways Protection Program
Attn: Mr. Matthew Wallach
1800 Washington Boulevard, Suite 430
Baltimore, Maryland 21230-1708

RE: MDE Tracking Numbers 23-WL-0762/202361200/24-WQC-0045

Dear Mr. Wallach:

I write to you in support of Sparrows Point Container Terminal Project from Tradepoint TiL Terminal, LLC, a joint venture between Tradepoint Atlantic and Terminal Investments Limited to construct a new container terminal at Tradepoint Atlantic within in the Port of Baltimore.

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Sincerely,

Cristina Vena, President/CEO

6400 Frankford Ave., Suite 17
Baltimore, MD 21206

MAYSON-DIXON

March 14th, 2025

United States Army Corps of Engineers
Baltimore District – Regulatory Branch
Attn: Ms. Maria N. Teresi
2 Hopkins Plaza
Baltimore, Maryland 21201

RE: USACE Application Number NAB-2023-61200-M07

Dear Ms. Teresi:

On behalf of Mayson-Dixon, I write to express our strong support for the Sparrows Point Container Terminal Project, a joint venture between Tradepoint Atlantic and Terminal Investments Limited (TiL). As a trusted consultant and strategic partner to Tradepoint Atlantic, we have witnessed firsthand the transformative impact of their redevelopment efforts, particularly through the success of the Tradepoint Atlantic Empowerment Academy.

Since acquiring the former Sparrows Point Steel Mill site, Tradepoint Atlantic has remained steadfast in its commitment to revitalizing the region, creating economic opportunities, and fostering inclusive growth. A cornerstone of this commitment has been the Tradepoint Atlantic Empowerment Academy, an innovative initiative designed to equip minority, women, and veteran owned businesses with the training, resources, and network needed to secure contracts and establish long term business success.

Over the past two cohorts, the Empowerment Academy has supported more than twenty businesses, providing essential skills in financial planning, procurement, leadership development, and more. Through eight excerpt led workshops featuring local Baltimore industry leaders, the Empowerment Academy has helped participants build strong, sustainable businesses that contribute to the region's economic growth.

The proposed Sparrows Point Container Terminal Project represents the next major phase of the region's economic resurgence. In addition to driving economic growth, this project will create thousands of direct and indirect jobs and generate billions in new investment. Just as Tradepoint Atlantic has prioritized economic inclusion through the Empowerment Academy, this project will create new opportunities for local, minority, women, and veteran owned businesses, reinforcing Tradepoint Atlantic's commitment to fostering inclusive economic growth.

We strongly urge federal and state agencies to support this transformative project, which will not only solidify Baltimore's role as a critical hub for global commerce but also continue to uplift businesses and the surrounding communities. The redevelopment of Sparrows Point is an exemplary model of public-private collaboration, and we stand in full support of Tradepoint Atlantic's bold vision for the future.

Sincerely,

MAYSON-DIXON

Jayson T. Williams
Chief Executive Officer

March 14th, 2025

Maryland Department of the Environment
Wetlands and Waterways Protection Program
Attn: Mr. Matthew Wallach
1800 Washington Boulevard, Suite 430
Baltimore, Maryland 21230-1708

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On behalf of Mayson-Dixon, I write to express our strong support for the Sparrows Point Container Terminal Project, a joint venture between Tradepoint Atlantic and Terminal Investments Limited (TiL). As a trusted consultant and strategic partner to Tradepoint Atlantic, we have witnessed firsthand the transformative impact of their redevelopment efforts, particularly through the success of the Tradepoint Atlantic Empowerment Academy.

Since acquiring the former Sparrows Point Steel Mill site, Tradepoint Atlantic has remained steadfast in its commitment to revitalizing the region, creating economic opportunities, and fostering inclusive growth. A cornerstone of this commitment has been the Tradepoint Atlantic Empowerment Academy, an innovative initiative designed to equip minority, women, and veteran owned businesses with the training, resources, and network needed to secure contracts and establish long term business success.

Over the past two cohorts, the Empowerment Academy has supported more than twenty businesses, providing essential skills in financial planning, procurement, leadership development, and more. Through eight excerpt led workshops featuring local Baltimore industry leaders, the Empowerment Academy has helped participants build strong, sustainable businesses that contribute to the region's economic growth.

The proposed Sparrows Point Container Terminal Project represents the next major phase of the region's economic resurgence. In addition to driving economic growth, this project will create thousands of direct and indirect jobs and generate billions in new investment. Just as Tradepoint Atlantic has prioritized economic inclusion through the Empowerment Academy, this project will create new opportunities for local, minority, women, and veteran owned businesses, reinforcing Tradepoint Atlantic's commitment to fostering inclusive economic growth.

We strongly urge federal and state agencies to support this transformative project, which will not only solidify Baltimore's role as a critical hub for global commerce but also continue to uplift businesses and the surrounding communities. The redevelopment of Sparrows Point is an exemplary model of public-private collaboration, and we stand in full support of Tradepoint Atlantic's bold vision for the future.

Sincerely,

Jayson T. Williams
Chief Executive Officer

From:	David Thomas
To:	NAB-SPCT
Subject:	[Non-DoD Source] Re: NAB-2023-61200-Mo7 Tradepoint Atlantic container project in reference to Pleasant Yacht Club & North Point Yacht Club
Date:	Tuesday, March 18, 2025 4:48:57 PM

Attn: Ms. Maria Teresi

Dear Ms. Teresi,

I write in follow up to my testimony at the February 25, 2025, public hearing at Sollers Point Community Center as well as my appearance on March 10, 2025, in Annapolis before the Baltimore County Delegation of Senators at the Verda Welcome hearing room at the Miller Senate Office Building.

This is also in follow up to my writings and participation on the Board of Governors of The Chesapeake Bay Yacht Clubs Association (CBYCA), which is strongly supportive of some serious effort be undertaken to avoid the demise of the Pleasant Yacht Club and the North Point Yacht Club, both longtime members of CBYCA.

The original proposal of Tradepoint Atlantic and which featured the utilization of Hart Miller Island for the dredge spoils for this project would not have impacted either of these two adjoining yacht clubs of some historical standing and significance.

When this Hart Miller proposal ran into opposition, the current proposal and which proposes to place some of the spoils in a new on-site Coal Pier DMCF triggered the current proposed total destruction of the campuses, piers and slips of both yacht clubs and arising out of the proposed mitigation for the loss of tidal waters to occur at the Coal Pier DMCF.

While a good portion of the proposed mitigation by dredging is unremarkable in reference to two other locations which could be dredged without impact along Wharff road and at Cove Point, the last 5.5 or 6 acres approximately would wipe out, due to dredging for tidal water mitigation purposes, both yacht clubs and entirely as the proposal now stands.

It is urged that sincere efforts with Tradepoint Atlantic be undertaken to avoid the destruction of these recreational, educational, social and historical yacht club organizations and which have been good stewards of their locations, now immediately next to a new and complementary county park on the waterfront just to the North of their campuses and, ironically, now located on some 22 acres of land only recently donated to public usage by Tradepoint Atlantic.

It is hoped that alternative mitigation or other measures such as involving marine debris, oyster bars or waterfront improvement can be fashioned so as to help save these yacht clubs, together with whatever combination of waivers, exemptions, adjustments or accommodations can be brought into play. The goal here, and which has received substantial sympathy and support, is to afford administratively, regulatorily, or by program adjustment, such relief as may spare these two yacht clubs and their multi-generational memberships of recreational boaters the complete loss of their facilities.

Such an effort leading to the hoped for result would be completely in line with the originally proposed plans for this enormous and beneficial effort of Tradepoint Atlantic. I view of the vast scale of this undertaking and the comparatively tiny adjustments that would seem to be needed, and particularly when balanced against the extreme consequences to these two stakeholder yacht clubs, it would be a real shame if something could not be worked out to save them.

Respectfully submitted,
David M. Thomas
Legislative Director
The Chesapeake Bay Yacht Clubs Association
Legislative Director
The National Boating Federation

North Point Peninsula Council

3/17/2025

United States Army Corps of Engineers
Baltimore District-Regulatory Branch
Attn: Ms. Maria Teresi
2 Hopkins Plaza
Baltimore Maryland 21201

We are commenting on USACE application number NAB-2023=61200-M07

Our comments will be addressing the illustration on page 48, Figure 9 Proposed Limits and Type of Mitigation at North Point and Pleasant Yacht Clubs, Craighill Lighthouse Peninsula, and the Southeast Peninsula.

The Sparrows Point Peninsula, where this project is located, has a Nationally significant historic past as well as what one could argue is the most egregious degradation of any waterway on the east coast. Approximately 1400 acres of open water, wetlands and marsh were filled in with slag, a byproduct of steel making. One hundred years of industrial activity and the blatant turning a blind eye by regulators and politicians to procedures and activities caused deliberate and known negative health impacts to the surrounding communities and waters. For over 10 years, Tradepoint Atlantic has addressed many of these legacy issues in upland areas. As a result of a new proposed container terminal, these mitigations are attempting to do the same near shore and off shore.

We will comment on the 3 mitigation sites identified on figure 9.

1. North Point and Pleasant Yacht Clubs - The land on which these yacht clubs sit appears to be some of the only remaining natural land on Sparrows Point as illustrated in an aerial photo from the 1950's. This parcel and an adjacent lot were part of the 19th century Trotten farm, a homestead visited and plundered by the invading British Army during their attack on Baltimore, War of 1812, September 12-14,1814. In 2025, Baltimore County dedicated a new waterfront park on an adjacent lot which has limited capacity for parking and recreational activities. Although currently being used by the 2 private yacht clubs, the existing land, with its proximity to the park, offers a unique opportunity to further serve the community which is starving for additional field and court acreage. Removal of this existing, mostly natural land mass, will be a great opportunity lost for a benefit to communities that endured the impacts of 20th century industry and that lack of regulatory oversight.

2. Southeast Peninsula - It is our understanding that the Southeast Peninsula was created long ago as a new boundary for future and continued open water dumping of slag and the creation of upland. Thankfully, this practice was halted and the Southeast Peninsula has remained as a reminder of past practices. An unintended and positive result of this land is that it created a breakwater offering protection to shore front homes located along Old Road Bay, the water to the East of the Sparrows Point Peninsula. Strong and sometimes devastating southwesterly storms annually affect this area. The protection afforded by the Southeast Peninsula is invaluable in minimizing the resulting damage to homeowners piers and property. Removal of this Peninsula could exacerbate future sea level impacts and the associated problems.

3. Craighill Lighthouse Peninsula - This land appears to be natural and original to the Sparrows Point Peninsula. Before slag dumping had reached this southern shoreline, a range light and keepers home were constructed on this jut of land. The range light still exists. As with #1 above, the removal of land that existed as part of the historical farms should be carefully evaluated as not only colonial occupation but pre contact artifacts have been found elsewhere on the Sparrows Point Peninsula. We also think that

any weather and wave protection that currently exists to the historic light should be enhanced and not lessened.

The combination of these 3 parcels and the entire eastern Sparrows Point shoreline presents an unparalleled opportunity for both recreation and education. Many cities have beneficially created waterfront habitat areas using dredge material to create shoreline paths that showcase various natural habitats. Along with interpretive signage, these unique pathways offer recreational opportunities and education. In this case, an expanded pool of visitors is created by being next to a public park that is visited by many who have never been exposed to such landscapes.

In conclusion, Sparrows Point is a Peninsula that is both historic and environmentally challenged. Careful consideration should be taken when removing potentially beneficial lands to mitigate for a degraded waterway requirement. In this case, the proposed coal pier dredge containment facility. We certainly agree that restoration of wetlands and habitat are important, but in this unique case, human benefit and educational opportunities for future generations far outweigh removal of natural lands. Any decisions should be based on a comprehensive evaluation of factors, including the availability of other areas that will satisfy regulatory requirements. First and foremost should be human health and maximizing public benefit.

We urge looking elsewhere onsite or on nearby public lands for mitigation opportunities. This once in a generation opportunity is so important.

Sincerely

Francis Taylor. President
North Point Peninsula Council
443-797-3475

NORTH POINT
PENINSULA COUNCIL

Maryland Department of the Environment
Wetlands and Waterway Protection Program
Attn: Matt Wallach
1800 Washington Blvd Suite 430
Baltimore Maryland 21230

3/18/2025

I am writing with regard to MDE tracking numbers 23-WL-0762/202361200/24-WQC-0045
Sparrows Point Container Terminal

Preserving tidal wetlands and the regulation of such related activities is a priority of those issuing Water Quality Certifications in the State of Maryland Waters. These regulations ensure a benefit for the Citizens of the State of Maryland and the protection of State waterways. The goals of the regulations are to minimize the impacts and maintain water quality.

The Sparrows Point Peninsula is a property that has seen approximately 1400 acres of non tidal and tidal areas filled with slag as a result of a century of industrial activity. This historic taking of Maryland waters, long ignored by officials, needs to be taken in account when evaluating mitigation requirements and regulatory actions.

The proposed removal of several existing land areas, as described in the EIS (Figure 9, Pg. 48) to create open water, will have detrimental effects on the surrounding communities and by shear volume, will not have an impactful benefit to the stressed waterways where they are located.

Within 4 miles of this project is North Point State Park with nearly 22,000 feet of Chesapeake Bay frontage, much covered with rubble and discarded steelmaking waste. It also contains one of the East coasts most important marsh areas, Black Marsh Wildlands. This low lying marsh has been impacted by sea level rise and invasive plant infiltration. Visitors to this area are keenly aware of these changes in the short 25 years of public access. We suggest this area be seriously looked at and considered for restoration and increased protection by mitigation requirements for this project. In addition, unprotected shoreline erosion is increasing in the park along the bay, also the result of sea level rise. However, ship traffic in the channel offshore is contributing to an escalation of this damage by creating additional wave action on the shoreline. This new terminal will service larger and heaver ships and will dramatically increase vessel visits. It is the responsibility of regulators, in their role as protectors of State assets, to ensure that any impacts on State lands are addressed in this tidal wetlands permit. Shoreline protection should be required in any permit.

We are attaching our Corps of Engineer comments for your perusal. Thank you in advance and we appreciate your leadership. Hard copy to follow.

Francis Taylor. President
443-797-3475

From:	terry.pusinsky@comcast.net
To:	NAB-SPCT
Subject:	[Non-DoD Source] NAB-2023-61200 SPCT comments
Date:	Tuesday, March 18, 2025 7:36:31 PM

My comments have to do with a request for required stipulations I would like to see attached to the project, if approved, for the community of Sparrows Point/Edgemere. I have been a resident of Edgemere for 45 years. I had never seen or heard about a tractor trailer being on my street or in my community while the steel mill was open. But, in the past ten years, since the inception of Sparrows Point Terminal/Tradepoint Atlantic, I have seen and heard about numerous tractor trailers on my street and within the neighborhood – lost, stuck in ditches, and hitting parked cars while trying to maneuver out of the neighborhoods and confined roadways. It has been a constant complaint – every month at our community meetings and on Edgemere social media sites. I have repeatedly suggested to Tradepoint that signs are needed well in advance of the trucks approaching the complex.

Tradepoint states that the "volume of truck cargo expected is consistent with historic 2006 volumes experienced during steel mill operations." Traffic congestion, complaints, and safety were never an issue in the 35 years I lived in Edgemere while the steel company was operating at those volumes. But the high volume of noisy, lost trucks has become a nuisance, and a safety issue since 2015. The tractor trucks have disrupted the tranquility of our neighborhood. It was not an issue in the past because the signage approaching the steel company from 695 north, directed ALL trucks to exit 43. This route kept tractor trailers off North Point Blvd, south. Currently, the neighbors, especially those on River Drive Road, Delmar Ave, Salisbury Ave., etc., (streets and houses close to exit 42) hear tractor trailers up shifting, down shifting, and using jake brakes. Additionally, the tractor trailers stop and park along North Point Blvd in the early morning hours, waiting for the "gates" to open at 7 a.m. They also stop and park, illegally, along the road for food, while blocking the view for commuters exiting the neighboring retailer.

My request is that the State, SPCT, and or SHA be REQUIRED to install large (current sign at exit 42 is too small) signage that states Terminal - use Exit 43. (SPCT plan states that they anticipate trucks will use exit 43, but unless there is proper signage there may not be reduced truck traffic on North Point Blvd.) The steel company had all traffic exiting at 43 from the north, or at Bethlehem Blvd from the Key Bridge, and kept all trucks (except smaller box trucks) off North Point Blvd (Route 151 north and south). Proper signage with Security Gates (West, Central) is also needed. The steel company had these signs as well. Currently they are still erected as trucks approach from Peninsula Expressway, except the gate names are now obsolete. I believe this dedicated route for freight traffic entering and leaving the terminal ,and other warehouses on site, will help tremendously. It worked in the past; it can work in the future.

This is the least that can be done for neighbors that have to otherwise put up with a growing port that will bring with it heavy industrial use of a container storage facility that will bring more:

- Traffic congestion
- Environmental impacts to our neighborhood and waterways
    - Air pollution
    - Noise Pollution (tractor trailers, trucks, railcars (30% of the expected volume, which is not guaranteed to use only the CSX interchange but may also be directed out of the terminal and along Morse Lane disrupting another neighborhood).
    - Safety concerns (especially since there are plans currently underway to add sidewalks along North Point Blvd (Rt 151) heading south from Delmar Ave to Wharf Road and the park area).
    - Visual disruption caused by stacked containers near residential areas
    - Deterioration of local roads and aesthetics of the neighborhood

Thank you,

Terry Pusinsky
Local community member and Tradepoint Atlantic employee

540-642-9493
www.thinkdogroup.com
Randallstown, MD

Think&DO

19 March, 2025

To Whom it May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Regards,

Anthone (AJ) Soares Jr.
(CEO)
Steward of the Bay

From:	Doug Holly
To:	NAB-SPCT
Subject:	[Non-DoD Source] Sparrow Point Container Terminal Project - Environmental Considerations
Date:	Wednesday, March 19, 2025 9:01:04 PM

Douglas Holly
Eagle Management Group, Inc.
29662 Janets Way
Easton, MD 21601
19 March 2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Douglas Holly

Douglas H. Holly
Principal - Eagle Management Group
(m) 301-529-6750 LinkedIn

To Whom It May Concern,

I am writing on behalf of Bethesda Green, an organization dedicated to fostering sustainable businesses and environmental innovation, to express strong support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

At Bethesda Green, we work directly with mission-driven entrepreneurs and sustainable business leaders who are pioneering innovations in clean water solutions, habitat restoration, and resilient infrastructure. These strategies align with Maryland's Best Management Practices (BMP) and represent cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in long-term environmental stewardship. Investments in these technologies will also create opportunities for green businesses and startups working at the intersection of sustainability and economic development.

I urge you to prioritize these proven solutions to ensure that this project delivers lasting benefits for both Maryland's economy and the Chesapeake Bay ecosystem. As a leader in the regional sustainability ecosystem, Bethesda Green is eager to support initiatives that drive forward-thinking environmental innovation and responsible economic growth.

Sincerely,

Emily Bernard

Emily Bernard

Program Manager, Entrepreneurship

Emily@bethesdagreen.org

301-318-2040

4825 Cordell Avenue
Bethesda MD 20814

bethesdagreen.org

From: Raymond Kollner
To: NAB-SPCT; matthew.wallach@maryland.gov
Subject: [Non-DoD Source] North Point Yacht Club / Trade Point Atlantic
Date: Wednesday, March 19, 2025 2:59:43 PM

To: Mr. Matthew Wallach, MDE
And: CENAS-OPR-RMN US Army Corps of Engineers
Subject: North Point Yacht Club, Jones Creek
Dear Sirs: I am writing this letter to you in an effort to prevent the demise of both the North Point Yacht & Plesant Yacht Club. I have been a member of the North Point Yacht Club (NPYC) for Over 30 Years and an employee for Bethlehem Steel for 42 Years. I am well acquainted with the history of the Yacht Club. We have been in existence for 72 years. We have worked with the community whether its the local Volunteer Fire Dept training needs or establish the Wounded Warrior day (see Attachment) on the Bay and many other community needs. I am very disturbed that the NPYC faces extinction to accomodate the planned unloading facilities at Trade Point Atlantic. This demise of the club requires dismantling of the Yacht Club Facilities and excavating the area for the aforementioned reason. I am not a smart person, but to destroy the clubs for the above is ludicrous and ridiculous. Ther must be another way to accomodate Trade Point Atlantic yet preserve the Clubs. Tank you for enabling me to submit my concerns.

Raym0nd Kollner

From: Tim Young
To: NAB-SPCT; matthew.wallach@maryland.gov
Subject: [Non-DoD Source] Sparrows Point Public Comment
Date: Wednesday, March 19, 2025 9:40:54 AM

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Tim

Tim Young
Founder & Principal

Strategy | Digital | Design

P: +1.703.988.1535
E: tim@youngmarketingconsulting.com
W: youngmarketingconsulting.com

Want to improve? Check out our marketing maturity model assessment!

Adam Landsman

PulseIQ LLC

adam@PulseIQ.com

301-215-2100

2025-03-20

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Adam Landsman, CEM, AMS, CMCA

President

[PulseIQ]()

Us Army Corps of Engineers

Baltimore District

Att. CENAB-OPR-RMN

2 Hopkins Plaza

Baltimore, Maryland 21201

Corps number NAB-2023-61200

Email: NAB-SPCT@usace.army.mil

I oppose the included mitigation requirements and resulting mitigation plan, in the current Draft Environmental Impact Statement; Sparrows Point Container Terminal (EISX-202-00-E1R-1731946234) for the following listed environmental reasons.

I. There are aspects of this project that have resulted in beneficial effects on the quality of the environment. I do not believe these benefits were weighed in when determining the mitigation requirements.

II. There are also areas that do not align with the requirements of, 33 CFR 320.4(r). I would like further review of these areas and answers to the questions contained in the document.

III. There are several factors included in the proposed mitigation that do not reflect the information listed in the Impact Statement, and alter the intent of this wording, resulting in a misleading and incorrect presumption.

IV. There is no environmental study or review contained in the documents that demonstrates the cumulative impacts, of the proposed dredged areas of the mitigation activity and its probable impacts and reasonably foreseeable detriments.

I. Aspects of the project that improves the environment are not included or considered with regards to mitigation requirements and proposals within the Impact Statement.

A. The Coal Pier Channel is a previously dredged access channel with degraded benthic habitat due to seasonal hypoxia (low dissolved oxygen) and impaired sediment quality due to multiple contaminants in surficial sediments that exceed threshold concentrations for aquatic life.
The areas immediately surrounding the DMCF and elsewhere within the vicinity of the Patapsco River and lower Bear Creek would provide suitable forage areas for fish, both during construction and after the project is complete.

1. Requiring mitigation for the encapsulation of the Coal Pier Chanel is like requiring mitigation for the cleanup of the brownfield or superfund remediation equivalent of a waterway. EPA's Brownfields Program and plan for the safe reuse and redevelopment of brownfields to meet economic development and public health goals. Positive credit should be given to such a project. If this were the land equivalent, instead of a waterway. Not only would credit be given but also funding and EPA Brownfields Grants.

    a. Again, please see the enclosed mitigation chart to better understand how credits should be given when a project's improvements far exceed the detriments. Credits do not have to be 1:1 but should be taken into consideration.

B. Based on historical data, previous ecological and human health risk assessments, and other supporting studies, there would be an ongoing potential for ecological risk from surficial sediments in the offshore areas west and south / southeast of the Coke Point peninsula and a limited potential for human health risk. Overall, the SPCT project would contribute to long-cumulative beneficial impacts on sediment and surface water through the removal and encapsulation of contaminated sediments.

1. Considering the no-action alternative in the Impact Statement. Without the improvements to the Coal Pier Chanel and the Dredging there would be an ongoing risk for ecological and human health risks from surficial sediments. Removal of these and the encapsulation of the contaminated sediments would have a long-term cumulative benefit. That has not been calculated in the mitigation.

    a. Mitigation credits should be given just for improvements. Although these may not be a 1:1 credit they should be calculated in some fashion, (Please See enclosed suggested mitigation chart)

C. Based on the summer aquatic survey data, this benthic habitat is degraded and subject to seasonal low dissolved oxygen (hypoxia), and the sediments contain elevated concentrations of metals, PAHs, benzene, ethylbenzene, and toluene. Filling the channel would encapsulate impacted sediments and would eliminate exposure pathways for chemicals to benthic organisms, crabs, and fish.

   Overall, the SPCT project would have beneficial impacts on sediment quality in the project area by removing and encapsulating impacted sediments containing elevated concentrations of contaminants, improving the quality of aquatic habitat, and reducing chemical exposure pathways to aquatic life.

   1. This is another factor that has not been considered in the mitigation requirement. The improvement to aquatic habitat alone should count towards mitigation and have a much more positive impact on the watershed than the encapsulation and removal of the 19.6 acres of non-aquatic life sustaining environment.

      A. This again should be considered in the mitigation requirements. No credit has been given to the improvement in the local watershed as it pertains to aquatic life. The reduction in exposer to these legacy contaminants is much more valuable than any negative impact. Considering these impacts move up the food chain and negatively impact human health.

D. Further, sediment sampling indicates historical contamination in the Coal Pier Channel, and the benthic community assessment suggests that the habitat is degraded; therefore, the DMCF footprint does not represent high-quality habitat for fish or prey species.
Surface sediments within the Coal Pier Channel DMCF footprint consist of fine-grained silts and clays in the east and central portion of the channel and are predominantly comprised of sand (approximately 80%) near the mouth of the channel (EA 2009, 2024a). Chemical concentrations of six metals (chromium, Sparrows Point Container Terminal 74 Draft Environmental Impact Statement Sediment copper, lead, nickel, silver, and zinc), two PAHs (acenaphthylene and naphthalene), and the dioxin TEQ in surficial sediments in the central portion of the channel (SPCT23-02; Figure 13) exceeded PEL values (EA 2024a). Based on the summer aquatic survey data (EA 2024a), this benthic habitat is degraded and subject to seasonal low dissolved oxygen (hypoxia), and the sediments contain elevated concentrations of metals, PAHs, benzene, ethylbenzene, and toluene. Filling the channel would encapsulate impacted sediments and would eliminate exposure pathways for chemicals to benthic organisms, crabs, and fish. Construction of the Coal Pier Channel DMCF would encapsulate contaminated sediments in the DMCF footprint and prevent movement into the river environment, thereby providing benefit to some resources in the project area.
The Coal Pier Channel is a previously dredged access channel with degraded benthic habitat due to seasonal hypoxia (low dissolved oxygen) and impaired sediment quality due to multiple contaminants in surficial sediments that exceed threshold concentrations for aquatic life.

1. The construction of the Coal Pier DMCF is a Benefit to the watershed not a detriment. This constitutes a net gain not a

loss. Preventing the movement of contaminated sediments into the river environment is a gain. Removing the exposure pathways for chemicals to benthic organisms, crabs and fish is a net gain.

a. Once again this is a positive net gain to the watershed where mitigation credits should be given. In the enclosed new mitigation chart, you can find examples of how to apply these credits.

E. The dredging and removal of sediments east of the peninsula to widen and deepen the channel and construct the terminal wharf and revetment structure would permanently remove 4.2 MCY of sediments. A portion of these materials include legacy contaminants from historical industrial activities and would leave behind deeper native sediments with natural background concentrations of metals and other constituents. The removal of sediments impacted by metals, PAHs, PCBs, and other constituents would result in a permanent net improvement of surficial sediment conditions (approximately 52 acres within the existing channel and 60 acres in the channel wideners) for fish, crabs, benthic organisms, and humans. In addition, it would reduce the surface area for surficial chemical exposures of persistent organic contaminants (such as PCBs and dioxins) that have the potential to accumulate in benthic organisms and fish tissue and bioconcentrate in the food chain.

1. The dredging would also create an additional net gain of over 25,807,792 gallons of open water, not present before the construction of the Coal Pier DMCF and the Dredging of the Chanel. Not only does this project provide a net gain in overall tidal water. The gained tidal water would result in a permanent net improvement of surficial sediment conditions for fish, crabs, benthic organisms, and Humans.
   a. It is not hard to see how the dredging required to widen and deepen the channel constitutes a net gain. That far exceeds the loss of the Coal Pier Channel. Again, no mitigation credits have been given to this dramatic gain and

improvement to the aquatic habitat in the local watershed provided by this project. Please see the enclosed mitigation chart for examples of how this should be given credit.

Conclusion

This project seems to have dramatic improvements to the aquatic environment in the local watershed. The negative impacts are dwarfed by the positive ones. The consideration of positive mitigation credits for improvements a project makes is a much better approach to things. These types of credits encourage developers to seek project alternatives that benefit the overall watershed rather than just destroy and mitigate later.

Tradepoint Atlantic, in this project, has chosen innovative and environmentally friendly designs for the disposal of the dredge material needed for this project. The use of the Coal Pier Chanel as a DMCF has environmental improvement impacts to the watershed. When you consider included in the Impact statement there are numerous mentions of how the use of existing DMCFs have no new negative impact. Why then, are the positive impacts on the watershed in this project, requiring mitigation when they should be given praise and mitigation credits.

I would hope the Army Core of Engineers and the Maryland Department of the Environment, through all the bureaucracy, can see the long-term cumulative benefits of giving mitigation credits to positive environmentally designed projects. Projects that withing their own design improve the watershed. Doing this promotes others to do the same and not just mitigate damage as an alternative.

Overall Project Improvements,

-Preventing the movement of contaminated sediments into the river environment is a gain.

-Removing the exposure pathways for chemicals to benthic organisms, crabs and fish is a net gain.

-Permanent net improvement of surficial sediment conditions (approximately 52 acres within the existing channel and 60 acres in the channel wideners) for fish, crabs, benthic organisms, and humans is a gain.

- Not only does this project provide a net gain in overall tidal water. The gained tidal water would result in a permanent net improvement of surficial sediment conditions for fish, crabs, benthic organisms, and Humans is a gain.

II. Areas that do not align with the requirements of 33 CFR 320.4(r).

A. 320.4 General policies for evaluating permit applications.

(a) ***Public interest review.***

(1) The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur, are therefore determined by the outcome of this general balancing process. All factors which may be relevant to the proposal must be considered including the cumulative effects thereof: among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation.

1. Although these may have been addressed in the overall construction of the Coal Pier Chanel they were not addressed as to the effects of the proposed mitigation.

   a. The complete destruction of historical virgin land that has been in place for decades to form and protect Jones Creek. Along with a plan that includes the extinction of both historical yacht clubs Pleasant and North Point.

b. This includes the loss of over 200 historic permanent recreational boaters directly and thousands of transient sister yacht club recreational boaters that utilize the proposed mitigation facilities also.

B. 320.4 General policies for evaluating permit applications.

(b) Effect on wetlands.

(2) Wetlands considered to perform functions important to the public interest include:

(iii) Wetlands the destruction or alteration of which would affect detrimentally natural drainage characteristics, sedimentation patterns, salinity distribution, flushing characteristics, current patterns, or other environmental characteristics.

(iv) Wetlands which are significant in shielding other areas from wave action, erosion, or storm damage. Such wetlands are often associated with barrier beaches, islands, reefs and bars.

(3) No permit will be granted which involves the alteration of wetlands identified as important by paragraph (b)(2) of this section

(e) ***Historic, cultural, scenic, and recreational values.*** Applications for DA permits may involve areas which possess recognized historic, cultural, scenic, conservation, recreational or similar values.

1. The proposed mitigation includes the removal of 3 environmentally significant parcels of land. Both are covered in 320.4 9b) 2.

2. The 4 acres at the southeast peninsula is a man-made brake water sticking out into old road bay and providing a long existing buffer for the mouth of Jones Creek and the shoreline it protects. This was completed between 1966 and 1970. The development of these shorelines has been influenced by the existence of this feature. Also, beaches have formed where there were none before. There needs to

be extensive studies including all the surrounding shorelines providing the upmost certainty that there would be no impacts to hundreds of surrounding landowners.

3. The 2.1 acres Craighill lighthouse area. This is also a virgin land that has existed since the creation of Jones Creek. This land is neither fill, nor historically distressed and provides one mother nature's remaining natural protections.

4. The 4.5 acres north point pleasant yacht clubs. This is again virgin land that has been the natural shoreline of Jones Creek since the beginning. It acts as a natural choke point protecting Jones Creek. This land is also not historically distressed land. There needs to be extensive studies including all the surrounding shorelines providing the upmost certainty that there would be no impact to hundreds of surrounding landowners.

Conclusion

It would appear as though, policies included in 33 CFR 320.4(r). have had no impact or consideration in the proposed mitigation. Any approval of this Permit would require a much more extensive and comprehensive study into the proposed mitigation regarding the historic shorelines in Jones Creek being considered for removal. Once these impacts are determined through a multiyear study of tidal flow, wind effects on surrounding properties, and impacts to adjacent property owners. Factors misrepresented in the Environmental Impact Statement resulting in a misleading and incorrect presumption. The omission or misrepresentation of these factors had a major impact on the communities understanding of the true impact by the project.

III. Factors misrepresented in the Environmental Impact Statement resulting in a misleading and incorrect presumption. The omission or misrepresentation of these factors had a major impact on the communities understanding of the true impact by the project.

A. Executive Summary page xiii Recreation.

1. During construction of the Coal Pier Channel DMCF, an exclusion zone would impact recreational boating in the vicinity, but this would be localized and temporary.

    a. Although this is true of the construction of the Coal Pier Chanel itself. The impact on local recreation will be severally affected by the proposed mitigation proposals of the Coal Pier Chanel.
    b. There are 2 Historic Yacht Clubs proposed to be eliminated in the mitigation section of the Impact statement. This includes over 200 historic permanent recreational boaters directly and thousands of transient sister yacht club recreational boaters that utilize the facilities also.

B. Also, Listed also in the 3rd collum Recreation of the chart on page xxii.

1. Coal Pier Channel DMCF – During construction of the DMCF, an exclusion zone would impact recreational boating along the western shore of Coke Point, but impacts would be localized and temporary.

    a. Again, this misleads the public and does not include the undeniable impact the proposed mitigation will have on historic recreational boating.

C. Executive Summary page XV Environmental Justice

1. Overall, the SPCT project is not expected to produce disproportionate and adverse impacts on environmental justice populations. The project would not produce disproportionate impacts on recreation for underserved communities.

    a. Again, although this is true of the construction of the Coal Pier Chanel itself. The impact on both the historically disproportionate Pleasant and North Point Yacht Clubs is undeniable within the proposed mitigation project.

b. These Yacht clubs represent the poster child for the Environmental Justice Act. There is no better example of a situation where certain mitigation efforts suggested would produce disproportionate impacts on recreation for underserved communities. These Yacht Clubs were founded by the very men and women who now suffer disproportionately from the legacy steel making operations and their lasting health effects.

D. Also, Listed in the 3rd collum Environmental Justice of the chart on page xxiv.

1. Coal Pier Channel DMCF –No disproportionate impacts on noise or recreation for underserved communities.

E. 4.17.1.4 Page 237 of the Impact Statement.

1. The tract containing the SPCT project area (4927) has the largest percentage of low-income (54%) and non-white residents (68%) among the census tracts evaluated (University of Minnesota 2024). The percentage of low-income residents in this tract is well above the Baltimore County level of 23% and the non-white percentage is somewhat above the Baltimore County level of 44%.

a. Again this confirms the demographics around and adjacent to the project are inclusive of the Environmental Justice section's intent. All changes in the immediate area surrounding the project to include changes in historic land use, recreation and culture will most certainly produce disproportionate and adverse impacts on environmental justice. As reference I point out the section in the Impact Statement 4.18.1 Affected Environment and 4.18.1.1 Regulatory Background, page 250.

Conclusion

There are multiple areas where the Impact Statement omits or does not express the entire impact of the proposed mitigation included in the Statement itself. There were no considerations within the study to account for the human impact of these areas, as pertaining to the proposed mitigation. The loss of historic history and culture are completely omitted from the Impact Statement.

These omissions completely alter the intent of the environmental impact statement (EIS). The environmental impact statement (EIS) is a government document that outlines the impact of a proposed project on its surrounding environment. In the United States, these statements are mandated by federal law for certain projects. Environmental impact statements are meant to inform the work and decisions of policymakers and community leaders. An EIS outlines the status of the environment in the affected area, provides a baseline for understanding the potential consequences of the proposed project, identifies positive and negative effects.

IV. Lack of and environmental study to show the cumulative environmental, historical, cultural, recreational, and community impacts of the proposed dredged areas in the proposed mitigation that are being used to create open water.

A. The shoreline along Jones Creek at the Pleasant Yacht Club to the north and the North Point Yacht Club to the south measures approximately 1,700 linear feet. According to MERLIN (MDNR 2024a), the historic shorelines surveyed in 1975 and 1994 were relatively similar to the current conditions, with the exception of in 1994, the shoreline mapping included the entire tidal pond. Much of the shoreline area is developed with infrastructure to support the boating activities at each yacht club. The Maryland Coastal Atlas (MDNR 2024b) indicates that 100% of the shoreline has total bank cover with low erosion. There are no marsh or beach buffers mapped in the area, although site visits revealed otherwise, and the shoreline has been in the same relative location since 1930. There are no marsh or beach buffers mapped in the area, although site visits revealed otherwise, and the shoreline has been in the same relative location since 1930. **Found in the impact statement, Site survey and desk top analysis, site visit findings pages, 388-390.**

1. Looking at these findings reveal the conformation of historic virgin land that has a shoreline that is relatively unchanged since the 1930s. This parcel of land is one of the historical backbone features of Jones Creek. There have been no studies showing the long term culminative effects or impacts to tidal current flow, erosion, wave impacts or any other social economic impacts caused by the removal of this land to the current residents on Jones Creek. **Again, I will refer to 320.4 9b) 2.**

B. The entire shoreline along the Pleasant Yacht Club, within the tidal pond, and along the north side of the North Point Yacht Club are mapped as having SAV in 2022. The Pleasant Yacht Club shoreline and tidal pond also exhibited SAV beds in 2019, 2020, and 2021, while SAV beds in 2019 were along the south shore of the North Point Yacht Club. In 2021, SAV beds were found along both the north and south shorelines at the North Point Yacht Club, between the shore and the docks. Offshore areas within this portion of Jones Creek are mapped as waterfowl concentration and staging areas. Finfish habitat in this portion of Jones Creek includes white perch juvenile habitat, herring juvenile habitat, and tidal finfish adult habitat.

1. Again, in the report there is documentation of long-term historical SAV beds along both clubs. *(Submerged aquatic vegetation (SAV) includes aquatic grasses (seagrasses) and attached macro-algae. SAV is a highly valuable habitat since it provides numerous important ecological functions that are difficult to replace; yet it is especially vulnerable to coastal development and water quality degradation. Animals are drawn to SAV for shelter and food and to reproduce).* **Definition from the NOAA Fisheries.**

2. Also noted in the Impact statement are mapped waterfowl concentration and staging areas along

with finfish habitat. None of this habit is historically distressed land from steelmaking. In fact, this land is a virgin historic parcel of land that is an historical buffer and shoreline provided by Mother Nature Herself.

Conclusion

Since there have been no long-term studies on the effects regarding the mitigation plan to remove these natural and or man-made buffers, to include them in this Impact Statement for public review is fundamentally inconsistent with the intent of an Impact Statement itself. How does the public comment on an Impact Statement when the impacts of a major portion of the project are omitted and misrepresented

Overall Statement and sentiment regarding.

Corps Number NAB-2023-61200

MDE 23-WL-0762, 24-WQC-0045

When considering this permit, I would hope the Army Core of Engineers and the Maryland Department of the Environment, through all the bureaucracy, can see the long-term cumulative benefits of giving mitigation credits to positive environmentally designed projects. Projects that withing their own design improve the watershed. Doing this promotes others to do the same and not just mitigate damage as an alternative.

Mitigation refers to **the act of making something less severe, dangerous, painful, or damaging**. It can involve actions taken to reduce the harmful effects of disasters, thereby **lessening the impact on life and property**.

Why dont we start by making the mitigation an afterthought. When you build in an environmentally improving way you negate the need to repair damage never caused.

This would provide an avenue for all Project developers to look at environmentally friendly alternatives when developing their projects, like this one. I believe it is a much better long-term approach to protecting and improving our environment than what is being done now, especially within the scope of this project.

Providing a Project planner the avenue to get credits for environmental improvements within the project design will ultimately lead to more environmentally friendly designs rather than one that is just harmful and cheaper that can be mitigated later.

I recommend you give Tradepoint and this Project the environmental mitigation credits they have rightfully earned through the above project design. This will ultimately lead to more projects being designed in this manner. The environment should be the ultimate concern. This type of action will promote keeping our environment safe by making it cheaper to design better rather than just repairing the damage as an afterthought.

Lastly, in the mitigation chart and in supporting documents I challenge the Army Core of Engineers and the Maryland Department of the Environment to look at other In-Lieu Fee Mitigation projects that have a much more positive impact on the watershed, than the 1:1 removal of land to replace lost open water, that in itself may require further mitigation due to its impact and so on.

Thank You for your time and consideration.

Please feel free to contact me and discuss any material or comments made in the above Public Comment Statement.

Andrew Thomas West Jr.

7753 North Point Creek Road

Baltimore, Maryland 21219

410 365-0646

slicklawn@sol.com

Midigation Type	Midigation Measure	Proposed Mitigation Ratio	Credit (Acres)	Yacht Basin lagoon, Edge of Park, Craighil Lighthouse shorline. Enhancments.	High Pier Wharf	Bethlehem Bouvelard	Closing off, enclapslating Coal Pier Chanel DMFC Benefits 19.6 acres	Dredgeing of Container Basin Chanel Benefits 19.6 acres
Open water restoration action 1		1 : 1						
Open water restoration action 1	Tidal open water restoration with wharf/ removal	1 : 1			1.62			
Multi- havitat Restoration and Creation action 2	perimeter sill (natural stone sill, reef castles / Balls)	2 : 1				.021 acres/1,850 linear feet (0.105 acres		
Multi- havitat Restoration and Creation action 2	Shallow water bottom substrate and habitat improvments	2 : 1		1.5 acres within the pond basin and the other areas on the Map 0.75		6.5 acres (3.25 acres credit)		
Multi- havitat Restoration and Creation action 2	Tidal wetland creation with Nature-based /Soluitions and shallow water habitat improvments	2 :1				1.75 acres (0.875 acres Credit)		
Encapsularte Legacy chemicals from to Aquatic Life 2	Filling the channel would encapsulate impacted sediments and would eliminate exposure pathways for chemicals to benthic organisms, crabs, and fish.	4:1					12.6 Acres (4.9 acres credit)	
Removal legacy chemicals from exposure to Aquatic Life 2	The removal of sediments impacted by metals, PAHs, PCBs, and other constituents would result in a permanent net improvement of surficial sediment conditions that have the potential to accumulate in bethic organisms and fish tissue and bioconcerate in the food chain.	4:1						12.6 acres (4.9 acres credit)

Creation of 25,807,792.6 additional gallons of water volume within effected watershed. 1	The removal of sediments impacted by metals, PAHs, PCBs, and other constituents would result in a permanent net improvement of surficial sediment conditions (approximately 52 acres within the existing channel and 60 acres in the channel wideners) for fish, crabs, benthic organisms, and humans.	8:1						12.6 acres (2.45 acres credit)
Enhancement and terrestrial action 2	Invasive species (Phragmites) management	4 :1		1.5 acres (0.26 acres Credit)		1.8 acres (0.45 acres credit)		
Derelict crab trap removal 3			1.3					
Oyster reef creation / replenishment 3	Oyster reef restoration/ seeding and location to be determined		TBT					
Derlic Boat Removal3	In-Lieu Fee Mitigation: Paid at the per acre established rate into the Waterway Improvement Fund/providing grants		1					
Total Credits 4	Total Credits provided are in excess of 19.8 acres		2.3	1.01	1.62	4.68	4.9	7.35
Notes:								21.86 acres
1 - Onsite, In-kind Mitigation Efforts								
2 - On-Site Out-of-Kind Mitigation Efforts								
3 - Off-Site, Out-of-Kind Mitigation Efforts - Acreage may be adjusted if additional Mitigation acreage needed								
4 - Total credits are based on mitigation ratios.								

oto: Peter Kingsley-Smith, South Carolina Dept of Natural Resources

Abandoned and Derelict Vessels

Vessels become abandoned and derelict for many reasons. Owners may neglect, or possibly abandon their boats when they can no longer afford to maintain them. Some boats may break loose from anchors or mooring and drift away, and some may be stolen. Catastrophic weather events can also result in large numbers of vessels becoming ADVs.

ADVs obstruct navigational channels, damage ecosystems, and diminish the recreational value of the surrounding area. Some ADVs may contain fuel and hazardous materials, which could leak into the surrounding water. ADV removal is often complicated and expensive, with some vessels located in hard-to-reach areas, requiring large, specialized equipment for recovery and transportation. The wreckage may persist for years, breaking apart and creating widespread debris that threatens marine and coastal resources.

What are ADVs?

Though the legal definition of Abandoned and Derelict Vessels (ADVs) varies, vessels in significant disrepair that may pose a threat to the public or the environment are often considered to be an ADV. "Derelict" frequently refers to vessels that are dilapidated with an identifiable owner, while "abandoned" vessels are those where the owner is unknown or has surrendered rights of ownership.

Photo: Billeter Marine

https://marinedebris.noaa.gov/ADV-InfoHub

How can ADVs be prevented?

ADVs are dangerous and costly problems, but they can be prevented! The NOAA Marine Debris Program (MDP) supports ADV prevention and removal efforts across our coastal states and the Great Lakes, including online resources to educate and inform boat owners and the public.

Boat owners should keep their registration current, purchase insurance, perform regular maintenance, and create an end-of-life plan for vessels. This plan may include:

- Proper disposal of hazardous materials
- Recycling valuable parts and metals
- Bringing the vessel to a salvage shop or landfill for recycling and disposal
- Researching whether your state has a voluntary vessel turn-in / disposal program

Look out for these signs of an abandoned or derelict vessel:

- Illegal mooring or no movement for over 30 days
- Listing to one side or sitting low in the water
- High algal, moss, grass, or plant growth on the vessel
- Leaking fluids, such as fuel, oil, or waste
- Severe external deterioration of paint, wood, or other materials
- Drifting into open water and blocking navigation

Photo: Dauphin Island Sea Lab

Photo: Coral Bay Community Council

ADV InfoHub

How can YOU help?

The MDP created the **ADV InfoHub** as a central source of information regarding ADVs. Users can access information on local legislation, policies, funding, and available ADV Programs, as well as links to relevant publications, case studies, and legal reviews. Check out the InfoHub to find an ADV contact in your area.

In addition to the funding available from state agencies and other resources, the MDP supports marine debris and ADV removal through a competitive grants process. Through the **Community-based Marine Debris Removal Grant** opportunity, the MDP has supported the removal of almost 400 ADVs, amounting to over 2,400 tons of debris.

SIGNATURES OF OPPOSITION TO NAB-2023-61200, CENAB-OPR-RMN

NO.	NAME	PHONE	EMAIL	ADDRESS
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4	LYNDA ROGERS	4109161836		2318 Lodge Forest DR 21219
5	LARRY REDEMENN	4102412784		6727 OAKAVE 21222
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50	STANLEY STEFANSKI	410-370-6102	STANLEYSKI57@GMAIL.COM	14 MIDWAY AVE 21222
51				
52				
53				
54				
55				

Venki Energy

VENKI ENERGY

Betty Watson
Founder & CEO, Venki Energy
202.643.3331
info@venkienergy.com

March 20, 2024

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

As a resident and business-owner in Maryland, I understand that it is of utmost importance to protect the State's natural assets while reaping all possible benefits.

Sincerely,

Betty Watson

From:	bill w
To:	NAB-SPCT
Subject:	[Non-DoD Source]
Date:	Thursday, March 20, 2025 9:29:05 PM

To army corps. engineers and whom it may concern

I am in hopes we can save north point yacht club from being destroyed in this project being my family is from the area for 3 generations now and all watermen and love the area dearly and my grandfather was even a steel worker at Bethlehem steel.

North Point Yacht Club dating back to 1951, it's been a long-standing resource for the local middle-class to take part in one of the most treasured Maryland traditions and passions.

This club was founded by Bethlehem Steel workers, Samuel P. Kees, Harold Johnson, John Doebereiner, Rex Brown and Paul Lunger. These men decided to create a club where devoted watermen, fishermen and yachtsmen can come together.

The displacement of the marina would entail an estimated 160 community members that will no longer have this ability.

The boating community is a great way of finding a productive passion and these facilities at NPYC are a critical component to those that are working class.

This particular land offers a safe haven for families and children to learn about the historic Maryland waterways and Bethlehem Steel's contributions to our community.

The project in the subject title would forcefully remove this historic piece of Maryland memory, as well as access for waterways of the average middle-class worker and their families.

We'd hate to see this community lose yet another resource for the middle-class to access the waterways of this beautiful state.

While we're in favor of the TP Container Ship Yard and their proposed expansion, the North Point Yacht Club should not be demolished for dredging purposes.

Given the many islands that are eroding away in our own Chesapeake Bay, instead of taking away a historic pillar of the Sparrows Point community, please consider one of these following communities to place the dredged materials.

Smith Island, a series of three islands, storm erosion 3300 acres have been lost in the last 150 years. In a 2008 study done by DNR, these islands will be gone by 2100.
Smith Island cake ?

Hooper's Island, a series of three islands, is losing 2 acres a month due to erosion. This community is one of the oldest settlements in Maryland.

Tangier Island has only 83 out of the original 740 acres that is inhabitable. 9 acres per year are expect to erode into the Chesapeake Bay.

Sincerely ,
Bill Winand

Bill Winand
Owner of WPW
443-742-6672

03/20/2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Bobby Haase, P.E.

leohaase3@gmail.com

Brian Harper
1103 Rosedale Ave
Glen Burnie, MD 21061
301-502-8059

March 20, 2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Brian Harper

Chet Pajardo II

3/20/2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

God bless,

Chet Pajardo II

From: wolfrp55@aol.com
To: Larry Davis; NAB-SPCT; matthew.wallach@maryland.gov
Subject: [Non-DoD Source] Support the Sparrows Point Project – Protect Our Bay
Date: Thursday, March 20, 2025 10:53:20 AM

Colin Fraser

Upling LLC

1451 Rockville pike , Rockville Maryland 20852

3/20/2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Colin Fraser

From:	Krisztina Christmon
To:	NAB-SPCT
Subject:	[Non-DoD Source] Support for nature-based solutions into the Sparrows Point Container Terminal Project
Date:	Thursday, March 20, 2025 8:35:49 AM

Krisztina Christmon
614 Elliott Street Apt 2D, Washington DC, 20002
Krisztina.christmon@gmail.com
(301)237-9390

03.20.2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.
These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.
I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,
Krisztina Christmon

March 20, 2025

Subject: MD OPEN Innovation Grant Support

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

If you have any questions or require additional information, please do not hesitate to reach out at dave@virtuesmatter.org

With Gratitude,

Dave Feldman
Executive Director, Virtues Matter

Emily Sheppard

Maryland Energy Innovation Accelerator

Emily.sheppard@mdeia.org

March 20, 2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Emily Sheppard

Program Coordinator Maryland Energy Innovation Accelerator

From: Eric Cathcart
To: NAB-SPCT
Subject: [Non-DoD Source] Draft Environmental Impact Statement (EIS)
Date: Thursday, March 20, 2025 5:44:19 PM

Greenwood and Potomac Talent, LLC

Eric@potomactalent.com

3/20/2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

As a sustainable small business currently within the Bethesda Green Innovation Business Incubator, I have witnessed these proven technologies for our Maryland Bay and all of the benefits that proven technologies can provide.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Eric Cathcart

Founder

--

Eric Cathcart
Sr. Live Event Producer & Founder

eric@potomactalent.com
(cell) 202-957-4447

www.potomactalent.com
www.inremember.com

Compassionate Storytelling
Honoring Life & Celebrating Moments

From: Gregory Miller
To: NAB-SPCT
Subject: [Non-DoD Source] Sparrows Point Container Terminal Project
Date: Thursday, March 20, 2025 9:37:52 AM

March 20, 2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Greg Miller

Bethesda, MD

From:	Diana Dempsey
To:	NAB-SPCT
Subject:	[Non-DoD Source] USACE Application Number NAB-2023-61200-M07 - Request for consideration of alternative DMCF
Date:	Thursday, March 20, 2025 9:37:12 PM

Good evening Ms. Maria Teresi,
I would like to submit my comments on the above mentioned proposal. Firstly, I am in favor of the expansion of the TP Container Ship Yard, yet I am deeply saddened by the prospect of losing an important part of the Sparrows Point community.

With North Point Yacht Club dating back to 1951, it's been a long-standing resource for the local middle-class to take part in one of the most treasured Maryland traditions and passions.

This club was founded by Bethlehem Steel workers, Samuel P. Kees, Harold Johnson, John Doebereiner, Rex Brown and Paul Lunger. These men decided to create a club where devoted watermen, fishermen and yachtsmen can come together alongside their families.

The displacement of the marina would entail an estimated 160 community members that will no longer have this ability.

The boating community is a great way of finding a productive passion and these facilities at NPYC are a critical component to those that are working class.

This particular land offers a safe haven for families and children to learn about the historic Maryland waterways and Bethlehem Steel's contributions to our community.

The project in the subject title would forcefully remove this historic piece of Maryland memory, as well as access for waterways of the average middle-class worker and their families.

I'd hate to see this community lose yet another resource for the middle-class to access the waterways of this beautiful state.

Again while I am in favor of the TP Container Ship Yard and their proposed expansion, the North Point Yacht Club should not be demolished for dredging purposes.

Given the many islands that are eroding away in our own Chesapeake Bay, instead of taking away a historic pillar of the Sparrows Point community, please consider one of these following communities to place the dredged materials.

Smith Island, a series of three islands, which storm erosion has caused 3300 acres have been lost in the last 150 years. In a 2008 study done by DNR, these islands are expected to be gone by 2100. This island was the birthplace of the Maryland dessert, Smith Island Cake.

Hooper's Island, a series of three islands, is losing 2 acres a month due to erosion. This community is one of the oldest settlements in Maryland.

Tangier Island has only 83 out of the original 740 acres that is inhabitable. 9 acres per year are expected to erode into the Chesapeake Bay.

With these in mind, please consider my opinion in deciding to proceed with the requested permitting.

Thank you for your consideration and efforts in this matter.

Warmest Regards,

Diana Dempsey
djefferi4888@gmail.com

From:	Jason Dempsey
To:	NAB-SPCT
Subject:	[Non-DoD Source] Usace application #nab-2023-61200-m07
Date:	Friday, March 21, 2025 5:20:18 PM

Good evening Ms. Maria Teresi,
I would like to submit my comments on the above mentioned proposal. Firstly, I am in favor of the expansion of the TP Container Ship Yard, yet I am against losing an important part of the Sparrows Point community.

With North Point Yacht Club dating back to 1951, it's been a long-standing resource for the local middle-class to take part in one of the most treasured Maryland traditions and passions.

This club was founded by Bethlehem Steel workers, Samuel P. Kees, Harold Johnson, John Doebereiner, Rex Brown and Paul Lunger. These men decided to create a club where devoted watermen, fishermen and yachtsmen can come together alongside their families.

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Tangier Island has only 83 out of the original 740 acres that is inhabitable. 9 acres per year are expected to erode into the Chesapeake Bay.

With these in mind, please consider my opinion in deciding to proceed with the requested permitting.

Thank you for your consideration and efforts in this matter.

Warmest Regards,

Jason Dempsey
Sent from AOL on Android

Lafon Porter
9 Melissa Ct
Owings Mills, MD 21117
LafonPorter@gmail.com
410-812-3515
3-20-2025

Submitted to:
U.S. Army Corps of Engineers

Subject: Preservation of Pleasant Yacht Club as a Critical Cultural and Recreational Resource

To Whom It May Concern,

I am writing to express my deep concern regarding Tradepoint's proposed mitigation plan that threatens the existence of Pleasant Yacht Club (PYC). While I fully support the overall objectives of the project, the mitigation plan to eliminate PYC's property and pier would have devastating consequences for the African American community, particularly the historically Black communities of Turners Station and Edgemere. Eliminating this vital institution would not only erase an irreplaceable cultural landmark but would also contradict the principles of environmental justice as outlined in Executive Order 12898.

Disproportionate Cultural and Recreational Impact

Contrary to the project's assertion that it will not disproportionately impact recreation for underserved communities, the mitigation efforts that would remove PYC present a clear example of disproportionate harm to African Americans. The club, which is 98% African American, is the only African American yacht clubs in Baltimore County, one of just a few in Maryland, and among a handful nationwide. Historically, African Americans have faced systemic exclusion from boating and waterfront recreation. PYC was established by Black steelworkers who were denied access to mainstream yacht clubs, making it a critical safe space for African American boaters.

If PYC is eliminated, African Americans in Baltimore County will lose their only dedicated boating institution, further widening racial disparities in recreational access. This loss would not merely remove a social space—it would destroy a living testament to African American resilience and perseverance in the face of segregation.

Conflict with Executive Order 12898 on Environmental Justice

The proposed project's impact on PYC is in direct violation of Executive Order 12898, which requires federal agencies to address disproportionate environmental and health effects on minority communities. Removing PYC would:

- **Disproportionately reduce African American recreational access**: Turners Station and Edgemere are blue-collar communities with limited access to water-based activities. PYC provides an affordable and welcoming space for African Americans to participate in boating, a historically exclusive activity.

- **Erase a historic and cultural landmark**: PYC is not just a club; it represents the struggles and triumphs of Black steelworkers who overcame racial discrimination to claim a rightful space on the waterfront. It stands as one of the few remaining institutions preserving African American maritime heritage in Maryland.

- **Further marginalize historically disenfranchised communities**: The same African Americans who built PYC—many of whom endured poor working conditions at Bethlehem Steel—some members who are direct descendants are now at risk of losing a piece of their legacy. The loss of PYC would be yet another injustice inflicted upon a community that has already faced environmental and economic hardships.

The History and Significance of Pleasant Yacht Club

PYC was founded in the late 1950s by African American steelworkers at Bethlehem Steel. At a time when Black workers were subjected to segregation, they were also denied access to waterfront amenities enjoyed by their white coworkers. Determined to participate in boating, they petitioned Bethlehem Steel for access to the waterfront and were eventually granted a small piece of land for $1 per year. However, unlike their white counterparts, they received no assistance in building a pier, boat ramp and club facility.

Undeterred, these steelworkers constructed their own pier with their own resources and labor. Over the years, PYC grew into a thriving community hub, providing educational and recreational opportunities, hosting safe boating classes, supporting senior citizens, and participating in initiatives like Wounded Warriors on the Bay. Many of today's PYC members are former Bethlehem Steel employees or the children of those who helped build it.

The club's continued existence is not just about preserving a recreational space—it is about safeguarding a tangible piece of African American history. To eliminate PYC would be to erase the story of Black steelworkers who defied segregation to create a lasting institution for future generations.

A Call for Equitable Mitigation

While I recognize the importance and success of the proposed shipping container development project, it is imperative that mitigation efforts do not come at the cost of eliminating PYC. I urge the Army Corps of Engineers and the Maryland Department of the Environment to support and recommend to Tradepoint the exploration of an alternative solutions that preserve this historic club. A project that that results in displaces an African American institution of such significance when there are other options would be an unacceptable violation of environmental justice and would deepen existing racial disparities in recreational access.

The Pleasant Yacht Club is more than a place to dock boats—it is a living monument to African American perseverance, a vital community resource, and a beacon of cultural pride. Its destruction would be a devastating blow not only to Baltimore County but to the state of Maryland as a whole. I urge you to reconsider the proposed mitigation measures or support a waiver to the "in-kind" water obligation and work toward a resolution that honors the principles of justice and equity.

Sincerely,

Lafon Porter

Lafon Porter
Member Pleasant Yacht Club
LafonPorter@gmail.com
410-812-3515

Lafon Porter
9 Melissa Ct
Owings Mills, MD 21117
LafonPorter@gmail.com
410-812-3515
3-20-2025

Request for Waiver of "In-Kind" Water Replacement Requirement for Tradepoint Atlantic

Submitted to:
Army Corps of Engineers

Subject: Opposition to the Requirement for Tradepoint Atlantic to Provide "In-Kind" Water Replacement

Introduction

The requirement for Tradepoint Atlantic to provide "in-kind" water replacement is unreasonable given that the original water being displaced—Coal Pier Channel—is already contaminated and harmful to the marine environment, as detailed in the Army Corps of Engineers' Environmental Impact Statement (EIS). The government should reconsider this requirement due to the unfair burden it places on the community, the lack of ecological justification, and the unnecessary destruction of a historic institution.

Environmental Impact of the Coal Pier Channel

According to the **TPA Environmental Impact Statement Report**, the Coal Pier Channel is a **previously dredged access channel with degraded benthic habitat** due to seasonal hypoxia (low dissolved oxygen) and impaired sediment quality. Multiple contaminants in the surficial sediments exceed threshold concentrations for aquatic life, making the area unsuitable for sustaining a healthy marine ecosystem (**Page 54, TPA EIS Report**).

Filling the channel with dredged material would not only **encapsulate the contaminated sediments** but also eliminate exposure pathways for harmful chemicals affecting benthic organisms, crabs, and fish (**Page 7, TPA EIS Report**). The removal of this degraded habitat would result in a net loss of 19.6 acres of open water, but this loss does not justify requiring an equivalent replacement, as the existing water body is already an environmental hazard.

Tradepoint Atlantic has carefully analyzed the feasibility of using the site for a dredged material containment facility (DMCF) and determined that filling in the channel serves an environmental benefit rather than causing harm (**Page 13, TPA EIS Report**). Given this reality, the government's requirement for "in-kind" water replacement imposes an unnecessary regulatory burden that does not align with the actual environmental impact of the project.

Reasons Why "In-Kind" Water Replacement Should Not Be Required

1. **Unfair Burden and Disproportionate Impact**

Requiring Tradepoint Atlantic to provide new water to replace the contaminated Coal Pier Channel unfairly shifts the burden onto **an unrelated, fully functional property**. The contamination of the original waterway is a **pre-existing issue**, and sacrificing a separate, thriving community space does not rectify the problem.

Forcing an "in-kind" replacement would result in the destruction of a historically significant African American boating community. This policy **does not mitigate environmental damage but rather exacerbates harm by targeting an unrelated and valuable property**.

2. **Lack of Justification for In-Kind Replacement**

The Coal Pier Channel is already an **environmentally compromised water body**, contaminated with heavy metals, PAHs, benzene, ethylbenzene, and toluene (**Page 7, TPA EIS Report**). The requirement for new water replacement fails to acknowledge that the **original site was not a viable aquatic habitat to begin with**.

Moreover, the ecological function of the replacement site **would not meaningfully compensate for the loss of an already degraded water body**. The environmental benefit lies in capping and filling the channel rather than attempting to create an artificial wetland in its place. **Filling the channel removes contamination exposure rather than shifting the problem elsewhere.**

3. **Alternative Mitigation Strategies Should Be Considered**

Rather than mandating a costly and disruptive water replacement, **the government should consider alternative mitigation measures** that align with environmental goals **without destroying an existing community resource**. Viable alternatives include:

- **Off-site mitigation projects** focused on restoring already degraded wetlands.
- **Financial contributions** to **the Chesapeake & Atlantic Coastal Bay Trust Fund, the Abandoned Derelict Boats Fund, and other environmental initiatives**.
- **Remediation efforts** that address pollution in other compromised waterways rather than displacing an established and thriving community.

These alternative approaches allow for **responsible environmental stewardship without forcing the elimination of a valuable and historic waterfront property**.

4. **Destruction of a Historic Community Fixture**

One of the most severe consequences of the "in-kind" water replacement requirement is the **elimination of two historic yacht clubs that have served the community for over 65 years each**. These clubs are **not just recreational spaces**; they provide **social, economic, and cultural benefits** that cannot be replaced.

Forcing these clubs to close for the sake of an unnecessary mitigation requirement would **erase a critical piece of local African American history and deprive residents of a space that has been a part of their community for generations**. The government should waive the requirement and support Tradepoint in **preserving longstanding institutions rather than implementing mitigation strategies that fail to deliver a meaningful net benefit**.

Conclusion & Request for Waiver

Requiring Tradepoint Atlantic to provide "in-kind" water replacement in this case is **unreasonable, environmentally unnecessary, and harmful to the community**. Instead of enforcing this requirement, the government should:

1. **Grant Tradepoint Atlantic a waiver** from the "in-kind" water replacement requirement, recognizing that the original water property is already contaminated and that filling it provides an environmental benefit.
2. **Allow Tradepoint Atlantic to fulfill its mitigation obligation through alternative means**, such as financial contributions to environmental funds or off-site wetland restoration efforts.
3. **Protect the existing yacht clubs** by ensuring that mitigation efforts do not result in their elimination.

If a waiver is not granted, the government should at minimum allow **financial contributions to marine and environmental initiatives** as an alternative to the destruction of the yacht clubs. **This approach would allow Tradepoint Atlantic to meet its environmental obligations without erasing a vital and historic community institution.**

The requirement for "in-kind" water replacement does not make sense in this case. We urge the Army Corps of Engineers and the Maryland Department of the Environment to **consider the environmental, social, and historical impacts** of this regulation and to adopt a more balanced and equitable mitigation strategy.

Lafon Porter

Lafon Porter
Member Pleasant Yacht Club
LafonPorter@gmail.com
410-812-3515

BLENDED APPROACH – Placement 2

COAL PIER CHANNEL

- Potential capacity – 750,000 CY
- Naturally occurring containment area – uses existing native terrain and infrastructure
- Existing distressed waterway
- Very constructable

Photo Credit to Tradepoint Atlantic

Coal Pier Channel

- TPA plans to dispose of dredge material at Coal Pier Channel …

The **Coal Pier Channel** is a previously dredged access channel with degraded benthic habitat due to seasonal hypoxia (low dissolved oxygen) and **impaired sediment quality due** to **multiple contaminants** in surficial sediments **that exceed threshold concentrations for aquatic life**.

Note: Page 54 - TPA Environmental Impact Statement Report

Filling the channel would encapsulate impacted sediments and **would eliminate exposure** pathways **for chemicals to benthic organisms, crabs, and fish.**

Note Page 7 TPA Environmental Impact Statement Report

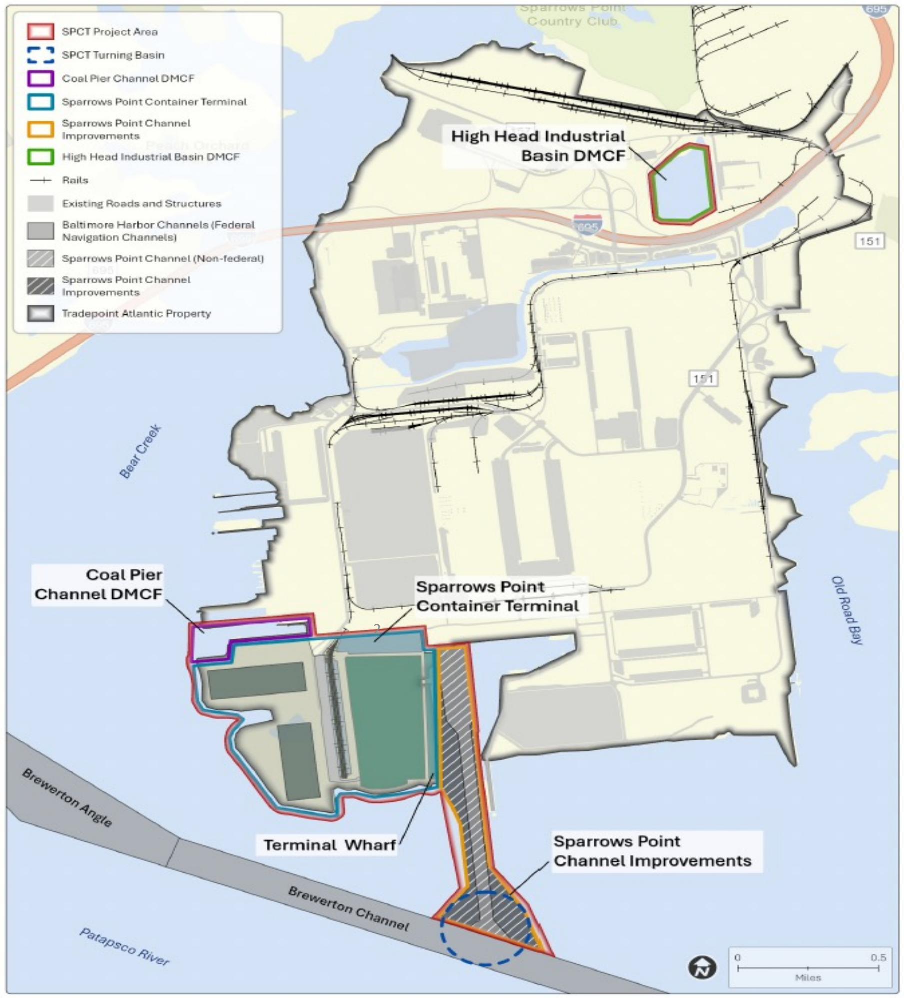


Figure 1. Conceptual draft design of the SPCT project.

Layman's Terms:

The **Coal Pier Channel** was previously dug out to allow access, but the underwater environment is in poor condition. The bottom habitat is unhealthy because oxygen levels drop too low at certain times of the year. Additionally, the top layer of sediment contains multiple pollutants at levels that can be harmful to aquatic life.

Filling in the channel would **cover up the polluted** sediments, **preventing harmful chemicals** from reaching bottom-dwelling creatures, crabs, and fish.

From:	Teresi, Maria N CIV USARMY CENAB (USA)
To:	Russell Donnelly
Cc:	Davia, Joseph P CIV USARMY CENAB (USA); Matthew Wallach -MDE-; NAB-SPCT
Subject:	ANALYTICAL VARIANCE IN SEDIMENT AT TPA PROPOSED DREDGE PROJECT SITE - received
Date:	Friday, March 21, 2025 7:45:41 AM

Good morning Mr. Donnelly,

Your comments have been received and will be made part of the SPCT permit record.

Thank You,

Maria N. Teresi

Biologist, MD North Section

USACE, Baltimore District, Operations Division, Regulatory Branch

ofc: 410.962.4501

cell: 410.375.0398

email: maria.teresi@usace.army.mil

From: Russell Donnelly <irsd7@verizon.net>
Sent: Thursday, March 20, 2025 7:53 PM
To: Davia, Joseph P CIV USARMY CENAB (USA) <Joseph.DaVia@usace.army.mil>; Teresi, Maria N CIV USARMY CENAB (USA) <Maria.Teresi@usace.army.mil>
Subject: [Non-DoD Source] ANALYTICAL VARIANCE IN SEDIMENT AT TPA PROPOSED DREDGE PROJECT SITE

Honorable Administrators of the EIS REVIEW and DETERMINATION for TPA DREDGE PROJECT,

Please consider this Final Submission pursuant to this TPA Dredge Project Permit. The chemical analytical analyses findings for this Project Dredge Site manifest doppler opposite evidence for the very same Sparrows Point Peninsula Sampling Site ???!!!

Sandra Adams-Doyle

7827 N. Cove Road
Sparrows Point, MD 21219
Phone: 410-375-9681

Attn: Ms. Maria N. Teresi

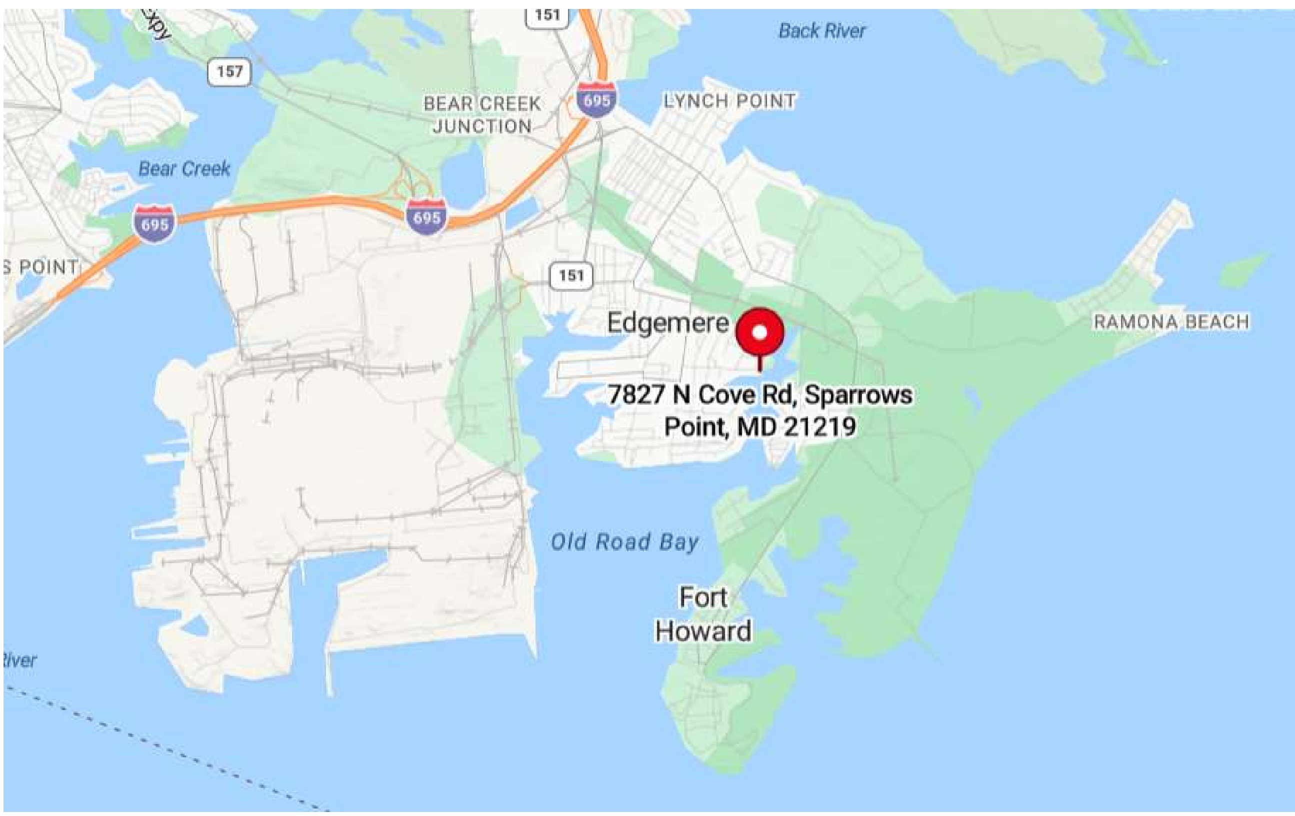
United States Army Corps of Engineers
Baltimore District – Regulatory Branch
2 Hopkins Plaza
Baltimore, Maryland 21201

USACE Application Number
NAB-2023-61200-M07

Dear Ms. Teresi,

I'm writing about my concern for the community. When we talk about Impact, sometimes the last thing to consider is the little guy. So, I am voicing my concern as one of the 'little guys'.

My husband and I built our home (7827 N. Cove Rd) at the confluence of North Point Creek and Long Cove, located just off Old Road Bay – see map.



My concerns are about: Dredging, Mitigation for Open Water and Traffic

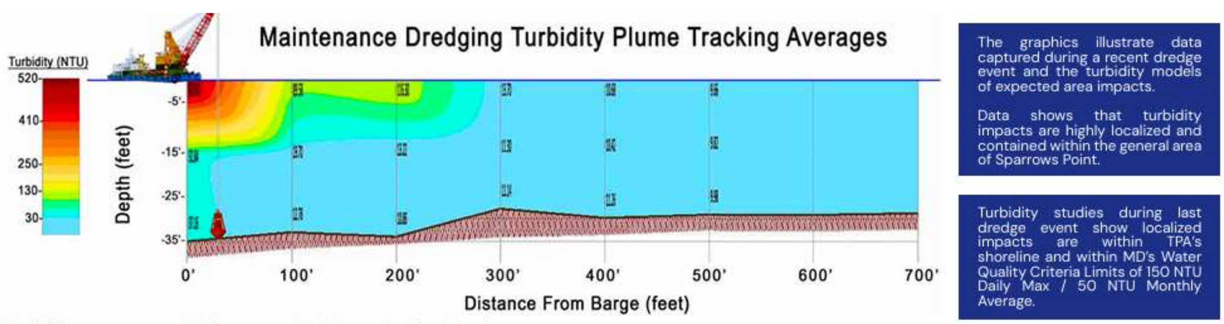
DREDGING

In many of the materials I've been looking at, they talk about Best Management Practices or BMP. On page 2 of SPCT Container Terminal Dredging Plan & Environmental Safeguards, there is a picture 'Example dredge barge.' This is a clamshell bucket.

At a meeting of the North Point Peninsula Community, TPA showed a video of the type of dredge they are proposing to use called and 'Environment Bucket'. I was aghast at the amount of washout that came out of the supposedly encased bucket. And this is my fear – the leakage of the contaminated materials.

Turbidity

On page 4 of the Safeguards brochure, it says "TPA studied the impact of dredging within the Sparrows Point Channel from prior dredge events and found that turbidity is fairly localized within TPA's shoreline and the Sparrows Point Channel."



Turbidity averages at 300 feet meet MD Water Quality Criteria

I QUESTION THE VALIDITY OF THIS DATA – 300 FT???? Will the washout from this dredging only travel 300 ft? How far will the microscopic toxins travel? How long will they stay? How will it impact the aquatic ecosystem? Will the surrounding water be safe to swim in? Will residual sediment travel to our back streams and coves?

Contaminants

Last summer, two metal signs washed up on our property – one in English, the other in Spanish.

I followed the QR codes to the MDE Fish Consumption Advisory website. And what I found was alarming. For the area around Sparrows Point, which identified as 'Patapsco River/Baltimore Harbor', all fish contained either:

∆ PCBs Polychlorinated biphenyls ◊ PFOS Perfluorooctanesulfonic acids

Patapsco River/Baltimore Harbor	American Eel	∆
	Brown Bullhead	∆
	Channel Catfish	∆
	Large and Smallmouth Bass ♥	∆
	Rock Bass ♥	◊
	Spot ♥	◊
	Sunfish (including Bluegill)	∆
	White Catfish	∆
	White Perch	∆

I looked up PCBs on Environmental Protection Agency website:

"PCBs do not readily break down once in the environment. They can remain for long periods cycling between air, water and soil. PCBs can be carried long distances and have been found in snow and sea water in areas far from where they were released into the environment."

What is in the sediments that will be dredged? And how far will the disturbance of contaminants travel?

According to:

- Evaluation of Dredged Material for Upland Placement 1026 pages by TPA, TIL and EA
- Evaluation of Dredged Material for Ocean Placement 1676 pages by TPA, TIL and EA

"Nine of the tested metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc) were detected"

According to:

- Army Corp of Engineers Special Public Notice NAB-2023-61200-M07 - Page 8

"Metals, PCBs, PAHs, SVOCs, chlorinated pesticides, and dioxin/furan congeners were detected most frequently in the sediments;

Although contaminates are found, these sources suggest that they are not ‘HAZARDOUS WASTE’????

The study conducted in 2011, Risk Assessment of the Area Offshore of Coke Point

Site assessment found chemicals potentially related to the site in sediment and water

- Metals
- Benzene and PCBs
- Polycyclic aromatic hydrocarbons (PAHs) from coke production

Taken from the EPA (Environment Protection Agency) website at: https://www.epa.gov/enforcement/marine-protection-research-and-sanctuaries-act-mprsa-and-federal-facilities “The MPRSA bans the ocean disposal of certain harmful wastes, specifically, radiological, chemical, and biological warfare agents, high-level radioactive wastes, medical wastes, sewage sludge, and **industrial wastes**.”

Do you want to tell me that this dredging will make our water cleaner? Probably not in my lifetime. How long are we expected to endure?

Coal Pier Channel DMCF

According to the plans for the Coal Pier Channel DMCF, there is a ‘Proposed Discharge Points of Compliance via Diffusers’. Does this mean that runoff from the DMCF with be discharged directly into the water? Who will monitor this discharge and the level of contamination?

Open Water Mitigation

I disagree with all the proposed types of mitigation for open water restoration. I’m sure you have heard from others with concerns. Please note that I am adamantly opposed to the plans. This amounts to destruction of resources that are valuable to our community.

REQUESTED ACTIONS:

I. Provide an additional Risk Assessment by an independent engineering group. Considering EA Engineering has done environmental risk assessments of Sparrows Point in 2007, 2011, and 2024. It would make sense that an unaffiliated company be assigned to make analysis in comparison to the EA Engineering, Inc. findings.

Should Dredging be Permitted:

II. The most environmentally sound dredging equipment must be used. Regulatory requirements and potential environmental risks should guide the selection process -- hydraulic or suction dredgers.

III. Dredge unit (DU) analysis should be conducted at regular intervals to determine contamination levels. Caustic levels of contamination need to be identified with halt option when violated.

IV. Surface water monitoring in Old Road Bay and Bear Creek must be performed regularly throughout the entire project. If analysis suggests surface water concentrations are high, dredging must cease.

V. Turbidity curtains MUST be used to decrease the potential for movement of suspended particles and to prevent contamination of adjacent waters.

VI. Scheduled monitoring of the Coal Pier Channel DMCF discharge points.

VII. Mitigation for open water should be a community benefit – removal of derelict boats, crab pots, community dredging, etc

TRAFFIC

Twenty Foot Equivalent Units (TEUs)

It seems to me that the whole issue with increased traffic is rather inconsistent.

In the promotional brochure Sparrows Point Container Terminal FAQs, on page 10:
"Recent traffic studies indicate that the SPCT terminal activities would generate 3,814 daily trips on Bethlehem Blvd. North and West. At full terminal capacity, peak hour travel would increase by about 517 vehicles in the morning and 517 in the evening rush hour periods. This is at or below expected traffic if Coke Point Peninsula were built entirely as distribution centers."

Then on page 11:
"This equates to about 571 trucks per day at the start of operations in 2028 with volume expected to level out at around 1,500 trucks per day in 2038 as the terminal reaches full capacity"

However, according to the Economic Impact Study by Infrata, on page 13, the terminal will ultimately process 2,000,000 TEUs annually.

2,000,000 TEUs X 70% by truck = 1,400,000 TEUs / 365 days = 3,836 TEUs per day on the road

There is much discrepancy between these publications. Is it an extra 1,034 at rush hour? Is it 1,500 TEUs per day or 3,836? I wanted to find out what the traffic at other ports looked like and found this: https://www.connectsavannah.com/community/busier-than-ever-the-port-of-savannah-brings-the-world-to-our-shores-21994859 "The Port of Savannah in Georgia moves about **14,000** containers by truck on an average weekday."

So really, what is the expected volume of tractor trailers on our roads? Who determines whether the highway infrastructure can handle the additional traffic from SPCT? The impact of Trade Point Atlantic on the local community traffic has been unreal. And to think that we could potentially increase the capacity by close to 4K tractor trailers?

Wrong Turns

There is much confusion with tractor trailer traffic in the local community. Frequently, truck drivers confuse N. Point Blvd with N. Point Road and end up in Edgemere with no way to turn their truck around. Their huge trucks have gone down small residential roads with no outlet. This is a huge safety issue.

REQUESTED ACTIONS:

I. A traffic analysis by the MDOT to determine the capacity of existing infrastructure to support the increased volume of TEUs projected with SPCT.

II. Trade Point Atlantic should be issued its own zip code, something other than 21219.

It frustrates me to see in every publication how much the community is going to benefit from SPCT!

For example: Sparrows Point Container Terminal FAQs, on page 8:

> **How does this project support our local community?**
> "The terminal would create thousands of construction and operational jobs, boosting the local economy and providing career opportunities for residents. Additionally, it would generate $57 million in annual tax revenues that can fund vital projects for the community. Partnerships with local businesses and with local union laborers would facilitate workforce training programs to ensure the benefits are widely shared throughout the community."

And, SPCT Impact Study page 16

> **"Local Stakeholders are key to success!"**

I see TPA, TIL and MSC benefiting extensively but what is the benefit to our community? We are a small town that tries to do right economically and environmentally. With SPCT, there seems to be the possibility of more harm than good. I write this as a 'little guy'. It pains me to think that my opposition is in vain because big entities always win. But just maybe you will realize that if one person took the time to write, there are more than likely a few thousand that feel the same way.

When my husband and I got a permit to put in a 'pervious' 400 sq ft patio, we were told by MDE that we had to plant 17 MD native, big 5 ft, balled trees or pay $2,700 so that trees could be planted somewhere else. I ask:

WHAT EXACTLY IS TPA DOING FOR THE COMMUNITY IT PLANS TO DISRUPT?

Please review and consider the **REQUESTED ACTIONS** on page 4 and 5.

With Much Concern,

Sandra Adams-Doyle

Willow Green™
www.willowgreenfunerals.com
4825 Cordell Avenue, Suite 200
Bethesda, Maryland 20814
(301) 264-7959

March 21, 2025

Via Email Only To: NAB-SPCT@usace.army.mil

United States Army Corps of Engineers
Baltimore District – Regulatory Branch
Attn: Ms. Maria N. Teresi
2 Hopkins Plaza
Baltimore, Maryland 21201

RE: Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (the "Project"): **SUPPORT FOR NATURE-BASED MITIGATION TECHNOLOGIES**

Dear Ms. Teresi:

Thank you for considering our public comments concerning the Project captioned above. Our company is in the process of launching Maryland's first funeral home specializing in providing ecological deathcare services. Public advocacy is one of our core principles and, today, it prompts us to urge you to incorporate nature-based technologies into the environmental mitigation package ultimately adopted.

We believe the Army Corps of Engineers must carefully consider:

- Algal Turf Scrubbers
- Oyster Biohuts
- Living Shorelines and
- A Community Monitoring Program

All of these strategies align with best management practices. They also promise cost-effective and scalable opportunities to improve water quality, protect natural habitats, and engage local communities in environmental stewardship. The Project should not miss those opportunities.

Our team urges you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Adrian R. Gardner
Green Legacy Brands LLC t/a Willow Green
Co-Founder and Managing Member

cc: Mr. Matthew Wallach, Natural Resources Planner, Maryland Dept. of Environment

Willow Green™
www.willowgreenfunerals.com
4825 Cordell Avenue, Suite 200
Bethesda, Maryland 20814
(301) 264-7959

March 21, 2025

Via Email Only To: matthew.wallach@maryland.gov

Mr. Matthew Wallach, Natural Resources Planner
Tidal Wetlands Division
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230

RE: Tradepoint TIL Terminals LLC/Sparrows Point Container Terminal (the "Project"):
SUPPORT FOR NATURE-BASED MITIGATION TECHNOLOGIES

Dear Mr. Wallach:

Thank you for considering our public comments concerning the project captioned above. Our company is in the process of launching Maryland's first funeral home specializing in providing ecological deathcare services. Public advocacy is one of our core principles and, today, it prompts us to urge the State and to incorporate nature-based technologies into the environmental mitigation package ultimately adopted.

We believe MDE must carefully consider:

- Algal Turf Scrubbers
- Oyster Biohuts
- Living Shorelines and
- A Community Monitoring Program

All of these strategies align with Maryland's commitment to Best Management Practices (BMP) and offer cost-effective, scalable opportunities to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

Our team urges you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Adrian R. Gardner
Green Legacy Brands LLC t/a Willow Green
Co-Founder and Managing Member

cc: Ms. Maria N. Teresi, U.S. Army Corps of Engineers, Balt. Dist. – Regulatory Branch

MY NAME IS DON BURNS.
I AM A PROUD MEMBER OF THE NORTH POINT YACHT CLUB. I HAVE BEEN IN THE N.P.Y.C. FOR OVER 30 YEARS. IN THE SUMMER IT'S A BEAUTIFUL PLACE TO BE. OUR CLUBHOUSE IS A GREAT PLACE TO HAVE A PARTY. MY WIFE AND I AND OUR 3 CHILDREN ENJOYED THE CHRISTMAS PARTY EVERY YEAR. THE EASTER EGG HUNTS WERE A LOT OF FUN ALSO. OPENING DAY WEEKEND WAS ALWAYS VERY SPECIAL. ALL OF OUR 160 MEMBERS VOLUNTEER TO KEEP THE GROUNDS AND THE CLUBHOUSE CLEAN AND SAFE. THE GRASS IS ALWAYS CUT.

IN AUGUST WE WOULD HAVE AT LEAST 150 WOUNDED WARRIORS INVITED TO A DAY ON THE BAY. OTHER YACHT CLUBS ON THE BAY WOULD VOLUNTEER TO HELP US. AT LEAST 20-25 BOATERS WOULD TAKE THE WOUNDED WARRIORS BY BOAT TO FORT MCHENRY. MANY OF THE

WOUNDED WARRIORS HAD NEVER BEEN ON THE BAY. WHEN WE RETURNED FROM OUR TWO HOUR FLOTILLA WITH THE WOUNDED WARRIORS WE WOULD TREAT THEM TO STEAMED CRABS AND STEAMED SHRIMP. IT WAS A FUN DAY FOR ALL. WHEN OUR 3 CHILDREN GAVE US 5 GRANDCHILDREN THEY TOO ENJOYED THE NPYC. HALLOWEEN AND CHRISTMAS PARTIES WERE VERY SPECIAL FOR THEM.

THE NPYC HAS A LEGACY OF BOATING TO OTHER CLUBS ON THE BAY. WE ALSO HAVE MANY ICONIC FISHING CONTESTS. WE HAVE ALSO HELPED MANY OTHER AGENCIES IN THE EDGEMERE, SPARROWS POINT AND DUNDALK COMMUNITIES. MANY FRIENSHIPS HAVE BEEN ESTABLISHED BY OUR CLUB MEMBERS AND OTHER CLUB MEMBER CRUISING, MEETING TOGETHER AT NPYC.

TO LOSE THE NORTH POINT YACHT CLUB WOULD BE A TRAGEDY

SINCERELY

LIFE LONG MEMBER Don Burns

Greater North Point Association, Inc.

"Stronger By Working Together"

Dr. Frank M. Neighoff, Jr.
President

8903 Cuckold Point Road
Sparrows Point, MD 21219-1633
Phone: 410-336-1974
Dr.Frank.Neighoff@gmail.com

March 20, 2025

Related to the Tradepoint Atlantic Container Terminal Environmental Impact Study and Associated Permitting (NAB-2023-61200)

This request is submitted by our organization on behalf of ourselves and the following member organizations who have the potential to be impacted by construction and operation of the container terminal:

- Fort Howard Community Association, Inc.
- Millers Island Residents Association, Inc.
- Edgemere Community Association, Inc.
- North Point Peninsula Community Coordinating Council, Inc.
- Beachwood Estates HOA
- Greater Sparrows Point Association, Inc.
- North Point Village Civic Association, Inc.
- Greater Dundalk Community Association, Inc.

As there are many community, environmental and other organizations near Tradepoint Atlantic who will be directly or indirectly impacted by construction of and use of the container terminal, we believe there should be a Community Benefit Agreement required as part of the approval and permitting process. We believe each organization listed below will be equally impacted by the container terminal whether by noise, lighting, rail traffic, and especially road traffic or other direct or indirect impacts to our residents and organizations. As each will be equally impacted, we believe each should receive an equal Community Benefit Agreement donation each year for the next four years. The Community Benefit Agreement should never be used to reward those favorable to the project while penalizing those who may not have favored the project. We request the EIS approval and permit approvals require that each organization listed below will receive the following Community Benefit Agreement donations each year for the next four years to compensate residents and organizations for their impact from the project:

- Each should receive $2,500 by December 31, 2025
- Each should receive $2,500 by December 31, 2026
- Each should receive $2,500 by December 31, 2027
- Each should receive $2,500 by December 31, 2028

We believe each of the below listed organizations related to the land area surrounding the Tradepoint Atlantic location or the Chesapeake Bay and its tributaries surrounding the Tradepoint Atlantic location and container terminal, who will be impacted by the container terminal construction or its operation once opened, should receive each of the above listed Community Benefit Agreement donations:

Greater North Point Association, Inc.
Fort Howard Community Association, Inc.
Millers Island Residents Association, Inc.
Edgemere Community Association, Inc.
North Point Peninsula Community Coordinating Council, Inc.
Beachwood Estates HOA
Greater Sparrows Point Association, Inc.
North Point Village Civic Association, Inc.
Greater Dundalk Community Association, Inc.
Stansbury Homeowner's Association
Southeast Baltimore County Council, Inc.
Watersedge Community Association
Turner Station Conservation Team
Chesapeake Bay Association, Inc.
Back River Conservation Association, Inc.
Chesapeake Bay Environmental Alliance, Inc.
Maryland Environmental Foundation, Inc.
Edgemere Elementary School
Chesapeake Terrace Elementary School
Sparrows Point Middle School
Sparrows Point High School
North Point-Edgemere Volunteer Fire Department
Wise Avenue Volunteer Fire Department
Wells-McComas VFW
Sparrows Point North Point Historical Society
Edgemere Senior Center
Edgemere Sparrows Point Recreation Council

Please add this request to the final approval process for the Environmental Impact Study and associated permitting processes to compensate those areas surrounding the Tradepoint Atlantic Container Terminal location for the negative impact they will experience associated with construction of the container terminal and its operation.

Respectfully,

Frank Neighoff

Dr. Frank M. Neighoff, Jr.
President

Template Letter: Letisha Davis

Lcdavis515@gmail.com

March 21, 2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Letisha Mason

From:	Courtney Robinson
To:	NAB-SPCT; matthew.wallach@maryland.gov
Subject:	[Non-DoD Source] Sparrow Point Dredging Project
Date:	Saturday, March 22, 2025 9:42:37 AM

Attn: Ms. Maria N. Teresi or to Matthew Wallace at the Maryland Department of the Environment

Re: Pleasant Yacht Club

I am writing to ask for your support in protecting the Pleasant Yacht Club, which is at risk of being displaced or dissolved entirely due to a new development project at Sparrows Point. The Pleasant Yacht Club, along with the North Point Yacht Club, has been a part of the community for decades. Pleasant yacht club has become important gathering places for many people in the area.

The people within this community are loving, caring and generous.

Consider this; being able to have a third place, an outdoor social gathering space, where you can feel safe and loved with the comfort of your family, friends and god. Sounds like a dream in todays reality but that is what the pleasant yacht club has within its marina.

The current plans for the development project would excavate land along Jones Creek, which could force both yacht clubs to close. This would not only impact the clubs themselves but also the surrounding community, who have long enjoyed the events and activities held at these clubs.

The Pleasant Yacht Club has a special history as it was created by Black steelworkers who were excluded from the North Point Yacht Club due to racial segregation. It's a place that means a lot to its members, and many have worked hard over the years to build and maintain it.

The pleasant yacht club is vital to so many people. Please prevent this project or find other ways to protect the history of the land and the peoples hands that built it.

Thank you for your time and attention. I hope you will join me in supporting the Pleasant Yacht Club and its members.

Sincerely,

Courtney Robinson
7852264115

Date: Thursday, January 2, 2025

RE: Danger Presented for the Upper Chesapeake Bay and Patapsco River Basin by a Proposed Deep Water Berth Dredging Project being proffered by TradePoint Atlantic (TPA) at Sparrows Point Peninsula, Maryland 21219

We, the CONCERNED COMMUNITIES of the Chesapeake Bay Watershed need your help in a potentially critical issue of negative environmental impact which will harm all life in our immediate Region; pursuant to the proposed Dredge Methodology posited by TradePoint Atlantic (TPA) at Sparrows Point Peninsula.

This Communication is a request for IMMEDIATE ACTION from all Agencies, NGOs, Government and all Interested Parties who hold the ongoing continued Recovery of our Beloved Chesapeake Bay Watershed in their minds and hearts. The specific focus in this Matter is the Health and Safety of ALL LIFE in the Upper Chesapeake Bay and Patapsco River Basin. This Matter addresses the proposed 4.2 million cubic yard Dredge Project proposed by TPA. Their proposed Dredge Methodology would employ Clam Shell Buckets and Barges to handle this mass Dredge volume; this volume will be removed in an area that is 0.2 square miles. In comparison; the entire Annual Dredging of the Patapsco River Basin is 1.25 million cubic yards across 9 miles in the Basin. Thus, the single TPA Dredge Project exceeds a full 3 Dredgings of our Patapsco River Basin.

What raises our communities resistance ire; is the fact that TPA is presenting their Project and stating to the People; that the sediment being targeted in the Sparrows Point Ore Pier Inlet is virtually, mostly CLEAN with NO Hazardous or Toxic Wastes; with a few mildly contaminated sites !!!

The Sediment surrounding the entire Sparrows Point Peninsula is Documented and Determined; over the last 50 years; by ALL FEDERAL, STATE, and LOCAL Agencies; including MDE, EPA, and USACE as: EPA Resource Conservation Recovery Act (RCRA) High Priority Contaminated; and; United States Army Corps of Engineers (USACE) Hazardous, Toxic, Radioactive Waste (HTRW, DMMP 2005). Any and all, Major Dredging Proposals have been DENIED by all Agencies over the last 34 years. This Sparrows Point Peninsula is also Registered by all Agencies as a MD-303-D Severely Impaired Zone.

Maryland State Waters and Ambient Air; the actual material property that would be impacted by this TPA Dredging; is directly and wholly owned by the taxpaying citizens of these United States of America; especially in this Matter; by the taxpaying Citizens of the State of Maryland and Baltimore County. The Open Waters of the State of Maryland are exclusively the Property of the People.

To Date; there are thousands of analytical data held by every Agency; over the last 37 years (we have copies and validation) which unimpeachably illustrate by concentration levels and CDC ATSDR validating that the sediment surrounding Sparrows Point Peninsula is undeniably anything BUT CLEAN !!!

TPA; as of December 10, 2024; in a private committee; has stated that based on one new Geotechnical Chemical Sediment Analysis; that the sediment in their target dredge site is predominately CLEAN; with some minor contamination spots. TPA did not release the analytical analysis data for this TPA Claim until the day after the Draft EIS Review and Determination PUBLIC HEARING; held on Monday, February 25, 2025 !!!

TPA; offered for Public scrutiny; only verbal parts of their EA Environmental Science and Technology Document; before the actual Hearing.

PLEASE NOTE: A single Report from TPA flies in the face of; and; contradicts 42+ years of unimpeachable scientific analyses; data; and legal determinations by all Federal; State; and Local Agencies and all Major Courts on Environmental Record; which clearly shows proven, veritas vetting that the entire Sparrows Point Peninsula is surrounded offshore by Hazardous , Toxic; and Heavy Metal Waste; which was pumped out in the open water via 191 outfall pipes surrounding the entire circumference; without control; over 120 years of steelmaking; until the onset of our Coastal Zone Management Act (CZMA) around 1992 for Pre-Treatment. Further; with no dredging ever occurring over the last 34 years at Sparrows Point Peninsula; How can TPA state that RCRA High Priority Contamination (EPA)/ HTRW (USACE) SUDDENLY DISAPPEARED from Sparrows Point Peninsula without removal?

Should this TPA Dredge Project be allowed to be executed as planned; without stringent Environmental Law Mandates; We the People will lose all positive environmental remediation and Quality of Life Restoration gains that have been hard won over the last 53 years. If this Project progresses ·without immediate action to halt the current course of action stated by TPA; and; legally enforce proper stringent methodology to ensure no release of Hazardous, Toxic, and Heavy Metal Waste into the Open Waters and Ambient Air: our Publicly Owned Property will once again be lost and unusable for ALL LIFE in our immediate Region.
This TPA Dredge Project; if not strictly controlled; enforced; and monitored by Environmental Agencies; will leave us right back where we started 53 years ago with lifeless waterways that cannot be used by We the People; herein.

There is a Solution to this dilemma; TPA could use one of its original 2017 Dredge Project Blueprints; with enhancements; for its Deep Water Marine Berth Project as follows:

1. - Construct a Containment at the High Head Transfer Pond; (wherein the Steel Manufacturers imported up to 183 million gallons per day of water to and from Back River Waste Water Treatment Plant in Baltimore County. This operation is now shut down. TPA is choosing to use this Site for the Dredge Deposition Site; however, they are leaning towards cutting corners and reducing construction expenditures to meet their contractual timeline of at least 1 active Berth by the Close of Spring 2028).
2. - The appropriate re-enforced containment would be constructed up to a Height of 90 feet above sea level and infused throughout with EPOXY RESIN POLYMER which will chemically and atomically bind all hazardous; toxic; and heavy metal waste at the valence level; effectively fusing and binding all the sins of our steelmaking forefathers; frozen in place; for at least 2,000 years. Further; there is a new powdered Epoxy Resin Polymer; which can be added to the sediment waste stream at the entry point into the containment; which separates the hazardous, toxic, and heavy metal waste out of the 70/30 slurry and settles all contaminants to the bottom.
3. - The actual dredging of the Ore Pier Inlet must be undertaken with a straight Hydraulic Suction Dredge; with the appropriate high pressure pump(s); which would be sent directly to the High Head Containment via a 36 inch constructed continuous pipeline; overland across the Sparrows Point Peninsula.
4. - Next; the effluent water from the containment would be filtered at site with a mobile tertiary level water filtration system (the types used by FEMA; USACE; ETC during and following major hurricanes and flooding situations. Finally, the treated wastewater could then be released into the Tin Mill Canal; where it would travel the 7200 feet to the Humphrey's Creek Wastewater Treatment Facility. After completion of this process; all contamination is removed and the water from the wastewater plant would enter into the Bear Creek Tributary; cleaner than the final receiving waters in the Creek.
5. This Methodology is the only option acceptable to the majority of Stakeholders in our Region We are not denying the TPA growth potential; however; after decades of fighting and working to restore our Air, Land, and Waterways; We the People will not condone or tolerate negative environmental damages that would reverse our 53 years of concentrated Restoration Gains

This Communication Plea is being distributed to everyone throughout the Chesapeake Bay Watershed; all 64,000 square miles. We have only one attempt to ensure the continued Recovery of our waterways!
We need every concerned Citizen; all NGOs; and all Environmental Agencies to speak out and act on this Urgent Matter which can negatively effect and affect ALL LIFE in our beloved Chesapeake Bay Watershed.

Please feel free to contact me by Phone; and/or; Email to join our movement.
Please contact any; and all; Parties to make your voices heard; LOUD and CLEAR !!!

Whatever happens; here and now; will write; and; execute the Fate and Future for ALL LIFE in this Region. I do not idly raise this Alert; the Future of all Current and Forthcoming Generations of Life is now in your hands. enclosed herein are some evidence of what is contained at Sparrows Point Peninsula; nothing is theorized; these pieces are Public Information directly from our Government Agencies Records .

If you agree with our cause; please email your Groups name and confirmation to: irsd7@verizon.net. Your Group will then appear on this Document; which will be sent to all points of contact; NO PERSONAL CONTACT INFORMATION WILL BE CIRCULATED IN THIS DOCUMENT; ONLY YOUR GROUP NAME AS SUPPORTING THIS CAUSE !!!

Awaiting your timely Response, as ever in Service, I am,

Russell S. Donnelly
Environmental Analyst
SouthEastern Communities Against Pollution (SECAP) - (46years - 1979- Current)
LNG Opposition Team Chair - (18 years - 2006 - Current)
Baltimore Commission for Environmental Quality - (9 years - 09/2007 - 07/2016)
Save Our Streams (SOS) Coordinator District 7 - (10years - 03/ 1979 -09/1989)
Registered Expert Witness pursuant to Sparrows Point Peninsula - In all Federal; State; and Local Courts - (18 years - 03/2006 - Current)
2114 Oak Road
Sparrows Point, Maryland 21219-2214
Phone: 410-916-5226
Email: irsd7@verizon.net

ASSESSMENT OF SEDIMENT CONTAMINATION, ACUTE TOXICITY, AND POPULATION VIABILITY OF THE ESTUARINE AMPHIPOD LEPTOCHEIRUS PLUMULOSUS IN BALTIMORE HARBOR,MARYLAND,USA

lssn: 1552-8618
Journal: Environmental Toxicology and Chemistry
Volume: 18 Issue: 10 Pages: 2151-2160
Authors: McGee, Beth L., Fisher, Daniel J., Yonkos, Lance T., Ziegler. Gregory P.. Turley, Steve
Article ID:10.1897/1551-5028(1999)018<2151:AOSCAT>2.3.CO;2

Abstract-In Chesapeake Bay, Maryland, USA, some of the most contaminated sediments are found in the highly industrialized Baltimore Harbor-Patapsco River area. As part of a comprehensive assessment of sediment quality in this system, sediment toxicity was assessed in 10-d acute tests with the estuarine amphipod *Leptocheirus plumulosus.* Mean amphipod survival was significantly reduced in 7 of the 25 samples tested despite the occurrence of minor experimental artifacts. The most toxic sediments were collected from Bear Creek; other areas exhibiting toxicity included the Inner Harbor and Colgate Creek. Marginal toxicity was observed in samples from Curtis Creek, Lazeretto Point, and Back River. Negative relationships "Were detected between survival and concentrations of select sediment-associated contaminants, whereas a very strong positive association existed between survival in laboratory exposures and density of *L. plumulosus* at the test sites. A weight of evidence approach, including correlation analyses, a model of polycyclic aromatic hydrocarbon bioavailability, and comparisons to benchmark sediment levels, was used to tentatively identify classes of contaminants that contributed to the observed toxicity. Analysis of results suggested that toxicity at stations in Bear Creek and Colgate Creek may have been driven by sediment-associated metals, whereas toxicity at stations in the Inner Harbor was likely due to both metal and organic contaminants. The observed relationships among toxicity test results, concentrations of sediment-associated contaminants, and abundance of *L. plumulosus* at the test sites suggests that acute toxicity tests with this species are indicative of adverse biological effects in the field.

REGION 3 GPRA Baseline RCRA Correction Action Facility

INTERNATIONAL STEEL GROUP (former Bethlehem Steel)

SPARROWS POINT - MARYLAND

KNOWN CONTAMINANTS AT SITE:

ASBESTOS

ANTIMONY

ARSENIC

CADMIUM

CHROMIUM

COPPER

IRON

LEAD

MANGANESE

NICKEL

TIN

ZINC

AMMONIA

BENZENE

CYANIDE

ETHYL BENZENE

ETHYLENE GLYCOL

HYDROGEN CYANIDE

HYDROGEN SULFIDE

NAPHTHALENE

PAH's

REGION 3 GPRA Baseline RCRA Correction Action Facility

INTERNATIONAL STEEL GROUP (former Bethlehem Steel)

SPARROWS POINT - MARYLAND

CONTINUED:

PCBs

PENTACHLOROPHENOL

PHENOLS.

PYRENE

SODIUM PHENOLATE

STYRENE

SULFURIC ACID TOLUENE

TRICHLOROETHYLENE

XYLENE

COAL TAR

OILS

LIME SLUDGE

WASTE ALKALINE RINSES

MILL SCALE

SHIPYARD WASTES

ETC...

APPENDIX VI

RELEASES OF TOXIC CHEMICALS BY ZIPCODE, BY TOXICITY

21219 SPARROWS POINT

CARCINOGEN:	210,900
HERITABLE MUTAGEN:	5,184
DEVELOPMENTAL TOXIN:	369,013
REPRODUCTIVE TOXIN:	341,144
ACUTE TOXIN:	244,341
CHRONIC TOXIN:	568,425
NEURO-TOXIN:	45,368

ALL VALUES ARE POUNDS PER YEAR

SAMPLE SITE ANALYSES COMPARISON FOR TPA PROJECT

This communication asks for Agency Consideration and Determination between Historic and Current Geotechnical; Chemical Analyses for the proposed Dredge Project Site at the South Tip of Sparrows Point Peninsula.

All Agencies; Private Industries; NGOs; and Court Rulings designate Analyses Reports for this site; dating from 1976 thru 2011; document this site area as Highly Contaminated spanning the last 42 years of scientific; government; private; and public consideration.

1. – HIGHLY CONTAMINATED - EPA RCRA
2. – HAZARDOUS TOXIC RADIOACTIVE WASTE (HTRW) -USACE / MPA DMMP
3. – MD-303-D – SEVERELY IMPAIRED REGION – EPA; MDE; USACE; BACO DEPS; DNR; DHMH; NOAA; USGS; CBP; USCG; all NGOs

Now comes TRADEPOINT ATLANTIC (TPA) Deep Water Berth DREDGE PROJECT at the Coke Point Ore Pier Inlet. Their Geotechnical Chemical Sediment/Risk Assessment Analysis shows that their Project Site is virtually CLEAN IRC CLASS 1 SEDIMENT.

The question arises; "How is the Chemical Sediment Analysis now; occupying the same footprint as all other previous Chemical Sediment Analyses across the last 42 year time span as Highly Contaminated; suddenly clean and ready for this dredging project" ???!!!

PLEASE NOTE: NO MAJOR SEDIMENT DREDGING HAS BEEN ALLOWED; OR PERFORMED; OVER THE LAST CONSECUTIVE 35 YEARS.

NO AGENCY; GOVERNMENT; or LEGAL COURT HAS GRANTED ANY AUTHORIZATION; and/or; RULING ALLOWING ANY SUCH WORK OTHER THAN MAINTENANCE.

With this TPA DREDGE PROJECT PROPOSAL pending; as is; with the proffered TPA Methodology; ALL Steelmaking; 126 years of Toxic; Hazardous; and Metals Steelmaking Waste will be re-integrated with our Open Waters and Atmosphere causing Regional Cascade Contamination and Death of our waterways. Attached are the schematic copies of the variance which I am submitting for this EIS Review and Determination Process.

WE ONLY HAVE 1 CHANCE FOR THIS PROJECT TO SUCCEED WITHOUT MAJOR IRREPARABLE DAMAGE AND DEATH OF OUR REGIONAL WATERWAYS; PLEASE CHOOSE WISELY !

Russell S. Donnelly; SECAP ETC.

2114 Oak Road

Sparrows Point, Maryland 21219-2214

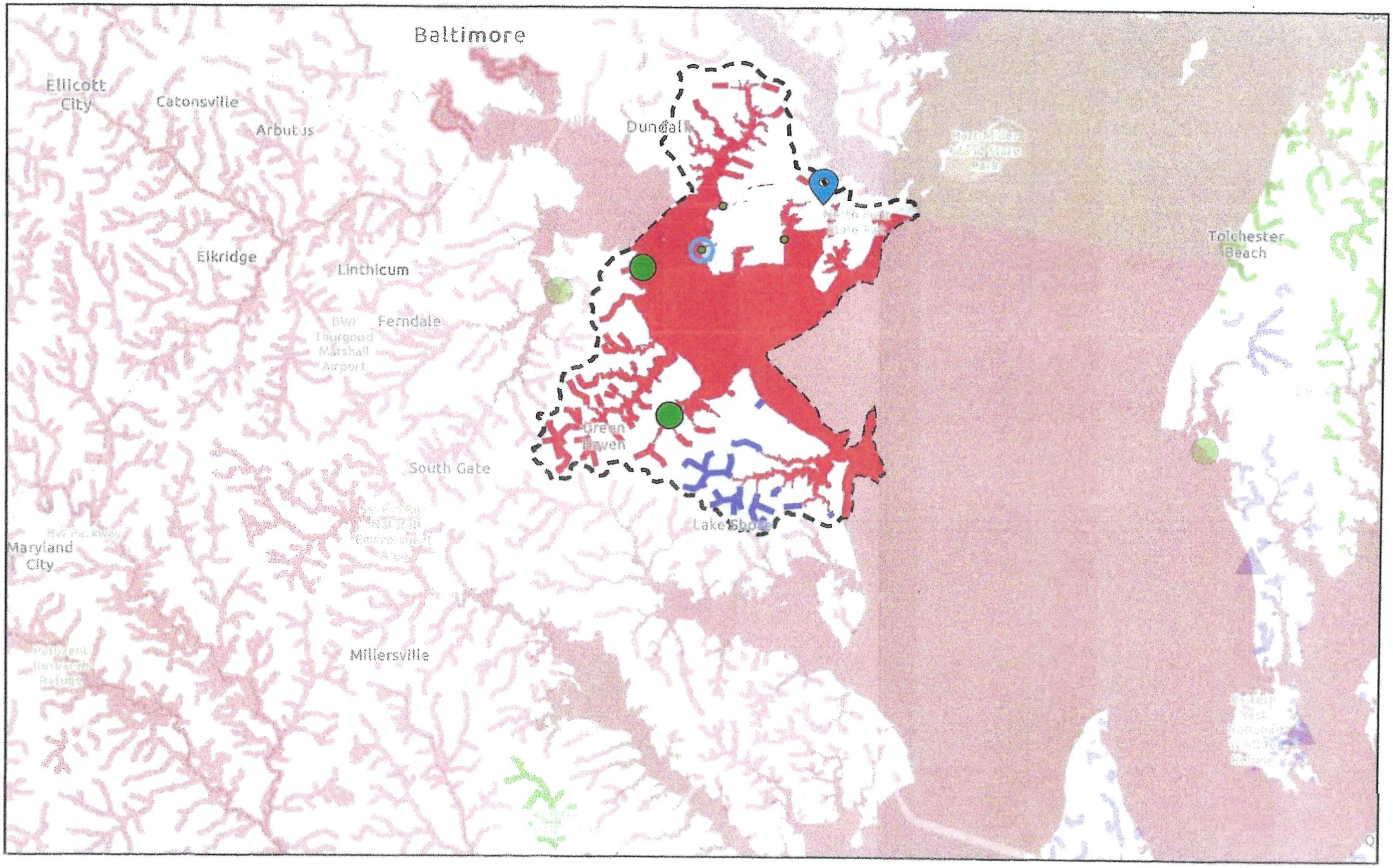
Phone: 410-916-5226

Email: irsd7@verizon.net

Russell Donnelly

2011 AND PRIOR

MD 303 D SEVERELY IMPAIRED



1/5/2025

Waterbody: Good

Waterbody: Impaired

Waterbody: Condition Unknown

HUC12 Boundaries

1:288,895

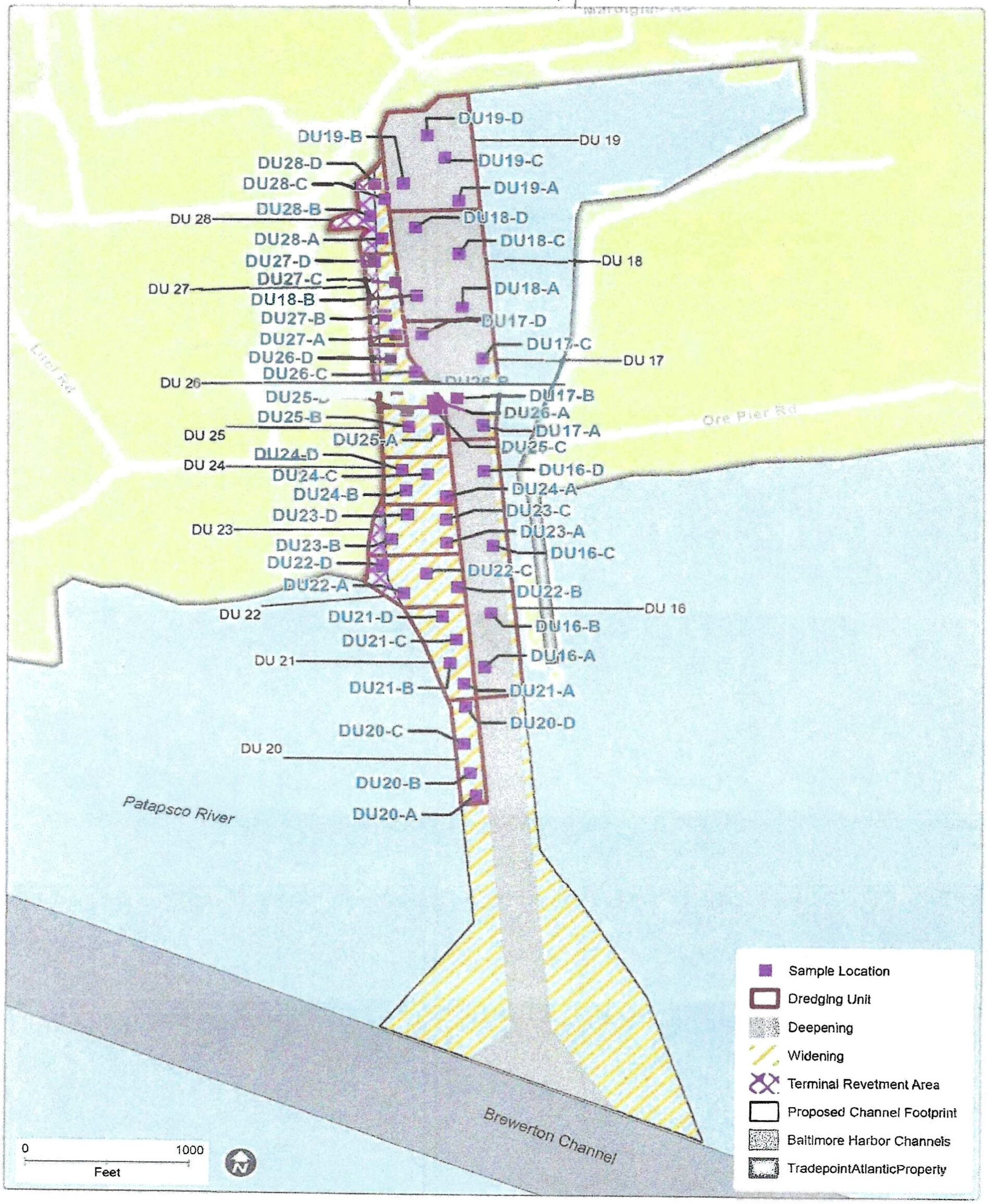
0 1.75 3.5 7 mi

0 3 6 12 km

County of Anne Arundel, VGIN, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS

Searched Location

2024 TPA NORTH SAMPLE



From: Sean Pak
To: NAB-SPCT
Subject: [Non-DoD Source] Advocacy for the Sparrows Point Container Terminal Project
Date: Thursday, March 20, 2025 3:27:57 PM

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,
Sean Pak
--
Sean Pak | Design Parter, Owner-Operator

sean-pak@bmore-designful.com
www.bmore-designful.com

From: Taji Amani
To: NAB-SPCT; matthew.wallach@maryland.gov
Subject: [Non-DoD Source] Comment on Sparrows Point Container Terminal Project
Date: Friday, March 21, 2025 2:40:08 PM

Taji Amani
Baltimore Roundtable for Economic Democracy
taji@baltimoreroundtable.org
Friday, March 21, 2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while
driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local
communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Taji Amani
Business Relationship Steward
Baltimore Roundtable for Economic Democracy | www.baltimoreroundtable.org
taji@baltimoreroundtable.org | LinkedIn | He/Him
Schedule Zoom/phone call

From: Mark Wo
To: NAB-SPCT; matthew.wallach@maryland.gov
Subject: [Non-DoD Source] Comments on The Sparrows Point Container Terminal Project.
Date: Friday, March 21, 2025 4:04:26 PM

Hello,

My name is Mark Wo of JJ Innovative Materials inc. As a climate focused engineer, working on adjacent positive change (but not directly related). I support the initiative to help Sparrows point and would like to echo support of feasible, effective, and economical solutions:

The Sparrows Point Container Terminal Project is a critical opportunity to drive economic growth while advancing environmental sustainability. Right now, the U.S. Army Corps of Engineers (USACE) and the Maryland Department of the Environment (MDE) can integrate proven, nature-based solutions to clean the Bay and mitigate costs.

I am advocating for:

- Algal Turf Scrubbers (ATS): Accelerate water filtration.
- Oyster Biohuts: Support millions of oysters annually.
- Living Shorelines: Prevent erosion and enhance habitats.
- Community Monitoring: Track water, air, and noise quality.

Local organizations and companies are capable of providing these services, so we can truly create a win-win situation!

Best,

Mark Wo

Andrew Rose

Partner, Superstruct Advisors

Andrew@Superstructadvisors.com

3/21/25

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Andrew Rose

LUNA CONCRETE INC.

11011 Lanham Severn Road
Lanham, MD 20769

(301) 352-5862 Tel.
(301) 352-5864 Fax

March 20, 2025

United States Army Corps of Engineers
Baltimore District – Regulatory Branch
Attn: Ms. Maria N. Teresi
2 Hopkins Plaza
Baltimore, Maryland 21201

RE: USACE Application Number NAB-2023-61200-M07

Dear Ms. Teresi:

I write to you in support of Sparrows Point Container Terminal Project from Tradepoint TiL Terminal, LLC, a joint venture between Tradepoint Atlantic and Terminal Investments Limited to construct a new container terminal at Tradepoint Atlantic within in the Port of Baltimore.

As the lead federal agency under the National Environmental Policy Act (NEPA), we would like to thank you for facilitating a thorough social, economic, and environmental impact review of this project.

In 2014, Tradepoint Atlantic undertook the massive effort to clean up and redevelop the former Sparrows Point Steel Mill, a 3,300-acre abandoned industrial site in southeastern Baltimore County. Over the last ten years Tradepoint has followed through with their vision and commitment to address the environmental legacy from steel making and transform the site into a new global center for commerce, returning thousands of jobs to the Baltimore region. To date, Tradepoint Atlantic has been true to their work, engaging key government and community stakeholders while executing on their bold vision for Sparrows Point.

The Sparrows Point Container Terminal is an important part of that bold vision as it represents the next major phase of Sparrows Point's rebirth and redevelopment. This strategically valuable economic development opportunity builds on the successful redevelopment of the former Sparrows Point Steel Mill and the growth of the Port of Baltimore. It will elevate and sustain the state's port and industrial economy for generations to come. Additionally, this project will result in billions of dollars of new investment and the creation of thousands of additional new jobs throughout the region further yielding significant economic, environmental, and societal benefits for the residents of Baltimore and the State of Maryland.

The proposed Sparrows Point Container Terminal project presents a transformative opportunity to pursue the most responsible and productive use of one of the most environmentally challenged areas of the Sparrows Point peninsula. We strongly support this project and encourage federal and state agencies to work in concert to help ensure Sparrow Point Container Terminal's completion and success.

Sincerely,

Teresa D. Luna

Teresa Luna
Chief Administrative Officer
Luna Concrete, Inc.

Robert Walker

Bladensburg Waterfront Park
Department of Parks and Recreation, Prince George’s County
M-NCPPC
RobertA.Walker@pgparks.com

3/21/2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

Additionally, these strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

Our park currently utilizes a mid-sized demonstration of the Algal Turf Scrubbers, and have seen the amazing benefit that this eco-technology provides our basin in the river. It should absolutely be explored and considered for this project.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Robert Walker

Ridge to Reefs
6618 Stirrup Ct
Sykesville, MD 21784

March 20, 2025

Dear USACE and MDE Representatives,

We are writing to express our support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth. Ridge to Reefs is a nonprofit organization based in Maryland working on the health of the Chesapeake Bay as well as ecosystems and food and water security around the world.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

We urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Paul Sturm
Executive Director

Phalgun Mantha
Director of Agriculture and Sustainability

Kelly Harris
Ecological Engineer and Project Developer

Karen Herrero Backe
GIS Specialist and Communications

Sharon Dorsey
SharInNature, LLC
sharinnature.inbox@gmail.com
March 20, 2025

To Whom It May Concern,

I am writing to strongly advocate for the integration of nature-based solutions in the Sparrows Point Container Terminal Project. As this project unfolds in close proximity to the Baltimore Inner Harbor and the Chesapeake Bay, it presents a crucial opportunity to not only drive economic growth but also advance environmental sustainability. By incorporating strategies such as Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a robust Community Monitoring Program, we can significantly enhance water quality and protect the local ecosystem, setting a positive precedent for future infrastructure projects.

The adoption of these nature-based solutions aligns with Maryland's Best Management Practices (BMP) and has the potential to provide scalable, cost-effective environmental benefits. Algal Turf Scrubbers, for instance, help absorb excess nutrients in the water, while Oyster Biohuts support the restoration of vital oyster populations that filter pollutants and strengthen the ecosystem. Living Shorelines offer a dynamic, adaptive approach to coastal protection, reducing erosion and supporting biodiversity. By integrating these methods, the project will not only mitigate pollution but also create long-lasting environmental and economic value.

Furthermore, engaging local communities through a Community Monitoring Program will foster a sense of ownership and environmental stewardship, empowering residents to actively participate in the health of their surroundings. These efforts will generate positive public relations, as stakeholders will see the project as a responsible and forward-thinking initiative. In turn, this could attract additional investment and support for the region's long-term prosperity.

I urge you to prioritize these proven, ecologically-conscious strategies to ensure that the Sparrows Point Container Terminal Project becomes a model for sustainable development. By doing so, you will ensure lasting benefits for the Chesapeake Bay, local communities, and Maryland’s economy.

Sincerely,
Sharon Dorsey

Taein D Lee

JJ Innovative Materials Inc.

tdl@jjinnovativematerails.org / mobile : 6166906192

03/19/2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth for the Maryland area.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Taein D. Lee

Meena Toolaabee

3/22/24

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Meena Toolaabee

From: Natalie N. Chapman
To: NAB-SPCT; matthew.wallach@maryland.gov
Subject: [Non-DoD Source] Sparrows Point Container Terminal Project
Date: Friday, March 21, 2025 4:01:00 PM

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Natalie Chapman

Justin Aydelotte

Good Idea Solar

Justin@goodideasolar.com

March 21, 2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Additionally, I have worked with Green Mechanics, BLLC on several projects with this scope, and can vouch for the thoroughness of their planning and the quality of the work. You will be hard pressed to find a more competent team and partner than Green Mechanics – trust me, I’ve tried.

Sincerely,

Justin Aydelotte

From:	Justin Brodie-Kommit
To:	NAB-SPCT
Subject:	[Non-DoD Source] Sparrows point project letter of support
Date:	Friday, March 21, 2025 7:45:43 PM

I Justin Brodie-Kommit the founder of lichen ventures and Baltimore climate tech meetups

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely

Thanks,
Justin

~~~
Justin Brodie-Kommit, PhD
Justin@JustinBK.com
9782019007
LinkedIn
Schedule a meeting with me
~~~

www.blackyieldinstitute.org info@blackyieldinstitute.org 410.929.1887

"Cultivating Self-Determination through Black Land and Food Sovereignty"

March 21, 2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Eric Jackson

Template Letter:

Nicholas Cloyd

Ncloyd90@gmail.com

03/21/2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Nicholas Cloyd

From:	Bindu Abraham
To:	NAB-SPCT
Cc:	Larry Davis
Subject:	[Non-DoD Source] Sparrows Project Proposal USACE Application Number NAB-2023-61200-M07
Date:	Friday, March 21, 2025 8:00:26 AM

Dear Ms. Maria N. Teresi,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Bindu Abraham, Ph.D. MBA, 25

University of Maryland, College Park
bindu@umd.edu

From:	Scott Christensen
To:	NAB-SPCT
Subject:	[Non-DoD Source] Support for nature-based solutions at Sparrows Point
Date:	Thursday, March 20, 2025 9:50:00 AM

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

If you have any further questions or would like to hear my thoughts on the project in more-depth, feel free to give me a ring at the number in my signature.

Sincerely,
Scott

Scott Christensen
scottchrist3@gmail.com / (941) 224-9914 (cell)

Cedric Nwafor

Executive Director, Roots Africa

Email: nwafor@roots-africa.org

Cell: 240-350-2325

Website: www.rootafrica.org

Mar 21, 2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Cedric Nwafor

SHAWNA STEPP-JONES

Divaneering Impact Lab, LLC

100 Light Street Baltimore, MD 21202

March 21, 2025

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Shawna Stepp-Jones

Founder & CEO

Divaneering Impact Lab, LLC

Bello Mahmud

Morgan State University

Bellomahmud34@gmail.com

20th March 2025.

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Bello Mahmud

Delicia Gunn
Indigo Engineering Group, LLC
delicia@indigoengineered.com
202-256-2372

3/21/25

To Whom It May Concern,

I am writing to express my support for integrating nature-based solutions into the Sparrows Point Container Terminal Project. Implementing Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and a Community Monitoring Program will enhance environmental outcomes while driving economic growth.

These strategies align with Maryland's Best Management Practices (BMP) and offer cost-effective, scalable solutions to improve water quality, protect natural habitats, and engage local communities in environmental stewardship.

I urge you to prioritize these proven technologies to ensure this project delivers long-term benefits for both Maryland's economy and the Chesapeake Bay.

Sincerely,

Delicia Gunn

Sparrows Point Container Terminal Project Comment Card

Baltimore, Maryland

US Army Corps of Engineers' Application Number: NAB-2023-61200
MDE Tidal Authorization Number: 23-WL-0762
MDE Water Quality Certification Number: 24-WQC-0045

US Army Corps of Engineers

Maryland Department of the Environment

Please use the space below to record your comments and ideas about the Sparrows Point Container Terminal Project in the Patapsco River in Baltimore, Maryland. The comment period ends on March 21, 2025. Your comments must be postmarked by this date to be considered. Other ways to provide your comments are listed at the bottom of this comment card. All comments mailed to MDE will be shared with USACE. Duplicate comments to both agencies are not necessary.

Commenter's name and affiliation: I CRAIG ADAMS AM FOR THE SPARROWS POINT CONTAINER TERMINAL PROJECT. IT WILL PRODUCE ALOT OF JOBS! THE ONLY THING I AM AGAINST, THE DREDGE MATERIAL PLACEMENT ON NORTH POINT YACHT CLUB & PLEASANT YACHT CLUB LAND. THE NORTH POINT YACHT CLUB HAS HISTORY. ITS BEEN ACTIVE SINCE 1953, IT BEEN A GREAT CLUB 150-200 MEMBERS. I AM AGAINST PUSHING US OUT & PLACING DREDGE MATERIAL ON OUR LAND & PLEASANT'S CLUB. I THINK IT IS TO CLOSE TO THE COMMUNITY, THE DREDGE MATERIAL HAS BEEN IN THE WATER A LONG TIME & IT STINKS. BETHLEHEM STEEL STARTED PRODUCTION IN THE LATE 1800'S & EARLY 1900'S. IT HAS BEEN ON THE SITE 125 YRS. STARTED MAKING STEEL & ALL THE GARBAGE STEEL WAS MOVED AROUND TO MAKE MORE LAND. IT WAS PUSH IN THE WATER ALSO TO MAKE LAND. THE NORTH POINT YACHT CLUB & PLEASANT USE TO BE THE OLD COUNTRY CLUB NOW LOCATED ON WISE AVE. WE WERE A SMALL GOLF COURSE. THEN WHEN IT MOVED, A FEW MEMBERS ASKED BETHLEHEM TO USE THE GROUN FOR A YACHT CLUB. THE AGREED & TO THIS DAY WE ARE A THRIVING CLUB. I AM ASK FOR THE NORTH POINT CLUB & PLEASANT CLUB TO BE LEFT ALONE. PLEASE FIND ANOTHER LOCATION FOR THE DREDGE MATERIAL TO BE DUMPED. THANK YOU - CRAIG E ADAMS
ACTIVE MEMBER TREASURER NORTH POINT YACHT CLUB

You can also comment in the following ways:

Mail comments to: Maryland Department of the Environment, Tidal Wetlands Division - Suite 430, Attn: Matt Wallach
1800 Washington Boulevard, Baltimore, MD 21230

Email comments to: matthew.wallach@maryland.gov

US Army Corps of Engineers Responses to Public Comments

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Table C-2. Public Review of the Draft Environmental Impact Statement – Public Comments and US Army Corps of Engineers Responses

Item	Organization	Letter Date	Comment	Primary Topic	Response
1.	Turner Station Conservation Teams	3/21/2025	Turner Station, as a neighboring environmental justice community, has endured a long history of environmental challenges, including Chromium remediation at the Dundalk Marine Terminal, proximity to Grey's Landfill, and the ongoing Bear Creek Superfund site remediation. Given this history, we recognize the importance of ensuring that SPCT's development follows the highest environmental and public health standards. The Turner Station Conservation Teams (TSCT) supports the implementation of best management practices (BMPs) during the dredging and construction of the SPCT to protect our community and the surrounding environment. We respectfully submit the following recommendations to mitigate environmental and health risks associated with dredging, water quality, and flooding.	Community Impacts – Turner Station Conservation Teams is concerned about potential impacts associated with the construction of the proposed project and long-term impacts on local flooding. They provided a number of BMPs related to dredging, water quality, and flood risk mitigation.	The Draft EIS and Final EIS evaluated potential impacts to local flooding (see section 4.3.2). The Proposed Action in the Draft EIS included a dredged material containment facility (DMCF) in the Patapsco River; analysis of flood risk indicated that the construction of an offshore DMCF would have very minor and localized impacts. The Preferred Alternative in the Final EIS does not include an offshore DMCF in the river, only an upland DMCF on TPA property is now included. The Draft EIS also determined that development of the terminal and channel improvements would not impact the floodplain. The actions of the Preferred Alternative would not impact the floodplain.
2.	Lincoln Player	2/14/2025	While there was substantial information on dredging operations and material offloading, there was too little information on the effects of vessel traffic. I acknowledge that there was some information given about the possible effects of traffic, but I think it was altogether fragile in its wording. The EIS specifically says "The vessels will likely travel at speeds of no more than 10 knots" (616). Using the word "likely" shows that vessel speeds and traffic are little more than an afterthought to the effect on the ocean fauna, specifically fish and endangered species. I believe vessel traffic is an especially important issue because it is a long-term effect. I believe many of these long-term effects were not considered regarding water/vessel traffic.	Aquatic Resources – Inadequate analysis of vessel traffic on aquatic resources	The effects of vessels on marine species, including federally protected species, were evaluated and considered during consultation with the National Marine Fisheries Service (for fish and marine mammals). During construction, protective measures will be incorporated as required by federal permits and approvals to protect fish and marine mammals. Vessel traffic to the new container facility would comply with applicable laws and regulations. One such requirement for ocean-going vessels includes compliance with the NOAA Fisheries Right Whale Ship Strike Reduction Rule (50 CFR 224.105), which limits vessels greater than 65 ft to speeds less than 10 knots during migration and calving periods in the Mid-Atlantic Seasonal Management Area.
3.	Abigal Cole	2/15/2025	Since majority of the impact comes from the dredging of and then the storage of the dredged material, it would make sense to not just have one alternative which doesn't meet the goals of the project and one that requires such extensive dredging. I believe there needs to be a third alternative where project goals are met with reduced dredging performed.	Alternatives – Additional alternative needed with lesser dredging requirements	As noted in Section 2.1 of the Draft and Final EIS, dredging the channel is needed to provide safe access to the berthing area. The project cannot be constructed at this location without channel dredging. The footprint for the channel dredging was minimized to the extent possible (as discussed in Draft and Final EIS, see Chapter 2), through the use of the existing channel and through optimization using a ship simulator and input from the Maryland Pilots Association. The minimization of the footprint reduced/minimized the total quantity of dredged material to the extent possible. Numerous alternatives were evaluated throughout the NEPA process.
4.	Abigal Cole	2/15/2025	As part of this concern with dredging, there is not an inclusion on future environmental impact of the resettlement of soil material. There was no discussion of the direction of ocean currents or whether or not the substrate will resettle in undesirable ways preventing the smooth entrance of ships into the dock. If there is a possibility of this resettlement of substrate, what further environmental impact that would cause along with if there would need to be future need of dredging the area or not and what impact that might have. Another consideration I did not see is about the quality of the soil, it was made clear that the soil contains contaminants and that it would make the site that the soil is being removed from more healthy but will it not also make the sites they are moved to more dangerous for human and animal life? It is important to consider what impact the leaching of those contaminants in their new location may have.	Sediment – Impact analysis of future conditions from settling, potential leaching into water	Sediment to be dredged has undergone extensive testing as required by federal and state agencies to document the quality of the sediment. A sediment disposal plan has been developed and reviewed by the agencies. The plan identifies the proper placement of the sediment based on sediment quality. The Preferred Alternative does not include the development of an in-water DMCF. The onsite upland DMCF at the High Head Industrial Basin is designed to prevent potential contamination movement beyond the borders of the DMCF. Therefore, there will be no potential movement or leaching of the contaminants outside the DMCF. The existing Sparrows Point Channel does require periodic dredging for maintenance and that will continue in the future. The permits issued for the SPCT dredging will include future periodic maintenance dredging. TTT will test future maintenance material as required by the Right-of-Entry Application for placement at MPA facilities.

Item	Organization	Letter Date	Comment	Primary Topic	Response
5.	Sheltered Harbor Homeowners Association	02/12/2025	We are concerned by the prospect of increased rail activity in our neighborhood that will result from the proposed Tradepoint Atlantic Container Port. There are two main concerns; 1) Noise - Without an automated crossing, trains are required to blast their horns multiple times in a pattern several times when they are passing by. This can be throughout the night and day. It is already disruptive, so any increase in the activity will be even more so. 2) Safety - There is concern that the additional train traffic without an automated crossing gate could lead to accidents with cars and people crossing. We would like to ask that a portion of the container port project budget be directed to building an automated crossing or that CSX be required to install one at this location -with the added revenue to both entities from the increase in traffic from the port, this seems reasonable and as the area has become more residential in recent years and continues along that path, I think this is a common request.	Community Impacts – Impacts of increased rail traffic on community safety and noise	TPA operates a Class III, or “Short Line” railroad that is limited to TPA property. CSX collects train cars at an intermodal terminal on TPA property and then transports the train cars to their destination. The crossing in question is on the CSX rail line and is managed by CSX and also under the Maryland State Rail Plan (last updated in 2022). Neither the Corps nor TTT has authority to implement changes at this crossing. The applicant will work with CSX and the state to determine if improvements to the crossing can be made to address the concerns expressed.
6.	Chesapeake Bay Yacht Clubs Association	3/18/2025	While a good portion of the proposed mitigation by dredging is unremarkable in reference to two other locations which could be dredged without impact along Wharff road and at Cove Point, the last 5.5 or 6 acres approximately would wipe out, due to dredging for tidal water mitigation purposes, both yacht clubs and entirely as the proposal now stands. It is urged that sincere efforts with Tradepoint Atlantic be undertaken to avoid the destruction of these recreational, educational, social and historical yacht club organizations and which have been good stewards of their locations, now immediately next to a new and complementary county park on the waterfront just to the North of their campuses and, ironically, now located on some 22 acres of land only recently donated to public usage by Tradepoint Atlantic. It is hoped that alternative mitigation or other measures such as involving marine debris, oyster bars or waterfront improvement can be fashioned so as to help save these yacht clubs, together with whatever combination of waivers, exemptions, adjustments or accommodations can be brought into play. The goal here, and which has received substantial sympathy and support, is to afford administratively, regulatorily, or by program adjustment, such relief as may spare these two yacht clubs and their multi-generational memberships of recreational boaters the complete loss of their facilities. I am writing this letter to you in an effort to prevent the demise of both the North Point Yacht & Plesant Yacht Club. I have been a member of the North Point Yacht Club (NPYC) for Over 30 Years and an employee for Bethlehem Steel for 42 Years. I am well acquainted with the history of the Yacht Club. We have been in existence for 72 years. We have worked with the community whether its the local Volunteer Fire Dept training needs or establish the Wounded Warrior day (see Attachment) on the Bay and many other community needs. I am very disturbed that the NPYC faces extinction to accommodate the planned unloading facilities at Trade Point Atlantic. This demise of the club requires dismantling of the Yacht Club Facilities and excavating the area for the aforementioned reason. I am not a smart person, but to destroy the clubs for the above is ludicrous and ridiculous. Ther must be another way to accommodate Trade Point Atlantic yet preserve the Clubs.	Mitigation – Impacts to Yacht Clubs; concerned mitigation will cause adverse impacts to existing yacht clubs	The Preferred Alternative in the Final EIS no longer includes mitigation projects that would impact the local yacht clubs.

Item	Organization	Letter Date	Comment	Primary Topic	Response
7.	North Point Council	3/17/2025	North Point and Pleasant Yacht Clubs - The land on which these yacht clubs sit appears to be some of the only remaining natural land on Sparrows Point…. In 2025, Baltimore County dedicated a new waterfront park on an adjacent lot which has limited capacity for parking and recreational activities. Although currently being used by the 2 private yacht clubs, the existing land, with its proximity to the park, offers a unique opportunity to further serve the community which is starving for additional field and court acreage. Removal of this existing, mostly natural land mass, will be a great opportunity lost for a benefit to communities that endured the impacts of 20th century industry and that lack of regulatory oversight.	Mitigation – Alternate use suggested for North Point and Pleasant Yacht Clubs	The Preferred Alternative in the Final EIS no longer includes mitigation projects that would impact the local yacht clubs.
8.	North Point Council	3/17/2025	Southeast Peninsula - It is our understanding that the Southeast Peninsula was created long ago as a new boundary for future and continued open water dumping of slag and the creation of upland. Thankfully, this practice was halted and the Southeast Peninsula has remained as a reminder of past practices. An unintended and positive result of this land is that it created a breakwater offering protection to shore front homes located along Old Road Bay, the water to the East of the Sparrows Point Peninsula. Strong and sometimes devastating southwesterly storms annually affect this area. The protection afforded by the Southeast Peninsula is invaluable in minimizing the resulting damage to homeowners piers and property. Removal of this Peninsula could exacerbate future sea level impacts and the associated problems.	Mitigation – Southeast Peninsula – potential impacts to shoreline homes from changes to peninsula	The Preferred Alternative in the Final EIS no longer includes mitigation projects that would impact the local southeast peninsula.
9.	North Point Council	3/17/2025	Craighill Lighthouse Peninsula - This land appears to be natural and original to the Sparrows Point Peninsula. Before slag dumping had reached this southern shoreline, a range light and keepers home were constructed on this jut of land. The range light still exists. As with #1 above, the removal of land that existed as part of the historical farms should be carefully evaluated as not only colonial occupation but pre contact artifacts have been found elsewhere on the Sparrows Point Peninsula. We also think that any weather and wave protection that currently exists to the historic light should be enhanced and not lessened.	Mitigation – Craighill Lighthouse Peninsula – potential impacts to cultural resources	The Preferred Alternative in the Final EIS no longer includes mitigation projects that would impact the Craighill Lighthouse Peninsula.
10.	Terry Pusinsky	3/18/2025	But the high volume of noisy, lost trucks has become a nuisance, and a safety issue since 2015. The tractor trucks have disrupted the tranquility of our neighborhood. Currently, the neighbors, especially those on River Drive Road, Delmar Ave, Salisbury Ave., etc., (streets and houses close to exit 42) hear tractor trailers up shifting, down shifting, and using jake brakes. Additionally, the tractor trailers stop and park along North Point Blvd in the early morning hours, waiting for the “gates” to open at 7 a.m. They also stop and park, illegally, along the road for food, while blocking the view for commuters exiting the neighboring retailer. My request is that the State, SPCT, and or SHA be REQUIRED to install large (current sign at exit 42 is too small) signage that states Terminal - use Exit 43. (SPCT plan states that they anticipate trucks will use exit 43, but unless there is proper signage there may not be reduced truck traffic on North Point Blvd.). I believe this dedicated route for freight traffic entering and leaving the terminal ,and other warehouses on site, will help tremendously. It worked in the past; it can work in the future.	Traffic – Impacts of truck traffic in neighborhoods Request signage to reduce impacts	The applicant has designed the project to facilitate terminal truck traffic accessing interstate highways without using local neighborhood roads. The applicant does not have the authority to place signs on local roads or highways; the county and state have authority over sign placement.
11.	AJ Soares	3/19/2025	I am writing to express my strong support for nature-based solutions in the Chesapeake Bay. Specifically, I believe Algal Turf Scrubbers, Oyster Biohuts, Living Shorelines, and Community Monitoring would be greatly beneficial for the Sparrows Point Project.	Mitigation – Support for nature-based solutions	With the removal of the in-water DMCF from the Preferred Alternative in the Final EIS, federal mitigation is no longer required. Mitigation required by the state will be achieved by removal of derelict crab pots.

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12.	Andrew West	3/20/2025	Environmental improvements resulting from the proposed action are not acknowledged in DEIS. Contends that the Coal Pier DMCF and channel dredging provide environmental enhancements and should not require mitigation as these areas are currently degraded and the proposed action would improve the environment. Mitigation plan does not align w 33 CFR 420.4(r). Concerned that the DEIS does not evaluate impacts associated with the proposed mitigation plan as is required. Expresses concern about impacts of mitigation including loss of “virgin land” along Jones Creek and loss of two historical yacht clubs affecting over 200 boaters. Also concerned about loss of Craigshill Lighthouse Peninsula, noting this is also “virgin land”. Concerned about changes to Southeast Peninsula and impacts on surrounding shorelines. States that impacts of mitigation on environmental justice communities have not been evaluated.	Mitigation – Disagrees with mitigation requirements and plan; specific issues raised	With the removal of the in-water DMCF from the Preferred Alternative in the Final EIS, federal mitigation is no longer required. Mitigation required by the state will be achieved in consultation with the state but will not include the loss of the yacht clubs, the Craigshill Lighthouse Peninsula, or the Southeast Peninsula. Mitigation will be performed off site.
13.	Bill Winand	3/20/2025	I am in hopes we can save north point yacht club from being destroyed in this project being my family is from the area for 3 generations now and all watermen and love the area dearly and my grandfather was even a steel worker at Bethlehem steel. North Point Yacht Club dating back to 1951, it's been a long-standing resource for the local middle-class to take part in one of the most treasured Maryland traditions and passions. This club was founded by Bethlehem Steel workers, Samuel P. Kees, Harold Johnson, John Doebereiner, Rex Brown and Paul Lunger. These men decided to create a club where devoted watermen, fishermen and yachtsmen can come together. The displacement of the marina would entail an estimated 160 community members that will no longer have this ability. The boating community is a great way of finding a productive passion and these facilities at NPYC are a critical component to those that are working class. This particular land offers a safe haven for families and children to learn about the historic Maryland waterways and Bethlehem Steel's contributions to our community. While we're in favor of the TP Container Ship Yard and their proposed expansion, the North Point Yacht Club should not be demolished for dredging purposes.	Mitigation – Concern for North Point Yacht Club	With the removal of the in-water DMCF from the Preferred Alternative in the Final EIS, federal mitigation is no longer required, and the yacht clubs will not be impacted.

14.	Sandra Adams-Doyle	3/20/2025	Dredging: In many of the materials I've been looking at, they talk about Best Management Practices or BMP. On page 2 of SPCT Container Terminal Dredging Plan & Environmental Safeguards, there is a picture 'Example dredge barge.' This is a clamshell bucket. At a meeting of the North Point Peninsula Community, TPA showed a video of the type of dredge they are proposing to use called and 'Environment Bucket'. I was aghast at the amount of washout that came out of the supposedly encased bucket. And this is my fear – the leakage of the contaminated materials. Turbidity: On page 4 of the Safeguards brochure, it says "TPA studied the impact of dredging within the Sparrows Point Channel from prior dredge events and found that turbidity is fairly localized within TPA's shoreline and the Sparrows Point Channel." I QUESTION THE VALIDITY OF THIS DATA – 300 FT???? Will the washout from this dredging only travel 300 ft? How far will the microscopic toxins travel? How long will they stay? How will it impact the aquatic ecosystem? Will the surrounding water be safe to swim in? Will residual sediment travel to our back streams and coves? Contaminants: Last summer, two metal signs washed up on our property – one in English, the other in Spanish. I followed the QR codes to the MDE Fish Consumption Advisory website. And what I found was alarming. For the area around Sparrows Point, which identified as 'Patapsco River/Baltimore Harbor', all fish contained either PCBs Polychlorinated biphenyls or PFOS Perfluorooctanesulfonic acids. I looked up PCBs on Environmental Protection Agency website: "PCBs do not readily break down once in the environment. They can remain for long periods cycling between air, water and soil. PCBs can be carried long distances and have been found in snow and sea water in areas far from where they were released into the environment." What is in the sediments that will be dredged? And how far will the disturbance of contaminants travel? According to Evaluation of Dredged Material for Upland Placement 1026 pages by TPA, TIL and EA and Evaluation of Dredged Material for Ocean Placement 1676 pages by TPA, TIL and EA: "Nine of the tested metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc) were detected". According to Army Corp of Engineers Special Public Notice NAB-2023-61200-M07 - Page 8, "Metals, PCBs, PAHs, SVOCs, chlorinated pesticides, and dioxin/furan congeners were detected most frequently in the sediments. Although contaminates are found, these sources suggest that they are not 'HAZARDOUS WASTE'???? The study conducted in 2011, Risk Assessment of the Area Offshore of Coke Point Site assessment found chemicals potentially related to the site in sediment and water: Metals, Benzene and PCBs and Polycyclic aromatic hydrocarbons (PAHs) from coke production. Taken from the EPA (Environment Protection Agency) website at: https://www.epa.gov/enforcement/marineprotection-research-and-sanctuaries-act-mprsa-and-federal-facilities. "The MPRSA bans the ocean disposal of certain harmful wastes, specifically, radiological, chemical, and biological warfare agents, high-level radioactive wastes, medical wastes, sewage sludge, and industrial wastes." Do you want to tell me that this dredging will make our water cleaner? Probably not in my lifetime. How long are we expected to endure?	Impacts from dredging and dredged material placement including turbidity and contaminants	DREDGING AND TURBIDITY: As noted in Section 2.1.2 of the Final EIS, both mechanical dredging and hydraulic dredging were considered during the SPCT design process. Hydraulic dredging uses suction and slurries the material for pumping through a pipeline to a direct offloading location or into a DMCF. Mechanical dredging uses a grab or clamshell-type bucket to manually capture sediment and lift it from the bottom through the water column to a barge or scow at the surface. Clamshell buckets vary in size, and some are designed as environmental-type buckets with special seals and enclosures to minimize and restrict release of sediment as the bucket is lifted to the surface. Operational controls and environmental-type buckets can be used effectively to minimize release of sediments during mechanical dredging operations. Mechanical dredging with use of an environmental bucket has shown to be effective for controlling turbidity and is commonly used within the dredging industry in areas with known contaminants. Organic contaminants, such as PCBs, pesticides, semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbon (PAHs), and dioxin/furans bind to sediment particles. Studies conducted by multiple entities have documented that fine-grained sediments resuspended from mechanical dredging operations settle within several hundred feet of the point of dredging. TPA has conducted monitoring of turbidity during maintenance dredging with an environmental bucket in the existing Sparrows Point Channel. The results of these studies indicated the highest turbidity was localized to the upper portion of the water column in the immediate vicinity of the dredge and dissipated to background concentrations at a distance of approximately 300 feet from the point of dredging. Based on results of plume studies and based on the low current velocity in the north channel/turning basin area (approximately 0.02 knots), any suspended sediments resulting from dredging in the north channel area would be expected to remain localized within the turning basin. CONTAMINANTS: MDE fish consumption advisories for the Patapsco River and Baltimore Harbor include PCBs and PFOS, both chemical classes that are persistent within the environment and are associated with past harbor-wide industrial uses. Historical use of the SPCT site and known contaminants in surface and subsurface sediments are discussed and acknowledged in Section 4.2 of the DEIS and FEIS. In addition, the technical approach and results of the comprehensive sediment evaluation for the SPCT north and south channel areas are summarized in the DEIS and FEIS Section 4.2. Prior to purchase by TPA, the MDOT MPA conducted due diligence / site assessment studies in the 2009 through 2011 timeframe with the intent to purchase the property for development of a DMCF. The due diligence / site assessment studies included an investigation of the distribution of contaminants in the upland soils and groundwater, as well as in the offshore sediments. The offshore investigations included both surface and sub-surface sediments, focused on the west side of the peninsula where the proposed DMCF would be located and also included sediments on the south side of the peninsula to assist with the identification of potential habitat improvement areas. The studies of offshore sediment identified elevated concentration of metals, semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). Generally, concentrations of contaminants were highest in the surficial sediments and decreased with depth below sediment surface and with distance from the peninsula shoreline. The chemical data for the surficial offshore sediments in combination with water quality, fish and crab tissue, benthic community, and clam and worm tissue bioaccumulation data were used for the preparation of an ecological and human health risk assessment. The results identified several offshore areas with

			REQUESTED ACTIONS: I. Provide an additional Risk Assessment by an independent engineering group. Considering EA Engineering has done environmental risk assessments of Sparrows Point in 2007, 2011, and 2024. It would make sense that an unaffiliated company be assigned to make analysis in comparison to the EA Engineering, Inc. findings. Should Dredging be Permitted: II. The most environmentally sound dredging equipment must be used. Regulatory requirements and potential environmental risks should guide the selection process -- hydraulic or suction dredgers. III. Dredge unit (DU) analysis should be conducted at regular intervals to determine contamination levels. Caustic levels of contamination need to be identified with halt option when violated. IV. Surface water monitoring in Old Road Bay and Bear Creek must be performed regularly throughout the entire project. If analysis suggests surface water concentrations are high, dredging must cease. V. Turbidity curtains MUST be used to decrease the potential for movement of suspended particles and to prevent contamination of adjacent waters.		impacted sediments on the west and south side of the peninsula contributing to elevated risk for human health and ecological receptors. It should be noted that the highest concentrations of contaminants identified in these studies were present on the west side of the peninsula – these contaminants are still present in the sediments, and they have not dissipated or disappeared. The SPCT channel dredging area is on the east and south side of the peninsula. Dredging will be conducted pursuant to an MDE approved Dredge Material Disposal and Best Management Practice Plan and an MDE approved Turbidity Monitoring Plan, as required by the Wetlands License. TTT conducted a comprehensive evaluation of the sediments in the proposed dredging areas in accordance with Sampling and Analysis Plans (SAPs) that were approved by regulatory agencies prior to the start of the investigations. The ocean placement SAP was approved by the USEPA and included 15 dredging units (separate distinct areas) in the southern portion of the channel that were tested in accordance with requirements under Section 103 of the Marine Protection Research and Sanctuaries Act (MPRSA). The upland placement SAP was approved by the MDE and the MPA and included a total of 28 dredging units (15 in the southern portion of the channel and 13 in the northern portion of the channel). A total of 97 locations (sample cores) throughout the channel dredging footprint were sampled. For each location, the entire core/column of material proposed for dredging (to a maximum elevation of -52 feet MLLW) was characterized with respect to physical and chemical attributes; ecotoxicological tests (water column toxicity, sediment toxicity, and bioaccumulation exposures) were also conducted for ocean placement for the 15 southern dredging units. Data for both the ocean and upland testing programs were posted on SPCT's website (https://www.spctmd.com/) and have been available for public review since October 2024 (ocean placement) and January 2025 (upland placement). In addition, TTT proactively presented the technical approach and results of the ocean and upland sediment evaluations to multiple community groups prior to the DEIS public hearings and during the DEIS comment period. Results of the ocean placement evaluation indicated that material from 14 of the 15 southern dredging units met the requirements for ocean placement under Section 103 of the MPRSA. These dredging units may not require the use of an environmental bucket, as the quality of the material is consistent with material that is maintenance dredged in the adjacent federal navigation channel (Brewerton Channel). Results of the upland placement evaluation indicated that five dredging units were classified as MDE Reuse Category 1 (Residential – Unrestricted Use), 21 dredging units were classified as Category 2 (Nonresidential – Restricted Use), and two dredging units were classified as Category 3 (Restricted Use – Cap Required). A human health risk evaluation was used to determine the MDE reuse classification for each dredging unit; this evaluation considered the dose, exposure pathway, and duration of exposures for chemicals that were present in the sediments in each dredging unit. Each of the 28 dredging units was also tested to determine if the materials exceeded the Toxicity Characteristic Leaching Procedure (TCLP) thresholds that are used to categorize material as Resource Conservation and Recovery Act (RCRA) hazardous waste as defined in 40 Code of Federal Regulations (CFR) 261.24. None of the material exceeded TCLP threshold concentrations (i.e., none of the dredge units are considered RCRA hazardous waste). Based on the MDE reuse classifications of the material and the results of the TCLP testing, the materials from each channel dredging unit are suitable for onsite or offsite upland placement. Additional comparisons of the channel sediment chemical data to the MPA's Baseline Control Limits (numerical screening values that have been established for the MPA's DMCFs) indicated that the chemical concentrations in the two dredging

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					units classified as MDE Reuse Category 3 were dissimilar to material previously placed at the MPA DMCFs; therefore, material from these two dredging units will not be placed at an MPA DMCF but will be placed in the High Head Industrial Basin DMCF on TPA property and will be capped by Category 1 or 2 materials within the DMCF.
15.	Sandra Adams-Doyle	3/20/2025	Coal Pier Channel DMCF According to the plans for the Coal Pier Channel DMCF, there is a 'Proposed Discharge Points of Compliance via Diffusers'. Does this mean that runoff from the DMCF with be discharged directly into the water? Who will monitor this discharge and the level of contamination? VI. Scheduled monitoring of the Coal Pier Channel DMCF discharge points.	Coal Pier Channel DMCF impacts on water quality	The Preferred Alternative in the Final EIS no longer includes the Coal Pier Channel DMCF so no impacts associated with it would occur.
16.	Sandra Adams-Doyle	3/20/2025	Open Water Mitigation: I disagree with all the proposed types of mitigation for open water restoration. I'm sure you have heard from others with concerns. Please note that I am adamantly opposed to the plans. This amounts to destruction of resources that are valuable to our community. VII. Mitigation for open water should be a community benefit – removal of derelict boats, crab pots, community dredging, etc.	Mitigation	With the removal of the in-water DMCF from the Preferred Alternative in the Final EIS, federal mitigation is no longer required. The proposed on-site mitigation is no longer necessary. No open water mitigation is planned.
17.	Sandra Adams-Doyle	3/20/2025	It frustrates me to see in every publication how much the community is going to benefit from SPCT! For example: Sparrows Point Container Terminal FAQs, on page 8: How does this project support our local community? "The terminal would create thousands of construction and operational jobs, boosting the local economy and providing career opportunities for residents. Additionally, it would generate $57 million in annual tax revenues that can fund vital projects for the community. Partnerships with local businesses and with local union laborers would facilitate workforce training programs to ensure the benefits are widely shared throughout the community." And, SPCT Impact Study page 16 "Local Stakeholders are key to success!" I see TPA, TIL and MSC benefiting extensively but what is the benefit to our community? We are a small town that tries to do right economically and environmentally. With SPCT, there seems to be the possibility of more harm than good.	Community benefits – how will local communities benefit from this project	Section 4.17 of the Final EIS documents projected job opportunities for construction and operation of the SPCT project, many of which are expected to be filled by people in nearby communities. Construction is expected to take just under 3 years to complete. During this period, about 1,090 job-years of employment are expected (Table 60 of the Final EIS) with labor income of about $80 million and industry output of about $203 million (Table 61 of the Final EIS). This is equivalent to about 364 average annual jobs over the 3 years. The average annual salary of all jobs would be about $74,000 and about $2.9 million in county and $6.2 million in state tax revenues are expected. Operation of the SPCT project would also generate new jobs (See Section 4.17 of the Final EIS). About 800 direct jobs on the terminal and about 250 direct office jobs are anticipated, generating an additional 540 indirect and induced jobs in the local region. The terminal operations jobs would generate about $102 million in labor income and $194 million in industry output annually. Average annual salary for all jobs would be about $61,000 and these jobs would generate more than $3 million in annual county tax revenue and about $6.2 million in annual state tax revenues.

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18.	Sandra Adams-Doyle	3/20/2025	TRAFFIC: Twenty Foot Equivalent Units (TEUs). It seems to me that the whole issue with increased traffic is rather inconsistent. In the promotional brochure Sparrows Point Container Terminal FAQs, on page 10: “Recent traffic studies indicate that the SPCT terminal activities would generate 3,814 daily trips on Bethlehem Blvd. North and West. At full terminal capacity, peak hour travel would increase by about 517 vehicles in the morning and 517 in the evening rush hour periods. This is at or below expected traffic if Coke Point Peninsula were built entirely as distribution centers.” Then on page 11: “This equates to about 571 trucks per day at the start of operations in 2028 with volume expected to level out at around 1,500 trucks per day in 2038 as the terminal reaches full capacity” However, according to the Economic Impact Study by Infrata, on page 13, the terminal will ultimately process 2,000,000 TEUs annually. 2,000,000 TEUs X 70% by truck = 1,400,000 TEUs / 365 days = 3,836 TEUs per day on the road. There is much discrepancy between these publications. Is it an extra 1,034 at rush hour? Is it 1,500 TEUs per day or 3,836? I wanted to find out what the traffic at other ports looked like and found this: https://www.connectsavannah.com/community/busier-than-ever-the-port-of-savannah-brings-the-world-to-ourshores-21994859. “The Port of Savannah in Georgia moves about 14,000 containers by truck on an average weekday.” So really, what is the expected volume of tractor trailers on our roads? Who determines whether the highway infrastructure can handle the additional traffic from SPCT? The impact of Trade Point Atlantic on the local community traffic has been unreal. And to think that we could potentially increase the capacity by close to 4K tractor trailers? Wrong Turns: There is much confusion with tractor trailer traffic in the local community. Frequently, truck drivers confuse N. Point Blvd with N. Point Road and end up in Edgemere with no way to turn their truck around. Their huge trucks have gone down small residential roads with no outlet. This is a huge safety issue. REQUESTED ACTIONS: I. A traffic analysis by the MDOT to determine the capacity of existing infrastructure to support the increased volume of TEUs projected with SPCT. II. Trade Point Atlantic should be issued its own zip code, something other than 21219.	Traffic impacts on local communities	The applicant has designed the project to facilitate terminal truck traffic accessing interstate highways without using local neighborhood roads. The applicant does not have the authority to place signs on local roads or highways; the county and state have authority over sign placement.

19.	Russell Donnelly	Letter dated 1/2/2025; received by USACE via email 3/30/2025	What raises our communities resistance ire; is the fact that TPA is presenting their Project and stating to the People; that the sediment being targeted in the Sparrows Point Ore Pier Inlet is virtually, mostly CLEAN with NO Hazardous or Toxic Wastes; with a few mildly contaminated sites!!! The Sediment surrounding the entire Sparrows Point Peninsula is Documented and Determined; over the last 50 years; by ALL FEDERAL, STATE, and LOCAL Agencies; including MDE, EPA, and USACE as: EPA Resource Conservation Recovery Act (RCRA) High Priority Contaminated; and; United States Army Corps of Engineers (USACE) Hazardous, Toxic, Radioactive Waste (HTRW, DMMP 2005). Any and all, Major Dredging Proposals have been DENIED by all Agencies over the last 34 years. This Sparrows Point Peninsula is also Registered by all Agencies as a MD-303-D Severely Impaired Zone. To Date; there are thousands of analytical data held by every Agency; over the last 37 years (we have copies and validation) which unimpeachably illustrate by concentration levels and CDC ATSDR validating that the sediment surrounding Sparrows Point Peninsula is undeniably anything BUT CLEAN !!I TPA; as of December I0, 2024; in a private committee; has stated that based on one new Geotechnical Chemical Sediment Analysis; that the sediment in their target dredge site is predominately CLEAN; with some minor contamination spots. TPA did not release the analytical analysis data for this TPA Claim until the day after the Draft EIS Review and Determination PUBLIC HEARING; held on Monday, February 25, 2025 !!! A single Report from TPA flies in the face of; and; contradicts 42+ years of unimpeachable scientific analyses; data; and legal determinations by all Federal; State; and Local Agencies and all Major Courts on Environmental Record; which clearly shows proven, veritas vetting that the entire Sparrows Point Peninsula is surrounded offshore by Hazardous, Toxic; and Heavy Metal Waste; which was pumped out in the open water via 191 outfall pipes surrounding the entire circumference; without control; over 120 years of steelmaking; until the onset of our Coastal Zone Management Act (CZMA) around 1992 for Pre-Treatment. Further; with no dredging ever occurring over the last 34 years at Sparrows Point Peninsula; How can TPA state that RCRA High Priority Contamination (EPA)/ HTRW (USACE) SUDDENLY DISAPPEARED from Sparrows Point Peninsula without removal?	Sediment Quality – Indicates that results of studies performed by TTT for the dredging of the channel are not comparable to or consistent with results of other past studies. Concerns that new data were not made available to the public. Concerns regarding environmental impacts from dredging.	Historical use of the site and known contaminants in surface and subsurface sediments are discussed and acknowledged in Section 4.2 of the DEIS and FEIS. In addition, the technical approach and results of the comprehensive sediment evaluation for the SPCT north and south channel areas are summarized in the DEIS and FEIS Section 4.2. Prior to purchase by TPA, the MDOT MPA conducted due diligence / site assessment studies in the 2009 through 2011 timeframe with the intent to purchase the property for development of a DMCF that would utilize existing upland area and extend offshore of the west side of the Coke Point peninsula. The due diligence / site assessment studies included an investigation of the distribution of contaminants in the upland soils and groundwater, as well as in the offshore sediments. The offshore investigations included both surface and sub-surface sediments, focused on the west side of the peninsula where the proposed DMCF would be located and also included sediments on the south side of the peninsula to assist with the identification of potential habitat improvement areas. The studies of offshore sediment identified elevated concentration of metals, semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). Generally, concentrations of contaminants were highest in the surficial sediments and decreased with depth below sediment surface and with distance from the peninsula shoreline. The chemical data for the surficial offshore sediments in combination with water quality, fish and crab tissue, benthic community, and clam and worm tissue bioaccumulation data were used for the preparation of an ecological and human health risk assessment. The results identified several offshore areas with impacted sediments on the west and south side of the peninsula contributing to elevated risk for human health and ecological receptors. It should be noted that the highest concentrations of contaminants identified in these studies were present on the west side of the peninsula – these contaminants are still present in the sediments, and they have not dissipated or disappeared. The SPCT channel dredging area is on the east and south side of the peninsula. The journal article provided with this comment evaluates sediment locations that are remote from the SPCT channel footprint. TTT conducted a comprehensive evaluation of the sediments in the proposed dredging areas in accordance with Sampling and Analysis Plans (SAPs) that were approved by regulatory agencies prior to the start of the investigations. The ocean placement SAP was approved by the USEPA and included 15 dredging units (separate distinct areas) in the southern portion of the channel that were tested in accordance with requirements under Section 103 of the Marine Protection Research and Sanctuaries Act (MPRSA). The upland placement SAP was approved by the MDE and the MPA and included a total of 28 dredging units (15 in the southern portion of the channel and 13 in the northern portion of the channel). A total of 97 locations (sample cores) throughout the channel dredging footprint were sampled. For each location, the entire core/column of material proposed for dredging (to a maximum elevation of -52 feet MLLW) was characterized with respect to physical and chemical attributes; ecotoxicological tests (water column toxicity, sediment toxicity, and bioaccumulation exposures) were also conducted for ocean placement for the 15 southern dredging units. Data for both the ocean and upland testing programs were posted on SPCT's website (https://www.spctmd.com/) and have been available for public review since October 2024 (ocean placement) and January 2025 (upland placement). In addition, TTT proactively presented the technical approach and results of the ocean and upland sediment evaluations to multiple community groups prior to the DEIS public hearings and during the DEIS comment period. Results of the ocean placement evaluation indicated that material from 14 of the 15 southern dredging units met the requirements for ocean placement under Section 103 of the MPRSA. These dredging units may not require the use of an environmental bucket,

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					as the quality of the material is consistent with material that is maintenance dredged in the adjacent federal navigation channel (Brewerton Channel). Results of the upland placement evaluation indicated that five dredging units were classified as MDE Reuse Category 1 (Residential – Unrestricted Use), 21 dredging units were classified as Category 2 (Nonresidential – Restricted Use), and two dredging units were classified as Category 3 (Restricted Use – Cap Required). A human health risk evaluation was used to determine the MDE reuse classification for each dredging unit; this evaluation considered the dose, exposure pathway, and duration of exposures for chemicals that were present in the sediments in each dredging unit. Each of the 28 dredging units was also tested to determine if the materials exceeded the Toxicity Characteristic Leaching Procedure (TCLP) thresholds that are used to categorize material as Resource Conservation and Recovery Act (RCRA) hazardous waste as defined in 40 Code of Federal Regulations (CFR) 261.24. None of the material exceeded TCLP threshold concentrations (i.e., none of the dredge units are considered RCRA hazardous waste). Based on the MDE reuse classifications of the material and the results of the TCLP testing, the materials from each channel dredging unit are suitable for onsite or offsite upland placement. Additional comparisons of the channel sediment chemical data to the MPA's Baseline Control Limits (numerical screening values that have been established for the MPA's DMCFs) indicated that the chemical concentrations in the two dredging units classified as MDE Reuse Category 3 were dissimilar to material previously placed at the MPA DMCFs; therefore, material from these two dredging units will not be placed at an MPA DMCF but will be placed in the High Head Industrial Basin DMCF on TPA property and will be capped by Category 1 or 2 materials within the DMCF.
20.	Russell Donnelly	Letter dated 1/2/2025; received by USACE via email 3/30/2025	This Communication is a request for IMMEDIATE ACTION from all Agencies, NGOs, Government and all Interested Parties who hold the ongoing continued Recovery of our Beloved Chesapeake Bay Watershed in their minds and hearts. The specific focus in this Matter is the Health and Safety of ALL LIFE in the Upper Chesapeake Bay and Patapsco River Basin. This Matter addresses the proposed 4.2 million cubic yard Dredge Project proposed by TPA. Their proposed Dredge Methodology would employ Clam Shell Buckets and Barges to handle this mass Dredge volume; this volume will be removed in an area that is 0.2 square miles. In comparison; the entire Annual Dredging of the Patapsco River Basin is 1.25 million cubic yards across 9 miles in the Basin. Thus, the single TPA Dredge Project exceeds a full 3 Dredgings of our Patapsco River Basin.	Dredged Material Volume – Concern that the volume of material to be dredged to deepen the channel is three times the annual volume for the harbor/Patapsco River.	As noted in Section 2.1 of the Draft and Final EIS, dredging the channel is needed to provide safe access to the berthing area. The project cannot be constructed at this location without channel dredging. The footprint for the channel dredging was minimized to the extent possible (as discussed in Draft and Final EIS, see Chapter 2), through the use of the existing channel and through optimization using a ship simulator and input from the Maryland Pilots Association. The minimization of the footprint reduced/minimized the total quantity of dredged material to the extent possible.

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21.	Russell Donnelly	Letter dated 1/2/2025; received by USACE via email 3/30/2025	Construct a Containment at the High Head Transfer Pond; (wherein the Steel Manufacturers imported up to 183 million gallons per day of water to and from Back River Waste Water Treatment Plant in Baltimore County. This operation is now shut down. TPA is choosing to use this Site for the Dredge Deposition Site; however, they are leaning towards cutting corners and reducing construction expenditures to meet their contractual timeline of at least 1 active Berth by the Close of Spring 2028). The appropriate re-enforced containment would be constructed up to a Height of 90 feet above sea level and infused throughout with EPOXY RESIN POLYMER which will chemically and atomically bind all hazardous; toxic; and heavy metal waste at the valence level; effectively fusing and binding all the sins of our steel making forefathers; frozen in place; for at least 2,000 years. Further; there is a new powdered Epoxy Resin Polymer; which can be added to the sediment waste stream at the entry point into the containment; which separates the hazardous, toxic, and heavy metal waste out of the 70/30 slurry and settles all contaminants to the bottom.	High Head Industrial Basin DMCF – Provides support for placement of material in High Head Industrial Basin; requests that dike be constructed to 90 ft and that placed material be amended with epoxy resin polymer.	As currently planned and described in the Final EIS (Section 2.2.4), the High Head Industrial Basin DMCF under the Preferred Alternative will have a capacity for approximately 1.7 million cubic yards (mcy) of the material dredged from the channel, and the dikes will be approximately 30 ft high above existing grade. This design dike height will safely support material placement, dewatering, and consolidation of dredged material and will provide sufficient freeboard capacity for holding water as needed during dredged material inflow and settling. The DMCF requires a Dam Safety Permit from the MDE. The dike design is undergoing review and approval by the MDE Dam Safety Program to ensure that the structure (including the design height) will perform for its intended use and will comply with all safety requirements to ensure that the dikes do not fail under certain conditions. The 30 ft dike height is lower than 50 ft height of surrounding and adjacent buildings. While a higher dike height could potentially provide more dredged material placement capacity, a higher dike would negatively impact the viewshed in the immediate area, would require substantially wider slopes (which reduces the internal capacity), and would potentially not provide the stability required to meet dam safety requirements. The High Head Industrial Basin DMCF will be constructed with a berm that runs the entire circumference of the existing basin. The design criteria include the following: • An impermeable subgrade slurry wall. The slurry wall will be embedded into a lean clay strata. • An impermeable clay core located at the center of the embankment berm. The clay core will be embedded into the slurry wall to provide a continuous watertight system. This containment system would be impermeable. TTT is currently evaluating the expected permeability of the dredged material following placement and consolidation in the onsite DMCF. Laboratory permeability test results show the dredged material permeability to be 1 x 10-8 cm/sec. Once consolidated, this material will limit vertical and lateral movement of aqueous media within the DMCF. The High Head Industrial Basin DMCF will receive all categories of material generated during the container terminal project. The DMCF will be capped once filled. Given the slurry wall, clay core, and relative impermeability of the dredged material, the addition of epoxy resin polymer is not necessary. Moreover, the addition of epoxy resin at this scale could produce separate environmental effects, as application of resins can potentially generate heat and gases. Polymers can facilitate settling of particulates. The use of polymers to enhance or increase the rate of dredged material settling is not currently planned for the High Head Industrial Basin DMCF. Polymer addition, application, and distribution for large volumes of dredged material can be logistically challenging with suboptimal results. Based on results of column settling tests conducted for the dredged material, it is anticipated that natural settling of the material will be sufficient for de-watering in the DMCF.

22.	Russell Donnelly	Letter dated 1/2/2025; received by USACE via email 3/30/2025	The actual dredging of the Ore Pier Inlet must be undertaken with a straight Hydraulic Suction Dredge; with the appropriate high pressure pump(s); which would be sent directly to the High Head Containment via a 36 inch constructed continuous pipeline; overland across the Sparrows Point Peninsula.	Hydraulic Dredging–Requests that dredging be conducted via hydraulic pipeline dredging; concern related to resuspension of sediment and contaminants from mechanical dredging.	As noted in Section 2.1.2 of the Final EIS, both mechanical dredging and hydraulic dredging were considered during the SPCT design process. Hydraulic dredging uses suction and slurries the material for pumping through a pipeline to a direct offloading location or into a DMCF. Mechanical dredging uses a grab or clamshell-type bucket to manually capture sediment and lift it from the bottom through the water column to a barge or scow at the surface. Clamshell buckets vary in size, and some are designed as environmental-type buckets with special seals and enclosures to minimize and restrict release of sediment as the bucket is lifted to the surface. The barges/scows can be offloaded either manually/mechanically with a bucket or hydraulically by slurrying of the material with water to pump into a DMCF. Hydraulic dredging would require approximately 20 times more water to slurry the material to pump through a pipeline than would be needed to slurry material for hydraulic offloading from barges and scows. Therefore, hydraulic dredging would require substantially more DMCF placement capacity for successful dewatering operations and for storage and management of decanted water. The dewatering and material consolidation process in the DMCF would also require more time. For mechanical dredging, slurry water for offloading of barges and scows would be recirculated from the DMCF back to the offloading operation, resulting in the need for less water intake volume from the river. Hydraulic dredging does not allow for the recirculation and reuse of the water from within the DMCF for slurry water/pumping and therefore requires DMCF containment capacity of approximately three times higher than the design capacity of the High Head Industrial Basin DMCF. The required DMCF capacity, the increased settling and consolidation time for the sediments in the DMCF, and the volume of water requiring management (and subsequent effluent discharge) precludes the use of hydraulic dredging for this project. Operational controls and environmental-type buckets can be used to effectively to minimize release of sediments during mechanical dredging operations. Mechanical dredging with use of an environmental bucket has shown to be effective for controlling turbidity and is commonly used within the dredging industry in areas with known contaminants. Studies conducted by multiple entities have documented that fine-grained sediments resuspended from mechanical dredging operations settle within several hundred feet of the point of dredging. TPA has conducted monitoring of turbidity during maintenance dredging with an environmental bucket in the existing Sparrows Point Channel. The results of these studies indicated the highest turbidity was localized to the upper portion of the water column in the immediate vicinity of the dredge and dissipated to background concentrations at a distance of approximately 300 feet from the point of dredging. Based on results of plume studies and based on the low current velocity in the north channel/turning basin area (approximately 0.02 knots), any suspended sediments resulting from dredging in the north channel area would be expected to remain localized within the turning basin. The northern portion of the channel is located within the turning basin. The turning basin acts as a confined space for a turbidity plume; the confined space contains and restricts movement of the plume. Many studies have documented the behavior and movement of Total Suspended Solids (TSS) and turbidity associated with clamshell dredging operations. National Marine Fisheries Service has estimated TSS concentrations associated with mechanical dredging of fine-grained material to be several hundred milligrams per liter (mg/L) above background near the bucket (point of dredging), with rapid settlement within a 2,400-foot radius of the dredge location. Dredge point monitoring studies of clamshell dredging in the Baltimore Harbor by the US Army Corps of Engineers (USACE) indicated that TSS concentrations were similar to background concentrations within approximately 240 feet from the point of dredging. Studies

Item	Organization	Letter Date	Comment	Primary Topic	Response
					conducted by the USACE for dredging activities in Newark Bay and the Kill Van Kull indicated that turbidity plumes in the upper water column reached background levels within 600 feet of the point of dredging. The MDE regulation COMAR 26.24.02.06 provides a presumptive safe dredging distance of 1,500 feet from shellfish areas during seasonal prohibition periods. Each of these studies provides weight-of-evidence that the movement of suspended sediment from mechanical dredging operations in the south portion of the Sparrows Point Channel would be limited to a maximum of 0.5 miles from the point of dredging. This distance is located within the roughly two-mile extent of the southern shoreline of Sparrows Point and is far removed from the nearest residential properties that are located several miles away.
23.	Russell Donnelly	Letter dated 1/2/2025; received by USACE via email 3/30/2025	The effluent water from the containment would be filtered at site with a mobile tertiary level water filtration system (the types used by FEMA; USACE; ETC during and following major hurricanes and flooding situations. Finally, the treated wastewater could then be released into the Tin Mill Canal; where it would travel the 7200 feet to the Humphrey's Creek Wastewater Treatment Facility. After completion of this process; all contamination is removed and the water from the wastewater plant would enter into the Bear Creek Tributary; cleaner than the final receiving waters in the Creek.	Water Treatment for Dredged Material De-Watering – Requests that decant water in the High Head Industrial Basin receive tertiary treatment, followed by transport via Tin Mill Canal to Humphrey's Creek Waste Water Treatment Plant for final treatment prior to discharge to Bear Creek.	As discussed in Section 4.6.2.3 of the Final EIS, dewatering of the dredged material would be required for drying and consolidation of the material in the High Head Industrial Basin DMCF. Following settling and separation of solids, the overlying water (or effluent) would be pumped westward via pipe or conveyance system to discharge through a permitted outfall in Bear Creek. The effluent from the DMCF will not be released through the Tin Mill Canal; only stormwater is permitted to discharge through the canal. Chemical data for modified elutriates created using the channel sediments indicated that the majority of chemical constituents predicted in effluent would be bound to sediment particles, and the concentrations of most constituents detected in the effluent would not be expected to exceed the existing maximum daily discharge limits stipulated in TPA's sitewide NPDES permit. Additional settlement or treatment at the existing on-site wastewater treatment plant would address constituents detected in the effluent that could exceed the maximum daily discharge limits stipulated in TPA's sitewide NPDES permit. It is anticipated that a new temporary outfall with a multiport diffuser would be required off the west side of the shipyard for the discharges from the High Head Industrial Basin DMCF. The leader pipe to the new temporary outfall would be routed over land to the west side of the shipyard, and the feeder line would extend offshore / channelward approximately 500 feet from the shoreline. The temporary diffuser system would be south of and outside the footprint of the Bear Creek Superfund Site. The diffuser system would only be operational for the duration of active dewatering and consolidation of dredged material at the High Head Industrial Basin DMCF. The existing NPDES permit would be modified as necessary through the MDE Wastewater Pollution Prevention and Reclamation Program, and the quantity and quality of the discharge would be subject to the conditions of the permit.

Item	Organization	Letter Date	Comment	Primary Topic	Response
24.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	Blue Water Baltimore and the Chesapeake Bay Foundation are disappointed to see that the preferred alternative for dredged material management for this project has shifted from the proposed 100-acre offshore dredged material containment facility (DMCF) at Coke Point as described at public meetings for the Notice of Intent to conduct the Environmental Impact Assessment for the Sparrows Point Container Terminal last year. See DEIS at 10-12. This option would have benefitted water quality around Sparrows Point and beyond, due to both capping of legacy contamination in river sediments and preserving capacity for dredged material containment at state facilities in the Baltimore Harbor.	Alternatives	Please see page 12 of the Draft EIS. "The applicant's original proposed action was a new offshore 100-acre DMCF designed with a capacity of for the entire project in the Patapsco River on the west side of Coke Point. This DMCF was originally identified as the proposed action for several reasons — it would provide a single solution for dredged material placement and the proximity to the dredging location would reduce impacts and costs associated with transporting dredged material to other approved DMCFs. This option would also serve to cap existing impacted offshore sediment and serve as a final remedy for the impacted sediment within the footprint of the DMCF. The impacts of the 100-acre DMCF on resources within and near the project area were analyzed. The 100-acre DMCF would result in a permanent loss of 100 acres of tidal waters and bottom habitat. All benthic organisms, which can serve as important prey to fish species, within the 100-acre footprint would be lost. The loss of benthic organisms and permanent removal of 100 acres of bottom habitat would impact the local fish community, including federally listed sturgeon species. Construction of the dike would displace fish for the duration of construction, approximately 2 years. The 100-acre DMCF would also impact the viewshed for nearby communities and recreation opportunities and experiences for boaters on the Patapsco River. These impacts would be minimal but noticeable. Although the proposed 100-acre DMCF was deemed technically feasible and safe, a DMCF with three perimeter sides in the main stem of the river would have stringent maintenance and management requirements. Any proposed dike would be required to be reviewed, approved, and periodically inspected by MDE's Dam Safety Program." Because other alternatives that would have a lesser impact on resources were determined to be feasible, this alternative was dismissed from detailed analysis. This matter is further discussed in the Final EIS. With respect to capping legacy contaminated sediments, the agencies acknowledged the benefits of capping. However, the agencies noted that the habitat loss associated with the 100-acre DMCF would represent a bigger impact on aquatic habitat than the benefits derived from capping the contaminated sediments.

Item	Organization	Letter Date	Comment	Primary Topic	Response
25.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	For context, in 2001, the Maryland General Assembly passed the Dredged Material Management Act (DMMA). The act mandated a 20-year dredged material management plan for the State. To meet the requirements of the act, the State's Dredged Material Management Program (DMMP) was created, and the Harbor Team was established as part of the DMMP in 2003. Since that time, the Maryland Port Administration (MPA) has expended remarkable time and resources to identify viable placement options for material dredged from Baltimore Harbor, which constitutes material that is dredged west of the Rock Point-North Point line. In 2003, the Harbor Team developed a slate of recommendations for the State of Maryland regarding dredged material placement and reuse of harbor materials, including (1) renovation of the Cox Creek DMCF; (2) study of new DMCFs at Masonville, BP/Fairfield and the Coke Point Peninsula of Sparrows Point; and (3) study of innovative reuses of dredged material. The Cox Creek and Masonville DMCF options later came to fruition, while the BP/Fairfield DMCF was ultimately deemed to be infeasible. While MPA is still exploring innovative reuses of dredged material, this leaves a massive gap in containment capacity that was always meant to be filled by the Coke Point DMCF. As is reflected in both the 2011 Harbor Team Report and MPA's 2019 DMMP Annual Report, a state-operated DMCF at Coke Point is still the most suitable solution for the Port's outstanding dredged material needs. The proposed facility was expected to provide additional storage capacity for material from federally maintained shipping channels to the benefit of all Port users, and importantly, it would have capped toxic sediments in Bear Creek, minimizing future environmental risks. Existing state-operated DMCFs at Masonville Cove and Cox Creek provide critical dredged material dewatering and storage while protecting water quality and enhancing adjacent natural areas, including increasing public access.	Alternatives	Comment noted. Although a DMCF at Coke Point was previously considered by the MPA during the 2000-2010 timeframe, the Sparrows Point property was not purchased by the MPA. TTT does not intend to construct and operate a DMCF to be used by multiple entities within the Port of Baltimore. The use of an existing MPA DMCF for placement of a portion of the material from the SPCT project has been approved by the MPA following careful consideration of the existing capacity, facility operations, and future capacity needs for federal and state projects.
26.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	The Chesapeake Bay Foundation and Blue Water Baltimore see the 100-acre offshore Coke Point DMCF option at Sparrows Point Container Terminal as a "win- win" on several levels. First, it would stand in for the MPA-managed DMCF on Coke Point planned back in 2003, albeit as a private facility, and alleviate capacity "pinch points" for material from the federally maintained shipping channels in the Port. Without the onshore Coke Point facility, MPA has been forced to pursue alternative dredge material management possibilities; commenters have concerns about the environmental impacts of those practices. One proposed plan for additional capacity, confined aquatic disposal (CAD), could result in significant disturbances to sections of the Patapsco River bottom on a recurring basis and have been subject to limited study in Maryland.	Alternatives	Please see the previous response explaining why this alternative was dismissed from detailed analysis. Furthermore, the purpose of the dredged material placement options is to provide a place for dredged material generated by the SPCT channel improvements. This project is not intended to develop a dredged material management facility for use by other parties.
27.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	Second, the offshore DMCF would cap a large area of toxic sediments that lay at the bottom of Bear Creek and the Patapsco River, a legacy of the steelmaking industry at Sparrows Point. Toxicity testing commissioned by CBF in 2015 clearly demonstrates that the most highly contaminated sediments persist at the Tin Mill Canal Outfall, designated as the Bear Creek Sediments Superfund site. However, harmful levels of contaminants including PAHs and various metals have been carried beyond this origin point. We understand federal agencies have requested that open water taking be minimized, but we feel that the capping of these sediments would result in net-positive impacts to the overall ecosystem.	Alternatives	Please see the previous response explaining why this alternative was dismissed from detailed analysis. NOAA determined that taking of open water would have a permanent impact on EFH. Throughout the NEPA process, the Corps has stressed the need to minimize or avoid impacts on tidal waters.

Item	Organization	Letter Date	Comment	Primary Topic	Response
28.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	If, indeed, the 100-acre offshore DMCF is technically infeasible, there are benefits to the option including a 35-acre offshore DMCF encompassing the Coal Pier Channel and some of the adjacent tidal waters. It strikes a balance between the original 100-acre proposed structure and the current 19-acre design and would provide additional capacity for on-site dredged material management. According to Table 1 in Section 2.1.1.1 of the draft EIS, the 35-acre offshore DMCF would have held 1.0 MCY. Combined with the 1.57 MCY placed at the Norfolk Ocean Disposal Site and the 1.2 to 1.7 MCY available at the High Head Industrial Basin DMCF, capacity would very nearly meet or potentially exceed the estimated 4.2 MCY of storage required for terminal construction, minimizing impact on MPA's storage capacity.	Alternatives	Please see pages 12 and 13 of the Draft EIS. "TTT considered several options for the offshore DMCF element: a 35-acre DMCF and two smaller offshore DMCFs. The 35-acre DMCF with perimeter dike would encompass Coal Pier Channel and additional adjacent tidal WOTUS... An important consideration to determine the needed capacity of the offshore DMCF was determining the volume of dredged material that could be placed at NODS or an MPA facility. An extensive effort was implemented to collect and analyze sediment data to make this determination. The results of sediment data collection and analysis were shared with regulatory agencies for their evaluation. The agency consultation confirmed that significant volumes of dredged material could be placed at NODS and an MPA facility. Based on the analyses of the sediment data and evaluation of the volume of dredged material that could be placed at the MPA facilities, NODS and the High Head Industrial Basin DMCF, the applicant determined that the size of the offshore DMCF could be reduced even further to reduce the impacts on WOTUS. TTT further determined that the full capacity of a 35-acre DMCF would not be needed and the offshore 35-acre DMCF was eliminated from further consideration."
29.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	Our secondary preference for this "middle ground" approach is informed by a long- term concern for Patapsco River ecosystems. In addition to alleviating pressure on the Port's DMCFs, slightly extending the Coal Pier Channel DMCF would have the added benefit of further capping legacy contaminated sediments adjacent to the peninsula, though not to the same extent as the 100-acre offshore DMCF option. As mentioned in the draft EIS, contaminated sediments also persist within the Coal Pier Channel itself and would be capped.	Alternatives	As noted above, the applicant worked to eliminate dredged material placement in tidal waters. Expanding the Coal Pier Channel DMCF would increase the impacts on tidal waters and resources.
30.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	In a similar vein, we understand TPA's concern regarding the height of the proposed upland DMCF at High Head Industrial Basin, and that public input has played a role in the decisions made to limit the final elevation to 32'. However, as described in section 4.13.2.3 of the draft EIS, "the site has limited visibility to sensitive viewers due to the existence of trees, buildings, trainyards, landfills, and other development that would block views". Buildings surrounding the existing basin are described as 50' in height, much taller than the proposed final crest height of the DMCF. Slightly increasing the height of the DMCF would alleviate pressure on other dredged material placement options while not contributing to a decrease in quality of viewshed surrounding Sparrows Point. The additional capacity given by slightly raising the dike walls surrounding the High Head DMCF would potentially allow TPA to manage a portion of its own maintenance dredging capacity needs, which are a new addition to the MPA's existing long-term dredge material management plan.	Alternatives	TTT did further investigate the expansion of capacity at the proposed High Head Industrial Basin DMCF. The Final EIS will include a new alternative that increases the height of this DMCF to +40 feet NAVD88, about 30 feet above the existing grade. This will increase the capacity sufficiently so that the Coal Pier Channel DMCF would not be needed. The Preferred Alternative in the Final EIS includes the High Head Industrial Basin DMCF with an expanded capacity and eliminates the need for the Coal Pier Channel DMCF.
31.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	As a final note on dredge material placement, we understand that the majority of dredge material placement from TPA to the Port DMCFs would take place early in the project sequence, as both the Coal Pier Channel and High Head locations require dredging prior to use as DMCFs. Given the timeline, should any material need to be placed at Port facilities, we suggest that the Port and TPA enter into a reciprocal agreement wherein additional capacity in the High Head or Coal Pier Channel DMCFs could be reserved for dredge material from the Port's navigation channels.	Alternatives	The use of an existing MPA DMCF for placement of a portion (1.25 MCY) of the material from the SPCT project has been approved by the MPA following careful consideration of the existing capacity, facility operations, and future capacity needs for federal and state projects. The High Head Industrial Basin DMCF is designed to accommodate only material from the SPCT project.

Item	Organization	Letter Date	Comment	Primary Topic	Response
32.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	CBF and BWB support the use of all potential Best Management Practices (BMPs) listed for use during construction. In addition to observing time-of-year restrictions, we wish to emphasize the importance of best practices for pile driving to minimize impacts on dolphins, migratory fish, and other aquatic life during installation of the over 1,400 piles. Minimizing sediment disturbance and transport through the use of environmental dredge methods and silt curtains will protect benthic organisms and vegetation from disturbance and sedimentation. In addition, we recommend in situ monitoring for underwater noise and turbidity during pile driving and construction activities, with accompanying standards for stop work orders if protective limits are exceeded.	Best Management Practices	The applicant is developing BMPSs in conjunction with the agencies and required BMPs will be included in the final permits.
33.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	Intake of surface water and effluent discharge from dredge material dewatering must be carefully managed to ensure minimal impacts on the Patapsco River, including appropriate screening to prevent fish entrainment. Maximize recycling of slurry water and treat discharge if necessary to maintain surface water quality. Strict adherence to all sediment and erosion control protocols and stormwater management permits must be enforced, and these practices must be engineered to reflect realistic rainfall intensity and volume (including the 13% multiplier from NOAA's MARISA tool, which is slated for inclusion in the next stormwater design manual promulgated by the Maryland Department of the Environment).	Best Management Practices	BMPs will be stipulated in the final federal and state permits. The applicant agrees and will maximize use of recycled water to the extent practicable
34.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	While partial electrification of the proposed terminal does lessen emissions as compared to a traditional, diesel-fueled port, we strongly suggest that the final plan for the Sparrows Point Container Terminal include full electrification of all facilities. The Chesapeake Bay Foundation has supported prior efforts by Tradepoint Atlantic to reach this goal, including submitting a letter of support for TPA's USEPA Clean Ports Program Grant application in May of 2024. Equipment such as stackers, handlers, terminal tractors, and on-site rail transport are all available in fully electric models. Solar panels and battery storage could serve as backup power generation, reducing or eliminating the need for diesel generators.	Alternatives / Air Quality	The applicant has included infrastructure in the design to support full electrification in the future. The current design includes substantial efforts to electrify the terminal, including ship-to-shore coverage. SPCT will be the only container terminal on the East Coast with ship-to-shore power when constructed, marking an important advance towards full electrification. Expansion of electrification in the future will occur when practicably feasible.
35.	Blue Water Baltimore and Chesapeake Bay Foundation	3/21/2025	Reducing greenhouse gas emissions from port activities not only reduces harmful air emissions impacting the health of workers on site and nearby residents, but also lessens nitrogen oxide emissions to the Patapsco River and the Chesapeake Bay and reduces contributions to climate change, which has already and continues to cause expensive and dangerous impacts to coastal and inland communities. Other co-benefits of full electrification include environmental justice, as nearby communities have long been overburdened with industrial emissions; reduction in noise pollution, which will impact the terminal's human and animal neighbors; and facilitating the growth of the renewable energy sector through corporate leadership.	Alternatives / Air Quality	Comment noted.

Notes:

Letters of support for the project were received from numerous organizations and individuals and are included in this appendix.

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Appendix D: Resources Not Subject to Detailed Consideration

APPENDIX D: RESOURCES NOT SUBJECT TO DETAILED CONSIDERATION

The following issues were initially considered but were ultimately dismissed from detailed analysis for the Sparrows Point Container Terminal (SPCT) project because they are not potentially significant, are not critical to choosing among alternatives, or are not subject to concern from the public or governmental agencies. Additionally, some of the US Army Corps of Engineers (Corps) Public Interest Review factors did not apply to the type of project being proposed and evaluated by this Draft Environmental Impact statement (EIS). Issues dismissed from detailed consideration are described below, including the reason(s) why further analysis was not warranted. “PI” indicates that a topic is one of the Corps’ public interest factors presented in Table 7 of the Final EIS.

Water Supply / Conservation (PI)

The proposed project does not include significant water consumption for construction or operation. The SPCT project area is served by municipal water, and water consumption needs for the proposed project would be provided by existing facilities. Therefore, further analysis is not needed.

Wetlands

All areas of the proposed project were surveyed for wetlands. A wetland delineation report was prepared (EA Engineering, Science, and Technology, Inc., PBC [EA] 2023), and an onsite review of the SPCT project area was completed on November 30, 2023, with representatives from the Corps and Maryland Department of the Environment. During this meeting, both agencies confirmed that there are no wetlands within the SPCT project area; therefore, further analysis is not needed.

Submerged Aquatic Vegetation

Existing information indicates that submerged aquatic vegetation (SAV) does not occur within the SPCT project area. The Virginia Institute of Marine Science (VIMS) plays a key role in mapping SAV in the Chesapeake Bay and surrounding areas. Although VIMS did not delineate SAV in their entire survey history in this area, some SAV has been documented in the lower portion of Bear Creek and Jones Creek, north of Old Road Bay (VIMS 2024). A presence / absence survey for SAV was conducted in the SPCT project area in June and August 2024. The survey included visual inspections, as well as sampling of SAV at the river bottom using a rake throw method. No SAV was identified at any of the sampling points with suitable habitat and water depth for SAV (EA 2024).

The majority of the shoreline in the SPCT project area is hardened with concrete, slag, and rock material with large rocks and gravel further away from the shoreline, which is unsuitable substrate to support SAV growth. The majority of the shoreline is exposed to heavy wave action, which would limit SAV establishment. The more protected areas along the shoreline include historic and current piers and berthing areas for ships and vessels; these areas typically have water depths greater than 12 feet, which are unsuitable for SAV (EA 2024). Based on site conditions, existing mapping, and the survey effort, the project area does not support SAV or suitable habitat for SAV; therefore, further analysis is not needed.

Cultural Resources

Tradepoint TiL Terminal, LLC (TTT) submitted a letter on July 27, 2023, to Maryland Historical Trust (MHT) providing information on the proposed project and requesting comments and available information. MHT responded on August 22, 2023, noting that they had determined that this undertaking would have no adverse effects on historic properties. During the Fixing America's Surface Transportation Act (FAST-41) kickoff meeting on November 8, 2023, MHT indicated that although the agency had made a determination for historic properties, no determination had been made for underwater archeological resources. In 2012 as part of the Maryland Port Authority's analysis of Sparrows Point as a potential DMCF, an underwater archeological survey— *Phase I Submerged Cultural Resources Investigation for the Coke Point Dredged Material Containment Facility at Sparrows Point, Baltimore, Maryland* (Goodwin 2012) — was completed. TTT provided this report to MHT by email on April 26, 2024. On June 3, 2024, MHT requested additional information, including a functioning link for the report, indicating that they had not received the report when it was first completed in 2012. TTT provided additional information to MHT on June 3, 2024, information provided included the 2012 Goodwin report and earlier letters sent to MHT providing background information on the proposed project, including a project description and map. On June 21, 2024, MHT responded by email, informing TTT that they had reviewed the report and determined that there were 8 locations identified in the vicinity of the proposed project that potentially contain cultural resources. MHT requested a map overlain of the proposed project area with the eight potential locations. TTT provided this map to MHT by email on July 12, 2024. After reviewing the map, MHT advised to TTT avoid these locations. If avoidance were not possible, MHT advised that additional surveys would be needed to assessed. The original proposed action, the 100-acre DMCF, would not have avoided these locations; the 35-acre DMCF was redesigned to avoid these eight locations. Separately, TTT decided to dismiss both the 100-acre and the 35-acre DMCFs. The Coal Pier Channel DMCF, which was included in the Proposed Action in the Draft EIS, was also designed to avoid the eight locations. A map of the Coal Pier Channel DMCF, overlain with the eight locations, was shared with MHT, who confirmed avoidance. Following public comment on the Draft EIS and additional investigations and continued engineering analysis, TTT determined that the height of the dike for the High Head Industrial Basin DMCF could be increased and thus accommodate enough additional dredged material to eliminate the need for an in-water DMCF. The Preferred Alternative in the Final EIS does not include placement of dredged material in tidal waters (see Chapter 2 of the Final EIS).

Also during this period, TTT determined that to accommodate effluent discharge from dredged material dewatering at the High Head Industrial Basin DMCF, a new temporary outfall with a multiport diffuser would be required off the west side of the shipyard. The leader pipe to the new temporary outfall would be routed over land to the west side of the shipyard and the feeder line would extend offshore / channelward approximately 500 feet from the western shoreline. On July 9, 2025, the Corps sent a letter to MHT informing them of this new aspect of the project. On July 11, 2025, MHT responded with their finding that no historic properties would be affected by the proposed undertaking; however, if there are any significant changes in project scope or location, additional consultation may be required. This concluded Section 106 consultation for this project.

Energy Needs (PI)

The proposed project would include green infrastructure to reduce energy demands when compared to similar projects with traditional infrastructure. The proposed project would not include any energy development aspects. Therefore, further analysis is not needed.

Food and Fiber Production (PI)

The proposed project would have no effect on food or fiber production; therefore, further analysis is not needed.

Mineral Needs (PI)

The proposed project would not require mineral use or extraction; therefore, further analysis is not needed.

Property Ownership (PI)

The area of the proposed project is wholly owned by a partner of Tradepoint TiL Terminal, LLC, the owner of the proposed project. Furthermore, the proposed project would not cause injury to any other property owner or an invasion of other rights of adjacent property owners. Therefore, further analysis is not needed.

Topography

Within the SPCT project area, the topography of Coke Point and the High Head Industrial Basin is level with an approximate topographic range of 1 to 14 feet North American Vertical Datum of 1988. No naturally occurring steep slopes occur along the existing Sparrows Point Channel, along the Coke Point shoreline, or within the Coal Pier area. The site is entirely human-made land, created by filling in a portion of the Patapsco River with steel mill slag over several decades. The Proposed Action would alter existing topography through the construction of one or more DMCFs. These constructed features would modify the previously human-made land. Specific impacts on floodplain and flood hazard, vegetation / habitat, birds, and aesthetics / viewshed conditions resulting from changes in topography are addressed in the analyses of those resources. For these reasons, topography as a stand-alone resource topic was dismissed from detailed analysis.

Bathymetry

The west side approach of Sparrows Point Channel is currently permitted to a depth of -42 feet mean low water (MLW) and the east side approach and berthing area of the finger pier is currently permitted to a depth of -47 MLW. A multi-beam hydrographic survey of the SPCT project area was performed in September 2023 (ARC Surveying and Mapping Inc. 2023). The permitted Sparrows Point Channel and areas outside of it that would be included in the widened Sparrows Point Channel were surveyed. Elevations are typically between -2 feet mean lowest low water (MLLW) and -38 feet MLLW near the shoreline of the northern portion of the channel, outside of the permitted channel. South toward the Brewerton Channel, bottom elevations range from approximately -16 feet MLLW to -44 feet MLLW.

Elevations west of Coke Point (within the footprint of the potential offshore DMCFs at Sparrows Point) range from approximately -4 feet MLLW near the shoreline to -18 feet MLLW. Bathymetry would be impacted by the deepening and widening of the Sparrows Point Channel with proposed dredging depths of up to -50 feet MLLW (plus -2 feet of over depth allowance). Specific impacts on benthic and fish (as well as essential fish habitat and aquatic special status species) habitat conditions resulting from changes in bathymetry are addressed in the analyses of those resources. For these reasons, bathymetry as a stand-alone resource topic was dismissed from detailed analysis.

References

ARC Surveying and Mapping Inc. 2023. *Bathymetric surveys for Sparrows Point*. September.

Center for Biological Diversity. 2024. "Saving the Tricolored Bat." Accessed July 2024. https://www.biologicaldiversity.org/species/mammals/tricolored_bat/index.html.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2023. *Habitat and Wetland Survey Report, Sparrows Point Container Terminal, Baltimore, Maryland*. Prepared for Moffatt & Nichol. October.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024. *Submerged Aquatic Vegetation Survey Report – Spring and Summer 2024, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. June.

R. Christopher Goodwin & Associates, Inc. (Goodwin). 2012. *Phase I Submerged Cultural Resources Investigation for the Coke Point Dredged Material Containment Facility at Sparrows Point, Baltimore, Maryland*.

Virginia Institute of Marine Science (VIMS). 2024. "SAV Monitoring & Restoration: Interactive SAV Map." Accessed September 2024. https://www.vims.edu/research/units/programs/sav/access/maps/.

Appendix E: Underwater Pile Driving Noise Modeling

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APPENDIX E: UNDERWATER PILE DRIVING NOISE MODELING

Noise impacts from anthropogenic sources (e.g., in-water construction activities) have the potential to impact fish, sea turtles, and other marine species that rely on hearing underwater to forage, communicate, detect predators, and navigate (National Oceanic and Atmospheric Administration National Marine Fisheries Service [NMFS] 2022a). Receptor response to noise varies by the types and characteristics of the noise source, distance from the source, water depth, receptor sensitivity, and temporal scale. Noise can be intermittent or continuous, steady or impulsive, and it may be generated by either mobile or stationary sources.

Noise Impact Types and Scenario Overview

For the Sparrows Point Container Terminal (SPCT) project, construction activities that could generate noise with the potential to impact fish and marine mammals (specifically bottlenose dolphins) are associated with construction of the terminal. These activities include:

1. Installation of steel pilings during construction of the marginal wharf with piling diameters of 30 and 36 inches
2. Demolition of the existing pier structure

Noise that would rise to the level of affecting fish and dolphins could also be associated with vessel traffic during construction, operation, and dredging activities. During construction, the noise generated by pile driving would far outweigh that of vessel traffic. These activities are the scenarios that were modeled to assess underwater noise impacts on fish and dolphins.

The details on the pile driving activities for each construction scenario are summarized in Table E-1. During the terminal design process, measures to reduce the overall number of piles necessary for the terminal wharf structure were used to the extent practicable.

Table E-1. In-water Pile Driving Activities

Activity	Approximate Activity Duration (days)	Maximum Number of Piles Installed per Day	Number and Diameter of Steel Piles	Method of Pile Driving
Wharf piling installation	278 (minimum number of days in a 3-year window)	6	602 30-inch piles 1,063 36-inch piles	Impact and vibratory
Water-based demolition	20	NA	Varied	Vibratory

Notes:
NA = not applicable

General assumptions were used in the model with the best available project information and technical guidance to estimate the impacts of underwater sound on fishes (see Table E-3 footnotes). More specific assumptions associated with each scenario are discussed below.

Both vibratory and impact hammers are proposed to be used to install piles for the terminal construction. Impact pile driving produces intense, broadband (a sound signal that includes acoustic energy across a wide range of frequencies), impulsive sounds in which the sound pressure is very large at the instant of the impact and then decays rapidly with distance; the duration of the peak pressure pulse is usually only a few milliseconds (University of Rhode Island [URI] 2017). The majority of energy in pile impact pulses is at frequencies between 100 and 400 Hertz (Hz) (Matuschek and Betke 2009).

Vibratory pile driving produces a continuous sound with peak pressures lower than those observed in pulses generated by impact pile driving. Sound signals generated by vibratory pile driving usually consist of a low fundamental frequency of 20 to 40 Hz (URI 2017). Low-frequency signals produce long sound wavelengths. These long-wavelength signals encounter fewer suspended particles as they pass through the water and thus their energy is absorbed more slowly (Hatch and Wright 2007). As a result, low-frequency signals travel farther than higher-frequency signals. Therefore, noise produced by a vibratory hammer can travel farther in water than noise produced by an impact hammer, despite having a lower peak pressure at the source.

It is anticipated that piles for the SPCT project would be vibrated to the maximum depth possible, followed by driving with an impact hammer to the target sub-surface elevation.

Modeling Results

The geographic extent of underwater noise impacts from pile driving is dependent on factors such as the type of pile driving equipment, length of time spent pile driving, and environmental conditions. The extent to which fishes and other aquatic receptors react to sound varies among species, their life stage, inter- and intra-specific interactions, and other environmental conditions. Guidelines on the impact of impulsive sounds on the behavior of fishes and dolphins are found in the *National Marine Fisheries Service: Summary of Endangered Species Act Acoustic Thresholds (Marine Mammals, Fishes, and Sea Turtles)* (NMFS 2024a), specifically the 2008 Fisheries Hydroacoustic Working Group (FHWG) criteria (FHWG 2008). Non-injury behavioral responses of fishes range from strong avoidance by virtually all individuals to tolerance and habituation (Anderson 1990; Fiest 1992).

Fish

Though the injury criteria distinguish between fish of different sizes (fish weighing less than 2 grams and those weighing 2 grams or more), the criteria do not distinguish between fish of different hearing sensitivity. However, criteria are expected to be conservative and protective of pelagic and demersal fish potentially present within the project area. It is worth noting that the hearing sensitivity of fish varies by species and has been linked to morphology, specifically the presence of a swim bladder, the proximity of the swim bladder to the ear, and the presence of adaptations that link the swim bladder to the ear. Fish with swim bladders closest to the ear and those with specialized adaptations are most sensitive to sound since they are stimulated by sound pressure via the gas within the swim bladder, as well as by particle motion, whereas fish without swim bladders and fish without swim bladders near the ear are only stimulated by particle motion (Popper and Hawkins 2019).

Within the different morphological groups, hearing sensitivity also varies by species; for example, black sea bass (*Centropristis striata*), a species potentially present in the project area, is fairly sensitive to sound compared to related species (Stanley et al. 2020). Several species of clupeid fishes are able to detect and respond to ultrasonic sounds, likely due to an ear specialization unique to clupeids (Popper et al. 2004). Clupeid fishes are of particular concern given proximity of the site to migratory corridors for anadromous herrings. Blueback herring (*Alosa aestivalis*), unidentified herring species, Atlantic menhaden (*Brevoortia tyrannus*), and gizzard shad (*Dorosoma cepedianum*), all clupeid fishes, were found during surveys (see

Section 4.8.1, Table 15 of the Final Environmental Impacts Statement [EIS] for more information on fish in the project area,), indicating that fish with high hearing sensitivity may be in the project area during pile driving. Though given the sensitivity to underwater sound, it is still anticipated that these fish would be protected using the FHWG criteria.

> **Sound pressure level (SPL)** is a measure of the pressure of a sound wave relative to a reference pressure. It quantifies the intensity or loudness of sound and is expressed in decibels (dB).
>
> **Peak sound pressure level (SPL_{peak})** is the measure of the highest-pressure variation in a sound signal, providing an indication of the loudest moment within the underwater sound wave.
>
> **Sound exposure level (SEL)** condenses the varying intensity and duration of a sound into a single value, making it easier to compare different noise events regardless of their duration.
>
> **Cumulative sound exposure level (SEL_{cum})** is used to quantify the total sound energy exposure over an extended period, aggregating multiple noise events into a single metric that reflects the overall noise exposure during that period.
>
> **Root mean square (RMS)** pressure calculation provides a consistent measure of sound exposure, even in environments with fluctuating noise levels.

Acoustic thresholds for the onset of underwater acoustic impacts from pile driving activities were calculated for fish in the project area using the Optional Multi-Species Pile Driving Calculator Tool, VERSION 2.0-Multi-Species: 2024, provided on the NMFS website (NMFS 2024b). The calculations were used to create a multi-ring buffer of isopleths (i.e., sound contours) diminishing in 1 decibel (dB) increments from the sound source. These thresholds are the lowest level where injury could occur (FHWG 2008) and are used to indicate the distance from the noise source where fishes are anticipated to potentially be exposed to injury or disturbance.

The modeled fish thresholds for physical injury and behavioral disturbance were used to determine the distances to onset of physical injury and behavioral disturbances (Table E-2). Physical injuries to fish from noise sources can include inner ear tissue damage and hearing loss (Casper et al. 2013) and rupture or damage to the swim bladder (California Department of Transportation [Caltrans] 2020). Behavioral disturbances include showing a brief awareness of the sound, small movements, or escape responses to move away from the noise source entirely (URI 2017). Thresholds for these effects are measured by evaluating the cumulative sound exposure level over the duration of a noise event (SEL_{cum}), the maximum instantaneous sound pressure over the duration of a noise event (SPL_{peak}), and the root mean square (RMS) pressure.

Table E-2. Fish Pile Driving Injury Guidance

Fish Weight	Onset of Physical Injury due to Impact Pile Driving		Onset of Behavioral Disturbance due to Impact and Vibratory Pile Driving
	SEL_{cum}	SPL_{peak}	RMS
Fishes weighing 2 grams or more	187 dB	206 dB	150 dB
Fishes weighing less than 2 grams	183 dB	206 dB	150 dB

The intensity of pile driving noise is greatly influenced by factors such as the types of piles and hammers and the physical environment in which the driving activity takes place. Since site-specific sound monitoring data are not available, reasonable noise source levels that would be likely to result from pile driving during construction, or proxy sound levels, from the NMFS calculator were selected (Table E-3). Proxy sound levels were selected based on the pile size and type. When possible, sound levels from water depths similar to the maximum water depth expected in SPCT project area (-52 feet following dredging for SPCT) were selected. However, the sources of the available monitoring data vary and values from shallower water depths were used in the sound modeling when values from deeper water depths were not available.

Table E-3. Underwater Noise Modeling Inputs

Pile Type/Activity	Installation Method	Maximum Number of Hammers Used Concurrently	Impact Driving Strikes per Pile[1]	Vibratory Driving Estimated Minutes Time to Drive Each Pile[2] (minutes)	Peak (dB re 1 μPa)	SEL (dB re 1 μPa^2 s)	RMS[3] (dB re 1 μPa)	Proxy Value Water Depth (feet)	Proxy Value Source[4]
30-inch wharf piling	Vibratory	3	NA	90	NA	NA	153	9.8	Caltrans 2020
	Impact	3	600	NA	207	178	199	49	Caltrans 2015
36-inch wharf piling	Vibratory	3	NA	180	NA	NA	175	16	Caltrans 2015
	Impact	3	900	NA	210	183	198	33	Caltrans 2015
Water-based demolition[5]	Vibratory	3	NA	NA	NA	NA	180	16	Caltrans 2020

Notes:

1 – Strikes per pile for impact driving and time to drive each pile for vibratory pile driving estimated based on the driving logs of recent projects. For the concurrent scenario, a weighted average based on average piles per day was used to estimate values.

2 – For water-based demolition, activity types and durations may vary. Modeling assumed constant use of three vibratory hammers during work hours (10 hours).

3 – Proxy values selected from Optional Multi-Species Pile Driving Calculator Tool, VERSION 2.0-Multi-Species: 2024 (NMFS 2024b).

4 – The RMS proxy values are based on the noise of a single hammer and have been adjusted to account for multiple impact hammers being used concurrently, as per guidelines in the Washington State Department of Transportation Biological Assessment Preparation Manual (Washington State Department of Transportation [WSDOT] 2020). To determine the full range of noise levels, underwater noise modeling for wharf piling activities assumed that each of the hammers would be driving the same pile size. No changes were made to RMS values for vibratory installation.

5 – As pile types are unknown for water-based demolition, modeling used the maximum RMS proxy value for vibratory pile driving.

NA = not applicable

RMS = root mean square

SEL = sound exposure level

dB re 1 μPa = underwater noise in decibels referenced to a pressure of 1 micropascal

dB re 1 μPa^2 s = underwater noise in decibels referenced to a pressure of 1 micropascal squared seconds

Different types of sound pressure effects can cause different reasonable noise source levels that may result from pile driving. The peak pressure effect occurs from impact driving, as opposed to vibratory driving, which creates a more constant sound pressure with no peak decibel level. The peak effect from impact driving is the greatest value of the sound signal and is measured in dB re 1 μPa (underwater noise in decibels referenced to a pressure of 1 micropascal) used to specify the intensity of sound underwater (NMFS 2022b). The root mean square (RMS) pressure effect is the average intensity of the sound signal over time, which is applied to both impact and vibratory driving. The sound effect level (SEL) is the measure of energy that considers both the level and duration of exposure to the sound (Table E-3) (NMFS 2022b). SEL is measured in units of dB re 1 μPa^2 s (underwater noise in decibels referenced to a pressure of 1 micropascal squared seconds).

The maximum number of hammers for each activity associated with construction of the terminal is included in Table E-3. The RMS proxy values are based on the noise of a single hammer and have been adjusted to account for multiple impact hammers being used concurrently. The Washington State Department of Transportation Biological Assessment Preparation Manual (WSDOT 2020) presents the rules for combining noise levels. To combine noise levels, only the three loudest pieces of equipment are considered. The two lower noise levels are combined first and then the result is combined with the loudest noise level. For each activity in Table E-3, the noise levels for each hammer are assumed to be the same. To combine noise from two pieces of equipment that are within 0 to 1 dB of each other, 3 dB is added to the higher value to combine noise levels. To add the third piece of equipment to the combined noise level (now 3 dB greater), 2 dB is added to the combined noise level. Thus, for two hammers being used concurrently, 3 dB was added to the RMS proxy value, and for three or five hammers being used, 5 dB was added to the RMS proxy value. The underwater noise modeling for wharf piling installation assumed that the hammers would be driving to the same pile size to determine the worst-case (highest) noise levels.

Sound attenuation measures for underwater noise may include the use of cushion blocks or bubble curtains during pile driving activities. Sound reduction associated with the use of cushion blocks is already incorporated into the NMFS Multi-Species Tool; therefore, no additional attenuation was included in the underwater noise modeling. Tradepoint TiL Terminal, LLC would perform underwater noise monitoring during pile driving activities to verify the noise levels generated in the project area. Further coordination with NMFS would occur during noise monitoring to identify additional sound attenuation measures that may be required to reduce impacts to aquatic resources and to provide a zone of passage for fish within the Patapsco River.

> **Cushion blocks** are used in reducing the impacts of pile driving to absorb and distribute the energy from the hammer blows, thus reducing the intensity of the underwater noise generated during pile driving. Cushion blocks can be made from wood, nylon, or other materials of varying thickness.

Bottlenose Dolphins

The NMFS Multi-Species Tool for modeling underwater noise impacts was used to estimate the impacts of construction activities on bottlenose dolphins (high-frequency cetaceans) that could be in the project area. Table E-4 shows guidance to onset to noise levels for the onset of physical injury and behavioral disturbance in marine mammals (including dolphins) for impact and vibratory pile driving. Thresholds for behavioral disturbance were general and one value was available for all marine mammals in the Multi-Species Tool, while physical injury thresholds were specific to hearing groups and available for high-frequency cetaceans which include dolphins.

Table E-4. Marine Mammal Pile Driving Injury Guidance

Pile Driving	Onset of Physical Injury for High-Frequency Cetaceans		Onset of Behavioral Disturbance for Marine Mammals
	SEL_{cum}	SPL_{peak}	RMS
Impact Pile Driving	193 dB	230 dB	160 dB
Vibratory Pile Driving	201 dB	--	120 dB

Noise Impacts

The results presented in the Final EIS show the distances to the following impacts:

1. Onset of behavioral disturbance from a vibratory hammer with for each activity
2. Physical injury and behavioral disturbance from an impact hammer for the largest noise producing activities

Noise impacts without sound attenuation are presented below and in Table E-5 and Table E-6.

Fish

Impact Driving

Wharf pilings are 30 and 36 inches in diameter. A maximum of three impact hammers would operate concurrently and each hammer would install one to two piles per day for a typical rate of three piles per day and a maximum rate of six piles per day installed via impact driving. The largest maximum distance to peak onset (SPL_{peak}) of physical injury in any size fishes is 61 feet for impact driving for either three or six 36-inch steel pipe piles per day (Table E-5 . The maximum distance to physical injury using the cumulative sound exposure level (SEL_{cum}) is within 5,200 feet (approximately 1 mile) for fish greater than 2 grams and is based on driving a maximum of six 36-inch steel pipes per day. Reducing the driving to three piles per day would decrease the SEL_{cum} distance to 3,443 feet (approximately 0.65 mile); however, for fish less than 2 grams, the distance to physical injury for driving 36-inch piles would remain at 5,200 feet when driving either three or six piles per day (Table E-5). The distance for behavioral disturbance (RMS) in any size fishes from impact driving of wharf piles is largest for driving 36-inch piles (either three or six piles per day) and is 51,998 feet or approximately 9.85 miles (Table E-5).

Vibratory Driving

The wharf piles would also be driven with a vibratory hammer. A maximum of three vibratory hammers would operate concurrently and each hammer would install one to two piles per day for a typical rate of three piles per day and a maximum rate of six piles per day installed via vibratory driving. The distance to onset of behavioral disturbance is 1,523 feet (approximately 0.3 mile) from vibratory driving of the 36-inch piles (Table E-5).

Precise activities and pile sizes to be removed during water-based demolition are yet to be determined and would be finalized closer to project construction. For modeling, it is assumed that only vibratory impacts would be produced during removal of existing in-water structures. Modeling predicts that fishes of any size may experience behavioral disturbance at a distance of 3,281 feet (approximately 0.6 mile) from demolition / pile removal activities (Table E-5).

Dolphins

The maximum distance to onset of behavioral disturbance for marine mammals (including dolphins) from an impact hammer is 11,203 feet (approximately 2.1 miles) from the installation of a 36-inch wharf piling (Table E-6). The maximum distance to onset of physical injury from impact driving occurs at 2 feet from both installation of a 30-inch and 36-inch wharf piling. Distances of behavioral effects from vibratory pile driving are largest from demolition of the existing pier structure (328,084 feet or 62 miles) and for physical injury from vibratory driving, distances are largest during water-based demolition activities (2,074 feet) (Table E-6).

Table E-5. Maximum Distances to Fish Sound Thresholds from Impulsive Sources

Activity	Pile Count and Size/Type	Vibratory Hammer Distance to Onset of Behavioral Disturbance[1] (feet)	Impact Hammer Distance to Onset of Behavioral Disturbance (feet)	Impact Hammer Distance to Onset of Physical Injury (feet)		
		150 dB RMS (any size fish)	150 dB RMS (any size fish)	206 dB SPL_{peak} (any size fish)	187 dB SEL_{cum} (fish greater than 2 grams)	183 dB SEL_{cum} (fish less than 2 grams)
Wharf piling (3 piles per day)	602 30-inch steel pipe piles	961	32,808	61	1,214	2,070
Wharf piling (6 piles per day)	602 30-inch steel pipe piles	961	32,808	61	1,926	2,070
Wharf piling (3 piles per day)	1,063 36-inch steel pipe piles	1,523	51,998	61	3,443	5,200
Wharf piling (6 piles per day)	1,063 36-inch steel pipe piles	1,523	51,998	61	5,200	5,200
In-water demolition	Varied	3,281	NA	NA	NA	NA

Notes:

1 – For vibratory pile driving, only behavioral thresholds exist for fishes.

dB = decibel; RMS = root mean square; PTS = onset of permanent threshold shift; SEL_{cum} = cumulative sound exposure level over the duration of a noise event; SPL_{peak} = maximum instantaneous sound pressure over the duration of a noise event; NA = not applicable

Table E-6. Maximum Distances to Marine Mammals Sound Thresholds from Impulsive Sources for the Largest Noise Producing Activity

Activity	Pile Count and Size / Type	Distance to Onset of Behavioral Disturbance for All Marine Mammals (including dolphins) (feet)		Distance to Onset of Physical Injury for High-Frequency Cetacean (feet)		
		Impact Hammer 160 dB RMS	Vibratory Hammer 120 dB RMS	Impact Hammer 230 dB SPL_{peak}	Impact Hammer 193 dB PTS SEL_{cum}	Vibratory Hammer 201 dB PTS SEL_{cum}
Wharf piling	602 30-inch steel pipe piles	7,068	96,084	2	452	330
Wharf piling	1,063 36-inch steel pipe piles	11,203	152,283	2	1,282	685
Water-based demolition	Varied	NA	328,084	NA	NA	2,074

Notes:

NA = not applicable

References

Anderson, J.J. 1990. *Assessment of the risk of pile driving to juvenile fish*. Fisheries Research Institute, University of Washington. Presented to the Deep Foundations Institute, October 10-12.

California Department of Transportation (Caltrans). 2015. *Technical Guidance for Assessment and Mitigation of the Hydroacoustics Effects of Pile Driving on Fish* (pp. 532). Sacramento, CA.

California Department of Transportation (Caltrans). 2020. *Technical Guidance for the Assessment of Hydroacoustic Effects of Pile Driving on Fish*. Accessed May 2024. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/hydroacoustic-manual-a11y.pdf.

Casper, B.M., M.E. Smith, M.B. Halvorsen, H. Sun, T.J. Carlson, and A.N. Popper. 2013. Effects of exposure to pile driving sounds on fish inner ear tissues. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology* 166:2, 352–360.

Feist, B.E., J.J. Anderson, and R. Miyamoto. 1992. *Potential impacts of pile driving on juvenile pink (Oncorhynchus gorbuscha) and chum (O. keta) salmon behavior and distribution.* Master's thesis, University of Washington.

Fisheries Hydroacoustic Working Group (FHWG). 2008. *Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities*. June.

Hatch, L.T. and A.J. Wright. 2007. A brief review of anthropogenic sound in the oceans. *International Journal of Comparative Psychology* 20 (2).

Matuschek, R. and K. Betke. 2009. Measurements of Construction Noise During Pile Driving of Offshore Research Platforms and Wind Farms. *Proc. NAG/DAGA Int. Conference on Acoustics*. January.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022a. "Understanding Sound in the Ocean." https://www.fisheries.noaa.gov/insight/understanding-sound-ocean. Accessed May 2024.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022b. National Marine Fisheries Service Endangered Species Act Biological Opinion. US Army Corps of Engineers, Philadelphia District. USACE Permit for the Development of the Paulsboro Marine Terminal Roll-on/Roll-off Berth (NAP-2007- 1125-39), GARFO-2022-00012. Accessed July 2024. https://repository.library.noaa.gov/view/noaa/44532.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024a. Summary of Endangered Species Act Acoustic Thresholds (Marine Mammals, Fishes, and Sea Turtles). Silver Spring, Maryland: NMFS, Office of Protected Resources. Accessed June 2025. www.fisheries.noaa.gov/s3/2024-10/ESA-AllSpeciesThresholdSummary-2024-508-OPR1.pdf.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024b. Multi-Species Pile Driving Calculator Tool. Accessed June 2025. https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance-other-acoustic-tools.

Popper, A.N. and A.D. Hawkins. 2019. An overview of fish bioacoustics and the impacts of anthropogenic sounds on fishes. *Journal of Fish Biology* 94: 692-713.

Popper, A.N., D.T.T. Plachta, D.A. Mann, and D. Higgs. 2004. Response of clupeid fish to ultrasound: a review. *ICES Journal of Marine Science* 61(7): 1057–1061.

Stanley, J.A., P.E. Caiger, B. Phelan, K. Shelledy, T.A. Mooney, and S.M. Van Parijs. 2020. Ontogenetic variation in the auditory sensitivity of black sea bass (*Centropristis striata*) and the implications of anthropogenic sound on behavior and communication. *Journal of Experimental Biology* 223(13).

University of Rhode Island (URI). 2017. "Discovery of Sound in the Sea: Pile Driving." Accessed May 2024. https://dosits.org/animals/effects-of-sound/anthropogenic-sources/pile-driving/.

Washington State Department of Transportation (WSDOT). 2020. *Biological Assessment Preparation Manual*. Construction Noise Impact Assessment. Accessed May 2024. https://wsdot.wa.gov/sites/default/files/2022-11/BA-Manual-Chapter7.pdf.

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Appendix F: Essential Fish Habitat Assessment

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Final
Essential Fish Habitat Assessment for the Sparrows Point Container Terminal Project

Patapsco River, Baltimore County, Maryland

Prepared for

NOAA Fisheries, Habitat and Ecosystem Services Division
Mid-Atlantic Habitat Conservation Branch

Prepared by

US Army Corps of Engineers, Baltimore District

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Acronyms and Abbreviations

°F	degrees Fahrenheit
BMP	Best Management Practices
Caltrans	California Department of Transportation
Coke Point	Coke Point Peninsula
Corps	US Army Corps of Engineers
CY	cubic yards
dB	decibel(s)
dB re 1 µPa	underwater noise in decibels referenced to a pressure of 1 micropascal
dB re 1 µPa2 s	underwater noise in decibels referenced to a pressure of 1 micropascal squared seconds
DMCF	Dredged Material Containment Facility
EA	EA Engineering, Science, and Technology, Inc., PBC
EIS	Environmental Impact Statement
EFH	Essential Fish Habitat
FHWG	Fisheries Hydroacoustic Working Group
HAPC	habitat area of particular concern
Hz	hertz
MCY	million cubic yards
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
mg / L	milligram(s) per liter
MPA	Maryland Port Administration
NAVD88	North American Vertical Datum of 1988
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NODS	Norfolk Ocean Disposal Site
NTU	nephelometric turbidity units
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PEL	probable effects level
Port	Port of Baltimore
ppt	parts per thousand
RMS	room mean square
SAV	submerged aquatic vegetation
SEL	sound effect level
SEL_{cum}	Cumulative Sound Exposure Level over the Duration of a Noise Event

SPCT	Sparrows Point Container Terminal
SPL_{peak}	Maximum Instantaneous Sound Pressure over the Duration of a Noise Event
SVOC	semivolatile organic compound
Terminal	Proposed Container Terminal
TPA	Tradepoint Atlantic
TSS	total suspended solids
TTT	Tradepoint TiL Terminal
USDOT	US Department of Transportation
WSDOT	Washington State Department of Transportation

1. Introduction

Pursuant to Section 305 (b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act, the US Army Corps of Engineers (the Corps) is required to prepare an Essential Fish Habitat (EFH) Assessment for all proposed actions that occur within coastal waters of the United States. This assessment is being prepared to address the impacts on EFH-listed species under the jurisdiction of the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) of the proposed Sparrow's Point Container Terminal (SPCT) Project to construct a new container terminal (the terminal) in the Port of Baltimore (the Port). The action is proposed by Tradepoint TiL Terminal (TTT), LLC, a joint venture between Tradepoint Atlantic (TPA) and Terminal Investments Limited.

A draft EFH Assessment was provided in the Draft Environmental Impact Statement (EIS). Coordination between the NMFS, the Corps, and TTT began in June 2023 when TTT sent a project introduction letter to NMFS providing a project overview and requesting initial agency input. NMFS responded, confirming the list of federally managed species that may occur within the vicinity of the Proposed Action. TTT also coordinated with the Corps and NMFS in several Joint Evaluation Committee meetings conducted in 2023 and 2024 to discuss agency comments during preparation of the Draft EIS for the Proposed Action. Additional virtual calls were held with NMFS Habitat Conservation Division in October and November 2024 to further discuss project effects. Following publication of the Draft EIS, NMFS sent the Corps a letter dated May 8, 2025, providing their EFH Conservation Recommendations. During the same time, TTT revised the proposed project, identified in the Final EIS and this EFH Assessment as the Preferred Alternative. Specifically, TTT changed the size and number of pilings required for the wharf and eliminated the construction of a dredged material containment facility in tidal waters. This revised EFH Assessment describes the changes to the proposed project and evaluates the impacts of the Preferred Alternative on EFH.

This document is consistent with requirements specified in Section 305 (b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act. This section (Section 1) includes the introduction, purpose, and need as well as the general project location. The remainder of this EFH Assessment is organized as follows:

- Section 2 – Description of the Preferred Alternative
- Section 3 – Description of the Action Area Environment
- Section 4 – EFH Designated Species in the Action Area
- Section 5 – Effects of the Preferred Alternative on EFH
- Section 6 – Impacts on EFH Prey and Other Important Species
- Section 7 – Potential Avoidance and Minimization
- Section 8 – Determination of the EFH Assessment

TTT has separately coordinated with NMFS to evaluate potential impacts on federally listed species and critical habitats in accordance with Section 7 of the Endangered Species Act.

1.1 Purpose and Need

The purpose of the proposed project is to develop the SPCT, a new terminal and associated facilities that would be located on Coke Point within the Patapsco River in Baltimore County, Maryland. The action would include terminal construction, dredging a new channel to support the terminal, and placement of the dredged material. The applicant's proposed project would address several economic and shipping logistical concerns. The SPCT project would enhance the economic strength of the Port of Baltimore by increasing its overall container capacity. This, along with the on-dock rail and Howard Street Tunnel project, would increase the throughput of containers through the Port. The proposed project would not only provide direct jobs at the project site but would also provide a foundation for sustained regional economic growth within the Port and throughout the region. By strengthening and growing the Port, the project would enhance the United States' supply chain efficiencies and resiliency.

1.2 Project Location

The proposed SPCT would be located in Baltimore County, Maryland, within the TPA development on a 330-acre area on the southwest peninsula of Sparrows Point known as Coke Point Peninsula (Coke Point) (Figure 1). The historical uses of this site include coking operations as part of the former Bethlehem Steel Mill. The site is entirely human-made land, which was created by filling in a portion of the Patapsco River with steel mill slag over several decades. Previously developed areas within the site are currently undergoing demolition and razing of structures. Sparrows Point, with its industrial history, is an example of a brownfield. In recent years, Sparrows Point has been undergoing a major redevelopment initiative aimed at transforming the site into a hub for modern industrial and commercial activities. The SPCT project would continue to redevelop the site.

The Action Area for this project includes the area of in-water work (further described in Section 2), including the proposed channel dredging area, vessel traffic within the dredging and construction area, shipping / container vessel traffic routes within the Chesapeake Bay to the new container terminal, and barge traffic / routes from the dredging area south through the Chesapeake Bay to the Norfolk Ocean Disposal Site (NODS) in the Atlantic Ocean. Details on the Preferred Alternative are provided in Section 2.

Figure 1. SPCT Project Area

2. Description of the Preferred Alternative

The proposed terminal would consist of a ±3,000-foot marginal wharf with ship-to-shore cranes, a container yard, gate complex, intermodal/rail yard, and various support structures. To provide vessel access to the wharf, the project would include deepening and widening of the existing Sparrows Point Channel and turning basin, which would require dredging and placement of approximately 4.2 million cubic yards (MCY) of dredged material (Figure 2).

The Draft EIS analyzed the Combined Options Alternative / Proposed Action, which included dredged material placement at the Coal Pier Channel Dredged Material Containment Facility (DMCF), the High Head Industrial Basin DMCF, existing Maryland Port Administration (MPA) DMCFs (Cox Creek and Masonville), and NODS.

Following public comment on the Draft EIS and additional investigations and continued engineering analysis by TTT, a new alternative for dredged material placement was developed. This new alternative was developed based on the results of additional geotechnical evaluations and design progression at both the Coal Pier Channel and the High Head Industrial Basin and subsequent chemical testing of sediments in the proposed exterior dike alignment for the Coal Pier Channel DMCF. Results of the geotechnical investigations indicated that the dike of the High Head Industrial Basin DMCF could be elevated incrementally to provide more dredged material placement capacity. In addition, results of the geotechnical and sediment chemical testing along the exterior dike of the proposed Coal Pier Channel DMCF indicated that although the DMCF was feasible to construct at this location, both the geotechnical and chemical properties of the sediments would pose constructability and environmental challenges. Furthermore, the Coal Pier Channel DMCF would place dredged material in tidal waters, while using the High Head Industrial Basin DMCF for placement of this dredged material would eliminate the need to place dredged material in tidal waters. Based on the challenges associated with the Coal Pier Channel DMCF, the ability to increase the capacity of the High Head Industrial Basin DMCF, and the opportunity to avoid placing dredged material in tidal waters, it was determined that this alternative was more feasible and would cause fewer impacts than the Combined Options Alternative evaluated in the Draft EIS.

Therefore, the Preferred Alternative for this project (as identified in the Final EIS) would include dredging for channel improvements, the construction of a DMCF within the High Head Industrial Basin to provide placement capacity for a portion of the dredged material, and additional dredged material placement at both an MPA DMCF and the NODS. High Head Industrial Basin is in an upland area of the Sparrows Point site and does not have EFH. Additional options for disposal of dredged material that may affect waters with EFH are also discussed in Section 2.2. Details on each in-water activity are presented below.

2.1 Dredging

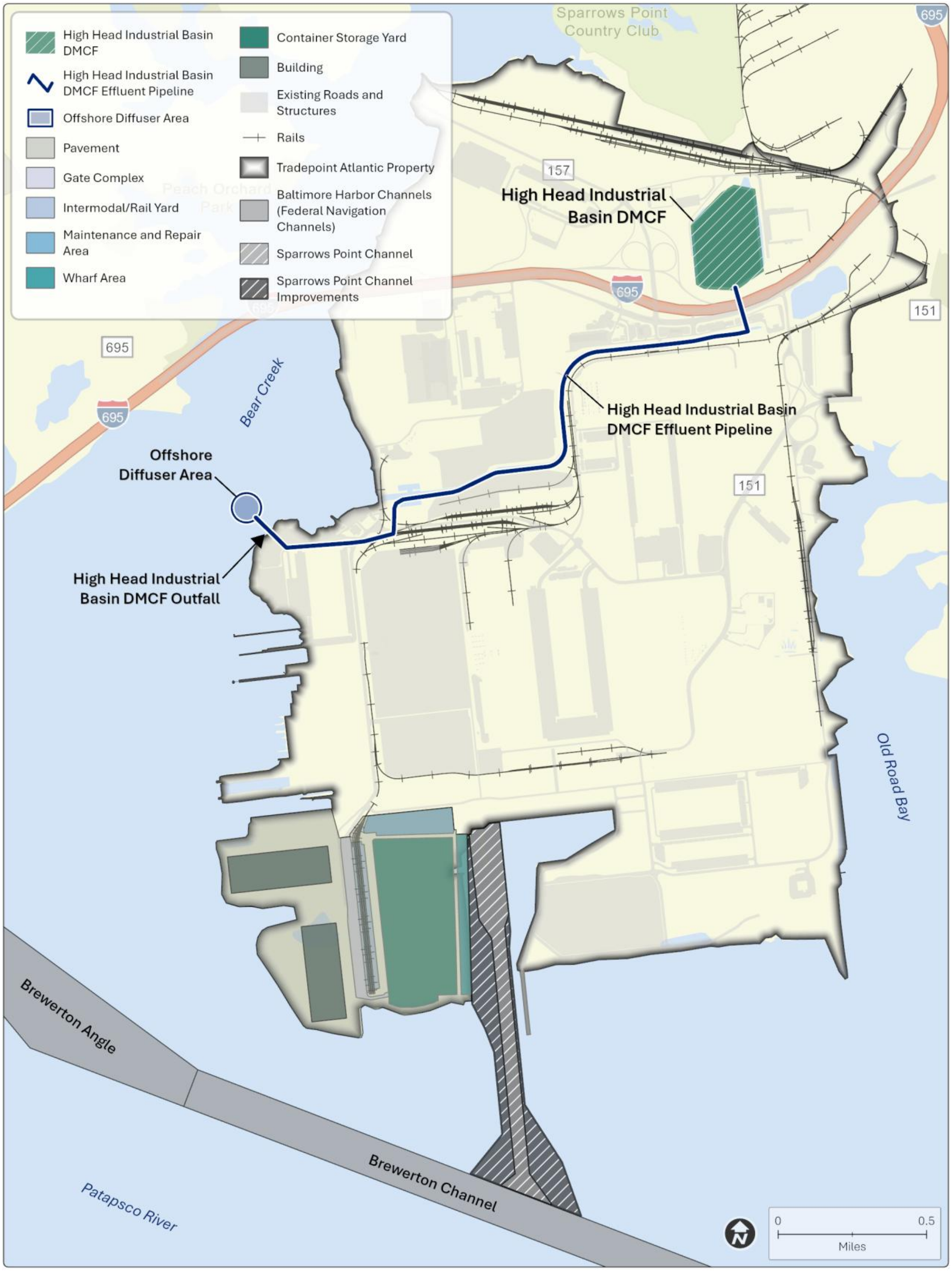
The existing Sparrows Point Channel would be widened and deepened to provide vessel access to the terminal, and the entrance would continue to connect to the Brewerton Channel (Figure 2). The Sparrows Point Channel would be dredged using a clamshell bucket on a barge. The entrance would be widened to create a turning basin 1,650 feet in diameter, transitioning gradually to a nominal channel width of 450 feet. The vessels would require a minimum berth pocket width of 250 feet adjacent to the channel. Based on the vessel simulations, additional width was added to provide passing clearance between the existing finger pier and the SPCT berth face. To provide additional passing distance while minimizing additional dredged material volume, the berth face would be angled such that the dredging of the berth and channel is wider at the southern end of the terminal and tapers to the north. The navigable depth would be -50 feet mean lower low water. The maximum proposed dredging depth would be -50 feet mean lower low water plus -2 feet of overdepth allowance. Following construction, maintenance dredging of the Sparrows Point Channel would be required. It is anticipated that maintenance dredging would be required on average once every 10 years, with an additional volume of approximately 12,500 cubic yards (CY) per year added to the existing maintenance dredging volume for Sparrows Point Channel.

The project would require approximately 4.2 MCY of dredging to meet the required design width and depth for the vessels. The 4.2 MCY of dredged material would include 330,000 CY of slag (discussed below) and approximately 3.87 MCY of dredged material that would not be reused elsewhere on-site and would require appropriate placement.

Dredging would occur as designated by the time-of-year restrictions required to protect aquatic life, as determined through consultation with NMFS and the Maryland Department of Natural Resources (MDNR) and as stipulated in federal and state permit conditions. Dredging would be staged to align with construction phasing and would also be guided by dredged material placement. As noted above, the total dredged material volume would be approximately 4.2 MCY, including approximately 3.87 MCY of silt, clay, and sand material and 330,000 CY of slag. Dredging would be performed mechanically using waterborne equipment, a clamshell bucket, and landside equipment, where possible and practical.

Dredging of the wharf area would occur in conjunction with the wharf installation. The first step would be to mechanically excavate in-water slag material from the landside, where practical. The slag would be placed into trucks and transported to a designated on-site stockpiling location for reuse as fill or for dike construction. The remaining slag would be dredged using waterborne equipment, as necessary. The slag would be placed into scows (small barges), transported to shore, mechanically offloaded into trucks, and transported to a designated on-site location for stockpiling and reuse. Dredging of the silt and clay material underneath slag would be performed using waterborne equipment, a clamshell bucket, and landside equipment, where possible and practical. The silt and clay material would be placed into scows and transported to the designated DMCF. The silt and clay material would be mechanically dredged using waterborne equipment and a clamshell bucket. Dredging plans are included in Attachment A.

Figure 2. SPCT Preferred Alternative



2.2 Dredged Material Placement

Evaluation of dredged material placement alternatives was conducted by TTT in consultation with the Joint Evaluation Committee in meetings during 2023 and 2024. Numerous placement alternatives were considered and eliminated (Figure 3), while a combination of alternatives was retained and selected as the Preferred Alternative (Figure 3).

2.2.1 Placement Alternatives Considered but Eliminated

The alternatives that were considered but eliminated from consideration include:

- A 100-acre DMCF in the Patapsco River, resulting in a loss of 100 acres of open water. This was eliminated due to agency concern over permanent impacts on the aquatic community.
- An offshore 35-acre DMCF in the Patapsco River (encompassing the Coal Pier Channel), resulting in a loss of 35 acres of open water. The 35-acre concept was further reduced to 19.6 acres based on combined use of other placement options, including Maryland Port Administration DMCFs and the Norfolk Ocean Disposal Site.
- A DMCF in Coke Point Cove on the west side of Coke Point was considered, but determined not needed, as constructing a DMCF in the Coal Pier Channel would provide more volume for dredged material and avoid loss of the more abundant benthic community within Coke Point Cove.
- Use of an existing DMCF at Hart-Miller Island to place all 4.2 MCY of dredged material from SPCT. This was considered thoroughly and included legislative efforts and a robust public outreach program. The public engagement process revealed long-held community reservations regarding the use of Hart-Miller Island for the placement of dredged material. During this time, TTT was also engaged in discussions with the State Agencies that operate Hart-Miller Island, and these discussions brought forth significant concerns regarding the facility's readiness to accept dredged material, which introduced considerable risk in achieving the dredged material placement schedule for the project. Ultimately, TTT announced that they had decided to withdraw from the process, expressing concern that the project could affect TPA's longstanding commitment to community partnerships.
- An upland DMCF at Coke Point was considered. However, constructing an on-land DMCF would limit the constructability and available cargo and container storage space of the proposed SPCT. The viability of the terminal is reliant on the ability to efficiently move goods through the Port and into the adjacent markets. Losing this location for the buildings would not allow the terminal to function in a way that meets the overall goals of the project.
- A DMCF at the Coal Pier Channel was considered as part of the Proposed Action in the Draft EIS. Based on the challenges associated with the Coal Pier Channel DMCF (including geotechnical and chemical characteristics of the substrate), the ability to increase the capacity of the High Head Industrial Basin DMCF, and the opportunity to avoid placing dredged material in tidal waters, TTT determined that this element should no longer be included.
- Other land-based placement sites in Virginia, New Jersey, and Pennsylvania were considered. All options were either infeasible due to facility limitations, additional transport costs for material, or schedule and economic constraints due to time to transport material (delaying overall dredging operations).

2.2.2 Placement Alternatives Retained with the Preferred Alternative

The combination of options retained for the Preferred Alternative represents the most feasible options with the least environmental impacts for dredged material placement and reduced concerns from the community and the regulating agencies. The Preferred Alternative involves several material placement options (Figure 3):

1. Construction of an upland DMCF at the High Head Industrial Basin on TPA property and placement of dredged material in this new DMCF
2. Placement at an existing DMCF managed by the MPA (Cox Creek or Masonville)
3. Ocean Placement at the NODS in the Atlantic Ocean

The Preferred Alternative could involve a combination of the options listed above. The High Head Industrial Basin does not contain EFH or EFH species. Placement of a portion of the dredged material at the NODS or existing upland DMCFs would comply with all applicable permits and approvals for those active sites. Therefore, the description of the Preferred Alternative and analysis later in this EFH assessment focuses on the impacts of dredging the Sparrows Point Channel. All elevations discussed in this Biological Assessment are relative to North American Vertical Datum of 1988 (NAVD88).

The existing High Head Industrial Basin is located approximately 2.5 miles northeast of the project area within the TPA property. The impounded area of the industrial basin currently covers 38.7 acres with a surface elevation of approximately +7.0 feet, which is maintained by an existing pump house. Material for the dike construction would be excavated from within the SPCT project area and would consist of common borrow material sourced from existing land and stockpiles from elsewhere on TPA property. The outboard dike slopes would be seeded with native plant species after construction to prevent erosion.

Dredged material would be placed in a scow and transported to the west side of Sparrows Point. It would then be hydraulically pumped from the scow through a flexible pipeline into the High Head Industrial Basin DMCF. Water would be added to the dredged material to facilitate hydraulic pumping. This added water would be recycled back from the DMCF to the unloader, limiting the volume of water needed for pumping, but additional water from the Patapsco River may be needed. After placement of the material is complete, the dredged material would be properly managed to dewater, dry, and consolidate the material. Recycling water during pumping would also reduce the volume of water discharged from the DMCF to a permitted outfall.

To accommodate effluent discharge from dredged material dewatering at the High Head Industrial Basin DMCF, a new temporary outfall with a multiport diffuser would be required off the west side of the shipyard. The leader pipe to the new temporary outfall would be routed over land to the west side of the shipyard, and the feeder line would extend offshore / channelward approximately 500 feet from the shoreline (Figure 2). The effluent from the dredged material dewatering would flow to the new temporary outfall through a 24-inch diameter pipe and feeder line to an approximate 100-foot long, 18-inch multiport diffuser head aligned perpendicular to the current. The temporary diffuser system would be south of and outside the footprint of the Bear Creek Superfund Site. The feeder line from the new temporary outfall would be secured on the bottom using straps / clamps and anchors. The existing National Pollutant Discharge Elimination System permit would be modified as necessary through the Maryland Department of the Environment (MDE) Wastewater Pollution Prevention and Reclamation

Program. The diffuser system would only be operational for the duration of active dewatering and consolidation of dredged material at the High Head Industrial Basin DMCF.

Under the Preferred Alternative, the High Head Industrial Basin DMCF would be constructed with the exterior dike elevation of approximately +40 feet, or approximately 30 feet above existing grade, giving the DMCF the capacity to hold approximately 1.7 MCY of dredged material. A portion of the material for the dike construction would be excavated from within the SPCT project area and would consist of common borrow material sourced from existing land and stockpiles from elsewhere on TPA property. The remainder of the material would be sourced from off-site facilities and approved by MDE. The outboard dike slopes would be seeded with native plant species after construction to prevent erosion.

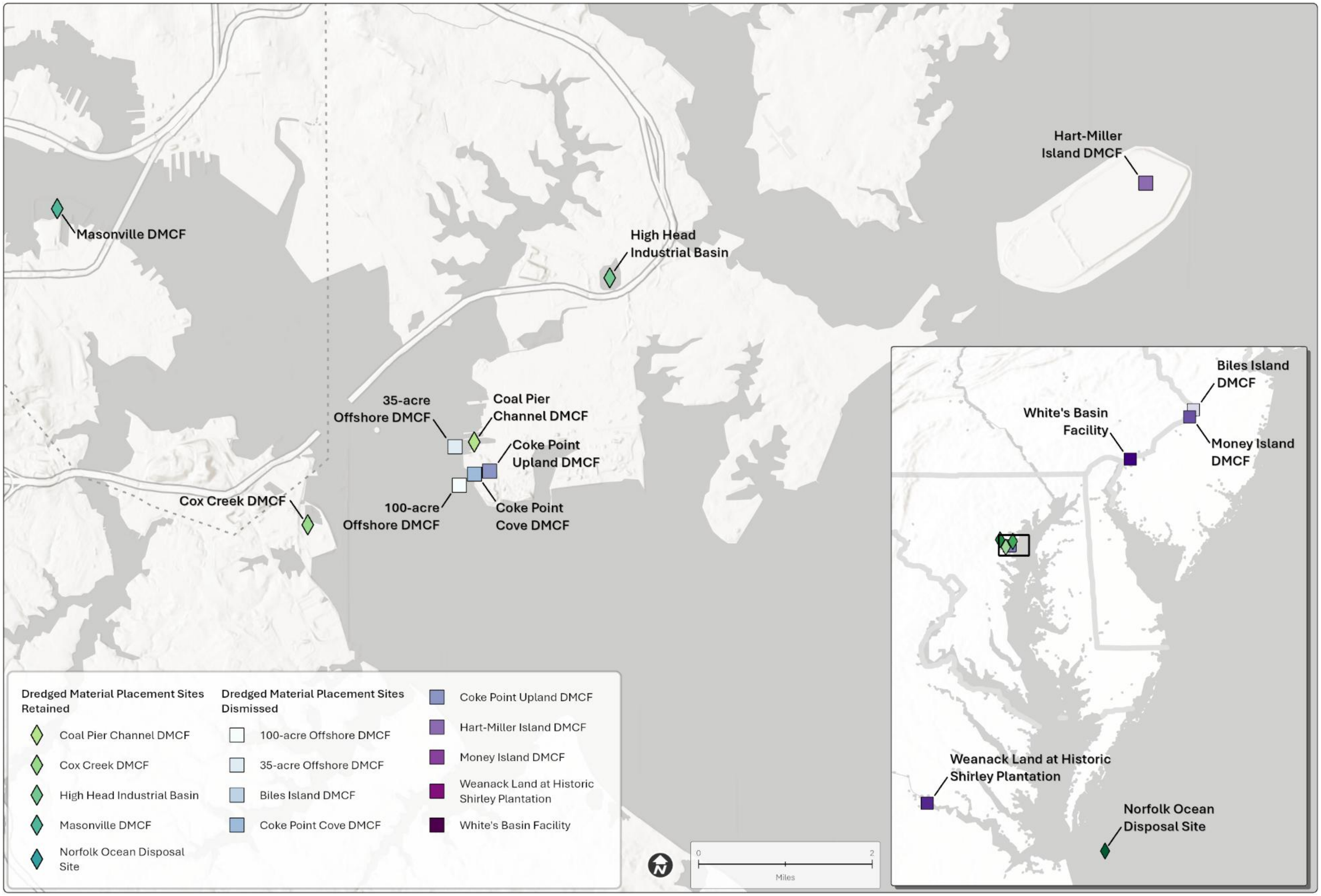
The DMCF perimeter dike would be constructed in phases, and the dike material would be placed in phases. Material placement would not exceed the allowable elevation of the DMCF and would maintain a minimum of 2 feet of freeboard. Construction of the DMCF perimeter would be completed in approximately 7 months.

Dredging would be performed in two to three phases, and each phase would be approximately 1 year apart to allow for optimal dewatering and consolidation of the placed material. The volume of dredged material placed into the DMCF for each phase would be appropriate for the DMCF capacity at the time of placement.

2.3 Pile Driving for Terminal Construction

Marine structure design includes an open-type (steel pipe pile-supported) marginal wharf structure, consisting of a pile-supported relieving platform integral to the wharf. Piles for the relieving platform would be located on land, not in water. The wharf would serve as a platform to receive containers offloaded from the vessels. More information on the types and sizes of piles, number of piles to be used, and duration of pile driving, and impact on underwater noise is discussed in Section 5. Plans for wharf construction pile driving are included in Attachment A.

Figure 3. Map of Dredged Material Placement Options Retained and Eliminated



3. Description of the Action Area Environment

This section presents a high-level overview of resources and environment within the Action Area, with a focus on resources in or near Sparrows Point, as this would be the area of the most direct impacts from the action. Portions of the Action Area that are the vessel transit routes (to NODS or MPA DMCFs) are discussed in each resource area as applicable.

3.1 Sediment

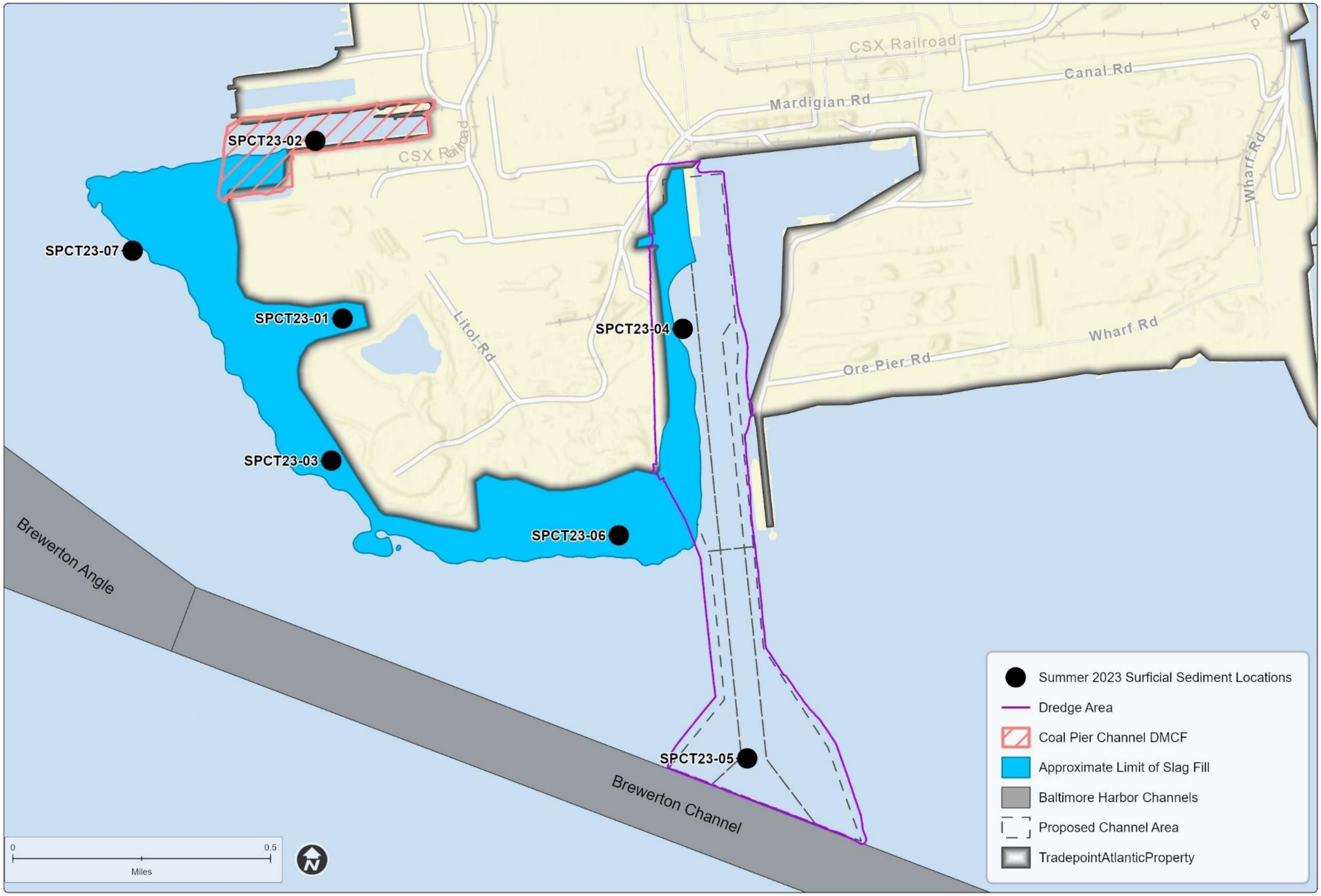
Sediment resources within the Action Area include river bottom that would be directly impacted by dredging and the placement of the temporary outfall and diffuser. Sediments around Coke Point consist of a soft, fine-grained silty top layer above deep layers of clay and sands. Some surficial sediments along the shoreline of Coke Point contain slag or gravel mixed with the soft, fine-grained sediments from activities on land and from the human-made construction of Coke Point. Within the vicinity of the channel improvements, the silty surface layer overlays deep materials that predominantly consist of native clays in the South Channel and consist of a combination of native clays and sands in the North Channel (Kozera, Inc. 2023; EA Engineering, Science, and Technology, Inc., PBC [EA] 2024a, 2025).

The column of sediment in the South Channel is uniform with little layering or stratification of material types. Within the deepening area of the South Channel segment, the sediments are primarily comprised of a combination of silt and clay. The column of sediment in the North Channel includes layers of differing material types. Within the deepening area in the North Channel and in the west widener, the silty top materials extend from the sediment surface to varying depths.

Sediments within the Action Area have been the subject of numerous past investigations (EA 2003, 2009, 2010a, 2010b, 2011) as well as recent investigations to support the proposed project. The past studies of offshore sediment identified elevated concentrations of metals, semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). Results of a subsequent risk assessment found that several offshore areas with impacted sediments on the west and south side of Coke Point contribute to elevated risk for human health and ecological communities. These areas are not proposed for dredging.

For the Preferred Alternative, surficial sediment quality was evaluated to support assessment of aquatic resources (EA 2024b) (Figure 4). Surface and subsurface sediment was evaluated to support widening and deepening of the SPCT channel and to assess sediment quality with respect to upland placement of the material within an on-site DMCF and potential ocean placement. Around the Coke Point Peninsula, PAHs and metals are the constituents that most frequently exceed probable effects levels (PELs) for aquatic life. While these areas are not proposed for dredging, they serve as impacted habitat for benthic organisms and many smaller fish that are prey for EFH-listed species. Collectively, nine metals, 13 individual PAHs, total PAHs, and dioxin toxic equivalency quotients exceeded PELs in the offshore surficial sediments surrounding the peninsula. The highest total PAHs were detected in surficial sediments in Coke Point Cove on the west side (SPCT23-01) and along the southeast side (SPCT23-06) of Coke Point, with concentrations in Coke Point Cove approximately 10 times higher than concentrations on the southeast side of the peninsula. The highest concentrations of metals were detected in the nearshore area on the southwest side of Coke Point (SPCT23-03). The location near the Brewerton Channel (SPCT23-05) was furthest offshore and had the fewest PEL exceedances.

Figure 4. Surficial Sediment Sampling Locations for the 2023 Aquatic Resources Studies



Sediments in the southern portion of the main SPCT channel, which is the location of the proposed dredging, are predominantly fine-grained silts and clays. Metals, PCBs, PAHs, SVOCs, chlorinated pesticides, and dioxin/furan congeners were detected most frequently in the sediments. In the northern portion of the channel, sediments are mostly sand and fine-grained silts, and clays. Metals, PCBs, PAHs, SVOCs, chlorinated pesticides, dioxin/furan congeners, volatile organic compounds, total petroleum hydrocarbons, and oil and grease were detected most frequently in the sediments.

3.2 Water Quality

Surface water resources that would support EFH species within the Action Area include waters within the Patapsco River where channel dredging would occur, as well as water resources adjacent to the MPA DMCFs and within the NODS. Additionally, surface waters west of the Sparrows Point shipyard, where dredged material de-watering effluent would be temporarily discharged, may support EFH species.

Surface water in the Patapsco River provides habitat and resources for fish and wildlife, means for shipping of goods and for transit of people, and a place for recreation and fishing. State of Maryland surface waters affected by the SPCT project are the tidal waters of the Patapsco River in the vicinity of Coke Point and near the mouth of Bear Creek. The tidal waters surrounding the project area and extending eastward into the Upper Chesapeake Bay are classified as Use Class II (Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting) by the Maryland Department of the Environment. The individual designated uses of Use Class II waters include: growth and propagation of fish, other aquatic life, and wildlife; water contact sports; leisure activities involving direct contact with surface water; fishing; agricultural water supply; industrial water supply; propagation and harvesting of shellfish; seasonal migratory fish spawning and nursery use; seasonal shallow-water submerged aquatic vegetation (SAV) use; open-water fish and shellfish use; seasonal deep-water fish and shellfish use; and seasonal deep-channel refuge use.

3.2.1 Physical Conditions

Baltimore Harbor includes an approximate 15-statute-mile tidal portion of the Patapsco River with water depths generally less than 20 feet, with the exception of the federal navigation channels and other state and private access channels that are dredged to provide safe navigation for waterborne commerce. Surface water circulation and exchange within the harbor are governed by the effects of wind, tides, salinity-based density gradients, and river flows (Garland 1952; Boicourt and Olson 1982). Vertical stratification of the water column is common, particularly in areas of deeper waters (such as the navigation channels) where denser (heavier), saltier, and cooler bottom waters move upstream with incoming tides and remain below less dense (lighter) freshwater or low salinity surface waters moving downstream towards the Chesapeake Bay. Due to water column density, salinity stratification, limited vertical mixing, and use of dissolved oxygen by organisms and chemical degradation processes, low dissolved oxygen concentrations in deep bottom waters are often present below the requirements to support aquatic life, particularly in late summer and fall. The severity of this condition in the Patapsco River varies from year to year based on precipitation and freshwater inflow and is most common in deep water areas, including the navigation channels.

Within the SPCT area, Coke Point is surrounded by the Patapsco River to the west and south, and the existing Sparrows Point Channel to the east. Surface water quality in these areas is affected by river flow and precipitation, daily tides, and the groundwater flow patterns under Coke Point. Water depths in the

SPCT project area vary and range from less than 2 feet up to 15 feet in the nearshore areas, from approximately 15 feet up to 45 feet in the west and south offshore areas, and from approximately 10 feet up to 47 feet in the proposed channel improvements footprint. Water quality measurements recorded in the vicinity of Coke Point during seasonal nutrient surveys in Summer and Fall 2023 and Winter and Spring 2024 (EA 2024b, 2024c, 2024d, 2024e) indicated that water temperature, salinity, pH, and dissolved oxygen varied by season and water depth. Within the project area, salinities are typically classified as oligohaline (≤0.5 to 5 parts per thousand [ppt]) within the winter and spring and as either low mesohaline (≥5 to 12 ppt) or high mesohaline (≥12 ppt to 18 ppt) during the summer and fall. Salinities in the project area ranged from 1.6 to 17.8 ppt, with highest salinities measured in summer and fall bottom waters. Water temperature ranged from 41.2 to 81.7 degrees Fahrenheit (°F), with highest and lowest water temperatures measured in summer and winter season surface waters, respectively. Dissolved oxygen ranged from 0.5 to 13.4 milligrams per liter (mg / L), with low dissolved oxygen and hypoxic conditions measured in the summer season bottom waters. pH ranged from 7.1 to 10.2, with highest and lowest pH values measured in the winter and spring/summer, respectively. Turbidity (measured as nephelometric turbidity units [NTUs]) ranged from 1.0 to 32.3 NTU and tended to be higher in bottom waters, regardless of season.

3.2.1.1 Nutrients

Excess nitrogen and phosphorus have been identified as a concern for Baltimore Harbor surface waters, and the inputs and the total maximum daily load for these nutrients are managed and regulated by the Maryland Department of the Environment through the National Pollutant Discharge Elimination System process. Overall, within the SPCT area, total nitrogen concentrations were higher in winter and spring (between 1 and 2 mg / L) and lower in summer and fall (less than 1 mg / L). Most nitrogen was present in dissolved form in winter and spring and was a combination of particulate and dissolved nitrogen in summer and fall. Total phosphorus concentrations were generally higher in summer and fall and varied by sampling location. Most phosphorus was present bound to particulates in fall, winter, and spring; highest dissolved phosphorus was present during summer. Organic carbon concentrations in the SPCT project area surface waters ranged from 2.4 mg / L in winter to 4.4 mg / L in summer.

3.2.2 Chemistry

Characterization of surface water chemistry around Coke Point has been investigated through several decades of study of the offshore area. Data collected between 2003 and 2011 were used to model potential risks to human health, fish, benthos, and wildlife and to identify the geographic areas contributing the most to risks. Most chemicals in surface water were either below benchmarks protective of human health or aquatic life or were comparable to concentrations found throughout the Lower Patapsco River. PAHs were the only chemicals identified in surface water as posing potential risks. For aquatic life, PAHs in surface water posed risks in the western and southern offshore areas of Coke Point, while benzene was identified within Coke Point Cove.

3.2.3 Surface Water Quality in the Dredging Area

Seasonal water column measurements collected in 2023 and 2024 in the vicinity of the Sparrows Point Channel indicated a stratified water column with respect to salinity at both locations (approximately 30 feet and 45 feet deep, respectively). The combined seasonal data for these locations indicated that salinity ranged from approximately 2 to 11 ppt in surface waters and from approximately 5 to 18 ppt in bottom waters throughout the year. Water column stratification with hypoxic conditions (low dissolved oxygen concentrations) was present in bottom waters in the summer at both locations.

3.3 Biological Resources

The discussion of biological resources for this EFH assessment focuses primarily on those resources within EFH waters within the immediate Action Area and provides a high-level overview. Detailed seasonal reports for aquatic resource studies conducted for the Preferred Alternative can be provided to NMFS upon request (EA 2024b, 2024c, 2024d, 2024e, 2024f).

3.3.1 Benthos

Benthic resources within the Action Area that would be impacted by dredging and the placement of the temporary outfall and diffuser include benthos within the Patapsco River. Although benthic resources are present in the exterior environment of the MPA DMCFs and within the NODS, monitoring of the health of benthic communities in the vicinity of these sites is performed by the MPA and US Environmental Protection Agency, respectively. The proposed action is not anticipated to impact benthic resources in these areas.

Within the larger Chesapeake Bay region, the abundance, species diversity, and biomass of many benthic species have declined over the past 40 years, with a significant decline in these metrics and the overall benthic community score noted in sampling stations in the Baltimore Harbor (Versar, Inc. 2017). The decline in these community metrics at the Baltimore Harbor stations has been attributed to seasonal hypoxic (low oxygen in bottom waters) conditions. Benthic fauna samples were collected as part of aquatic studies for the Preferred Alternative and the community health determined at sample locations throughout the SPCT area using the Chesapeake Bay Benthic Index of Biotic Integrity. Two sample locations were within the SPCT dredging area (Figure 5).

Benthic habitat within the dredging area was classified as high mesohaline mud, with salinity between 12 and 18 ppt and more than 40% silt-clay content. Across all sampling locations, 22 unique benthic macroinvertebrate taxa were collected. Of these, nine taxa were polychaetes (bristle worms), five were bivalves (clams and mussels), and three were crustaceans. The remaining taxa included ribbon worms, segmented worms, and snails. No taxa were collected from the southernmost sampling location within the dredging footprint. However, the northern portion of the dredging footprint had four taxa collected. Benthic abundance was highest within Coke Point Cove, which had 13,170 organisms per square meter. Overall community Benthic Index of Biotic Integrity scores classified all sample locations as either degraded or severely degraded, except for the benthic community along the southeast shoreline of Coke Point, which met restoration goals and would not be disturbed.

Figure 5. Benthic Fauna Sampling Locations

3.3.2 General Fish Community

The Chesapeake Bay supports 348 species of fish at some point in their life cycle (NMFS 2024a). The distribution of fish populations is dependent upon water quality factors (temperature, pH, salinity), larval recruitment, availability of prey species (fish and benthic organisms), and migration patterns (Lippson and Lippson 1994). Atlantic menhaden (*Brevoortia tyrannus*) has been the top fishery in the Chesapeake Bay for several decades, with over 150,000 metric tons caught per year. The striped bass (*Morone saxatilis*) fishery stocks suffered a decline during the 1970s and 1980s due to overfishing and are in the recovery process. Although not currently overfished, stocks remain low, largely due to loss of spawning habitat and pollution in the Chesapeake Bay (Chesapeake Bay Program 2020). Important predator fish species (including those that are part of commercially significant fisheries) rely on smaller prey species, such as bay anchovy (*Anchoa mitchilli*), Atlantic menhaden, and American shad (*Alosa sapidissima*) (Zastrow et al. 1991; Chesapeake Bay Program 2020).

The fish community within and adjacent to the SPCT area varies by season and water depth. A summary of the individual fish collected during aquatic surveys for the Proposed Action is provided in Table 1. The highest number of unique species was observed in the summer, with 17 unique species (1,772 individual fish) collected in the waters in and around the SPCT project area. During the fall collections, the number of unique and total number of individual fish collected declined to nine unique species and 818 individual fish. In the winter, even fewer unique species and individual fish were captured in the vicinity of the project area (three unique species and 12 individual fish for all locations combined). The following spring (2024), 5,629 total fish were captured, with most of the individuals collected along the southern shoreline of Coke Point and downstream of the project area. Within the SPCT dredging area (Figure 6), the total number of fish captured in all seasons was 1,293, largely Atlantic silverside (*Menidia menidia*), bay anchovy, herring sp., and Atlantic croaker (*Micropogonias undulatus*).

Based on the seasonal survey data, fish assemblages and abundance in habitats in and around the SPCT project appear to be highly driven by seasonal water temperature and salinity. In the spring, hypoxia was only present at sampling location 5 (downstream of the SPCT project area), which had the lowest bottom dissolved oxygen and bottom temperature. Low dissolved oxygen during the summer months in the deeper water areas may also affect fish distribution, as pelagic species are mobile and will avoid areas with low dissolved oxygen. Fish moving upstream from the Chesapeake Bay can thrive in the higher summer salinities and move downstream away from the project area as the salinity and water temperature decrease throughout the water column in the late fall and winter months.

Figure 6. Fish Survey Locations

Table 1. Summary of Individual Fish Collected by Each Method per Season

Fish Species	Sampling Method and Season										
	Beach Seine			Gillnet				Bottom trawl			
	Summer	Fall	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring
Atlantic croaker (*Micropogonias undulatus*)	6	0	72	2	0	0	0	26	2	3	342
Atlantic menhaden (*Brevoortia tyrannus*)	195	0	0	74	0	0	9	4	0	1	0
Atlantic silverside (*Menidia menidia*)	755	539	263	0	0	0	0	0	0	0	0
Banded killifish (*Fundulus diaphanus*)	1	7	5	0	0	0	0	0	0	0	0
Bay anchovy (*Anchoa mitchilli*)	6	78	557	0	0	0	0	379	151	8	231
Bluefish (*Pomatomus saltatrix*)	0	0	0	3	0	0	0	0	0	0	0
Blueback herring (*Alosa aestivalis*)	0	3	0	0	0	0	1	0	0	0	2
Gizzard shad (*Dorosoma cepedianum*)	5	0	0	1	4	0	3	0	0	0	0
Herring (*Alosa* spp.)	0	0	4,662	0	0	0	0	0	0	0	0
Hogchoker (*Trinectes maculatus*)	0	0	0	0	0	0	0	1	0	0	1
Inland silverside (*Menidia beryllina*)	4	0	61	0	0	0	0	0	0	0	0
Northern pipefish (*Syngnathus fuscus*)	0	0	0	0	0	0	0	1	0	0	0
Pipefish species	1	0	0	0	0	0	0	0	0	0	0
Pumpkinseed sunfish (*Lepomis gibbosus*)	22	0	0	0	1	0	0	0	0	0	0
Spot (*Leiostomus xanthurus*)	0	0	0	4	0	0	8	170	0	0	1
Striped bass (*Morone saxatilis*)	1	0	0	10	0	0	2	0	0	0	0
Striped killifish (*Fundulus majalis*)	0	33	8	0	0	0	0	0	0	0	0
Summer flounder (*Paralichthys dentatus*)	0	0	0	0	0	0	0	3	0	0	0
Weakfish (*Cynoscion regalis*)	0	0	0	2	0	0	0	3	0	0	0
White perch (*Morone americana*)	74	3	1	0	0	0	0	19	0	0	19
Total individuals	**1,070**	**660**	**5,629**	**96**	**5**	**0**	**23**	**606**	**153**	**12**	**596**

3.3.3 Other Protected and Special Status Species

In addition to designated EFH (discussed in Section 4), the SPCT area may support other protected species under Section 7(a)(2) of the Endangered Species Act, as well as the bottlenose dolphin protected under the Marine Mammal Protection Act. TTT is consulting the NMFS Office of Protected Resources regarding these species. State-listed special status species are also potentially present in the Action Area. Four species, including a turtle and three mussels, are on the MDNR (2021) List of Rare, Threatened, and Endangered Species of Baltimore County, and five species are on the MDNR in need of conservation list. Through environmental review, it was determined that the four species on the MDNR List of Rare, Threatened, and Endangered Species were unlikely to be in the project area due to habitat requirements. Table 2 lists the species that have potential to be in the project area from the in need of conservation list.

Table 2. Aquatic Species in Need of Conservation in Baltimore County in the SPCT Project Area

Species	State Status or Rank	Required Habitat	Potentially Present in SPCT Project Area?
American shad (*Alosa sapidissima*)	In need of conservation	Spawn in freshwater tributaries of Chesapeake Bay	Yes; suitable habitat for foraging is available
Atlantic menhaden (*Brevoortia tyrannus*)	In need of conservation	Found in all salinity zones within the Chesapeake Bay	Yes; found in project area fish surveys
Hickory shad (*Alosa mediocris*)	In need of conservation	Spawn in freshwater tributaries of estuaries and bays	Yes; suitable habitat for foraging is available
Striped bass (*Morone saxatilis*)	In need of conservation	Found in fresh or salt water in estuaries and bays	Yes; found in project area fish surveys
Yellow perch (*Perca flavescens*)	In need of conservation	Found in brackish waters of Chesapeake Bay	Yes; suitable habitat is available

Sources: MDNR 2024

3.3.4 Hydrodynamics

The Action Area near Sparrows Point is adjacent to and within the mainstem of the Patapsco River about 6 miles south of Baltimore Harbor. The tides in Baltimore Harbor are characterized as semi-diurnal with two high tides and two low tides per day. Spring and neap tides are experienced in Baltimore Harbor in 2-week cycles, where the tide range is largest during spring tides and smallest during neap tides. The mean tide range reported at the Fort McHenry tide gauge (NOAA CO-OPS Station 8574680) is relatively low at 1.15 feet, which results in low current velocities throughout the harbor. Modeled tidal currents under existing conditions were evaluated and assessed near Sparrows Point for the Proposed Action. The highest current speeds (0.25 to 0.41 knot) were modeled in the Brewerton Channel adjacent to Sparrows Point. Tidal current velocities measured at the southwest corner of Sparrows Point, as well as between Fort Carroll and the former Key Bridge site, were between 0.20 and 0.33 knot. The lowest modeled current velocities were within the L-shaped basin at Sparrows Point and were less than 0.02 knot. The modeled current velocities were generally higher during flood tides than during ebb tides.

4. EFH Designated Species in the Action Area

The Mid-Atlantic Fishery Management Council manages more than 65 species in federal coastal waters and the exclusive economic zone (extending from 3 to 200 miles off the coast) of New York, New Jersey, Pennsylvania, Delaware, Maryland, and Virginia. The Patapsco River at its confluence with the mainstem Chesapeake Bay is designated as EFH for a variety of federally managed fish species.

During public scoping in February 2024, NMFS recommended that the EFH assessment focus on six EFH species (Table 3), as the EFH descriptions of these species match the conditions observed in the project area. In addition to the six EFH species identified by NMFS during scoping, the NMFS EFH Mapper tool also identified the summer flounder (*Paralichthys dentatus*) SAV habitat area of particular concern (HAPC) as potentially occurring in the project area.

Site-specific surveys confirmed the absence of SAV within the direct project area (EA 2024f), although some SAV has been documented in the lower portion of Bear Creek and Jones Creek, north of Old Road Bay (Virginia Institute of Marine Science 2024). Three individual summer flounder were captured in the Summer 2023 fish surveys, indicating some usage of the project area by this EFH species. As such, summer flounder HAPC is included in the EFH analysis. 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" (Packer et al. 1999).

Table 3 describes the species for which EFH has been designated in the project area, identified by early coordination with NMFS.

Table 3. EFH Species Potentially Present in the SPCT Project Area

EFH Species	Life Stage			
	Eggs	Larvae	Juvenile	Adults
Windowpane flounder (*Scophthalmus aquosus*)			x	x
Summer flounder (*Paralichthys dentatus*)		x	x	x
Bluefish (*Pomatomus saltarix*)			x	x
Atlantic butterfish (*Peprilus triacanthus*)	x	x	x	x
Black sea bass (*Centropristis striata*)			x	x
Clearnose skate (*Raja eglanteria*)			x	x
Summer flounder HAPC	-	-	-	-

Notes:

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

Sources: Mid-Atlantic Fishery Management Council 1988, 1996a, 1996b, 1998a,1998b, 2011; Nelson et al. 2017; NMFS 2018.

Detailed descriptions for each EFH species, including habitat descriptions, natural history, and stock status, are described below. Based on salinity and temperature requirements for each EFH species, there is potential for each species listed in Table 3 to utilize the Action Area.

4.1 Windowpane Flounder

EFH for juvenile windowpane flounder (*Scophthalmus aquosus*) is bottom habitat with a substrate of mud or fine-grained sand in bays and estuaries, and coastal habitats from the Gulf of Maine to northern Florida. Juveniles prefer mixed (0.5 to 25 ppt) and high (> 25 ppt) salinity zones in estuaries with warmer waters at depths of up to 197 feet. Juveniles also have EFH in the mixing zone of the Chesapeake Bay. Rough bottom habitat and eelgrass beds are also utilized.

EFH for adult windowpane flounder is intertidal and subtidal bottom habitats with a substrate of mud or fine-grained sand around the perimeter of the Gulf of Maine to Cape Hatteras. Generally, adults prefer waters up to 230 feet deep in mixed and high salinity zones. Adults have EFH in the mixing zone of the Chesapeake Bay.

Windowpane flounder range from the Gulf of Saint Lawrence to northern Florida; in the northwest Atlantic, they inhabit the continental shelf, nearshore waters, and estuaries including the Chesapeake Bay. Spawning occurs offshore beginning in April south of the Chesapeake Bay and progresses northward to southern New England in summer and returns southward in fall (Wang and Kernahan 1979). Windowpane flounder juveniles that settle in shallow inshore waters move to deeper waters as they grow. Juveniles and adults may migrate to nearshore or estuarine habitats in the southern Mid-Atlantic Bight in the fall (Chang et al. 1999).

Juvenile and adult windowpane flounder feed on small crustaceans and various fish larvae. Predators include a number of demersal fish, including spiny dogfish (*Squalus acanthias*), weakfish, and summer flounder (Chang et al. 1999). windowpane flounder are not recreationally fished (Murdy et al. 1997). Windowpane flounder are not a target of the commercial fishing industry and are mainly caught as bycatch in bottom trawl fisheries.

4.2 Summer Flounder

EFH for summer flounder larvae is nearshore waters at depths greater than 30 feet. They are abundant in mixing and seawater salinity zones, and most frequently found in the northern part of the Mid-Atlantic Bight from September to February and the northern part from November to May. EFH for larvae also includes the mixing zone of the Chesapeake Bay.

Juveniles use estuarine and open bay areas as well as marshy creek areas with water temperatures greater than 37°F and salinities from 10 to 30 ppt. EFH for juveniles also includes the continental shelf to depths of 500 feet. EFH for adults is sandy seafloor areas of shallow coastal waters and estuaries in the late spring and early summer. Both juveniles and adults have EFH in the mixing zone of the Chesapeake Bay. Generally, summer flounder inhabit shallow coastal and estuarine waters during warmer months and move offshore on the outer continental shelf at depths of 500 feet in colder months.

Summer flounder exhibit strong seasonal inshore-offshore movements. Adult and juvenile summer flounder normally inhabit shallow coastal and estuarine waters during the warmer months of the year and remain offshore during the fall and winter (Packer et al. 1999). Generally, spawning occurs over the continental shelf during the fall offshore migration and into the winter months. Spawning north of the Chesapeake Bay peaks in October and south of the Bay in November (Smith 1973). Summer flounder congregate in shallow warm water in upper reaches of channels and large tidal creeks in April and move into the inlets as spring and summer set in. Abundance peaks in the ocean near inlets during July and August.

Smaller juveniles feed upon infauna such as polychaetes; larger juveniles feed upon fish, shrimp, and crabs in relation to their environmental abundance. Adults are opportunistic feeders with fish and crustaceans making up a substantial portion of their diet. Summer flounder supports commercial and recreational fisheries (Packer et al. 1999). Summer flounder is not considered to be overfished, and overfishing is not occurring for this species (NMFS 2024a). Three summer flounder were captured in the project area during the seasonal aquatic surveys.

4.3 Bluefish

EFH for juvenile bluefish (*Pomatomus saltatrix*) in the Chesapeake Bay is waters within mixing and seawater salinity zones from May to October. Adults use the Chesapeake Bay between April and October. Bluefish adults are highly migratory, and distribution varies seasonally and according to the size of the individuals comprising the schools. Bluefish are generally found in normal shelf salinities (greater than 25 ppt) and both juveniles and adults have EFH in the mixing zone of the Chesapeake Bay.

Bluefish travel in schools of like-sized individuals and undertake seasonal migrations, moving into the Mid-Atlantic Bight during spring, and south or farther offshore during fall. Juveniles have been recorded from all Mid-Atlantic Bight estuaries surveyed (Fahay et al. 1999).

Juvenile bluefish consume invertebrates such as shrimp, and small fish such as Atlantic menhaden. Adults consume larger fish, including menhaden, Atlantic Silverside, herring, Striped Bass, and bay anchovy. Bluefish support commercial and recreational fisheries. Large population fluctuations are common (Fahay et al. 1999). Within the Mid-Atlantic Bight, bluefish is one of the most important recreational species. Currently, bluefish are considered to be overfished, but overfishing is currently not occurring (NMFS 2019).

During surveys for the Proposed Action, three individual bluefish were captured during the summer surveys.

4.4 Atlantic Butterfish

EFH for Atlantic butterfish (*Peprilus triacanthus*) eggs is inshore estuaries and embayments from Massachusetts Bay to the Chesapeake Bay. EFH is the upper 656 feet with water temperatures between 43.7 and 69.8°F. Larvae are generally found over bottom depths between 134 and 1,148 feet, and water temperatures between 47.3 to 70.7°F. EFH for juveniles is pelagic habitats in inshore estuaries and embayments from Massachusetts Bay to Pamlico Sound, North Carolina, in inshore waters of the Gulf of Maine and the South Atlantic Bight, and on the inner and outer continental shelf from southern New England to South Carolina. EFH for juvenile Atlantic butterfish is generally found in areas with depths between 33 and 919 feet, temperatures between 47.3 and 70.7°F, and salinity above 5 ppt. Adults utilize water depths of 108 to 2,690 feet with salinity above 5 ppt and 15 ppt for spawning.

Butterfish are fast-growing and short-lived. They are pelagic (live in open water) and form loose schools, often near the surface. Atlantic butterfish are common in the Chesapeake Bay from March to November (Geer and Austin 1997) and spawn in the Chesapeake Bay from May to July. In late fall, butterfish move southward and offshore in response to falling winter temperatures (Cross et al. 1999). Stone et al. (1994)

found that butterfish eggs, larvae, juveniles, adults, and spawning adults were common in the mixing zone and saltwater zones of the Chesapeake Bay mainstem.

4.5 Black Sea Bass

EFH for juvenile black sea bass (*Centropristis striata*) is estuaries with warmer waters (greater than 43°F), salinity greater than 18 ppt, and rough bottom habitat or shellfish and eelgrass beds. Juveniles are predominantly found in estuaries in spring and summer and have EFH in the mixing zone of the Chesapeake Bay. During winter months, juveniles may also use offshore clam beds and shell patches along the continental shelf.

Adult black sea bass are generally found in estuaries from May through October and in the mixing zone of the Chesapeake Bay. Wintering adults (November through April) are generally offshore, south of New York to North Carolina. Temperatures above 43°F seem to be the minimum requirements for EFH. Structured habitats (natural and human-made), sand, and shell are preferably used.

Black sea bass distribution changes seasonally as they migrate from coastal areas to the outer continental shelf while water temperatures decline in the fall, and migrate from the outer shelf to inshore areas as temperatures warm in the spring (Steimle et al. 1998). Unlike juveniles, adults tend to enter only larger estuaries and are most abundant along the coast. Larger fish occur more in deeper water than smaller fish. Adults remain near structures during the day but can move away to feed on open bottom at dawn and dusk. Juveniles in estuaries prey upon small epibenthic invertebrates, especially crustaceans and mollusks. Adults in estuaries prey upon benthic and near-bottom invertebrates and small fish. Black sea bass support commercial and recreational fisheries (Steimle et al. 1998). The most recent stock assessment for black sea bass indicates that this species is not overfished, and that over-fishing is not occurring (NMFS 2019).

4.6 Clearnose Skate

EFH for juveniles is bottom habitat with sand, gravel, or mud substrate from the shoreline to 1,312-foot water depth with water temperatures between 39.2 and 60.8°F. Adults utilize subtidal bottom habitat in the Chesapeake Bay with higher (>25 ppt) salinities. Clearnose skate (*Raja eglanteria*) is the most common skate found in the Chesapeake Bay and feed on crustaceans, mollusks, and small fish.

4.7 Summer Flounder HAPC

Three summer flounder were captured in Summer 2023 surveys, although no notable SAV habitat was documented. HAPC includes all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes for juvenile and adult summer flounder. Both adults and juveniles exhibit a marked preference for sandy bottom and/or SAV beds, particularly areas nearby.

4.8 Other Important Species

Coordination with NMFS also indicated that several prey species, such as bay anchovy, spot (*Leiostomus xanthurus*), and white perch (*Morone americana*), use the waters in the navigation channel as feeding, resting, and winter refugia habitat. The benthic habitats in the project area support a variety of invertebrate prey species, including polychaete worms, bivalves, and crustaceans. During the SPCT fish surveys, these prey species were documented in the project area.

5. Effects of the Preferred Alternative on EFH

In-water construction activities for the Proposed Action would comply with any applicable environmental windows for sensitive species to be determined by NMFS. This section includes a summary of impacts on federally managed fish species and their life stages (as identified in Table 1) and the designated EFH in the Action Area. The analysis focuses on impacts that reduce the quality or quantity of the EFH or result in conversion to a different habitat type for all life stages of species with designated EFH within the Action Area.

The impacts evaluated for EFH and other important fish species are:

1. **Underwater Noise** from pile driving
2. **Turbidity** from channel dredging, pile driving, and installation of the temporary outfall and diffuser
3. **Habitat Alteration** from channel dredging
4. **Vessel Traffic** from construction and long-term use of the SPCT
5. **Impingement and Entrainment** from hydraulic pumping operations for offloading of dredged material

5.1 Underwater Noise from Pile Driving

Noise impacts from anthropogenic sources (e.g., in-water construction activities) have the potential to impact fish, sea turtles, and other marine species that rely on hearing underwater to forage, communicate, detect predators, and navigate (NMFS 2022a). Receptor response to noise varies by the types and characteristics of the noise source, distance from the source, water depth, receptor sensitivity, and temporal scale. Noise can be intermittent or continuous, steady or impulsive, and it may be generated by either mobile or stationary sources.

5.1.1 Noise Impact Types and Scenario Overview

Construction activities that could generate noise with the potential to impact fish are associated with the construction of the SPCT terminal. These activities include:

1. Installation of steel pilings during construction of the marginal wharf with piling diameters of 30 and 36 inches
2. Demolition of the existing pier structure

During construction, the noise generated by pile driving could rise to the level of affecting fish, as driving can produce loud, impulsive sound waves. Other activities, such as dredging or vessel traffic, would produce some noise, but not at levels that would impact fish. Activities involving driving of piles are the scenarios that were modeled to assess underwater noise impacts on fish.

The details on the pile driving activities for each construction scenario are summarized in Table 4. During the terminal design process, measures to reduce the overall number of piles necessary for the terminal wharf structure were used to the extent practicable.

Table 4. In-Water Pile Driving Activities

Activity	Approximate Activity Duration (days)	Maximum Number of Piles Installed per Day	Number and Diameter of Steel Piles	Method of Pile Driving
Wharf piling installation	278 (minimum number of days over a 3-year window)	6	602 30-inch piles 1,063 36-inch piles	Impact and vibratory
Water-based demolition	20	NA	Varied	Vibratory

Notes:

NA = not applicable

Acoustic thresholds for the onset of underwater acoustic impacts from pile driving activities were calculated for fish in the project area using the Optional Multi-Species Pile Driving Calculator Tool, Version 1.2-Multi-Species: 2024, provided on the NMFS website (NMFS 2024b). General assumptions were used in the model with the best available project information and technical guidance to estimate the impacts of underwater sound on fishes. More specific assumptions associated with each scenario are discussed below.

Both vibratory and impact hammers are proposed to be used to install piles for the terminal construction. It is anticipated that piles would be driven to the maximum possible depth using a vibratory hammer, followed by driving with an impact to the final target sub-surface elevation. Impact pile driving produces intense, broadband (a sound signal that includes acoustic energy across a wide range of frequencies), impulsive sounds in which the sound pressure is very large at the instant of the impact and then decays rapidly with distance; the duration of the peak pressure pulse is usually only a few milliseconds (University of Rhode Island 2017). The majority of energy in pile impact pulses is at frequencies between 100 and 400 hertz (Matuschek and Betke 2009).

Vibratory pile driving produces a continuous sound with peak pressures lower than those observed in pulses generated by impact pile driving. Sound signals generated by vibratory pile driving usually consist of a low fundamental frequency of 20 to 40 hertz (University of Rhode Island 2017). Low-frequency signals produce long sound wavelengths. These long-wavelength signals encounter fewer suspended particles as they pass through the water, and thus their energy is absorbed more slowly (Hatch and Wright 2007). As a result, low-frequency signals travel farther than higher-frequency signals. Therefore, noise produced by a vibratory hammer can travel farther in water than noise produced by an impact hammer, despite having a lower peak pressure at the source.

5.1.2 Noise Modeling Considerations and Inputs

5.1.2.1 Geographic Range of Noise Impacts

The geographic extent of underwater noise impacts from pile driving is dependent on factors such as the type of pile driving equipment, length of time spent pile driving, and environmental conditions. The extent to which fishes react to sound varies among species, their life stage, inter- and intra-specific interactions, and other environmental conditions. Guidelines on the impact of impulsive sounds on the behavior of fishes are found in the *National Marine Fisheries Service: Summary of Endangered Species Act Acoustic Thresholds (Marine Mammals, Fishes, and Sea Turtles)*, specifically the 2008 Fisheries Hydroacoustic Working Group (FHWG) criteria (FHWG 2008). Non-injury behavioral responses of fishes range from strong avoidance by virtually all individuals to tolerance and habituation (Anderson 1990; Feist et al. 1992). It is anticipated that impacts from noise sources would be the same for all fish species (less than and greater than 2 grams) potentially present within the project area. All fish species in the area could potentially use the pelagic and bottom habitat near the sound source, and there are no data indicating that a particular fish species would be more sensitive to impulsive sound than another.

5.1.2.2 Fish Physiology and Morphology

Though the injury criteria distinguish between fish of different sizes (fish weighing less than 2 grams and those weighing 2 grams or more), the criteria do not distinguish between fish of different hearing sensitivity. However, criteria are expected to be conservative and protective of pelagic and demersal fish potentially present within the project area. It is worth noting that the hearing sensitivity of fish varies by species and has been linked to morphology, specifically the presence of a swim bladder, the proximity of the swim bladder to the ear, and the presence of adaptations that link the swim bladder to the ear. Fish with swim bladders closest to the ear and those with specialized adaptations are most sensitive to sound since they are stimulated by sound pressure via the gas within the swim bladder as well as by particle motion, whereas fish without swim bladders and fish without swim bladders near the ear are only stimulated by particle motion (Popper and Hawkins 2019).

Within the different morphological groups, hearing sensitivity also varies by species; for example, black sea bass, an EFH species potentially present in the project area, is fairly sensitive to sound compared to related species (Stanley et al. 2020). Several species of clupeid fishes are able to detect and respond to ultrasonic sounds, likely due to an ear specialization unique to clupeids (Popper et al. 2004). Clupeid fishes are of particular concern given proximity of the site to migratory corridors for anadromous herrings. blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), American shad, hickory shad (*Alosa mediocris*), Atlantic menhaden, and gizzard shad (*Dorosoma cepedianum*), all clupeid fishes, have been documented to use habitat in and/or migrate through the Patapsco River, indicating that fish with high hearing sensitivity may be in the project area during pile driving. Though given the sensitivity to underwater sound, it is still anticipated that these fish would be protected using the FHWG criteria.

5.1.2.3 Fish Acoustic Thresholds

The calculations from the NMFS Multi-Species Pile Driving Calculator Tool were used to create a multi-ring buffer of isopleths (i.e., sound contours) diminishing in 1 decibel (dB) increments from the sound source. These thresholds are the lowest level where injury could occur (FHWG 2008) and are used to indicate the distance from the noise source where fishes could be exposed to injury or disturbance.

The modeled fish thresholds for physical injury and behavioral disturbance were used to determine the distances to onset of physical injury and behavioral disturbances (Tables 5 and 6). Physical injuries to fish from noise sources can include inner ear tissue damage and hearing loss (Casper et al. 2013) and rupture or damage to the swim bladder (California Department of Transportation [Caltrans] 2020). Behavioral disturbances include showing a brief awareness of the sound, small movements, or escape responses to move away from the noise source entirely (University of Rhode Island 2017). Thresholds for these effects are measured by evaluating the cumulative sound exposure level (SEL) over the duration of a noise event (SEL_{cum}), the maximum instantaneous sound pressure over the duration of a noise event (SPL_{peak}), and the root mean square (RMS) pressure.

The intensity of pile driving noise is greatly influenced by factors such as the types of piles and hammers and the physical environment in which the driving activity takes place. Since site-specific sound monitoring data are not available, reasonable noise source levels that would be likely to result from pile driving during construction, or proxy sound levels, from the NMFS calculator were selected (Table 5). Proxy sound levels were selected based on the pile size and type. When possible, sound levels from water depths similar to the maximum water depth expected in the SPCT project area (-52 feet following dredging for SPCT) were selected. However, the sources of the available monitoring data vary, and values from shallower water depths were used in sound modeling when values from deeper water depths were not available.

Different types of sound pressure effects can cause different reasonable noise source levels that may result from pile driving. The peak pressure effect occurs from impact driving, as opposed to vibratory driving, which creates a more constant sound pressure with no peak decibel level. The peak effect from impact driving is the greatest value of the sound signal and is measured in dB re 1 µPa (underwater noise in decibels referenced to a pressure of 1 micropascal), used to specify the intensity of sound underwater (NMFS 2022b). The RMS pressure effect is the average intensity of the sound signal over time, which is applied to both impact and vibratory driving. The SEL is the measure of energy that considers both the level and duration of exposure to the sound (Table 5) (NMFS 2022b). SEL is measured in units of dB re 1 μPa^2 s (underwater noise in decibels referenced to a pressure of 1 micropascal squared seconds).

Table 5. Underwater Noise Modeling Inputs

Pile Type/Activity	Installation Method	Maximum Number of Hammers Used Concurrently	Impact Driving Strikes per Pile [1]	Vibratory Driving Estimated Minutes Time to Drive Each Pile [2] (minutes)	Peak (dB re 1 μPa)	SEL (dB re 1 μPa^2 s)	RMS [3] (dB re 1 μPa)	Proxy Value Water Depth (feet)	Proxy Value Source [4]
30-inch wharf piling	Vibratory	3	NA	90	NA	NA	153	9.8	Caltrans 2020
	Impact	3	600	NA	207	178	199	49	Caltrans 2015
36-inch wharf piling	Vibratory	3	NA	180	NA	NA	175	16	Caltrans 2015
	Impact	3	900	NA	210	183	198	33	Caltrans 2015
Water-based demolition [5]	Vibratory	3	NA	NA	NA	NA	180	16	Caltrans 2020

Notes:

1. Strikes per pile for impact driving and time to drive each pile for vibratory pile driving estimated based on the driving logs of recent projects. For the concurrent scenario, a weighted average based on average piles per day was used to estimate values.

2. For water-based demolition, activity types and durations may vary. Modeling assumed constant use of both vibratory hammers during work hours (10 hours).

3. The RMS proxy values are based on the noise of a single hammer and have been adjusted to account for multiple impact hammers being used concurrently, as per guidelines in the Washington State Department of Transportation Biological Assessment Preparation Manual (WSDOT 2020). To determine the full range of noise levels, underwater noise modeling for wharf piling activities assumed that each of the hammers would be driving the same pile size.

4. Proxy values selected from Optional Multi-Species Pile Driving Calculator Tool, Version 1.2-Multi-Species: 2024 (NMFS 2024b).

5. As pile types are unknown for water-based demolition, modeling used the maximum RMS proxy value for vibratory pile driving.

NA = not applicable; SEL = sound exposure level; RMS = root mean square; dB re 1 μPa = underwater noise in decibels referenced to a pressure of 1 micropascal; dB re 1 μPa^2 s = underwater noise in decibels referenced to a pressure of 1 micropascal squared seconds

Table 6. Fish Pile Driving Injury Guidance

Fish Weight	Onset of Physical Injury due to Impact Pile Driving		Onset of Behavioral Disturbance due to Impact and Vibratory Pile Driving
	SEL_{cum}	SPL_{peak}	RMS
Fishes weighing 2 grams or more	187 dB	206 dB	150 dB
Fishes weighing 2 grams or less	183 dB	206 dB	150 dB

5.1.2.4 Sound Proxy Values

The maximum number of hammers for each activity associated with the construction of the terminal is included in Table 5. The RMS proxy values are based on the noise of a single hammer and have been adjusted to account for multiple impact hammers being used concurrently. The Washington State Department of Transportation Biological Assessment Preparation Manual (Washington State Department of Transportation [WSDOT] 2020) presents the rules for combining noise levels. To combine noise levels, only the three loudest pieces of equipment are considered. The two lower noise levels are combined first, and then the result is combined with the loudest noise level. For each activity in Table 5, the noise levels for each hammer are assumed to be the same. To combine noise from two pieces of equipment that are within 0 to 1 dB of each other, 3 dB is added to the higher value to combine noise levels. To add the third piece of equipment to the combined noise level (now 3 dB greater), 2 dB is added to the combined noise level. Thus, for two hammers being used concurrently, 3 dB was added to the RMS proxy value, and for three or five hammers being used, 5 dB was added to the RMS proxy value. The underwater noise modeling for wharf piling installation assumed that the hammers would be driving to the same pile size to determine the worst-case (highest) noise levels.

5.1.2.5 Sound Attenuation

Sound attenuation measures for underwater noise may include the use of cushion blocks or bubble curtains during pile driving activities. Sound reduction associated with the use of cushion blocks is already incorporated into the NMFS Multi-Species Tool; therefore, no additional attenuation was included in the underwater noise modeling for aquatic resources.

TTT would perform underwater noise monitoring during pile driving activities to verify the noise levels generated in the project area. Further coordination with NMFS would occur during noise monitoring to identify additional sound attenuation measures that may be required to reduce impacts on aquatic resources and to provide a zone of safe passage for fishes in the Patapsco River.

5.1.3 Noise Modeling Impacts

The results presented in this EFH Assessment show the distances to the following impacts:

1. Onset of behavioral disturbance from a vibratory hammer with no sound attenuation measure for each activity
2. Physical injury and behavioral disturbance from an impact hammer with no sound attenuation for the largest noise-producing activities

Noise modeling results are presented in figures based on three in-water sound source locations for the SPCT pile driving activities — one location at the northern point of the east shoreline of Coke Point (near where the existing structures would be demolished), one location within the embayment on the east side of Coke Point (within the turning basin) and one location outside the embayment at the southern point of the Coke Point peninsula. Noise impacts without sound attenuation are presented below and in Table 5. Figures presented in this document represent impact driving, as well as the maximum distance to behavioral disturbance due to vibratory driving during installation of the 36-inch piles and water-based demolition. Results for the additional construction activities with less noise impacts (raw model outputs) are included in Attachment B.

5.1.3.1 Noise Impacts on Fish from Impact Driving

Wharf pilings are 30 and 36 inches in diameter (Table 4). A maximum of three impact hammers would operate concurrently, and each hammer would install one to two piles per day for a typical rate of three piles per day and a maximum rate of six piles per day installed via impact driving. As summarized in Table 7, for the wharf piling installation with an impact hammer, the largest maximum distance to peak onset (SPL_{peak}) of physical injury in any size fishes is 61 feet for either 30- or 36-inch steel pipe piles at a rate of either three or six piles per day (Figures 7 through 9).

The maximum distance to physical injury using the cumulative sound exposure level (SEL_{cum}) is within 5,200 feet (approximately 1 mile) for fish greater than 2 grams and is based on driving six 36-inch steel pipes per day (Figures 7 through 9). Reducing the driving to three piles per day would decrease the SEL_{cum} distance to 3,443 feet (approximately 0.65 miles); however, for fish less than 2 grams, the distance to physical injury for driving 36-inch piles would remain at 5,200 feet when driving either three or six piles per day (Table 7).

The distance for behavioral disturbance (RMS) in any size fishes from impact driving of wharf piles is largest for the driving of 36-inch piles (either three or six piles per day) and is 51,998 feet or approximately 9.85 miles.

5.1.3.2 Noise Impacts on Fish from Vibratory Driving

Wharf Pilings

The wharf piles would also be driven with a vibratory hammer. A maximum of three vibratory hammers would operate concurrently, and each hammer would install one to two piles per day for a typical rate of three piles per day and a maximum rate of six piles per day installed via vibratory driving. The maximum distance to onset of behavioral disturbance is 1,523 feet (approximately 0.3 mile) from vibratory driving of the 36-inch piles (Table 7).

In-Water Demolition

Precise activities and pile sizes to be removed during water-based demolition are yet to be determined and would be finalized closer to project construction. For modeling, it was assumed that only vibratory impacts would be produced during removal of existing in-water structures. Modeling conservatively predicted that fishes of any size may experience behavioral disturbance at a distance of 3,281 feet (approximately 0.6 mile) from demolition / pile removal activities (Table 7, Figures 10 through 12).

Table 7. Maximum Distances to Fish Sound Thresholds from Impulsive Sources

Activity	Pile Count and Size/Type	Vibratory Hammer Distance to Onset of Behavioral Disturbance [1] (feet)	Impact Hammer Distance to Onset of Behavioral Disturbance (no attenuation) (feet)	Impact Hammer Distance to Onset of Physical Injury (no attenuation) (feet)		
		150 dB RMS (any size fish)	150 dB RMS (any size fish)	206 dB SPL_{peak} (any size fish)	187 dB SEL_{cum} (fish greater than 2 grams)	183 dB SEL_{cum} (fish less than 2 grams)
Wharf piling (3 piles per day)	602 30-inch steel pipe piles	961	32,808	61	1,214	2,070
Wharf piling (6 piles per day)	602 30-inch steel pipe piles	961	32,808	61	1,927	2,070
Wharf piling (3 piles per day)	1,063 36-inch steel pipe piles	1,523	51,998	61	3,443	5,200
Wharf piling (6 piles per day)	1,063 36-inch steel pipe piles	1,523	51,998	61	5,200	5,200
In-water demolition	Varied	3,281	NA	NA	NA	NA

Notes:

1. For vibratory pile driving, only behavioral thresholds exist for fishes.

NA = not applicable

Figure 7. Maximum Distance to Noise Impacts on Fish from Impact Hammer without Attenuation – Wharf Construction Upper Shoreline

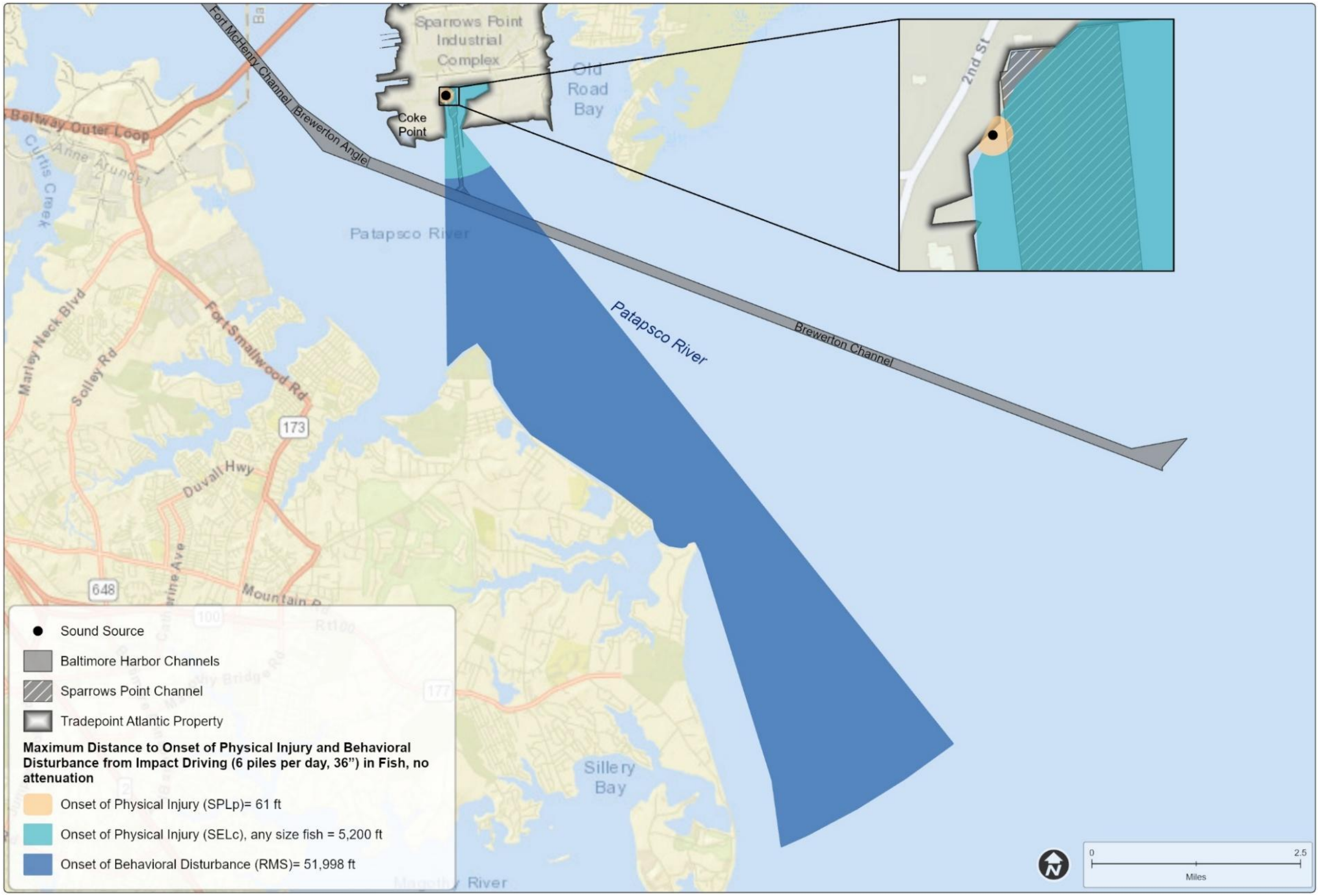


Figure 8. Maximum Distance to Noise Impacts on Fish from Impact Hammer without Attenuation – Wharf Construction at Middle Shoreline of Turning Basin

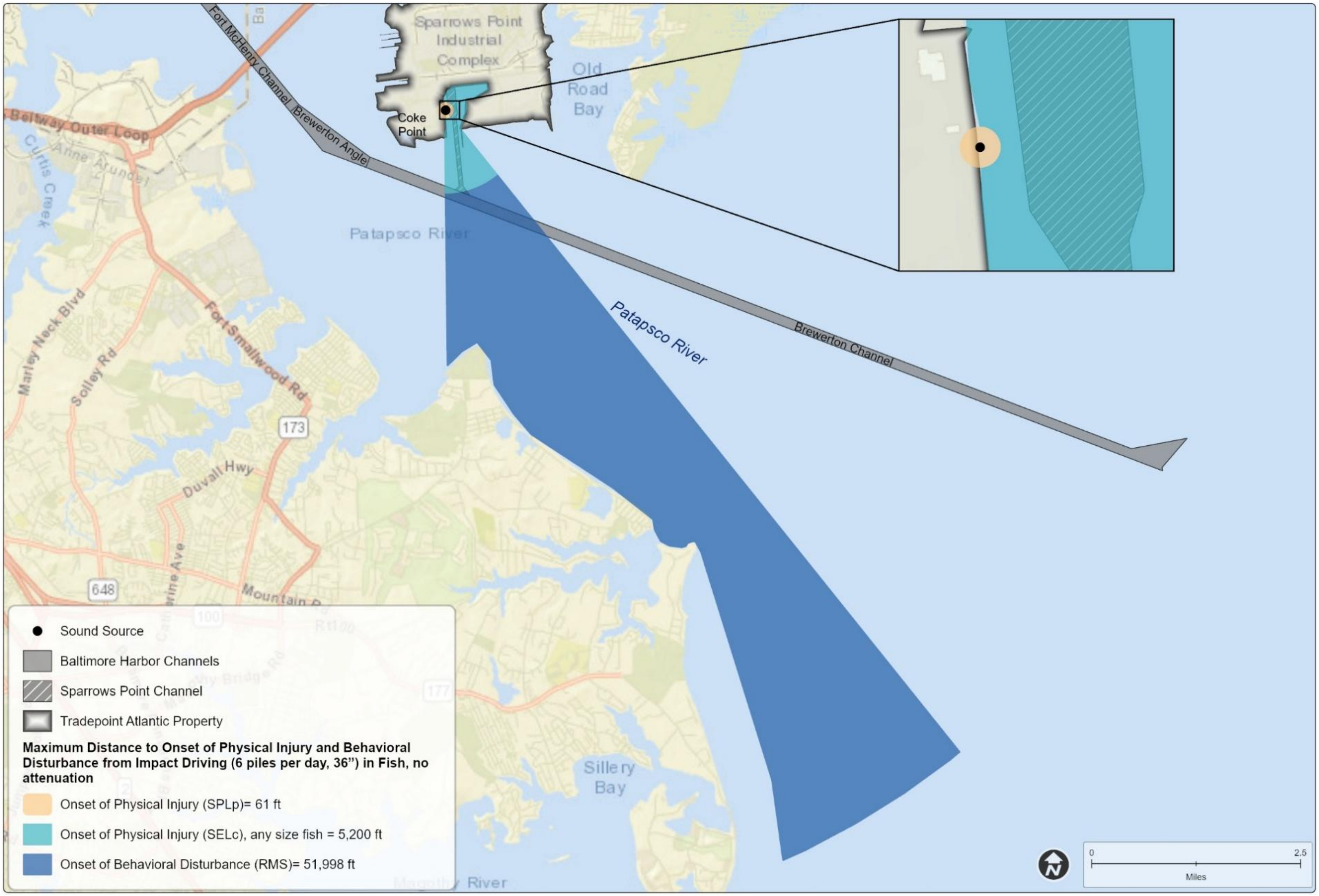


Figure 9. Maximum Distance to Noise Impacts on Fish from Impact Hammer without Attenuation – Wharf Construction at Southern Point

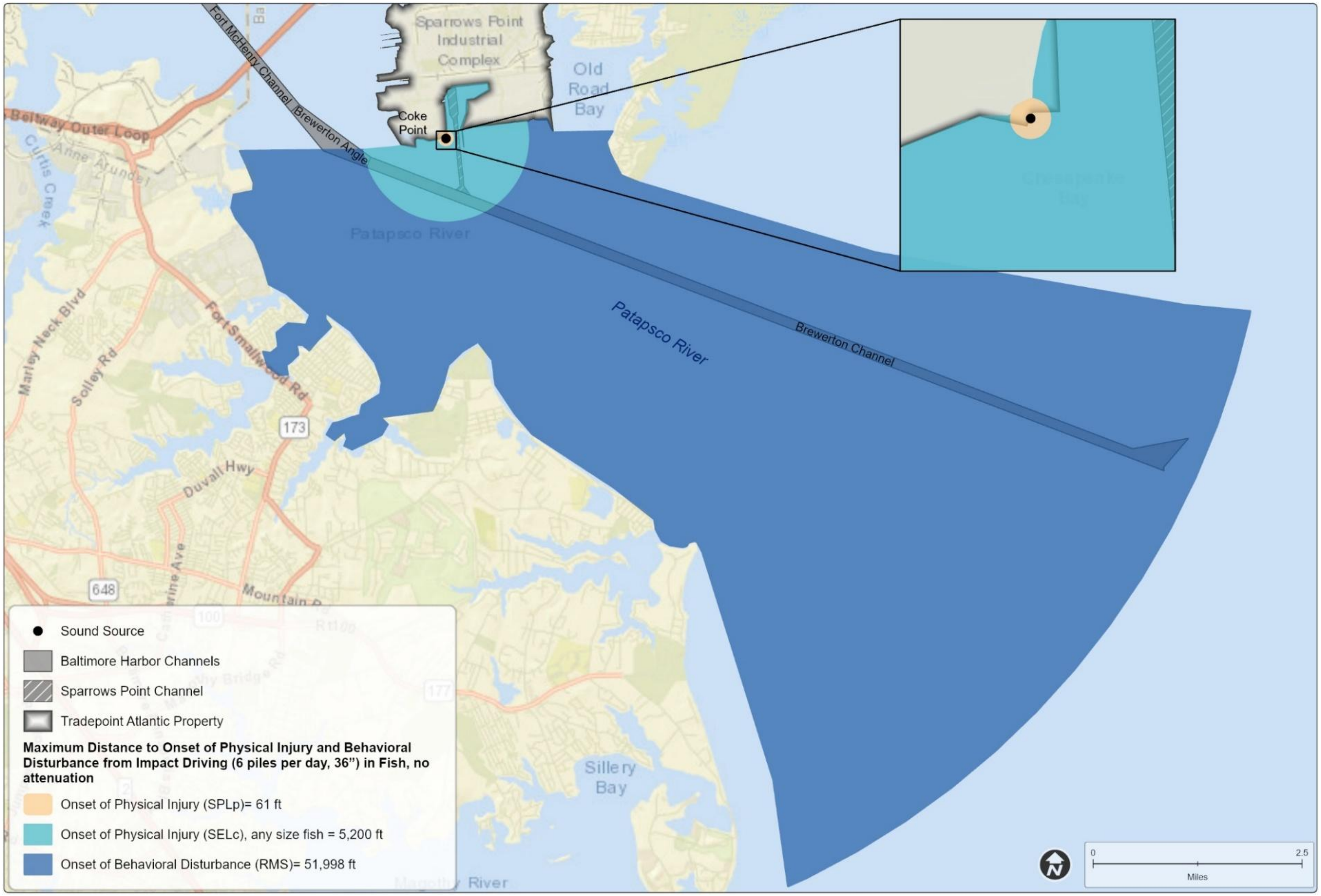


Figure 10. Maximum Distance to Noise Impacts on Fish from Vibratory Hammer without Attenuation – Wharf Construction at Upper Shoreline of Turning Basin

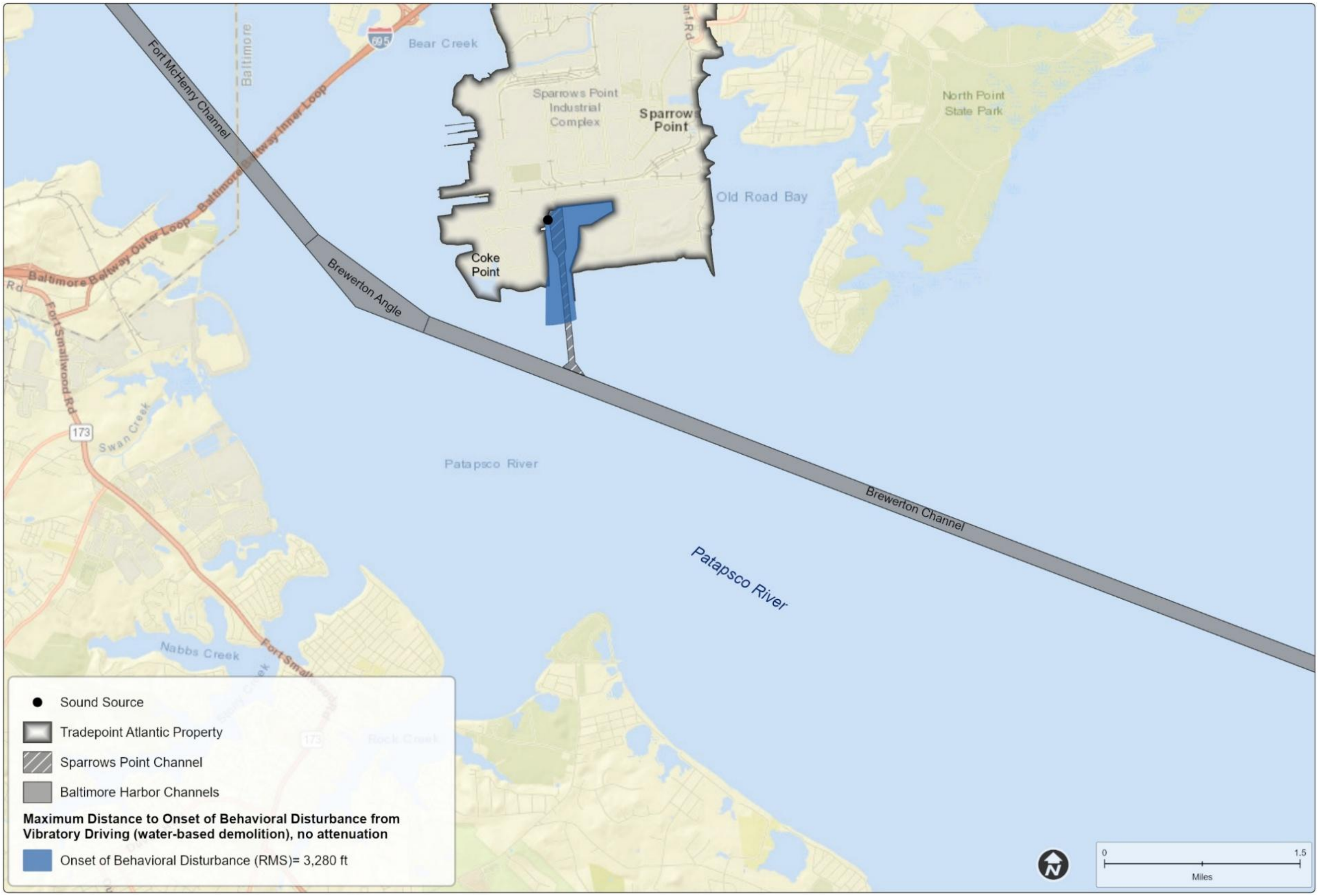


Figure 11. Maximum Distance to Noise Impacts on Fish from Vibratory Hammer without Attenuation –Wharf Construction at Middle Shoreline of Turning Basin

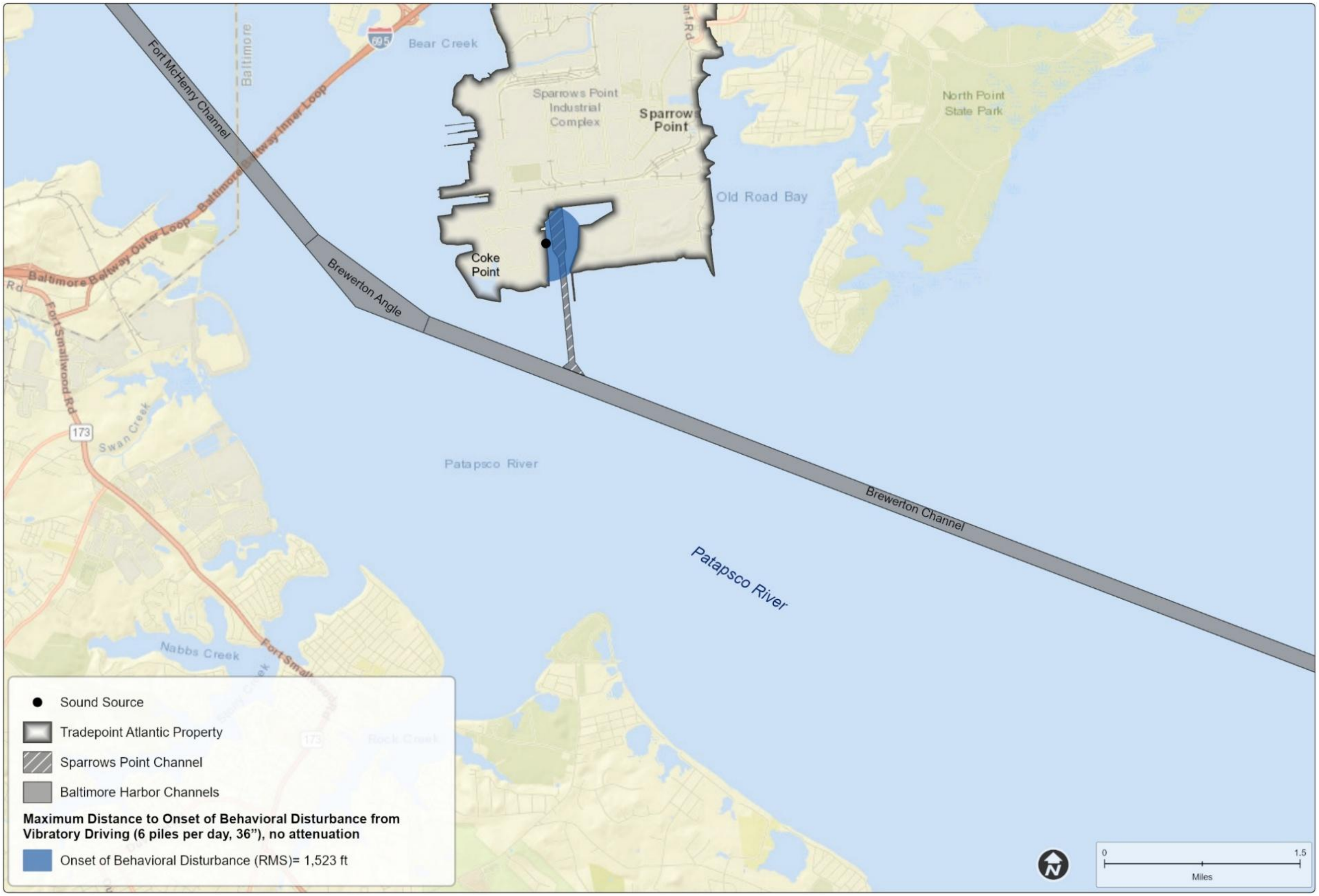
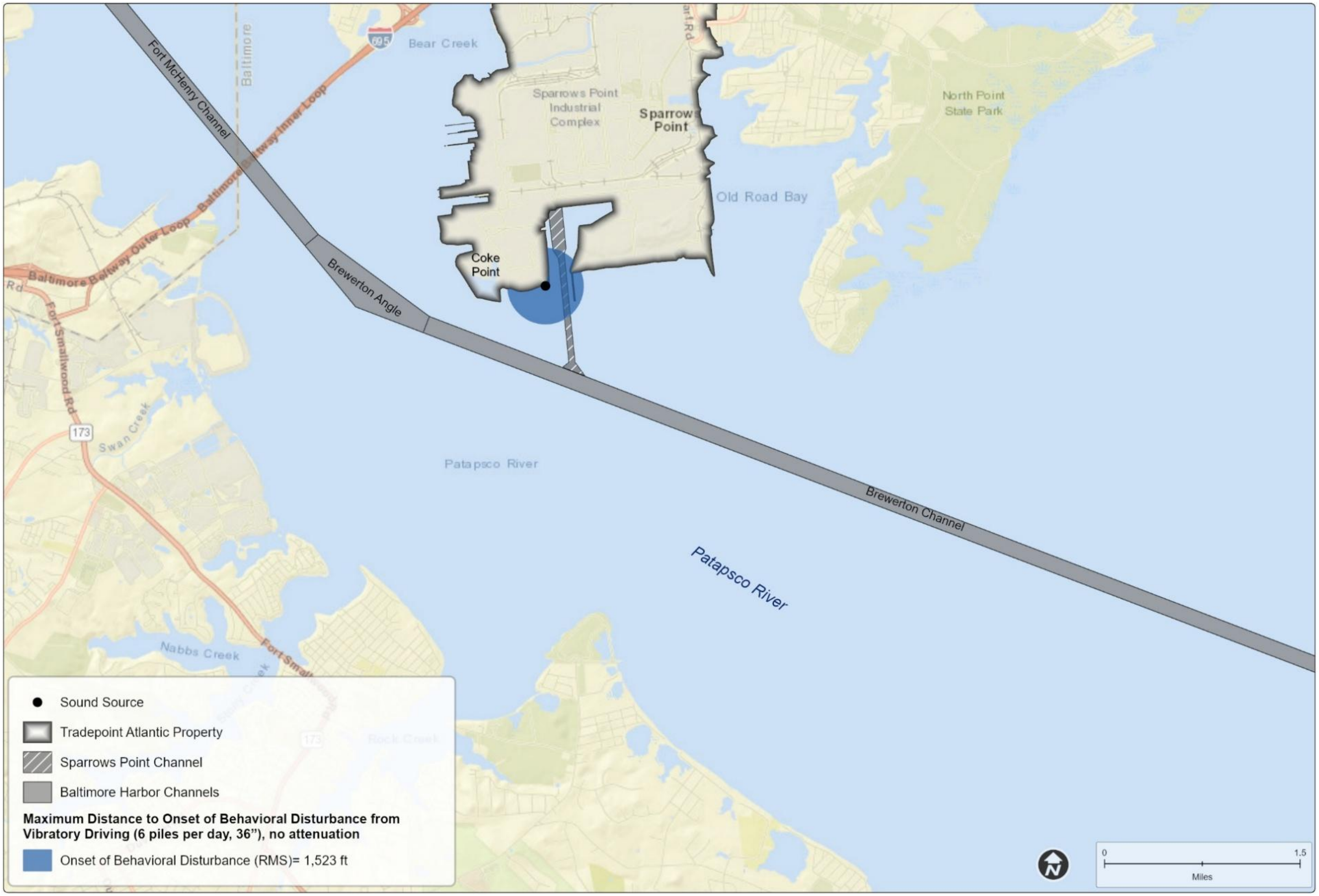


Figure 12. Maximum Distance to Noise Impacts on Fish from Vibratory Hammer without Attenuation– Wharf Construction at Southern Point



5.1.4 Summary of Noise Impacts

The underwater noise modeling indicated the maximum distance for physical injury to any size fish is 5,200 feet from the sound source for impact pile driving. There are no expected physical injuries due to vibratory pile driving. The maximum distance for non-injury behavioral disturbance to fish is 51,998 feet from the sound source for impact pile driving and 3,281 feet from the sound source for vibratory pile driving during demolition. These distances are based on conservative model inputs and assume use of no additional attenuation measures. TTT would continue to coordinate with NMFS on monitoring underwater sound during pile driving and on the implementation of sound attenuation measures, as necessary, to reduce impacts on aquatic resources and maintain a zone of safe passage for fish in the Patapsco River.

5.1.5 EFH Effect Determination from Underwater Noise

Best management practices (BMPs) during pile driving, as discussed in Section 6, would be implemented as necessary to minimize impacts on fish. When implemented, these would either reduce the size of the area impacted by underwater noise or reduce the duration of impact on the river. Underwater noise monitoring would be performed during pile driving, and BMPs would be used as necessary to attain sufficient reduction in the impact area, leaving an appropriate river width unaffected (as coordinated with NMFS). With this appropriate zone of safe fish passage, the effect on fish from underwater noise would be **adverse, but not substantial.**

5.2 Water Column Turbidity

Turbidity is measured in the field in NTU. Water with higher turbidity will often have higher concentrations of total suspended solids (TSS), which can be measured in samples sent to a laboratory. Although there are natural contributors to turbidity within a water body (e.g., storm events, plankton blooms), construction activities such as dredging can increase turbidity. Turbidity from dredging, installation of the temporary outfall/diffuser, and wharf construction has the potential to impact EFH.

5.2.1 Turbidity from Dredging, Wharf Construction (Pile Driving), and Temporary Diffuser Placement

NMFS has estimated TSS concentrations associated with certain in-water activities, including mechanical dredging of fine-grained material, based on numerous studies in the greater Atlantic region. Based on these studies, elevated suspended sediment concentrations at several hundreds of mg / L above background may be present near the bucket but would settle rapidly within a 2,400-foot radius of the dredge location. Based on the extremely low currents within the embayment, the turbidity radius is expected to be significantly less within the embayment. The 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 mg / L; see summary of scientific literature in Burton 1993; Wilber and Clarke 2001). Turbid conditions during dredging can be controlled to minimize impacts on fish by using BMPs and completing activities during times of year when certain species are less active within the project area.

For pile driving, NMFS has estimated TSS concentrations associated with the disruption of bottom sediments from this activity based on a study performed in the Hudson River. Elevated TSS concentrations of approximately 5.0 to 10.0 mg / L above background levels were produced within approximately 300 feet (91 meters) of the pile being driven (Federal Highway Administration 2012).

Based on the data from the studies noted above, the maximum expected distance for movement of resuspended sediment from the dredging and pile driving operations would affect a small portion of the total width of the Patapsco River (2,400 feet [0.4 mile] or 17.1% of the total 14,000 feet [2.6 miles] of available river width). The expected distance of movement of resuspended sediment is less than half the distance to the end of the southern shore of the Sparrows Point peninsula in either direction. Any resuspended sediment would remain well within the industrial shoreline of the TPA property. The resuspension of sediment from the installation of the temporary outfall and diffuser is expected to be short-term and minimal, and appropriate BMPs would be implemented during the pipeline placement and removal.

5.2.1.1 Eggs and Larvae

Eggs and larvae of summer flounder and Atlantic butterfish are potentially present within or adjacent to the dredging footprint and would be at the highest risk of impacts from dredging turbidity, as they cannot move to avoid the suspended sediment in the water column. Resuspended sediment can affect all life stages of fish, though egg and larval stages can be particularly vulnerable (Auld and Schubel 1978; Nelson and Wheeler 1997; Burton 1993; Wenger et al. 2018). Eggs and larval stages of demersal EFH species may be impacted by the settlement of turbid sediments back onto the river bottom in areas adjacent to the dredging. Although contaminants are present in a portion of the material to be dredged, it is anticipated that the suspended sediments would not be in the water column for long and would be limited to a small radius from the dredging operation. BMPs would be utilized to limit the amount of suspended sediment generated from dredging (see Section 7). Based on the nature and extent of the turbidity and the availability of unaffected areas, a seasonal restriction on dredging in certain parts of the dredging footprint may be necessary to limit the delivery of contaminants to the estuarine food web and/or protect fish migrations. Any time-of-year restrictions on dredging activities to reduce impacts on eggs, larvae, and less mobile species would be determined through agency consultation.

5.2.1.2 Juveniles and Adults

Impacts from suspended sediments due to dredging on juveniles and adults would likely be short-term and temporary, as individuals would be able to move away from the dredging areas.

Time-of-year restrictions on dredging would also reduce impacts on adult and juvenile EFH individuals. Dredging BMPs, such as use of an environmental bucket, could also be implemented to minimize impacts related to resuspended sediment. Based on sediment plume studies in similar environments, it is anticipated that the maximum movement of any resuspended sediment from the dredging operations would only affect 17.1% of the total width of the Patapsco River, although it would temporarily reduce the quality of EFH in this area. This gives juvenile and adult individuals significant areas of similar pelagic or demersal habitat to use outside of and adjacent to the direct dredging area. There is also similar available habitat outside of the work area within the river from the former Key Bridge to Rock Point (approximately 22,000 feet or 4 miles).

5.2.2 EFH Effect Determination – Turbidity

Turbidity resulting from dredging, pile driving, and installation of the temporary outfall and diffuser has the potential to temporarily reduce the quality of EFH in the SPCT area, with the largest impacts occurring on less mobile life stages. However, due to the temporary nature of turbidity and the use of

BMPs during in-water activities, the effect of turbidity on EFH from the Preferred Alternative is determined to be **adverse, but not substantial.**

5.2. Habitat / Bottom Alteration

5.2.3 Habitat Alteration from Dredging and Wharf Construction

Removal of the river bottom sediments from dredging to deepen and widen the channel would create deeper water habitat within and adjacent to the existing Sparrows Point Channel. Wharf construction would also cause shading of some existing open water habitat. The river bottom in the action area is a soft-bottom environment, comprised mainly of silt and clay and deeper sand in the north portion of the channel; no SAV is present.

5.2.3.1 Eggs and Larvae

The physical removal of bottom from the dredging area, as well as resuspended sediment, has the potential for direct loss or injury to eggs and larvae present within or adjacent to the dredging footprint.

5.2.3.2 Juveniles and Adults

The removal of bottom sediment resulting from channel dredging would impact demersal EFH species (skates and flounders) more than pelagic species, as juveniles and adults would be directly utilizing sediment bottom in the dredging footprint. Dredging would also result in a loss of the benthic community currently within the area, reducing foraging opportunities for juvenile and adult EFH species. With deepening of the channel, the potential for water column stratification would increase, resulting in lower dissolved oxygen concentrations in deep bottom water, particularly in the summer months. This could also affect fish usage of bottom waters, as they will avoid waters that do not contain enough oxygen. This would also reduce potential prey sources for fish that consume benthic organisms.

Additionally, dredging the channel to attain the preferred alignment for the wharf would include removal of existing shoreline.

Excavation for the wharf and associated revetment extending beyond the edge of the wharf would remove historical fill and convert 5.3 acres of upland to open water. Dredging for the wharf and placement of associated revetment extending beyond the edge of the wharf would impact 4.7 acres of existing tidal open water. The total proposed and existing tidal open water impacts from the wharf and the revetment that extends beneath the wharf and to the outer toe beyond the edge of the wharf would be approximately 10.0 acres. Of this acreage, the approximate area of tidal open water that would be shaded by the wharf is 8.6 acres. The shading of the wharf (and the placement of revetment) would result in aquatic habitat that may be less capable of supporting a diverse benthic community.

Shading of these areas would impact benthic and water column productivity. Installation of a mooring dolphin and wharf pilings would result in the permanent loss of 0.2 acre of bottom habitat. These habitat changes would cause localized impacts on benthic organisms and prey, thus impacting foraging EFH species in the project area.

5.2.4 EFH Effect Determination – Habitat Alteration

Habitat alteration resulting from wharf construction would have minimal impacts on EFH. Habitat alteration in the dredging area due to the deepening of the channel would reduce the quality of EFH by reducing the likelihood of a benthic community re-establishing. As such, the effect of habitat alteration on EFH from the Preferred Alternative is determined to be **adverse and substantial.**

5.3. Impingement / Entrainment

EFH species could potentially be caught by the equipment used to mechanically dredge the SPCT channel and to hydraulically offload the material to a DMCF. Fish can potentially become impinged or entrained (depending upon size and life stage) in the clamshell dredge bucket, although this is expected to be infrequent. Capture by clamshell dredge bucket is uncommon and would only impact demersal fish that are unable to move away from the operation. When surface water is pumped to slurry dredged material for hydraulic offloading, fish may become caught on the pipe screen (depending upon the size of the fish and the size of the openings of any fish screen that may be used on the pipe) or be pulled into the pipe past the screen. Eggs and larvae would be the life stages most susceptible to entrainment in the hydraulic pipe, as mobile life stages would be more likely to move away from the area of the operation. Therefore, summer flounder and Atlantic butterfish could be more likely to be entrained in these life stages. It should be noted that any dredging and subsequent hydraulic offloading operations would comply with designated agency time-of-year restrictions for sensitive aquatic life stages (including fish eggs and larvae). As a result, impingement / entrainment impacts for fish eggs and larvae would be minimized during the time of year when they would most prevalent in the Patapsco River and Bear Creek.

5.2.5 EFH Effect Determination – Impingement / Entrainment

Impingement or entrainment of EFH species from SPCT operations is possible, with most impacts occurring to eggs and larvae from use of surface water for hydraulic offloading. However, this impact is not expected to be any more than minimal, temporary, and could be alleviated by complying with time-of-year restrictions for dredging/offloading operations, and the effect of impingement/entrainment on EFH from the Preferred Alternative is determined to be **adverse, but not substantial**.

5.4. Vessel Traffic

The SPCT project area is located within the Port, which is in the top 20 ports in the United States by tonnage and number of vessels handled annually (US Department of Transportation [USDOT] 2024a), including a variety of ship types (e.g., bulk carriers, general cargo ships, tankers, container ships). More than 2,500 vessels called on the Port in 2021 (USDOT 2024b). Vessel traffic is analyzed as a potential stressor to EFH during both construction and long-term operation of the SPCT.

5.2.6 Construction Vessel Traffic

The proposed project would result in minor and temporary increases in vessel traffic as the vessels transit around the project site and to and from the project site to the Norfolk Ocean Disposal Site or existing Maryland Port Administration DMCFs. In the immediate project area, there would be a small increase in vessel activity, likely not more than 10 vessels operating at any one time, which would not significantly increase vessel usage of the area. Impacts on EFH resulting from increased vessel traffic can include bottom disturbance from mooring or propeller wake. Additionally, collision with vessels could be a source of anthropogenic mortality and injury for marine species as a result of being struck by boat hulls or propellers (Brown and Murphy 2010). The vessels that would be used to transport sediment from the dredging area to the offloading area include tugs and barges, and the vessels that would be used to transport material to the NODS include tugboats and bottom dump scow barges. The existing water depth in the project area and material transit route make it unlikely that effects would occur to EFH or prey species.

Overall, the addition of project vessels during construction would be intermittent, temporary, and restricted to the project area on any given day so that any increased effects from vessels to EFH would not be adverse, but minor and temporary.

5.2.7 Long-Term Operations Vessel Traffic

Once constructed, operation of the SPCT would increase vessel traffic by approximately 500 vessels per year, an increase of approximately 20% over the Port calls logged in 2021 (USDOT 2024a). Fish would be expected to move away from the areas of the activity, or access to EFH would not be impacted. Adding these project vessels to the existing baseline is not likely to increase the risk that any vessel in the area would affect EFH on a yearly basis.

5.2.8 EFH Effect Determination – Vessel Traffic

Because the SPCT is in a heavily utilized area of the Port of Baltimore, the long-term operations increase vessels by approximately 150 new vessels per year, and the risk of a vessel impacting EFH is minimal, the effect on EFH from vessel traffic from the Proposed Action would be **adverse, but not substantial**.

6. Impacts on Prey and Other Important Species

EFH prey species that utilize the Action Area include bay anchovy, spot, and white perch. Other important anadromous species include striped bass and American shad. For these species, impacts from turbidity, habitat alteration, vessel traffic, underwater noise, and impingement/entrainment would generally be similar to those for EFH species. It can be noted, however, that studies have shown effects from turbidity at lower than 1,000 mg / L in certain species and life stages that are present in the project area. For striped bass and white perch, hatching can be delayed by TSS as low as 100 mg / L in one-day exposure time. Larval stages of striped bass, American shad, yellow perch (*Perca flavescens*), and white perch showed higher mortality rates with TSS levels of 500 mg / L or lower for up to 4 days (Wilber and Clarke 2001). Feeding rates of several species that use the project area (Atlantic Silverside and Atlantic Croaker) are reduced in waters with higher turbidity (and therefore higher correlated TSS) conditions. Atlantic silverside and white perch are some of the most sensitive estuarine species when evaluating lethal responses to suspended sediment, with up to 10% mortality at TSS concentrations below 1,000 mg / L. EFH species that forage organisms in benthic communities would lose foraging habitat within the dredging footprint due to deepening of the open water habitat.

7. Potential Avoidance and Minimization

Many potential avoidance and minimization measures are being considered for the Preferred Alternative to reduce overall impacts on the aquatic environment. Those that apply to EFH are briefly described in Table 9. These should be considered as potential measures that would be finalized following completion of the project design. These measures would be stipulated as permit conditions by regulatory agencies.

Table 8. Potential Avoidance and Minimization Measures to Reduce Impacts on EFH

Potential Avoidance / Minimization Measure	Potential Benefit to EFH
Follow time-of-year restrictions (if required by regulatory agencies) for pile driving and dredging.	Avoids impacts sensitive life stages of fish and other aquatic resources.
Use a “soft start” method for impact hammer during pile driving.	Creates a warning for mobile EFH species to move away from the project area.
Use a cushion block and/or bubble curtain during impact driving of piles.	Reduces the intensity and distance for underwater noise propagation.
Limit the daily window for pile driving activities to 10 to 12 hours or less of daytime operations.	Reduces duration of noise impacts on EFH species.
Use a vibratory hammer (if / where feasible), followed by use of an impact hammer for individual piles.	Reduces the duration of the underwater noise created by impact hammer.
Operate construction vessels in adequate water depths. Use shallow draft vessels that maximize the navigational clearance between the vessel and the bottom in shallow areas.	Avoid propeller scour or grounding in EFH.
Cut the existing pile(s) at the mudline (where possible) to avoid sediment resuspension during extraction.	Reduces turbidity impacts on EFH.
Surround the area of demolition, pile removal, and other bottom-disturbing construction activities (as applicable) with a full-height, weighted turbidity curtain in areas where sediment contaminants may be present at concentrations of concern.	Minimizes potential for sediments to be displaced and leave the immediate vicinity and impact EFH species.
Use an environmental-type bucket where feasible and where necessary based on sediment chemical data to minimize sediment release from the bucket while ascending through the water column.	Reduces water column turbidity impacts on EFH species.
Implement operational controls during dredging. These may include: 1. Perform dredging such that the dredge bucket is not overfilled on each deployment, reducing release of sediment. 2. Control the ascent of the bucket in the water column to minimize incidental release while moving through the water column. 3. Control the descent of the bucket to minimize hard contact with the bottom and resuspension of sediment upon bucket contact. 4. Prohibit dragging of the dredge bucket along the sediment surface.	Reduces water column turbidity impacts on EFH species.

Potential Avoidance / Minimization Measure	Potential Benefit to EFH
Place dredged material in a watertight barge or scow in a manner that maintains sufficient freeboard to eliminate the potential for material leaving/spilling from the barge during transport to the material offloading or placement.	Reduces water column turbidity impacts on EFH species.

8. Determination of the EFH Assessment

Of the stressors on EFH evaluated in this assessment, individual determinations are either adverse but not substantial or adverse and substantial. A summary of the EFH impacts and determinations is provided in Table 10. Because of the nature and magnitude of the impacts considered holistically, TTT has determined that the Preferred Alternative would have an **adverse and substantial impact on EFH,** due to alteration of existing EFH. The project was modified to avoid permanent loss of EFH habitat in the project area. As discussed in Section 7, significant effort was put forth in determining the least environmentally impactful dredged material placement option that still achieved project goals. Additionally, the channel dredging footprint was modified during the project design to minimize the footprint to the maximum extent while still providing safe passage for navigation. The potential mitigation measures discussed in section 10 may be implemented to mitigate adverse and irretrievable impacts on EFH from the Preferred Alternative

Table 9. Summary of the EFH Impacts

Stressor / Impact	Activities Producing the Impact	Determination of Effects	Rationale
Turbidity	– Dredging – Pile driving – DMCF construction	Adverse but not substantial	Temporary reduction in quality of EFH
Underwater Noise	– In-water pile driving	Adverse but not substantial	Underwater noise monitoring would be conducted to verify noise generated by pile driving. TTT would coordinate with NMFS regarding appropriate sound attenuation measures (if needed) to provide a zone of safe fish passage; EFH impacts from noise are temporary and minimal
Habitat Alteration	– Dredging – Pile installation	Adverse and substantial	Deepening of 112 acres of bottom permanently altering EFH foraging habitat Bottom loss of 0.2 acre of EFH from piles
Vessel Traffic	– Vessel usage of SPCT during construction and long-term operations	Adverse but not substantial	Minimal risk of vessel impacting EFH during short- or long-term vessel use of SPCT
Impingement / Entrainment	– Impingement in mechanical dredge equipment – Entrainment in hydraulic dredge equipment	Adverse but not substantial	Impact is minimal, temporary, and could be alleviated with modifications (fish screens)

9. References

Anderson, J.J. 1990. *Assessment of the Risk of Pile Driving to Juvenile Fish*. Fisheries Research Institute, University of Washington. Presented to the Deep Foundations Institute, 10–12 October.

Auld, A.H., and J.R. Schubel. 1978. Effects of suspended sediment on fish eggs and larvae: A laboratory assessment. *Estuarine Coastal Mar. Sci.* 6(2):153–164.

Boicourt, W.C. and P. Olson. 1982. *A Hydrodynamic Study of the Baltimore Harbor System.* Tech. Rep. 82-10. Chesapeake Bay Institute, The Johns Hopkins University, Maryland.

Brown, J.J. and G.W. Murphy. 2010. Atlantic sturgeon vessel-strike mortalities in the Delaware Estuary. *Fisheries* 35(2):72–83.

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.

California Department of Transportation (Caltrans). 2015. *Technical Guidance for Assessment and Mitigation of the Hydroacoustics Effects of Pile Driving on Fish* (pp. 532). Sacramento, CA.

California Department of Transportation (Caltrans). 2020. *Technical Guidance for the Assessment of Hydroacoustic Effects of Pile Driving on Fish*. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/hydroacoustic-manual-a11y.pdf.

Casper, B.M., M.E. Smith, M.B. Halvorsen, H. Sun, T.J. Carlson, and A.N. Popper. 2013. Effects of exposure to pile driving sounds on fish inner ear tissues. *Comp. Biochem. Physiol., Part A: Mol. Integr. Physiol.* 166:2, 352–360.

Chang, S., Berrien, P.L. Johnson, D.L, and W. W. Morse. 1999. *Essential Fish Habitat Source Document: Windowpane, Scophthalmus aquosus, Life History and Habitat Characteristics*. National Marine Fisheries Service, Technical Memorandum, NMFS NE-137. September.

Chesapeake Bay Program. 2020. Five Species that Provide a Vital Link in the Chesapeake Bay food web. *Watershed Science*. 22 May.

Cross, J.N., C.A. Zetlin, P.L. Berrier, D.L. Johnson, and C. McBride. 1999. *Essential Fish Habitat Source Document: Butterfish, Peprilus triacanthus, Life History and Habitat Characteristics*. National Marine Fisheries Service, Technical Memorandum, NMFS NE-145. September.

EA Engineering, Science, and Technology, Inc. (EA). 2003. *Reconnaissance Study of Sparrows Point as a Containment Site for Placement of Harbor Dredged Material: Environmental Conditions.* Prepared for Maryland Port Administration. December.

EA Engineering, Science, and Technology, Inc. (EA). 2009. *Site Assessment for the Proposed Coke Point Dredged Material Containment Facility at Sparrows Point.* Prepared for Maryland Port Administration. November.

EA Engineering, Science, and Technology, Inc. (EA). 2010a. *Coke Point Dredged Material Containment Facility: Pre-Pilot Study Sediment Characterization, Baltimore County, Maryland.* Prepared for Maryland Port Administration. Under Contract to Maryland Environmental Service. May.

EA Engineering, Science, and Technology, Inc. (EA). 2010b. *Proposed Coke Point Dredged Material Containment Facility at Sparrows Point, Baltimore, Maryland: Additional Offshore Delineation. Draft Report.* Prepared for Maryland Port Administration. Under Contract to Maryland Environmental Service. 10 August.

EA Engineering, Science, and Technology, Inc. (EA). 2011. *Risk Assessment of Offshore Areas Adjacent to the Proposed Coke Point Dredged Material Containment Facility at Sparrows Point.* Prepared for Maryland Port Administration. May.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024a. *Evaluation of Dredged Material for Ocean Placement. Sparrows Point Container Terminal, South and Mid-Channel, Patapsco River, Baltimore County, Maryland.* September.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024b. *Aquatic Resource Surveys Seasonal Report – Summer 2023, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland.* Prepared for Moffatt & Nichol. March.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024c. *Aquatic Resource Surveys Seasonal Report – Fall 2023, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. March.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024d. *Aquatic Resource Surveys Seasonal Report – Winter 2024, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. April.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024e. *Aquatic Resource Surveys Seasonal Report – Spring 2024, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. July.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024f. *Submerged Aquatic Vegetation Survey Report – Spring and Summer 2024, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. June.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2025. *Evaluation of Dredged Material for Upland Placement, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland. June*.

Fahay, M.P., Berrien, P.L. Johnson, D.L., and W.W. Morse. 1999. *Essential Fish Habitat Source Document: Bluefish, Pomatomus saltatrix, Life History and Habitat characteristics*. National Marine Fisheries Service, Technical Memorandum NMFS-NE-144. September.

Federal Highway Administration. 2012. *Tappan Zee Hudson River Crossing Project*. Final Environmental Impact Statement. August.

Feist, B.E., J.J. Anderson, and R. Miyamoto. 1992. *Potential Impacts of Pile Driving on Juvenile Pink (Oncorhynchus gorbuscha) and Chum (O. keta) Salmon Behavior And Distribution.* Master's thesis, University of Washington.

Fisheries Hydroacoustic Working Group (FHWG). 2008. *Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities*. June.

Garland, C.F. 1952. *A Study of Water Quality in Baltimore Harbor.* Publication No. 96, Chesapeake Biological Laboratory, Department of Research and Education, Solomons Island, Maryland.

Geer, P.J. and H.M. Austin. 1997 *Estimation of Relative Abundance of recreationally Important Finfish in the Virginia Portion of Chesapeake Bay*. Ann. Prog. Rep., Virginia Inst. Mar. Sci., Gloucester Point. 153 pp.

Hatch, L.T. and A.J. Wright. 2007. A brief review of anthropogenic sound in the oceans. *International Journal of Comparative Psychology* 20 (2).

Kozera, Inc. 2023. *Test Boring Logs (CB-1 through CB-9), TPA Sparrows Point Container Terminal, Patapsco River, Sparrows Point, Baltimore, Maryland.*

Lippson, A.J. and R.L. Lippson. 1994. *Life in the Chesapeake Bay.* The Johns Hopkins University Press, Baltimore, Maryland.

Maryland Department of Natural Resources (MDNR). 2021. *List of Rare, Threatened and Endangered Species in Baltimore County*. Wildlife Heritage Service. November.

Maryland Department of Natural Resources (MDNR). 2024. "Endangered Fish Species: Threatened and Endangered Fish Species and Fish Species in Need of Conservation in Maryland." Accessed August 2024. https://dnr.maryland.gov/fisheries/Pages/endangered.aspx.

Matuschek, R. and K. Betke. 2009. Measurements of Construction Noise During Pile Driving of Offshore Research Platforms and Wind Farms. *Proc. NAG/DAGA Int. Conference on Acoustics*. January.

Mid-Atlantic Fishery Management Council. 1988. *Fishery Management Plan for the Summer Flounder Fishery*. MAFMC with the National Marine Fisheries Service, New England FMC, and South Atlantic FMC. October.

Mid-Atlantic Fishery Management Council. 1996a. *Amendment 8 to the Summer Flounder Fishery Management Plan: Fishery Management Plan and Final Environmental Impact Statement for the Scup Fishery*. MAFMC with Atlantic States Marine Fisheries Commission, NMFS, New England FMC, and the South Atlantic FMC.

Mid-Atlantic Fishery Management Council. 1996b. *Amendment 9 to the Summer Flounder Fishery Management Plan: Fishery Management Plan and Final Environmental Impact Statement for the Black Sea Bass Fishery*. MAFMC with Atlantic States Marine Fisheries Commission, NMFS, New England FMC, and the South Atlantic FMC. June.

Mid-Atlantic Fishery Management Council. 1998a. *Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan*. MAFMC with Atlantic States Marine Fisheries Commission, NMFS, New England FMC, and the South Atlantic FMC. October.

Mid-Atlantic Fishery Management Council. 1998b. *Amendment 1 to the Bluefish Fishery Management Plan*. MAFMC with Atlantic States Marine Fisheries Commission, NMFS, New England FMC, and the South Atlantic FMC. October.

Mid-Atlantic Fishery Management Council. 2011. *Amendment 11 to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan*. MAFMC with Atlantic States Marine Fisheries Commission, NMFS, New England FMC, and the South Atlantic FMC. May.

Murdy, E.O., R.S. Birdsong, and J.A. Musick. 1997. *Fishes of Chesapeake Bay*. Smithsonian Institution Press, Washington D.C.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2018. *Northeast Multispecies Fishery Management Plan Resource Guide: Windowpane Flounder (Scophthalmus aquosus), Bibliography.* NRCL Subject Guide 2018-05. February.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2019. Windowpane Flounder. https://www.fisheries.noaa.gov/species/windowpane-flounder#:~:text=According%20to%20the%202017%20operational,and%20overfishing%20is%20not%20occurring. Accessed November 2024.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022a. Understanding Sound in the Ocean. https://www.fisheries.noaa.gov/insight/understanding-sound-ocean. Accessed May 2024.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022b. *National Marine Fisheries Service Endangered Species Act Biological Opinion: USACE Permit for the Edgemoor Container Port (NAP-2019-278-23), GARFO-2022-03516*. 30 March 2022. Greater Atlantic Regional Fisheries Office. https://repository.library.noaa.gov/view/noaa/41694.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024a. Chesapeake Bay: Healthy Fisheries. https://www.fisheries.noaa.gov/topic/chesapeake-bay/overview. Accessed March 2024.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024b. *Multi-Species Pile Driving Calculator Tool.* https://www.fisheries.noaa.gov/resource/data/multi-species-pile-driving-calculator-tool. Accessed May 2024.

Nelson, D.A. and J.L. Wheeler. 1997. *The Influence of Dredging-Induced Turbidity and Associated Contaminants upon Hatching Success and Larval Survival of Winter Flounder, Pleuronectes americanus, a Laboratory Study.* Final report, Grant CWF #132-R, to Connecticut Department of Environmental Protection, by National Marine Fisheries Service, Milford, Connecticut.

Nelson, D.M, M. Monaco, S. Jury, J. Field, and S. Stone. 2017. *Estuarine Living Marine Resources: North Atlantic regional distribution and abundance* (NCEI Accession 0162402). NOAA National Centers for Environmental Information. Dataset. doi:10.7289/V57W698T.

Packer, D.B., S.J. Griesbach, P.L. Berrien, C.A. Zetlin, D.L. Johnson, and W.W. Morse. 1999. *Essential Fish Habitat Source Document: Summer Flounder, Paralichthys dentatus, Life History and Habitat Characteristics*. NOAA Technical Memorandum, NMFS-NE-151.

Popper, A.N. and Hawkins, A.D. 2019. An overview of fish bioacoustics and the impacts of anthropogenic sounds on fishes. *J. Fish Biol.* 94: 692–713.

Popper, A.N., Plachta, D.T.T., Mann, D.A., Higgs, D. 2004. Response of clupeid fish to ultrasound: a review. *ICES J. Mar. Sci.* 61(7):1057–1061.

Smith, W.G. 1973. The distribution of the summer flounder, Paralichthys dentatus, eggs and larvae on the continental shelf between Cape Cod and Cape Lookout, North Carolina, 1965-1966. *Fish. Bull.* 71(2):527–548.

Stanley, J.A., Caiger, P.E., Phelan, B., Shelledy, K., Mooney, T.A., Van Parijs, S.M. 2020. Ontogenetic variation in the auditory sensitivity of black sea bass (*Centropristis striata*) and the implications of anthropogenic sound on behavior and communication. *Journal of Experimental Biology* 223(13).

Steimle, F., C. Zetlin, P. Berrien, D. Johnson, S. Chang, and the EFH Information Team. 1998. *FMP EFH Source Document: Black Sea Bass, Centroprista striata (Linnaeus), Life History and Habitat Use in the Mid-Atlantic Bight*. USDC, NMFS, Highlands, New Jersey.

Stone, S.L., T.A. Lowery, J.D. Field, C.D. Williams, D.M. Nelson, S.H. Jury, M.E. Monaco, and L. Andreasen. 1994. *Distribution and Abundance of Fishes and Invertebrates in Mid-Atlantic Estuaries*. ELMR Rep. No. 12. NOAA/NOS Strategic Environmental Assessments Division, Silver Spring, MD. 280 pp.

University of Rhode Island. 2017. *Discovery of Sound in the Sea: Pile Driving*. https://dosits.org/animals/effects-of-sound/anthropogenic-sources/pile-driving/. Accessed May 2024.

US Department of Transportation (USDOT). 2024a. *Bureau of Transportation Statistics: Information about the Port of Baltimore*. https://www.bts.gov/current-transportation-statistics/information-about-port-baltimore. Accessed May 2024.

US Department of Transportation (USDOT). 2024b. "Port Performance Freight Statistics Program Port Profiles 2024, Baltimore, MD." Accessed October 2024. https://explore.dot.gov/views/PortProfiles2024/ProfileDashboard?%3Aembed=y&%3AisGuestRedirectFromVizportal=y&Port_ID=700.

Versar, Inc. 2017. *Long-Term Benthic Monitoring and Assessment Component Level 1 Comprehensive Report. Chesapeake Bay Water Quality Monitoring Program, July 1984 to December 2016.* Vol 1. December.

Virginia Institute of Marine Science. 2024. *SAV Monitoring & Restoration: Interactive SAV Map*. https://www.vims.edu/research/units/programs/sav/access/maps/. Accessed September 2024.

Wang, J.C.S. and R.J. Kernahan. 1979. *Fishes of Delaware Estuary, A Guide to the Early Life History*. Ecol. Analyst, Inc., Towson, Maryland. 410 pp.

Wenger A.S., C.A. Rawson, S. Wilson, S.J. Newman, M.J. Travers, S. Atkinson, N. Browne, D. Clarke, M. Depczynski, P.L.A. Erftemeijer, R.D. Evans, J.A. Hobbs, J.L. McIlwain, D.L. McLean, B.J. Saunders, and E. Harvey. 2018. Management strategies to minimize the dredging impacts of coastal development on fish and fisheries. *Conservation Letters* 2018;11: e12572.

Washington State Department of Transportation (WSDOT). 2020. *Biological Assessment Preparation Manual.* Construction Noise Impact Assessment. Accessed May 2024. https://wsdot.wa.gov/sites/default/files/2022-11/BA-Manual-Chapter7.pdf.

Wilber, D.H. and D.G. Clarke. 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.

Zastrow, C.E., E.D. Houde, and L.G. Morin. 1991. Spawning, fecundity, hatch-date frequency and young-of-the-year growth of bay anchovy *Anchoa mitchilli* in mid-Chesapeake Bay. *Marine Ecology: Progress Series*. 73:161–171.

Attachment A: Updated Design Plans for Dredging and Wharf Construction

Note: Some materials in this appendix are not fully Section 508 compliant.

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Dredging Plans

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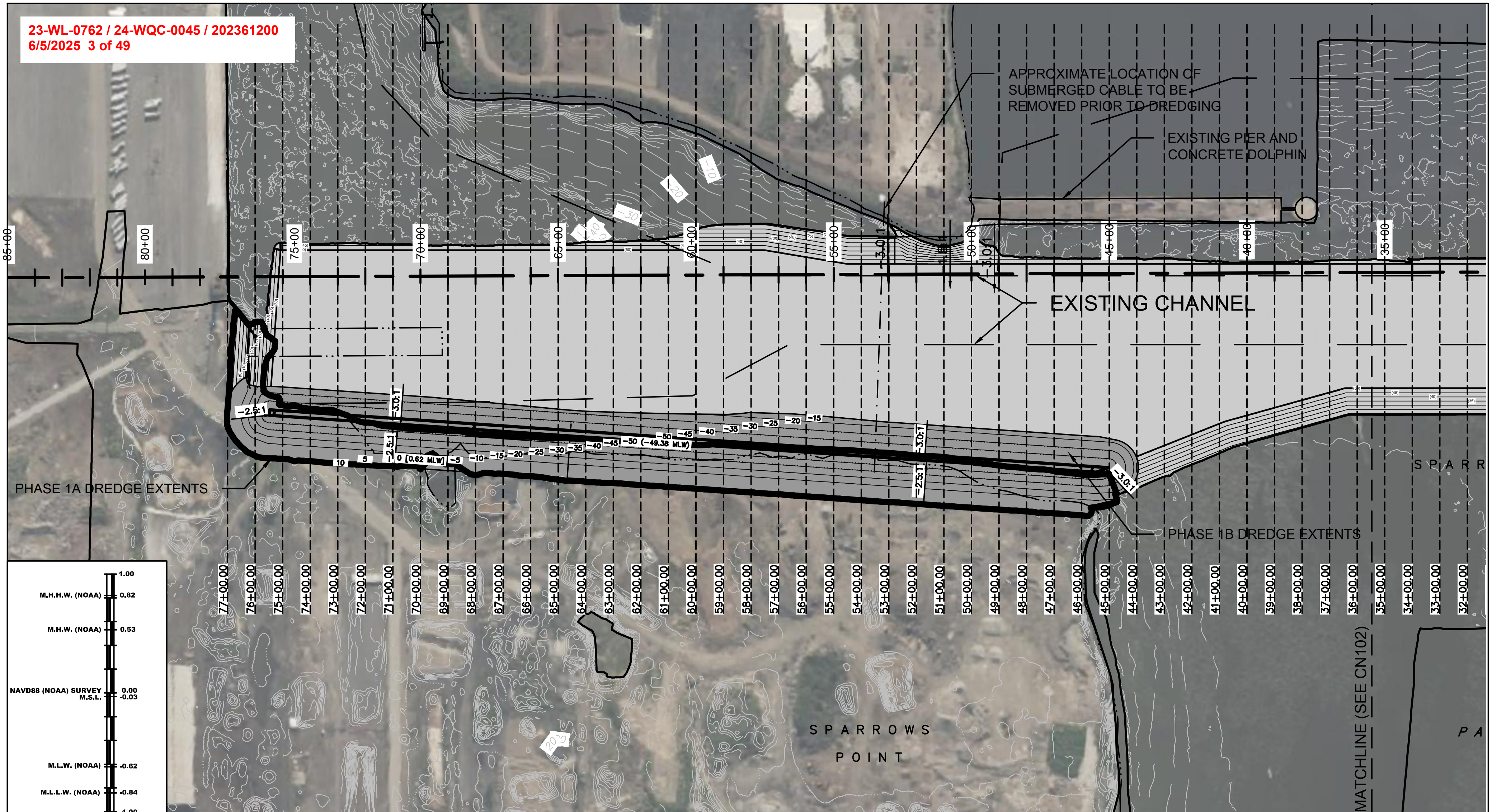

LEGEND:

PHASE 1A EXCAVATION AREA, AREA TO BE DUG FROM LAND TO −30 NAVD88 (−29.38 MLW) DEPTH, WITH SIDE SLOPES AS SHOWN

PHASE 1B DREDGING AREA, AREA TO BE DREDGED TO −50.84 NAVD88 (−50.22 MLW) DEPTH WITH SIDE SLOPES AS SHOWN FOLLOWING COMPLETION OF PHASE 1A

PHASE 2 DREDGING AREA, AREA TO BE DREDGED TO −50.84 NAVD88 (−50.22 MLW), DEPTH WITH SIDE SLOPES AS SHOWN.

—(40)— DESIGN DEPTH CONTOURS NAVD88 (MLW IN PARENTHESES)

—(34)— EXISTING DEPTH CONTOURS NAVD88 (MLW IN PARENTHESES)

NOTES:
1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.
2. STATION NUMBERS MEASURED FROM START POINT AT BASELINE WORKING POINT BWP-01. SECTIONS SHOWING THE DREDGE AREA FROM STATION 6+00 TO 76+00 ARE SHOWN ON DRAWINGS CN301 TO CN314.
3. THE DREDGE AREA CONSISTS OF THREE PHASES WITH THE PHASE 1A AREA TO BE CONDUCTED FIRST. AREAS TO BE DUG FROM LAND ARE DESIGNATED AS PHASE 1A AND IS TO BE CONDUCTED BEFORE WATER BASED DREDGING OF PHASE 1B. CONSTRUCTION OF PILES AND THE WHARF WILL COMMENCE FOLLOWING THE COMPLETION OF PHASE 1A. PHASE 2 WILL BE CONDUCTED FOLLOWING PHASE 1B TO COMPLETE DREDGING OF THE REMAINDER OF THE PROPOSED CHANNEL.

0 250 500 750 1000
1"=500'-0" SCALE IN FEET

HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING GENERAL ARRANGEMENT (SHEET 1 OF 2)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
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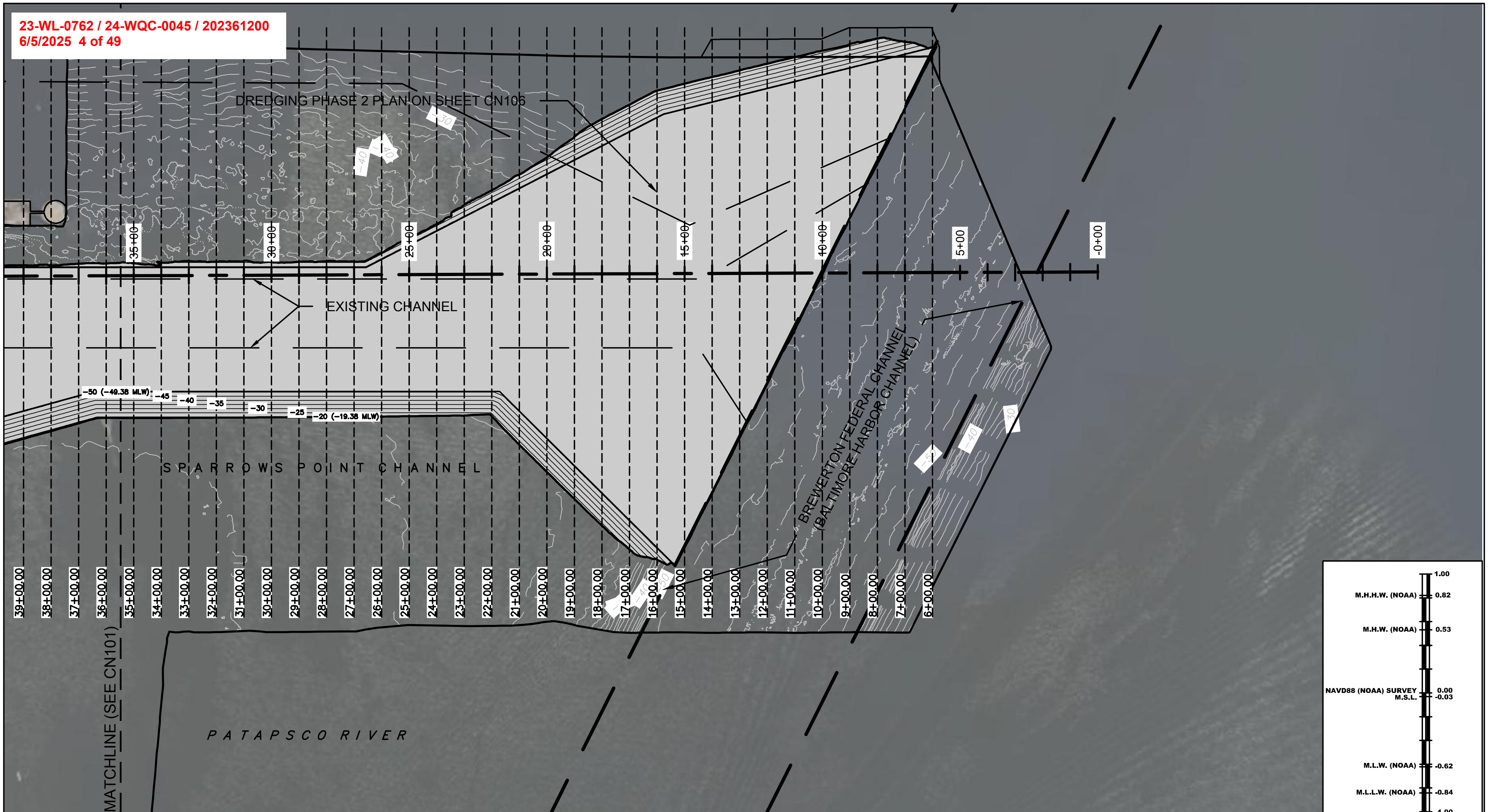

LEGEND:

- PHASE 1A EXCAVATION AREA, AREA TO BE DUG FROM LAND TO –30 NAVD88 (–29.38 MLW) DEPTH, WITH SIDE SLOPES AS SHOWN
- PHASE 1B DREDGING AREA, AREA TO BE DREDGED TO –50.84 NAVD88 (–50.22 MLW) DEPTH WITH SIDE SLOPES AS SHOWN FOLLOWING COMPLETION OF PHASE 1A
- PHASE 2 DREDGING AREA, AREA TO BE DREDGED TO –50.84 NAVD88 (–50.22 MLW), DEPTH WITH SIDE SLOPES AS SHOWN.
- —(40)— DESIGN DEPTH CONTOURS NAVD88 (MLW IN PARENTHESES)
- —(34)— EXISTING DEPTH CONTOURS NAVD88 (MLW IN PARENTHESES)

NOTES:

1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.
2. STATION NUMBERS MEASURED FROM START POINT AT BASELINE WORKING POINT BWP–01. SECTIONS SHOWING THE DREDGE AREA FROM STATION 6+00 TO 76+00 ARE SHOWN ON DRAWINGS CN301 TO CN314.
3. THE DREDGE AREA CONSISTS OF THREE PHASES WITH THE PHASE 1A AREA TO BE CONDUCTED FIRST. AREAS TO BE DUG FROM LAND ARE DESIGNATED AS PHASE 1A AND IS TO BE CONDUCTED BEFORE WATER BASED DREDGING OF PHASE 1B. CONSTRUCTION OF PILES AND THE WHARF WILL COMMENCE FOLLOWING THE COMPLETION OF PHASE 1A. PHASE 2 WILL BE CONDUCTED FOLLOWING PHASE 1B TO COMPLETE DREDGING OF THE REMAINDER OF THE PROPOSED CHANNEL.

0 250 500 750 1000

1"=500'-0" SCALE IN FEET

HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING GENERAL ARRANGEMENT (SHEET 2 OF 2)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
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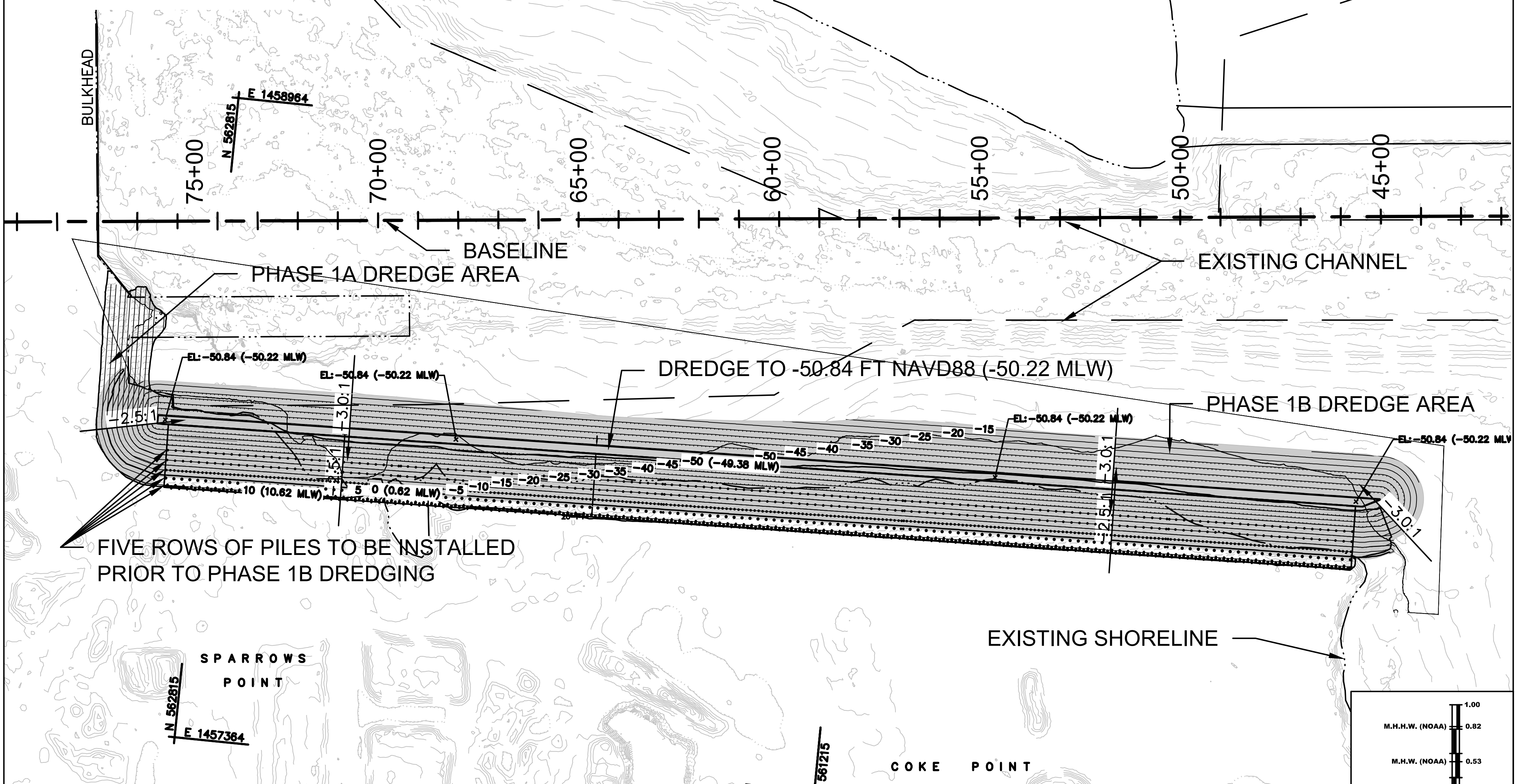


LEGEND:

PHASE 1A EXCAVATION AREA, AREA TO BE DUG FROM LAND TO -30 NAVD88 (-29.38 MLW) DEPTH, WITH SIDE SLOPES AS SHOWN

PHASE 1B DREDGING AREA, AREA TO BE DREDGED TO -50.84 NAVD88 (-50.22 MLW) DEPTH WITH SIDE SLOPES AS SHOWN FOLLOWING COMPLETION OF PHASE 1A

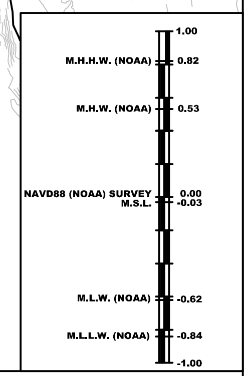
(40) DESIGN DEPTH CONTOURS NAVD88

(34) EXISTING DEPTH CONTOURS NAVD88

NOTES:
1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.
2. PHASE 1 WILL BE CONDUCTED IN TWO SECTIONS, WITH AREAS TO BE DUG FROM LAND DESIGNATED AS PHASE 1A AND IS TO BE CONDUCTED BEFORE WATER BASED DREDGING OF PHASE 1B. CONSTRUCTION OF PILES AND THE WHARF WILL COMMENCE FOLLOWING THE COMPLETION OF PHASE 1A. PHASE 2 WILL BE CONDUCTED FOLLOWING PHASE 1B TO COMPLETE DREDGING OF THE REMAINDER OF THE PROPOSED CHANNEL.
3. THE FIVE WESTERNMOST ROWS OF PILES ARE TO BE INSTALLED FOLLOWING PHASE 1A AND BEFORE THE START OF PHASE 1B DREDGING.

0 175 350 525 700

1"=350'-0" SCALE IN FEET



HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING PHASE 1

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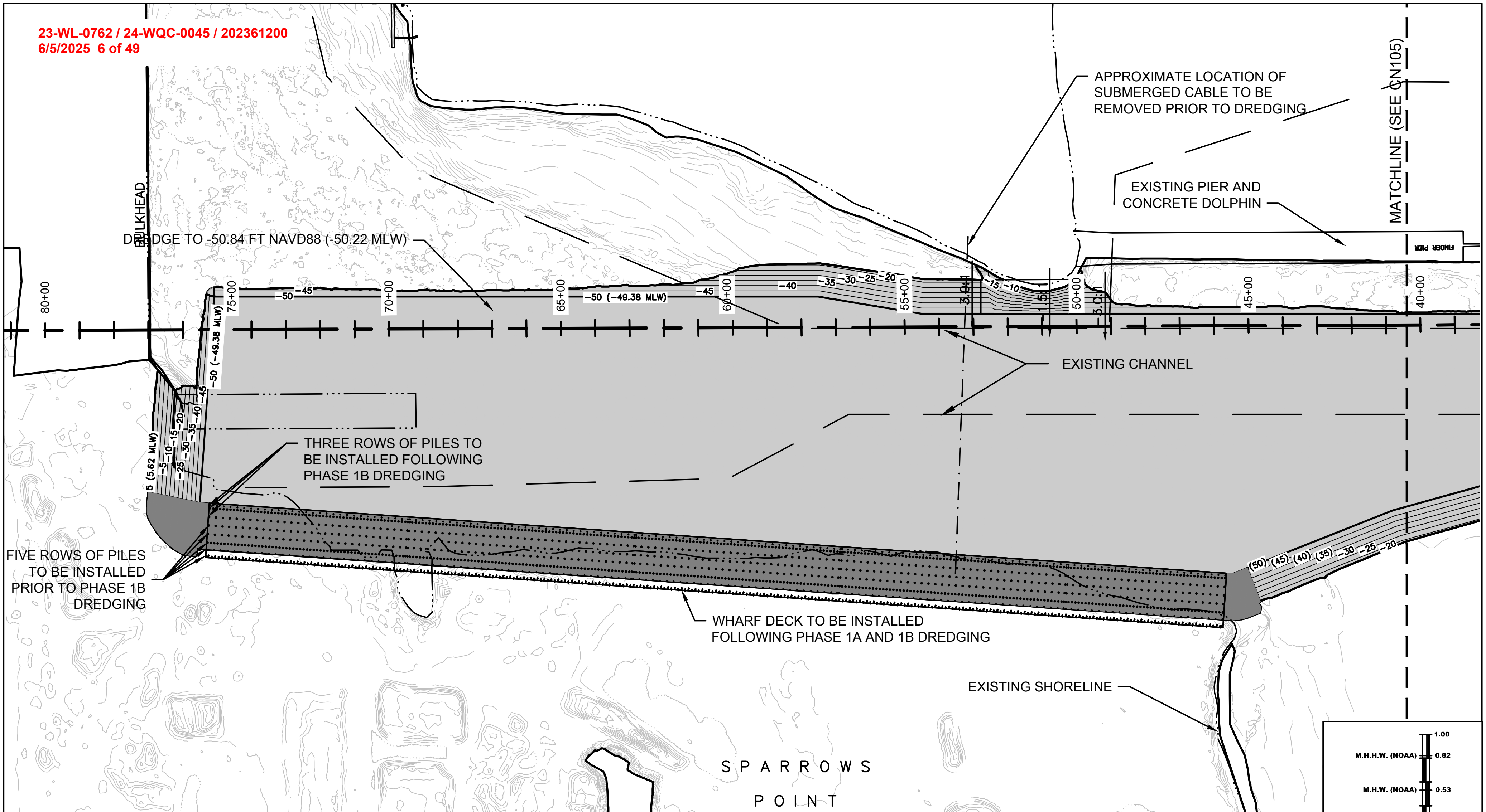

LEGEND:

- PHASE 1 DREDGING AREA, AREA TO BE DREDGED TO −50.84 NAVD88 (−50.22 MLW), DEPTH WITH SIDE SLOPES AS SHOWN.
- PHASE 2 DREDGING AREA, AREA TO BE DREDGED TO −50.84 NAVD88 (−50.22 MLW), DEPTH WITH SIDE SLOPES AS SHOWN.
- (40) DESIGN DEPTH CONTOURS NAVD88
- (34) EXISTING DEPTH CONTOURS NAVD88

NOTES:

1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.
2. THE FIVE WESTERNMOST ROWS OF PILES ALONG WHARF TO BE INSTALLED FOLLOWING PHASE 1A DREDGING AND PRIOR TO PHASE 1B DREDGING.
3. PHASE 1 DREDGE AREA CONSISTS OF PHASE 1A AND PHASE 1B AS INDICATED ON SHEET CN103.

0 200 400 600 800

1"=400'-0" SCALE IN FEET

	1.00
M.H.H.W. (NOAA)	0.82
M.H.W. (NOAA)	0.53
NAVD88 (NOAA) SURVEY	0.00
M.S.L.	-0.03
M.L.W. (NOAA)	-0.62
M.L.L.W. (NOAA)	-0.84
	-1.00

HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING PHASE 2 (SHEET 1 OF 2)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
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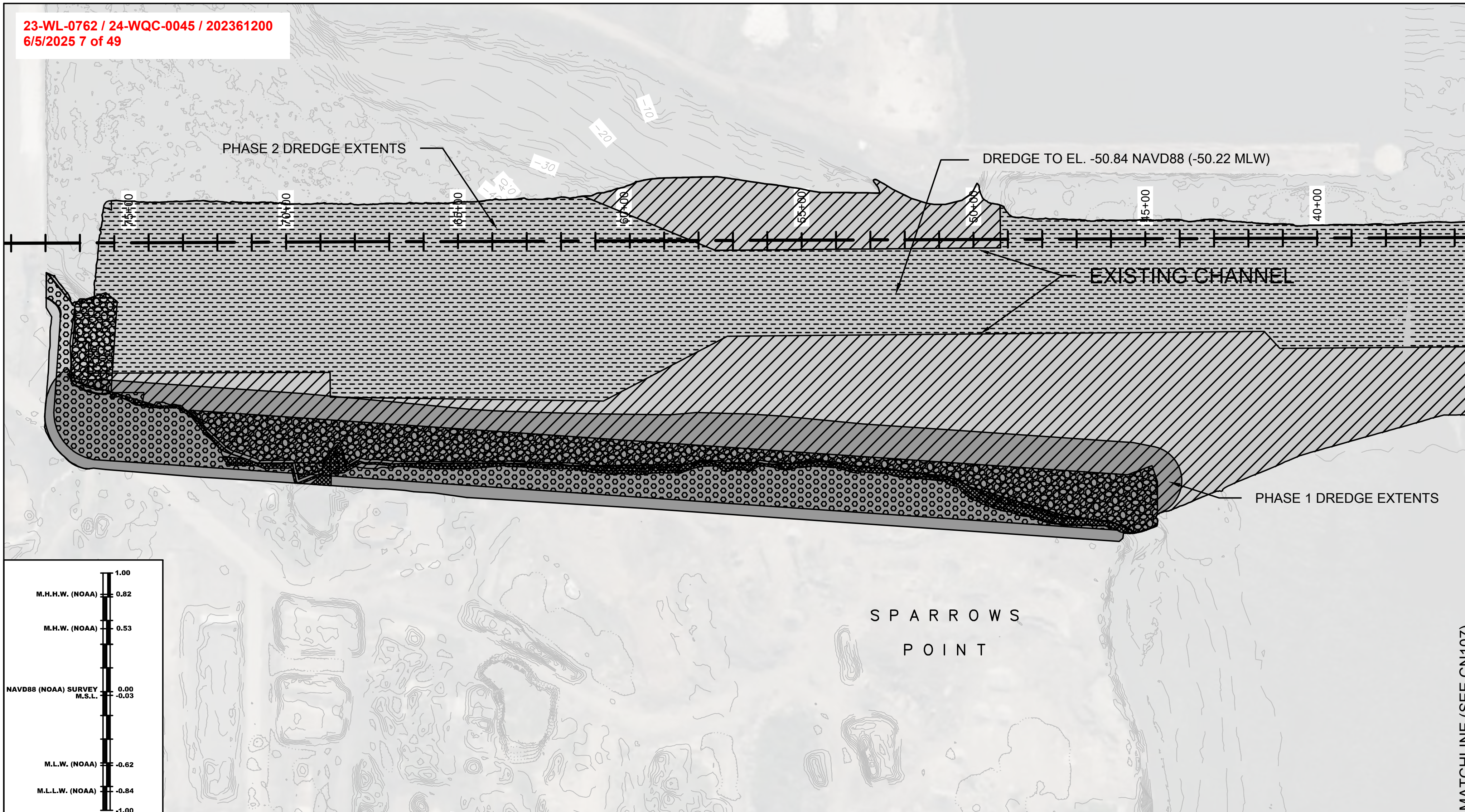

LEGEND:
- PHASE 1 DREDGING AREA
- PHASE 2 DREDGING AREA
- AREA PREVIOUSLY DREDGED AS MAINTENANCE DREDGING
- (34) EXISTING DEPTH CONTOURS NAVD88

IMPACTS:
- DREDGING AREAS NOT PREVIOUSLY DREDGED AS MAINTENANCE DREDGING
- DREDGING AREA BETWEEN 0.0' AND 3.0' MLW
- REVETMENT STONE PLACED GREATER THAN 10' CHANNELWARD OF THE EXISTING MHWL
- OPEN WATER CREATED THROUGH EXCAVATION

0 200 400 600 800
1"=400'-0" SCALE IN FEET

NOTES:
1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING IMPACTS (SHEET 1 OF 2)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
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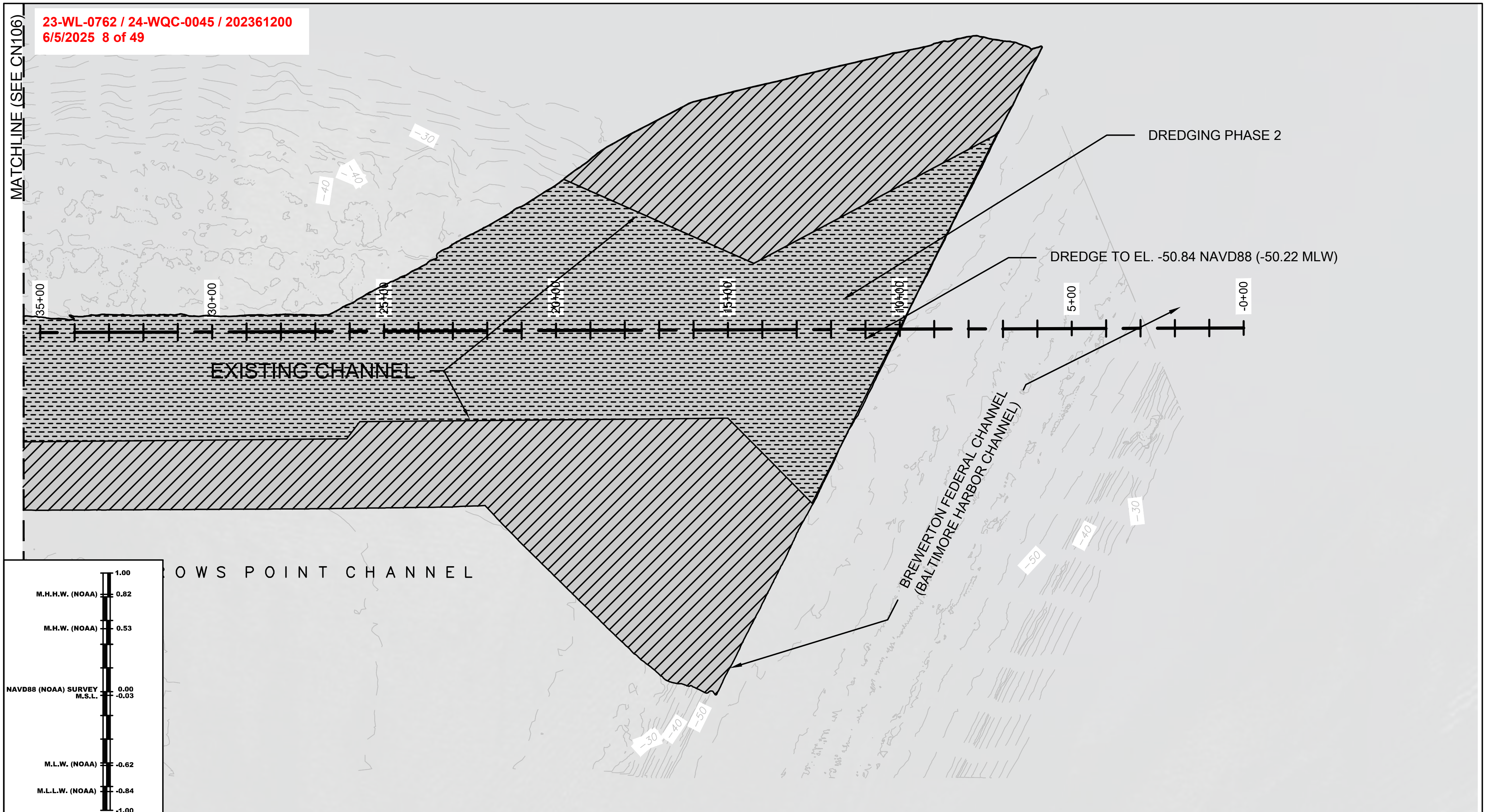


LEGEND:

- PHASE 1 DREDGING AREA
- PHASE 2 DREDGING AREA
- AREA PREVIOUSLY DREDGED AS MAINTENANCE DREDGING
- (34) EXISTING DEPTH CONTOURS NAVD88

IMPACTS:

- DREDGING AREAS NOT PREVIOUSLY DREDGED AS MAINTENANCE DREDGING

0 200 400 600 800

1"=400'-0" SCALE IN FEET

NOTES:

1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

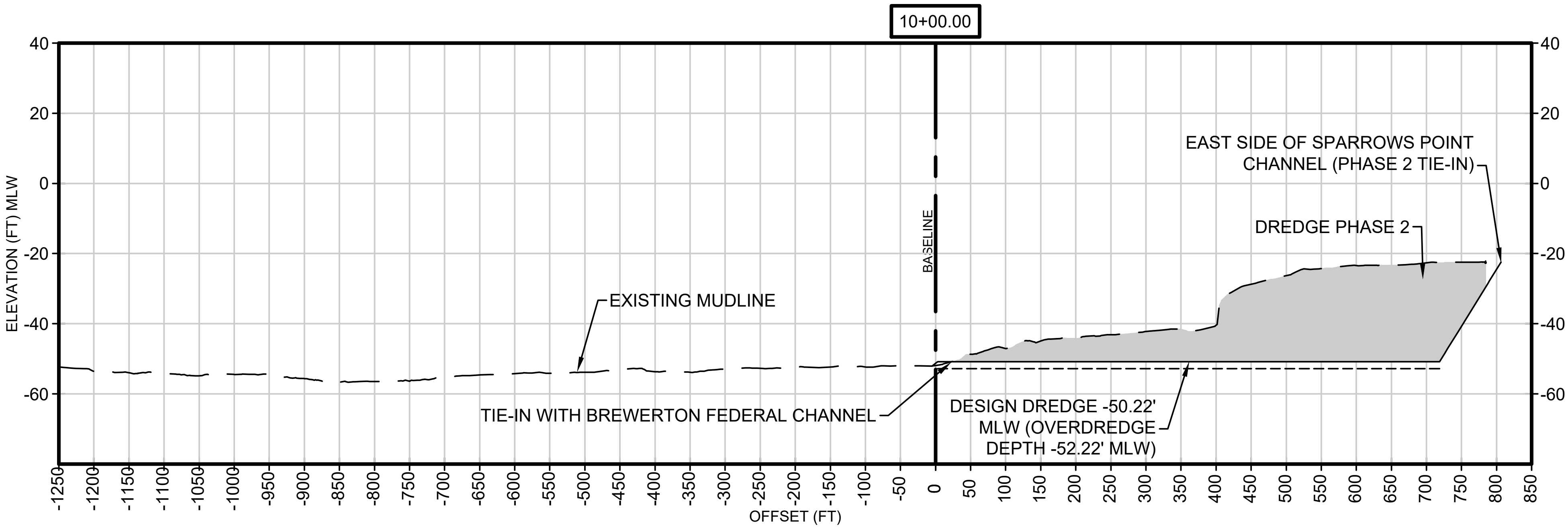
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING IMPACTS (SHEET 2 OF 2)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN107

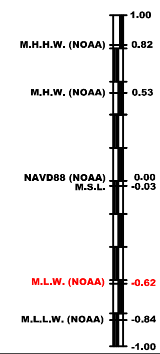
SHEET SIZE: A



0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION



LEGEND:

- PHASE 1A DREDGING AREA
- PHASE 1B DREDGING AREA
- PHASE 2 DREDGING AREA
- APPROX. BOTTOM OF SLAG
- DESIGN DEPTH
- EXISTING MUDLINE
- OVERDREDGE
- BOTTOM OF REVETMENT

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

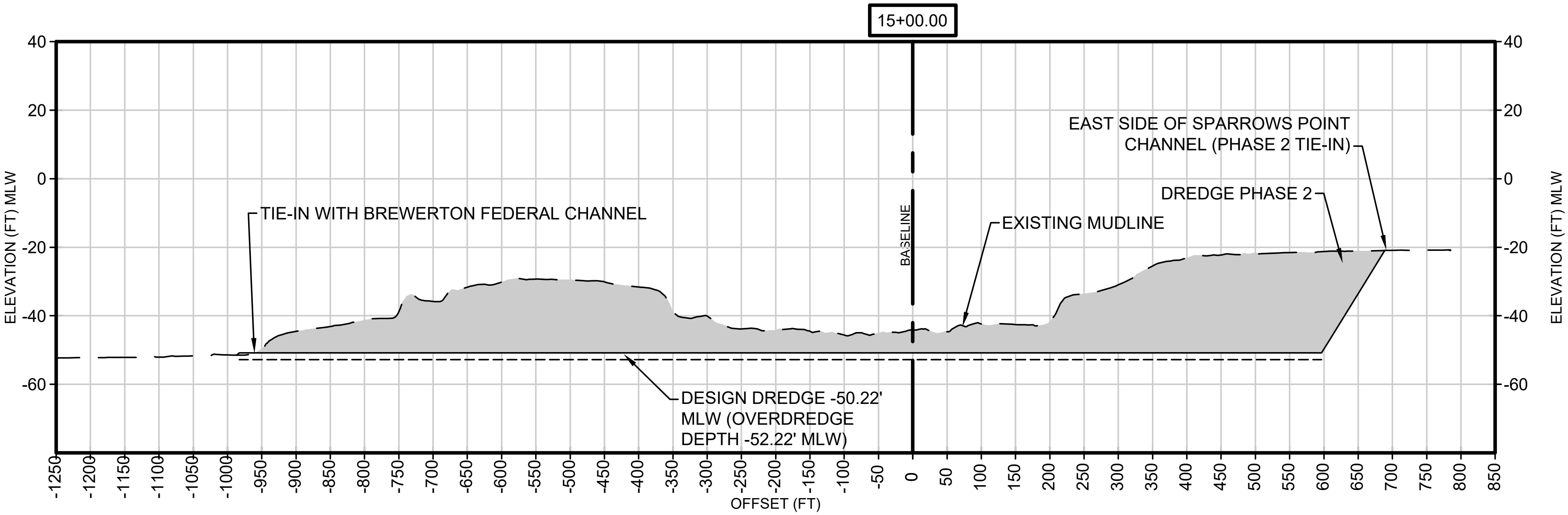
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT
CONTAINER TERMINAL

SECTIONS - DREDGING
(SHEET 1 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN301

SHEET SIZE: A



0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

PHASE 1A DREDGING AREA — APPROX. BOTTOM OF SLAG — OVERDREDGE

PHASE 1B DREDGING AREA — DESIGN DEPTH — BOTTOM OF REVETMENT

PHASE 2 DREDGING AREA — EXISTING MUDLINE

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

	1.00
M.H.H.W. (NOAA)	0.82
M.H.W. (NOAA)	0.53
NAVD88 (NOAA)	0.00
M.S.L.	-0.03
M.L.W. (NOAA)	-0.62
M.L.L.W. (NOAA)	-0.84
	-1.00

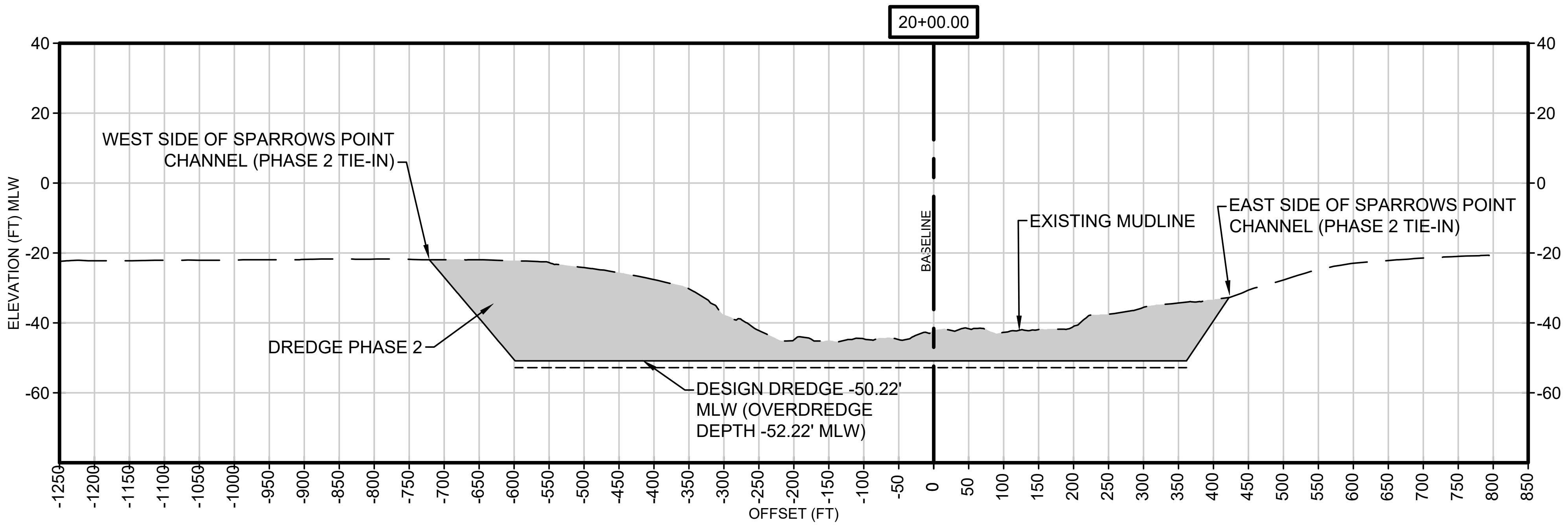
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

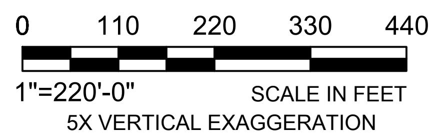
SPARROWS POINT CONTAINER TERMINAL

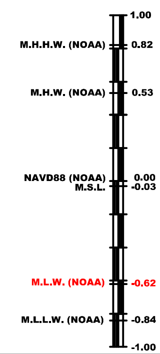
SECTIONS - DREDGING (SHEET 2 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN302

SHEET SIZE: A







LEGEND:

- PHASE 1A DREDGING AREA
- PHASE 1B DREDGING AREA
- PHASE 2 DREDGING AREA
- APPROX. BOTTOM OF SLAG
- DESIGN DEPTH
- EXISTING MUDLINE
- OVERDREDGE
- BOTTOM OF REVETMENT

NOTE:

1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

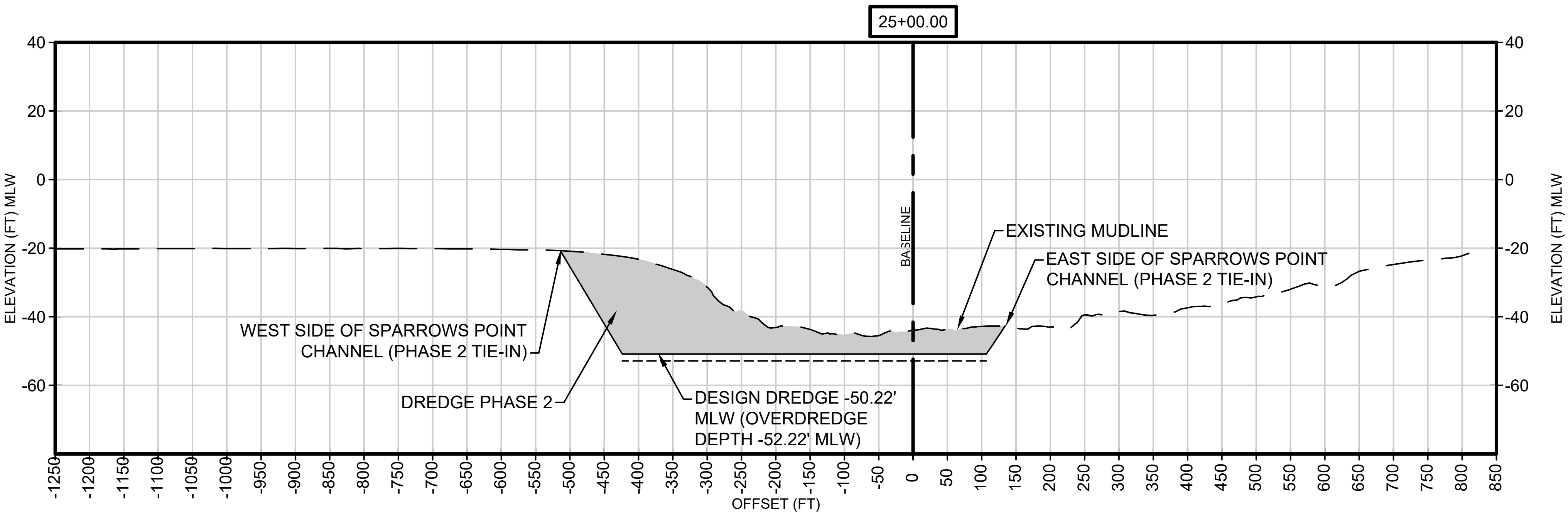
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

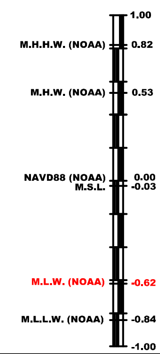
SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 3 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN303

SHEET SIZE: A





0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

- PHASE 1A DREDGING AREA
- PHASE 1B DREDGING AREA
- PHASE 2 DREDGING AREA
- APPROX. BOTTOM OF SLAG
- DESIGN DEPTH
- EXISTING MUDLINE
- OVERDREDGE
- BOTTOM OF REVETMENT

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

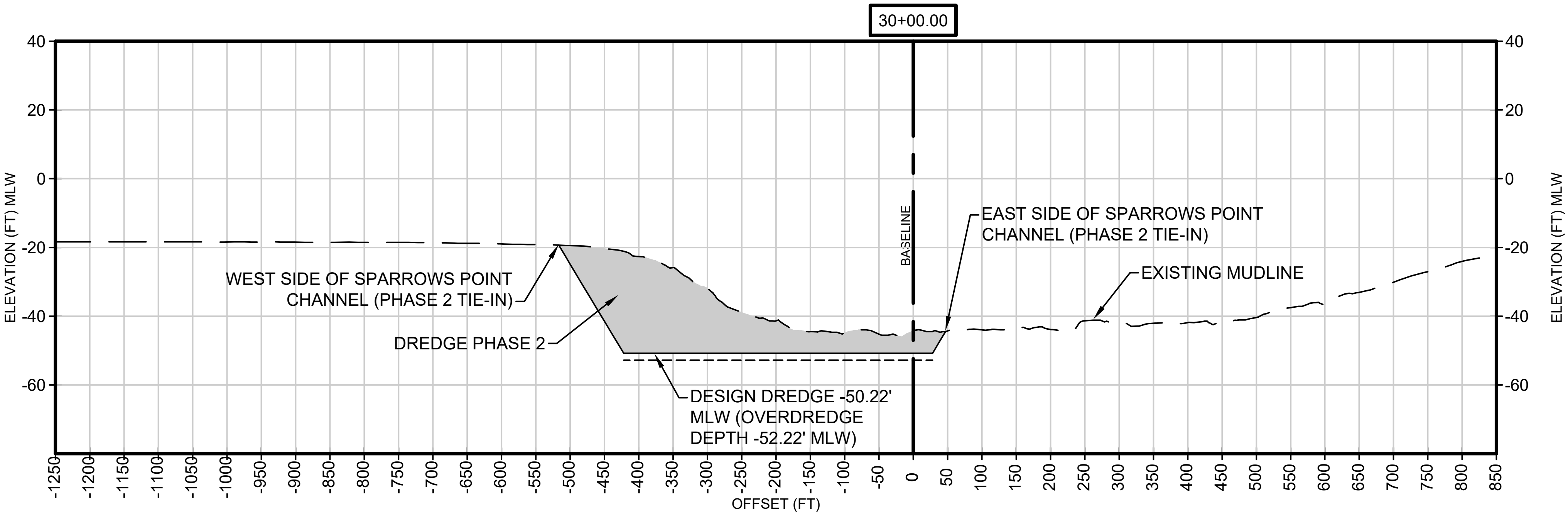
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

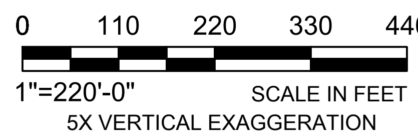
SPARROWS POINT CONTAINER TERMINAL

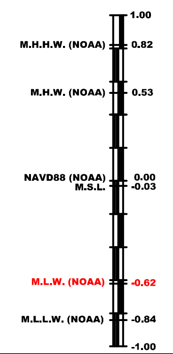
SECTIONS - DREDGING (SHEET 4 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN304

SHEET SIZE: A







LEGEND:

- PHASE 1A DREDGING AREA
- PHASE 1B DREDGING AREA
- PHASE 2 DREDGING AREA
- APPROX. BOTTOM OF SLAG
- DESIGN DEPTH
- EXISTING MUDLINE
- OVERDREDGE
- BOTTOM OF REVETMENT

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

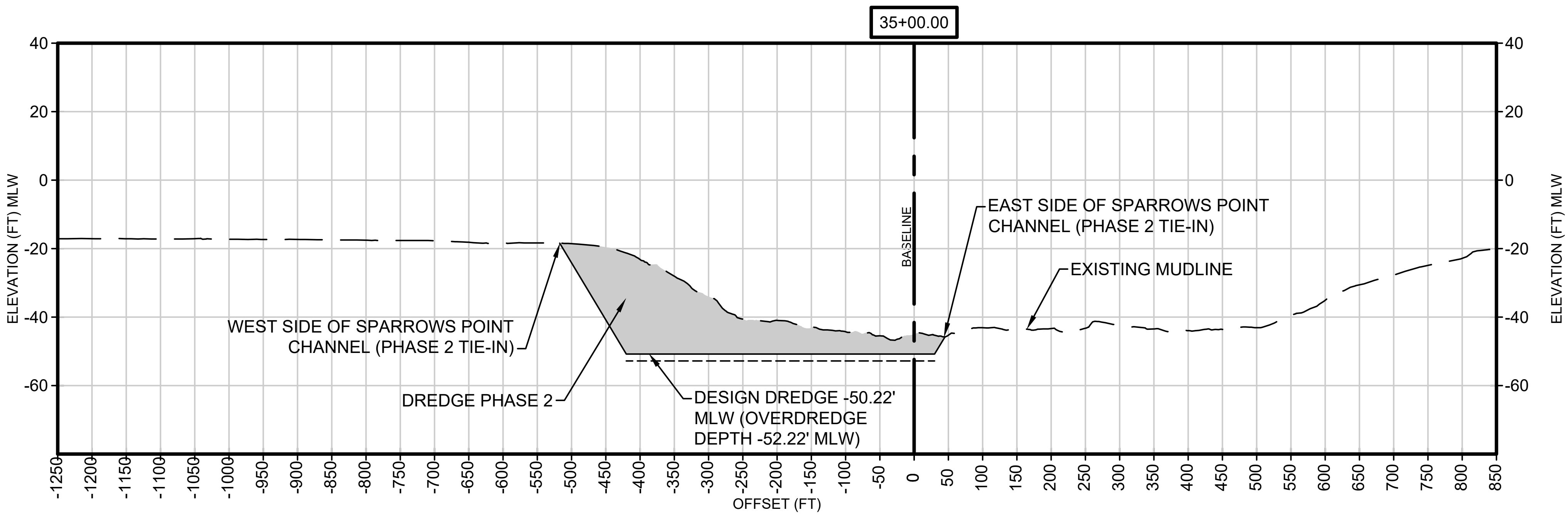
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 5 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN305

SHEET SIZE: A



0 110 220 330 440

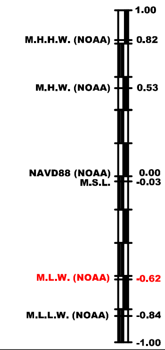
1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

- PHASE 1A DREDGING AREA
- PHASE 1B DREDGING AREA
- PHASE 2 DREDGING AREA
- APPROX. BOTTOM OF SLAG
- DESIGN DEPTH
- EXISTING MUDLINE
- OVERDREDGE
- BOTTOM OF REVETMENT

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.



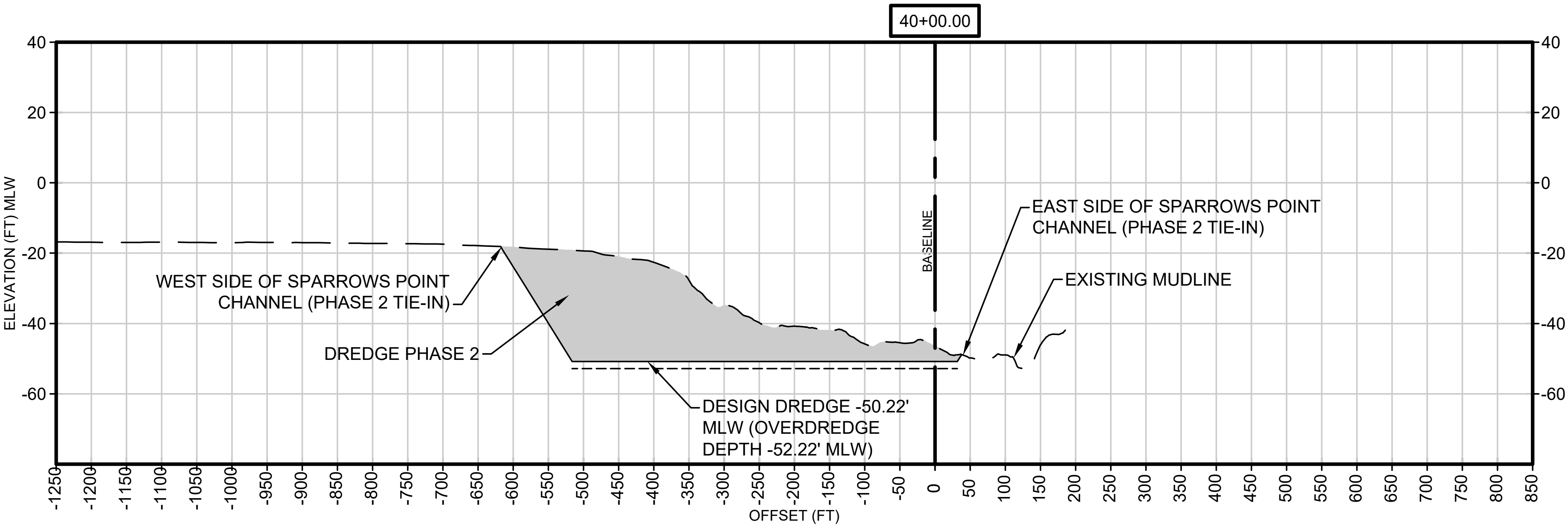
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

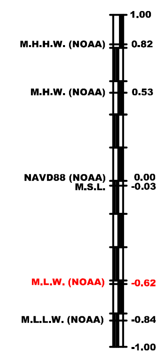
SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 6 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN306

SHEET SIZE: A





0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

- PHASE 1A DREDGING AREA
- PHASE 1B DREDGING AREA
- PHASE 2 DREDGING AREA
- APPROX. BOTTOM OF SLAG
- DESIGN DEPTH
- EXISTING MUDLINE
- OVERDREDGE
- BOTTOM OF REVETMENT

NOTE:

1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

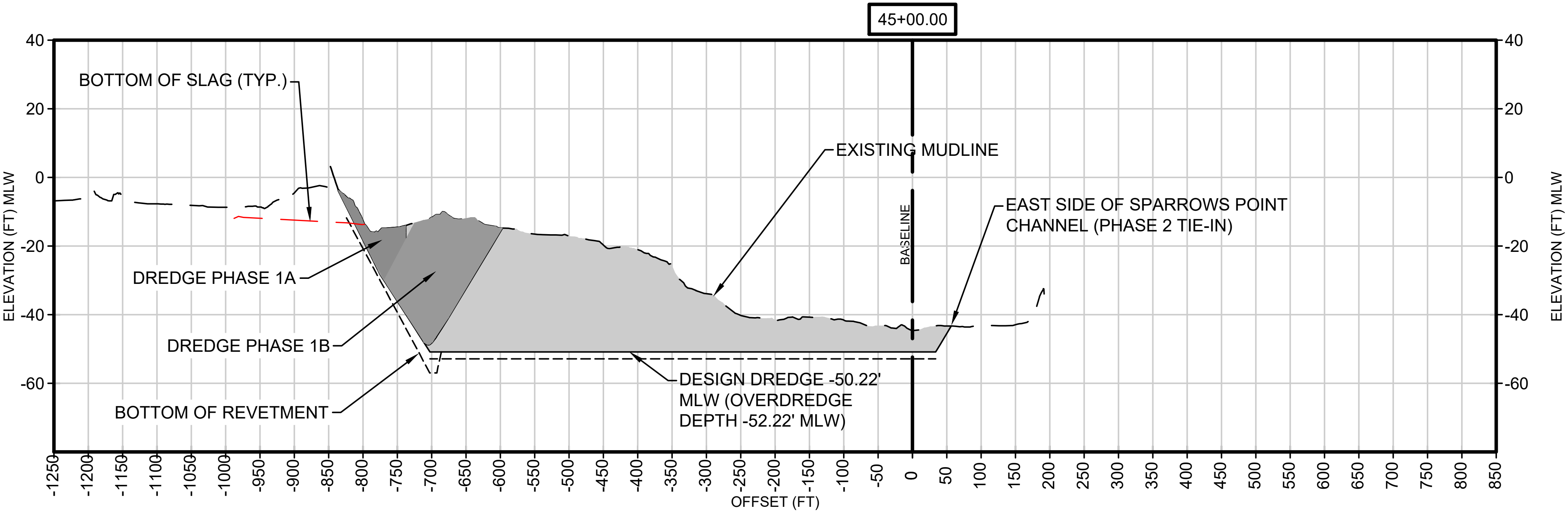
SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 7 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN307

SHEET SIZE: A

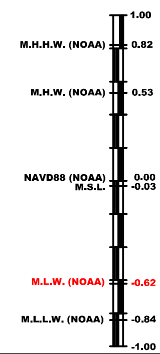
45+00.00



0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION



LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

NOTE:

1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

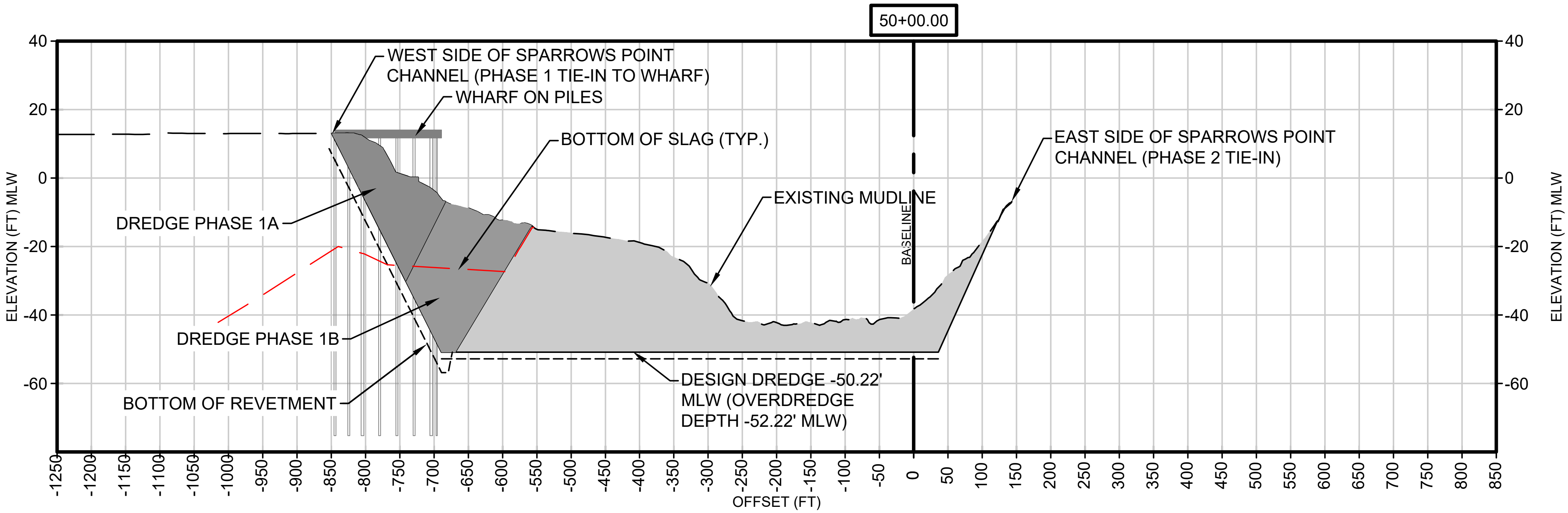
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 8 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN308

SHEET SIZE: A



LEGEND:

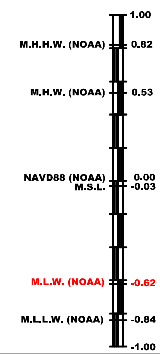
PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.



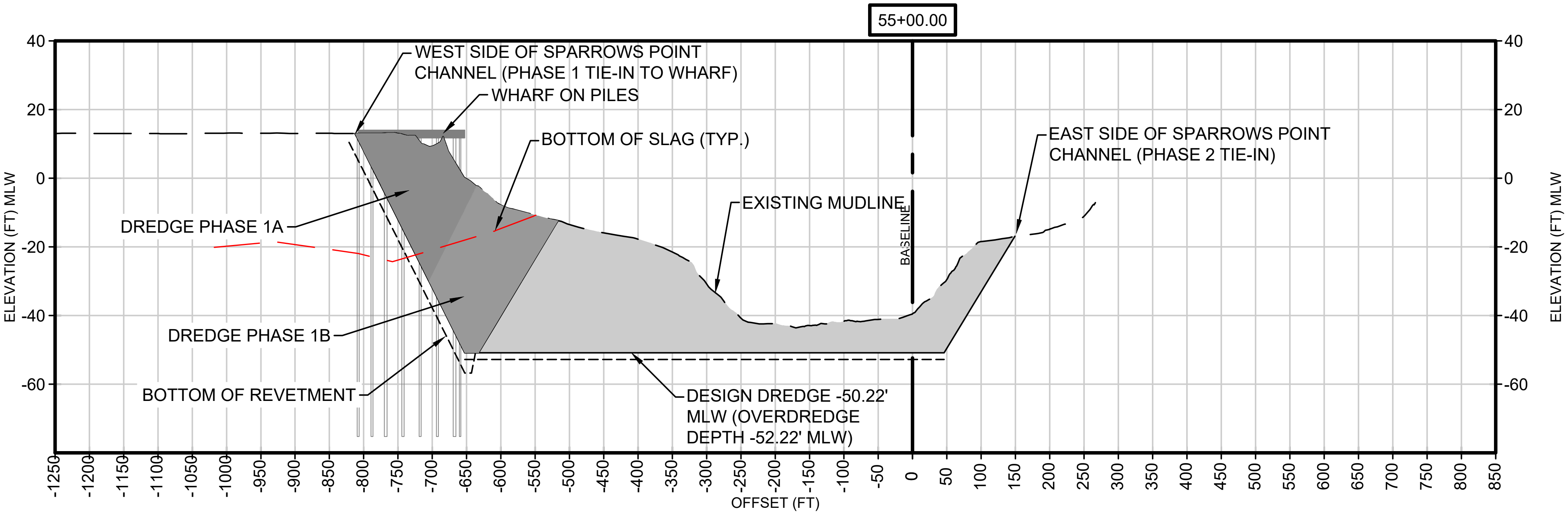
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

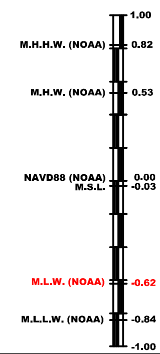
SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 9 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN309

SHEET SIZE: A





0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

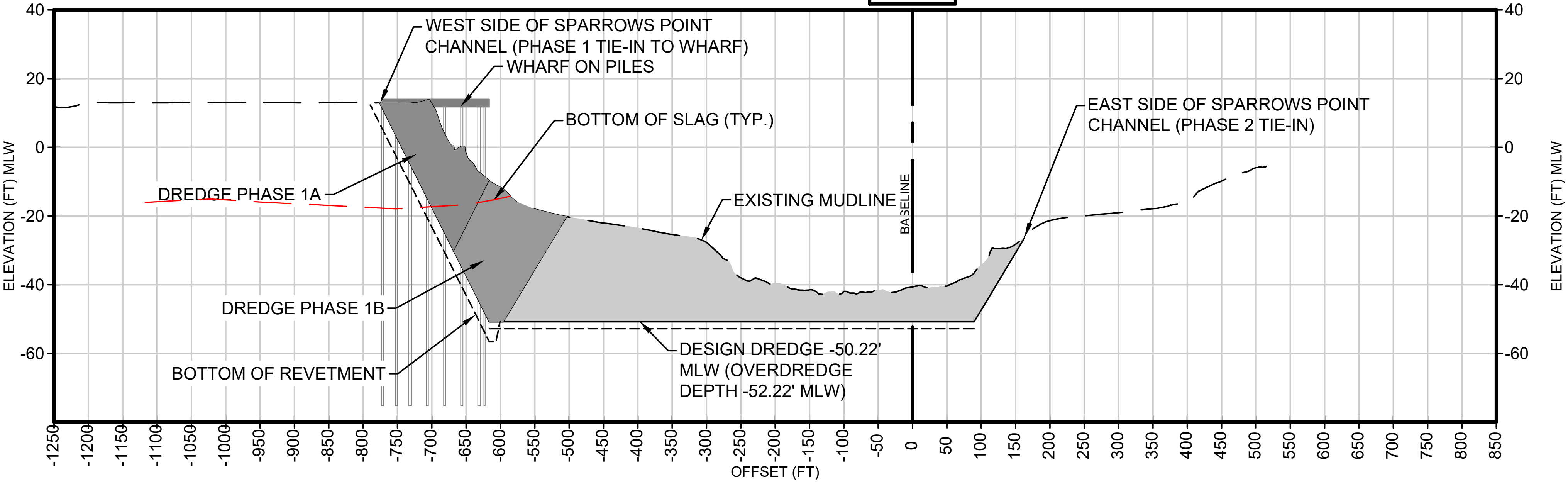
SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 10 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN310

SHEET SIZE: A

60+00.00



LEGEND:

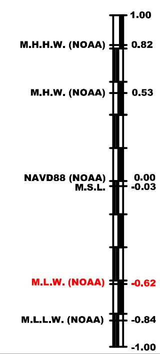
PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.



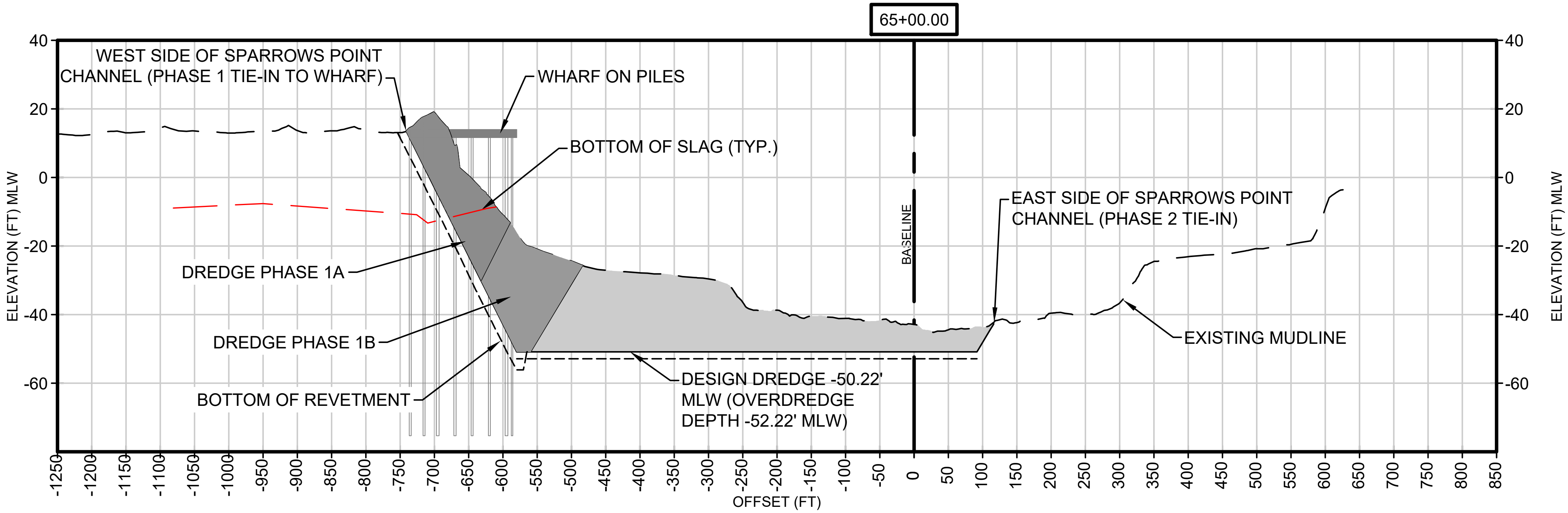
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

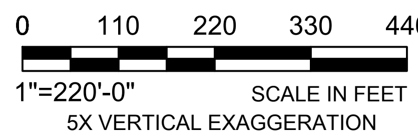
SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 11 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN311

SHEET SIZE: A

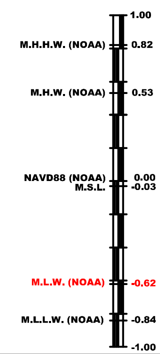




LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.



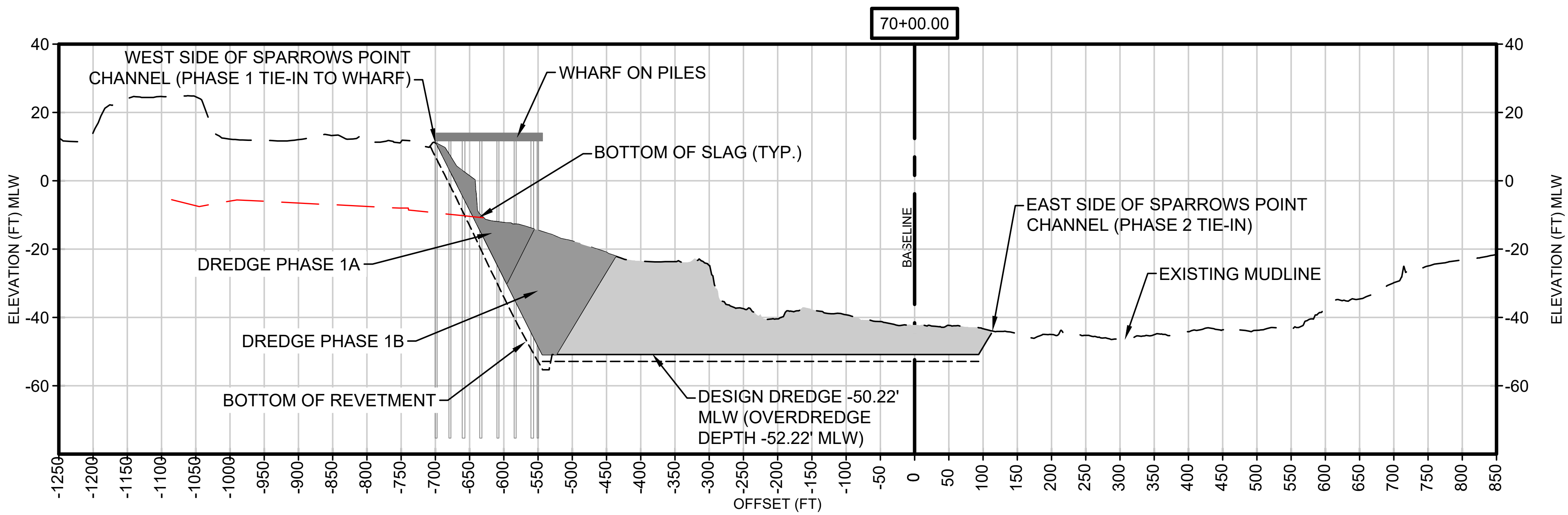
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 12 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN312

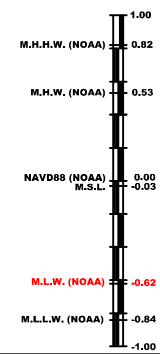
SHEET SIZE: A



0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION



LEGEND:

- PHASE 1A DREDGING AREA
- PHASE 1B DREDGING AREA
- PHASE 2 DREDGING AREA
- APPROX. BOTTOM OF SLAG
- DESIGN DEPTH
- EXISTING MUDLINE
- OVERDREDGE
- BOTTOM OF REVETMENT

NOTE:

1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

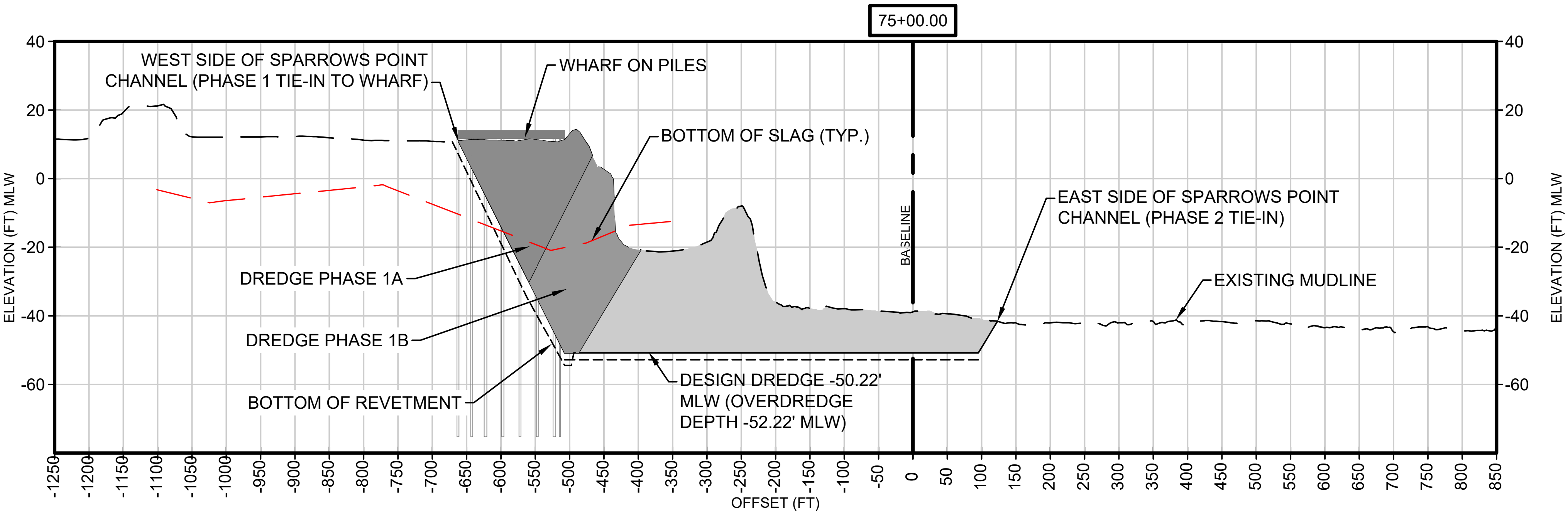
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 13 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN313

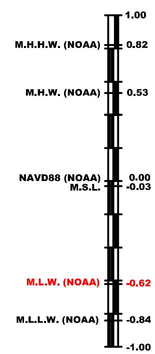
SHEET SIZE: A



0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION



LEGEND:

- PHASE 1A DREDGING AREA
- PHASE 1B DREDGING AREA
- PHASE 2 DREDGING AREA
- APPROX. BOTTOM OF SLAG
- DESIGN DEPTH
- EXISTING MUDLINE
- OVERDREDGE
- BOTTOM OF REVETMENT

NOTE:

1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 14 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN314

SHEET SIZE: A

Wharf Construction Plans

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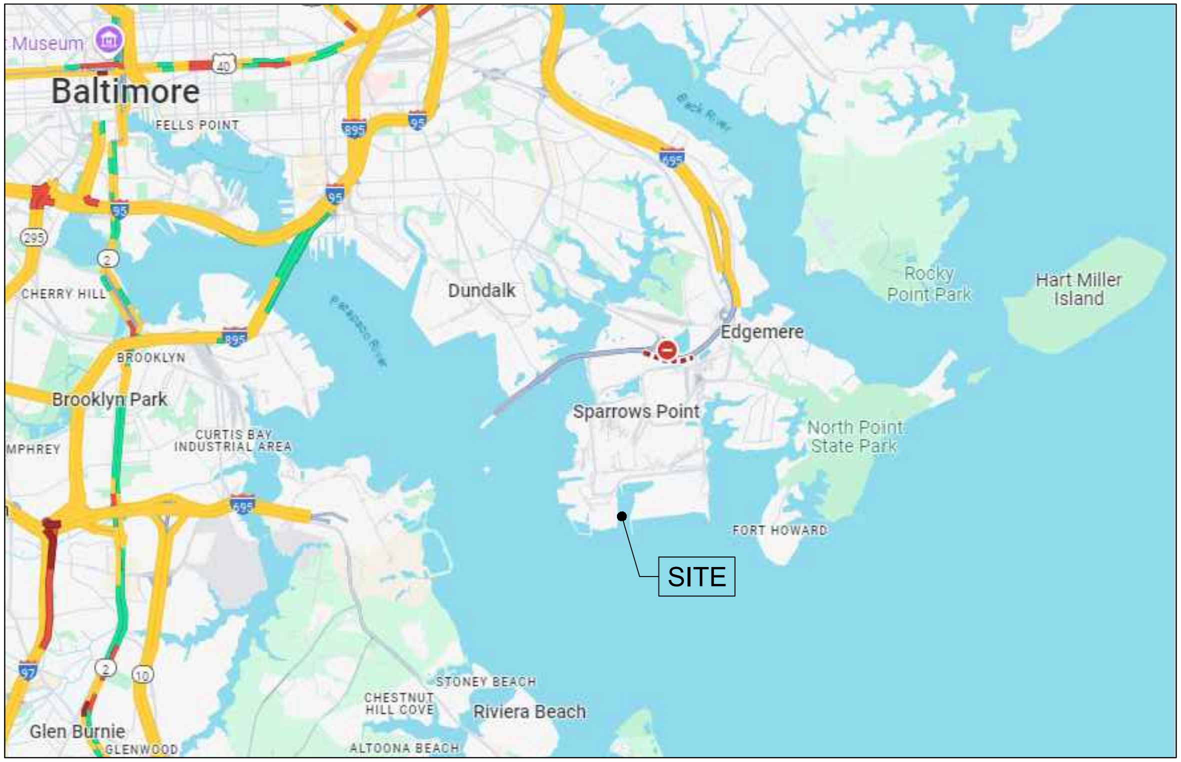
SPARROWS POINT CONTAINER TERMINAL WHARF

SHORELINE IMPACT

BALTIMORE COUNTY, MARYLAND



LIST OF DRAWINGS:

DRAWING NO.	SHEET	DRAWING TITLE
0001	1	TITLE SHEET
0002	2	GENERAL ARRANGEMENT
0003	3	NORTH OF WHARF
0004	4	WHARF PLAN SHEET 1 OF 2
0005	5	WHARF PLAN SHEET 2 OF 2
0006	6	SOUTH OF WHARF
0007	7	SECTION
0008	8	SECTION
0009	9	SECTION
0010	10	IMPACT

HATCH

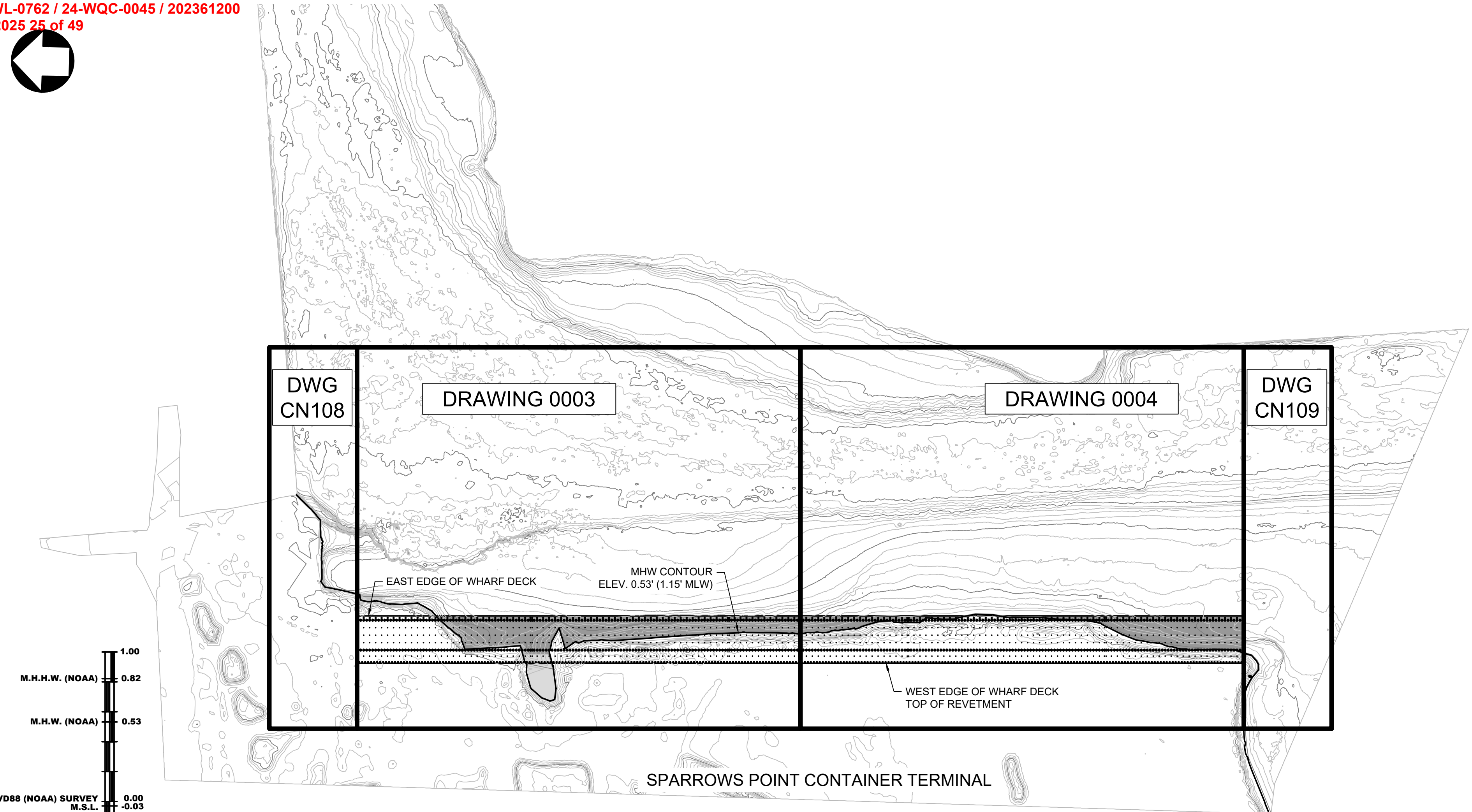
SPARROWS POINT CONTAINER TERMINAL

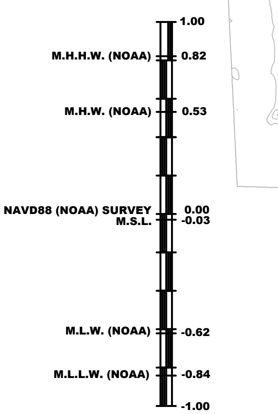
SPARROWS POINT CONTAINER TERMINAL WHARF
BALTIMORE COUNTY, MARYLAND

TITLE SHEET

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/0 -. 4	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	1 OF 10	0001

SHEET SIZE: A





NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

LEGEND

- WHARF FOOTPRINT CHANNELWARD ENCROACHMENT
- EXISTING MHW SHORELINE (ELEV. 0.53' NAVD88, 1.15' MLW)
- SLAG FILL
- WHARF PILES (TYP.) PILES IN SHADED AREA ARE CHANNELWARD OF M.H.W.

0 250 500 750 1000

1"=500'-0" SCALE IN FEET

HATCH

SPARROWS POINT CONTAINER TERMINAL

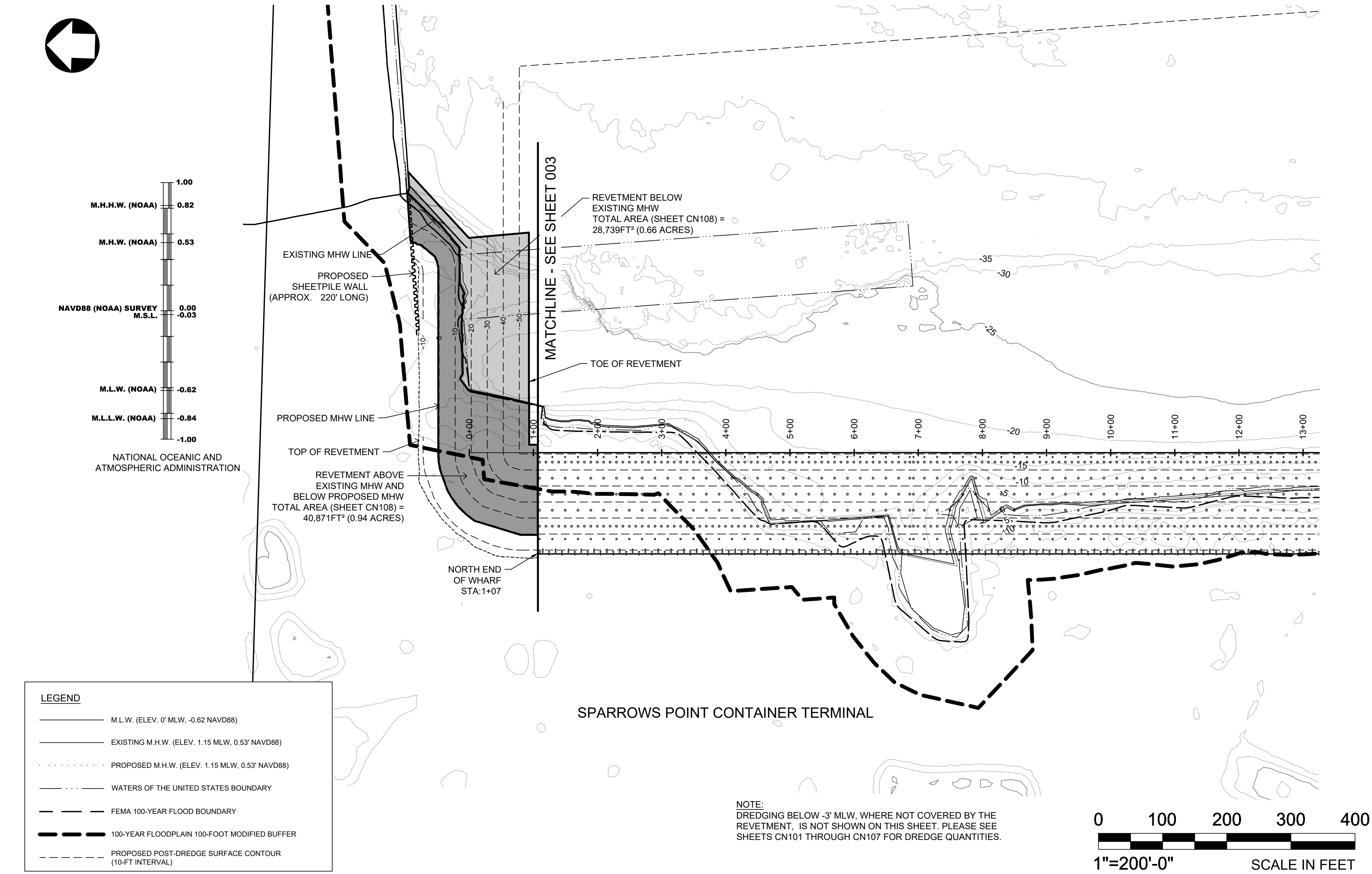
SPARROWS POINT
CONTAINER TERMINAL
WHARF

BALTIMORE COUNTY, MARYLAND

GENERAL ARRANGEMENT

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/21	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	2 OF 10	0002

SHEET SIZE: A



HATCH

SPARROWS POINT CONTAINER TERMINAL

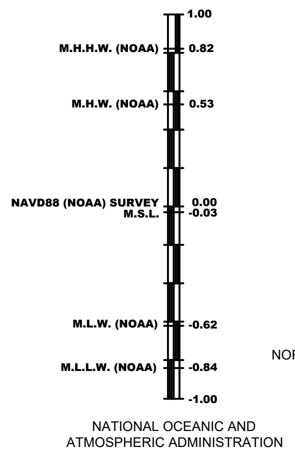
SPARROWS POINT
CONTAINER TERMINAL
WHARF

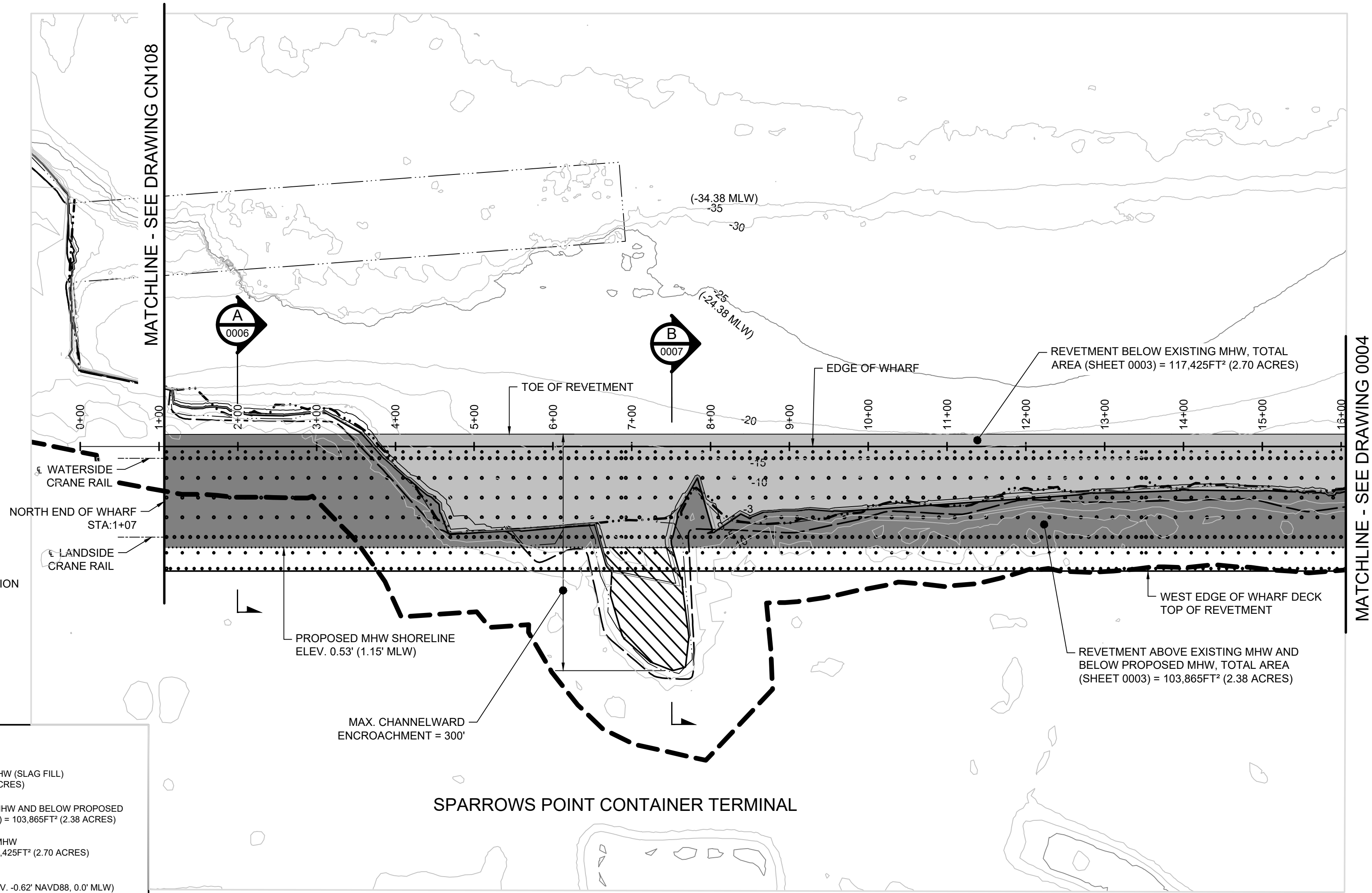
BALTIMORE COUNTY, MARYLAND

PLAN - NORTH OF WHARF

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/21	H374437	ANTHONY RUANE	ANTHONY RUANE	CHRIS KAKOLEWSKI	CHRIS KAKOLEWSKI		CN108

SHEET SIZE: A





LEGEND

- AREA OF LAND INFILL ABOVE MHW (SLAG FILL) TOTAL AREA = 12,468FT² (0.29 ACRES)
- REVETMENT ABOVE EXISTING MHW AND BELOW PROPOSED MHW, TOTAL AREA (SHEET 0003) = 103,865FT² (2.38 ACRES)
- REVETMENT BELOW EXISTING MHW TOTAL AREA (SHEET 0003) = 117,425FT² (2.70 ACRES)
- EXISTING MLW SHORELINE (ELEV. -0.62' NAVD88, 0.0' MLW)
- EXISTING MHW SHORELINE (ELEV. 0.53' NAVD88, 1.15' MLW)
- PROPOSED MHW SHORELINE (ELEV. 0.53' NAVD88, 1.15' MLW)
- WATERS OF THE UNITED STATES BOUNDARY
- FEMA 100-YEAR FLOOD BOUNDARY
- 100-YEAR FLOODPLAIN 100-FOOT MODIFIED BUFFER
- WHARF PILES (TYP.) TOTAL PILE AREA (SHEET 0003) CHANNELWARD OF EXISTING MHW = 2,145 FT² (0.05 ACRES)

NOTE:
DREDGING IS NOT SHOWN ON THIS SHEET. PLEASE SEE SHEETS CN101 THROUGH CN107 FOR DREDGE QUANTITIES.

0 100 200 300 400
1"=200'-0"
SCALE IN FEET

HATCH

SPARROWS POINT CONTAINER TERMINAL PORT OF BALTIMORE

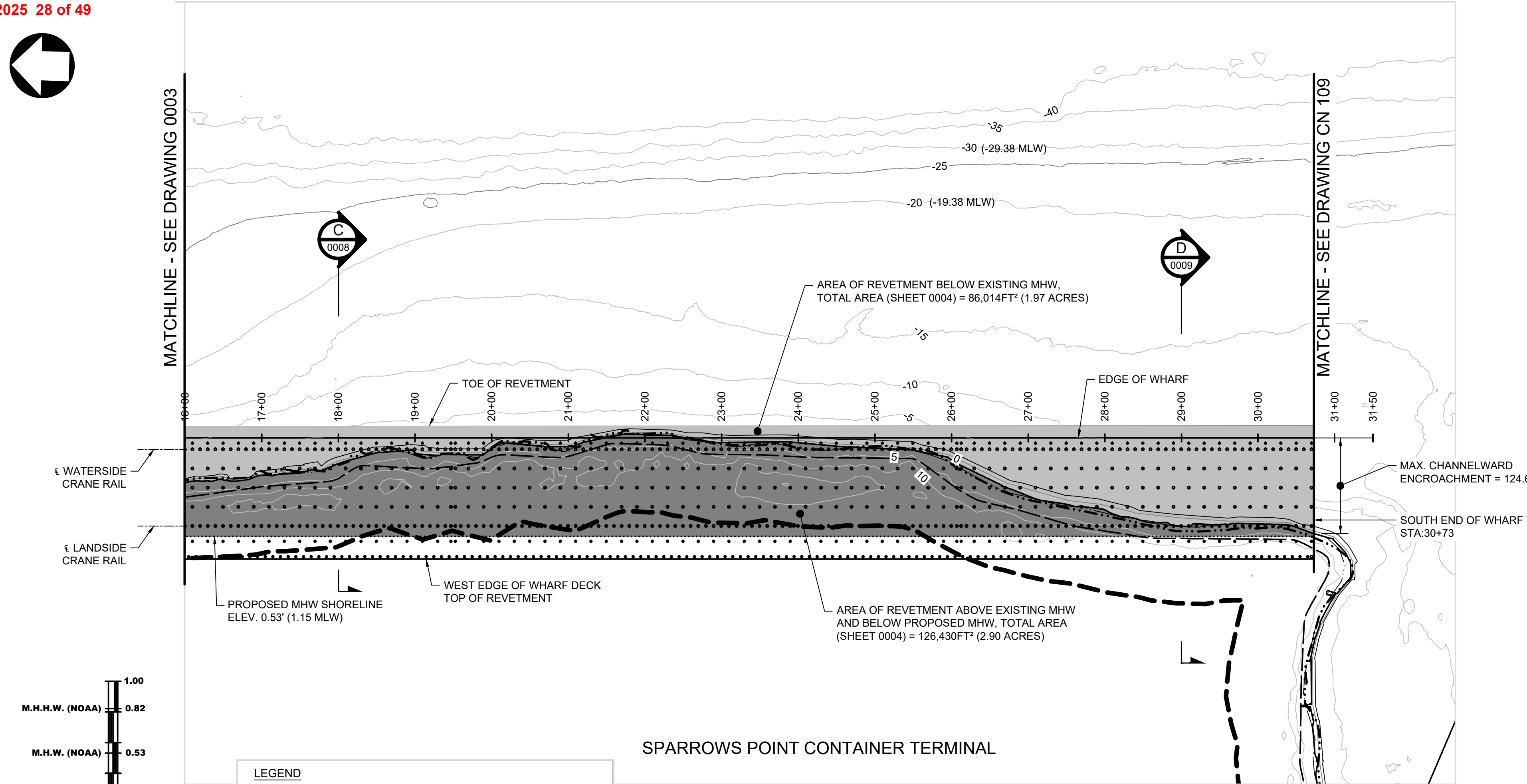
SPARROWS POINT
CONTAINER TERMINAL
WHARF

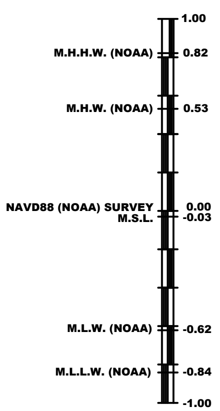
BALTIMORE COUNTY, MARYLAND

WHARF PLAN - SHEET 1 OF 2

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/23	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	3 OF 10	0003

SHEET SIZE: A





NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

LEGEND

- AREA OF REVETMENT ABOVE EXISTING MHW AND BELOW PROPOSED MHW, TOTAL AREA (SHEET 0004) = 126,430FT² (2.90 ACRES)
- AREA OF REVETMENT BELOW EXISTING MHW, TOTAL AREA (SHEET 0004) = 86,014FT² (1.97 ACRES)
- EXISTING MLW SHORELINE (ELEV. -0.62' NAVD88, 0.0' MLW)
- EXISTING MHW SHORELINE (ELEV. 0.53' NAVD88, 1.15' MLW)
- PROPOSED MHW SHORELINE (ELEV. 0.53' NAVD88, 1.15' MLW)
- WATERS OF THE UNITED STATES BOUNDARY
- FEMA 100-YEAR FLOOD BOUNDARY
- 100-YEAR FLOODPLAIN 100-FOOT MODIFIED BUFFER
- WHARF PILES (TYP.) TOTAL PILE AREA (SHEET 0004) CHANNELWARD OF MHW = 1,471FT² (0.03 ACRES)

NOTE:
DREDGING IS NOT SHOWN ON THIS SHEET. PLEASE SEE SHEETS CN101 THROUGH CN107 FOR DREDGE QUANTITIES.

0 100 200 300 400
1"=200'-0" SCALE IN FEET

HATCH

SPARROWS POINT CONTAINER TERMINAL PORT OF BALTIMORE

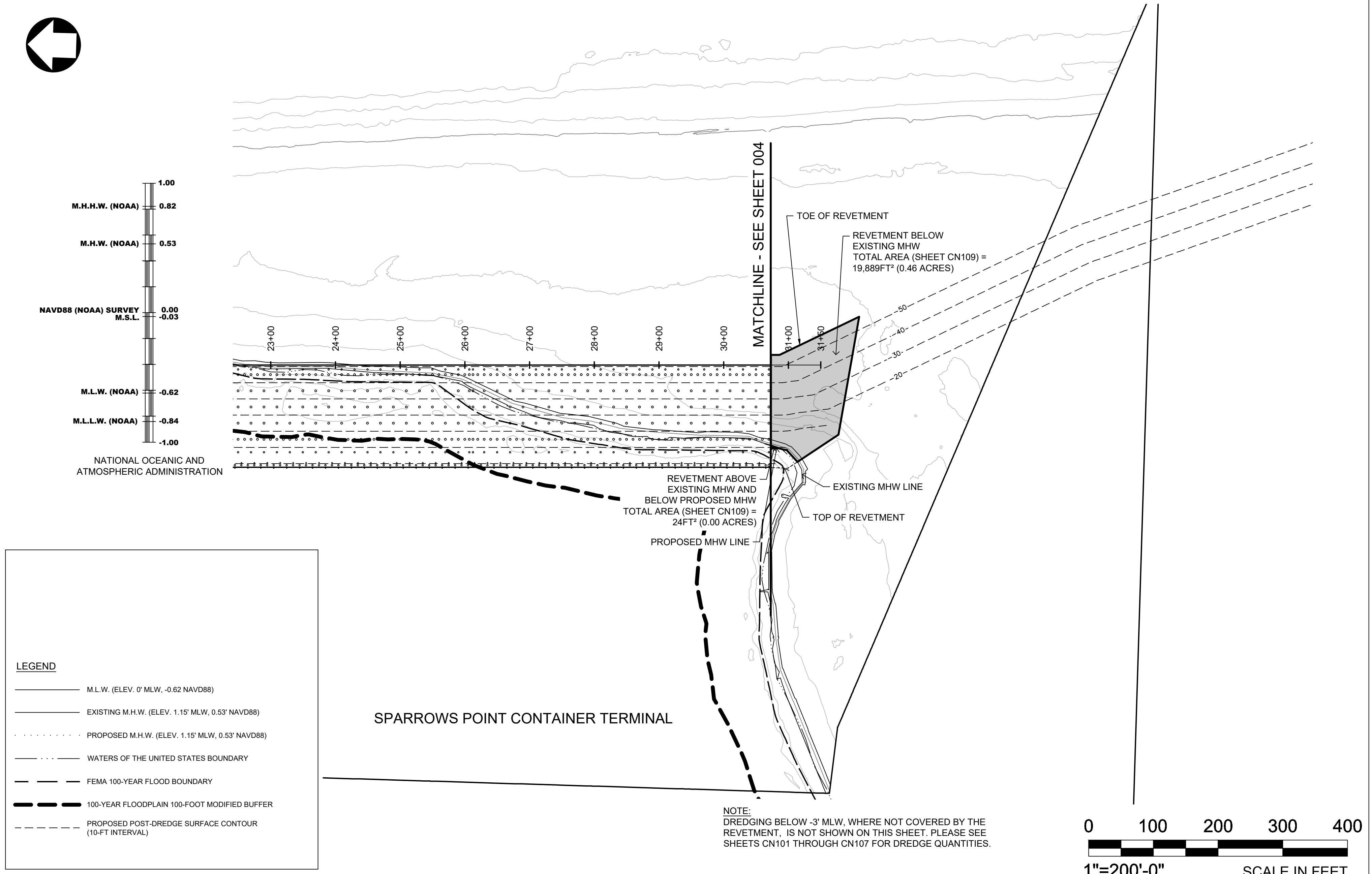
SPARROWS POINT
CONTAINER TERMINAL
WHARF

BALTIMORE COUNTY, MARYLAND

WHARF PLAN - SHEET 2 OF 2

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/21	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	4 OF 10	0004

SHEET SIZE: A



HATCH

SPARROWS POINT CONTAINER TERMINAL PORT OF BALTIMORE

SPARROWS POINT
CONTAINER TERMINAL
WHARF

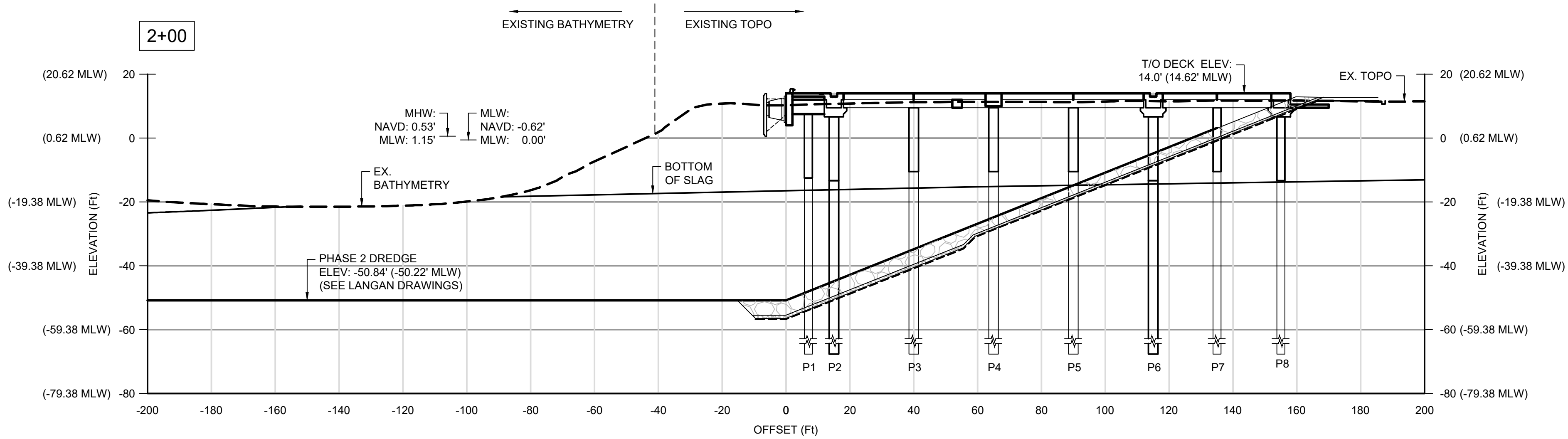
BALTIMORE COUNTY, MARYLAND

PLAN - SOUTH OF WHARF

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/09	H374437	ANTHONY RUANE	ANTHONY RUANE	CHRIS KAKOLEWSKI	CHRIS KAKOLEWSKI		CN109

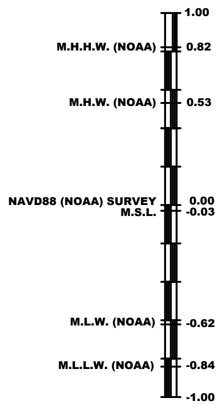
SHEET SIZE: A

2+00



PILE LEGEND:

P1 = Ø30" STEEL CANTILEVER PILE (20' SPACING)
P2 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
P3 = Ø36" STEEL DECK PILE (20' SPACING)
P4 = Ø36" STEEL DECK PILE (20' SPACING)
P5 = Ø36" STEEL DECK PILE (20' SPACING)
P6 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
P7 = Ø30" STEEL DECK PILE (20' SPACING)
P8 = Ø30" STEEL PILE (10' SPACING)



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

0 25 50 75 100
1"=50'-0" SCALE IN FEET

HATCH

SPARROWS POINT
CONTAINER TERMINAL
WHARF

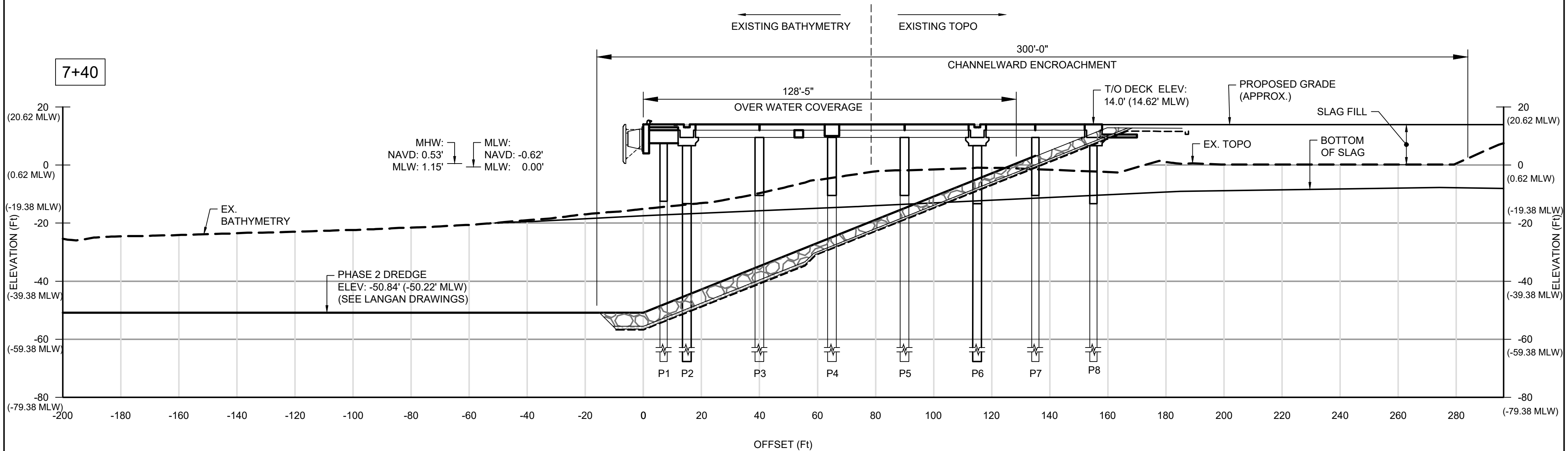
BALTIMORE COUNTY, MARYLAND

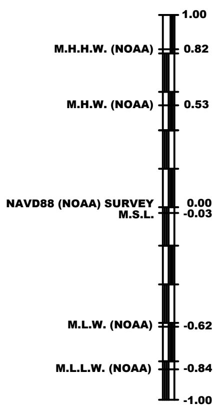
SECTION

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/05	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	6 OF 10	0006

SHEET SIZE: A

7+40





NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

PILE LEGEND:

P1 = Ø30" STEEL CANTILEVER PILE (20' SPACING)
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P4 = Ø36" STEEL DECK PILE (20' SPACING)
P5 = Ø36" STEEL DECK PILE (20' SPACING)
P6 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
P7 = Ø30" STEEL DECK PILE (20' SPACING)
P8 = Ø30" STEEL PILE (10' SPACING)

0 25 50 75 100
1"=50'-0" SCALE IN FEET

HATCH

SPARROWS POINT CONTAINER TERMINAL

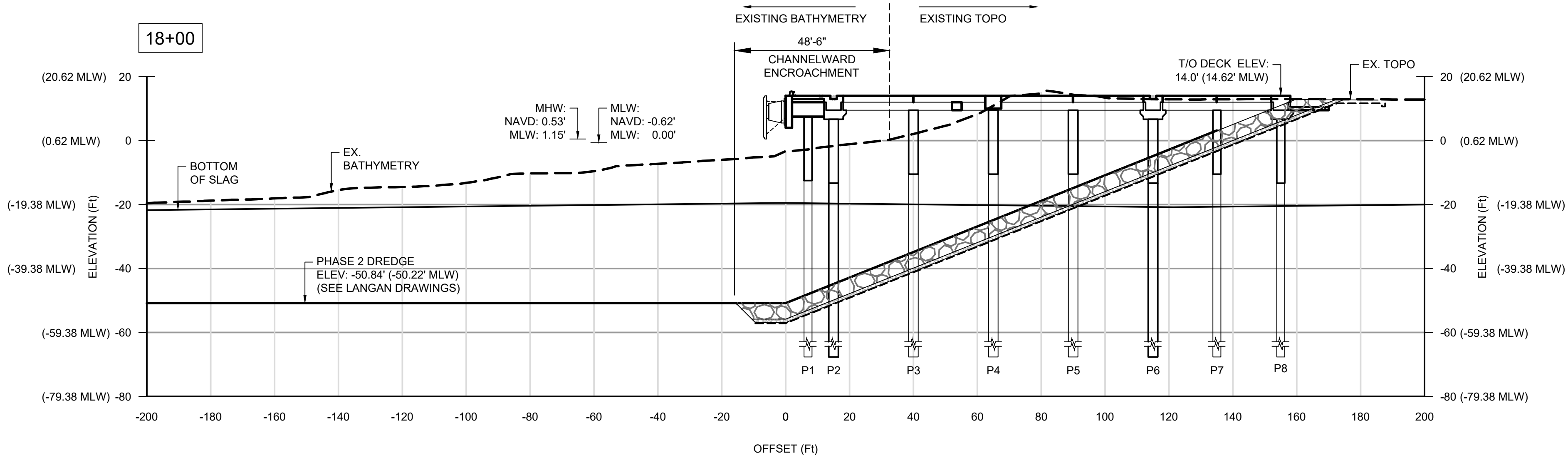
SPARROWS POINT
CONTAINER TERMINAL
WHARF

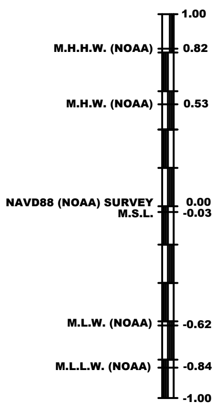
BALTIMORE COUNTY, MARYLAND

SECTION

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/05	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	7 OF 10	0007

SHEET SIZE: A





NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

PILE LEGEND:

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P2 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
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P4 = Ø36" STEEL DECK PILE (20' SPACING)
P5 = Ø36" STEEL DECK PILE (20' SPACING)
P6 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
P7 = Ø30" STEEL DECK PILE (20' SPACING)
P8 = Ø30" STEEL BATTER PILE (10' SPACING)

0 25 50 75 100
1"=50'-0" SCALE IN FEET

HATCH

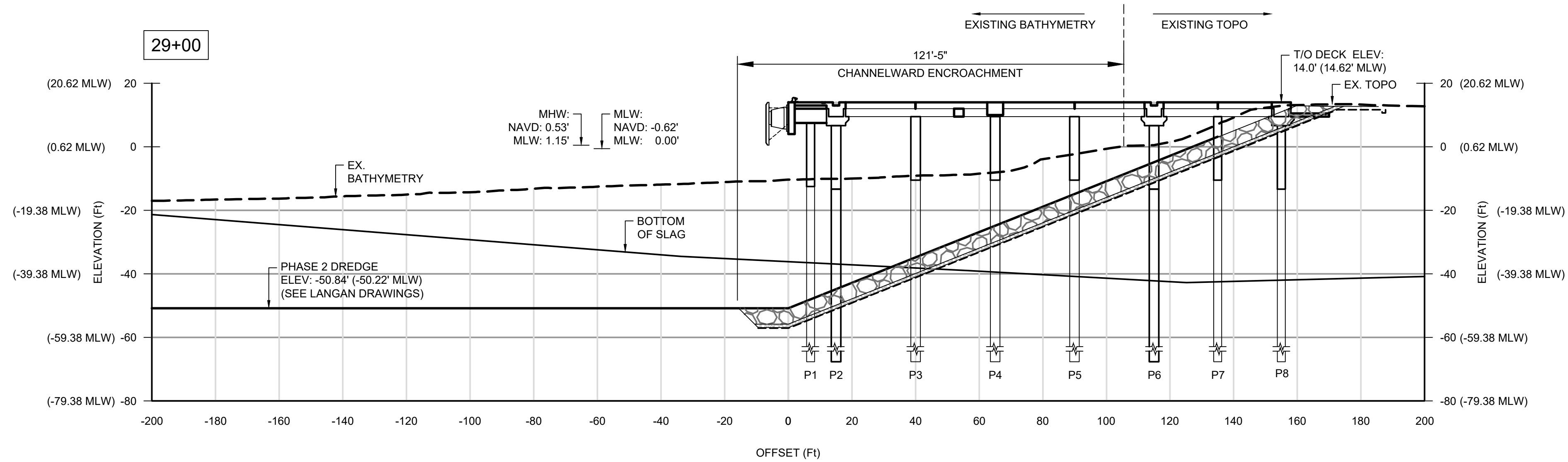
SPARROWS POINT CONTAINER TERMINAL

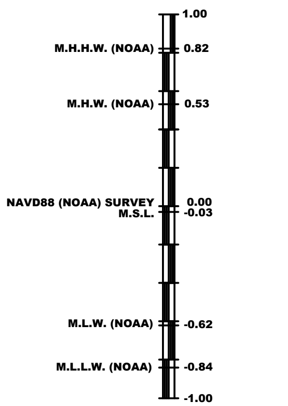
SPARROWS POINT CONTAINER TERMINAL WHARF
BALTIMORE COUNTY, MARYLAND

SECTION

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/05	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	8 OF 10	0008

SHEET SIZE: A





NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

PILE LEGEND:

P1 = Ø30" STEEL CANTILEVER PILE (20' SPACING)
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P5 = Ø36" STEEL DECK PILE (20' SPACING)
P6 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
P7 = Ø30" STEEL DECK PILE (20' SPACING)
P8 = Ø30" STEEL PILE (10' SPACING)

0 25 50 75 100
1"=50'-0" SCALE IN FEET

HATCH

SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT
CONTAINER TERMINAL
WHARF

BALTIMORE COUNTY, MARYLAND

SECTION

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/05	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	9 OF 10	0009

SHEET SIZE: A

Attachment B: Input and Output Data from Underwater Noise Modeling

Note: Some materials in this appendix are not fully Section 508 compliant.

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IMPACT PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

SPCT

PRINT IN LANDSCAPE TO CAPTURE ENTIRE SCREEN

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

PROJECT INFORMATION	PEAK	SELss	RMS
Single strike level (dB)	210	177	195
Distance associated with single strike level (meters)	10	10	10
Transmission loss constant	15		
Number of piles per day	3		
Number of strikes per pile	750		
Number of strikes per day	2250		
Cumulative SEL at measured distance	211		

OTHER INFO 30", 1 pile per hammer

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS

(Range to Effects)

FISHES

	ONSET OF PHYSICAL INJURY			BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth Fish ≥ 2 g	SEL_{cum} Isopleth Fish < 2 g	RMS Isopleth	
ISOPLETHS (meters)	18.5	369.9	631.0	10,000.0	Fishes present
Isopleth (feet)	60.6	1,213.7	2,070.1	32,808.4	

SEA TURTLES

	PTS ONSET		BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth	RMS Isopleth	
ISOPLETHS (meters)	0.3	27.2	215.4	NO SEA TURTLES
Isopleth (feet)	1.1	89.3	706.8	

MARINE MAMMALS

	LF Cetacean	HF Cetaceans	VHF Cetaceans	PW Pinniped	OW Pinnipeds
AUD INJ ONSET (Peak isopleth, meters)	1.6	0.5	34.1	1.4	0.5
AUD INJ ONSET (Peak isopleth, feet)	5.2	1.5	112.0	4.5	1.5
AUD INJ ONSET (SEL_{cum} isopleth, meters)	680.2	86.8	1,052.6	604.2	225.2
AUD INJ ONSET (SEL_{cum} isopleth, feet)	2,231.5	284.7	3,453.3	1,982.4	738.9
	ALL MM	HF Cet. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	2,154.4	NO LF CET.			
Behavior (RMS isopleth, feet)	7,068.4				

IMPACT PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

SPCT

PRINT IN LANDSCAPE TO CAPTURE ENTIRE SCREEN

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

PROJECT INFORMATION	PEAK	SELss	RMS
Single strike level (dB)	210	177	195
Distance associated with single strike level (meters)	10	10	10
Transmission loss constant	15		
Number of piles per day	6		
Number of strikes per pile	750		
Number of strikes per day	4500		
Cumulative SEL at measured distance	214		

OTHER INFO 30", 2 piles per hammer

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS

(Range to Effects)

FISHES

	ONSET OF PHYSICAL INJURY			BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth: Fish ≥ 2 g	SEL_{cum} Isopleth: Fish < 2 g	RMS Isopleth	
ISOPLETHS (meters)	18.5	587.2	631.0	10,000.0	Fishes present
Isopleth (feet)	60.6	1,926.6	2,070.1	32,808.4	

SEA TURTLES

	PTS ONSET		BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth	RMS Isopleth	
ISOPLETHS (meters)	0.3	43.2	215.4	NO SEA TURTLES
Isopleth (feet)	1.1	141.8	706.8	

MARINE MAMMALS

	LF Cetacean	HF Cetaceans	VHF Cetaceans	PW Pinniped	OW Pinnipeds
AUD INJ ONSET (Peak isopleth, meters)	1.6	0.5	34.1	1.4	0.5
AUD INJ ONSET (Peak isopleth, feet)	5.2	1.5	112.0	4.5	1.5
AUD INJ ONSET (SEL_{cum} isopleth, meters)	1,079.7	137.8	1,670.8	959.2	357.5
AUD INJ ONSET (SEL_{cum} isopleth, feet)	3,542.3	452.0	5,481.7	3,146.8	1,173.0
	ALL MM	HF Cet. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	2,154.4	NO LF CET.			
Behavior (RMS isopleth, feet)	7,068.4				

IMPACT PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

SPCT

PRINT IN LANDSCAPE TO CAPTURE ENTIRE SCREEN

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

PROJECT INFORMATION	PEAK	SELss	RMS
Single strike level (dB)	210	183	198
Distance associated with single strike level (meters)	10	10	10
Transmission loss constant	15		
Number of piles per day	3		
Number of strikes per pile	900		
Number of strikes per day	2700		
Cumulative SEL at measured distance	217		

OTHER INFO 36", 1 pile per hammer

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS (Range to Effects)

FISHES

	ONSET OF PHYSICAL INJURY			BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth Fish ≥ 2 g	SEL_{cum} Isopleth Fish < 2 g	RMS Isopleth	
ISOPLETHS (meters)	18.5	1,049.3	1,584.9	15,848.9	Fishes present
Isopleth (feet)	60.6	3,442.7	5,199.8	51,997.8	

SEA TURTLES

	PTS ONSET		BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth	RMS Isopleth	
ISOPLETHS (meters)	0.3	77.2	341.5	NO SEA TURTLES
Isopleth (feet)	1.1	253.4	1,120.3	

MARINE MAMMALS

	LF Cetacean	HF Cetaceans	VHF Cetaceans	PW Pinniped	OW Pinnipeds
AUD INJ ONSET (Peak isopleth, meters)	1.6	0.5	34.1	1.4	0.5
AUD INJ ONSET (Peak isopleth, feet)	5.2	1.5	112.0	4.5	1.5
AUD INJ ONSET (SEL_{cum} isopleth, meters)	1,929.3	246.2	2,985.6	1,713.9	638.9
AUD INJ ONSET (SEL_{cum} isopleth, feet)	6,329.7	807.6	9,795.3	5,623.1	2,096.0
	ALL MM	HF Cet. present NO LF CET.	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	3,414.5				
Behavior (RMS isopleth, feet)	11,202.6				

IMPACT PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

SPCT

PRINT IN LANDSCAPE TO CAPTURE ENTIRE SCREEN

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

PROJECT INFORMATION	PEAK	SELss	RMS
Single strike level (dB)	210	183	198
Distance associated with single strike level (meters)	10	10	10
Transmission loss constant	15		
Number of piles per day	6		
Number of strikes per pile	900		
Number of strikes per day	5400		
Cumulative SEL at measured distance	220		

OTHER INFO: 36", 2 piles per hammer

NOTES: no attenuation

Attenuation: 0

RESULTANT ISOPLETHS

(Range to Effects)

FISHES

	ONSET OF PHYSICAL INJURY			BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth Fish ≥ 2 g	SEL_{cum} Isopleth Fish < 2 g	RMS Isopleth	
ISOPLETHS (meters)	18.5	1,584.9	1,584.9	15,848.9	Fishes present
Isopleth (feet)	60.6	5,199.8	5,199.8	51,997.8	

SEA TURTLES

	PTS ONSET		BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth	RMS Isopleth	
ISOPLETHS (meters)	0.3	122.6	341.5	NO SEA TURTLES
Isopleth (feet)	1.1	402.3	1,120.3	

MARINE MAMMALS

	LF Cetacean	HF Cetaceans	VHF Cetaceans	PW Pinniped	OW Pinnipeds
AUD INJ ONSET (Peak isopleth, meters)	1.6	0.5	34.1	1.4	0.5
AUD INJ ONSET (Peak isopleth, feet)	5.2	1.5	112.0	4.5	1.5
AUD INJ ONSET (SEL_{cum} isopleth, meters)	3,062.6	390.7	4,739.3	2,720.7	1,014.2
AUD INJ ONSET (SEL_{cum} isopleth, feet)	10,047.8	1,282.0	15,549.0	8,926.1	3,327.3
	ALL MM	HF Cet. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	3,414.5	NO LF CET.			
Behavior (RMS isopleth, feet)	11,202.6				

VIBRATORY PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

PRINT IN **LANDSCAPE** TO CAPTURE ENTIRE SCREEN
(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

SPCT

PROJECT INFORMATION	RMS
Sound pressure level (dB)	172
Distance associated with sound pressure level (meters)	10
Transmission loss constant	15
Number of piles per day	3
Duration to drive pile (minutes)	120
Duration of sound production in day	21600
Cumulative SEL at measured distance	215

OTHER INFO: 30", 1 pile per hammer

NOTES: no attenuation

Attenuation: 0

RESULTANT ISOPLETHS
(Range to Effects)

FISHES

Fishes present

	BEHAVIOR
	RMS Isopleth
ISOPLETHS (meters)	292.9
ISOPLETHS (feet)	960.8

SEA TURTLES

NO SEA TURTLES

	PTS ONSET	BEHAVIOR
	SEL_{cum} Isopleth	RMS Isopleth
ISOPLETHS (meters)	4.9	6.3
ISOPLETHS (feet)	16.1	20.7

MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
UD INJ ONSET (SELcum isopleth, meters)	164.8	63.3	134.6	212.1	71.4
AUD INJ ONSET (SELcum isopleth, feet)	540.7	207.7	441.6	695.9	234.2
	ALL MM	HF CET. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	29,286.4	NO LF CET.			
Behavior (RMS isopleth, feet)	96,084.1				

VIBRATORY PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

PRINT IN **LANDSCAPE** TO CAPTURE ENTIRE SCREEN
(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

SPCT

PROJECT INFORMATION	RMS
Sound pressure level (dB)	172
Distance associated with sound pressure level (meters)	10
Transmission loss constant	15
Number of piles per day	6
Duration to drive pile (minutes)	120
Duration of sound production in day	43200
Cumulative SEL at measured distance	218

OTHER INFO 30",2 piles per hammer

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS
(Range to Effects)

FISHES

Fishes present

	BEHAVIOR
	RMS Isopleth
ISOPLETHS (meters)	292.9
ISOPLETHS (feet)	960.8

SEA TURTLES

NO SEA TURTLES

	PTS ONSET	BEHAVIOR
	SEL_{cum} Isopleth	RMS Isopleth
ISOPLETHS (meters)	7.8	6.3
ISOPLETHS (feet)	25.5	20.7

MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
UD INJ ONSET (SELcum isopleth, meters)	261.6	100.5	213.7	336.7	113.3
AUD INJ ONSET (SELcum isopleth, feet)	858.3	329.7	701.0	1,104.7	371.8
	ALL MM	HF CET. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	29,286.4	NO LF CET.			
Behavior (RMS isopleth, feet)	96,084.1				

VIBRATORY PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

PRINT IN **LANDSCAPE** TO CAPTURE ENTIRE SCREEN
(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

SPCT

PROJECT INFORMATION	RMS
Sound pressure level (dB)	175
Distance associated with sound pressure level (meters)	10
Transmission loss constant	15
Number of piles per day	3
Duration to drive pile (minutes)	180
Duration of sound production in day	32400
Cumulative SEL at measured distance	220

OTHER INFO 36", 1 pile per hammer

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS
(Range to Effects)

FISHES — Fishes present

	BEHAVIOR
	RMS Isopleth
ISOPLETHS (meters)	464.2
ISOPLETHS (feet)	1,522.8

SEA TURTLES — NO SEA TURTLES

	PTS ONSET	BEHAVIOR
	SEL_{cum} Isopleth	RMS Isopleth
ISOPLETHS (meters)	10.2	10.0
ISOPLETHS (feet)	33.4	32.8

MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
UD INJ ONSET (SELcum isopleth, meters)	342.2	131.5	279.6	440.5	148.3
AUD INJ ONSET (SELcum isopleth, feet)	1,122.9	431.4	917.2	1,445.3	486.5
	ALL MM	HF CET. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	46,415.9	NO LF CET.			
Behavior (RMS isopleth, feet)	152,283.1				

VIBRATORY PILE DRIVING REPORT

PRINT IN **LANDSCAPE** TO CAPTURE ENTIRE SCREEN

VERSION 2.0-Multi-Species: 2024

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

SPCT

PROJECT INFORMATION	RMS
Sound pressure level (dB)	175
Distance associated with sound pressure level (meters)	10
Transmission loss constant	15
Number of piles per day	6
Duration to drive pile (minutes)	180
Duration of sound production in day	64800
Cumulative SEL at measured distance	223

OTHER INFO: 36",2 piles per hammer

NOTES: no attenuation

Attenuation: 0

RESULTANT ISOPLETHS
(Range to Effects)

FISHES

Fishes present

	BEHAVIOR
	RMS Isopleth
ISOPLETHS (meters)	464.2
ISOPLETHS (feet)	1,522.8

SEA TURTLES

NO SEA TURTLES

	PTS ONSET	BEHAVIOR
	SEL_{cum} Isopleth	RMS Isopleth
ISOPLETHS (meters)	16.1	10.0
ISOPLETHS (feet)	53.0	32.8

MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
UD INJ ONSET (SELcum isopleth, meters)	543.3	208.7	443.8	699.3	235.4
AUD INJ ONSET (SELcum isopleth, feet)	1,782.4	684.8	1,455.9	2,294.3	772.2
	ALL MM	HF CET. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	46,415.9	NO LF CET.			
Behavior (RMS isopleth, feet)	152,283.1				

VIBRATORY PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

PRINT IN **LANDSCAPE** TO CAPTURE ENTIRE SCREEN
(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

SPCT

PROJECT INFORMATION	RMS
Sound pressure level (dB)	180
Distance associated with sound pressure level (meters)	10
Transmission loss constant	15
Number of piles per day	1
Duration to drive pile (minutes)	1800
Duration of sound production in day	108000
Cumulative SEL at measured distance	230

OTHER INFO: Demo, 3 hammers

NOTES: no attenuation

Attenuation: 0

RESULTANT ISOPLETHS
(Range to Effects)

FISHES — Fishes present

	BEHAVIOR
	RMS Isopleth
ISOPLETHS (meters)	1,000.0
ISOPLETHS (feet)	3,280.8

SEA TURTLES — NO SEA TURTLES

	PTS ONSET	BEHAVIOR
	SEL_{cum} Isopleth	RMS Isopleth
ISOPLETHS (meters)	48.9	21.5
ISOPLETHS (feet)	160.4	70.7

MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
AUD INJ ONSET (SELcum isopleth, meters)	1,645.4	632.1	1,344.0	2,117.9	712.9
AUD INJ ONSET (SELcum isopleth, feet)	5,398.1	2,073.9	4,409.4	6,948.4	2,338.8
	ALL MM	HF CET. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	100,000.0	NO LF CET.			
Behavior (RMS isopleth, feet)	328,084.0				

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Appendix G: Biological Assessment

Final

National Marine Fisheries Service Endangered Species Act Section 7 Consultation Biological Assessment for the Sparrows Point Container Terminal Project

Patapsco River, Baltimore County, Maryland

Prepared for

NOAA Fisheries, Habitat and Ecosystem Services Division
Mid-Atlantic Habitat Conservation Branch

Prepared by

US Army Corps of Engineers, Baltimore District

August 2025

Contents

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Figures

Tables

Acronyms and Abbreviations

°F	degrees Fahrenheit
ASSRT	Atlantic Sturgeon Status Review Team
BMP	Best Management Practices
Caltrans	California Department of Transportation
CBP	Chesapeake Bay Program
Coke Point	Coke Point Peninsula
Corps	US Army Corps of Engineers
CY	cubic yards
dB	decibel(s)
dB re 1 μPa	underwater noise in decibels referenced to a pressure of 1 micropascal
dB re 1 $\mu Pa^2 s$	underwater noise in decibels referenced to a pressure of 1 micropascal squared seconds
DMCF	Dredged Material Containment Facility
DPS	Distinct Population Segment
EA	EA Engineering, Science, and Technology, Inc., PBC
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FHWG	Fisheries Hydroacoustic Working Group
Hz	hertz
MCY	million cubic yards
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
mg / L	milligram(s) per liter
MPA	Maryland Port Administration
NAVD88	North American Vertical Datum of 1988
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NODS	Norfolk Ocean Disposal Site
NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity units
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PEL	probable effects level
Port	Port of Baltimore
ppt	parts per thousand
RMS	room mean square

SAV	submerged aquatic vegetation
SEL	sound effect level
SEL_{cum}	Cumulative Sound Exposure Level over the Duration of a Noise Event
SPCT	Sparrows Point Container Terminal
SPL_{peak}	Maximum Instantaneous Sound Pressure over the Duration of a Noise Event
SSSRT	Shortnose Sturgeon Status Review Team
SVOC	semivolatile organic compound
Terminal	Proposed Container Terminal
TPA	Tradepoint Atlantic
TSS	total suspended solids
TTT	Tradepoint TiL Terminal
URI	University of Rhode Island
USDOT	US Department of Transportation
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
WSDOT	Washington State Department of Transportation

1 Introduction

Pursuant to Section 7(a) of the Endangered Species Act (ESA), the US Army Corps of Engineers (the Corps) has prepared a Biological Assessment for all proposed actions that occur within coastal waters of the United States. This assessment is being prepared to address the impacts on ESA-listed species under the jurisdiction of the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) of the proposed Sparrow's Point Container Terminal (SPCT) Project to construct a new container terminal (the terminal) in the Port of Baltimore (the Port). The action is proposed by Tradepoint TiL Terminal (TTT), LLC, a joint venture between Tradepoint Atlantic (TPA) and Terminal Investments Limited.

A draft Biological Assessment was provided in the Draft Environmental Impact Statement (EIS). Coordination between NMFS, the Corps, and TTT began in June 2023 when TTT sent a project introduction letter to NMFS providing a project overview and requesting initial agency input. NMFS responded confirming the list of federally managed species that may occur within the vicinity of the Proposed Action. TTT also coordinated with the Corps and NMFS in several Joint Evaluation Committee meetings conducted in 2023 and 2024 to discuss agency comments during preparation of the Draft EIS for the Proposed Action. Additional virtual calls were held with NMFS Office of Protected Resources in October and November 2024 to further discuss project effects. Following publication of the Draft EIS, NMFS sent the Corps a letter dated May 13, 2025, noting their concurrence with the conclusions in the Draft EIS and Biological Assessment. During the same time, TTT revised the proposed project, identified in the Final EIS and this Biological Assessment as the Preferred Alternative. Specifically, TTT changed the size and number of pilings required for the wharf and eliminated the construction of a dredged material containment facility in tidal waters. This revised Biological Assessment describes the changes to the proposed project and evaluates the impacts of the Preferred Alternative on ESA-listed species and designated critical habitat.

This document is consistent with requirements specified in Section 7 of the ESA and serves to request NMFS concurrence on the determinations made in Section 5 of the Biological Assessment. This section (Section 1) includes the introduction, purpose, and need as well as the general project location. The remainder of this Biological Assessment is organized as follows:

- Section 2 – Description of the Preferred Alternative
- Section 3 – Description of the Action Area Environment
- Section 4 – ESA Species in the Action Area
- Section 5 – Effects of the Preferred Alternative on ESA Species
- Section 6 – Avoidance and Minimization
- Section 7 – Determination of the Biological Assessment

TTT has separately coordinated with the Corps and NMFS to evaluate potential impacts to federally listed species and critical habitats in accordance with Section 305 (b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act on impacts on essential fish habitat.

1.1 Purpose and Need

The purpose of the proposed project is to develop the SPCT, a new terminal and associated facilities that would be located on Coke Point within the Patapsco River in Baltimore County, Maryland. The action would include terminal construction, dredging a new channel to support the terminal, and placement of the dredged material. The applicant's proposed project would address several economic and shipping logistical concerns. The SPCT project would enhance the economic strength of the Port of Baltimore by increasing its overall container capacity. This, along with the on-dock rail and Howard Street Tunnel project, would increase the throughput of containers through the Port. The proposed project would not only provide direct jobs at the project site but would also provide a foundation for sustained regional economic growth within the Port and throughout the region. By strengthening and growing the Port, the project would enhance the United States' supply chain efficiencies and resiliency.

1.2 Project Location

The proposed SPCT would be located in Baltimore County, Maryland, within the TPA development on a 330-acre area on the southwest peninsula of Sparrows Point known as Coke Point Peninsula (Coke Point) (Figure 1). The historical uses of this site include coking operations as part of the former Bethlehem Steel Mill. The site is entirely human-made land, which was created by filling in a portion of the Patapsco River with steel mill slag over several decades. Previously developed areas within the site are currently undergoing demolition and razing of structures. Sparrows Point, with its industrial history, is an example of a brownfield. In recent years, Sparrows Point has been undergoing a major redevelopment initiative aimed at transforming the site into a hub for modern industrial and commercial activities. The SPCT project would continue to redevelop the site.

The Action Area for this project includes the area of in-water work (further described in Section 2), including the proposed channel dredging area, vessel traffic within the dredging and construction area, shipping / container vessel traffic routes within the Chesapeake Bay to the new container terminal, and barge traffic / routes from the dredging area south through the Chesapeake Bay to the Norfolk Ocean Disposal Site (NODS) in the Atlantic Ocean. Details on the Preferred Alternative are provided in Section 2.

Figure 1. SPCT Project Area

2 Description of the Preferred Alternative

The proposed terminal would consist of a ±3,000-foot marginal wharf with ship-to-shore cranes, a container yard, gate complex, intermodal / rail yard, and various support structures. To provide vessel access to the wharf, the project would include deepening and widening of the existing Sparrows Point Channel and turning basin, which would require dredging and placement of approximately 4.2 million cubic yards (MCY) of dredged material (Figure 2).

The Draft EIS analyzed the Combined Options Alternative / Proposed Action, which included dredged material placement at the Coal Pier Channel Dredged Material Containment Facility (DMCF), the High Head Industrial Basin DMCF, existing Maryland Port Administration (MPA) DMCFs (Cox Creek and Masonville), and NODS.

Following public comment on the Draft EIS and additional investigations and continued engineering analysis by TTT, a new alternative for dredged material placement was developed. This new alternative was developed based on the results of additional geotechnical evaluations and design progression at both the Coal Pier Channel and the High Head Industrial Basin and subsequent chemical testing of sediments in the proposed exterior dike alignment for the Coal Pier Channel DMCF. Results of the geotechnical investigations indicated that the dike of the High Head Industrial Basin DMCF could be elevated incrementally to provide more dredged material placement capacity. In addition, results of the geotechnical and sediment chemical testing along the exterior dike of the proposed Coal Pier Channel DMCF indicated that although the DMCF was feasible to construct at this location, both the geotechnical and chemical properties of the sediments would pose constructability and environmental challenges. Furthermore, the Coal Pier Channel DMCF would place dredged material in tidal waters, while using the High Head Industrial Basin DMCF for placement of this dredged material would eliminate the need to place dredged material in tidal waters. Based on the challenges associated with the Coal Pier Channel DMCF, the ability to increase the capacity of the High Head Industrial Basin DMCF, and the opportunity to avoid placing dredged material in tidal waters, it was determined that this alternative was more feasible and would cause fewer impacts than the Combined Options Alternative evaluated in the Draft EIS.

Therefore, the Preferred Alternative for this project (as identified in the Final EIS) would include dredging for channel improvements, the construction of a DMCF within the High Head Industrial Basin to provide placement capacity for a portion of the dredged material, and additional dredged material placement at both an MPA DMCF and the NODS. High Head Industrial Basin is in an upland area of the Sparrows Point site and does not have ESA species. Additional options for disposal of dredged material that may affect waters with ESA species are also discussed in Section 2.2. Details on each in-water activity are presented below.

2.1 Dredging

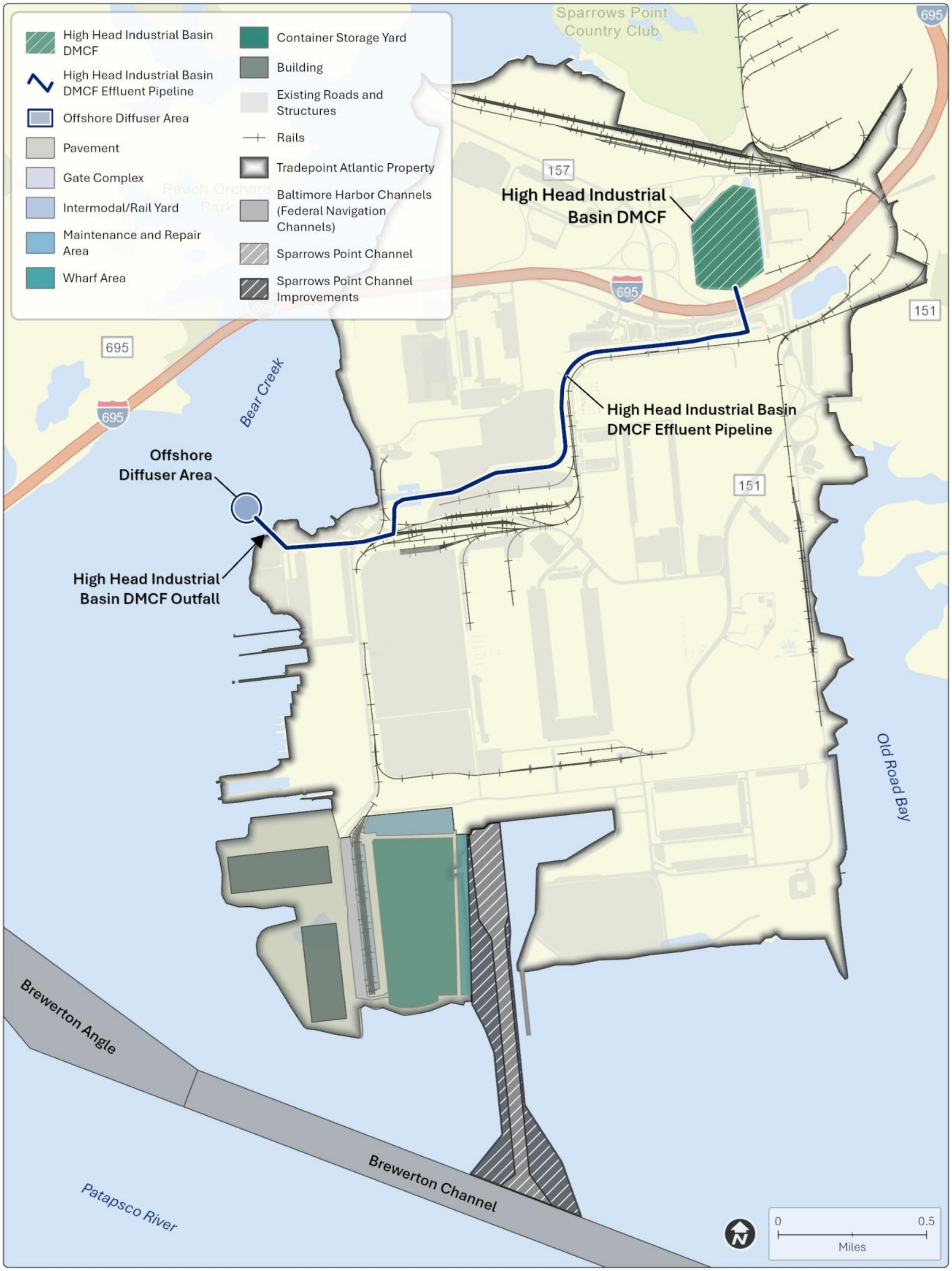
The existing Sparrows Point Channel would be widened and deepened to provide vessel access to the terminal, and the entrance would continue to connect to the Brewerton Channel (Figure 2). The Sparrows Point Channel would be dredged using a clamshell bucket on a barge. The entrance would be widened to create a turning basin 1,650 feet in diameter, transitioning gradually to a nominal channel width of 450 feet. The vessels would require a minimum berth pocket width of 250 feet adjacent to the channel. Based on the vessel simulations, additional width was added to provide passing clearance between the existing finger pier and the SPCT berth face. To provide additional passing distance while minimizing additional dredged material volume, the berth face would be angled such that the dredging of the berth and channel is wider at the southern end of the terminal and tapers to the north. The navigable depth would be -50 feet mean lower low water. The maximum proposed dredging depth would be -50 feet mean lower low water plus -2 feet of overdepth allowance. Following construction, maintenance dredging of the Sparrows Point Channel would be required. It is anticipated that maintenance dredging would be required on average once every 10 years, with an additional volume of approximately 12,500 cubic yards (CY) per year added to the existing maintenance dredging for Sparrows Point Channel.

The project would require approximately 4.2 MCY of dredging to meet the required design width and depth for the vessels. The 4.2 MCY of dredged material would include 330,000 CY of slag (discussed below) and approximately 3.87 MCY of dredged material that would not be reused elsewhere on-site and would require appropriate placement.

Dredging would occur as designated by the time-of-year restrictions required to protect aquatic life, as determined through consultation with NMFS and the Maryland Department of Natural Resources (MDNR) and as stipulated in federal and state permit conditions. Dredging would be staged to align with construction phasing and would also be guided by dredged material placement. As noted above, the total dredged material volume would be approximately 4.2 MCY, including approximately 3.87 MCY of silt, clay, and sand material and 330,000 CY of slag. Dredging would be performed mechanically using waterborne equipment, a clamshell bucket, and landside equipment, where possible and practical.

Dredging of the wharf area would occur in conjunction with the wharf installation. The first step would be to mechanically excavate in-water slag material from the landside, where practical. The slag would be placed into trucks and transported to a designated on-site stockpiling location for reuse as fill or for dike construction. The remaining slag would be dredged using waterborne equipment, as necessary. The slag would be placed into scows (small barges), transported to shore, mechanically offloaded into trucks, and transported to a designated on-site location for stockpiling and reuse. Dredging of the silt and clay material underneath slag would be performed using waterborne equipment, a clamshell bucket, and landside equipment, where possible and practical. The silt and clay material would be placed into scows and transported to the designated DMCF. The silt and clay material would be mechanically dredged using waterborne equipment and a clamshell bucket. Dredging plans are included in Attachment A.

Figure 2. SPCT Preferred Alternative



2.2 Dredged Material Placement

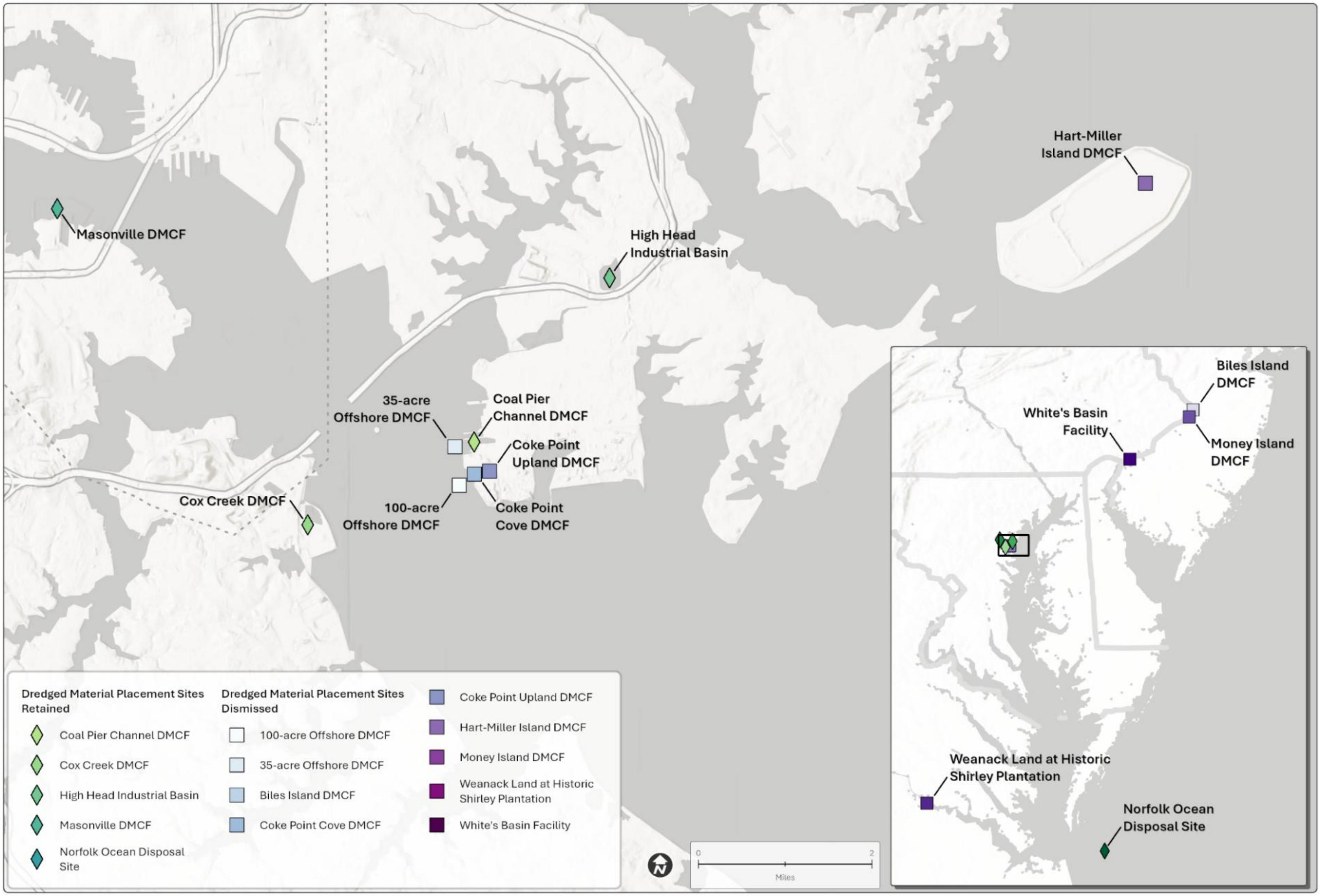
Evaluation of dredged material placement alternatives was conducted by TTT in consultation with the Joint Evaluation Committee in meetings during 2023 and 2024. Numerous placement alternatives were considered and eliminated (Figure 3), while a combination of alternatives was retained and selected as part of the Preferred Alternative (Figure 3).

2.2.1 Placement Alternatives Considered but Eliminated

The alternatives that were considered but eliminated from consideration include:

- A 100-acre DMCF in the Patapsco River, resulting in a loss of 100 acres of open water. This was eliminated due to agency concern over permanent impacts on the aquatic community.
- An offshore 35-acre DMCF in the Patapsco River (encompassing the Coal Pier Channel), resulting in a loss of 35 acres of open water. The 35-acre concept was further reduced to 19 acres based on combined use of other placement options, including MPA DMCFs and the NODS.
- A DMCF in Coke Point Cove on the west side of Coke Point was considered, but determined not needed, as constructing a DMCF in the Coal Pier Channel would provide more volume for dredged material and avoid loss of the more abundant benthic community within Coke Point Cove.
- Use of an existing DMCF at Hart-Miller Island to place all 4.2 MCY of dredged material from SPCT. This was considered thoroughly and included legislative efforts and a robust public outreach program. The public engagement process revealed long-held community reservations regarding the use of Hart-Miller Island for the placement of dredged material. During this time, TTT was also engaged in discussions with the State Agencies that operate Hart-Miller Island, and these discussions brought forth significant concerns regarding the facility's readiness to accept dredged material, which introduced considerable risk in achieving the dredged material placement schedule for the project. Ultimately, TTT announced that they had decided to withdraw from the process, expressing concern that the project could affect TPA's longstanding commitment to community partnerships.
- An upland DMCF at Coke Point was considered. However, constructing an on-land DMCF would limit the constructability and available cargo and container storage space of the proposed SPCT. The viability of the terminal is reliant on the ability to efficiently move goods through the Port and into the adjacent markets. Losing this location for the buildings would not allow the terminal to function in a way that meets the overall goals of the project.
- A DMCF at the Coal Pier Channel was considered as part of the Proposed Action in the Draft EIS. Based on the challenges associated with the Coal Pier Channel DMCF (including geotechnical and chemical characteristics of the substrate), the ability to increase the capacity of the High Head Industrial Basin DMCF, and the opportunity to avoid placing dredged material in tidal waters, TTT determined that this element should no longer be included.
- Other land-based placement sites in Virginia, New Jersey, and Pennsylvania were considered. All options were either infeasible due to facility limitations, additional transport costs for material, or schedule and economic constraints due to time to transport material (delaying overall dredging operations).

Figure 3. Map of Dredged Material Placement Options Retained and Eliminated



2.2.2 Placement Alternatives Retained with the Preferred Alternative

The combination of options retained for the Preferred Alternative represents the most feasible options with the least environmental impacts for dredged material placement and reduced concerns from the community and the regulating agencies. The Preferred Alternative involves several material placement options (Figure 3):

1. Construction of an upland DMCF at the High Head Industrial Basin on TPA property and placement of dredged material in this new DMCF
2. Placement at an existing DMCF managed by the MPA (Cox Creek or Masonville)
3. Ocean Placement at the NODS in the Atlantic Ocean

The Preferred Alternative could involve a combination of the options listed above. The High Head Industrial Basin does not contain ESA species. Placement of a portion of the dredged material at the NODS or existing upland DMCFs would comply with all applicable permits and approvals for those active sites. Therefore, the description of the Preferred Alternative and analysis later in this Biological Assessment focuses on the impacts of dredging the Sparrows Point Channel. Appropriate stressors (e.g., vessel traffic) are evaluated for the other material placement options as necessary. All elevations discussed in this Biological Assessment are relative to North American Vertical Datum of 1988 (NAVD88).

The existing High Head Industrial Basin is located approximately 2.5 miles northeast of the project area within the TPA property. The impounded area of the industrial basin currently covers 38.7 acres with a surface elevation of approximately +7.0 feet, which is maintained by an existing pump house. Material for the dike construction would be excavated from within the SPCT project area and would consist of common borrow material or slag sourced from existing land and stockpiles from elsewhere on TPA property. The outboard dike slopes would be seeded with native plant species after construction to prevent erosion.

Dredged material would be placed in a scow and transported to the west side of Sparrows Point. It would then be hydraulically pumped from the scow through a flexible pipeline into the High Head Industrial Basin DMCF. Water would be added to the dredged material to facilitate hydraulic pumping. This added water would be recycled back from the DMCF to the unloader, limiting the volume of water needed for pumping, but additional water from the Patapsco River may be needed. After placement of the material is complete, the DMCF would be properly managed to dewater, dry, and consolidate the dredged material. Recycling water during pumping would also reduce the volume of water discharged from the DMCF to a permitted outfall.

To accommodate effluent discharge from dredged material dewatering at the High Head Industrial Basin DMCF, a new temporary outfall with a multiport diffuser would be required off the west side of the shipyard. The leader pipe to the new temporary outfall would be routed over land to the west side of the shipyard, and the feeder line would extend offshore / channelward approximately 500 feet from the shoreline (Figure 2). The effluent from the dredged material dewatering would flow to the new temporary outfall through a 24-inch diameter pipe and feeder line to an approximate 100-foot long, 18-inch multiport diffuser head aligned perpendicular to the current. The temporary diffuser system would be south of and outside the footprint of the Bear Creek Superfund Site. The feeder line from the new temporary outfall would be secured on the bottom using straps / clamps and anchors. The existing

National Pollutant Discharge Elimination System (NPDES) permit would be modified as necessary through the Maryland Department of the Environment (MDE) Wastewater Pollution Prevention and Reclamation Program. The diffuser system would only be operational for the duration of active dewatering and consolidation of dredged material at the High Head Industrial Basin DMCF.

Under the Preferred Alternative, the High Head Industrial Basin DMCF would be constructed with the exterior dike elevation of approximately +40 feet, or approximately 30 feet above existing grade, giving the DMCF the capacity to hold approximately 1.7 MCY of dredged material. A portion of the material for the dike construction would be excavated from within the SPCT project area and would consist of common borrow material or slag sourced from existing land and stockpiles from elsewhere on TPA property. The remainder of the material would be sourced from off-site facilities and approved by MDE. The outboard dike slopes would be seeded with native plant species after construction to prevent erosion.

The DMCF perimeter dike would be constructed in phases, and the dike material would be placed in phases. Material placement would not exceed the allowable elevation of the DMCF and would maintain a minimum of 2 feet of freeboard. Construction of the DMCF perimeter would be completed in approximately 7 months.

Dredging would be performed in two to three phases, and each phase would be approximately 1 year apart to allow for optimal dewatering and consolidation of the placed material. The volume of dredged material placed into the DMCF for each phase would be appropriate for the DMCF capacity at the time of placement.

2.3 Pile Driving for Terminal Construction

Marine structure design includes an open-type (steel pipe pile-supported) marginal wharf structure, consisting of a steel pipe pile-supported relieving platform integral to the wharf. Piles for the relieving platform would be located on land, not in water. The wharf would serve as a platform to receive containers offloaded from the vessels. More information on the types and sizes of piles, number of piles to be used, and duration of pile driving, and impact on underwater noise is discussed in Section 5. Plans for wharf construction pile driving are included in Attachment A.

Table 1 provides a summary of the pile types, number of piles, and installation method. More specific information on each pile driving activity (e.g., duration of driving, strikes per pile) is included in Section 5.1.

Table 1. Summary of Pile Driving Activities

Activity	Total Number of Steel Piles	Diameter of Steel Piles	Method of Pile Driving
Wharf piling installation	1,665	30-inch and 36-inch	Impact and vibratory
Water-based demolition	Varied	Varied	Vibratory

3 Description of the Action Area Environment

The Action Area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 Code of Federal Regulations § 402.02). For this project, the Action Area includes an overview of resources and environment within the Action Area, with a focus on resources in or near Sparrows Point, as this would be the area of the most direct impacts from the action. Portions of the Action Area that are the vessel transit routes (to NODS or MPA DMCFs) are discussed in each resource area as applicable.

3.1 Sediment

Sediment resources within the Action Area include river bottom that would be directly impacted by dredging and the placement of the temporary outfall and diffuser. Sediments around Coke Point consist of a soft, fine-grained silty top layer above deep layers of clay and sands. Some surficial sediments along the shoreline of Coke Point contain slag or gravel mixed with the soft, fine-grained sediments from activities on land and from the human-made construction of Coke Point. Within the vicinity of the channel improvements, the silty surface layer overlays deep materials that predominantly consist of native clays in the South Channel and consist of a combination of native clays and sands in the North Channel (Kozera, Inc. 2023; EA Engineering, Science, and Technology, Inc., PBC [EA] 2024a, 2025a).

The column of sediment in the South Channel is uniform with little layering or stratification of material types. Within the deepening area of the South Channel segment, the sediments are primarily comprised of a combination of silt and clay. The column of sediment in the North Channel includes layers of differing material types. Within the deepening area in the North Channel and in the west widener, the silty top materials extend from the sediment surface to varying depths.

Sediments within the Action Area have been the subject of numerous past investigations (EA 2003, 2009, 2010a, 2010b, 2011), as well as recent investigations to support the proposed project. The past studies of offshore sediment identified elevated concentrations of metals, semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). Results of a subsequent risk assessment found that several offshore areas with impacted sediments on the west and south side of Coke Point contribute to elevated risk for human health and ecological communities. These areas are not proposed for dredging.

For the Preferred Alternative, surficial sediment quality was evaluated to support assessment of aquatic resources (EA 2024b) (Figure 4). Surface and subsurface sediment was evaluated to support widening and deepening of the SPCT channel and to assess sediment quality with respect to upland placement of the material within an on-site DMCF and potential ocean placement. Around the Coke Point Peninsula, PAHs and metals are the constituents that most frequently exceed probable effects levels (PELs) for aquatic life. While these areas are not proposed for dredging, they serve as impacted habitat for benthic organisms and many smaller fish that are prey for ESA-listed species. Collectively, nine metals, 13 individual PAHs, total PAHs, and dioxin toxic equivalency quotients exceeded PELs in the offshore surficial sediments surrounding the peninsula. The highest total PAHs were detected in surficial sediments in Coke Point Cove on the west side (SPCT23-01) and along the southeast side (SPCT23-06) of Coke Point, with concentrations in Coke Point Cove approximately 10 times higher than concentrations on the southeast side of the peninsula. The highest concentrations of metals were detected in the nearshore area on the southwest side of Coke Point (SPCT23-03). The location near the Brewerton Channel (SPCT23-05) was furthest offshore and had the fewest PEL exceedances.

Sediments in the southern portion of the main SPCT channel, which is the location of the proposed dredging, are predominantly fine-grained silts and clays. Metals, PCBs, PAHs, SVOCs, chlorinated pesticides, and dioxin/furan congeners were detected most frequently in the sediments. In the northern portion of the channel, sediments are mostly sand and fine-grained silts and clays. Metals, PCBs, PAHs, SVOCs, chlorinated pesticides, dioxin/furan congeners, volatile organic compounds, total petroleum hydrocarbons, and oil and grease were detected most frequently in the sediments.

3.2 Water Quality

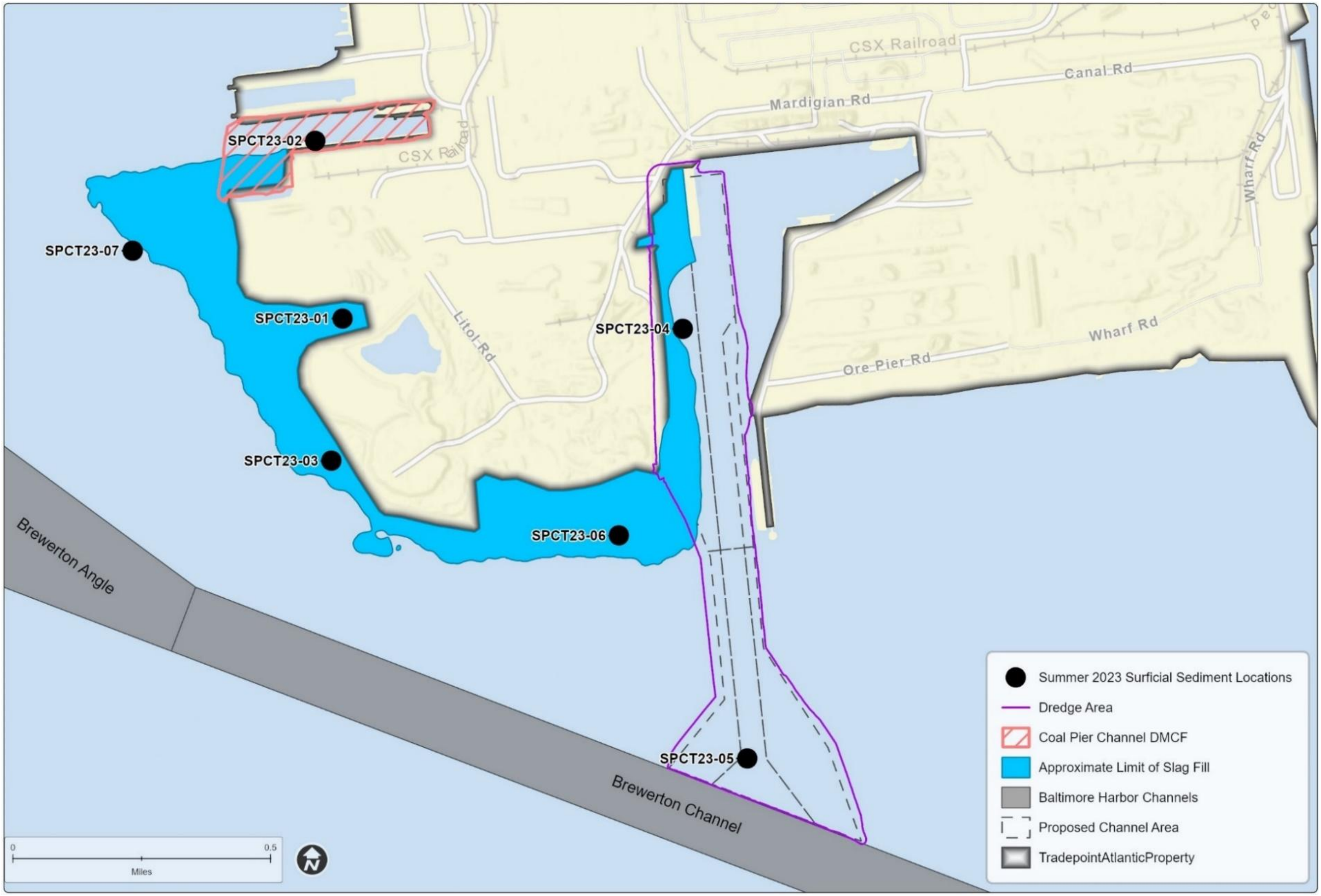
Surface water resources that would support ESA-listed species within the Action Area include waters within the Patapsco River where channel dredging would occur, as well as water resources adjacent to the MPA DMCFs and within the NODS. Additionally, surface waters west of the Sparrows Point shipyard, where dredged material de-watering effluent may be temporarily discharged, may support ESA species.

Surface water in the Patapsco River provides habitat and resources for fish and wildlife, means for shipping of goods and for transit of people, and a place for recreation and fishing. State of Maryland surface waters affected by the SPCT project are the tidal waters of the Patapsco River in the vicinity of Coke Point and near the mouth of Bear Creek. The tidal waters surrounding the project area and extending eastward into the Upper Chesapeake Bay are classified as Use Class II (Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting) by the Maryland Department of the Environment. The individual designated uses of Use Class II waters include: growth and propagation of fish, other aquatic life, and wildlife; water contact sports; leisure activities involving direct contact with surface water; fishing; agricultural water supply; industrial water supply; propagation and harvesting of shellfish; seasonal migratory fish spawning and nursery use; seasonal shallow-water submerged aquatic vegetation (SAV) use; open-water fish and shellfish use; seasonal deep-water fish and shellfish use; and seasonal deep-channel refuge use.

3.2.1 Physical Conditions

Baltimore Harbor includes an approximate 15-statute-mile tidal portion of the Patapsco River with water depths generally less than 20 feet, with the exception of the federal navigation channels and other state and private access channels that are dredged to provide safe navigation for waterborne commerce. Surface water circulation and exchange within the harbor are governed by the effects of wind, tides, salinity-based density gradients, and river flows (Garland 1952; Boicourt and Olson 1982). Vertical stratification of the water column is common, particularly in areas of deeper waters (such as the navigation channels) where denser (heavier), saltier, and cooler bottom waters move upstream with incoming tides and remain below less dense (lighter) freshwater or low salinity surface waters moving downstream towards the Chesapeake Bay. Due to water column density, salinity stratification, limited vertical mixing, and use of dissolved oxygen by organisms and chemical degradation processes, low dissolved oxygen concentrations in deep bottom waters are often present below the requirements to support aquatic life, particularly in late summer and fall. The severity of this condition in the Patapsco River varies from year to year based on precipitation and freshwater inflow and is most common in deep water areas, including the navigation channels.

Figure 4. Surficial Sediment Sampling Locations for the 2023 Aquatic Resources Studies



Within the SPCT area, Coke Point is surrounded by the Patapsco River to the west and south, and the existing Sparrows Point Channel to the east. Surface water quality in these areas is affected by river flow and precipitation, daily tides, and the groundwater flow patterns under Coke Point. Water depths in the SPCT project area vary and range from less than 2 feet up to15 feet in the nearshore areas, from approximately 15 feet up to 45 feet in the west and south offshore areas, and from approximately 10 feet up to 47 feet in the proposed channel improvements footprint. Water quality measurements recorded in the vicinity of Coke Point during seasonal nutrient surveys in Summer and Fall 2023 and Winter and Spring 2024 (EA 2024b, 2024c, 2024d, 2024e) indicated that water temperature, salinity, pH, and dissolved oxygen varied by season and water depth. Within the project area, salinities are typically classified as oligohaline (≤0.5 to 5 parts per thousand [ppt]) within the winter and spring and as either low mesohaline (≥5 to 12 ppt) or high mesohaline (≥12 ppt to 18 ppt) during the summer and fall. Salinities in the project area ranged from 1.6 to 17.8 ppt, with highest salinities measured in summer and fall bottom waters. Water temperature ranged from 41.2 to 81.7 degrees Fahrenheit (°F), with highest and lowest water temperatures measured in summer and winter season surface waters, respectively. Dissolved oxygen ranged from 0.5 to 13.4 milligrams per liter (mg / L), with low dissolved oxygen and hypoxic conditions measured in the summer season bottom waters. pH ranged from 7.1 to 10.2, with highest and lowest pH values measured in the winter and spring/summer, respectively. Turbidity (measured as nephelometric turbidity units [NTUs]) ranged from 1.0 to 32.3 NTU and tended to be higher in bottom waters, regardless of season.

3.2.2 Nutrients

Excess nitrogen and phosphorus have been identified as a concern for Baltimore Harbor surface waters, and the inputs and the total maximum daily load for these nutrients are managed and regulated by the Maryland Department of the Environment through the National Pollutant Discharge Elimination System process. Overall, within the SPCT area, total nitrogen concentrations were higher in winter and spring (between 1 and 2 mg / L) and lower in summer and fall (less than 1 mg / L). Most nitrogen was present in dissolved form in winter and spring and was a combination of particulate and dissolved nitrogen in summer and fall. Total phosphorus concentrations were generally higher in summer and fall and varied by sampling location. Most phosphorus was present bound to particulates in fall, winter, and spring; highest dissolved phosphorus was present during summer. Organic carbon concentrations in the SPCT project area surface waters ranged from 2.4 mg / L in winter to 4.4 mg / L in summer.

3.2.3 Chemistry

Characterization of surface water chemistry around Coke Point has been investigated through several decades of study of the offshore area. Data collected between 2003 and 2011 were used to model potential risks to human health, fish, benthos, and wildlife and to identify the geographic areas contributing the most to risks. Most chemicals in surface water were either below benchmarks protective of human health or aquatic life or were comparable to concentrations found throughout the Lower Patapsco River. PAHs were the only chemicals identified in surface water as posing potential risks. For aquatic life, PAHs in surface water posed risks in the western and southern offshore areas of Coke Point, while benzene was identified within Coke Point Cove.

3.2.4 Surface Water Quality in the Dredging Area

Seasonal water column measurements collected in 2023 and 2024 in the vicinity of the Sparrows Point Channel indicated a stratified water column with respect to salinity at both locations (approximately 30 feet and 45 feet deep, respectively). The combined seasonal data for these locations indicated that salinity ranged from approximately 2 to 11 ppt in surface waters and from approximately 5 to 18 ppt in bottom waters throughout the year. Water column stratification with hypoxic conditions (low dissolved oxygen concentrations) was present in bottom waters in the summer at both locations.

3.2.5 Surface Water Quality at the MPA DMCFs and NODS

The Masonville and Cox Creek DMCFs are upland facilities with adjacent surface waters of the Patapsco River. Surface waters in the vicinity of the Masonville and Cox Creek DMCFs are subject to the same physical processes and watershed-based inputs as other locations within the Patapsco River. Discharges from both facilities to the surface waters of the Patapsco River are managed through the NPDES process with consideration of the Baltimore Harbor Total Maximum Daily Loads and Waste Load Allocation requirements.

The water column at the NODS is typically well mixed, with little to no evident stratification. To support the dredged material evaluation for ocean placement, a surface water sample was collected from mid-depth of the water column at the NODS in early March 2024. Surface water chemical data were used to assess water quality criteria compliance for the NODS receiving water and were used as input to the model that predicts the dilution achieved within the water column with distance and time following material discharge / placement (EA 2024a). Results of testing indicated that low concentrations of total phosphorus, arsenic, vanadium, and di-n-butyl phthalate were the only constituents detected above laboratory reporting limits in the receiving water, and each concentration was well below established US Environmental Protection Agency (USEPA) water quality criteria for aquatic life. Water quality measurements of temperature, salinity, pH, dissolved oxygen, and turbidity from mid-depth of the water column at the time of water collection were consistent with a well-mixed offshore marine environment.

3.3 Biological Resources

The discussion of biological resources for this Biological Assessment focuses primarily on those resources within waters within the immediate Action Area and provides a high-level overview. Detailed seasonal reports for aquatic resource studies conducted for the Preferred Alternative can be provided to NMFS upon request (EA 2024b, 2024c, 2024d, 2024e, 2024f).

3.3.1 Benthos

Benthic resources within the Action Area that would be impacted by dredging and the placement of the temporary outfall and diffuser include benthos within the Patapsco River. Although benthic resources are present in the exterior environment of the MPA DMCFs and within the NODS, monitoring of the health of benthic communities in the vicinity of these sites is performed by the MPA and USEPA, respectively. The Preferred Alternative is not anticipated to impact benthic resources in these areas.

Within the larger Chesapeake Bay region, the abundance, species diversity, and biomass of many benthic species have declined over the past 40 years, with a significant decline in these metrics and the overall benthic community score noted in sampling stations in the Baltimore Harbor (Versar, Inc. 2017). The decline in these community metrics at the Baltimore Harbor stations has been attributed to seasonal hypoxic (low oxygen in bottom waters) conditions. Benthic fauna samples were collected as part of aquatic studies for the Preferred Alternative, and the community health was determined at sample locations throughout the SPCT area using the Chesapeake Bay Benthic Index of Biotic Integrity. Two sample locations were within the SPCT dredging area (Figure 5).

Benthic habitat within the dredging area was classified as high mesohaline mud, with salinity between 12 and 18 ppt and more than 40% silt-clay content. Across all sampling locations, 22 unique benthic macroinvertebrate taxa were collected. Of these, nine taxa were polychaetes (bristle worms), five were bivalves (clams and mussels), and three were crustaceans. The remaining taxa included ribbon worms, segmented worms, and snails. No taxa were collected from the southernmost sampling location within the dredging footprint. However, the northern portion of the dredging footprint had four taxa collected. Benthic abundance was highest within Coke Point Cove, which had 13,170 organisms per square meter. Overall community Benthic Index of Biotic Integrity scores classified all sample locations as either degraded or severely degraded, except for the benthic community along the southeast shoreline of Coke Point, which met restoration goals and would not be disturbed.

Figure 5. Benthic Fauna Sampling Locations

3.3.2 General Fish Community

Fish that are ESA-listed or serve as prey for ESA-listed species would be located within the Patapsco River and along the transit routes from the SPCT to either NODS or to the MPA DMCFs. The MPA DMCFs are upland facilities with permitted and monitored discharges to surface waters; no fish community habitat is directly associated with these facilities. The NODS is an ocean placement site that was designated by the USEPA through the National Environmental Policy Act process. Therefore, impacts to fish from material placement and use of the site were evaluated prior to the site designation.

The Chesapeake Bay supports 348 species of fish at some point in their life cycle (NMFS 2024a). The distribution of fish populations is dependent upon water quality factors (temperature, pH, salinity), larval recruitment, availability of prey species (fish and benthic organisms), and migration patterns (Lippson and Lippson 1994). Atlantic menhaden (*Brevoortia tyrannus*) has been the top fishery in the Chesapeake Bay for several decades, with over 150,000 metric tons caught per year. The striped bass (*Morone saxatilis*) fishery stocks suffered a decline during the 1970s and 1980s due to overfishing and are in the recovery process. Although not currently overfished, stocks remain low, largely due to loss of spawning habitat and pollution in the Chesapeake Bay (Chesapeake Bay Program [CBP] 2020). Important predator fish species (including those that are part of commercially significant fisheries) rely on smaller prey species, such as bay anchovy (*Anchoa mitchilli*), Atlantic menhaden, and American shad (*Alosa sapidissima*) (Zastrow et al. 1991; CBP 2020). Sturgeon (both Atlantic and shortnose) have the potential to be present in the SPCT area. Habitat requirements for these ESA species, as well as a discussion of their presence in the Action Area, are presented in Section 4.

The fish community within and adjacent to the SPCT area varies by season and water depth. A summary of the individual fish collected during aquatic surveys for the proposed project is provided in Table 2. The highest number of unique species was observed in the summer, with 17 unique species (1,772 individual fish) collected in the waters in and around the SPCT project area. During the fall collections, the number of unique and total number of individual fish collected declined to nine unique species and 818 individual fish. In the winter, even fewer unique species and individual fish were captured in the vicinity of the project area (three unique species and 12 individual fish for all locations combined). The following spring (2024), 5,629 total fish were captured, with most of the individuals collected along the southern shoreline of Coke Point and downstream of the project area. Within the SPCT dredging area (Figure 6), the total number of fish captured in all seasons was 1,293, largely Atlantic silverside, bay anchovy, herring sp., and Atlantic croaker.

Based on the seasonal survey data, fish assemblages and abundance in habitats in and around the SPCT project appear to be highly driven by seasonal water temperature and salinity. In the spring, hypoxia was only present at sampling location 5 (downstream of the SPCT project area), which had the lowest bottom dissolved oxygen and bottom temperature. Low dissolved oxygen during the summer months in the deeper water areas may also affect fish distribution, as pelagic species are mobile and would avoid areas with low dissolved oxygen. Fish moving upstream from the Chesapeake Bay can thrive in the higher summer salinities and move downstream away from the project area as the salinity and water temperature decrease throughout the water column in the late fall and winter months.

Figure 6. Fish Survey Locations

Table 2. Summary of Individual Fish Collected by Each Method per Season

Fish Species	Sampling Method and Season										
	Beach Seine			Gillnet				Bottom Trawl			
	Summer	Fall	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring
Atlantic croaker (*Micropogonias undulatus*)	6	0	72	2	0	0	0	26	2	3	342
Atlantic menhaden (*Brevoortia tyrannus*)	195	0	0	74	0	0	9	4	0	1	0
Atlantic silverside (*Menidia menidia*)	755	539	263	0	0	0	0	0	0	0	0
Banded killifish (*Fundulus diaphanus*)	1	7	5	0	0	0	0	0	0	0	0
Bay anchovy (*Anchoa mitchilli*)	6	78	557	0	0	0	0	379	151	8	231
Bluefish (*Pomatomus saltatrix*)	0	0	0	3	0	0	0	0	0	0	0
Blueback herring (*Alosa aestivalis*)	0	3	0	0	0	0	1	0	0	0	2
Gizzard shad (*Dorosoma cepedianum*)	5	0	0	1	4	0	3	0	0	0	0
Herring (*Alosa* spp.)	0	0	4,662	0	0	0	0	0	0	0	0
Hogchoker (*Trinectes maculatus*)	0	0	0	0	0	0	0	1	0	0	1
Inland silverside (*Menidia beryllina*)	4	0	61	0	0	0	0	0	0	0	0
Northern pipefish (*Syngnathus fuscus*)	0	0	0	0	0	0	0	1	0	0	0
Pipefish species	1	0	0	0	0	0	0	0	0	0	0
Pumpkinseed sunfish (*Lepomis gibbosus*)	22	0	0	0	1	0	0	0	0	0	0
Spot (*Leiostomus xanthurus*)	0	0	0	4	0	0	8	170	0	0	1
Striped bass (*Morone saxatilis*)	1	0	0	10	0	0	2	0	0	0	0
Striped killifish (*Fundulus majalis*)	0	33	8	0	0	0	0	0	0	0	0
Summer flounder (*Paralichthys dentatus*)	0	0	0	0	0	0	0	3	0	0	0
Weakfish (*Cynoscion regalis*)	0	0	0	2	0	0	0	3	0	0	0
White perch (*Morone americana*)	74	3	1	0	0	0	0	19	0	0	19
Total individuals	**1,070**	**660**	**5,629**	**96**	**5**	**0**	**23**	**606**	**153**	**12**	**596**

3.4 Hydrodynamics

The Action Area near Sparrows Point is adjacent to and within the mainstem of the Patapsco River about 6 miles south of Baltimore Harbor. The tides in Baltimore Harbor are characterized as semi-diurnal with two high tides and two low tides per day. Spring and neap tides are experienced in Baltimore Harbor in two-week cycles, where the tide range is largest during spring tides and smallest during neap tides. The mean tide range reported at the Fort McHenry tide gauge (NOAA CO-OPS Station 8574680) is relatively low at 1.15 feet, which results in low current velocities throughout the harbor. Modeled tidal currents under existing conditions were evaluated and assessed near Sparrows Point for the proposed project. The highest current speeds (0.25 to 0.41 knots) were modeled in the Brewerton Channel adjacent to Sparrows Point. Tidal current velocities measured at the southwest corner of Sparrows Points, as well as between Fort Carroll and the former Key Bridge site, were between 0.20 to 0.33 knots. The lowest modeled current velocities were within the L-shaped basin at Sparrows Point and were less than 0.02 knots. The modeled current velocities were generally higher during flood tides than during ebb tides.

4 ESA Species in the Action Area

The applicant consulted NMFS's ESA Section 7 Mapper (NMFS 2022a), an online mapping tool, which indicated that Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) and shortnose sturgeon (*Acipenser brevirostrum*) may be present in the SPCT project area. In a letter dated February 16, 2024, NMFS identified the two sturgeon species plus four federally listed sea turtle species under its jurisdiction that may occur in the Action Area (NMFS 2024b; Table 3); the project area does not contain any designated critical habitat. Federally protected species can also fall under the jurisdiction of the US Fish and Wildlife Service (USFWS); however, no aquatic species under USFWS jurisdiction are potentially present within the Action Area.

Detailed descriptions for each ESA species, including habitat descriptions, natural history, and stock status, are described below.

4.1 Atlantic Sturgeon

The Atlantic sturgeon is one of two subspecies of *A. oxyrinchus*, the other being the Gulf sturgeon (*A. o. desotoi*). Atlantic sturgeon populations occur along the eastern coast of North America from Hamilton Inlet, Labrador, Canada, to Cape Canaveral, Florida. An anadromous species, Atlantic sturgeon spawn in freshwater of tidal-affected rivers that are part of a coastal estuary. Tagging records and the relatively low rate of gene flow observed provide evidence that Atlantic sturgeon return to their natal river to spawn (Atlantic sturgeon Status Review Team (ASSRT) 2007). NMFS has delineated US populations of Atlantic sturgeon into five Distinct Population Segments (DPSs) – the Gulf of Maine, New York Bight, Chesapeake Bay, Carolina, and South Atlantic. Effective 6 April 2012, NMFS listed the New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs as endangered, and the Gulf of Maine DPS as threatened. While individuals from the Chesapeake Bay DPS are the most likely to be present, fish from all five DPSs may occur within the Action Area. NMFS developed a recovery outline to commence the recovery planning process for Atlantic sturgeon (NMFS 2018). In this section, general information for all DPSs life history and habitat requirements is discussed, as well as information specific to the individuals from all DPSs that may utilize the Chesapeake Bay, including documented observations of Atlantic sturgeon within the Action Area.

Table 3. ESA Species Potentially Present in the SPCT Project Area

Species	ESA Status	Life Stage(s) / Behavior / Locations	Distinct Population Segment (DPS)	Time(s) of Year Potentially in Area	Federal Register	Recovery Plan
Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*)	E (GOM DPS status is T)	Adults, subadults, and juveniles / migrating and foraging / throughout Chesapeake Bay	All DPSs (adults / subadults) Chesapeake Bay DPS (juveniles)	3/15 – 11/30 (adults/subadults) 1/1 – 12/31 (juveniles)	77 FR 5880 and 77 FR 5914; CH 82 FR 39160	NA
Shortnose sturgeon (*Acipenser brevirostrum*)	E	Adults / migrating and foraging / throughout Chesapeake Bay	NA	3/01 – 11/30	32 FR 4001	NMFS 1998
Loggerhead sea turtle (*Caretta caretta*)	T	Adults and juveniles / migrating and foraging / Massachusetts (South of Cape Cod) through Virginia	Northwest Atlantic	5/1 – 11/30	76 FR 58868	NMFS and USFWS 2008
Green sea turtle (*Chelonia mydas*)	T	Adults and juveniles / migrating and foraging / Massachusetts (South of Cape Cod) through Virginia	North Atlantic	5/1 – 11/30	81 FR 20057	NMFS and USFWS 1991
Kemp's ridley sea turtle (*Lepidochelys kempii*)	E	Adults and juveniles / migrating and foraging / Massachusetts (South of Cape Cod) through Virginia	NA	5/1 – 11/30	35 FR 18319	NMFS et al. 2011
Leatherback sea turtle (*Dermochelys coriacea*)	E	Adults and juveniles / migrating and foraging / Massachusetts (South of Cape Cod) through Virginia	NA	5/1 – 11/30	35 FR 8491	NMFS and USFWS 1992

Notes:

CH = critical habitat
DPS = distinct population segment
E = endangered
ESA = Endangered Species Act
FR = Federal Register
GOM = Gulf of Maine
NA = not applicable
NMFS = National Marine Fisheries Service
T = threatened
USFWS = US Fish and Wildlife Service

4.1.1 Life History and Habitat Requirements

Atlantic sturgeon are estuarine-dependent anadromous fish that can live an average of 60 years (ASSRT 2007). Atlantic sturgeon are bottom feeders and can be present in freshwater, marine, and estuarine systems in various life cycles. Atlantic sturgeon require freshwater habitat to spawn with fast flowing water and hard substrates (NMFS 2017; ASSRT 2007). Spawning occurs in natal rivers, with females producing between 400,000 to 4 million eggs (Hilton et al. 2016). Water temperature plays a critical role in spawning, and in the mid-Atlantic, spawning typically occurs between April and May (Hilton et al. 2016). Once hatched, larvae remain demersal on the hard bottom substrate until the post-yolk sac larvae stage, when they drift downstream and settle on the river bottom to forage (Kynard and Horgan 2002). Young-of-year and juvenile Atlantic sturgeon reside in lower salinity areas of their natal rivers or estuary (Hilton et al. 2016). Older juveniles become more salt-tolerant and can utilize higher salinity areas. Juveniles consume benthic invertebrates as well as insect larvae and small aquatic insects. Juvenile sturgeon will remain in their natal estuary for several years before migrating to the open ocean in the sub-adult stage (ASSRT 2007; Dadswell 2006; Hilton et al. 2016). Migrating and foraging juveniles typically use main river channels deep enough where water is continuously flowing, which ensures growth and development of juveniles (NMFS 2019).

Subadults inhabit a marine environment, and once reaching the adult stage, they stay in marine or estuarine waters with depths less than 160 feet until they are ready to spawn. Subadult and adult Atlantic sturgeon consume benthic macroinvertebrates and crustaceans, as well as smaller fish (ASSRT 2007, Savoy 2007). During fall and winter, Atlantic sturgeon will move into deeper waters for overwintering, including waters off the coast of Virginia and North Carolina, while many groups move around within different areas of the mid-Atlantic Bight (Erickson et al. 2011). Adults and subadults opportunistically forage the full extent of rivers, preferring the salt front areas and main channels where there is continuous flow to support staging, resting, and full passage (NMFS 2019).

4.1.2 Atlantic Sturgeon in the Chesapeake Bay

The Chesapeake Bay DPS of Atlantic sturgeon includes Atlantic sturgeon spawned in the watersheds that drain into the Chesapeake Bay and coastal waters (including bays and sounds) from the Delaware-Maryland border at Fenwick Island to Cape Henry, Virginia, as well as Atlantic sturgeon held in captivity that are progeny of such fish (50 Code of Federal Regulations 224.101).

Atlantic sturgeon are present in the waters of the Chesapeake Bay and its adjacent bays and tributaries. Atlantic sturgeon are born in freshwater, move to estuarine waters to grow and mature, migrate to the sea, and return to freshwater areas to spawn (NMFS 2023a). Spawning within the Chesapeake Bay occurs largely in Virginia tributaries (James River) (Secor 2002), outside of the project area and larger Baltimore Harbor area. Due to the habitat and salinity in the project area, spawning and early life stages are not expected to occur (NMFS 2024b). Atlantic sturgeon typically require lower salinities for spawning in natal rivers. Juveniles and adults may be transient in the project area but typically stay near their natal rivers or migrate to the open ocean. Only subadult and adult Atlantic sturgeon could occur within the Patapsco River area. Subadult Atlantic sturgeon behavior in the Chesapeake Bay is similar to the adults, and they will be present in the Bay from late March (Balazik and Musick 2015) through November and could utilize the full extent of the bay while also migrating and foraging in the Chesapeake's tributaries (Horne and Stence 2016).

This species had historically large populations throughout the Chesapeake Bay; however, their populations have declined largely due to heavy fishing and degradation of spawning and nursery habitat (Virginia Institute of Marine Science 2009). Atlantic sturgeon are also listed as endangered by MDNR.

4.2 Shortnose Sturgeon

Shortnose sturgeon is federally listed as endangered throughout its range and listed as endangered by MDNR. NMFS implemented a recovery plan for shortnose sturgeon in 1998 (NMFS 1998). Shortnose sturgeon are fish that occur in rivers and estuaries along the East Coast of the United States and Canada (Shortnose Sturgeon Status Review Team [SSSRT] 2010). In this section, life history, habitat requirements, and information specific to the Chesapeake Bay populations, including documented observations of shortnose sturgeon within the Action Area, are discussed.

4.2.1 Life History and Habitat Requirements

Shortnose sturgeon are slow-growing and late-maturing, often living beyond 40 years. Yolk-sac larvae of shortnose sturgeon can drift with river currents and are typically concentrated near the spawning area for the first month. Shortnose sturgeon utilize most of a river system but often remain in important resting and feeding aggregations for extended periods (Hastings et al. 1987; Kieffer and Kynard 1993; SSSRT 2010). Adults have varying migratory patterns that often depend on the river system. Shortnose sturgeon migrate from overwintering locations upstream to spawning grounds during the spring in northern rivers and in late winter/early spring in southern rivers (Dadswell 1979; Kynard 1997). Spawning areas are typically located in the farthest upstream reach of rivers with no barriers (SSSRT 2010). Shortnose sturgeon move from spawning areas downstream to foraging areas in low-salinity bottom waters of estuaries for much of the year (SSSRT 2010). They feed on a variety of benthic organisms, including mollusks, crustaceans, and worms. Individuals in the Chesapeake Bay spend most of the year in the lower part of the river in which they were born, migrating to deeper waters in winter (CBP 2024a). Due to the habitat and salinity in the project area, spawning and early life stages are not expected to occur (NMFS 2024b).

4.2.2 Shortnose Sturgeon in Chesapeake Bay

Unfavorable water conditions, such as low oxygen, pollution, and habitat alteration, have caused significant declines in the Chesapeake Bay population.

Transient adult shortnose sturgeon could be present in the waters of the Chesapeake Bay and adjacent bays and tributaries to opportunistically forage; however, historical studies have indicated that shortnose sturgeon in the Chesapeake Bay are rare with only one individual observed in the lower Chesapeake Bay and just over 70 in the upper Chesapeake Bay over ten years (1996 through 2006) (Balazik 2017). The most recent report of a shortnose sturgeon in the lower Chesapeake Bay and tributaries was a catch in the Potomac River near the Chain Bridge in April 2021 (Blankenship 2021). Additionally, a study was conducted in the upper Chesapeake Bay mainstem, lower Susquehanna River, and C and D Canal during 1998 and 2000 during NMFS review of the Baltimore Harbor and Channels Federal Navigation Project. This involved bottom gillnetting 19 locations within the upper Chesapeake Bay and did not capture any sturgeon (SSSRT 2010). While some foraging may occur in the Potomac River, no spawning in the Chesapeake Bay or tributaries has been documented (SSSRT 2010). Various life stage individuals could be present along the transport routes from the SPCT area to either the NODS or to a MPA DMCF.

4.3 Sea Turtles

Four species of ESA-listed threatened or endangered sea turtles under NMFS jurisdiction are seasonally present in Chesapeake Bay —Northwest Atlantic Ocean DPS of loggerhead sea turtle (*Caretta caretta*; threatened), North Atlantic DPS of green sea turtle (*Lepidochelys kempii*; threatened), Kemp's ridley sea turtle (*Lepidochelys kempii*; endangered), and leatherback sea turtle (*Dermochelys coriacea*; endangered) (NMFS 2024b).

Sea turtle species share similar habitats and are widely distributed throughout their range, occupying vast open ocean habitat and inshore areas. Juvenile sea turtles live a pelagic existence before returning inshore as they mature. The primary diet of sea turtles can vary by species and includes marine vegetation, benthic invertebrates, and other small marine animals (NMFS 2023b). Although some sea turtle individuals have been observed as far north as Maine, the Chesapeake Bay is typically the northernmost limit for their range (Funk 2020).

According to the NMFS Biological Opinion prepared for the Nice Bridge Project on the Potomac River, the most abundant species in the Chesapeake Bay is loggerhead sea turtle, followed by Kemp's ridley sea turtles. Distribution and abundance models by Duke University suggest that Kemp's ridley turtles are abundant near the mouth of the Chesapeake Bay (DiMatteo and Sparks 2023, as cited in NMFS 2023c). Green sea turtles are also present, and leatherback sea turtles also occur less frequently, in the Chesapeake Bay.

The Chesapeake Bay is an important developmental and foraging habitat for sea turtles in the summer months (Evans et al. 1997; Litwiler and Insley 2014), but sea turtles are not likely to be as far north in the Chesapeake Bay as the SPCT project area, due to lower salinity waters. Loggerhead, leatherback, and green sea turtles are typically found in the Chesapeake Bay in Maryland in the southern portions of the state near Worcester County (MDNR 2016, 2024a, 2024b, 2024c). Kemp's ridley turtles use eelgrass beds in the lower portions of the Chesapeake Bay during summer months (CBP 2024b).

In the project area (and larger Baltimore Harbor), suitable vegetation and salinity for sea turtles are not available. For this reason, only those impacts on sea turtles associated with increased vessel traffic in the Lower Chesapeake Bay (where barges and other vessels may be transiting to the project area) and from the SPCT project area to the NODS are the impacts evaluated in this Biological Assessment.

5 Effects of the Preferred Alternative on ESA Species

In-water construction activities for the Preferred Alternative would comply with any applicable environmental windows for sensitive species to be determined by NMFS. This section includes a summary of impacts on federally managed fish species and their life stages (as identified in Table 3) and the designated ESA species in the Action Area. The analysis focuses on impacts that reduce the quality or quantity of habitat for ESA species or pose a direct risk of physical injury or could result in behavioral modifications. Not all stressors listed below are evaluated for every ESA species. Species evaluated for impacts from each stressor are listed in parentheses after the stressor.

The impacts evaluated for ESA species are:

- **Underwater Noise** from pile driving (both sturgeon species)
- **Turbidity** from channel dredging and pile driving (both sturgeon species)
- **Habitat Alteration** from channel dredging (both sturgeon species)
- **Vessel Traffic** from construction, dredged material transport, and long-term use of the SPCT (both sturgeon species and sea turtles)
- **Impingement and Entrainment** from hydraulic pumping operations for offloading of dredged material (both sturgeon species)

5.1 Underwater Noise from Pile Driving

Noise impacts from anthropogenic sources (e.g., in-water construction activities such as pile driving) have the potential to impact fish and other marine species that rely on hearing underwater to forage, communicate, detect predators, and navigate (NMFS 2022a). Receptor response to noise varies by the types and characteristics of the noise source, distance from the source, water depth, receptor sensitivity, and temporal scale. Noise can be intermittent or continuous, steady or impulsive, and it may be generated by either mobile or stationary sources.

5.1.1 Noise Impact Types and Scenario Overview

Construction activities that could generate noise with the potential to impact fish and marine mammals are associated with the construction of the SPCT terminal. These activities include:

1. Installation of steel pilings during construction of the marginal wharf with piling diameters of 30 and 36 inches
2. Demolition of the existing pier structure

During construction, the noise generated by pile driving could rise to the level of affecting sturgeon, as driving can produce loud, impulsive sound waves. Other activities, such as dredging or vessel traffic, would produce some noise, but not at levels that would impact fish. Activities involving driving of piles are the scenarios that were modeled to assess underwater noise impacts on fish.

The details on the pile driving activities for each construction scenario are summarized in Table 4. During the terminal design process, measures to reduce the overall number of piles necessary for the terminal wharf structure were used to the extent practicable.

Table 4. In-water Pile Driving Activities

Activity	Approximate Activity Duration (days)	Maximum Number of Piles Installed per Day	Number and Diameter of Steel Piles	Method of Pile Driving
Wharf piling installation	278 (minimum number of days in a 3-year window)	6	602 30-inch piles 1,063 36-inch piles	Impact and vibratory
Water-based demolition	20	NA	Varied	Vibratory

Acoustic thresholds for the onset of underwater acoustic impacts from pile driving activities were calculated for fish in the project area using the Optional Multi-Species Pile Driving Calculator Tool, VERSION 1.2-Multi-Species: 2024, provided on the NMFS website (NMFS 2024c). General assumptions were used in the model with the best available project information and technical guidance to estimate the impacts of underwater sound on fishes. More specific assumptions associated with each scenario are discussed below.

Both vibratory and impact hammers are proposed to be used to install piles for the terminal construction. It is anticipated that piles would be driven to the maximum possible depth using a vibratory hammer, followed by driving with an impact hammer to the final target sub-surface elevation. Impact pile driving produces intense, broadband (a sound signal that includes acoustic energy across a wide range of frequencies), impulsive sounds in which the sound pressure is very large at the instant of the impact and then decays rapidly with distance; the duration of the peak pressure pulse is usually only a few milliseconds (University of Rhode Island [URI] 2017). The majority of energy in pile impact pulses is at frequencies between 100 and 400 hertz (Hz) (Matuschek and Betke 2009).

Vibratory pile driving produces a continuous sound with peak pressures lower than those observed in pulses generated by impact pile driving. Sound signals generated by vibratory pile driving usually consist of a low fundamental frequency of 20 to 40 Hz (URI 2017). Low-frequency signals produce long sound wavelengths. These long-wavelength signals encounter fewer suspended particles as they pass through the water, and thus their energy is absorbed more slowly (Hatch and Wright 2007). As a result, low-frequency signals travel farther than higher-frequency signals. Therefore, noise produced by a vibratory hammer can travel farther in water than noise produced by an impact hammer, despite having a lower peak pressure at the source.

5.1.2 Noise Modeling Considerations and Inputs

5.1.2.1 Geographic Range of Noise Impacts

The geographic extent of underwater noise impacts from pile driving is dependent on factors such as the type of pile driving equipment, length of time spent pile driving, and environmental conditions. The extent to which fishes react to sound varies among species, their life stage, inter- and intra-specific interactions, and other environmental conditions. Guidelines on the impact of impulsive sounds on the behavior of fishes are found in the *National Marine Fisheries Service: Summary of Endangered Species Act Acoustic Thresholds (Marine Mammals, Fishes, and Sea Turtles)*, specifically the 2008 Fisheries Hydroacoustic Working Group (FHWG) criteria (FHWG 2008). Non-injury behavioral responses of fishes range from strong avoidance by virtually all individuals to tolerance and habituation (Anderson 1990; Fiest 1992). It is anticipated that impacts from noise sources would be the same for all fish species (less than and greater than 2 grams) potentially present within the project area. All fish species in the area could potentially use the pelagic and bottom habitat near the sound source, and there are no data indicating that a particular fish species would be more sensitive to impulsive sound than another.

5.1.2.2 Fish Physiology and Morphology

Though the injury criteria distinguish between fish of different sizes (fish weighing less than 2 grams and those weighing 2 grams or more), the criteria do not distinguish between fish of different hearing sensitivity. However, criteria are expected to be conservative and protective of pelagic and demersal fish potentially present within the project area. It is worth noting that the hearing sensitivity of fish varies by species and has been linked to morphology, specifically the presence of a swim bladder, the proximity of the swim bladder to the ear, and the presence of adaptations that link the swim bladder to the ear. Fish with swim bladders closest to the ear and those with specialized adaptations are most sensitive to sound since they are stimulated by sound pressure via the gas within the swim bladder as well as by particle motion, whereas fish without swim bladders and fish without swim bladders near the ear are only stimulated by particle motion (Popper and Hawkins 2019).

Within the different morphological groups, hearing sensitivity also varies by species; for example, black sea bass (*Centropristis striata*) is fairly sensitive to sound compared to related species (Stanley et al. 2020). Several species of clupeid fishes are able to detect and respond to ultrasonic sounds, likely due to an ear specialization unique to clupeids (Popper et al. 2004). Clupeid fishes are of particular concern given proximity of the site to migratory corridors for anadromous herrings. Blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), American shad, hickory shad (*Alosa mediocris)*, Atlantic menhaden, and gizzard shad (*Dorosoma cepedianum*), all clupeid fishes, have been documented to use habitat in and/or migrate through the Patapsco River, indicating that fish with high hearing sensitivity may be in the project area during pile driving. Though given the sensitivity to underwater sound, it is still anticipated that these fish would be protected using the FHWG criteria.

5.1.2.3 Acoustic Thresholds

The calculations from the NMFS Multi-Species Pile Driving Calculator Tool were used to create a multi-ring buffer of isopleths (i.e., sound contours) diminishing in 1 decibel (dB) increments from the sound source. These thresholds are the lowest level where injury could occur (FHWG 2008) and are used to indicate the distance from the noise source where fishes could be exposed to injury or disturbance.

The modeled fish thresholds for physical injury and behavioral disturbance were used to determine the distances to onset of physical injury and behavioral disturbances (Tables 5 and 6). Physical injuries to fish from noise sources can include inner ear tissue damage and hearing loss (Casper et al. 2013) and rupture or damage to the swim bladder (California Department of Transportation [Caltrans] 2020). Behavioral disturbances include showing a brief awareness of the sound, small movements, or escape responses to move away from the noise source entirely (URI 2017). Thresholds for these effects are measured by evaluating the cumulative sound exposure level (SEL) over the duration of a noise event (SEL_{cum}), the maximum instantaneous sound pressure over the duration of a noise event (SPL_{peak}), and the root mean square (RMS) pressure.

The intensity of pile driving noise is greatly influenced by factors such as the types of piles and hammers and the physical environment in which the driving activity takes place. Since site-specific sound monitoring data are not available, reasonable noise source levels that would be likely to result from pile driving during construction, or proxy sound levels, from the NMFS calculator, were selected (Table 5). Proxy sound levels were selected based on the pile size and type. When possible, sound levels from water depths similar to the maximum water depth expected in the SPCT project area (-52 feet following dredging for SPCT) were selected. However, the sources of the available monitoring data vary, and values from shallower water depths were used in sound modeling when values from deeper water depths were not available.

Different types of sound pressure effects can cause different reasonable noise source levels that may result from pile driving. The peak pressure effect occurs from impact driving, as opposed to vibratory driving, which creates a more constant sound pressure with no peak decibel level. The peak effect from impact driving is the greatest value of the sound signal and is measured in dB re 1 μPa (underwater noise in decibels referenced to a pressure of 1 micropascal), used to specify the intensity of sound underwater (NMFS 2022b). The RMS pressure effect is the average intensity of the sound signal over time, which is applied to both impact and vibratory driving. The SEL is the measure of energy that considers both the level and duration of exposure to the sound (Table 5) (NMFS 2022b). SEL is measured in units of dB re 1 μPa^2 s (underwater noise in decibels referenced to a pressure of 1 micropascal squared seconds).

Table 5. Underwater Noise Modeling Inputs

Pile Type/Activity	Installation Method	Maximum Number of Hammers Used Concurrently	Impact Driving Strikes per Pile [1]	Vibratory Driving Estimated Minutes Time to Drive Each Pile [2] (minutes)	Peak (dB re 1 μPa)	SEL (dB re 1 μPa² s)	RMS [3] (dB re 1 μPa)	Proxy Value Water Depth (feet)	Proxy Value Source [4]
30-inch wharf piling	Vibratory	3	NA	90	NA	NA	153	9.8	Caltrans 2020
	Impact	3	600	NA	207	178	199	49	Caltrans 2015
36-inch wharf piling	Vibratory	3	NA	180	NA	NA	175	16	Caltrans 2015
	Impact	3	900	NA	210	183	198	33	Caltrans 2015
Water-based demolition [5]	Vibratory	3	NA	NA	NA	NA	180	16	Caltrans 2020

Notes:

1. Strikes per pile for impact driving and time to drive each pile for vibratory pile driving estimated based on the driving logs of recent projects. For the concurrent scenario, a weighted average based on average piles per day was used to estimate values.
2. For water-based demolition, activity types and durations may vary. Modeling assumed constant use of both vibratory hammers during work hours (10 hours).
3. The RMS proxy values are based on the noise of a single hammer and have been adjusted to account for multiple impact hammers being used concurrently, as per guidelines in the Washington State Department of Transportation Biological Assessment Preparation Manual (WSDOT 2020). To determine the full range of noise levels, underwater noise modeling for wharf piling activities assumed that each of the hammers would be driving the same pile size.
4. Proxy values selected from Optional Multi-Species Pile Driving Calculator Tool, VERSION 1.2-Multi-Species: 2024 (NMFS 2024c).
5. As pile types are unknown for water-based demolition, modeling used the maximum RMS proxy value for vibratory pile driving.

NA = not applicable; SEL = sound exposure level; RMS = root mean square; dB re 1 μPa = underwater noise in decibels referenced to a pressure of 1 micropascal; dB re 1 μPa²s = underwater noise in decibels referenced to a pressure of 1 micropascal squared seconds

Table 6. Fish Pile Driving Injury Guidance

Fish Weight	Onset of Physical Injury due to Impact Pile Driving		Onset of Behavioral Disturbance due to Impact and Vibratory Pile Driving
	SEL_{cum}	SPL_{peak}	RMS
Fishes weighing 2 grams or more	187 dB	206 dB	150 dB
Fishes weighing 2 grams or less	183 dB	206 dB	150 dB

5.1.2.4 Sound Proxy Values

The maximum number of hammers for each activity associated with the construction of the terminal is included in Table 5. The RMS proxy values are based on the noise of a single hammer and have been adjusted to account for multiple impact hammers being used concurrently. The Washington State Department of Transportation Biological Assessment Preparation Manual (Washington State Department of Transportation [WSDOT] 2020) presents the rules for combining noise levels. To combine noise levels, only the three loudest pieces of equipment are considered. The two lower noise levels are combined first, and then the result is combined with the loudest noise level. For each activity in Table 5, the noise levels for each hammer are assumed to be the same. To combine noise from two pieces of equipment that are within 0 to 1 dB of each other, 3 dB is added to the higher value to combine noise levels. To add the third piece of equipment to the combined noise level (now 3 dB greater), 2 dB is added to the combined noise level. Thus, for two hammers being used concurrently, 3 dB was added to the RMS proxy value, and for three or five hammers being used, 5 dB was added to the RMS proxy value. The underwater noise modeling for wharf piling installation assumed that the hammers would be driving to the same pile size to determine the worst-case (highest) noise levels.

5.1.2.5 Sound Attenuation

Sound attenuation measures for underwater noise may include the use of cushion blocks or bubble curtains during pile driving activities. Sound reduction associated with the use of cushion blocks is already incorporated into the NMFS Multi-Species Tool; therefore, no additional attenuation was included in the underwater noise modeling for aquatic resources.

TTT would perform underwater noise monitoring during pile driving activities to verify the noise levels generated in the project area. Further coordination with NMFS would occur during noise monitoring to verify the isopleths created during pile driving and identify additional sound attenuation measures that may be required to reduce impacts to aquatic resources and to provide a zone of safe fish passage in the Patapsco River.

5.1.3 Noise Modeling Impacts on Fish

The results presented in this Biological Assessment show the distances to the following impacts:

1. Onset of behavioral disturbance from a vibratory hammer with no sound attenuation for each activity
2. Physical injury and behavioral disturbance from an impact hammer with no sound attenuation for the largest noise-producing activities

Noise modeling results are presented in figures based on three in-water sound source locations for the SPCT pile driving activities —one location at the northern point of the east shoreline of Coke Point (near where the existing structures would be demolished), one location within the embayment on the east side of Coke Point (within the turning basin), and one location outside the embayment at the southern point of the Coke Point peninsula. Noise impacts without sound attenuation are presented below and in Table 5. Figures presented in this document represent impact driving, as well as the maximum distance to behavioral disturbance due to vibratory driving during driving of the 36-inch piles and water-based demolition. Results for the additional construction activities with less noise impacts (raw model outputs) are included in Attachment B.

5.1.3.1 Noise Impacts on Fish from Impact Driving

Wharf Pilings

Wharf pilings are 30 and 36 inches in diameter (Table 4). A maximum of three impact hammers would operate concurrently, and each hammer would install one to two piles per day for a typical rate of three piles per day and a maximum rate of six piles per day installed via impact driving. As summarized in Table 7, for the wharf piling installation with an impact hammer, the largest maximum distance to peak onset (SPL_{peak}) of physical injury in any size fishes is 61 feet for either 30- or 36-inch steel pipe piles at a rate of either three or six piles per day (Figures 7 through 9).

The maximum distance to physical injury using the cumulative sound exposure level (SEL_{cum}) is within 5,200 feet (approximately 1 mile) for fish greater than 2 grams and is based on driving of six 36-inch steel pipes per day (Figures 7 through 9). Reducing the driving to three piles per day would decrease the SEL_{cum} distance to 3,443 feet (approximately 0.65 miles); however, for fish less than 2 grams, the distance to physical injury for driving 36-inch piles would remain at 5,200 feet when driving either three or six piles per day (Table 7).

The distance for behavioral disturbance (RMS) in any size fishes from impact driving of wharf piles is largest for the driving of 36-inch piles (either three or six piles per day) and is 51,998 feet or approximately 9.85 miles).

5.1.3.2 Noise Impacts on Fish from Vibratory Driving

Wharf Pilings

The wharf piles would also be driven with a vibratory hammer. A maximum of three vibratory hammers would operate concurrently and each hammer would install one to two piles per day for a typical rate of three piles per day and a maximum rate of six piles per day installed via vibratory driving. The maximum distance to onset of behavioral disturbance is 1,523 feet (approximately 0.3 mile) from vibratory driving of the 36-inch piles (Table 7).

In-Water Demolition

Precise activities and pile sizes to be removed during water-based demolition are yet to be determined and would be finalized closer to project construction. For modeling, it was assumed that only vibratory impacts would be produced during removal of existing in-water structures. Modeling conservatively predicted that fishes of any size may experience behavioral disturbance at a distance of 3,281 feet (approximately 0.6 mile) from demolition / pile removal activities (Table 7, Figures 10 through 12).

Table 7. Maximum Distances to Fish Sound Thresholds from Impulsive Sources

Activity	Pile Count and Size/Type	Vibratory Hammer Distance to Onset of Behavioral Disturbance [1] (feet)	Impact Hammer Distance to Onset of Behavioral Disturbance (feet)	Impact Hammer Distance to Onset of Physical Injury (feet)		
		150 dB RMS (any size fish)	150 dB RMS (any size fish)	206 dB SPL_{peak} (any size fish)	187 dB SEL_{cum} (fish greater than 2 grams)	183 dB SEL_{cum} (fish less than 2 grams)
Wharf piling (3 piles per day)	602 30-inch steel pipe piles	961	32,808	61	1,214	2,070
Wharf piling (6 piles per day)	602 30-inch steel pipe piles	961	32,808	61	1,927	2,070
Wharf piling (3 piles per day)	1,063 36-inch steel pipe piles	1,523	51,998	61	3,443	5,200
Wharf piling (6 piles per day)	1,063 36-inch steel pipe piles	1,523	51,998	61	5,200	5,200
In-water demolition	Varied	3,281	NA	NA	NA	NA

Notes:

1. For vibratory pile driving, only behavioral thresholds exist for fish.

RMS = root mean square; SEL_{cum} = cumulative sound exposure level over the duration of a noise event; SPL_{peak} = maximum instantaneous sound pressure over the duration of a noise event; dB = decibel

Figure 7. Maximum Distance to Noise Impacts on Fish from Impact Hammer without Attenuation – Wharf Construction Upper Shoreline

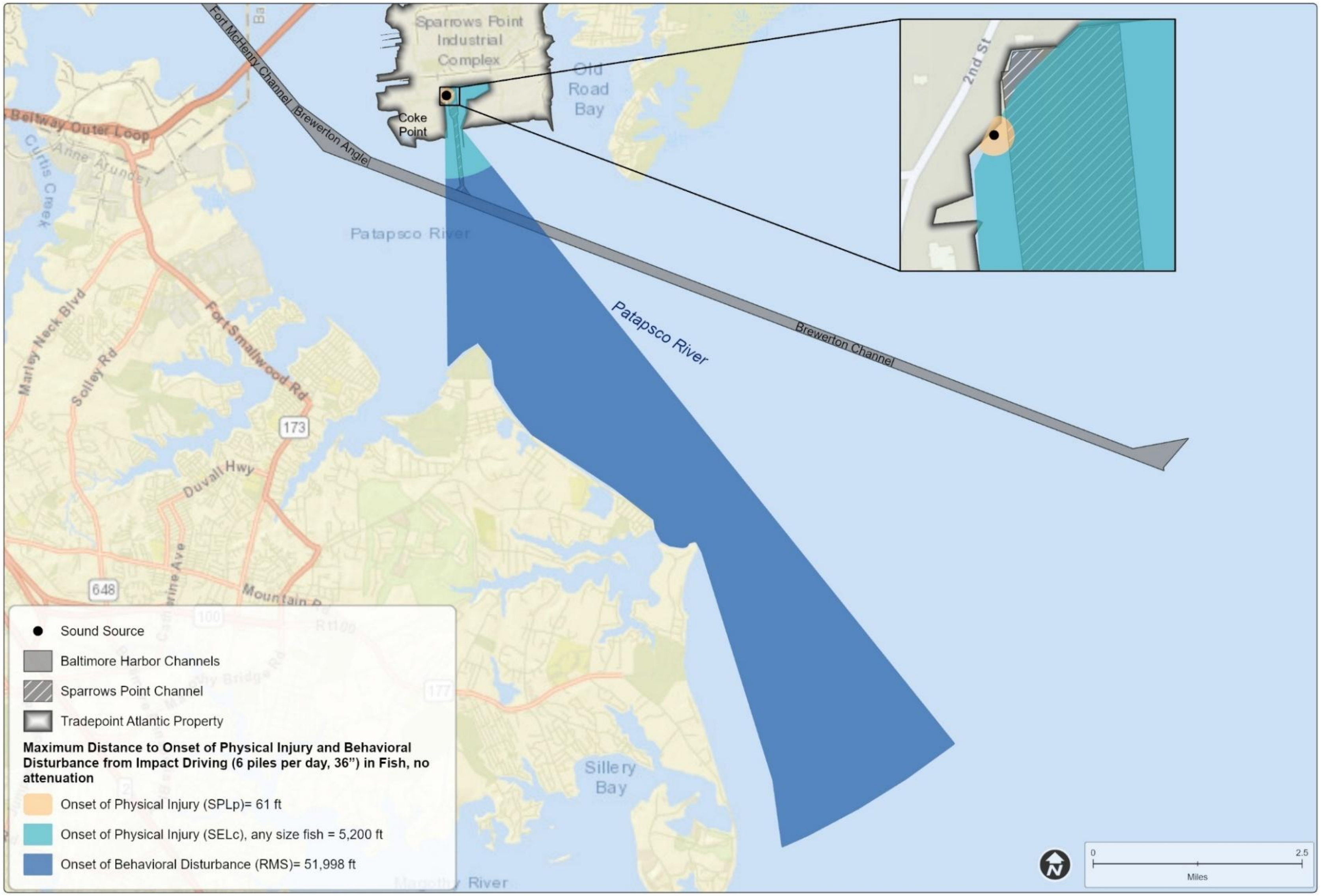


Figure 8. Maximum Distance to Noise Impacts on Fish from Impact Hammer without Attenuation – Wharf Construction at Middle Shoreline of Turning Basin

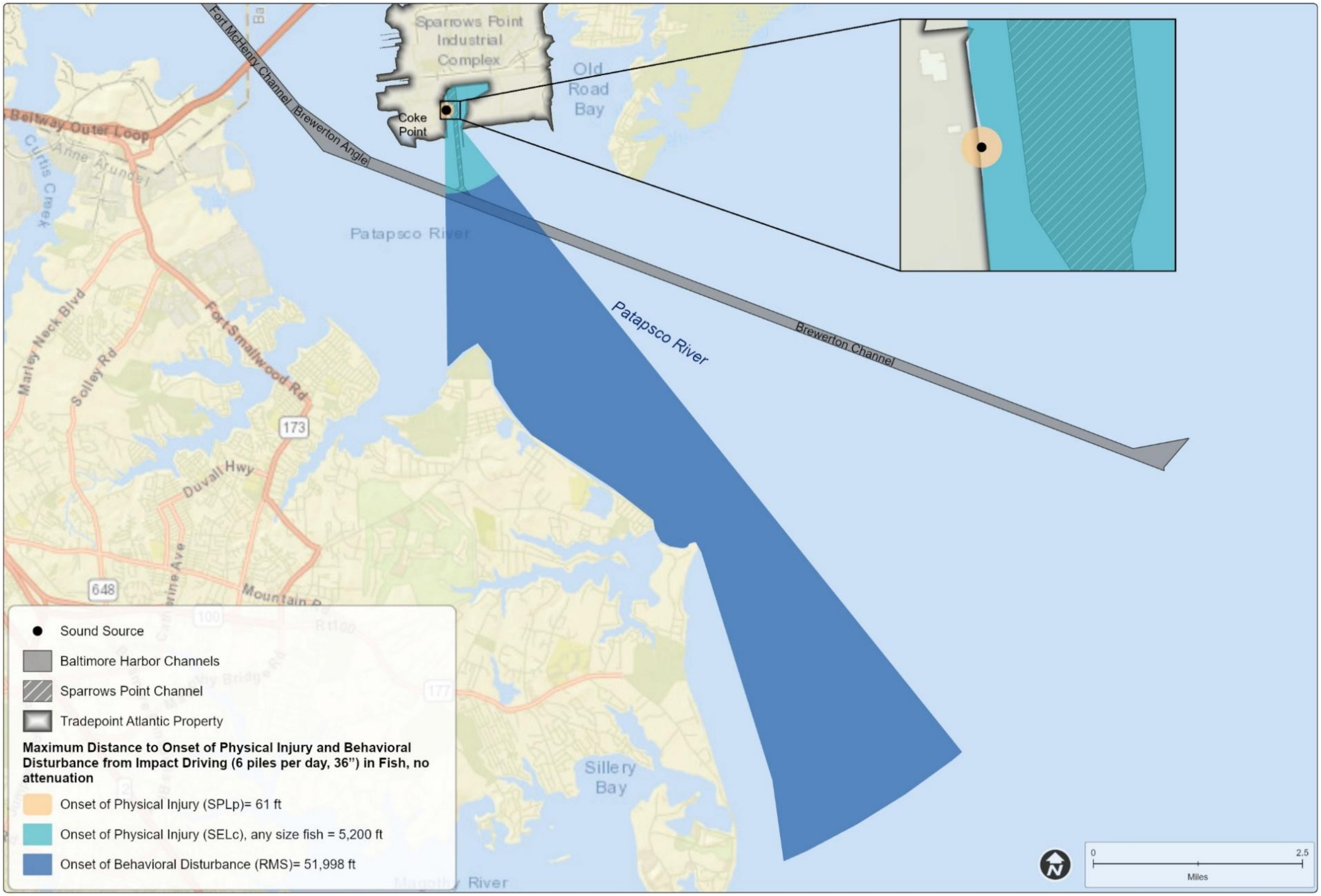


Figure 9. Maximum Distance to Noise Impacts on Fish from Impact Hammer without Attenuation – Wharf Construction at Southern Point

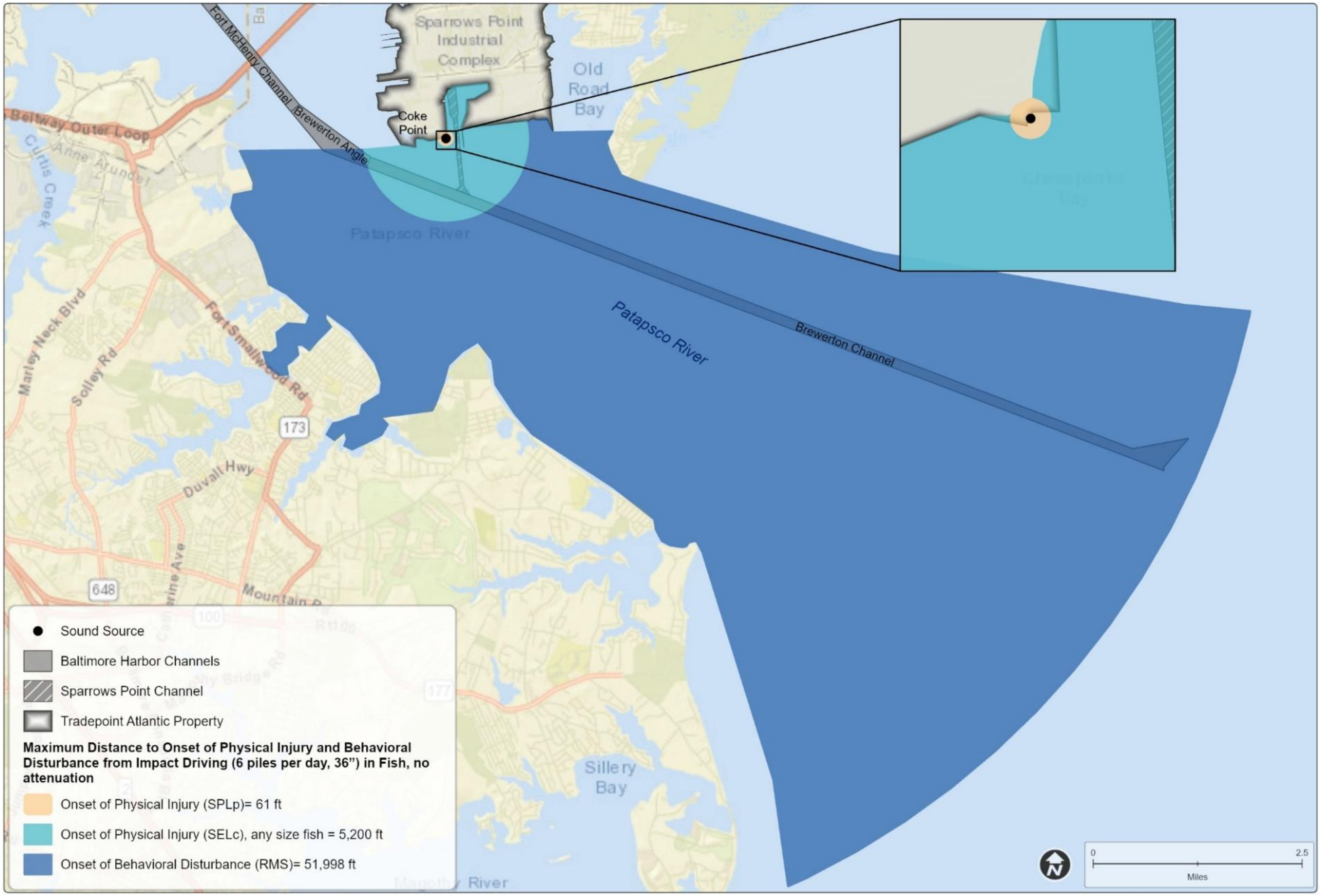


Figure 10. Maximum Distance to Noise Impacts on Fish from Vibratory Hammer without Attenuation – Wharf Construction at Upper Shoreline of Turning Basin

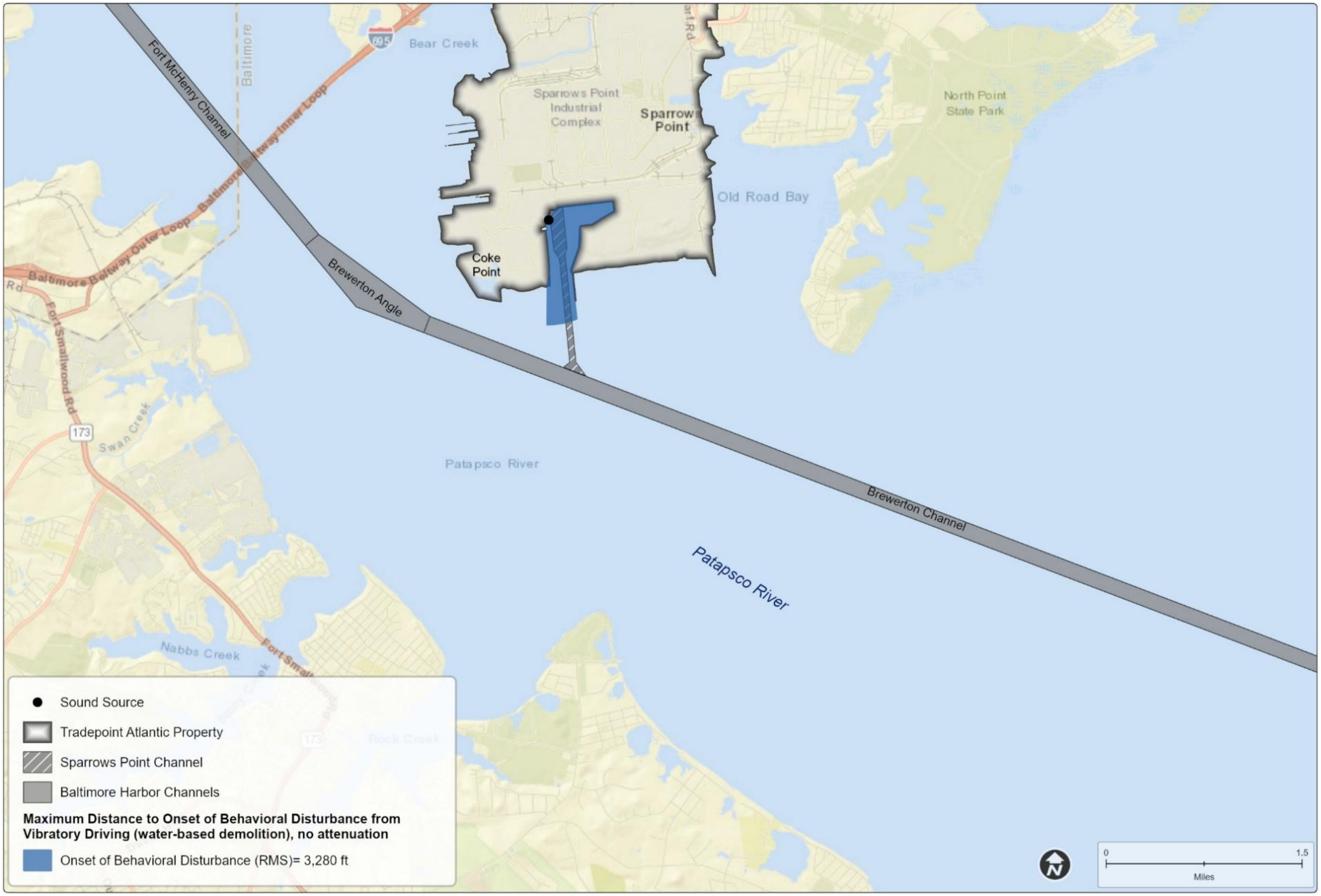


Figure 11. Maximum Distance to Noise Impacts on Fish from Vibratory Hammer without Attenuation – Wharf Construction Middle Shoreline of Turning Basin

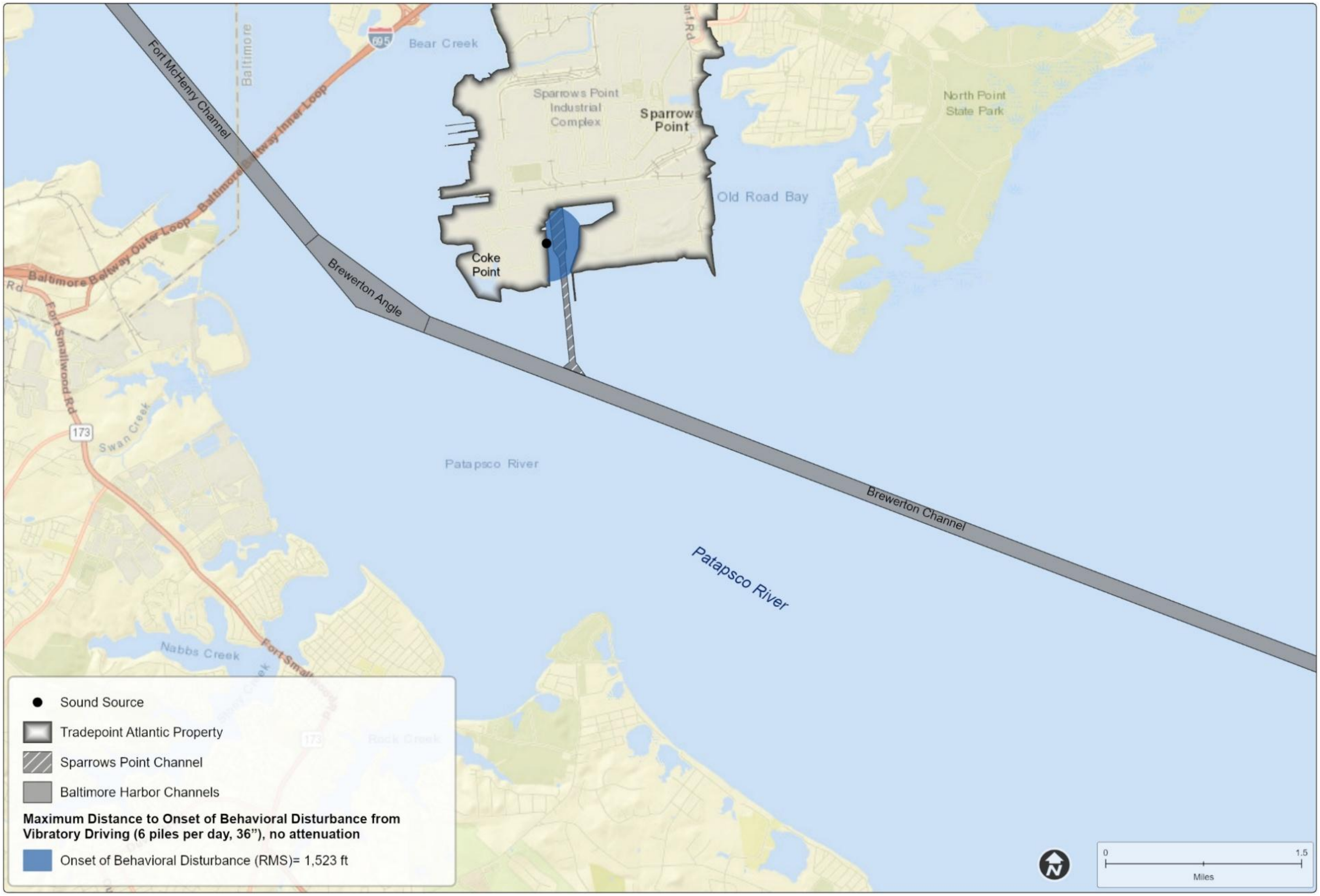
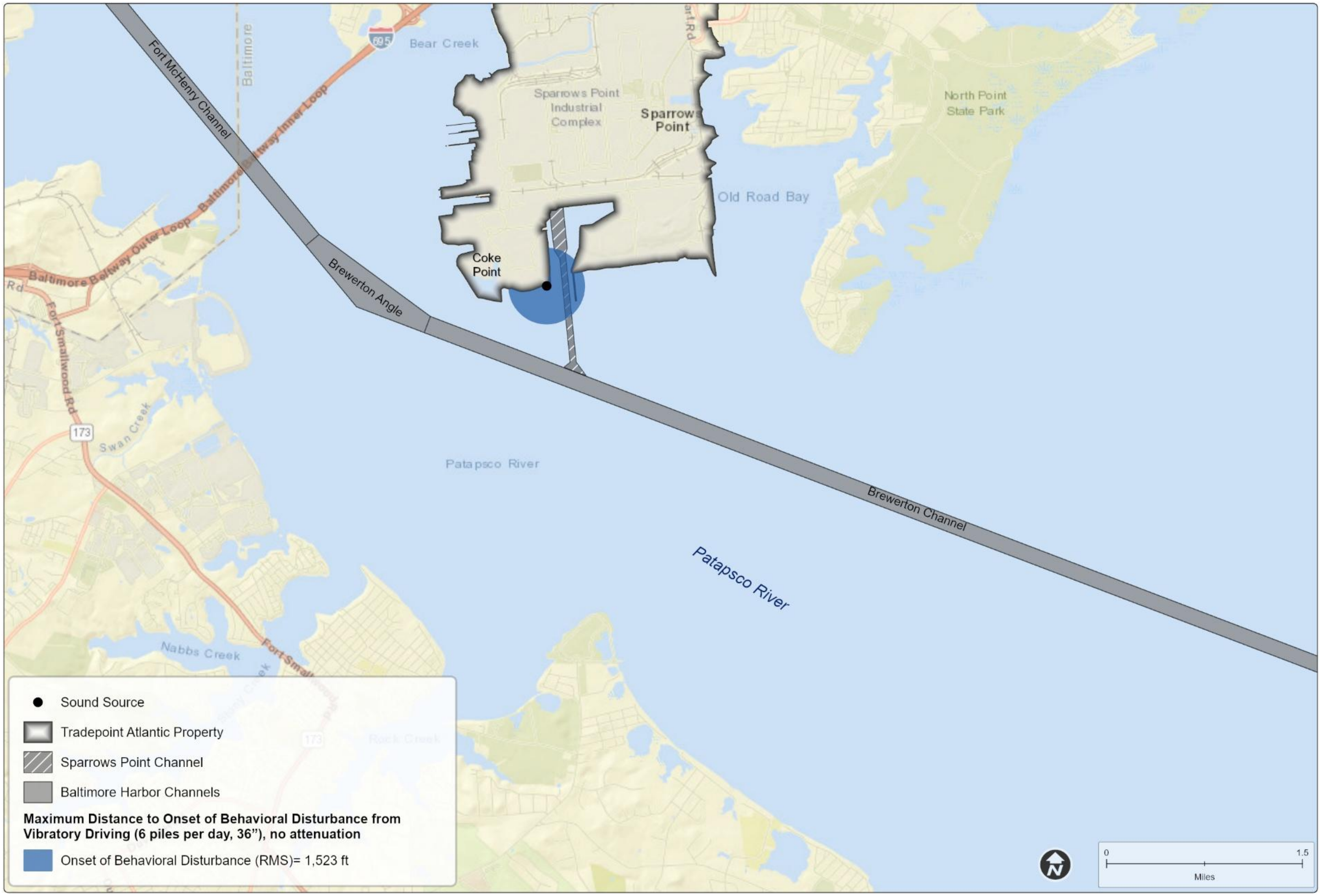


Figure 12. Maximum Distance to Noise Impacts on Fish from Vibratory Hammer without Attenuation – Wharf Construction at Southern Point



Summary of Noise Impacts

For fish, the largest noise-producing activity results in a maximum noise impact distance that spans the width of the Patapsco River in the SPCT area. TTT would coordinate with NMFS on use of sound attenuation measures to reduce sound impacts to aquatic resources and to maintain a zone of safe fish passage in the Patapsco River, if determined necessary by additional underwater noise modeling and monitoring. Best management practices (BMPs) during pile driving, as discussed in Section 6, would be implemented as necessary to minimize impacts on fish. When implemented, these would either reduce the size of the area impacted by underwater noise or reduce the duration of impact on the river. Underwater noise monitoring would be performed during pile driving, and BMPs would be used as necessary to attain sufficient attenuation in the impact area (as coordinated with NMFS).

5.2 Water Column Turbidity

Turbidity is measured in the field in NTU. Water with higher turbidity will often have higher concentrations of total suspended solids (TSS), which can be measured in samples sent to a laboratory. Although there are natural contributors to turbidity within a water body (e.g., storm events, plankton blooms), construction activities such as dredging can increase turbidity. Turbidity from dredging, wharf construction, and installation of the temporary outfall and diffuser has the potential to impact ESA species.

5.2.1 Turbidity from Dredging, Wharf Construction (Pile Driving), and Temporary Diffuser Placement

NMFS has estimated TSS concentrations associated with certain in-water activities, including mechanical dredging of fine-grained material, based on numerous studies in the greater Atlantic region. Based on these studies, elevated suspended sediment concentrations at several hundreds of mg / L above background may be present near the bucket but would settle rapidly within a 2,400-foot radius of the dredge location. Based on the extremely low currents within the embayment, the turbidity radius is expected to be significantly less within the embayment. The 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 mg / L; see summary of scientific literature in Burton 1993; Wilber and Clarke 2001). Turbid conditions during dredging can be controlled to minimize impacts on fish by using BMPs and completing activities during times of year when certain species are less active within the project area.

For pile driving, NMFS has estimated TSS concentrations associated with the disruption of bottom sediments from this activity based on a study performed in the Hudson River. Elevated TSS concentrations of approximately 5.0 to 10.0 mg / L above background levels were produced within approximately 300 feet (91 meters) of the pile being driven (Federal Highway Administration 2012).

Based on the data from the studies noted above, the maximum expected distance for movement of resuspended sediment from the dredging and pile driving operations would affect a portion of the total width of the Patapsco River (2,400 feet [0.4 mile] or 17.1 % of the total 14,000 feet [2.6 miles] of available river width). The expected distance of movement of resuspended sediment is less than half the distance to the end of the southern shore of the Sparrows Point peninsula in either direction. Any resuspended sediment would remain well within the industrial shoreline of the TPA property. The resuspension of sediment from the installation of the temporary outfall and diffuser is expected to be short-term and minimal, and appropriate BMPs would be implemented during the pipeline placement and removal.

5.2.1.1 Eggs and Larvae

Eggs and larvae of Atlantic sturgeon and shortnose sturgeon would not be present in the Patapsco River, as this is not a spawning river for either species. Habitat conditions do not support this life stage. Therefore, turbidity from the Preferred Alternative would have no effect on sturgeon eggs or larval stages.

5.2.1.2 Juveniles and Adults

Impacts from suspended sediments due to dredging on juveniles and adults would likely be short-term and temporary, as individuals would be able to move away from the dredging areas. It is possible that transient migrating and foraging individuals may be present for either sturgeon species, although documentation as far north in the Chesapeake Bay as SPCT is infrequent. Studies have shown that sturgeon may alter their normal movements due to suspended sediments, but juvenile and adult sturgeon are anticipated to swim through sediment plumes to avoid the area (NMFS 2023d).

Time-of-year restrictions on dredging would also reduce impacts on adult and juvenile sturgeon individuals if they are present in the project dredging area. Dredging BMPs, such as use of an environmental bucket, could also be implemented to minimize impacts related to resuspended sediment. Based on sediment plume studies in similar environments, it is anticipated that the maximum movement of any resuspended sediment from the dredging operations would temporarily reduce the quality of foraging habitat in a portion of the Patapsco River. Sufficient areas of similar pelagic or demersal habitat are present for use by juvenile and adult individuals outside of and adjacent to the direct dredging area. There is also similar available habitat outside of the project work area within the river, covering about 4 miles (or 22,000 feet) from the former Key Bridge eastward to Rock Point.

5.2.2 Biological Assessment Determination – Turbidity

Turbidity resulting from dredging, pile driving, and installation of the temporary outfall and diffuser has the potential to temporarily reduce the quality of foraging habitat for transient sturgeon using the SPCT area, with the largest impacts occurring to juvenile life stages of sturgeon. The turbidity would be temporary in nature during construction activities, and BMPs would also be used to minimize impacts.

5.3 Contaminant Exposure

Elevated concentrations of contaminants in sediments, such as heavy metals and other man-made organic chemicals, can adversely affect benthic communities that serve as a food source for fish and ESA prey species. Direct exposure to elevated concentrations of some constituents in sediments may cause mortality or physiological effects to individual benthic organisms or may accumulate in benthic organism tissue and move through the food chain to higher-trophic-level organisms, such as fish. In addition to direct exposure to benthic organisms, contaminants can sorb to sediment particles that may be resuspended into the water column by in-water construction and dredging activities.

Results of the channel sediment characterization indicated that concentrations of several metals, multiple PAHs, and dioxins/furans exceeded effect range-median values and / or PEL values and total petroleum hydrocarbons, and oil and grease were present in dredging units in the pile installation area and north channel dredging area (EA 2025a). In the south channel dredging area, exceedances of effect range-median and PEL values were infrequent for both metals and individual PAHs (EA 2025a).

With respect to the potential for release of dissolved chemical constituents from the sediments during pile installation, dredging, and dike construction, recent and historical site-specific dredged material studies using elutriate testing have shown that the majority of contaminants would be bound to particulates and not readily released in dissolved form (EA 2010b, 2025a, 2025b). Results of modified elutriate testing for the north channel sediments indicated that many of the detected constituents were associated with particulates; ammonia, free cyanide, and arsenic (one sample) were the only constituents that exceeded State of Maryland acute water quality criterion in the dissolved fraction in the 100% elutriate samples. The modified elutriate data conservatively predict the potential for release of dissolved constituents to the water column during in-water activities. Resuspension and movement of particulates in the water column during pile installation, dredging, and exterior dike construction would be controlled, where appropriate, using BMPs specified in Section 6 (e.g., use of an environmental-type bucket, turbidity curtains). Results of the sediment sampling for the purposes of waste characterization indicate the sediment is non-hazardous and would be suitable for management at the combined suite of options proposed. Overall, adverse impacts from dissolved contaminants in surface waters from dredging and other in-water construction activities would be expected to be minimal, temporary, localized, and controlled. In-water activities would be conducted in accordance with all applicable permit conditions to protect surface waters.

5.3.1 Eggs and Larvae

Eggs and larvae of Atlantic sturgeon and shortnose sturgeon would not be present in the Action Area where dredging, pile installation, dike construction, and dredged material placement would occur; therefore, no effects would occur.

5.3.2 Juveniles and Adults

Because the majority of contaminants would to sorbed to particulates, the exposure for juvenile and adult Atlantic sturgeon and shortnose sturgeon to contaminants would primarily be linked to the exposure to turbidity or linked to ingestion of benthic organisms that contain contaminants. Long-term or sustained exposure durations would be expected to be required for contaminants to cause physiological effects (if any) or bioaccumulation to Atlantic sturgeon and shortnose sturgeon. The mobile life stages of Atlantic sturgeon (juvenile, subadult, and adult) and shortnose sturgeon (adult), potentially present in the area, would be able to move away from the construction area to avoid the turbidity impacts. It is unlikely that impacts on Atlantic and shortnose sturgeon would rise above minor and short-term from the minor changes to the water column. In addition, the short-term resuspension of contaminants sorbed to sediment particles would not be expected to result in uptake by prey species consumed by juvenile and adult Atlantic and shortnose sturgeon.

5.3.3 Biological Assessment Determination – Contaminants

Exposure to contaminants resulting from dredging, pile driving, and installation of the temporary outfall and diffuser has the potential to temporarily reduce the quality of foraging habitat for transient sturgeon using the SPCT area. However, due to the localized and temporary exposure duration to contaminants (if any) and the use of BMPs during in-water construction activities, exposure to contaminants (through resuspended total or dissolved concentrations) from the Preferred Alternative would be insignificant (too small to be meaningfully measured or detected) to impact Atlantic and shortnose sturgeon.

5.4 Habitat/Bottom Alteration

5.4.1 Habitat Alteration from Dredging and Wharf Construction

Removal of the river bottom sediments from dredging to deepen and widen the channel would create deeper water habitat, which is more prone to or subject to low dissolved oxygen conditions in the summer months within and adjacent to the existing Sparrows Point Channel. Wharf construction would also cause shading of some existing open water habitat. The river bottom in the Action Area is a soft-bottom environment, comprised mainly of silt and clay and deeper sand in the north portion of the channel; no SAV is present.

5.4.1.1 Eggs and Larvae

Eggs and larvae of Atlantic sturgeon and shortnose sturgeon would not be present in the Patapsco River, as this is not a spawning river for either species. Habitat conditions do not support this life stage. Therefore, habitat alteration from the Preferred Alternative would have no effect on sturgeon eggs or larval stages.

5.4.1.2 Juveniles and Adults

The removal of bottom sediment resulting from channel dredging would impact any juveniles and adult sturgeon that would be directly utilizing sediment bottom for foraging in the dredging footprint. Dredging would result in a loss of the benthic community currently within the area, reducing foraging opportunities for sturgeon species. With deepening of the channel, the potential for water column stratification would increase, resulting in lower dissolved oxygen concentrations in deep bottom water, particularly in the summer months. This could also affect fish usage of bottom waters, as they would avoid waters that do not contain enough oxygen. This would also reduce potential prey sources for sturgeon and special status species that consume benthic organisms.

Additionally, dredging the channel to attain the preferred alignment for the wharf would include removal of existing shoreline. Excavation for the wharf and associated revetment extending beyond the edge of the wharf would remove historical fill and convert 5.3 acres of upland to open water. Dredging for the wharf and placement of associated revetment extending beyond the edge of the wharf would impact 4.7 acres of existing tidal open water. The total proposed and existing tidal open water impacts from the wharf and the revetment that extends beneath the wharf and to the outer toe beyond the edge of the wharf would be approximately 10.0 acres. Of this acreage, the approximate area of tidal open water that would be shaded by the wharf is 8.6 acres. The shading of the wharf (and the placement of revetment) would result in aquatic habitat that may be less capable of supporting a diverse benthic community.

Shading of these areas would impact benthic and water column productivity. Installation of the mooring dolphin and wharf pilings would result in the permanent loss of 0.2 acre of bottom habitat. These habitat changes would cause localized impacts on benthic organisms and prey, thus impacting any foraging sturgeon in the project area.

5.4.2 Biological Assessment Determination – Habitat Alteration

Habitat alteration resulting from wharf construction would have insignificant impacts on ESA species. Habitat alteration in the dredging area due to the widening and deepening of the channel would reduce the quality of bottom habitat. Bottom habitat in the new channel footprint would be expected to be subject to seasonal hypoxia, inhibiting re-establishment of benthic communities, which serve as a food source for ESA species. Summer benthic community data and water quality measurements from within the existing channel indicate that this area is impaired and is not expected to support foraging ESA species. As such, habitat alteration from the Preferred Alternative would be insignificant (too small to be meaningfully measured or detected).

5.5 Impingement/Entrainment

ESA species (Atlantic and shortnose sturgeon) could potentially be caught by the equipment used to mechanically dredge the SPCT channel and to hydraulically offload the material to a DMCF. Juvenile and adult fish can potentially become impinged or entrained (depending upon size and life stage) in the clamshell dredge bucket, although this is expected to be infrequent. Capture by clamshell dredge bucket is uncommon and would only impact fish that spend most of their time on the seafloor and unable to move away from the operation; any adult or juvenile sturgeon may feed on benthic organisms but would also be utilizing other water column areas and likely be able to avoid the bucket. When surface water is pumped to slurry dredged material for hydraulic offloading, fish may become caught on the pipe screen (depending upon the size of the fish and the size of the openings of any fish screen that may be used on the pipe) or be pulled into the pipe past the screen. Eggs and larvae would be the life stages most susceptible to entrainment in the hydraulic pipe; however, these life stages would not be present in the dredging area. In addition, dredging and intake of water for hydraulic offloading operations would comply with designated agency time-of-year restrictions for sensitive aquatic life stages (including eggs and larvae).

5.5.1 Biological Assessment Determination- Impingement/Entrainment

Impingement or entrainment of ESA species from SPCT operations is possible; however, given the size and life stages of sturgeon that could be present in the project area, it is unlikely that individuals would be subject to impingement or entrainment. This impact is not expected to be able to be meaningfully measured or detected and would be alleviated by complying with time-of-year restrictions for dredging/offloading operations, impingement or entrainment from the Preferred Alternative, and as such, the impact on ESA-listed species would be insignificant.

5.6 Vessel Traffic

The SPCT project area is located within the Port, which is in the top 20 ports in the United States by tonnage and number of vessels handled annually (US Department of Transportation [USDOT] 2024), including a variety of ship types (e.g., bulk carriers, general cargo ships, tankers, container ships). More than 2,500 vessels called on the Port in 2021 (USDOT 2024). According to the Waterborne Commerce Statistics Center, in 2019, Baltimore was the 15th largest US container port in terms of twenty-foot equivalent unit throughput. Container cargo comes to the Port from Europe, Asia, South America, and the Mediterranean. The Port of Baltimore typically has over 100 vessel arrivals and departures per day and had approximately 3,000 inbound and 3,000 outbound commerce-carrying vessel trips in 2021 (Corps

2021). Other vessels also use the area, including recreational vessels, commercial charter boats, tug boats, and Coast Guard vessels.

Container vessels would reach the SPCT by traveling one of two routes along the Chesapeake Bay navigational channel system. Smaller vessels would be able to travel through the Chesapeake and Delaware Canal, which links the Delaware River with the northern end of the Chesapeake Bay. The majority of vessels (the larger container vessels) that would call at SPCT would arrive from the south using naturally deep water and federally maintained navigation channels, which extend 150 nautical miles from the mouth of the Chesapeake Bay northward to the Port of Baltimore.

Vessel traffic is analyzed as a potential stressor to ESA species during both construction and long-term operation of SPCT. Vessel traffic would occur during construction within the Patapsco River and would include vessels required to support dredging and transport of material to the NODS or the MPA DMCFs. Larger construction-related vessels, such as crane barges and dredging vessels/barges, would be expected to mobilize to the construction area at the beginning of the project, remain onsite for several years, and demobilize at the completion of the in-water work. Tugs and barges transporting construction equipment and materials would be expected to make more frequent trips (e.g., weekly) from their locations of origin to the project site, while smaller support vessels carrying supplies and crew may travel to the SPCT more frequently. During long-term operation, it is expected that the vessels using SPCT would result in approximately 150 new container vessels calling on the Port each year.

5.6.1 Construction Vessel Traffic

5.6.1.1 Sturgeon

The proposed project would result in minor and temporary increases in vessel traffic as the vessels transit around the project site and to and from the project site to the NODS or existing MPA DMCFs. In the immediate project area, there would be a small increase in vessel activity, likely not more than 10 vessels operating at any one time, which would not significantly increase vessel usage of the area. Impacts to sturgeon resulting from increased vessel traffic can include bottom disturbance from mooring or propeller wake. Additionally, collision with vessels could be a source of anthropogenic mortality and injury for aquatic species as a result of being struck by boat hulls or propellers (Brown and Murphy 2010). The vessels that would be used to transport sediment from the dredging area to the offloading area include tugs and barges, and the vessels that would be used to transport material to the NODS include tugboats and bottom dump scow barges. The vessels would likely travel at speeds of no more than 10 knots to minimize the risk of strikes along the transport routes. During dredging, there would be minor and temporary bottom disturbances from the dredging vessels removing sediment.

5.6.1.2 Sea Turtles

While vessel strikes with sea turtles are possible, strikes are a rare cause of injury or mortality. The minimal increase in vessels during SPCT construction would not be expected to increase the risk of strikes with sea turtles. Vessel strikes remain a relatively rare cause of mortality to sea turtles, and an increase in vessel traffic in the Action Area would not necessarily translate into an increase in vessel strike events. Most collisions with sea turtles are found to be from recreational boat traffic, as these are often traveling at higher speeds in waterways (National Research Council 1990) and the speed of the vessel (Hazel et al. 2007; Work 2010). Sea turtles are thought to be able to avoid injury from slower-moving vessels because they may be able to maneuver and avoid the vessel (Work 2010 as cited in NMFS 2023b).

During transport of the material from SPCT to the NODS, there would be a slightly higher risk of vessel traffic impacts to sea turtles. The type of vessel traffic impact is expected to be similar to those already present in these trafficked routes.

Overall, the addition of project vessels during construction would be intermittent, temporary, and restricted to the project area on any given day, so that any increased effects from vessels to ESA species would be discountable.

5.6.2 Long-term Operations Vessel Traffic

Once constructed, operation of the SPCT would increase vessel traffic by approximately 500 vessels per year, an increase of approximately 20% over the Port calls logged in 2021 (USDOT 2024). Sturgeon would be expected to move away from the areas of the activity, or access to foraging or migrating areas would not be impacted. Adding these project vessels to the existing baseline is not likely to increase the risk that any vessel in the area would affect ESA species on a yearly basis.

Long-term vessel traffic increase around the SPCT area is unlikely to impact sea turtles or sturgeon. Sea turtle presence would be expected along the transit route from SPCT to the NODS in the lower Chesapeake Bay and Atlantic Ocean, which would be temporary during the project dredging activities. For any sturgeon in the SPCT area (or along the material transit route), for a strike to occur, the sturgeon would need to be in the same space in the water column as the vessel hull or propeller. Given that water depths in the Patapsco River and within the material transit routes in the Chesapeake Bay and Atlantic Ocean, and that sturgeon typically occur near the bottom of the river / ocean, the potential for co-occurrence of a sturgeon and vessel hull or propeller resulting in a strike is extremely low. The areas to be transited by the project vessels are free flowing with no obstructions; therefore, even in the event that a sturgeon was up in the water column such that it could be vulnerable to strike, there is ample room for a sturgeon to swim deeper to avoid a vessel or to swim away from it which further reduces the potential for strike. The potential vessel transits represent a significant increase in traffic to Sparrows Point and the Port of Baltimore during the construction period. However, the dispersed nature of sturgeon in the upper Chesapeake Bay, the lack of known sturgeon use of the Patapsco River, the absence of spawning populations in the upper Bay, and the geography of the upper Bay (which does not restrict sturgeon distribution in the way that narrow or constricted river reaches may), reduce many of the factors that are considered to increase risk of vessel strike of sturgeon. Based on these factors, effects on sturgeon from project vessels operating at Sparrows Point / Port of Baltimore or in the upper Chesapeake Bay are extremely unlikely to occur and are discountable.

Vessel risk strikes in the lower Chesapeake Bay from the additional vessels transiting to SPCT during long-term operations are expected to be very low, although strikes are more likely to occur in the lower Chesapeake Bay than in the immediate SPCT area. It should be noted that sturgeon are not present in the lower Bay area year-round and thus would only potentially be impacted part of the year. Kahn et al. (2023) report that both spawning and non-spawning Atlantic sturgeon regularly use the Chesapeake Bay (the Bay itself, not tributary rivers) starting as the water begins to warm in the spring and ending as it cools in the fall. Shortnose sturgeon are even rarer in the lower Chesapeake Bay, and there are no recently reported vessel strikes in this general portion of the Action Area. Given the expected number of vessel transits, the low expected frequency of co- occurrence when Atlantic sturgeon are present in the lower

Bay area (500 total additional vessels spread throughout the calendar year), it is expected the number of strikes would be small and therefore the impact of long-term vessel traffic on sturgeon would be insignificant (too small to be meaningfully measured or detected).

5.6.3 Biological Assessment Determination – Vessel Traffic

Because the SPCT is in a heavily utilized area of the Port, the long-term operation increase in vessels by approximately 150 new container vessels per year would not reasonably have more impact on sturgeon than the existing conditions, impacts from vessel traffic from the Preferred Alternative would be discountable.

6 Avoidance and Minimization

Multiple avoidance and minimization measures were considered for the Preferred Alternative to reduce overall impacts on the aquatic environment. Those that apply to ESA species and would be implemented during in-water work as appropriate are briefly described in Table 10, with some additional detail provided below. Details regarding these measures are considered potential measures that would be finalized following completion of the project design and construction sequencing. Use of these measures would be stipulated as permit conditions by regulatory agencies.

Table 8. List of Potential Avoidance and Minimization Measures to Reduce Impacts on ESA Species

Potential Avoidance/Minimization Measure	Potential Benefit to ESA Species
Use a “soft start” method for impact hammer during pile driving.	Creates a warning for mobile ESA species to move away from the project area.
Use a cushion block and/or bubble curtain during impact driving of piles.	Reduces the intensity and distance for underwater noise propagation.
Limit the daily window for pile driving activities to 10 to 12 hours or less of daytime operations.	Reduces duration of noise impacts on ESA species.
Use a vibratory hammer (if/where feasible), followed by use of an impact hammer for individual piles.	Reduces the duration of the underwater noise created by impact hammer.
Operate construction vessels in adequate water depths. Use shallow draft vessels that maximize the navigational clearance between the vessel and the bottom in shallow areas.	Avoids propeller scour or grounding in ESA species habitat.
For pile removal activities, cut the existing pile(s) at the mudline (where possible) to avoid sediment resuspension during extraction.	Reduces turbidity impacts on ESA species.
Surround the area of demolition, pile removal, and (as applicable) other bottom-disturbing construction activities with a full-height, weighted turbidity curtain in areas where sediment contaminants may be present at concentrations of concern.	Minimizes potential for sediments to be resuspended and leave the immediate vicinity and impact ESA species.
Use an environmental-type bucket where feasible and where necessary based on sediment chemical data to minimize sediment release from the bucket while ascending through the water column.	Reduces water column turbidity impacts on ESA species.

Potential Avoidance/Minimization Measure	Potential Benefit to ESA Species
Implement operational controls during dredging. These may include: 1. Perform dredging such that the dredge bucket is not overfilled on each deployment, reducing release of sediment. 2. Control the ascent of the bucket in the water column to minimize incidental release while moving through the water column. 3. Control the descent of the bucket to minimize hard contact with the bottom and resuspension of sediment upon bucket contact. 4. Prohibit dragging of the dredge bucket along the sediment surface.	Reduces water column turbidity impacts on ESA species.
Place dredged material in a watertight barge or scow in a manner that maintains sufficient freeboard to eliminate the potential for material leaving/spilling from the barge during transport to the material offloading or placement area.	Reduces water column turbidity impacts on ESA species.

7 Determination of the Biological Assessment

Because of the nature and magnitude of the impacts considered holistically, the Corps has determined that the stressors of the Preferred Alternative may affect but are not likely to adversely affect ESA species. This determination is made largely from the fact that although the project would result in permanent habitat alteration (from channel deepening), the ESA species potentially present in the project area would be transient and are unlikely to use those areas given the more suitable habitat in the adjacent main river channel and any impacts would be insignificant to these populations. Additionally, the underwater noise impacts presented in this Biological Assessment would be verified by monitoring during construction, and mitigation measures (noise attenuation measures) would be implemented as necessary based on continued consultation with NMFS. As discussed in Section 6, significant effort was put forth in determining the least environmentally impactful dredged material placement option that still achieved project goals. Additionally, the channel dredging footprint was modified during the project design to minimize the footprint to the maximum extent while still providing safe passage for navigation, and the construction of a DMCF in tidal waters was removed as a dredged material placement alternative to eliminate in-water impacts.

8 References

Anderson, J.J. 1990. *Assessment of the Risk of Pile Driving to Juvenile Fish*. Fisheries Research Institute, University of Washington. Presented to the Deep Foundations Institute, 10–12 October.

Atlantic Sturgeon Status Review Team (ASSRT). 2007. *Status Review of Atlantic Sturgeon (Acipenser oxyrinchus oxyrinchus).* Report to National Marine Fisheries Service, Northeast Regional Office. 174 pp. 23 February.

Balazik, M. 2017. First verified occurrence of the shortnose Sturgeon in the James River, Virginia. *Fishery Bulletin* 115:196-200. February.

Balazik, M.T. and Musick J.A. 2015. Dual annual spawning races in Atlantic Sturgeon. *PLoS ONE* 10(5): e0128234.

Blackenship, K. 2021. "Shortnose sturgeon found in Potomac." Bay Journal. Accessed September 2024. https://www.bayjournal.com/news/fisheries/shortnose-sturgeon-found-in-potomac/article_b23d386d-a4a6-5f61-bd42-f970e29909dc.html.

Boicourt, W.C. and P. Olson. 1982. *A Hydrodynamic Study of the Baltimore Harbor System.* Tech. Rep. 82-10. Chesapeake Bay Institute, The Johns Hopkins University, Maryland.

Brown, J.J. and G.W. Murphy. 2010. Atlantic Sturgeon vessel-strike mortalities in the Delaware Estuary. *Fisheries* 35(2):72–83.

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.

California Department of Transportation (Caltrans). 2015. *Technical Guidance for Assessment and Mitigation of the Hydroacoustics Effects of Pile Driving on Fish* (pp. 532). Sacramento, CA.

California Department of Transportation (Caltrans). 2020. *Technical Guidance for the Assessment of Hydroacoustic Effects of Pile Driving on Fish*. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/hydroacoustic-manual-a11y.pdf. October.

Casper, B.M., M.E. Smith, M.B. Halvorsen, H. Sun, T.J. Carlson, and A.N. Popper. 2013. Effects of exposure to pile driving sounds on fish inner ear tissues. *Comp. Biochem. Physiol., Part A: Mol. Integr. Physiol.* 166:2, 352–360.

Chesapeake Bay Program (CBP). 2020. *Five Species that Provide a Vital Link in the Chesapeake Bay food web. Watershed Science*. 22 May.

Chesapeake Bay Program (CBP). 2024a. "Shortnose Sturgeon." Accessed November 2024. https://www.chesapeakebay.net/discover/field-guide/entry/shortnose-Sturgeon.

Chesapeake Bay Program (CBP). 2024b. "Kemp's Ridley Sea Turtle." Accessed February 2024. https://www.chesapeakebay.net/discover/field-guide/entry/kemps-ridley-sea-turtle.

Dadswell, M. J. 2006. A review of the status of Atlantic Sturgeon in Canada, with comparisons to populations in the United States and Europe. *Fisheries* 31(5): 218-229.

Dadswell, M.J. 1979. Biology and population characteristics of the shortnose Sturgeon, Acipenser brevirostrum LeSueur 1818 (Osteichthyes*: Acipenseridae*), in the Saint John River estuary, New Brunswick, Canada. *Canadian Journal of Zoology*, 57(11), pp.2186-2210.

EA Engineering, Science, and Technology, Inc. (EA). 2003. *Reconnaissance Study of Sparrows Point as a Containment Site for Placement of Harbor Dredged Material: Environmental Conditions.* Prepared for Maryland Port Administration. December.

EA Engineering, Science, and Technology, Inc. (EA). 2009. *Site Assessment for the Proposed Coke Point Dredged Material Containment Facility at Sparrows Point.* Prepared for Maryland Port Administration. November.

EA Engineering, Science, and Technology, Inc. (EA). 2010a. *Coke Point Dredged Material Containment Facility: Pre-Pilot Study Sediment Characterization, Baltimore County, Maryland.* Prepared for Maryland Port Administration. Under Contract to Maryland Environmental Service. May.

EA Engineering, Science, and Technology, Inc. (EA). 2010b. *Proposed Coke Point Dredged Material Containment Facility at Sparrows Point, Baltimore, Maryland: Additional Offshore Delineation. Draft Report.* Prepared for Maryland Port Administration. Under Contract to Maryland Environmental Service. 10 August.

EA Engineering, Science, and Technology, Inc. (EA). 2011. *Risk Assessment of Offshore Areas Adjacent to the Proposed Coke Point Dredged Material Containment Facility at Sparrows Point.* Prepared for Maryland Port Administration. May.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024a. *Evaluation of Dredged Material for Ocean Placement. Sparrows Point Container Terminal, South and Mid-Channel, Patapsco River, Baltimore County, Maryland.* Final Report. September.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024b. *Aquatic Resource Surveys Seasonal Report – Summer 2023, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland.* Prepared for Moffatt & Nichol. March.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024c. *Aquatic Resource Surveys Seasonal Report – Fall 2023, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. March.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024d. *Aquatic Resource Surveys Seasonal Report – Winter 2024, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. April.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024e. *Aquatic Resource Surveys Seasonal Report – Spring 2024, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. July.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2024f. *Spring and Summer Submerged Aquatic Vegetation Survey Report, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Moffatt & Nichol. June.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2025a. *Evaluation of Dredged Material for Upland Placement, Proposed Sparrows Point Container Terminal, Sparrows Point Channel, Patapsco River, Baltimore County, Maryland.* Final Report. Prepared for Tradepoint Atlantic & Terminal Investment Limited, LLC. June.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2025b. *Sediment Quality Evaluation – Coal Pier Channel Dike Alignment, Sparrows Point Container Terminal, Patapsco River, Baltimore County, Maryland*. Prepared for Tradepoint Atlantic and Terminal Investment Limited, LLC. Technical Memorandum. June.

Erickson D.L., Kahnle A., Millard M.J., Mora E.A. (2011) Use of pop-up satellite archival tags to identify oceanic-migratory patterns for adult Atlantic Sturgeon, Acipenser oxyrinchus oxyrinchus Mitchell, 1815. J Appl Ichthyol 27: 356−365

Evans, J., A. Norden, F. Cresswell, K. Insley, and S. Knowles. 1997. Sea Turtle Strandings in Maryland, 1991 through 1995. The Maryland Naturalist 41(1-2): 23-34.

Federal Highway Administration. 2012. *Tappan Zee Hudson River Crossing Project*. Final Environmental Impact Statement. August.

Feist, B.E., J.J. Anderson, and R. Miyamoto. 1992. *Potential Impacts of Pile Driving on Juvenile Pink (Oncorhynchus gorbuscha) and Chum (O. keta) Salmon Behavior And Distribution.* Master's thesis, University of Washington.

Fisheries Hydroacoustic Working Group (FHWG). 2008. *Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities*. June.

Funk, W.H. 2020. "If you see a sea turtle in the Chesapeake, consider yourself very lucky." Bay Journal. April. Accessed February 2024. https://www.bayjournal.com/archives/if-you-see-a-sea-turtle-in-the-chesapeake-consider-yourself-very-lucky/article_9656a622-73cb-5228-a7e7-07751a4dc049.html.

Garland, C.F. 1952. *A Study of Water Quality in Baltimore Harbor.* Publication No. 96, Chesapeake Biological Laboratory, Department of Research and Education, Solomons Island, Maryland.

Hastings, R. W., J. C. O'Herron, K. Schick, and M. A. Lazzari. 1987. Occurrence and distribution of shortnose Sturgeon, Acipenser brevirostrum, in the upper tidal Delaware River. *Estuaries* 10(4): 337-341.

Hatch, L.T. and A.J. Wright. 2007. A brief review of anthropogenic sound in the oceans. *International Journal of Comparative Psychology* 20 (2).

Hazel, J., Lawler, I.R., Marsh, H., and S. Robson. 2007. Vessel speed increases collision of the green sea turtle Chelonia mydas. Endangered Species Research. Vol. 3: 105-113.

Hilton, E.J., Kynard B., Balazik M.T., Horodysky A.Z., and Dillman C. B. .2016. Review of the biology, fisheries, and conservation status of the Atlantic Sturgeon, (Acipenser oxyrinchus oxyrinchus Mitchill, 1815). *Journal of Applied Ichthyology*, 32(1), 30-66

Horne, A.N. and Stence, C.P. 2016. *Assessment of Critical Habitats for Recovering the Chesapeake Bay Atlantic Sturgeon Distinct Population Segment. NOAA Species Recovery Grants to States (Section 6 Program).* Grant Number: NA13NMF4720042. 71 pp.

Kahn, J., Hager, C., Breault, D.K., and C. Watterson. 2023. Arrival and departure windows of Atlantic Sturgeon in Chesapeake Bay in Virgina. *NOAA Fishery Bulletin* 121(4): 161-171. November.

Kieffer, M.C., and B. Kynard. 1993. Annual movements of shortnose and Atlantic Sturgeons in the Merrimack River, Massachusetts. *Transactions of the American Fisheries Society* 122:1088-1103.

Kozera, Inc. 2023. *Test Boring Logs (CB-1 through CB-9), TPA Sparrows Point Container Terminal, Patapsco River, Sparrows Point, Baltimore, Maryland.*

Kynard, B. 1997. Life history, latitudinal patterns, and status of the shortnose Sturgeon, Acipenser brevirostrum. *Environmental Biology of Fishes*, 48, 319-334.

Kynard, B. and M. Horgan. 2002. Ontogenetic behavior and migration of Atlantic Sturgeon, *Acipenser oxyrinchus oxyrinchus*, and shortnose Sturgeon, *A. brevirostrum*, with notes on social behavior. *Environmental Biology of Fishes* 63(2): 137-150.

Lippson, A.J. and R.L. Lippson. 1994. *Life in the Chesapeake Bay.* The Johns Hopkins University Press, Baltimore, Maryland.

Litwiler, T. and K. Insley. 2014. DNR Fisheries Service Feature Story. Sea Turtle Pound Net Tagging and Health Assessment Study in Maryland's Chesapeake Bay. https://dnr.maryland.gov/fisheries/documents/sttaggingstudy.pdf

Maryland Department of Natural Resources (MDNR). 2016. *Loggerhead Sea Turtle Fact Sheet*. Accessed February 2024. https://dnr.maryland.gov/fisheries/Documents/Loggerhead_Turtle.pdf.

Maryland Department of Natural Resources (MDNR). 2024a. "Field Guide to Maryland's Turtles (Order Testudines), Green Sea Turtle (*Chelonia mydas*)." Accessed July 2024. https://dnr.maryland.gov/wildlife/Pages/plants_wildlife/herps/Testudines.aspx?TurtlesName=Green%20Sea%20Turtle%20%20%28Chelonia%20mydas%E2%80%8B%E2%80%8B%29.

Maryland Department of Natural Resources (MDNR). 2024b. "Field Guide to Maryland's Turtles (Order Testudines), Leatherback Sea Turtle (*Dermochelys coriacea*)." Accessed July 2024. https://dnr.maryland.gov/wildlife/Pages/plants_wildlife/herps/Testudines.aspx?TurtlesName=Leatherback%20Sea%20Turtle%20%28Dermochelys%20coriacea%E2%80%8B%E2%80%8B%29.

Maryland Department of Natural Resources (MDNR). 2024c. "Field Guide to Maryland's Turtles (Order Testudines), Loggerhead Sea Turtle (*Caretta caretta*)." Accessed July 2024. https://dnr.maryland.gov/wildlife/Pages/plants_wildlife/herps/Testudines.aspx?TurtlesName=Loggerhead%20Sea%20Turtle%20%20%28Caretta%20caretta%E2%80%8B%E2%80%8B%29.

Matuschek, R. and K. Betke. 2009. Measurements of Construction Noise During Pile Driving of Offshore Research Platforms and Wind Farms. *Proc. NAG/DAGA Int. Conference on Acoustics*. January.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 1998. *Final Recovery Plan for the Shortnose Sturgeon (Acipenser brevirostrum).*

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2017. *Designation of critical habitat for the Gulf of Maine, New York Bight, and Chesapeake Bay Distinct Population Segments of Atlantic Sturgeon: ESA Section 4(b)(2) impact analysis and biological source document with the economic analysis and final regulatory flexibility analysis.* June.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2018. *ESA Recovery Outline – Gulf of Maine, New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPS of Atlantic Sturgeon.* NOAA Fisheries Protected Resources. 1 March.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2019. *Atlantic Sturgeon Life Stages and Behavior Descriptions.* https://media.fisheries.noaa.gov/dam-migration/ans_life_stage_behavior_descriptions_20191029_508.pdf. Accessed November 2024.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022a. "ESA Section 7 Mapper." Accessed May 2024. https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=a85c0313b68b44e0927b51928271422a.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022a. "Understanding Sound in the Ocean." https://www.fisheries.noaa.gov/insight/understanding-sound-ocean. Accessed May 2024.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022b. *National Marine Fisheries Service Endangered Species Act Biological Opinion: USACE Permit for the Edgemoor Container Port (NAP-2019-278-23), GARFO-2022-03516*. 30 March 2022. Greater Atlantic Regional Fisheries Office. https://repository.library.noaa.gov/view/noaa/41694.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2022c. *National Marine Fisheries Service Endangered Species Act Biological Opinion: USACE Permit for the Edgemoor Container Port (NAP-2019-278-23), GARFO-2022-03516*. 30 March 2022. Greater Atlantic Regional Fisheries Office. https://repository.library.noaa.gov/view/noaa/41694.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2023a. "Atlantic Sturgeon." Accessed February 2024. https://www.fisheries.noaa.gov/species/atlantic-Sturgeon.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2023b. "Section 7 Species Presence Table: Sea Turtles in the Greater Atlantic Region." Accessed July 2024. https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-presence-table-sea-turtles-greater.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2023c. *Biological Opinion for Governor Harry W. Nice/Senator Thomas "Mac" Middleton Bridge (Nice-Middleton Bridge) Replacement Project.* GARFO-2023-01066. October.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2023d. "Section 7 Effects Analysis: Turbidity in the Greater Atlantic Region." Accessed July 2024. https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-effects-analysis-turbidity-greater-atlantic-region.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024a. "Chesapeake Bay: Healthy Fisheries." https://www.fisheries.noaa.gov/topic/chesapeake-bay/overview. Accessed March 2024.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024b. *Initial Consultation Letter for Technical Assistance on the Sparrows Point Container Terminal Project.* Greater Atlantic Regional Fisheries Office.

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). 2024c. *Multi-Species Pile Driving Calculator Tool.* https://www.fisheries.noaa.gov/resource/data/multi-species-pile-driving-calculator-tool. Accessed May 2024.

National Oceanic and Atmospheric Administration National Marine Fisheries Service and US Fish and Wildlife Service (NMFS and USFWS 2008). 1991. *Recovery plan for U.S. population of Atlantic green turtle (Chelonia mydas).*

National Oceanic and Atmospheric Administration National Marine Fisheries Service and US Fish and Wildlife Service (NMFS and USFWS 2008). 1992. *Recovery plan for Leatherback Turtles in the US Caribbean, Atlantic and Gulf of Mexico.*

National Oceanic and Atmospheric Administration National Marine Fisheries Service and US Fish and Wildlife Service (NMFS and USFWS 2008). 2008. *Recovery plan for the northwest Atlantic population of the Loggerhead sea turtle (caretta caretta).* Second Revision.

National Research Council. 1990. *Decline of the Sea Turtles: Causes and Prevention*. Washington, DC: The National Academies Press. https://doi.org/10.17226/1536.

Popper, A.N. and Hawkins, A.D. 2019. An overview of fish bioacoustics and the impacts of anthropogenic sounds on fishes. *J. Fish Biol.* 94: 692–713.

Popper, A.N., Plachta, D.T.T., Mann, D.A., Higgs, D. 2004. Response of clupeid fish to ultrasound: a review. *ICES J. Mar. Sci.* 61(7):1057–1061.

Savoy, T. 2007. Prey eaten by Atlantic Sturgeon in Connecticut waters. In Munro, J., Hatin, D., Hightower, J.E., McKown, K.A., Sulak, K.J., Kahnle, A.W. and Caron, F. (Eds.), Anadromous Sturgeons: Habitats, Threats, and Management. *American Fisheries Society Symposium* 56: 157-165. American Fisheries Society, Bethesda, Maryland.

Secor, D.H. 2002. Atlantic Sturgeon Fisheries and Stock Abundances During the Late Nineteenth Century. *American Fisheries Society Symposium*, 28:89-98

Shortnose Sturgeon Status Review Team (SSSRT). 2010. *Biological Assessment of Shortnose Sturgeon, Acipenser brevirostrum.* Report to the NMFS, Northeast Regional Office. November. 417 pp.

Stanley, J. A., Caiger, P.E., Phelan, B., Shelledy, K., Mooney, A. and S.M Van Parjis. 2020. Ontogenetic variation in the auditory sensitivity of black sea bass (Centropristis striata) and the implications of anthropogenic sound on behavior and communication. Journal of Experimental Biology, 223.

University of Rhode Island. 2017. *Discovery of Sound in the Sea: Pile Driving*. https://dosits.org/animals/effects-of-sound/anthropogenic-sources/pile-driving/. Accessed May 2024.

US Army Corps of Engineers (Corps). 2021. Waterborne Commerce Statistics Center. Vessel Entrances and Clearances. 2021.US Department of Transportation (USDOT). 2024a. *Bureau of Transportation Statistics: Information about the Port of Baltimore*. https://www.bts.gov/current-transportation-statistics/information-about-port-baltimore. Accessed May 2024.

US Department of Transportation (USDOT). 2024. "Port Performance Freight Statistics Program Port Profiles 2024, Baltimore, MD." Accessed October 2024. https://explore.dot.gov/views/PortProfiles2024/ProfileDashboard?%3Aembed=y&%3AisGuestRedirectFromVizportal=y&Port_ID=700.

US Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration National Marine Fisheries Service, Secretariat of Environment & Natural Resources Mexico, National Commission of Natural Protected Areas Mexico, and Federal Attorney of Environmental Protection Mexico. 2011. *Bi-national recovery plan for the Kemp's ridley turtle (Lepidochelys kempii).* Second Revision.

Versar, Inc. 2017. *Long-Term Benthic Monitoring and Assessment Component Level 1 Comprehensive Report. Chesapeake Bay Water Quality Monitoring Program, July 1984 to December 2016.* Vol 1. December.

Virginia Institute of Marine Science. 2009. "Atlantic Sturgeon." Accessed November 2024. https://www.vims.edu/research/facilities/fishcollection/_archive/highlights/atlantic_Sturgeon.php.

Washington State Department of Transportation (WSDOT). 2020. *Biological Assessment Preparation Manual.* Construction Noise Impact Assessment. Accessed May 2024. https://wsdot.wa.gov/sites/default/files/2022-11/BA-Manual-Chapter7.pdf.

Wilber, D.H. and D.G. Clarke. 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.

Work, P.A., Sapp, A., Scott, D.W., and M.G. Dodd. 2010. Influence of small vessel operation and propulsion system on loggerhead sea turtle injuries. Journal of Experimental Marine Biology and Ecology. Vol. 393, 168-175.

Zastrow, C.E., E.D. Houde, and L.G. Morin. 1991. Spawning, fecundity, hatch-date frequency and young-of-the-year growth of bay anchovy *Anchoa mitchilli* in mid-Chesapeake Bay. *Marine Ecology: Progress Series*. 73:161–171.

Attachment A: Updated Design Plans for Dredging and Wharf Construction

Note: Some materials in this appendix are not fully Section 508 compliant.

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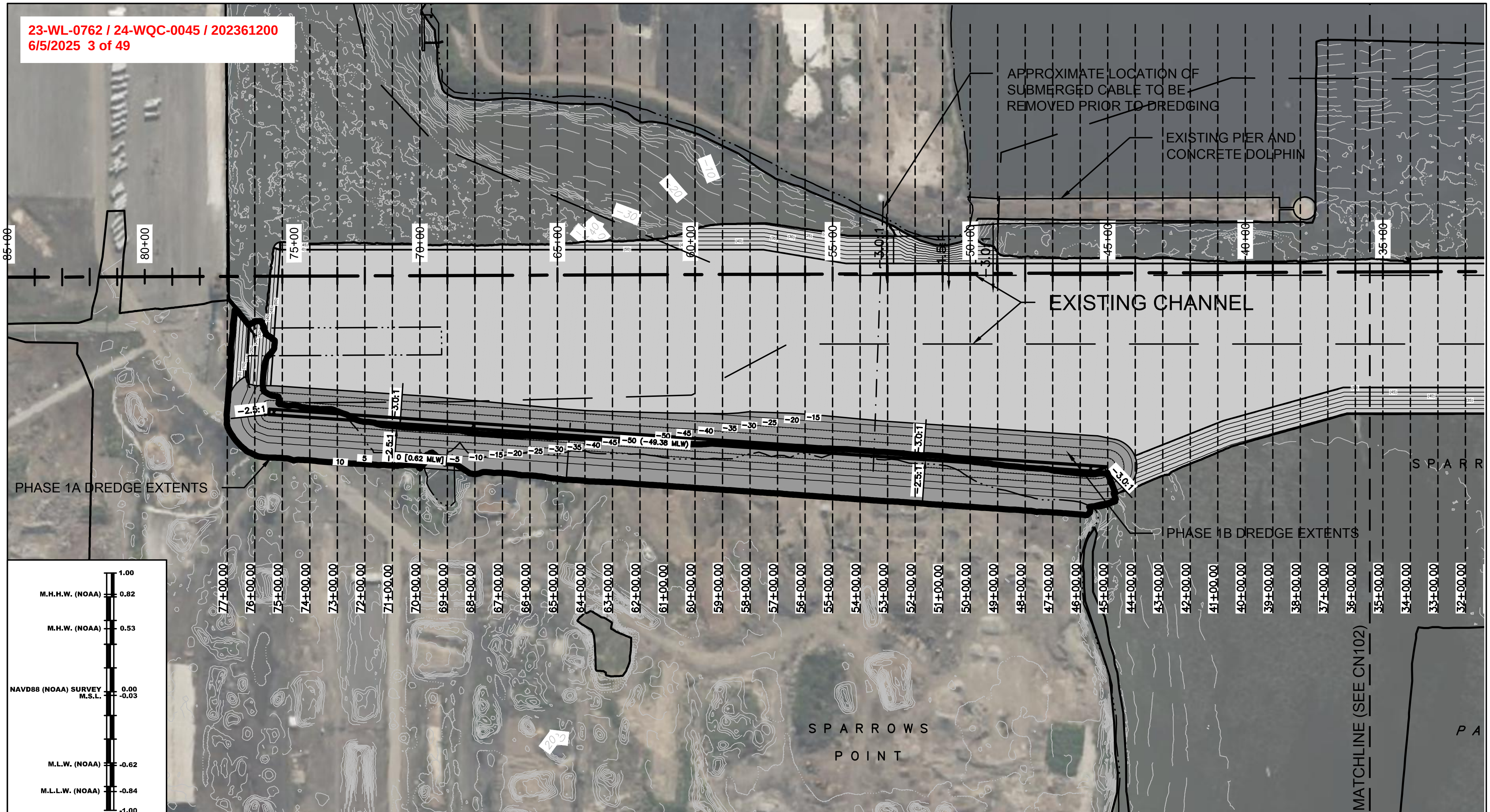
Dredging Plans



LEGEND:

PHASE 1A EXCAVATION AREA, AREA TO BE DUG FROM LAND TO −30 NAVD88 (−29.38 MLW) DEPTH, WITH SIDE SLOPES AS SHOWN

PHASE 1B DREDGING AREA, AREA TO BE DREDGED TO −50.84 NAVD88 (−50.22 MLW) DEPTH WITH SIDE SLOPES AS SHOWN FOLLOWING COMPLETION OF PHASE 1A

PHASE 2 DREDGING AREA, AREA TO BE DREDGED TO −50.84 NAVD88 (−50.22 MLW), DEPTH WITH SIDE SLOPES AS SHOWN.

—(40)— DESIGN DEPTH CONTOURS NAVD88 (MLW IN PARENTHESES)

—(34)— EXISTING DEPTH CONTOURS NAVD88 (MLW IN PARENTHESES)

NOTES:

1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.
2. STATION NUMBERS MEASURED FROM START POINT AT BASELINE WORKING POINT BWP-01. SECTIONS SHOWING THE DREDGE AREA FROM STATION 6+00 TO 76+00 ARE SHOWN ON DRAWINGS CN301 TO CN314.
3. THE DREDGE AREA CONSISTS OF THREE PHASES WITH THE PHASE 1A AREA TO BE CONDUCTED FIRST. AREAS TO BE DUG FROM LAND ARE DESIGNATED AS PHASE 1A AND IS TO BE CONDUCTED BEFORE WATER BASED DREDGING OF PHASE 1B. CONSTRUCTION OF PILES AND THE WHARF WILL COMMENCE FOLLOWING THE COMPLETION OF PHASE 1A. PHASE 2 WILL BE CONDUCTED FOLLOWING PHASE 1B TO COMPLETE DREDGING OF THE REMAINDER OF THE PROPOSED CHANNEL.

0 250 500 750 1000

1"=500'-0" SCALE IN FEET

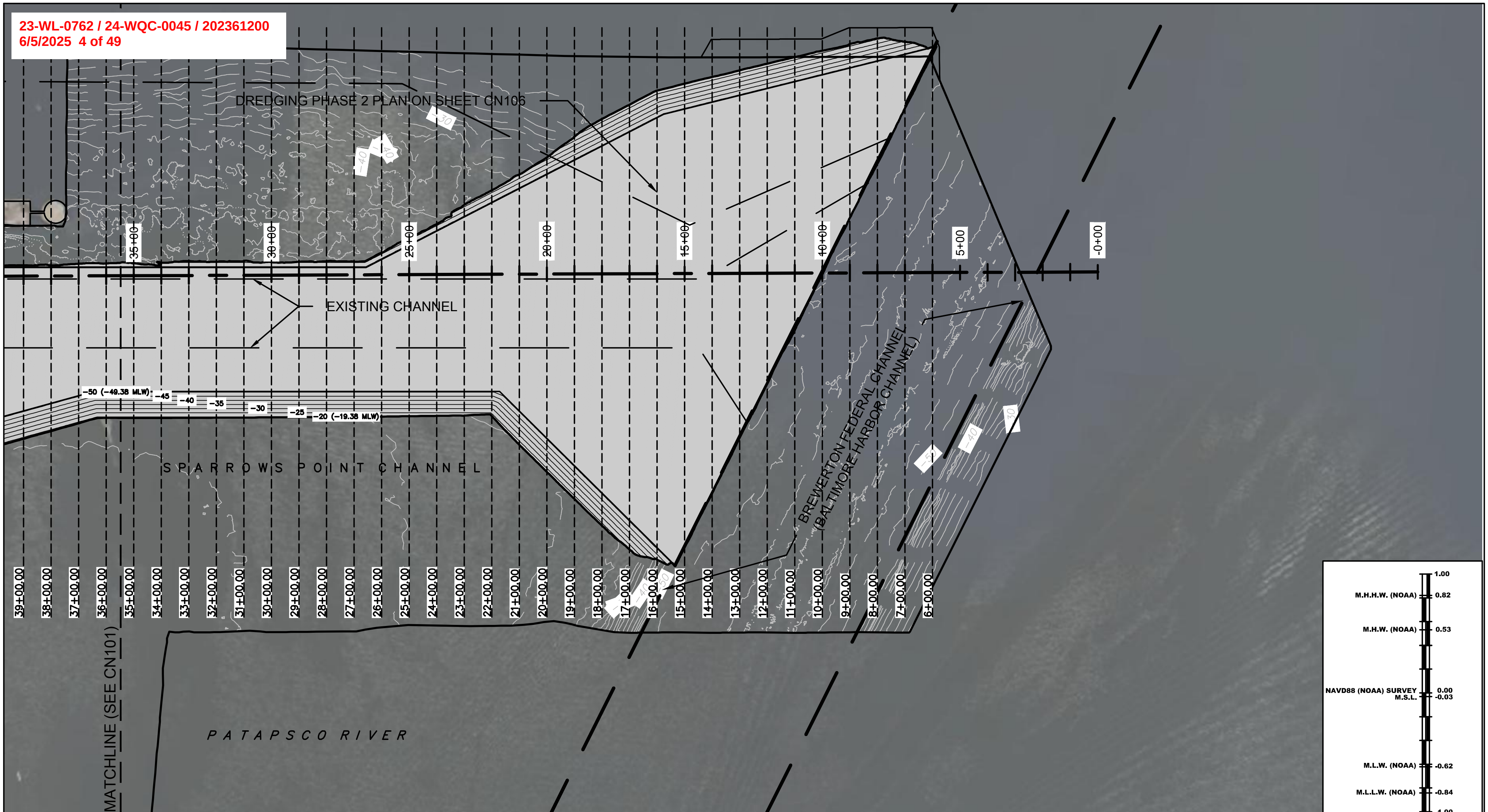
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING GENERAL ARRANGEMENT (SHEET 1 OF 2)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN101

SHEET SIZE: A



LEGEND:

- PHASE 1A EXCAVATION AREA, AREA TO BE DUG FROM LAND TO −30 NAVD88 (−29.38 MLW) DEPTH, WITH SIDE SLOPES AS SHOWN
- PHASE 1B DREDGING AREA, AREA TO BE DREDGED TO −50.84 NAVD88 (−50.22 MLW) DEPTH WITH SIDE SLOPES AS SHOWN FOLLOWING COMPLETION OF PHASE 1A
- PHASE 2 DREDGING AREA, AREA TO BE DREDGED TO −50.84 NAVD88 (−50.22 MLW), DEPTH WITH SIDE SLOPES AS SHOWN.
- —(40)— DESIGN DEPTH CONTOURS NAVD88 (MLW IN PARENTHESES)
- —(34)— EXISTING DEPTH CONTOURS NAVD88 (MLW IN PARENTHESES)

NOTES:

1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.
2. STATION NUMBERS MEASURED FROM START POINT AT BASELINE WORKING POINT BWP−01. SECTIONS SHOWING THE DREDGE AREA FROM STATION 6+00 TO 76+00 ARE SHOWN ON DRAWINGS CN301 TO CN314.
3. THE DREDGE AREA CONSISTS OF THREE PHASES WITH THE PHASE 1A AREA TO BE CONDUCTED FIRST. AREAS TO BE DUG FROM LAND ARE DESIGNATED AS PHASE 1A AND IS TO BE CONDUCTED BEFORE WATER BASED DREDGING OF PHASE 1B. CONSTRUCTION OF PILES AND THE WHARF WILL COMMENCE FOLLOWING THE COMPLETION OF PHASE 1A. PHASE 2 WILL BE CONDUCTED FOLLOWING PHASE 1B TO COMPLETE DREDGING OF THE REMAINDER OF THE PROPOSED CHANNEL.

0 250 500 750 1000

1"=500'-0" SCALE IN FEET

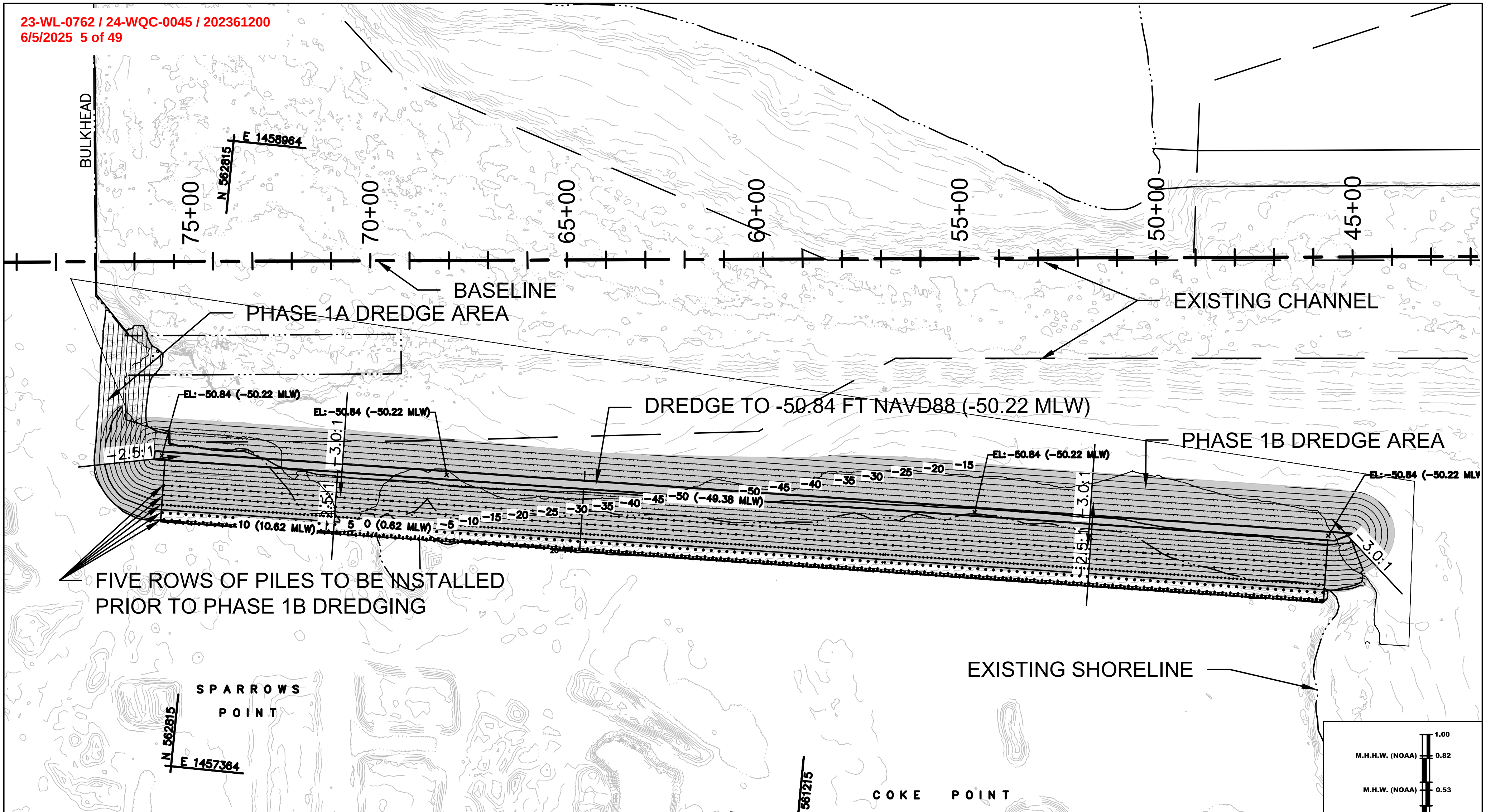
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING GENERAL ARRANGEMENT (SHEET 2 OF 2)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN102

SHEET SIZE: A



LEGEND:

PHASE 1A EXCAVATION AREA, AREA TO BE DUG FROM LAND TO -30 NAVD88 (-29.38 MLW) DEPTH, WITH SIDE SLOPES AS SHOWN

PHASE 1B DREDGING AREA, AREA TO BE DREDGED TO -50.84 NAVD88 (-50.22 MLW) DEPTH WITH SIDE SLOPES AS SHOWN FOLLOWING COMPLETION OF PHASE 1A

(40) DESIGN DEPTH CONTOURS NAVD88

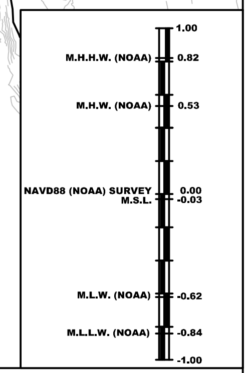
(34) EXISTING DEPTH CONTOURS NAVD88

NOTES:

1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.
2. PHASE 1 WILL BE CONDUCTED IN TWO SECTIONS, WITH AREAS TO BE DUG FROM LAND DESIGNATED AS PHASE 1A AND IS TO BE CONDUCTED BEFORE WATER BASED DREDGING OF PHASE 1B. CONSTRUCTION OF PILES AND THE WHARF WILL COMMENCE FOLLOWING THE COMPLETION OF PHASE 1A. PHASE 2 WILL BE CONDUCTED FOLLOWING PHASE 1B TO COMPLETE DREDGING OF THE REMAINDER OF THE PROPOSED CHANNEL.
3. THE FIVE WESTERNMOST ROWS OF PILES ARE TO BE INSTALLED FOLLOWING PHASE 1A AND BEFORE THE START OF PHASE 1B DREDGING.

0 175 350 525 700

1"=350'-0" SCALE IN FEET



HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

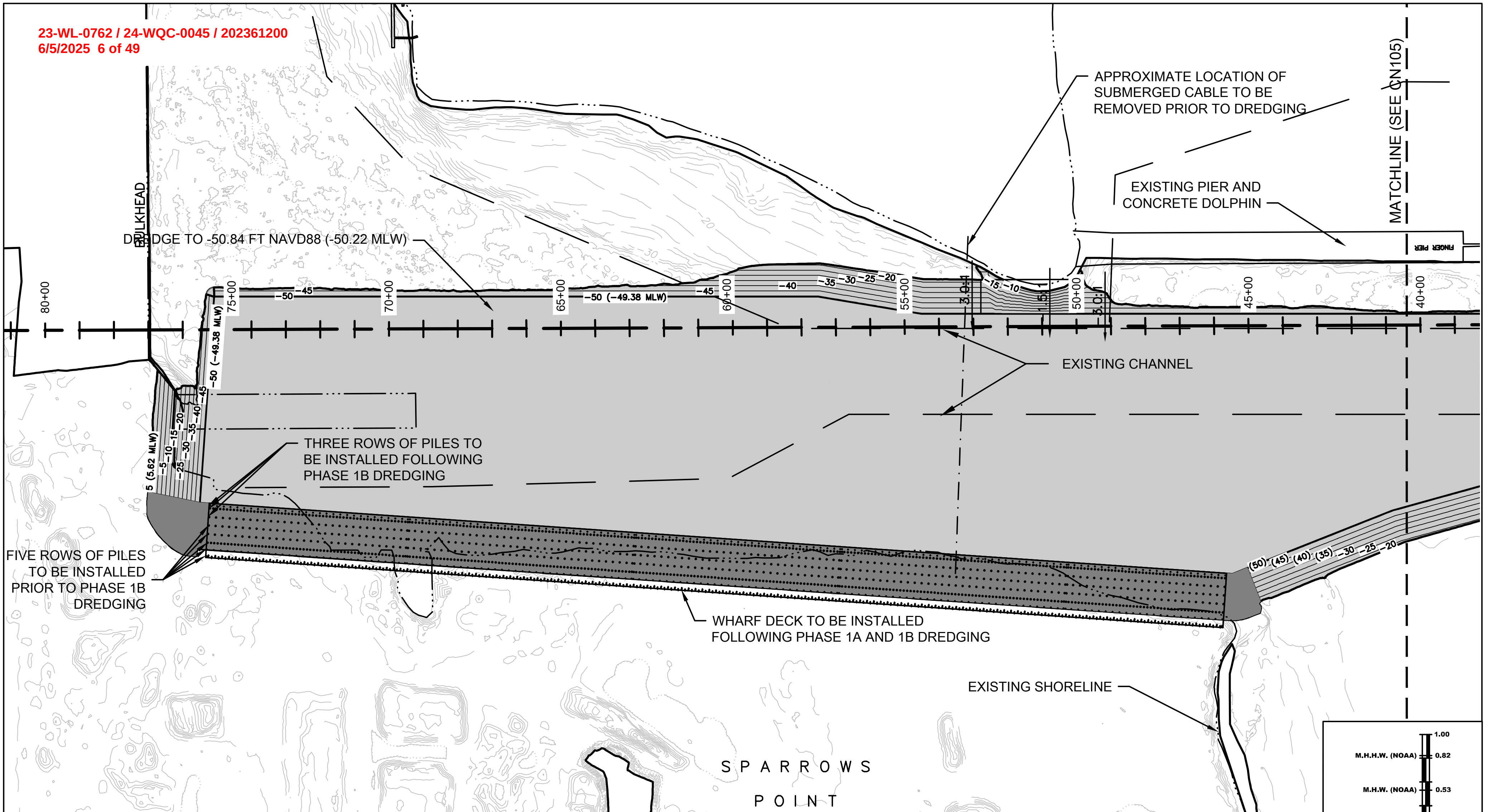
SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING PHASE 1

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN103

SHEET SIZE: A

23-WL-0762 / 24-WQC-0045 / 202361200
6/5/2025 6 of 49



LEGEND:

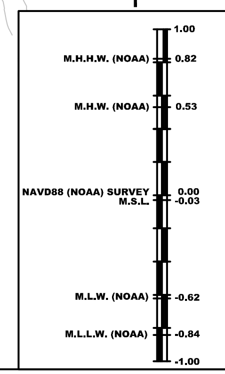
- PHASE 1 DREDGING AREA, AREA TO BE DREDGED TO −50.84 NAVD88 (−50.22 MLW), DEPTH WITH SIDE SLOPES AS SHOWN.
- PHASE 2 DREDGING AREA, AREA TO BE DREDGED TO −50.84 NAVD88 (−50.22 MLW), DEPTH WITH SIDE SLOPES AS SHOWN.
- (40) DESIGN DEPTH CONTOURS NAVD88
- (34) EXISTING DEPTH CONTOURS NAVD88

NOTES:

1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.
2. THE FIVE WESTERNMOST ROWS OF PILES ALONG WHARF TO BE INSTALLED FOLLOWING PHASE 1A DREDGING AND PRIOR TO PHASE 1B DREDGING.
3. PHASE 1 DREDGE AREA CONSISTS OF PHASE 1A AND PHASE 1B AS INDICATED ON SHEET CN103.

0 200 400 600 800

1"=400'-0" SCALE IN FEET



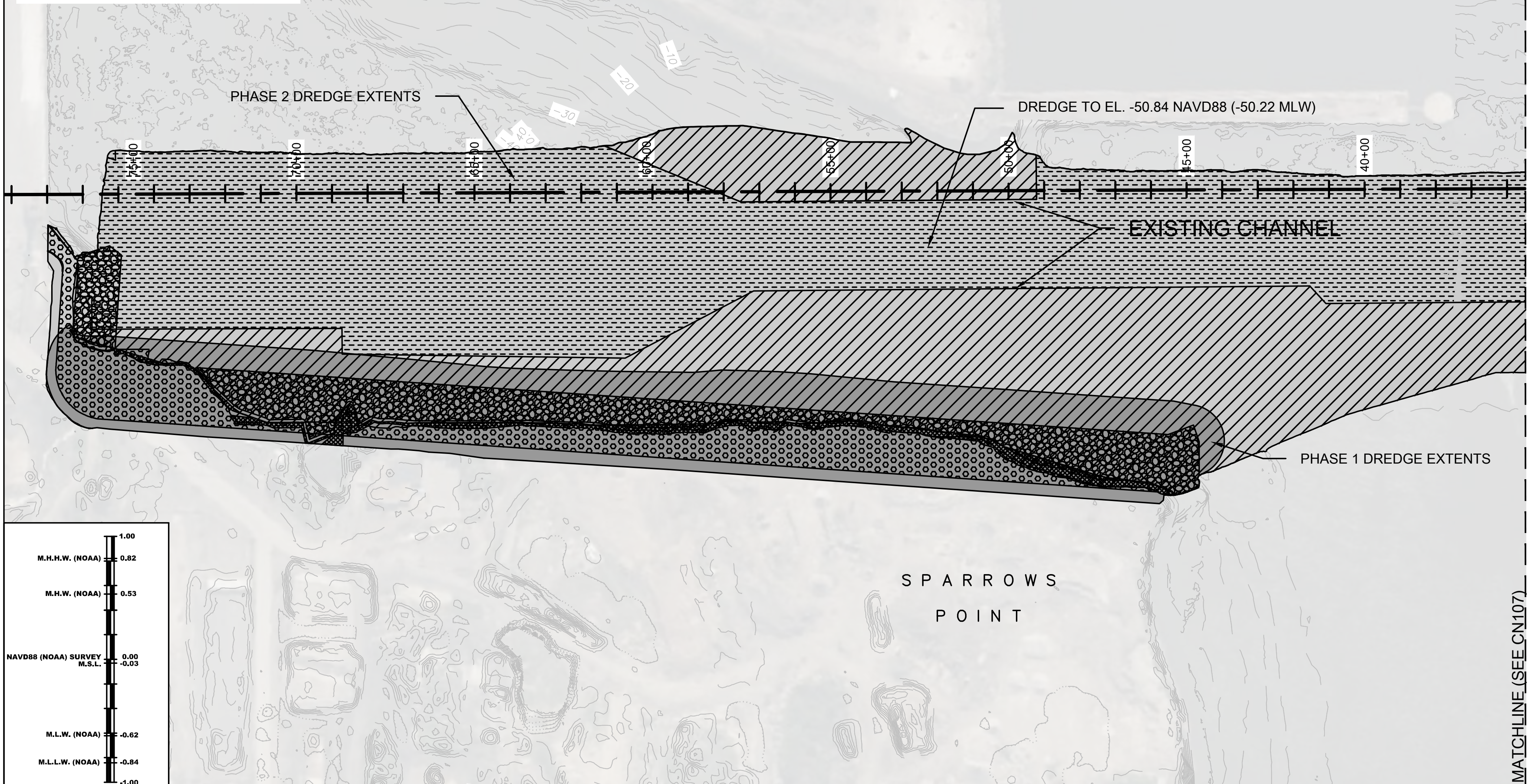
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING PHASE 2 (SHEET 1 OF 2)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN104

SHEET SIZE: A



LEGEND:

- PHASE 1 DREDGING AREA
- PHASE 2 DREDGING AREA
- AREA PREVIOUSLY DREDGED AS MAINTENANCE DREDGING
- (34) EXISTING DEPTH CONTOURS NAVD88

IMPACTS:

- DREDGING AREAS NOT PREVIOUSLY DREDGED AS MAINTENANCE DREDGING
- DREDGING AREA BETWEEN 0.0' AND 3.0' MLW
- REVETMENT STONE PLACED GREATER THAN 10' CHANNELWARD OF THE EXISTING MHWL
- OPEN WATER CREATED THROUGH EXCAVATION

0 200 400 600 800

1"=400'-0" SCALE IN FEET

NOTES:
1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

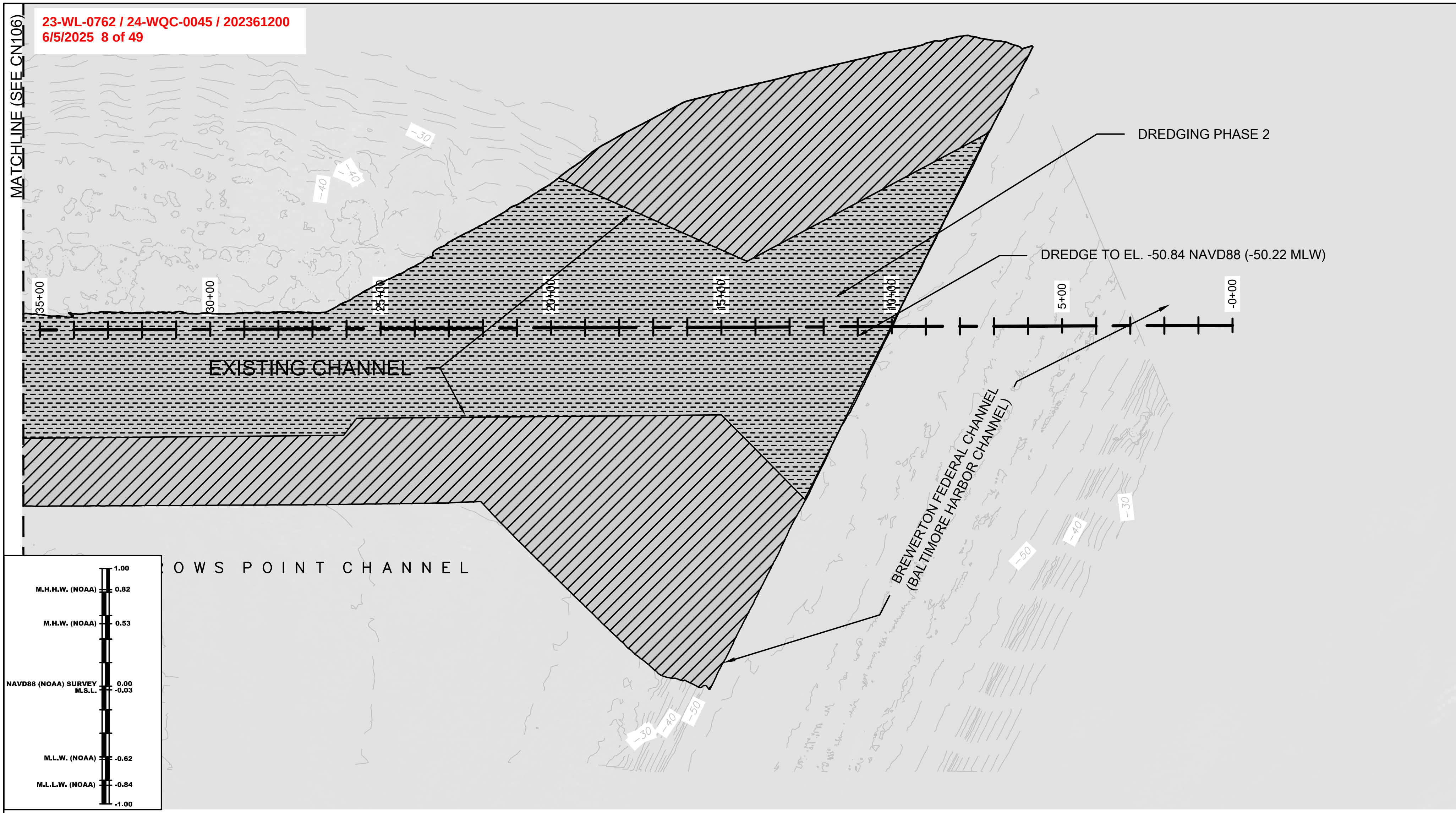
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT
CONTAINER TERMINAL

PLAN - DREDGING IMPACTS
(SHEET 1 OF 2)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN106

SHEET SIZE: A



LEGEND:

- PHASE 1 DREDGING AREA
- PHASE 2 DREDGING AREA
- AREA PREVIOUSLY DREDGED AS MAINTENANCE DREDGING
- (34) EXISTING DEPTH CONTOURS NAVD88

IMPACTS:

- DREDGING AREAS NOT PREVIOUSLY DREDGED AS MAINTENANCE DREDGING

0 200 400 600 800

1"=400'-0" SCALE IN FEET

NOTES:

1. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

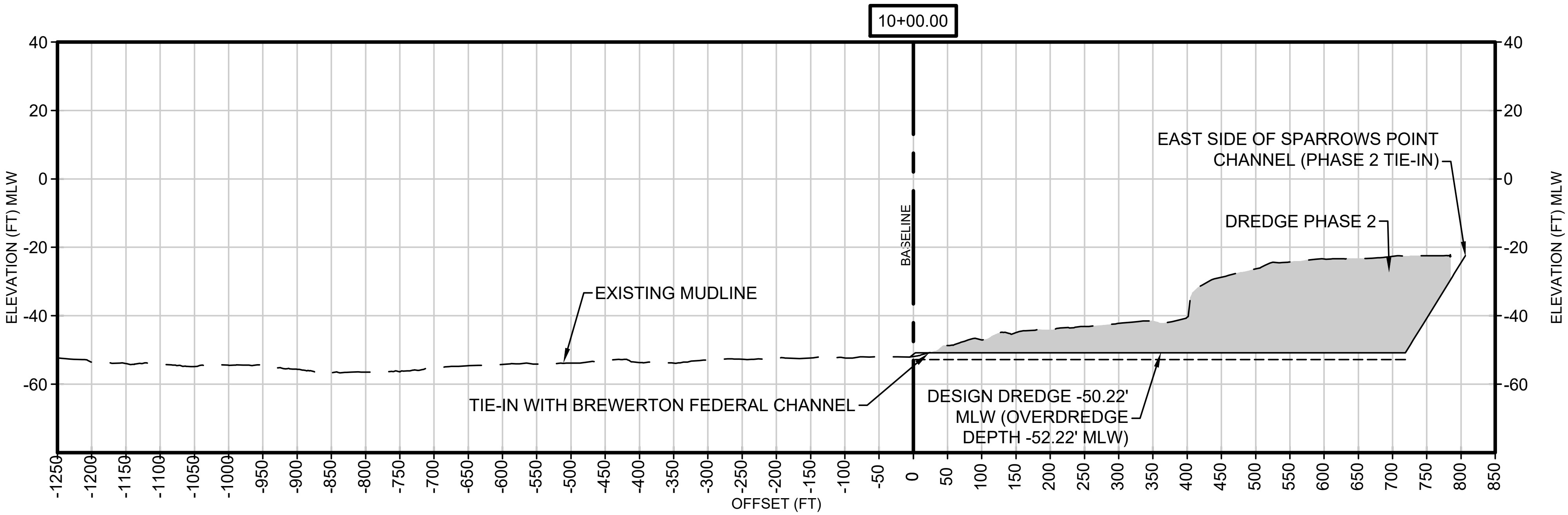
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

PLAN - DREDGING IMPACTS (SHEET 2 OF 2)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN107

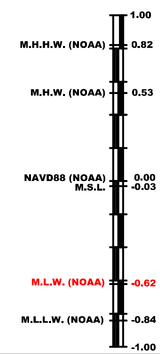
SHEET SIZE: A



0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION



LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

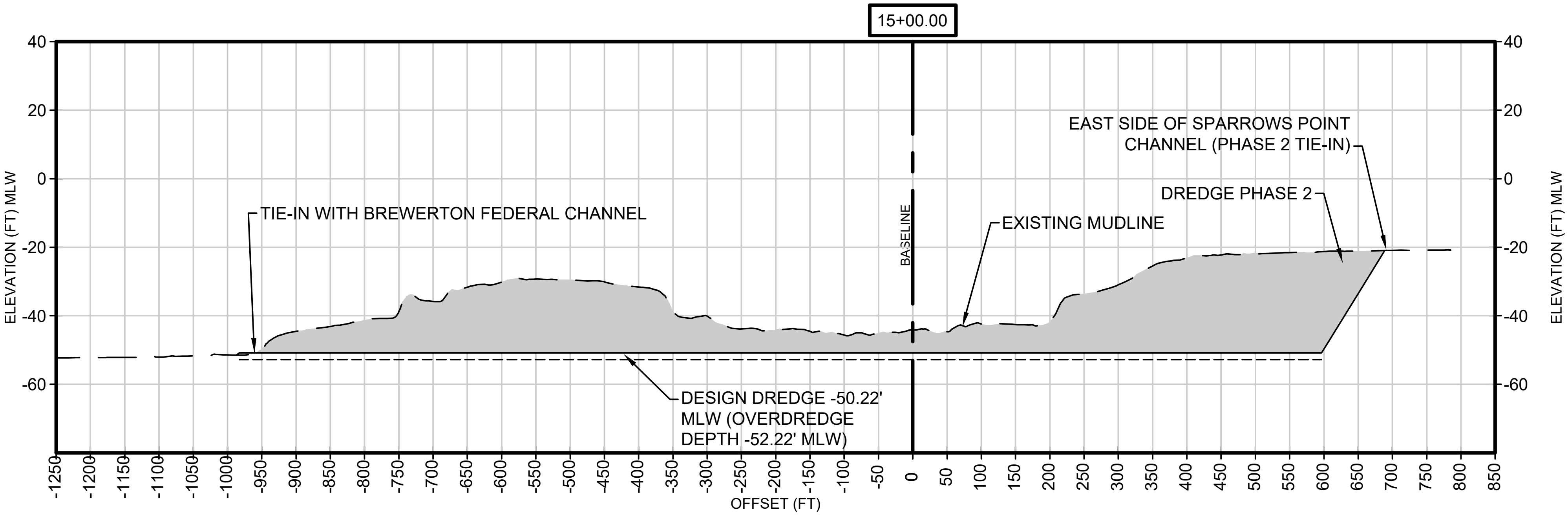
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 1 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN301

SHEET SIZE: A



0 110 220 330 440

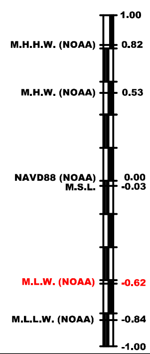
1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG
PHASE 1B DREDGING AREA	DESIGN DEPTH
PHASE 2 DREDGING AREA	EXISTING MUDLINE
OVERDREDGE	BOTTOM OF REVETMENT

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.



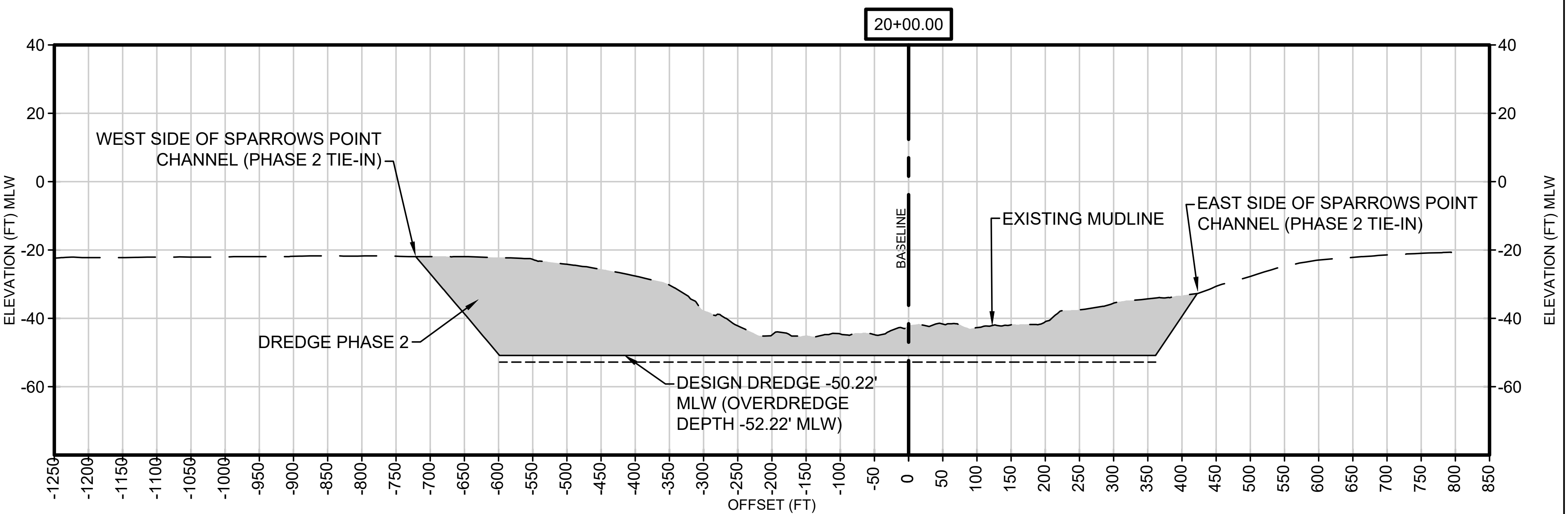
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT
CONTAINER TERMINAL

SECTIONS - DREDGING
(SHEET 2 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN302

SHEET SIZE: A



0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

- PHASE 1A DREDGING AREA
- PHASE 1B DREDGING AREA
- PHASE 2 DREDGING AREA
- APPROX. BOTTOM OF SLAG
- DESIGN DEPTH
- EXISTING MUDLINE
- OVERDREDGE
- BOTTOM OF REVETMENT

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

	1.00
M.H.H.W. (NOAA)	0.82
M.H.W. (NOAA)	0.53
NAVD88 (NOAA)	0.00
M.S.L.	-0.03
M.L.W. (NOAA)	-0.62
M.L.L.W. (NOAA)	-0.84
	-1.00

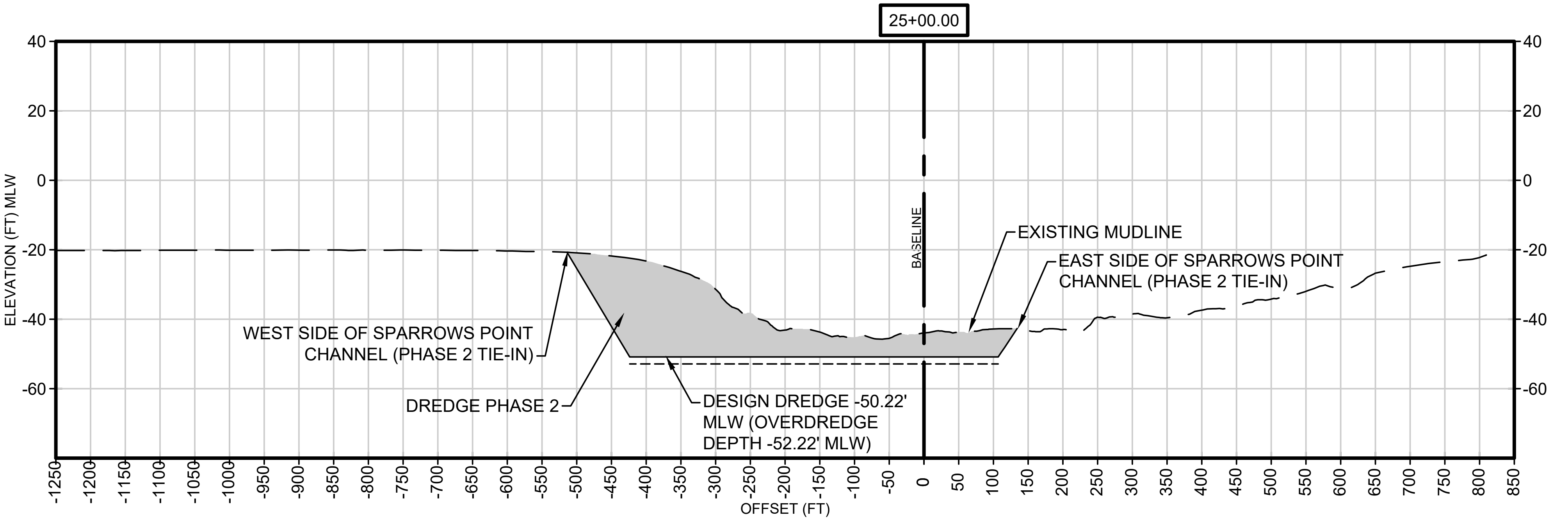
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 3 OF 14)

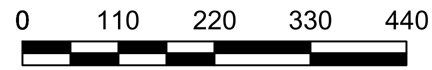
DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN303

SHEET SIZE: A



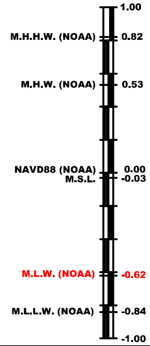
LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG
PHASE 1B DREDGING AREA	DESIGN DEPTH
PHASE 2 DREDGING AREA	EXISTING MUDLINE
OVERDREDGE	BOTTOM OF REVETMENT



1"=220'-0" SCALE IN FEET
5X VERTICAL EXAGGERATION

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.



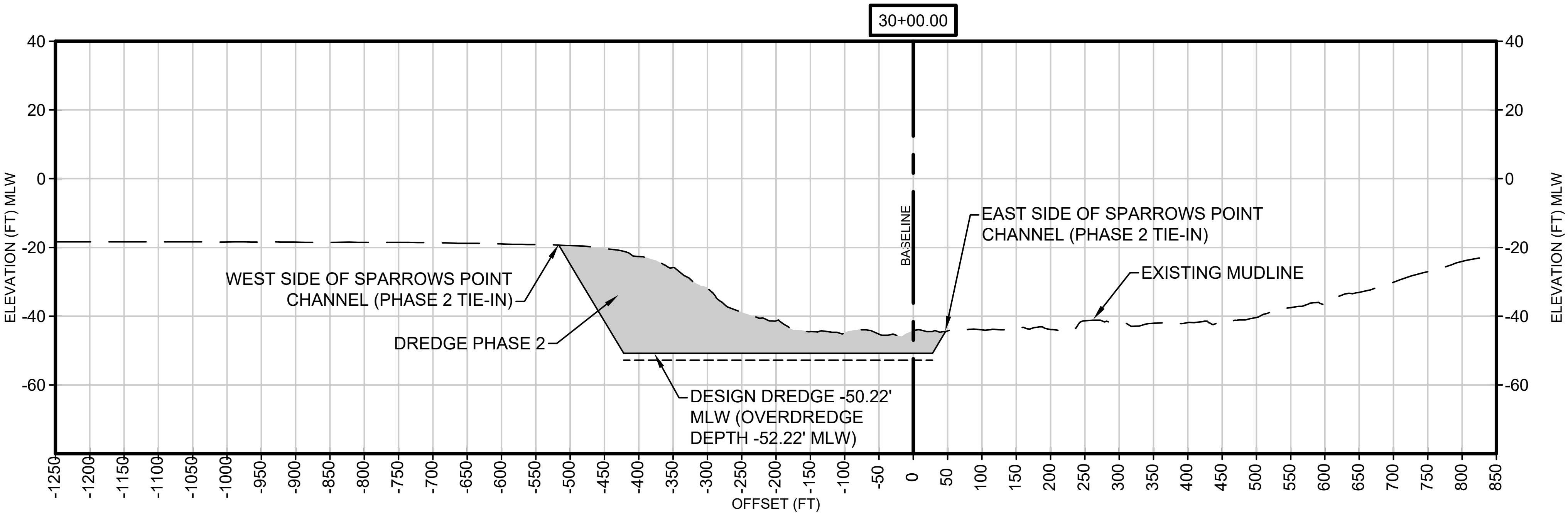
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

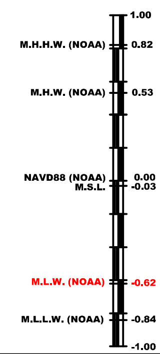
SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 4 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN304

SHEET SIZE: A





0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

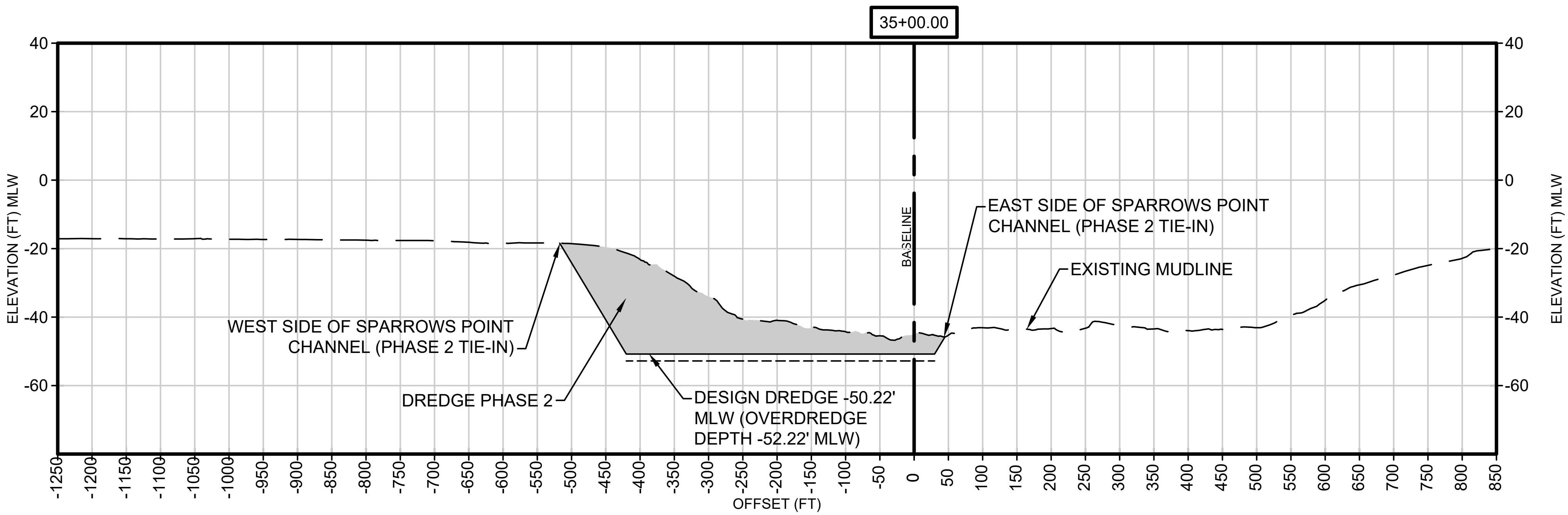
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT
CONTAINER TERMINAL

SECTIONS - DREDGING
(SHEET 5 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN305

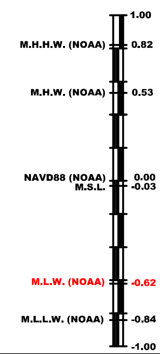
SHEET SIZE: A



0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION



LEGEND:

- PHASE 1A DREDGING AREA
- PHASE 1B DREDGING AREA
- PHASE 2 DREDGING AREA
- APPROX. BOTTOM OF SLAG
- DESIGN DEPTH
- EXISTING MUDLINE
- OVERDREDGE
- BOTTOM OF REVETMENT

NOTE:

1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

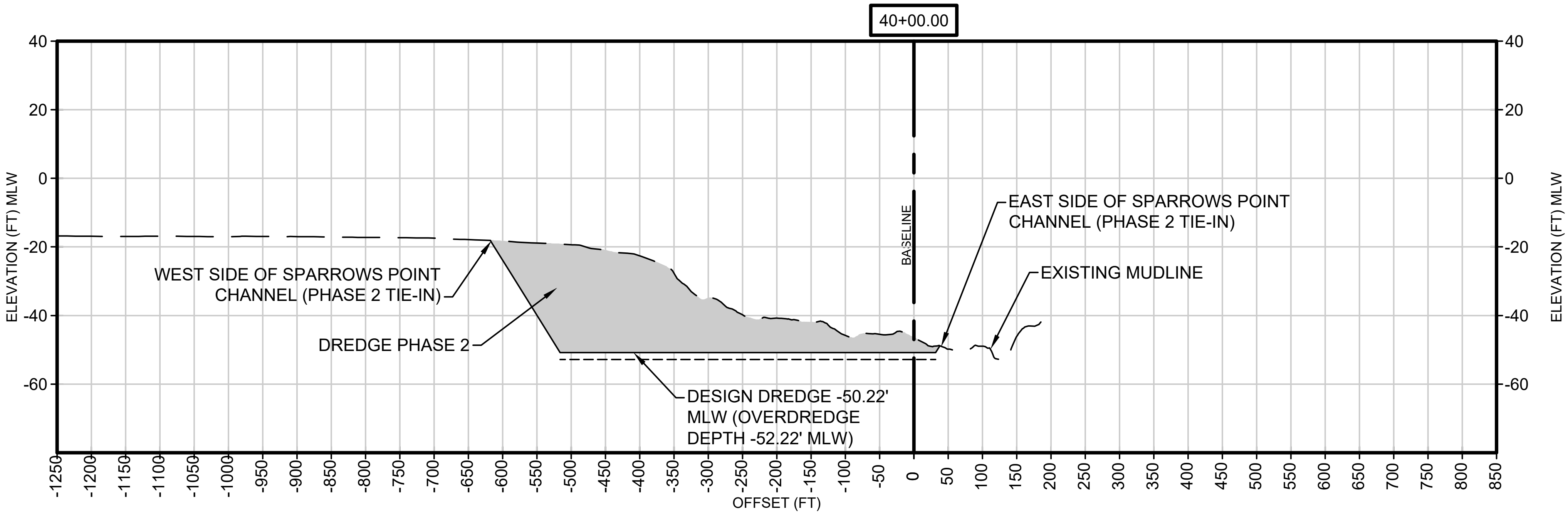
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

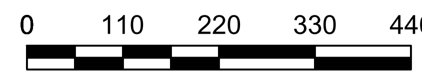
SPARROWS POINT CONTAINER TERMINAL

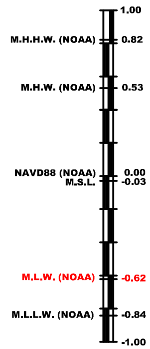
SECTIONS - DREDGING (SHEET 6 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN306

SHEET SIZE: A







LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG
PHASE 1B DREDGING AREA	DESIGN DEPTH
PHASE 2 DREDGING AREA	EXISTING MUDLINE
OVERDREDGE	BOTTOM OF REVETMENT

NOTE:

1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

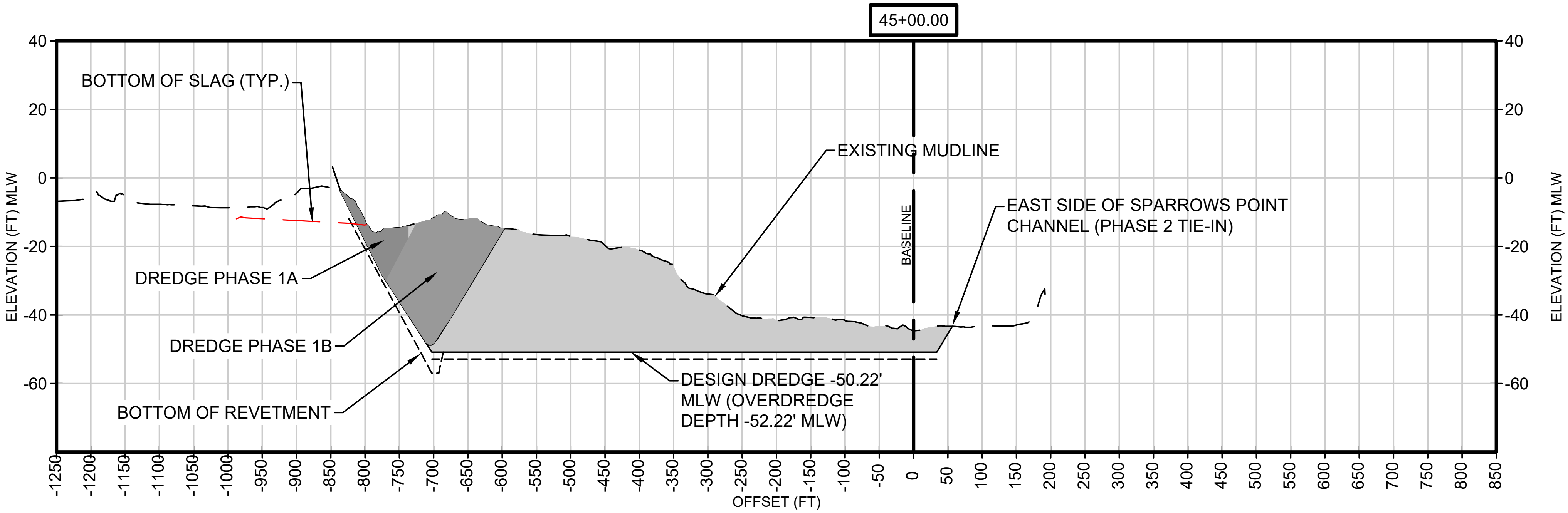
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 7 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN307

SHEET SIZE: A



0 110 220 330 440

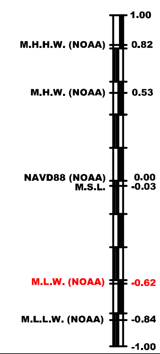
1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.



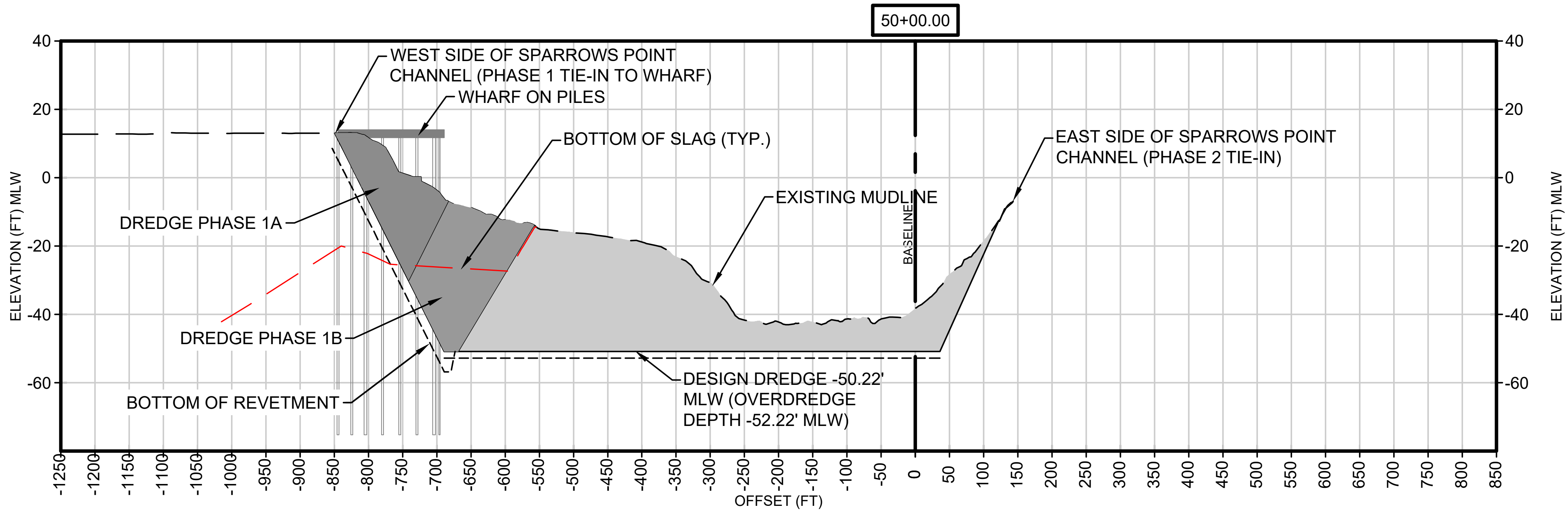
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 8 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN308

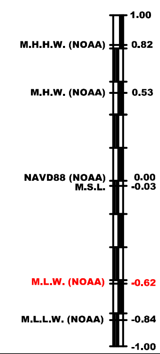
SHEET SIZE: A



0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION



LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

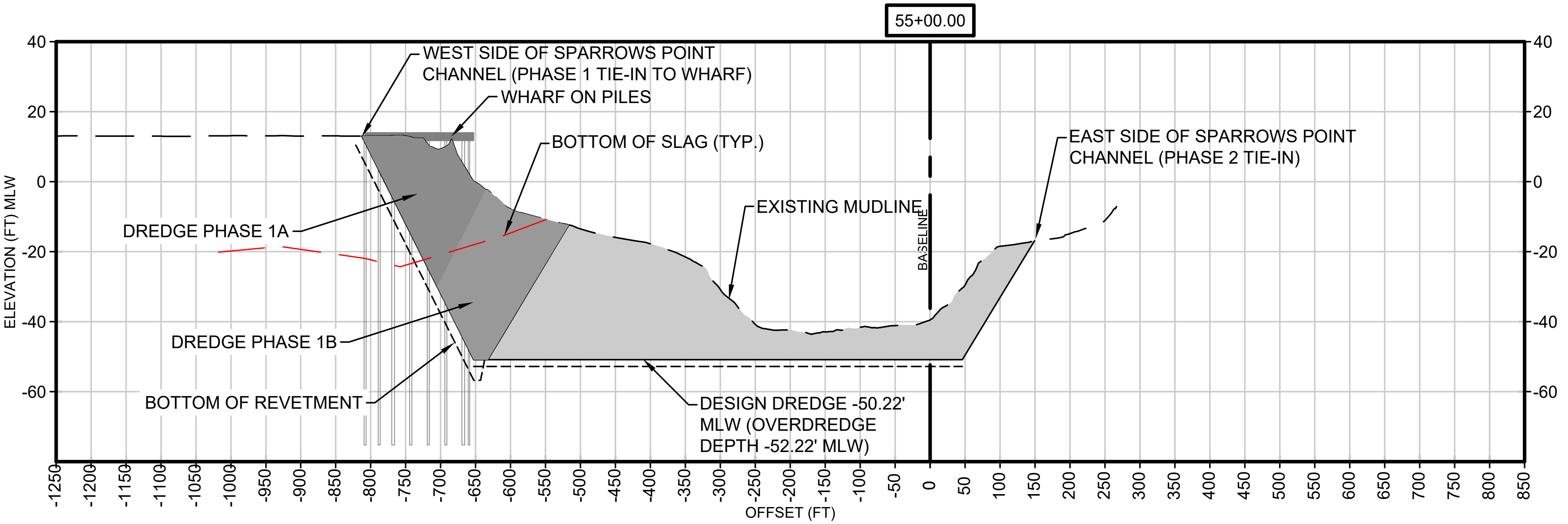
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 9 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN309

SHEET SIZE: A

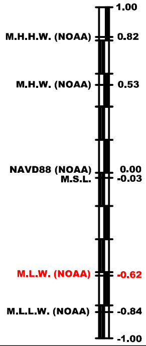


LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG
PHASE 1B DREDGING AREA	DESIGN DEPTH
PHASE 2 DREDGING AREA	EXISTING MUDLINE
OVERDREDGE	BOTTOM OF REVETMENT

0 110 220 330 440
1"=220'-0" SCALE IN FEET
5X VERTICAL EXAGGERATION

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.



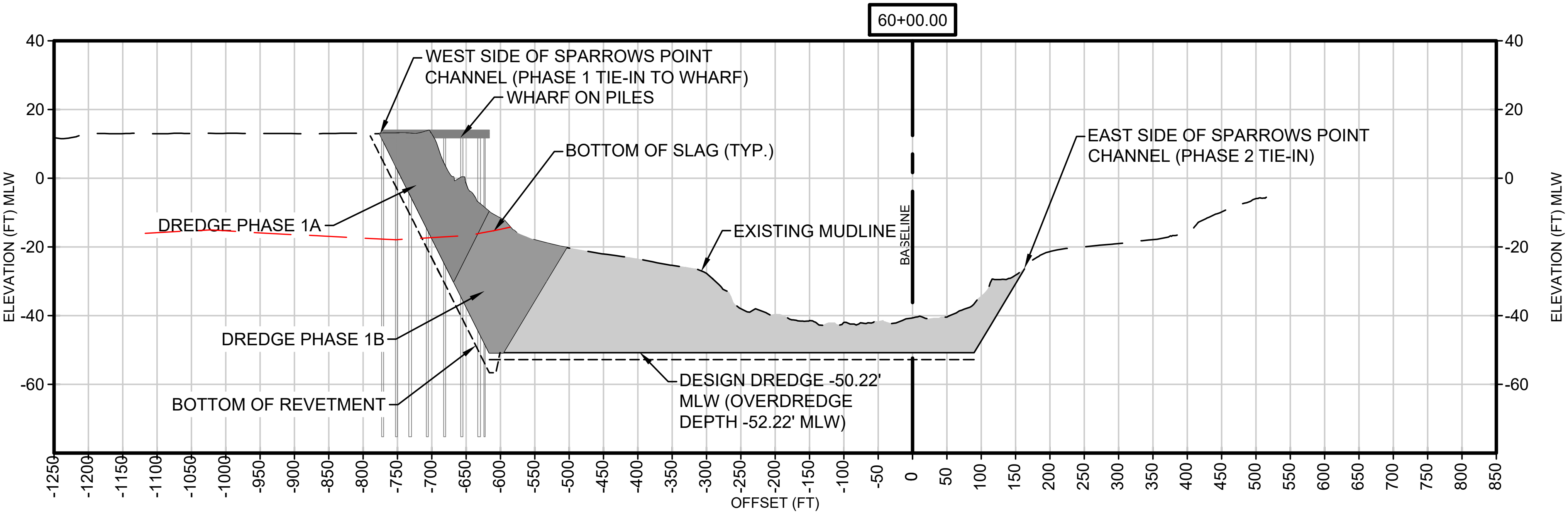
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 10 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN310

SHEET SIZE: A



0 110 220 330 440

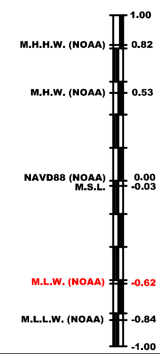
1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.



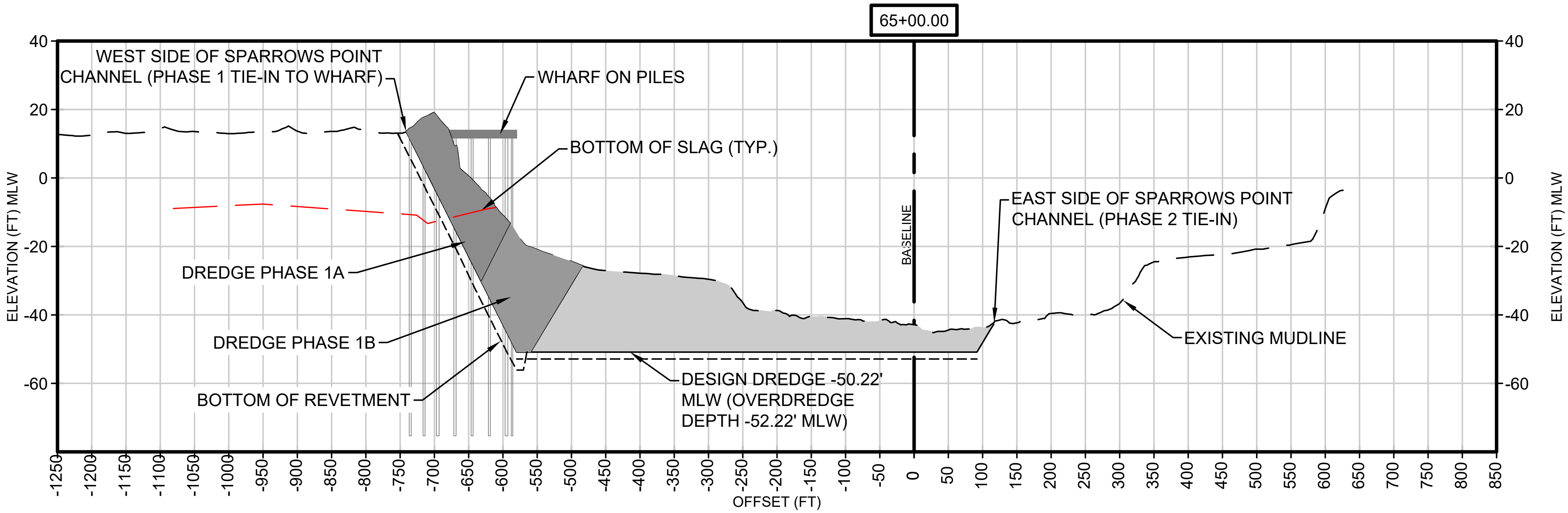
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

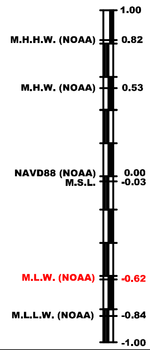
SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 11 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN311

SHEET SIZE: A





0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG
PHASE 1B DREDGING AREA	DESIGN DEPTH
PHASE 2 DREDGING AREA	EXISTING MUDLINE
OVERDREDGE	BOTTOM OF REVETMENT

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

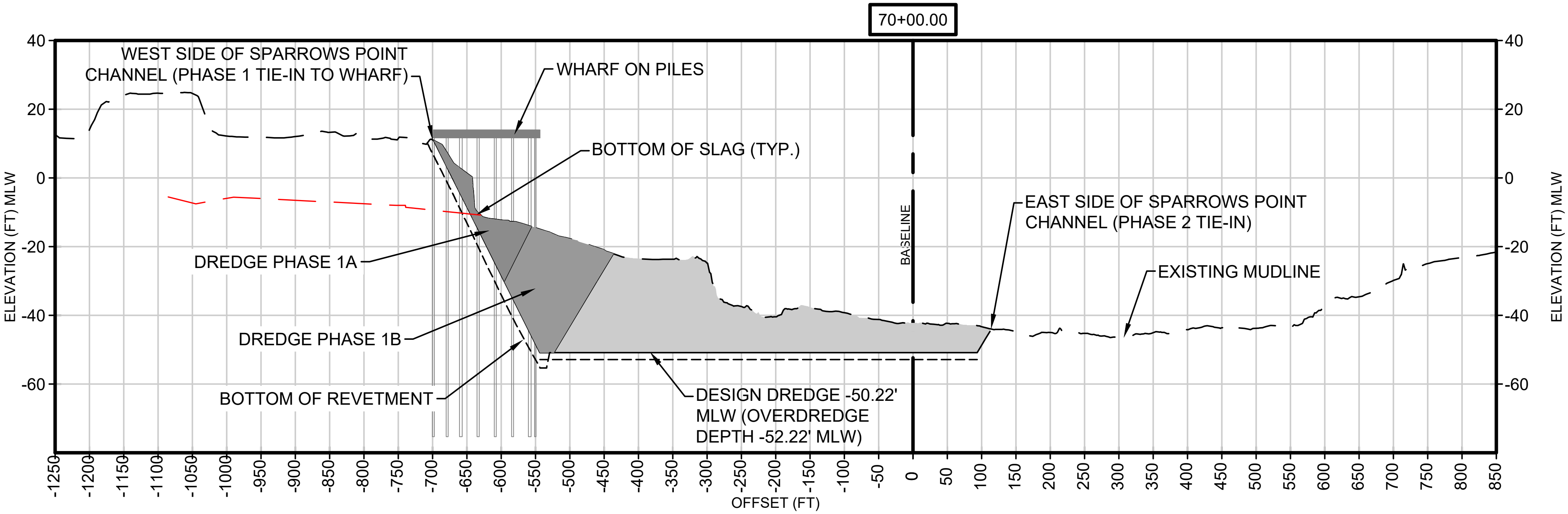
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 12 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN312

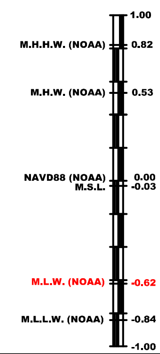
SHEET SIZE: A



0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION



LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG	OVERDREDGE
PHASE 1B DREDGING AREA	DESIGN DEPTH	BOTTOM OF REVETMENT
PHASE 2 DREDGING AREA	EXISTING MUDLINE	

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

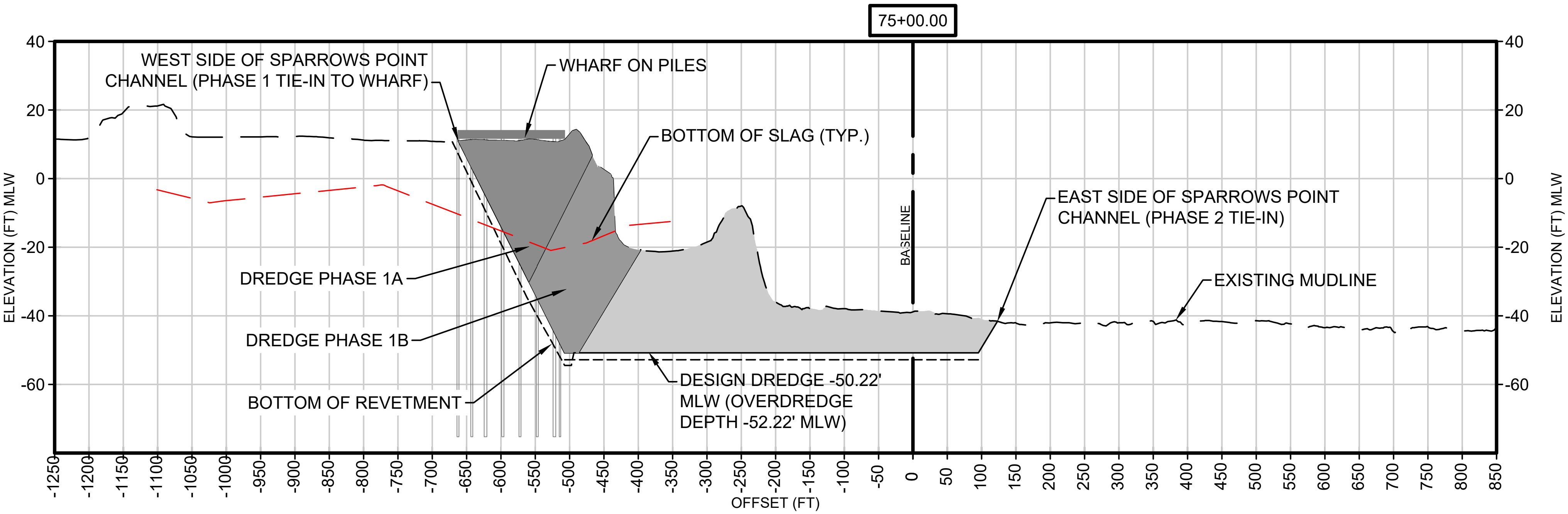
HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT
CONTAINER TERMINAL

SECTIONS - DREDGING
(SHEET 13 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN313

SHEET SIZE: A



LEGEND:

PHASE 1A DREDGING AREA	APPROX. BOTTOM OF SLAG
PHASE 1B DREDGING AREA	DESIGN DEPTH
PHASE 2 DREDGING AREA	EXISTING MUDLINE
OVERDREDGE	BOTTOM OF REVETMENT

0 110 220 330 440

1"=220'-0" SCALE IN FEET

5X VERTICAL EXAGGERATION

NOTE:
1. ELEVATIONS SHOWN ARE REFERENCED TO MEAN LOW WATER (MLW) AS DEFINED BY NOAA BALTIMORE TIDE GAUGE (STATION ID 8574680). A CONVERSION SCALE IS SHOWN ON THIS DRAWING TO CONVERT TO OTHER DATUMS.

	1.00
M.H.H.W. (NOAA)	0.82
M.H.W. (NOAA)	0.53
NAVD88 (NOAA)	0.00
M.S.L.	-0.03
M.L.W. (NOAA)	-0.62
M.L.L.W. (NOAA)	-0.84
	-1.00

HATCH LANGAN SPARROWS POINT CONTAINER TERMINAL

SPARROWS POINT CONTAINER TERMINAL

SECTIONS - DREDGING (SHEET 14 OF 14)

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
05/02/2025		ATR	ATR				CN314

SHEET SIZE: A

Wharf Construction Plans

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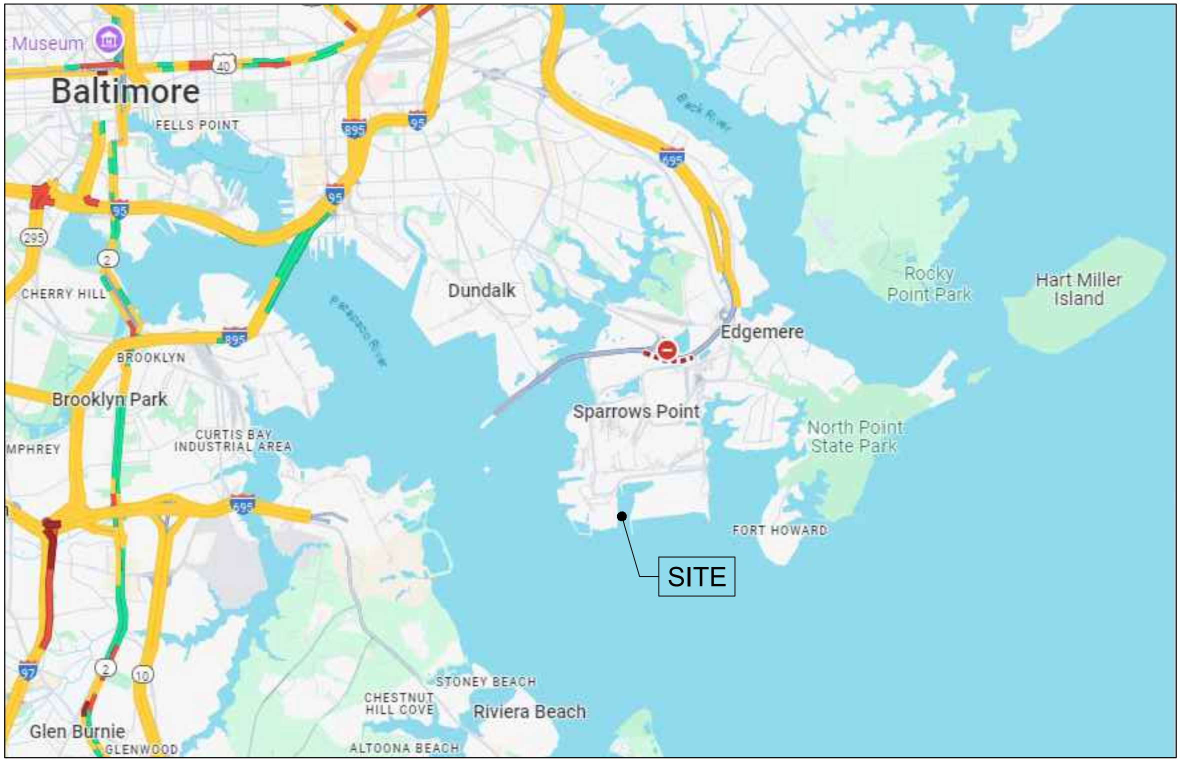
SPARROWS POINT CONTAINER TERMINAL WHARF

SHORELINE IMPACT

BALTIMORE COUNTY, MARYLAND



LIST OF DRAWINGS:

DRAWING NO.	SHEET	DRAWING TITLE
0001	1	TITLE SHEET
0002	2	GENERAL ARRANGEMENT
0003 / CN108	3	NORTH OF WHARF
0004	4	WHARF PLAN SHEET 1 OF 2
0005	5	WHARF PLAN SHEET 2 OF 2 / INTENTIONALLY OMITTED
0006 / CN109	6	SOUTH OF WHARF / SECTION
0007	7	SECTION
0008	8	SECTION
0009	9	SECTION
0010	10	IMPACT

HATCH

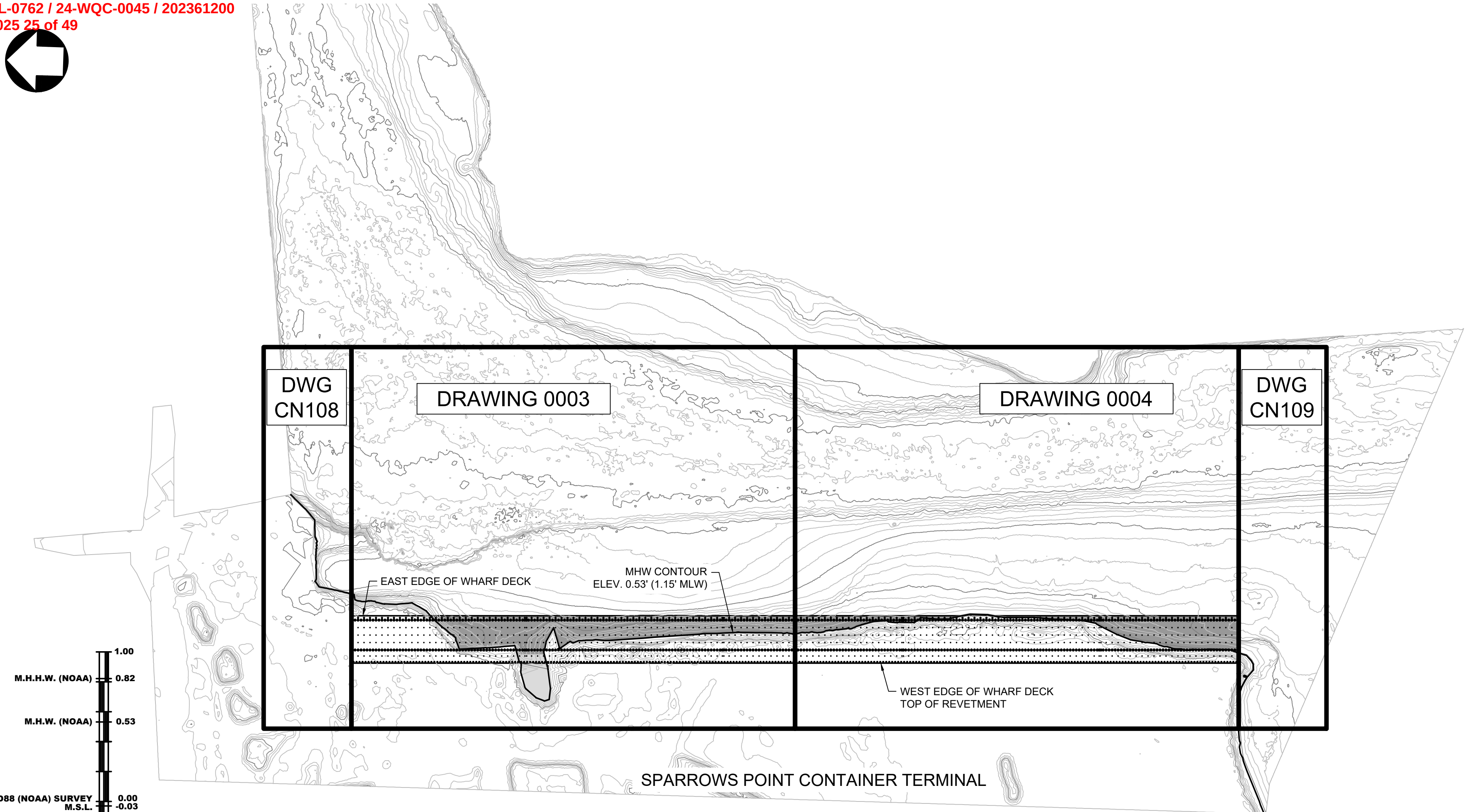
SPARROWS POINT CONTAINER TERMINAL PORT OF BALTIMORE

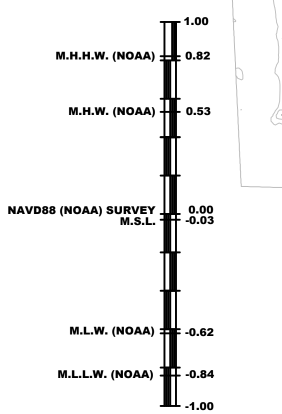
SPARROWS POINT CONTAINER TERMINAL WHARF
BALTIMORE COUNTY, MARYLAND

TITLE SHEET

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/0 -. 4	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	1 OF 10	0001

SHEET SIZE: A





NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

LEGEND

WHARF FOOTPRINT CHANNELWARD ENCROACHMENT

EXISTING MHW SHORELINE (ELEV. 0.53' NAVD88, 1.15' MLW)

SLAG FILL

WHARF PILES (TYP.) PILES IN SHADED AREA ARE CHANNELWARD OF M.H.W.

0 250 500 750 1000

1"=500'-0" SCALE IN FEET

HATCH

SPARROWS POINT CONTAINER TERMINAL

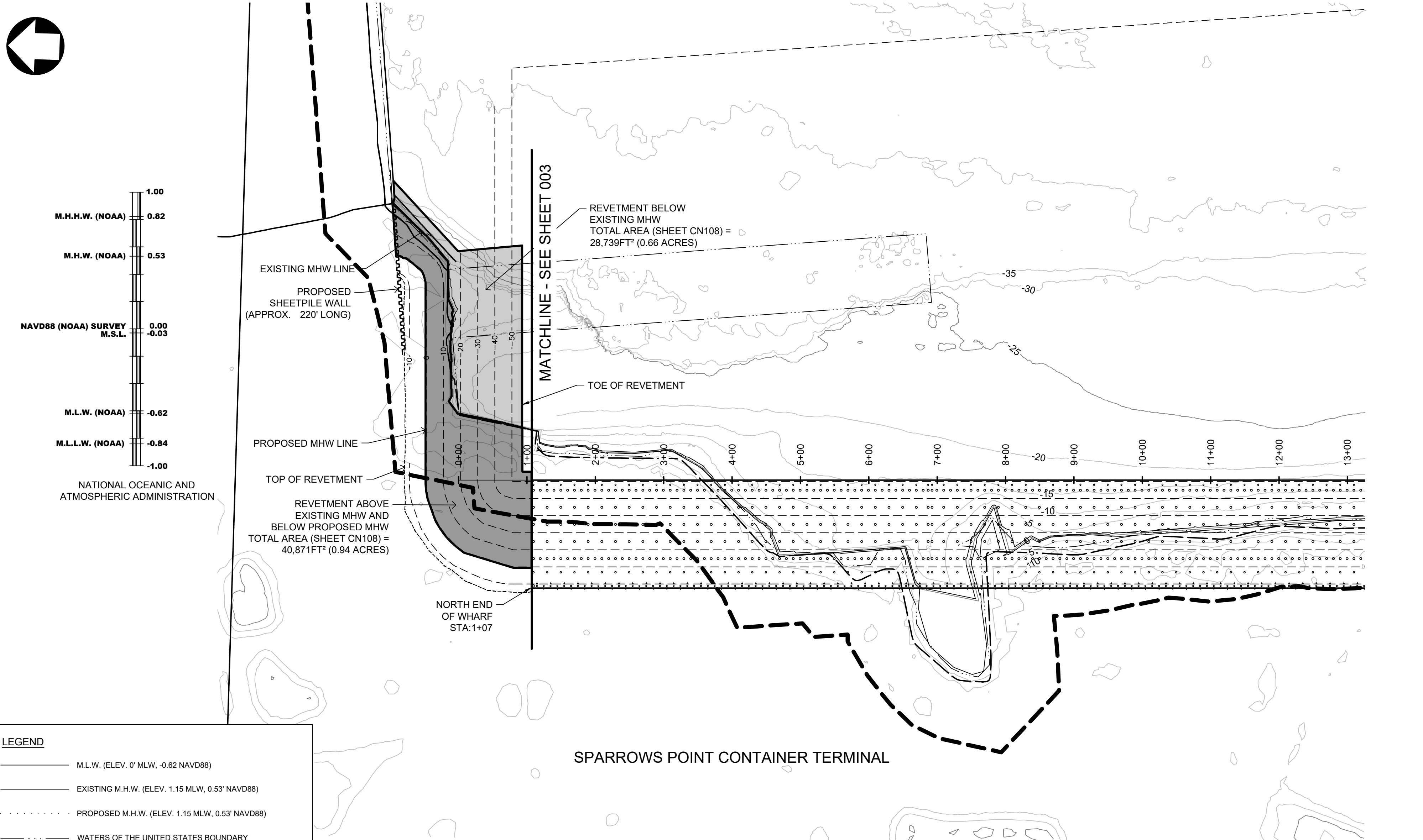
SPARROWS POINT
CONTAINER TERMINAL
WHARF

BALTIMORE COUNTY, MARYLAND

GENERAL ARRANGEMENT

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/21	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	2 OF 10	0002

SHEET SIZE: A



LEGEND

- M.L.W. (ELEV. 0' MLW, -0.62 NAVD88)
- EXISTING M.H.W. (ELEV. 1.15 MLW, 0.53' NAVD88)
- PROPOSED M.H.W. (ELEV. 1.15 MLW, 0.53' NAVD88)
- WATERS OF THE UNITED STATES BOUNDARY
- FEMA 100-YEAR FLOOD BOUNDARY
- 100-YEAR FLOODPLAIN 100-FOOT MODIFIED BUFFER
- PROPOSED POST-DREDGE SURFACE CONTOUR (10-FT INTERVAL)

NOTE:
DREDGING BELOW -3' MLW, WHERE NOT COVERED BY THE REVETMENT, IS NOT SHOWN ON THIS SHEET. PLEASE SEE SHEETS CN101 THROUGH CN107 FOR DREDGE QUANTITIES.

0 100 200 300 400
1"=200'-0" SCALE IN FEET

HATCH

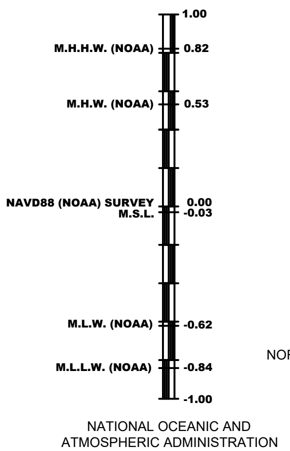
SPARROWS POINT CONTAINER TERMINAL PORT OF BALTIMORE

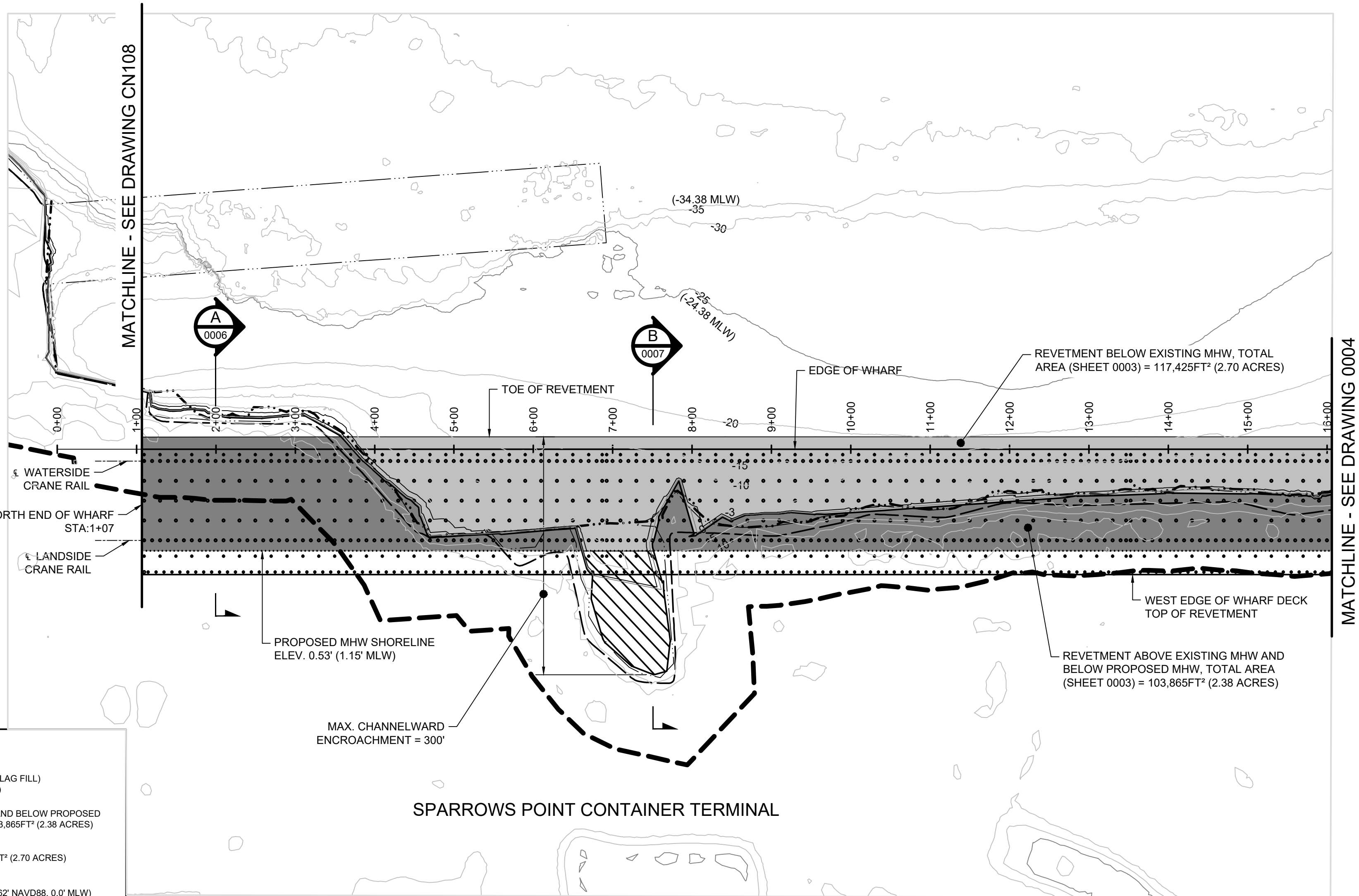
SPARROWS POINT CONTAINER TERMINAL WHARF
BALTIMORE COUNTY, MARYLAND

PLAN - NORTH OF WHARF

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/21	H374437	ANTHONY RUANE	ANTHONY RUANE	CHRIS KAKOLEWSKI	CHRIS KAKOLEWSKI		CN108

SHEET SIZE: A





LEGEND

- AREA OF LAND INFILL ABOVE MHW (SLAG FILL) TOTAL AREA = 12,468FT² (0.29 ACRES)
- REVETMENT ABOVE EXISTING MHW AND BELOW PROPOSED MHW, TOTAL AREA (SHEET 0003) = 103,865FT² (2.38 ACRES)
- REVETMENT BELOW EXISTING MHW TOTAL AREA (SHEET 0003) = 117,425FT² (2.70 ACRES)
- EXISTING MLW SHORELINE (ELEV. -0.62' NAVD88, 0.0' MLW)
- EXISTING MHW SHORELINE (ELEV. 0.53' NAVD88, 1.15' MLW)
- PROPOSED MHW SHORELINE (ELEV. 0.53' NAVD88, 1.15' MLW)
- WATERS OF THE UNITED STATES BOUNDARY
- FEMA 100-YEAR FLOOD BOUNDARY
- 100-YEAR FLOODPLAIN 100-FOOT MODIFIED BUFFER
- WHARF PILES (TYP.) TOTAL PILE AREA (SHEET 0003) CHANNELWARD OF EXISTING MHW = 2,145 FT² (0.05 ACRES)

NOTE:
DREDGING IS NOT SHOWN ON THIS SHEET. PLEASE SEE SHEETS CN101 THROUGH CN107 FOR DREDGE QUANTITIES.

0 100 200 300 400
1"=200'-0" SCALE IN FEET

HATCH

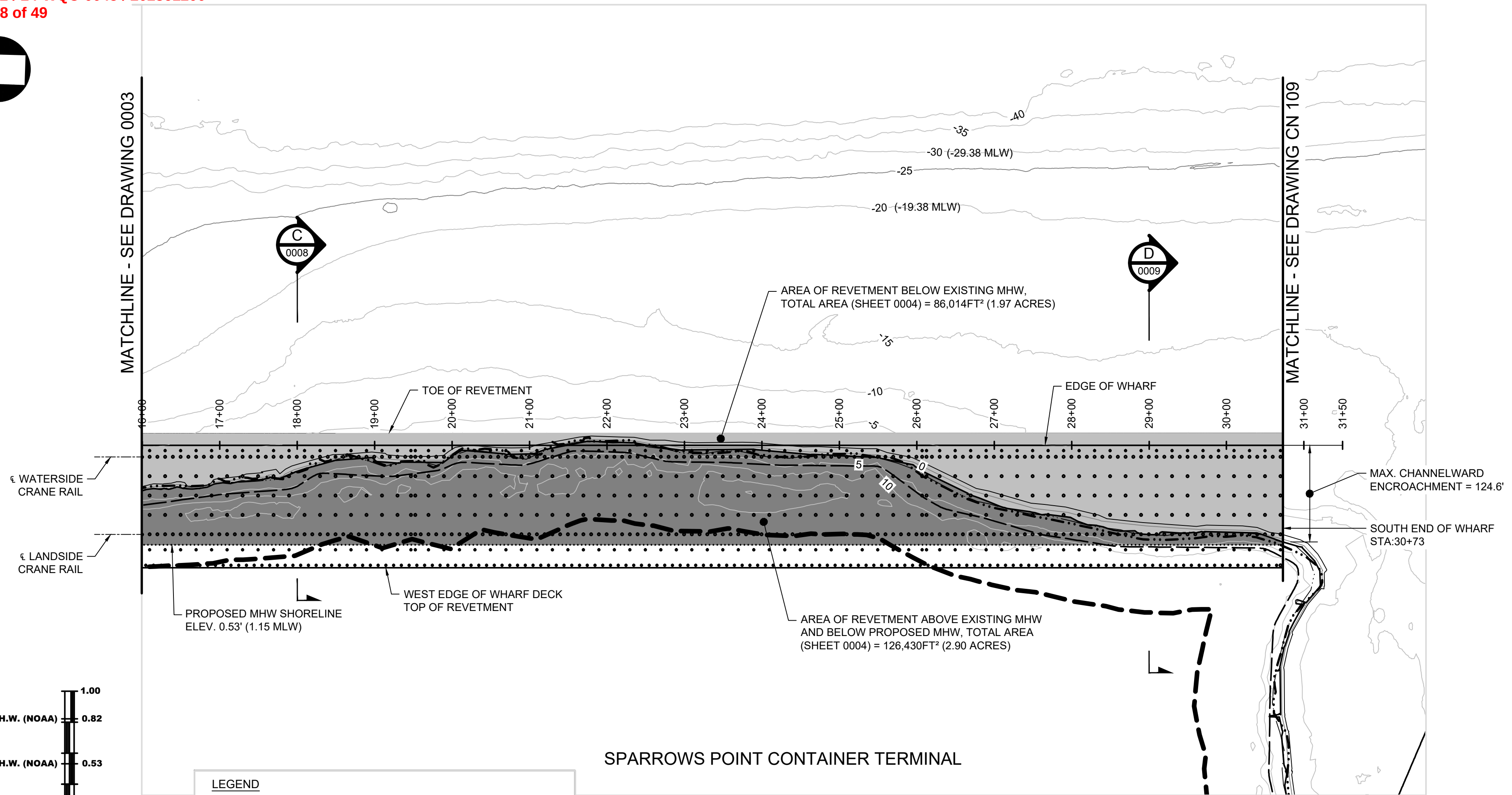
SPARROWS POINT CONTAINER TERMINAL

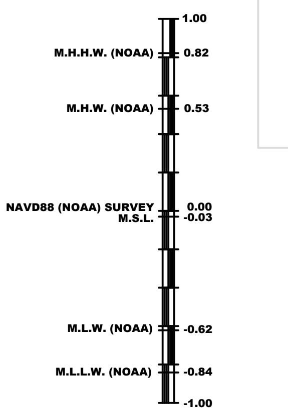
SPARROWS POINT
CONTAINER TERMINAL
WHARF
BALTIMORE COUNTY, MARYLAND

WHARF PLAN - SHEET 1 OF 2

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/23	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	3 OF 10	0003

SHEET SIZE: A





NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

LEGEND

- AREA OF REVETMENT ABOVE EXISTING MHW AND BELOW PROPOSED MHW, TOTAL AREA (SHEET 0004) = 126,430FT² (2.90 ACRES)
- AREA OF REVETMENT BELOW EXISTING MHW, TOTAL AREA (SHEET 0004) = 86,014FT² (1.97 ACRES)
- EXISTING MLW SHORELINE (ELEV. -0.62' NAVD88, 0.0' MLW)
- EXISTING MHW SHORELINE (ELEV. 0.53' NAVD88, 1.15' MLW)
- PROPOSED MHW SHORELINE (ELEV. 0.53' NAVD88, 1.15' MLW)
- WATERS OF THE UNITED STATES BOUNDARY
- FEMA 100-YEAR FLOOD BOUNDARY
- 100-YEAR FLOODPLAIN 100-FOOT MODIFIED BUFFER
- WHARF PILES (TYP.) TOTAL PILE AREA (SHEET 0004) CHANNELWARD OF MHW = 1,471FT² (0.03 ACRES)

NOTE:
DREDGING IS NOT SHOWN ON THIS SHEET. PLEASE SEE SHEETS CN101 THROUGH CN107 FOR DREDGE QUANTITIES.

0 100 200 300 400
1"=200'-0" SCALE IN FEET

HATCH

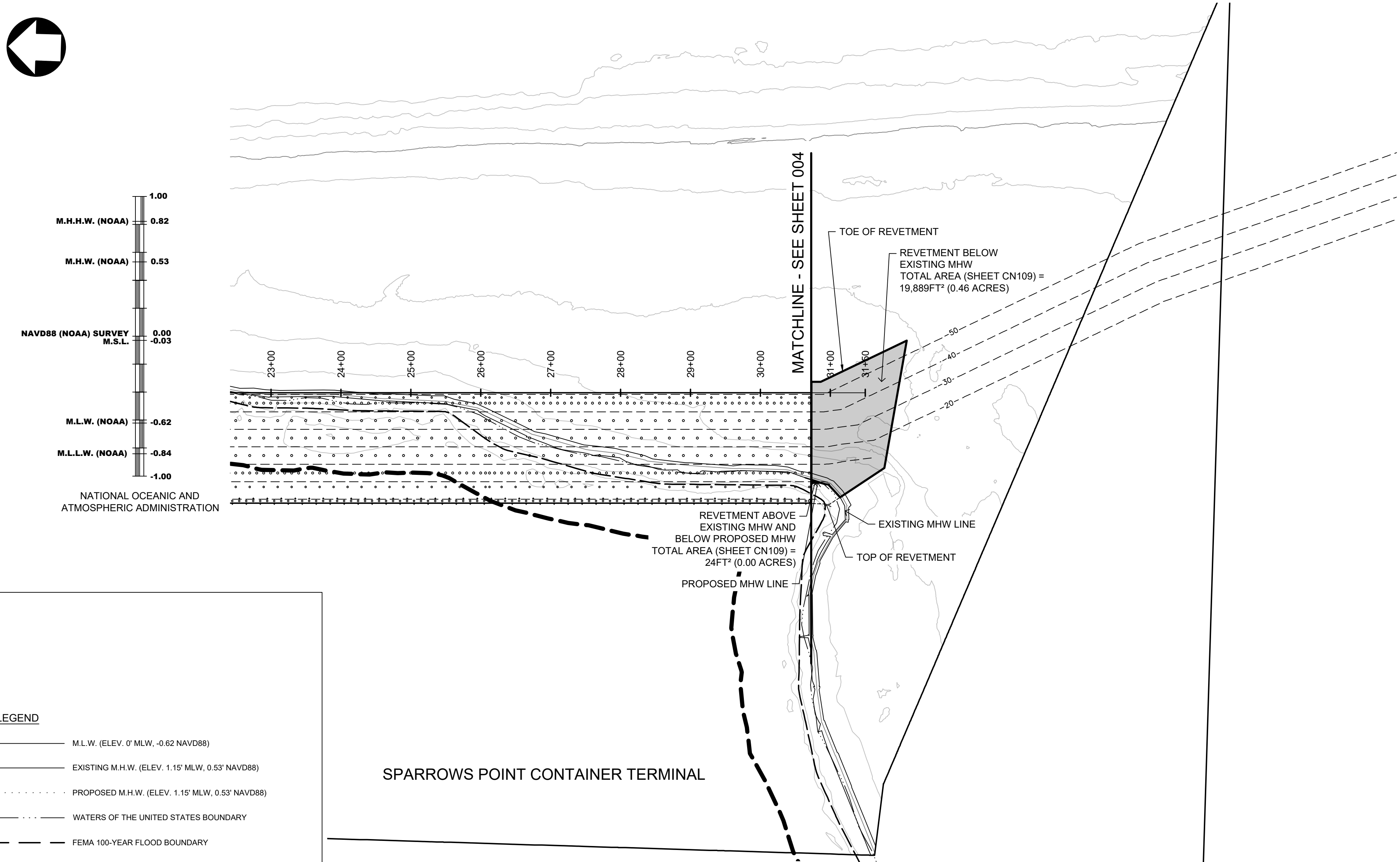
SPARROWS POINT CONTAINER TERMINAL PORT OF BALTIMORE

SPARROWS POINT
CONTAINER TERMINAL
WHARF
BALTIMORE COUNTY, MARYLAND

WHARF PLAN - SHEET 2 OF 2

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/21	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	4 OF 10	0004

SHEET SIZE: A



LEGEND

- M.L.W. (ELEV. 0' MLW, -0.62 NAVD88)
- EXISTING M.H.W. (ELEV. 1.15' MLW, 0.53' NAVD88)
- PROPOSED M.H.W. (ELEV. 1.15' MLW, 0.53' NAVD88)
- WATERS OF THE UNITED STATES BOUNDARY
- FEMA 100-YEAR FLOOD BOUNDARY
- 100-YEAR FLOODPLAIN 100-FOOT MODIFIED BUFFER
- PROPOSED POST-DREDGE SURFACE CONTOUR (10-FT INTERVAL)

NOTE:
DREDGING BELOW -3' MLW, WHERE NOT COVERED BY THE REVETMENT, IS NOT SHOWN ON THIS SHEET. PLEASE SEE SHEETS CN101 THROUGH CN107 FOR DREDGE QUANTITIES.

0 100 200 300 400
1"=200'-0" SCALE IN FEET

HATCH

SPARROWS POINT CONTAINER TERMINAL PORT OF BALTIMORE

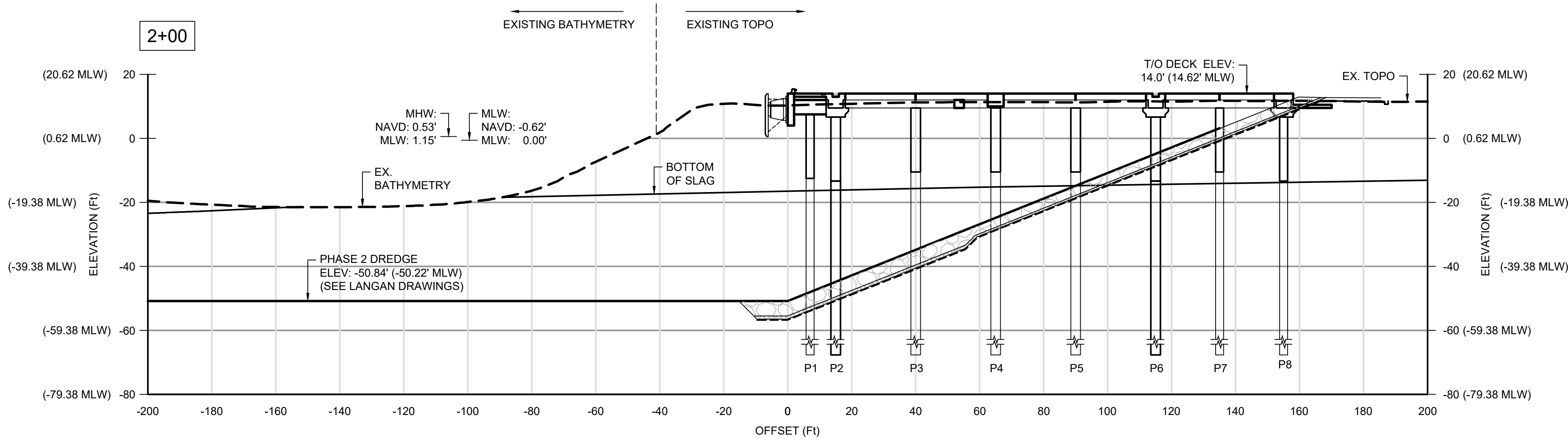
SPARROWS POINT CONTAINER TERMINAL WHARF

BALTIMORE COUNTY, MARYLAND

PLAN - SOUTH OF WHARF

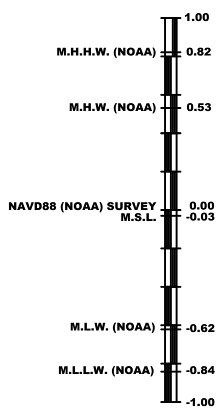
DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/09	H374437	ANTHONY RUANE	ANTHONY RUANE	CHRIS KAKOLEWSKI	CHRIS KAKOLEWSKI		CN109

SHEET SIZE: A



PILE LEGEND:

P1 = Ø30" STEEL CANTILEVER PILE (20' SPACING)
P2 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
P3 = Ø36" STEEL DECK PILE (20' SPACING)
P4 = Ø36" STEEL DECK PILE (20' SPACING)
P5 = Ø36" STEEL DECK PILE (20' SPACING)
P6 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
P7 = Ø30" STEEL DECK PILE (20' SPACING)
P8 = Ø30" STEEL PILE (10' SPACING)



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

0 25 50 75 100
1"=50'-0" SCALE IN FEET

HATCH

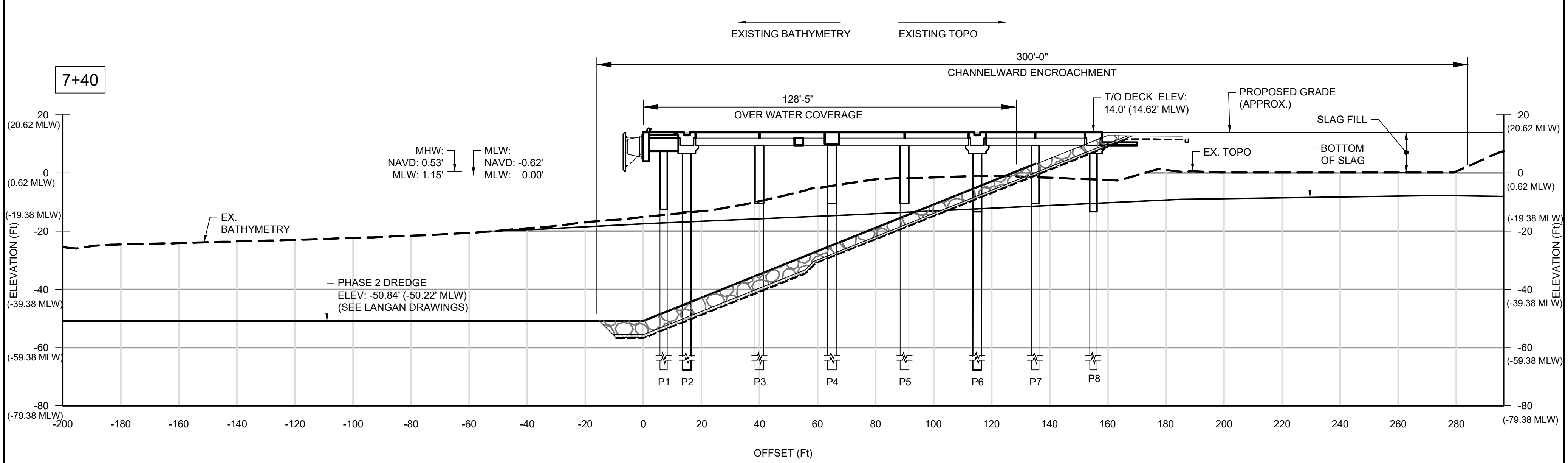
SPARROWS POINT CONTAINER TERMINAL

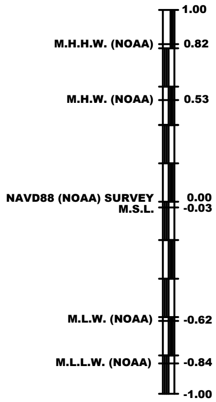
SPARROWS POINT
CONTAINER TERMINAL
WHARF
BALTIMORE COUNTY, MARYLAND

SECTION

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/05	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	6 OF 10	0006

SHEET SIZE: A





NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

PILE LEGEND:

P1 = Ø30" STEEL CANTILEVER PILE (20' SPACING)
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P6 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
P7 = Ø30" STEEL DECK PILE (20' SPACING)
P8 = Ø30" STEEL PILE (10' SPACING)

0 25 50 75 100
1"=50'-0" SCALE IN FEET

HATCH

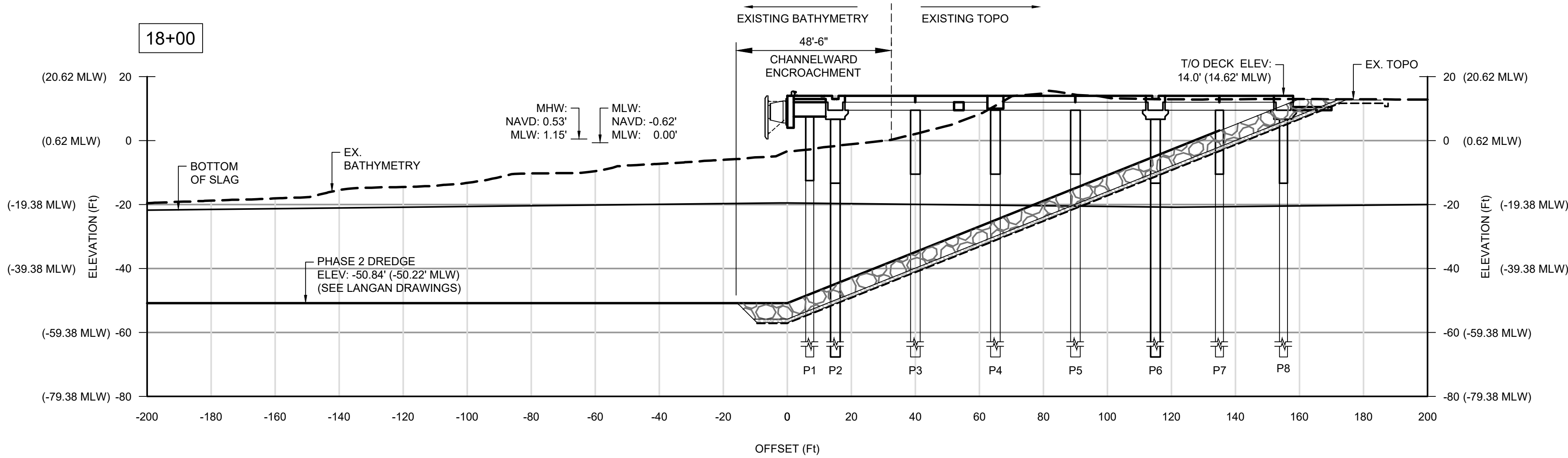
SPARROWS POINT CONTAINER TERMINAL

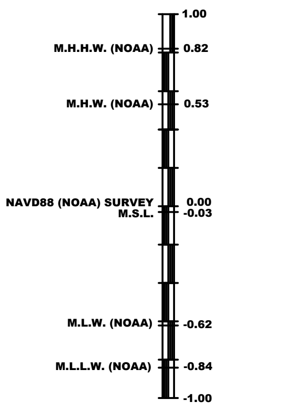
SPARROWS POINT
CONTAINER TERMINAL
WHARF
BALTIMORE COUNTY, MARYLAND

SECTION

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/05	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	7 OF 10	0007

SHEET SIZE: A





NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

PILE LEGEND:

P1 = Ø30" STEEL CANTILEVER PILE (20' SPACING)
P2 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
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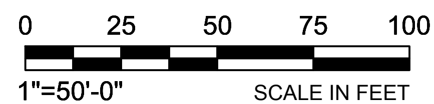
P4 = Ø36" STEEL DECK PILE (20' SPACING)
P5 = Ø36" STEEL DECK PILE (20' SPACING)
P6 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
P7 = Ø30" STEEL DECK PILE (20' SPACING)
P8 = Ø30" STEEL BATTER PILE (10' SPACING)



HATCH

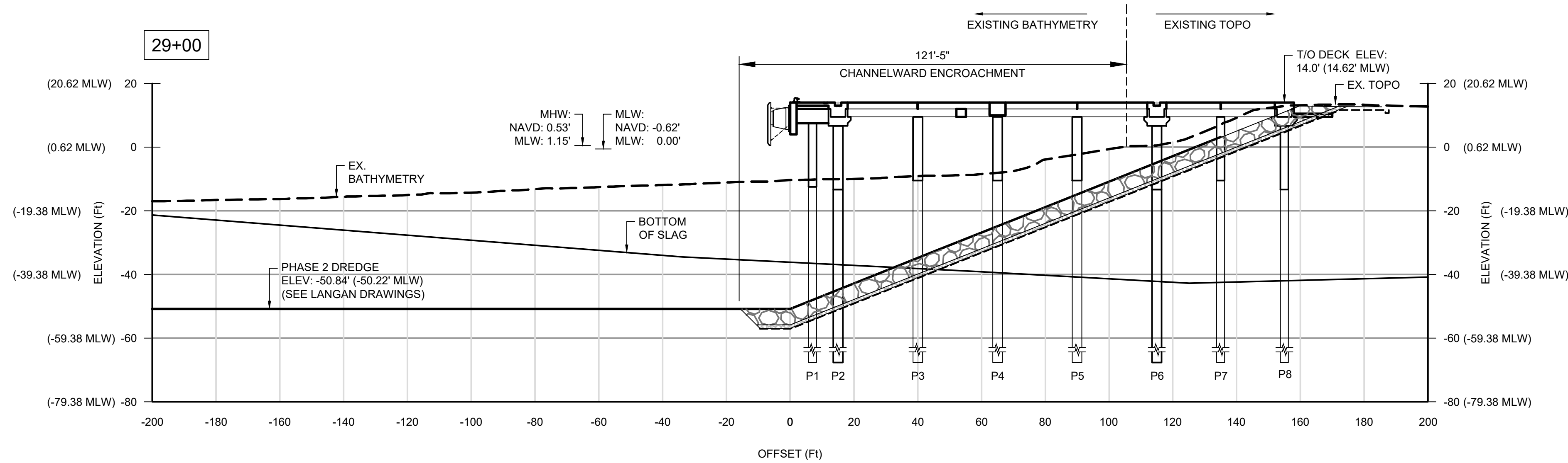
SPARROWS POINT
CONTAINER TERMINAL
WHARF

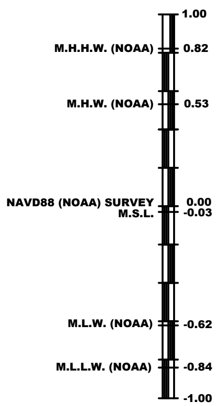
BALTIMORE COUNTY, MARYLAND

SECTION

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/05	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	8 OF 10	0008

SHEET SIZE: A





NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

PILE LEGEND:

P1 = Ø30" STEEL CANTILEVER PILE (20' SPACING)
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P6 = Ø36" STEEL CRANE RAIL PILE (10' SPACING)
P7 = Ø30" STEEL DECK PILE (20' SPACING)
P8 = Ø30" STEEL PILE (10' SPACING)

0 25 50 75 100
1"=50'-0" SCALE IN FEET

HATCH

SPARROWS POINT
CONTAINER TERMINAL
WHARF
BALTIMORE COUNTY, MARYLAND

SECTION

DATE	PROJECT NUMBER	DESIGNED BY	DRAWN BY	CHECKED BY	PROJECT MGR.	SHEET NUMBER	DRAWING
25/05/05	H374437	SARA SHATZ	TIM DONOVAN	SARA SHATZ	JOSHUA NELSON	9 OF 10	0009

SHEET SIZE: A

Attachment B: Input and Output Data from Underwater Noise Modeling

Note: Some materials in this appendix are not fully Section 508 compliant.

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IMPACT PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

SPCT

PRINT IN LANDSCAPE TO CAPTURE ENTIRE SCREEN

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

PROJECT INFORMATION	PEAK	SELss	RMS
Single strike level (dB)	210	177	195
Distance associated with single strike level (meters)	10	10	10
Transmission loss constant	15		
Number of piles per day	3		
Number of strikes per pile	750		
Number of strikes per day	2250		
Cumulative SEL at measured distance	211		

OTHER INFO: 30", 1 pile per hammer

NOTES: no attenuation

Attenuation: 0

RESULTANT ISOPLETHS

(Range to Effects)

FISHES

	ONSET OF PHYSICAL INJURY			BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth		RMS Isopleth	
		Fish ≥ 2 g	Fish < 2 g		
ISOPLETHS (meters)	18.5	369.9	631.0	10,000.0	Fishes present
Isopleth (feet)	60.6	1,213.7	2,070.1	32,808.4	

SEA TURTLES

	PTS ONSET		BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth	RMS Isopleth	
ISOPLETHS (meters)	0.3	27.2	215.4	NO SEA TURTLES
Isopleth (feet)	1.1	89.3	706.8	

MARINE MAMMALS

	LF Cetacean	HF Cetaceans	VHF Cetaceans	PW Pinniped	OW Pinnipeds
AUD INJ ONSET (Peak isopleth, meters)	1.6	0.5	34.1	1.4	0.5
AUD INJ ONSET (Peak isopleth, feet)	5.2	1.5	112.0	4.5	1.5
AUD INJ ONSET (SEL_{cum} isopleth, meters)	680.2	86.8	1,052.6	604.2	225.2
AUD INJ ONSET (SEL_{cum} isopleth, feet)	2,231.5	284.7	3,453.3	1,982.4	738.9
	ALL MM	HF Cet. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	2,154.4	NO LF CET.			
Behavior (RMS isopleth, feet)	7,068.4				

IMPACT PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

SPCT

PRINT IN LANDSCAPE TO CAPTURE ENTIRE SCREEN
(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

PROJECT INFORMATION	PEAK	SELss	RMS
Single strike level (dB)	210	177	195
Distance associated with single strike level (meters)	10	10	10
Transmission loss constant	15		
Number of piles per day	6		
Number of strikes per pile	750		
Number of strikes per day	4500		
Cumulative SEL at measured distance	214		

OTHER INFO 30", 2 piles per hammer

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS

(Range to Effects)

FISHES

	ONSET OF PHYSICAL INJURY			BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth		RMS Isopleth	
		Fish ≥ 2 g	Fish < 2 g		
ISOPLETHS (meters)	18.5	587.2	631.0	10,000.0	Fishes present
Isopleth (feet)	60.6	1,926.6	2,070.1	32,808.4	

SEA TURTLES

	PTS ONSET		BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth	RMS Isopleth	
ISOPLETHS (meters)	0.3	43.2	215.4	NO SEA TURTLES
Isopleth (feet)	1.1	141.8	706.8	

MARINE MAMMALS

	LF Cetacean	HF Cetaceans	VHF Cetaceans	PW Pinniped	OW Pinnipeds
AUD INJ ONSET (Peak isopleth, meters)	1.6	0.5	34.1	1.4	0.5
AUD INJ ONSET (Peak isopleth, feet)	5.2	1.5	112.0	4.5	1.5
AUD INJ ONSET (SEL_{cum} isopleth, meters)	1,079.7	137.8	1,670.8	959.2	357.5
AUD INJ ONSET (SEL_{cum} isopleth, feet)	3,542.3	452.0	5,481.7	3,146.8	1,173.0
	ALL MM	HF Cet. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	2,154.4	NO LF CET.			
Behavior (RMS isopleth, feet)	7,068.4				

IMPACT PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

SPCT

PRINT IN LANDSCAPE TO CAPTURE ENTIRE SCREEN

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

PROJECT INFORMATION	PEAK	SELss	RMS
Single strike level (dB)	210	183	198
Distance associated with single strike level (meters)	10	10	10
Transmission loss constant	15		
Number of piles per day	3		
Number of strikes per pile	900		
Number of strikes per day	2700		
Cumulative SEL at measured distance	217		

OTHER INFO: 36", 1 pile per hammer

NOTES: no attenuation

Attenuation: 0

RESULTANT ISOPLETHS

(Range to Effects)

FISHES

	ONSET OF PHYSICAL INJURY			BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth: Fish ≥ 2 g	SEL_{cum} Isopleth: Fish < 2 g	RMS Isopleth	
ISOPLETHS (meters)	18.5	1,049.3	1,584.9	15,848.9	Fishes present
Isopleth (feet)	60.6	3,442.7	5,199.8	51,997.8	

SEA TURTLES

	PTS ONSET		BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth	RMS Isopleth	
ISOPLETHS (meters)	0.3	77.2	341.5	NO SEA TURTLES
Isopleth (feet)	1.1	253.4	1,120.3	

MARINE MAMMALS

	LF Cetacean	HF Cetaceans	VHF Cetaceans	PW Pinniped	OW Pinnipeds
AUD INJ ONSET (Peak isopleth, meters)	1.6	0.5	34.1	1.4	0.5
AUD INJ ONSET (Peak isopleth, feet)	5.2	1.5	112.0	4.5	1.5
AUD INJ ONSET (SEL_{cum} isopleth, meters)	1,929.3	246.2	2,985.6	1,713.9	638.9
AUD INJ ONSET (SEL_{cum} isopleth, feet)	6,329.7	807.6	9,795.3	5,623.1	2,096.0
	ALL MM	HF Cet. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	3,414.5	NO LF CET.			
Behavior (RMS isopleth, feet)	11,202.6				

IMPACT PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

SPCT

PRINT IN LANDSCAPE TO CAPTURE ENTIRE SCREEN

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

PROJECT INFORMATION	PEAK	SELss	RMS
Single strike level (dB)	210	183	198
Distance associated with single strike level (meters)	10	10	10
Transmission loss constant	15		
Number of piles per day	6		
Number of strikes per pile	900		
Number of strikes per day	5400		
Cumulative SEL at measured distance	220		

OTHER INFO 36", 2 piles per hammer

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS

(Range to Effects)

FISHES

	ONSET OF PHYSICAL INJURY			BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth: Fish ≥ 2 g	SEL_{cum} Isopleth: Fish < 2 g	RMS Isopleth	
ISOPLETHS (meters)	18.5	1,584.9	1,584.9	15,848.9	Fishes present
Isopleth (feet)	60.6	5,199.8	5,199.8	51,997.8	

SEA TURTLES

	PTS ONSET		BEHAVIOR	
	Peak Isopleth	SEL_{cum} Isopleth	RMS Isopleth	
ISOPLETHS (meters)	0.3	122.6	341.5	NO SEA TURTLES
Isopleth (feet)	1.1	402.3	1,120.3	

MARINE MAMMALS

	LF Cetacean	HF Cetaceans	VHF Cetaceans	PW Pinniped	OW Pinnipeds
AUD INJ ONSET (Peak isopleth, meters)	1.6	0.5	34.1	1.4	0.5
AUD INJ ONSET (Peak isopleth, feet)	5.2	1.5	112.0	4.5	1.5
AUD INJ ONSET (SEL_{cum} isopleth, meters)	3,062.6	390.7	4,739.3	2,720.7	1,014.2
AUD INJ ONSET (SEL_{cum} isopleth, feet)	10,047.8	1,282.0	15,549.0	8,926.1	3,327.3
	ALL MM	HF Cet. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	3,414.5	NO LF CET.			
Behavior (RMS isopleth, feet)	11,202.6				

VIBRATORY PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

PRINT IN **LANDSCAPE** TO CAPTURE ENTIRE SCREEN
(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

SPCT

PROJECT INFORMATION	RMS
Sound pressure level (dB)	172
Distance associated with sound pressure level (meters)	10
Transmission loss constant	15
Number of piles per day	3
Duration to drive pile (minutes)	120
Duration of sound production in day	21600
Cumulative SEL at measured distance	215

OTHER INFO 30", 1 pile per hammer

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS
(Range to Effects)

FISHES

Fishes present

	BEHAVIOR
	RMS Isopleth
ISOPLETHS (meters)	292.9
ISOPLETHS (feet)	960.8

SEA TURTLES

NO SEA TURTLES

	PTS ONSET	BEHAVIOR
	SEL_{cum} Isopleth	RMS Isopleth
ISOPLETHS (meters)	4.9	6.3
ISOPLETHS (feet)	16.1	20.7

MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
UD INJ ONSET (SELcum isopleth, meters)	164.8	63.3	134.6	212.1	71.4
AUD INJ ONSET (SELcum isopleth, feet)	540.7	207.7	441.6	695.9	234.2
	ALL MM	HF CET. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	29,286.4	NO LF CET.			
Behavior (RMS isopleth, feet)	96,084.1				

VIBRATORY PILE DRIVING REPORT

PRINT IN **LANDSCAPE** TO CAPTURE ENTIRE SCREEN

VERSION 2.0-Multi-Species: 2024

(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

SPCT

PROJECT INFORMATION	RMS
Sound pressure level (dB)	172
Distance associated with sound pressure level (meters)	10
Transmission loss constant	15
Number of piles per day	6
Duration to drive pile (minutes)	120
Duration of sound production in day	43200
Cumulative SEL at measured distance	218

OTHER INFO 30",2 piles per hammer

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS
(Range to Effects)

FISHES

Fishes present

	BEHAVIOR
	RMS Isopleth
ISOPLETHS (meters)	292.9
ISOPLETHS (feet)	960.8

SEA TURTLES

NO SEA TURTLES

	PTS ONSET	BEHAVIOR
	SEL_{cum} Isopleth	RMS Isopleth
ISOPLETHS (meters)	7.8	6.3
ISOPLETHS (feet)	25.5	20.7

MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
UD INJ ONSET (SELcum isopleth, meters)	261.6	100.5	213.7	336.7	113.3
AUD INJ ONSET (SELcum isopleth, feet)	858.3	329.7	701.0	1,104.7	371.8
	ALL MM	HF CET. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	29,286.4	NO LF CET.			
Behavior (RMS isopleth, feet)	96,084.1				

VIBRATORY PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

PRINT IN **LANDSCAPE** TO CAPTURE ENTIRE SCREEN
(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

SPCT

PROJECT INFORMATION	RMS
Sound pressure level (dB)	175
Distance associated with sound pressure level (meters)	10
Transmission loss constant	15
Number of piles per day	3
Duration to drive pile (minutes)	180
Duration of sound production in day	32400
Cumulative SEL at measured distance	220

OTHER INFO 36", 1 pile per hammer

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS
(Range to Effects)

FISHES

Fishes present

	BEHAVIOR
	RMS Isopleth
ISOPLETHS (meters)	464.2
ISOPLETHS (feet)	1,522.8

SEA TURTLES

NO SEA TURTLES

	PTS ONSET	BEHAVIOR
	SEL_{cum} Isopleth	RMS Isopleth
ISOPLETHS (meters)	10.2	10.0
ISOPLETHS (feet)	33.4	32.8

MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
UD INJ ONSET (SELcum isopleth, meters)	342.2	131.5	279.6	440.5	148.3
AUD INJ ONSET (SELcum isopleth, feet)	1,122.9	431.4	917.2	1,445.3	486.5
	ALL MM	HF CET. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	46,415.9	NO LF CET.			
Behavior (RMS isopleth, feet)	152,283.1				

VIBRATORY PILE DRIVING REPORT

PRINT IN **LANDSCAPE** TO CAPTURE ENTIRE SCREEN
(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

VERSION 2.0-Multi-Species: 2024

SPCT

PROJECT INFORMATION	RMS
Sound pressure level (dB)	175
Distance associated with sound pressure level (meters)	10
Transmission loss constant	15
Number of piles per day	6
Duration to drive pile (minutes)	180
Duration of sound production in day	64800
Cumulative SEL at measured distance	223

OTHER INFO	36",2 piles per hammer
NOTES	no attenuation
Attenuation	0

RESULTANT ISOPLETHS
(Range to Effects)

FISHES

Fishes present

	BEHAVIOR
	RMS Isopleth
ISOPLETHS (meters)	464.2
ISOPLETHS (feet)	1,522.8

SEA TURTLES

NO SEA TURTLES

	PTS ONSET	BEHAVIOR
	SEL_{cum} Isopleth	RMS Isopleth
ISOPLETHS (meters)	16.1	10.0
ISOPLETHS (feet)	53.0	32.8

MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
AUD INJ ONSET (SELcum isopleth, meters)	543.3	208.7	443.8	699.3	235.4
AUD INJ ONSET (SELcum isopleth, feet)	1,782.4	684.8	1,455.9	2,294.3	772.2

	ALL MM
Behavior (RMS isopleth, meters)	46,415.9
Behavior (RMS isopleth, feet)	152,283.1

HF CET. present NO VHF CET. NO PHOCIDS NO OTARIIDS
NO LF CET.

VIBRATORY PILE DRIVING REPORT

VERSION 2.0-Multi-Species: 2024

PRINT IN **LANDSCAPE** TO CAPTURE ENTIRE SCREEN
(if OTHER INFO or NOTES get cut-off, please include information elsewhere)

SPCT

PROJECT INFORMATION	RMS
Sound pressure level (dB)	180
Distance associated with sound pressure level (meters)	10
Transmission loss constant	15
Number of piles per day	1
Duration to drive pile (minutes)	1800
Duration of sound production in day	108000
Cumulative SEL at measured distance	230

OTHER INFO Demo, 3 hammers

NOTES no attenuation

Attenuation 0

RESULTANT ISOPLETHS
(Range to Effects)

FISHES

Fishes present

	BEHAVIOR
	RMS Isopleth
ISOPLETHS (meters)	1,000.0
ISOPLETHS (feet)	3,280.8

SEA TURTLES

NO SEA TURTLES

	PTS ONSET	BEHAVIOR
	SEL_{cum} Isopleth	RMS Isopleth
ISOPLETHS (meters)	48.9	21.5
ISOPLETHS (feet)	160.4	70.7

MARINE MAMMALS

	LF Cetacean	MF Cetaceans	HF Cetaceans	PW Pinniped	OW Pinnipeds
UD INJ ONSET (SELcum isopleth, meters)	1,645.4	632.1	1,344.0	2,117.9	712.9
AUD INJ ONSET (SELcum isopleth, feet)	5,398.1	2,073.9	4,409.4	6,948.4	2,338.8
	ALL MM	HF CET. present	NO VHF CET.	NO PHOCIDS	NO OTARIIDS
Behavior (RMS isopleth, meters)	100,000.0	NO LF CET.			
Behavior (RMS isopleth, feet)	328,084.0				

Appendix H: Environmental Impact Statement Distribution List

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APPENDIX H: ENVIRONMENTAL IMPACT STATEMENT DISTRIBUTION LIST

The Notice of Availability for the Draft Environmental Impact Statement (EIS) was distributed to the following Federal and State legislative representatives, agencies, Tribes, and organizations. The same recipients will receive the Notice of Availability for this Final EIS.

Federal Agencies

National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS)
NMFS-Habitat and Ecosystems Services Division (HESD)
NMFS-Office of Protected Resources (PRD)
US Environmental Protection Agency (USEPA)
US Fish and Wildlife Service (USFWS)
US Coast Guard (USCG)
US Army Corps of Engineers Civil Works Division

Federally Recognized Tribes

Delaware Nation
Delaware Tribe of Indians
Eastern Shawnee Tribe of Oklahoma
Pamunkey Tribe

State Agencies / Governments

Baltimore County
Critical Area Commission for the Chesapeake and Atlantic Coast Bays (CAC)
Maryland Board of Public Works (BPW)
Maryland Department of Natural Resources (MDNR)
Maryland Department of the Environment (MDE)
Maryland Historical Trust (MHT)
Maryland Port Administration (MPA)

Elected Officials

US Senate

Angela Alsobrooks
Ben Cardin

US House of Representatives

Kweisi Mfume
John Sarbanes

Maryland House of Delegates

Brian Chisholm
Luke Clippinger
Mark Edelson
Robin Grammer
Nicholaus Kipke
Robbyn Lewis
Robert Long
Ric Metzgar
Rachel Munoz
Gary Simmons

Maryland Senate

Bill Ferguson
Clarence Lam
Johnny Salling
Bryan Simonaire

Baltimore City Mayor

Brandon Scott

Baltimore County Executive

Johnny Olszewski, Jr.

Baltimore County Council

Todd Crandell

Baltimore City Council

Zeke Cohen
Phylicia Porter

Anne Arundel County Executive

Steuart Pittman

Anne Arundel County Council

Peter Smith
Nathan Volke

Community Organizations

Chesapeake Gateway Chamber of Commerce
Dundalk Chamber of Commerce
Essex Middle River Civic Association
Fort Howard Community Association
Greater North Point Association, Inc.

Millers Island Edgemere Business Association
North Point Peninsula Council, Inc.
Northpoint Village Civic Association
Old Bay Marina
P-12 Alliance
Rockaway Beach / Turkey Point Improvement Association
Turner Station Conservation Teams
Watersedge Community Association
Weaver's Marine
Wells-McComas Civic Association

Tradepoint Atlantic Tenants

Adrian Steel of Maryland
Aluma Systems
APS Stevedoring
A.R. Wakefield Logistics
Arnold Packaging
Atlantic Forest Products - Office
Beazer Homes
BMW
Brand Safway
C. Steinweg Group
Carter Machinery
CCBC
Chaney Enterprises
Chesapeake Specialty Products
Continuum Transportation Services
DCA1 - Amazon
DCA6 - Amazon
Denny's
Dunavant
East Coast Warehouse
Eastern Metal Recycling
Erickson Senior Living
FedEx Ground
Floor and Décor
Gotham Greens
Hale Transport
Harley Davidson
Home Depot FDC
Home Depot MDC

Imerys
INEOS
Integrated Salt Products
Intralox
K & K Painting
Lafarge
Life Science Logistics
Marine: Port Logistics Center II
Marmiro Stones
McCormick
MTN6 - Amazon
Niagara Bottling
North Point Yacht Club
Orstead
Perdue
Pleasant Yacht Club
Pompeian
Popeyes
Royal Farms
S.H. Bell Company
Schneider
Skanska USA Civil Southeast
Smiths Detection
Starbucks
STG Logistics
Tarpon Towers
UMMS
Under Armour
Underwood Energy
US Wind
Volkswagen
White Marsh Transport
Windspeed Logistics
Workwear Outfitters

Tradepoint Atlantic Neighboring Property Owners

17 Christina Ct LLC
4601 NPB Holdings LLC
8911 Bethlehem Blvd I LLC and 8911 Bethlehem Blvd II LLC
Aging Barns LLC
AMG Resources Corp

Amtrol Water Technology LLC
Baltimore County Maryland
Baltimore County Maryland
BANP LLC
Beazer Homes LLC
CDL Land Holdings LLC
CRD Golf LLC
CSP Property Holdings Inc
Erasmus Properties (Reservoir Rd) Business Trust
Erasmus Properties Business Trust
F2 LLC
Loders Croklaan USA LLC
Merritt / Bavar - Grays Rd LLC
Millers Island Propeller Inc
Mukta 2500 Properties Inc
North Point Property Owner LLC
International Union of Operating Engineers Local 37 Training School
Reservoir Warehouse LLC
Rukert Lazaretto Corporation
Sweetheart Properties LLC
Wheeler Properties LLC

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Appendix I: Coastal Zone Management Act Evaluation

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APPENDIX I: COASTAL ZONE MANAGEMENT ACT EVALUATION

Introduction

This report provides an evaluation of the Coastal Zone Management Act (CZMA) for the Sparrows Point Container Terminal (SPCT) project to construct a new container terminal (the terminal) in the Port of Baltimore (the Port). The proposed terminal would consist of a +/- 3,000-foot marginal wharf with ship-to-shore cranes, a container yard, gate complex, intermodal/rail yard, and various support structures. To provide vessel access to the wharf, the project would include deepening and widening of the existing Sparrows Point Channel and turning basin, which would require dredging and placement of approximately 4.2 million cubic yards of dredged material. The proposed project would include the construction of an upland DMCF on TPA property at High Head Industrial Basin, as well as use of existing permitted DMCFs managed by Maryland Port Administration (MPA) (Cox Creek and Masonville DMCFs), and an ocean placement site (Norfolk Ocean Disposal Site [NODS]).

The CZMA analysis was first presented in the Draft Environmental Impact Statement and shared with the Maryland Department of the Environment (MDE) by letter dated 19 December 2024. On August 27, 2025, the Board of Public Works approved the Tidal Wetlands License. When the Tidal Wetlands License is issued, MDE will include concurrence with the CZMA analysis; this will be included in the ROD. The CZMA analysis, when combined with the Final EIS and with MDE's concurrence, serve as documentation that the Preferred Alternative is in full compliance with the CZMA.

Location

The proposed SPCT would be located in Baltimore County, Maryland on a 330-acre area on the southwest peninsula of Sparrows Point known as Coke Point Peninsula (Coke Point) along the Patapsco River and a 71-acre area in the northern area of Sparrows Point. The SPCT project area includes Coke Point, the Sparrows Point Channel out to the juncture with the Brewerton Channel, and the High Head Industrial Basin. The project also includes the placement of dredged material at permitted facilities (MPA DMCFs and NODS) outside of the SPCT project area.

Federal Coastal Zone Management Act, 16 USC 1451 et seq.

The Federal Coastal Zone Management Act 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). Section 307 of CZMA, or the "federal consistency" provision, gives states a voice in federal agency coastal actions through the National Coastal Zone Management Program. The National Oceanic and Atmospheric Administration (NOAA) is responsible for approving the coastal management programs.

The CZMA requires that all federal agency actions, licenses, or permits or federal financial activities with reasonably foreseeable effects on the land, water, or natural resources of the coastal zone be conducted in a manner consistent with the enforceable policies of a state's coastal management program approved by NOAA. In Maryland, the Coastal Consistency review is intended to ensure that federal actions are consistent with Maryland's Coastal Zone Management Program (CZMP) enforceable policies.

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 National Environmental Policy Act documents as a vehicle for its consistency determination.

Maryland Coastal Zone Management Program

The coastal zone of Maryland includes the water and submerged lands in the Chesapeake Bay, Atlantic Coastal Bays, and Atlantic Ocean three miles out into the ocean. It also includes the lands to the inland boundaries of Maryland's 16 coastal counties and Baltimore City that border the Atlantic Ocean, Chesapeake Bay and the Potomac River up to the District of Columbia. Maryland's CZMP was approved by NOAA in 1978. On October 4, 2024, Maryland submitted a Program Change Request to NOAA to align the program with changes to underlying state laws, policy language, and citations. In Maryland, the Maryland Department of Natural Resources oversees the CZMP.

Findings of the Coastal Zone Consistency Evaluation

This assessment was completed to determine if the proposed SPCT development would be carried out in a manner fully consistent with the enforceable policies of Maryland's CZMP. Table I-1 provides an overview of how the proposed action complies with all CZMA Enforceable Policies. The completed CZMA Enforceable Policy forms relevant to the project are also included in this appendix.

Table I-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	Full. See appended form.
Non-Tidal Wetlands	Not Applicable.
Forests	Not Applicable.
Historical and Archaeological Sites	Not Applicable.
Living Aquatic Resources	Full. See appended form.
Mineral Extraction	Not Applicable.
Electrical Generation and Transmission	Not Applicable.
Tidal Shore Erosion Control	Full. See appended form.
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	Full. See appended form.
Sewage Treatment	Not Applicable.

Core Policies – Supplemental Information

Page 15, Flood Hazards & Community Resilience Policy 2f – Prohibition of Construction or Substantial Improvements in 100-Year Floodplain.

Supplemental information is from the *Basis of Design and Design Criteria for the Sparrows Point Container Terminal* (Moffatt & Nichol 2024)

Sea Level Rise

An evaluation was made for sea level rise and storm flooding effects in the project vicinity. Sea level rise effects are based on current Maryland state guidance, Sea-level Rise Projections for Maryland 2018 (Boesch et al. 2018), with reference to the 2022 guidance (2022) for using the 2018 projections (Moffatt & Nichol 2024). Storm flooding effects are incorporated based on the US Army Corps of Engineers (Corps) North Atlantic Coast Comprehensive Study (Corps 2015).

Two different approaches are followed to estimate a minimum grade level for the Sparrows Point project.

- Semi-deterministic Analysis: This represents a “typical” approach to Sea Level Rise, superimposing a design Sea Level Rise offset with benchmark flood levels (e.g., 100-year flood).
- Probabilistic Analysis: The approach for probabilistic analysis is based on Oskamp et al. (2022).

Design water level for year 2100 is recommended to be +12 feet NAVD88 (Moffatt & Nichol 2024).

The design top-of deck elevation for the container wharf shall be +14.0 feet NAVD88 to mitigate the risk of surge inundation over the design life of the project, which provides 2 feet freeboard over the future design still water elevation.

References

Boesch, D.F., W.C. Boicourt, R.I. Cullather, T. Ezer, G.E. Galloway Jr., K.H. Johnson, K.H. Kilbourne, et al. 2018. *Sea-level Rise: Projections for Maryland*. Cambridge, MD: University of Maryland Center for Environmental Science.

Moffatt & Nichol. 2024. *Basis of Design and Design Criteria for the Sparrows Point Container Terminal*. January 2024.

Oskamp, J.A., J.D. Martin, E.D. Smith, and A.M. Forbes. 2022. *A Probabilistic Framework for Climate Change in Design.* PORTS Conference Proceedings. Honolulu, Hawaii: American Society of Civil Engineering.

US Army Corps of Engineers (Corps). 2015. *North Atlantic Coast Comprehensive Study: Resilient Adaption to Increasing Risk.* United States Army Corps of Engineers.

December 19, 2024

Danielle Spendiff
Federal Consistency Coordinator
Maryland Department of the Environment
Water and Science Administration
1800 Washington Boulevard
Baltimore, MD 21230-1708

RE: Coastal Zone Management Act Consistency Determination, Sparrows Point Container Terminal Project

Tradepoint TiL Terminal, LLC is submitting a Coastal Zone Management Act Consistency Determination for the Sparrows Point Container Terminal (SPCT) Project. SPCT has previously submitted a Joint Permit Application for this project, Maryland Department of the Environment (MDE) tracking number 23-WL-0862 and US Army Corps of Engineers (Corps) tracking number NAB-2023-61200.

Attached herein is the required information noted in the MDE Maryland Coastal Zone Management Program Enforceable Policies. The Draft Environmental Impact Statement for the SPCT project includes supporting information and is incorporated by reference.

If you have any questions or require additional information, please contact the undersigned at 410-382-6667 or Ms. Peggy Derrick with EA Engineering at 410-329-5126. Thank you for your attention to this matter.

Sincerely,
Tradepoint TiL Terminal, LLC

Tom Caso
Project Manager

Cc: Maria Teresi, Corps (via email maria.teresi@usace.army.mil)
Joe Davia, Corps (via email joe.davia@usace.army.mil)
Nicole Nasteff, Corps (via email Nicole.nasteff@usace.army.mil)

Coastal Zone Management Program - Core Policies Checklist

Name of Project:

Sparrows Point Container Terminal

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:

During construction, NOx emissions will exceed the 50 tpy NOx threshold (the General Conformity de minimis threshold) requiring mitigation. TPA is working with lead agencies to evaluate mitigation including potentially purchasing off-site NOx credits from the MDE permanent credit bank. Emissions of other criteria pollutants, including VOC, PM10, PM2.5, and SO2, would be minor impacts.

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:

Peak sustained and periodic noise levels for dredging, construction, and operations would reach over 90 dBA (up to 101 dBA in some cases) at a 50-ft range, but would attenuate to acceptable residential levels (65 dBA) within 3,200 feet or less. (closest residences more than 8,000 ft from the project area).

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:

No State Wild Lands will be impacted by the proposed project. The SPCT project is in the vicinity of North Point State Park but no impacts to the park are anticipated.

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:

Coordination with the Maryland Historical Trust is complete for the main project but is ongoing for mitigation activities. Based on this consultation, the DMCF was designed to avoid locations with potential cultural resources. Consultation is ongoing regarding potential mitigation sites.

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. The project will result in some changes to the viewshed from the Patapsco River, especially for boaters on the river. Viewshed analyses were completed for communities with sightlines to the project, minimal changes to the viewshed would be detectable from nearby and adjacent communities.

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 project will not impact Maryland Scenic or 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 proposed project is not located 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 proposed project is not 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:

The Corps initiated public scoping in 2023, held two public scoping meetings in January 2024, and solicited public comment. The Draft EIS will also be made available for public review and comment and the review period will include a public hearing. Comments on the Draft EIS will be considered when preparing the Final EIS and the Record of Decision. Additionally the applicant has a robust community outreach program.

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 SPCT project will include erosion and sediment controls as part of construction BMPs and under the Maryland NPDES Program and project permit.

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 proposed SPCT project 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 the event of an accidental hazardous waste release actions will be taken to address immediate threats to human health or the environment caused by the release and would be in line with COMAR and Resource Conservation and Recovery Act (RCRA).

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:

The SPCT is within the Port of Baltimore; once operational, hazardous materials transported to the site will be properly described, packaged, marked, labeled, placarded, and approved for highway, rail, or water transportation in accordance with all applicable laws and regulations.

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 project will require numerous permits. Applications will be submitted for NPDES, Section 401 water quality certification, water appropriation or use, dam safety, and other applicable permits. The applicant will comply with the permit requirements to protect waters of the state.

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:

The SPCT project area is an industrially-developed area with substantial navigation and shipping activities, and recreational boating. The project will require a Clean Water Act 404(b)(1) evaluation, Section 401 Water Quality Certification, and other applicable permits. The applicant will comply with the permit requirements to protect waters of the state

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:

Activities under the project will be completed in compliance with the NPDES permit and BMPs will be put in place during dredging and in-water work to minimize the release of sediment and contaminants. Dredging will remove sediment with legacy contaminants, and development of the DMCFs will encapsulate existing sediments with elevated concentrations of contaminants. Sediment sample analysis report are available upon request.

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:

All discharges will be in compliance with the site's existing NPDES permit and any subsequent modifications to the existing permits, and in accordance with the 401 Water Quality Certificate.

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:

Proposed discharges associated with the construction and operation of the elements of this project have been thoroughly described and impacts analyzed in section 4.6.2 of the DEIS. Appropriate permits will be obtained for construction and operation and the applicant will comply with permit conditions.

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 SPCT project will not require any 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:

No pesticide application or storage is anticipated as part of this project.

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:

Proposed discharges associated with the construction and operation of the elements of this project have been thoroughly described and impacts analyzed in section 4.6.2 of the DEIS. Appropriate permits will be obtained for construction and operation and the applicant will comply with permit conditions (see Appendix A for permits required).

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. Project BMPs include a Spill Prevention, Control, and Countermeasure (SPCC) Plan.

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:

No materials will be deposited into open water. The Coal Pier Channel DMCF will be contained, sediments proposed for placement in the Coal Pier Channel DMCF have been tested to document suitability for placement in the DMCF. The DMCF will encapsulate sediments with legacy contaminants and eliminate toxicity exposure pathways. Construction will include BMPs for in-water work and will be implemented in accordance with applicable permit conditions.

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:

As the lead federal agency, the Corps hosted two public scoping meetings in 2024. Two public hearings will be held as part of the public review of the EIS. Additionally, the applicant has a robust community outreach program.

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 Appropriation and Use Permit will be needed for the slurry of dredged material for offloading/pumping to upland DMCFs. Slurry water will be recycled to the maximum extent practicable. The use of surface waters and the volume of water withdrawn from Bear Creek and the Patapsco River would comply with conditions of a Water Appropriation and Use Permit issued by MDE.

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:

A flood hazard analysis was conducted as part of the DEIS. The Coal Pier Channel DMCF may create slightly increased flood heights immediately adjacent to the dike, but these will be minimal, limited to the DMCF and will not impact the flood vulnerability of the surrounding community.

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 project was designed to account for sea level rise and floodplain concerns. The required 1-foot freeboard above the 100-year floodplain will be met.

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 SPCT project does not include the development of any unlined earth channels.

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 Lined Channels.
- ● Not Applicable.

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

The SPCT project does not include the development of any lined stream channels.

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 development of the DMCFs under the SPCT project will not result in the development of dams used for water impoundments. The dikes for the Coal Pier DMCF and the High Head DMCF are considered dams and would be subject to permitting and inspection by MDE's Dam Safety Program. The volume of dredged material placed will be appropriate to the DMCF capacity at the time of placement, will not exceed the allowable elevation of the DMCF, and will maintain 2 ft of freeboard. The DMCFs are not in a location that poses a risk to surrounding communities or utilities.

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 proposed Coal Pier Channel DMCF will not impact the flood vulnerability of the surrounding community or other properties.

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:

For this project, only the Coal Pier DMCF and wharf would be located within the 100-year floodplain. All other facilities would be located outside the 100-year floodplain. Both the Coal Pier DMCF and the wharf have been designed to be resilient and to be flood-proof.

Coastal Zone Management Program - Core Policies Checklist

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:

No channelization for flood control is proposed as part of the SPCT project. The existing Sparrows Point Channel will be expanded for navigation safety.

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:

see attached supplemental information

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 SPCT project is not within the Gwynne Falls or Jones Falls watersheds.

Coastal Zone Management Program - Critical Area Policies Checklist

Name of Project:

Sparrows Point Container Terminal

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 project is located in an intensely developed area and existed before 1985, the buffer is a modified buffer area.

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:

The project is located in an intensely developed area and existed before 1985, the buffer is a modified buffer area.

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:

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:

Waterfowl may experience disturbance during construction activities but these impacts will be temporary. The western, southern, and eastern boundaries of Sparrows Point are encompassed by MDNR-designated waterfowl areas. However, waterfowl activity directly adjacent to the project area at Coke Point was low at the time of a 2024 bird survey. The project area is identified as an Intensely Developed 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:

Noise generated during construction may have temporary impacts on fish behavior/movement but these impacts will be minimized through Best Management Practices. A zone of passage during the spring migration period will be maintained during construction activities. No long-term impacts on fish behavior/movement will occur as a result of the project. A biological assessment and essential fish habitat analysis have been prepared and the applicant is in consultation with NMFS and MDNR on these matters. Mitigation required by NMFS will be added to the final BA, EFH and Final EIS and ROD.

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:

- (selected) 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:

The construction of the Coal Pier DMCF dike will include placement of artificial surfaces onto the bottom of the Patapsco River. These impacts will be mitigated as described in the mitigation plan, mitigation projects will improve water quality and fisheries habitat. The revetment slope would be armored with heavy stone (riprap) to provide slope stabilization and protect against wave action, propwash, and other erosive forces.

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:

- (selected) 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:

While a dam will be constructed in the Patapsco River, it will only limit fish movement into and out of the Coal Pier Channel. The Coal Pier Channel is an existing industrial navigation channel with legacy contaminants in the sediment, resulting in poor quality habitat for aquatic organisms. The project will include a dam at the mouth of the channel as part of the Coal Pier Channel Dredged Material Containment Facility. This will cap the contaminated sediments in the Coal Pier Channel, improving aquatic habitat in the immediate area.

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:

- (selected) 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 stream crossings will occur.

Coastal Zone Management Program - Critical Area Policies Checklist

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:

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:

The project will not impact areas designated to protect habitat, including buffers, in the Critical Area.

Coastal Zone Management Program - Critical Area Policies Checklist

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 located within an intensely developed area and will be compliant with the policies.

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:

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:

The project does not include public facilities.

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:

The project does not include research facilities.

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:

The project is a port project and is sited entirely within an intensely developed area.

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 facilities are included in 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:

A buffer management plan will be developed if required by applicable permits.

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:

This project does not include surface mining.

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:

This project does not include mining

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:

This project does not include extraction of sand or gravel.

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:

No wash plants will be placed within the 100-fott buffer

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:

This project does not include agriculture.

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:

Livestock operations are not a part of 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 as part of 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:

This project does not include agriculture.

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:

TThe construction of High Head Industrial Basin DMCF would remove approximately 11.2 acres of uplands (forested and shrub) and 40 acres of aquatic habitat, and 1 mile of riparian habitat along the edge of teh basin. The project area scrub-shrub vegetation is composed of a mixed canopy of short-statured tree species and dense shrub cover. Dominant plants identified within this habitat unit included winged elm (Ulmus alata), staghorn sumac (Rhus typhina), poison ivy (Toxicodendron radicans), green foxtail, white sweet clover, common mugwort, Asian bittersweet (Celastrus orbiculatus), late boneset, and nodding spurge (Euphorbia nutans). A Critical Area Management plan will be developed in compliance with the Baltimore County Buffer Management Plan as part of the Baltimore County permitting process.

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:

This project does not include commercial tree harvesting.

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:

The entire project is located within an intensely developed area and is consistence with policies for intensely developed areas.

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:

This project occurs in an intensely developed area.

Coastal Zone Management Program - Tidal Wetlands Policy Checklist

Name of Project:

Sparrows Point Container Terminal

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 SPCT project involves dredging and expansion of an existing navigational channel and placement of a potion of the dredged material in waters of the United States (WOTUS) through the construction of a DMCF. The area to be dredged is an existing navigation channel, the project will widen and deepen the channel to allow for larger vessels to transit from the federal Brewerton Channel to the proposed Sparrows Point Container Terminal. Dredging will generate approximately 4.2 million cubic yards of dredged material. As part of a comprehensive plan for dredged material placement, a DMCF will be constructed in the existing Coal Pier Channel, an access channel on the Patapsco River. The Coal Pier Channel is bordered on three sides. This channel contains legacy contaminants from the Bethlehem Steel Company historic operations. The development of the DMCF in this channel significantly reduces the area impacted and will result in the capping of legacy contaminants in the sediment of the channel, reducing their availability to aquatic resources in the area. A mitigation plan has been developed to mitigate for the 19.6 acres of WOTUS impacted by the proposed Coal Pier Channel DMCF. In addition, approximately 55,000 CY of material will be dredged from the alignment of the exterior dike for the Coal Pier Channel DMCF prior to in-water placement of sand for dike construction. In addition to dredged material placement, 7,500 CY of fill will be placed for the bulkhead, 95,000 CY for the revetment and 75,000 CY for the construction of the Coal Pier Channel DMCF dike.

MARYLAND Coastal Zone Management Program - Living Aquatic Resources Policies Checklist

Name of Project:

Sparrows Point Container Terminal

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:

Consultation under the Endangered Species Act is ongoing with NMFS and USFWS, additionally consultation with MDNR regarding state listed species has been ongoing. The applicant will comply with the requirements of approvals under this process.

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:

Fish harvesting is not part of this 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 does not occur in a state fishery sanctuary or management area

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:

While a dam will be constructed in the Patapsco River, it will only limit fish movement into and out of the Coal Pier Channel. The Coal Pier Channel is an existing industrial navigation channel with legacy contaminants in the sediment, resulting in poor quality habitat for aquatic organisms. The project will include a dam at the mouth of the channel as part of the Coal Pier Channel Dredged Material Containment Facility. This will encapsulate the contaminated sediments in the Coal Pier Channel, improving aquatic habitat in the immediate area.

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:

No work will occur in non-tidal waters.

MARYLAND 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:

No trout streams are within the project area.

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:

No non-tidal habitat will be impacted by the project.

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:

A spring and summer survey for SAV was completed in 2024 and no SAV was found in the project area.

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:

The project occurs in an area designated by MDNR as a "restricted shellfish harvesting 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:

This project does not include or affect oyster aquaculture leases.

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:

This project does not include or affect genetically modified organisms.

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:

BMPs will be implemented to mitigate the introduction of nonnative aquatic organisms.

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:

This project does not include any actions related to snakehead fish

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:

This project does not include actions associated with nonnative oysters.

MARYLAND Coastal Zone Management Program - Tidal Shoreline Erosion Control Policies Checklist

Name of Project:

Sparrows Point Container Terminal

5.3 COASTAL USES

5.3.3. Tidal Shore Erosion Control

Tidal Shore Erosion Control Policy 1 – Use Materials to Match Function & Minimize Impacts. Structural erosion control measures that employ a jetty, groin, breakwater, or other offshore structure shall be designed to use materials that are of adequate size, weight, and strength to function as intended; free of protruding objects, debris, and contaminants; and selected to minimize impacts to water quality and plant, fish, and wildlife habitat. MDE (C1) COMAR 26.24.04.01-4.

Select appropriate response:

- ○ Project will be consistent with policy requiring Offshore Structures to Be Designed to Use Materials to Control Shoreline Erosion While Minimizing Adverse Impacts.
- ● Not Applicable.

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

No structural erosion control measures will use a jetty, groin, breakwater, or other offshore structure for the SPCT project.

Tidal Shore Erosion Control Policy 2 –Prohibition of Unsuitable Materials for Backfilling. Tidal shore erosion control projects shall not use backfill containing litter, refuse, junk, metal, tree stumps, logs, or other unsuitable materials. MDE (C1) COMAR 26.24.04.01-4.

Select appropriate response:

- ● Project will be consistent with policy prohibiting the Use of Unsuitable Materials for Backfilling.
- ○ Not Applicable.

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

Tidal shore erosion control projects will not use backfill containing litter, refuse, junk, metal, tree stumps, logs, or other unsuitable materials.

Tidal Shore Erosion Control Policy 3 – Requirements for Beach Nourishment Projects. Beach nourishment projects shall meet the following requirements: The fill material grain size shall be equal to or greater in grain size and character to the existing beach material, or determined otherwise to be compatible with existing site conditions and acceptable to the Department; The fill material shall be relatively free of organic material, floating debris, or other objects; Silt and clay fills that change the sandy nature of the existing beach materials are not acceptable; Gravel fill may be acceptable, if particle sizes are equal to or greater than the existing beach materials; and Fill material shall be placed above the mean high water line before final grading to achieve the desired beach profile, unless site conditions prohibit the placement of fill material above the mean high water line and specific measures are designed to prevent material from washing away from the site. MDE (C1) COMAR 26.24.03.06D.

Select appropriate response:

- ☐ Project will be consistent with policy that defines Requirements for Beach Nourishment Projects.
- ☒ Not Applicable.

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

Beach nourishment is not a part of the SPCT project.

Tidal Shore Erosion Control Policy 4 Nonstructural Shoreline Stabilization That Preserves The Natural Environment Is Required Unless Conditions Warrant Structural Stabilization. Improvements to protect property bounding on navigable water against erosion shall consist of nonstructural shoreline stabilization measures that preserve the natural environment, such as marsh creation, except in areas designated by Department of the Environment as appropriate for structural shoreline stabilization measures, including areas of excessive erosion, areas subject to heavy tides, and areas too narrow for effective use of nonstructural shoreline stabilization measures. MDE (C1) Md. Code Ann., Envir. § 16-201.

Select appropriate response:

- ☒ Project will be consistent with policy Preferring Nonstructural Shoreline Stabilization to Preserve the Natural Environment Unless Structural Stabilization is Warranted.
- ☐ Not Applicable.

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

Construction of the marginal wharf would require structural stabilization of the shoreline beneath the wharf. This would include a bulkhead and pile-supported relieving platform to establish the revetment slope beneath the marginal wharf. The revetment slope would be armored. A mitigation plan has been proposed and is under review by USACE and MDE. A final mitigation plan will be implemented as required by USACE and MDE permits.

Tidal Shore Erosion Control 5 – Limited Encroachment into State Tidal Waters. Encroachment into State or private tidal wetlands for shore erosion control is limited to that which is structurally necessary and is verified by a design report. Bulkheads that encroach into tidal wetlands are prohibited unless the encroachment is three feet or less beyond the mean high water line and other nonstructural and structural shoreline stabilization measures have been considered and determined to be infeasible. MDE (C1) COMAR 26.24.04.01-4.

Select appropriate response:

- (●) Project will be consistent with policy Limiting Encroachment into State Tidal Waters.
- ( ) Not Applicable.

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

From the Basis of Design Report: Slope stability modeling indicated that the dredge depth in front of the wharf would destabilize the slope under the wharf, requiring pinning of the slope. A relieving platform with multiple deep pile rows was evaluated and selected. The piles both support the platform, preventing the terminal live loading from affecting the slope under the wharf, and pin the slope's failure plane under its own weight.

Tidal Shore Erosion Control Policy 6 – List of Shore Erosion Control Measures from Most to Least Consistent with State Policy. Tidal shore erosion control measures are listed below beginning with measures that are most consistent with State policy and ending with measures that are least consistent with State policy.

- No action and relocation of structures threatened by erosion
- Nonstructural shoreline stabilization that is dominated by tidal wetland vegetation, including a living shoreline
- Beach nourishment
- Breakwater
- Groin, jetty, or a similar structure
- Revetment
- Bulkhead

MDE (C1) COMAR 26.24.01.02; COMAR 26.24.04.01; COMAR 26.24.04.01-3.

Select appropriate response:

- (●) Project will be consistent with policy defining List of Shoreline Control Measures from Most to Least Consistent with State Policy.
- ( ) Not Applicable.

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

From the Basis of Design Report: Slope stability modeling indicated that the dredge depth in front of the wharf would destabilize the slope under the wharf, requiring pinning of the slope. A relieving platform with multiple deep pile rows was evaluated and selected. The piles both support the platform, preventing the terminal live loading from affecting the slope under the wharf, and pin the slope's failure plane under its own weight.

MARYLAND

Coastal Zone Management Program - Tidal Shoreline Erosion Control Policies Checklist

Tidal Shore Erosion Control Policy 7 – Conditions Prohibiting Shore Erosion Control Projects. Tidal shore erosion control projects shall not occur when:

- There is no evidence of erosion;
- Existing State or private tidal wetlands are effectively preventing erosion;
- Adjacent properties may be adversely affected by the proposed project;
- Navigation may be adversely affected by the project and the applicant has not adequately offset these impacts;
- Threatened or endangered species, species in need of conservation, or significant historic or archaeological resources may be adversely affected by the project; or
- Natural oyster bars or private oyster leases may be adversely affected by the project.

MDE (C1) COMAR 26.24.04.01.

Select appropriate response:

- ○ Project will be consistent with policy defining Conditions Where Shore Erosion Control Projects are Prohibited.
- ● Not Applicable.

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

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

Name of Project:

Sparrows Point Container Terminal

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:

Dredging is not being conducted to attain fill material. Dredging is required to allow the safe access of container vessels to the proposed terminal. Dredging has been minimized through a series of design and navigational evaluations. The project makes use of an existing channel, reducing the area for new work dredging. A complete impacts analysis was prepared as part of the Draft EIS (see chapter 4).

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

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 project makes use of the existing Sparrows Point Channel. Dredging is needed to widen and deepen the channel to allow safe access by container terminals, optimization studies were completed to reduce the dredging area and the dredged material volume (see chapters 2 and 3 of the DEIS).

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:

The project avoids impacts to habitat by using the existing Sparrows Point Channel. Dredging is needed to widen and deepen the channel to allow safe access by container terminals, optimization studies were completed to reduce the dredging area and the dredged material volume (see chapter 3 of the Draft EIS). A complete impacts analysis was prepared as part of the Draft EIS (see chapter 4).

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

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:

This project will require permits from USACE and MDE under the Clean Water Act and the Rivers and Harbors Act and other applicable permits. It will also require authorization under the Magnuson-Stevens Fishery Conservation and Management Act and the Endangered Species Act. These permits and authorizations will include time of year restrictions and the applicant will comply with these permit requirements.

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:

A spring and summer SAV survey was completed in 2024 and no SAV was found within the project 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:

The project occurs in an area designated by MDNR as a "restricted shellfish harvesting area".

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:

A thorough analysis of dredged material disposal options was completed. See section 2.1.1 of the Draft EIS.

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:

A thorough analysis of dredged material disposal options was completed. See section 2.1.1 of the Draft EIS and chapter 3 for a discussion of efforts to minimize dredged material disposal impacts. See chapter 4 of the Draft EIS for a thorough analysis of the impacts of dredged material placement.

MARYLAND 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:

The SPCT project will include erosion and sediment controls as part of construction BMPs and under the Maryland NPDES Program and project permit.

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 not be disposed in open water or in an unconfined manner in the Chesapeake Bay or tributaries.

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 not be disposed in the deep trough of the Chesapeake Bay.

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 not be disposed in open water or in an unconfined manner in the Chespaeake Bay or tidal tributaries outside Baltimore Harbor.

Name of Project:

Sparrows Point Container Terminal

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 proposed dredging is needed to provide an approach channel, turning basin, berth pocket, and channel transition areas. The recommended channel width was developed to minimize channel width while still optimizing the alignment, safe operations, and to minimize the dredging area and volume of dredged material. Deepwater access is needed based for the safe access of container ships. Detailed information on the existing and proposed channel dimensions are included in chapter 2 of the Draft EIS. A total of 4.25 MCY of material will be dredged for this project; 4.2 MCY for channel improvements and 55,000 CY for construction of the Coal Pier Channel DMCF.

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 expansion of an existing, single channel with channel wideners is proposed. Detailed information on the existing and proposed channel dimensions are included in chapter 2 of the Draft EIS.

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 project will use the existing Sparrows Point Channel. Channel improvements were designed to minimize dredging requirements while still optimizing the alignment, safe operations, and to minimize the dredging area and volume of dredged materials, which will reduce the impacts to underwater topography. The project would not impact tidal wetlands.

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 SPCT project does not include a marina.

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 SPCT project does not include any 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:

Vessels present during construction and operation of SPCT will not exceed noise levels of 90dB and are consistent with current vessels utilizing this area. See section 4.16.2 of the DEIS for an analysis of noise from construction and operation activities including vessels.

Coastal Zone Management Program - Development Policies Checklist

Name of Project:

Sparrows Point Container Terminal

5.3 COASTAL USES

5.3.9 Development

Development Policy 1– Sediment & Erosion Control. Any development shall be designed to minimize erosion and keep sediment onsite. MDE (C4) COMAR 26.17.01.08.

Select appropriate response:

- (●) Project will be consistent with policy requiring Sediment & Erosion Control.
- ( ) Not Applicable.

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

Project will include erosion and sediment controls as part of construction BMPs and as required by the Maryland NPDES Program and project permits.

Development Policy 2 – Erosion and Sediment Control Plan. An erosion and sediment control plan is required for any grading activity that disturbs 5,000 square feet of land area and 100 cubic yards of earth or more, except for agricultural land management practices and agricultural best management practices. MDE (C9) COMAR 26.17.01.05.

Select appropriate response:

- (●) Project will be consistent with policy requiring an Erosion & Sediment Control Plan.
- ( ) Not Applicable.

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

Project will include erosion and sediment controls as part of construction BMPs and as required by the Maryland NPDES Program and project permits.

Development Policy 3 – Stormwater Management. Development or redevelopment of land for residential, commercial, industrial, or institutional use shall include stormwater management compliant with the Environmental Site Design sizing criteria, recharge volume, water quality volume, and channel protection storage volume criteria. MDE (C9) COMAR 26.17.02.01, -.06

Select appropriate response:

- (●) Project will be consistent with policy requiring Stormwater Management.
- ( ) Not Applicable.

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

The construction of the wharf and terminal facilities would result in impervious surfaces throughout the terminal facility. The planned stormwater conveyance system would consist of a series of pipes that would discharge stormwater effluent to surface waters through two permitted outfalls at the south end of Coke Point. It is anticipated that the stormwater discharge from the new terminal would be incorporated into the regional stormwater plan for the Sparrows Point facilities. It is anticipated that these discharges would use credits generated through the over-treatment of local Sparrows Point stormwater by the regional wet pond stormwater facility that is currently under construction at Sparrows Point.

Development Policy 4 – First Avoid then Minimize Wetland Impacts, Minimize Water Quality, Habitat & Forest Damage & Preserve Cultural Resources. Development must avoid and then minimize the alteration or impairment of tidal and non-tidal wetlands; minimize damage to water quality and natural habitats; minimize the cutting or clearing of trees and other woody plants; and preserve sites and structures of historical, archeological, and architectural significance and their appurtenances and environmental settings. MDE/DNR/CAC (D6) Md. Code Ann., Envir. §§ 4-402, 5-907(a), 16-102(b); Md. Code Ann., Nat. Res. §§ 5-1606(c), 8-1801(a); Md. Code Ann., Land Use § 8-102; COMAR 26.24.01.01(A).

Select appropriate response:

- (●) Project will be consistent with policy that requires to First Avoid, then Minimize, Adverse Impacts to Tidal & Non-Tidal Wetlands, Water Quality, Natural Habitats, & Forests & Preserve Cultural Sites & Resources.
- ( ) Not Applicable.

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

The SPCT project was designed to avoid and minimize the impacts of site development on wetlands, natural habitats, and water quality. No non-tidal wetlands would be impacted by the project. Measures to reduce impacts on the natural and human environment were incorporated during the design planning process (see Table 1 of the DEIS). As the design process advances to final design, additional decisions concerning equipment and materials to be used and the final project footprint would be made in an effort to further avoid and minimize impacts to the extent practicable while still achieving the project goals. From initial proposed action to the proposed action recommended in the DEIS, the area of impacts to WOTUS was reduced from approximately 100 acres to approximately 19 acres. The historical uses of this site include coking operations as part of the former Bethlehem Steel Mill. The site is entirely human-made land, created by filling in a portion of the Patapsco River with steel mill slag over several decades. Previously developed areas within the site are currently undergoing demolition and razing of structures. Sparrows Point, with its industrial history, is an example of a brownfield. In recent years, Sparrows Point has been undergoing a major redevelopment initiative aimed at transforming the site into a hub for modern industrial and commercial activities. The SPCT project would continue to redevelop the site. All proposed elements of the project are confined to the historical industrial site or to previously permitted dredged placement facilities.

Development Policy 5 – Proposed Development Projects Must Be Sited Where Adequate Water Supply, Sewerage and Solid Waste Services & Infrastructure Are Available. Any proposed development may only be located where the water supply system, sewerage system, or solid waste acceptance facility is adequate to serve the proposed construction, taking into account all existing and approved developments in the service area and any water supply system, sewerage system, or solid waste acceptance facility described in the application and will not overload any present facility for conveying, pumping, storing, or treating water, sewage, or solid waste. MDE (C9) Md. Code Ann., Envir. § 9-512.

Select appropriate response:

- (●) Project will be consistent with policy requiring that Proposed Development Projects Be Sited Where Adequate Water Supply, Sewerage and Solid Waste Services Are Available.
- ( ) Not Applicable.

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

The entire project will be located within the TPA property at Sparrows Point. This is the former site of Bethlehem Steel on entirely human-made land. The area is being redeveloped into a hub for modern industrial and commercial activities. As such, water supply, sewerage, solid waster and infrastructure are available. Upgrades to utilities required for the SPCT project are included in project design. All proposed elements of the project are confined to the historical industrial site or to previously permitted dredged placement facilities.

Development Policy 6 - Proposed Construction Must Have Water and Wastewater Allocation or Provide Onsite Capacity. A proposed construction project must have an allocation of water and wastewater from the county whose facilities would be affected or, in the alternative, prove access to an acceptable well and on-site sewage disposal system. The water supply system, sewerage system, and solid waste acceptance facility on which the building or development would rely must be capable of handling the needs of the proposed project in addition to those of existing and approved developments. MDE (D6) Md. Code Ann., Envir. § 9-512.

Select appropriate response:

- (●) Project will be consistent with policy requiring Proposed Construction to Have Water & Wastewater Allocation or Provide Onsite Capacity.
- ( ) Not Applicable.

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

Civil/site utility design features would include potable water and sanitary sewer to the two buildings, fire protection water throughout the site, and natural gas to the four emergency generators provided on-site. These services would be connected to county services.

Dredged material placed at High Head Industrial Basin DMCF would be slurried with surface water and hydraulically pumped to the DMCF. The water required to slurry the material would be withdrawn from Bear Creek at the offloading location. To the extent possible, slurry water from the DMCF would be recirculated and reused in this process. The use of surface waters and the volume of water withdrawn from Bear Creek would comply with conditions of a Water Appropriation and Use Permit issued by MDE. Therefore, no impacts on surface waters would be expected for water use to slurry and pump dredged material to the DMCF.

Dredged material to be placed at the Coal Pier Channel DMCF would be slurried with surface water and hydraulically pumped into the DMCF. The water required to slurry the material could be withdrawn from the Patapsco River (near the mouth of Bear Creek) at the offloading location. To the extent possible, slurry water would be recirculated from the Coal Pier Channel DMCF and reused in this process. The use of surface waters and the volume of water withdrawn from the Patapsco River would comply with the conditions of a Water Appropriation and Use Permit issued by the MDE.

Development Policy 7 – Structures Served by On-Site Water and Sewage Waste Disposal Systems Must Demonstrate Capacity Prior to Construction or Alteration. Any residence, commercial establishment, or other structure that is served or will be served by an on-site sewage disposal system or private water system must demonstrate that the system or systems are capable of treating and disposing the existing sewage flows and meeting the water demand and any reasonably foreseeable increase in sewage flows or water demand prior to construction or alteration of the residence, commercial establishment, or other structure. MDE (D6) COMAR 26.04.02.03F.

Select appropriate response:

- ○ Project will be consistent with policy that requires Structures Served by On-Site Water & Sewerage Disposal Systems to Demonstrate Capacity Prior to Construction or Alteration.
- ● Not Applicable.

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

No on-site sewage disposal system or private water system is included in the project design.

Development Policy 8 - Grading or Building in the Severn River Watershed Requires Approved Development Plan. Proponents of grading or building in the Severn River Watershed must create a development plan and have it approved by the soil conservation district. The plan shall include a strategy for controlling silt and erosion and must demonstrate that any septic or private sewer facility will not contribute to the pollution of the Severn River. MDE (D4) Md. Code Ann., Envir. § 4-308(a).

Select appropriate response:

- ○ Project will be consistent with policy requiring an Approved Development Plan prior to Grading or Building in the Severn River Watershed.
- ● Not Applicable.

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

Project is not within the Severn River Watershed.

Coastal Zone Management Program - Development Policies Checklist

Development Policy 9 - Siting Requirements for Industrial Facilities. Industrial facilities must be sited and planned to ensure compatibility with other legitimate beneficial water uses, constraints imposed due to standards of air, noise and water quality, and provision or availability of adequate water supply and wastewater treatment facilities. MDE (D4) Md. Code Ann., Envir. §§ 2-102, 4-402, 9-224(b), 9-512(b); COMAR 26.02.03.02; COMAR 26.11.02.02B.

Select appropriate response:

- (●) Project will be consistent with policy that defines Siting Requirements for Industrial Facilities.
- ( ) Not Applicable.

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

The project is located entirely within an intensely developed area and within a former industrial site that is currently zoned as industrial/commercial.

Development Policy 10 - Citizen Engagement in Planning & Development. Local citizens shall be active partners in planning and implementation of development. MDP (D6) Md. Code Ann., St. Fin. & Proc. §§ 5-7A-01 to -02.

Select appropriate response:

- (●) Project will be consistent with policy requiring Citizen Engagement in Planning & Development.
- ( ) Not Applicable.

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

As the lead federal agency, USACE has held public scoping meetings and will hold public hearings as part of the public review of the EIS and associated permits. Additionally, the project applicant has held more than 50 community meetings to inform the local communities and engage in discussions about the project. This engagement by the applicant will continue throughout the project construction and operation.

Development Policy 11 - Protect Existing Community Character & Concentrate Growth. Development shall protect existing community character and be concentrated in existing population and business centers, growth areas adjacent to these centers, or strategically selected new centers. MDP (D6) Md. Code Ann., St. Fin. & Proc. §§ 5-7A-01 to -02.

Select appropriate response:

- (●) Project will be consistent with policy that Protects Existing Community Character & Concentrates Growth.
- ( ) Not Applicable.

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

The project is located within a historical industrial area that the applicant is redeveloping for commercial and industrial uses. The area is currently zoned as commercial/industrial.

Development Policy 12 - Site Development Near Available or Planned Transit. Development shall be located near available or planned transit options. MDP (D6) Md. Code Ann., St. Fin. & Proc. §§ 5-7A-01 to -02.

Select appropriate response:

- (●) Project will be consistent with policy that requires Site Development to Be near Available or Planned Transit.
- ( ) Not Applicable.

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

The project area is served by CityLink Gold and Baltimore Link bus routes. The area is an intensely developed area.

Development Policy 13 - Design for Walkable, Mixed Use Communities. Whenever possible, communities shall be designed to be compact, contain a mixture of land uses, and be walkable. MDP (D6) Md. Code Ann., St. Fin. & Proc. §§ 5-7A-01 to -02.

Select appropriate response:

- ( ) Project will be consistent with policy that requires Communities to Be Compact, Include Mix Land Uses, & Be Walkable.
- (●) Not Applicable.

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

Project is within a formerly industrial area and will be redeveloped as an industrial site.

Development Policy 14 – Communities Must Identify Adequate Water Supply, Stormwater & Wastewater Services & Infrastructure to Meet Existing & Future Development. To meet the needs of existing and future development, communities (geographically defined areas with shared interests, values, resources, and goals) must identify adequate drinking water and water resources and suitable receiving waters and land areas for stormwater management and wastewater treatment and disposal. MDE (D6) Md. Code Ann., Land Use § 3-106.

Select appropriate response:

- (●) Project will be consistent with policy that requires Communities to Identify Adequate Water Supply, Stormwater & Wastewater Services & Infrastructure to Meet Existing & Future Development.
- ( ) Not Applicable.

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

Civil/site utility design features would include potable water and sanitary sewer to the two buildings, fire protection water throughout the site, and natural gas to the four emergency generators provided on-site.

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Sparrows Point Container Terminal

Final Environmental Impact Statement

September 2025

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US Army Corps
of Engineers ®

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