Final Phase II Tidal Wetland Mitigation Plan
Sparrows Point Container Terminal (SPCT)

Patapsco River and Middle Chesapeake Bay Derelict Crab Trap Removal
Baltimore County, Maryland

Prepared for

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TABLE OF CONTENTS

Page

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS AND ABBREVIATIONS

Coke Point	Coke Point Peninsula
Corps	U.S. Army Corps of Engineers – Baltimore District
DA	Department of the Army
DMCF	Dredged Material Containment Facility
EA	EA Engineering, Science, and Technology, Inc., PBC
EIS	Environmental Impact Statement
GIS	Geographic Information System
HUC	Hydrologic Unit Code
Key Bridge	Francis Scott Key Bridge
MCY	million cubic yard(s)
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MDTA	Maryland Transportation Authority
MERLIN	Maryland's Environmental Resource & Land Information Network
MHW	mean high water
MLW	mean low water
MPA	Maryland Port Administration
NbS	nature-based solution
NCBO	National Oceanic and Atmospheric Administration Chesapeake Bay Office
NEMO VMS	Navigation Electronic Monitoring Organization Vessel Monitoring System
NOAA	National Oceanic and Atmospheric Administration
ORP	Oyster Recovery Partnership
Port	Port of Baltimore
SAV	Submerged Aquatic Vegetation
SHA	Maryland State Highway Administration
SPCT	Sparrows Point Container Terminal Project
TPA	Tradepoint Atlantic
TTT	Tradepoint TiL Terminal, LLC
USACE	U.S. Army Corps of Engineers
VIMS	Virginia Institute of Marine Science

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1. INTRODUCTION

The Sparrows Point Container Terminal (SPCT) project, proposed by the Tradepoint Atlantic (TPA) and Terminal Investment Limited joint venture Tradepoint TiL Terminal, LLC (TTT), is planned for Baltimore County, Maryland. The SPCT project is planned for an approximate 330-acre site at the southwest peninsula of Sparrows Point, an area TPA owns and commonly referred to as Coke Point Peninsula (Coke Point). The goal of the SPCT project is to construct a new container terminal in the Port of Baltimore. 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 develop the site.

The proposed terminal would consist of a marginal wharf with a total length of approximately 3,000 feet 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 (channel improvements), which would require dredging and placement of approximately 4.2 million cubic yards (MCY) of dredged material (Figure 2). A Preferred Alternative for placement of the dredged material was developed by TTT, which 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 the Maryland Port Administration (MPA) (Cox Creek and Masonville DMCFs), and an ocean placement site (Norfolk Ocean Disposal Site).

TTT applied for a Department of the Army (DA) permit (U.S. Army Corps of Engineers, Baltimore District [Corps] No. NAB-2023-61200) on 25 August 2023, to the Corps for the proposed SPCT project. The proposed project requires authorization from the Corps under the following statutory authorities:

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

As the lead agency under the National Environmental Policy Act, 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 10 January 2025. A Final EIS is currently being prepared to analyze and disclose the potential impacts of the SPCT project and reasonable alternatives on the natural and human environment. The Corps will determine whether to issue, issue with conditions and/or mitigation, or deny the DA permit for the proposed project.

TTT has undergone a wetland avoidance and minimization process to reduce and eventually eliminate the in-water placement of dredged material in tidal waters at the SPCT site during the planning stages for the proposed project. The initial offshore DMCF in-water footprint along the west and south shorelines of Coke Point totaled 100 acres. This was reduced to a 35-acre DMCF in-water footprint along the west shoreline of Coke Point. The DMCF was then moved to the Coal Pier Channel area of the TPA property for an approximate 19.6-acre DMCF in-water footprint. This alternative was initially used for the development of the Phase 1 Mitigation Plan and would have required over 20 acres of mitigation, including in-kind onsite, in-kind offsite, out-of-kind onsite, and out-of-kind offsite restoration, creation, and enhancement projects to compensate for the proposed impacts. Following the federal, state, and local agencies, Tribes, and public review and comment period on the Draft EIS, the Preferred Alternative described above was developed. Design changes as the project progressed 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. These avoidance and minimization efforts reduced impacts on river hydrology and aquatic communities and habitat in the river. The above changes eliminated federal mitigation requirements.

Maryland Department of the Environment (MDE) has requested compensatory mitigation for specific activities associated with the SPCT project that result in unavoidable proposed impacts to tidal Waters of the State of Maryland. TTT proposes to satisfy the required mitigation via an off-site out-of-kind tidal enhancement project within the Patapsco River or the Middle Chesapeake Bay near Hart-Miller Island or the mouth of the Magothy River. The enhancement project is referred to as the Mitigation Site and will include enhancement of existing tidal waters that will be accomplished through the removal of lost or abandoned (derelict) crab traps and debris.

This Phase II Mitigation Plan will summarize the tidal wetland impacts associated with the proposed SPCT project. No additional impacts are associated with the proposed Mitigation Site. Both impacts and mitigation are evaluated quantitatively (disturbed and compensated acreage) and qualitatively (lost and gained functions and values) in this plan. This plan will also provide mitigation project details required to satisfy the U.S. Army Corps of Engineers and Environmental Protection Agency's *Compensatory Mitigation for Losses of Aquatic Resources* (i.e., Final Rule) (Vol. 73, No. 70 Federal Register, Pages 19594-19705, 10 April 2008) and MDE's *Guidance for Tidal Wetlands Mitigation Plans* (MDE 2024a) and guidance on required information for a Phase II Mitigation Plan (MDE 2024b).

Figure 1. Vicinity Map

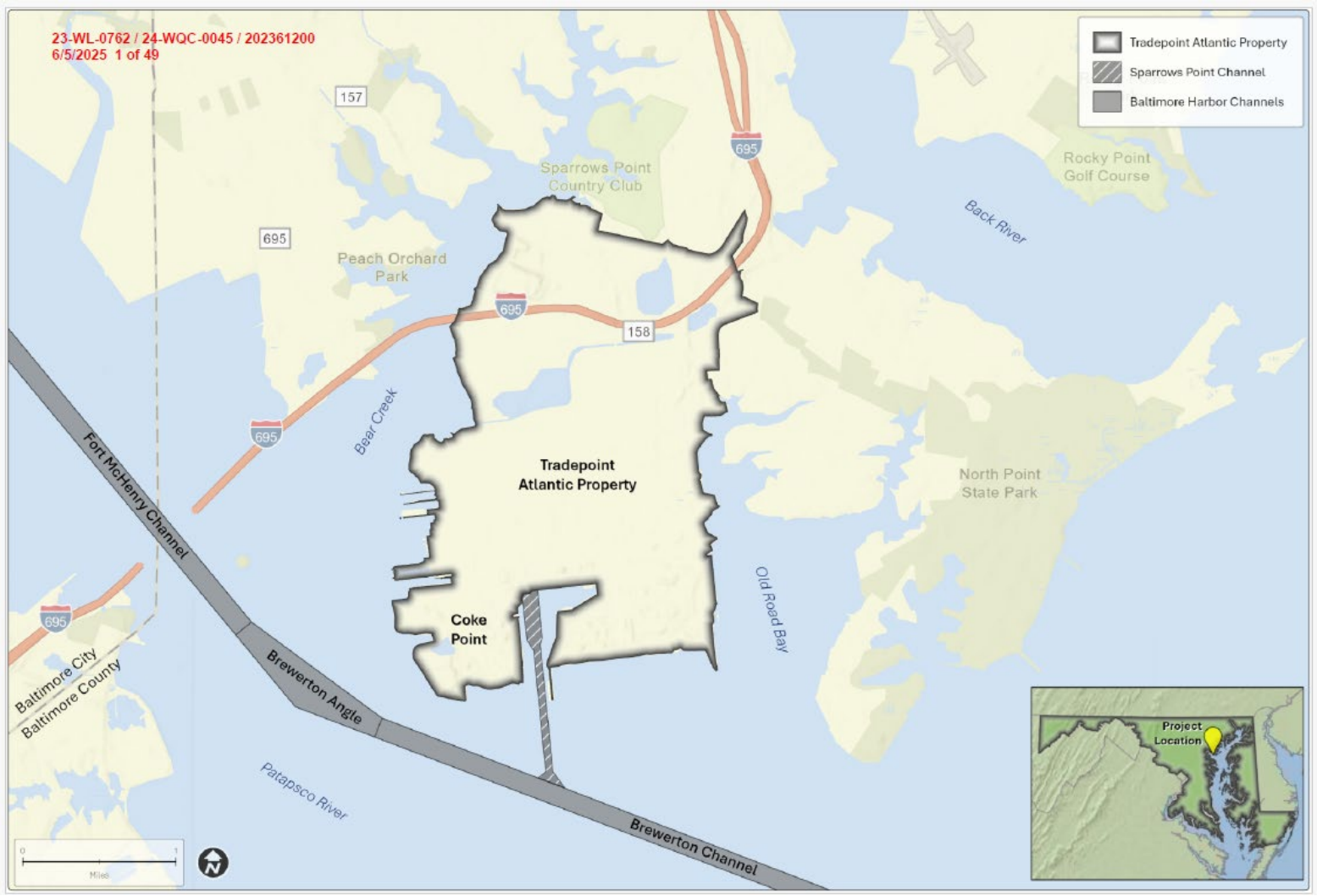
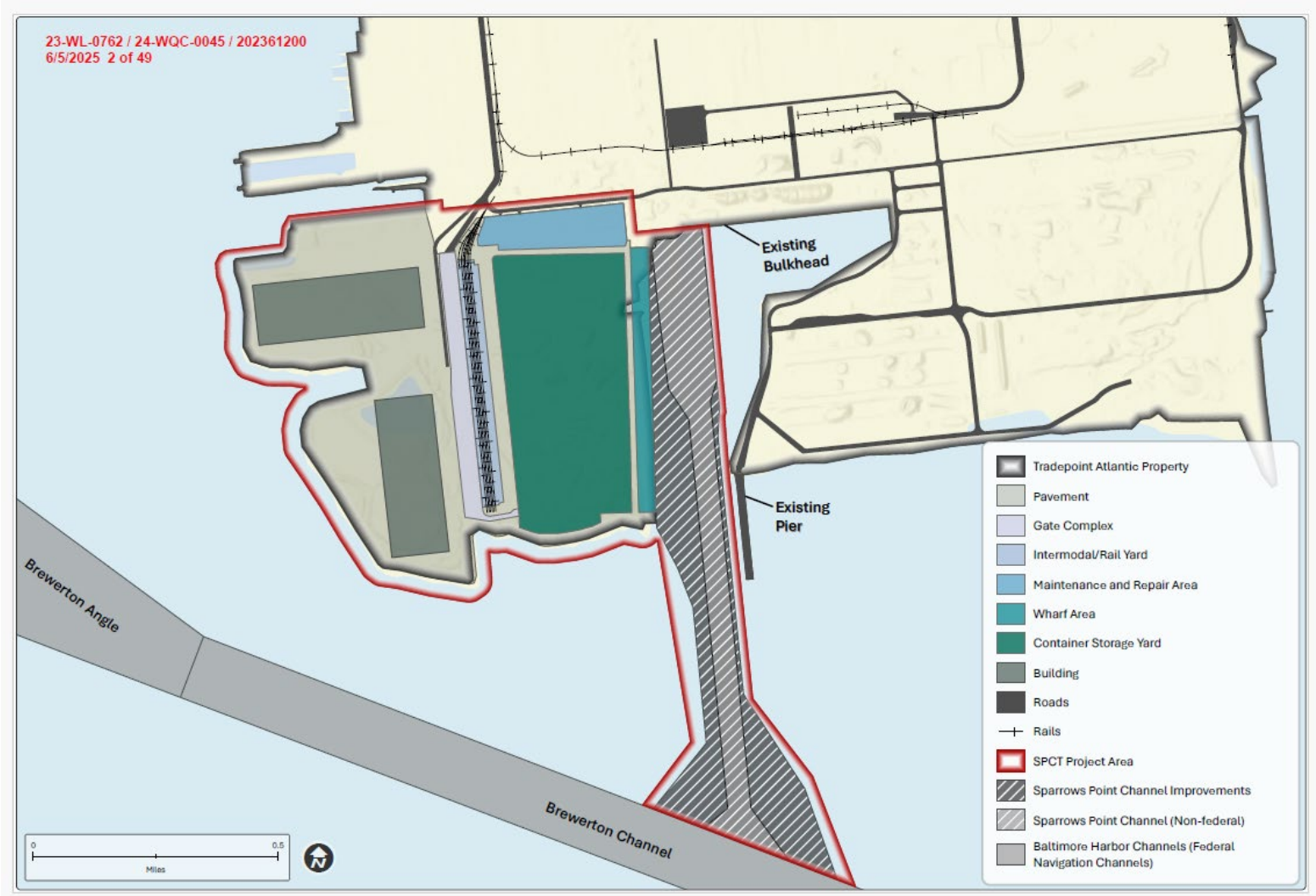


Figure 2. Proposed SPCT Project Site



1.1 MITIGATION SITE BACKGROUND

The proposed Mitigation Site is located at one or more sites near the mouth of the Patapsco River watershed (8-digit Hydrologic Unit Code [HUC] 02130903) and/or in the adjacent Middle Chesapeake Bay watershed (8-digit HUC 02139997) (Figure 3), depending upon quantities of derelict crab traps that are recoverable at each Mitigation Site to meet the mitigation goals of the project. The proposed Mitigation Site(s) will be located within Maryland Department of Natural Resources (MDNR) mapped Recreational Fishing Grounds (MDNR 2024a) and/or within locations identified as high-density derelict crab trap zones based on past mapping, previous derelict crab trap removal efforts, and input from commercial watermen. These high-density areas were identified by the Oyster Recovery Partnership (ORP), a non-profit organization dedicated to improving the environment and expanding economic opportunities in the Chesapeake and Coastal bays. Mitigation Site(s) will be in waters owned entirely by the State of Maryland, where the current land use is open water for recreational and commercial fishing.

The mouth of the Patapsco River is located approximately 2 miles southeast of the SPCT project site. Mitigation Site(s) located within the Patapsco River watershed will be in an area totaling approximately 6,600 acres situated between North Point in Baltimore County and Rock Point in Anne Arundel County southeast of the project site, and to the former Francis Scott Key Bridge (Key Bridge) northwest of the project site.

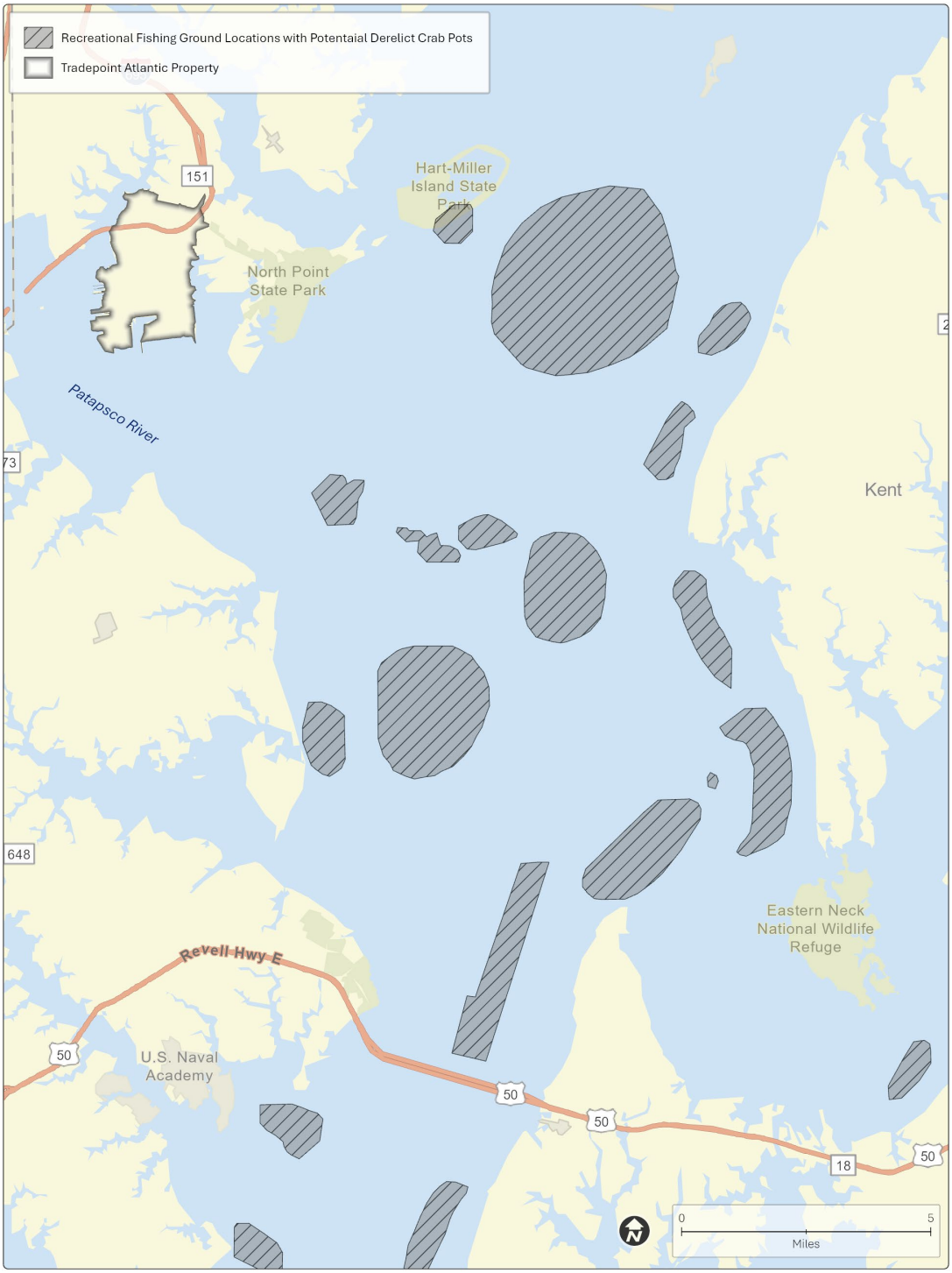
Mitigation Site(s) located within the Middle Chesapeake Bay watershed, which totals approximately 98,000 acres will primarily be focused in the Baltimore and Anne Arundel County portions of the watershed. The Middle Chesapeake Bay watershed begins at the mouth of the Patapsco River to the southeast of the site at a line extending from the tip of Fort Howard Park in Baltimore County to the tip of Fort Smallwood Park in Anne Arundel County, continues approximately 10.4 miles south-southeast of the site near the mouth of the Magothy River and extends to the southeast approximately 14.9 miles from the site to Love Point in northern Queen Anne's County, to the east approximately 12.9 miles to Tolchester Beach in Kent County, to the east-northeast approximately 15.4 miles near the mouth of Fairlee Creek in Kent County, and extends back to the west along a line across the tip of Aberdeen Proving Ground and Carroll Island to Miami Beach Park, then continues southwest along the mouth of Middle River and Back River to Fort Howard Park in Baltimore County. The previous derelict crab trap removal project undertaken by the Maryland State Highway Administration (SHA) near Hart-Miller Island State Park is located within the Middle Chesapeake Bay watershed approximately 9 miles northeast of the project site.

TTT has entered into an agreement with ORP for the SPCT project to perform derelict crab trap recovery within the mouth of the Patapsco River watershed (HUC 02130903) and within the adjacent Middle Chesapeake Bay watershed (HUC 02139997). ORP will coordinate directly with TTT, and will work directly for TTT, in the execution of this SPCT mitigation project.

The large-scale crabbing industry that occurs throughout the tidal portions of Chesapeake Bay continue to be a significant source of local revenue. Blue crabs (*Callinectes sapidus*) are harvested by watermen using crab "pot" traps (Bilkokavic et al. 2016). The traps are baited to attract and capture crabs and are designed to have minimal escapement to minimize loss of

harvest. Traps often get lost for various reasons and become derelict crab traps, which are a prevalent form of marine debris in the Bay (National Oceanic and Atmospheric Administration [NOAA] and Versar 2010). A study led by researchers at William & Mary's Virginia Institute of Marine Science (VIMS) showed that "ghost" crab traps are the most common type of derelict fishing gear in Chesapeake Bay. These have significant impacts Bay-wide on the environment and on crabbers' financial resources. There are now efforts to find and remove derelict crab traps and keep them from being lost.

Figure 3. Mitigation Site - Recreational Fishing Grounds in the Middle Chesapeake Bay and Potential Locations for Removal of Derelict Crab Traps



In 2005, the NOAA Chesapeake Bay Office (NCBO) created the Derelict Fishing Gear Program to address the negative impacts that derelict crab traps were having on blue crabs and other species in Chesapeake Bay. Derelict crab traps are typically lost during storms, vandalized, or abandoned by fishermen and are estimated to persist for 1 to 7 years (Arthur et al. 2014). During this time, the fisherman will continue to trap blue crabs as well as other marine organisms known as bycatch, such as white perch (*Morone americana*), oyster toadfish (*Opsanus tau*), black seabass (*Centropristis striata*), and American eel (*Anguilla rostrata*). Diamond back terrapins (*Malaclemys terrapin*) have not been recovered from derelict crab traps in the Chesapeake Bay waters of Maryland, but the terrapins are considered high risk for active crab traps and have been found in derelict crab traps recovered from the Chesapeake Bay waters of Virginia Bay (VIMS 2010). NOAA NCBO estimates that more than 250,000 commercial crab traps are deployed in Chesapeake Bay per day during the summer (NOAA and Versar 2010). A report by VIMS estimates that 50,000 to 150,000 traps (10 to 30 percent) of deployed commercial traps are lost annually (VIMS 2010). Yearly estimates indicate that 3.3 million blue crabs, or approximately 4.5 percent of the annual harvest, are trapped in derelict crab traps within Chesapeake Bay (Bilkovic et al. 2016).

Similar removal projects have been implemented by VIMS, NOAA, and the Maryland Department of Transportation SHA in Chesapeake Bay and have shown the removal of derelict crab traps can have a noticeable impact on blue crab populations after only one season. A previous effort to remove derelict crab traps from Chesapeake Bay in Maryland successfully removed 5,700 crab traps and other derelict fishing gear containing nearly 1,300 captured crabs (NOAA and Versar 2010). Increasing blue crab populations and reducing capture of bycatch species provide ecological and economic benefits.

1.2 OBJECTIVES

TPA has proposed off-site enhancement of tidal waters located near the mouth of the Patapsco River and/or in the adjacent Middle Chesapeake Bay watershed in Baltimore or Anne Arundel counties. The proposed restoration at the Mitigation Site(s) will effectively mitigate for proposed impacts to existing aquatic resources (tidal waters) by reducing trash and debris, providing ecological uplift by reducing mortality of species trapped in derelict crab traps, stimulating the local economy by providing work for watermen during the off season, and increasing economic productivity of blue crabs.

The goals of this project are as follows:

- Offset unavoidable tidal water impacts created by the SPCT project through enhancement of existing tidal waters
- Replace lost functions and values
- Provide long-term ecological and economic benefit

The mitigation project will enhance an unknown number of acres of the Patapsco River and/or the Middle Chesapeake Bay by returning the habitat to a natural state. A summary of impact and mitigation acreage is provided in Table 1. There are no impacts associated with the proposed Mitigation Site. Section 3 summarizes long-term ecological and economic benefits associated with the proposed mitigation.

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2. SITE BASELINE INFORMATION

2.1 PROPOSED PROJECT SITE

As described in Section 1, the proposed SPCT project site is located in Baltimore County, Maryland on an approximate 330-acre TPA-owned property at the southwest peninsula of Sparrows Point (Figure 1). 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. The proposed project would increase the overall container capacity of the Port of Baltimore (Port) by 70 percent. 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, which will provide the closest link for double-staked 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 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.

2.1.1 Site Resources

All areas of the proposed SPCT project site were surveyed for wetlands. A wetland delineation report was prepared and an onsite review of the SPCT project area was completed on 30 November 2023, with representatives from the Corps and MDE. During this meeting, both agencies confirmed that there are no additional wetland resources besides the tidal open water areas adjoining the site within the SPCT project area; therefore, further analysis was not needed. Wetland delineations were not conducted at any of the proposed on-site mitigation areas as part of this initial study. If any of those mitigation sites were to advance, the site(s) would require a formal wetland delineation to identify possible tidal and nontidal wetlands at the sites to avoid and minimize impacts to the wetlands when designing the mitigation.

2.2 MITIGATION SITE(S)

The following sections describe the Mitigation Site(s) selection process.

2.2.1 Mitigation Site Selection and Timeline

Initial Site Search

An initial mitigation site search was conducted to identify potential on-site locations for tidal wetland mitigation options in Spring 2024, when the large offshore DMCF along Coke Point was still proposed as the Preferred Alternative for disposal of the dredged material associated with the SPCT project, which would have resulted in a need for 60 to 100 acres of mitigation credits. Shoreline areas along TPA property were analyzed to assess the existing shoreline conditions and determine areas where there may be potential for on-site mitigation opportunities to mitigate

for proposed tidal open-water wetland impacts associated with the development of the SPCT project. Areas investigated included nine separate shorelines areas, including four areas along Bear Creek on the north and west sides of the property, two areas along the Patapsco River on the south side of the property, and four areas along Jones Creek and Old Road Bay on the east side of the property.

Desktop analysis of the on-site shoreline conditions included a review of MDNR's MERLIN – Maryland's Environmental Resource & Land Information Network (MDNR 2024a) and Maryland Coastal Atlas (MDNR 2024b) interactive Geographic Information System websites, and current and historic aerial imagery available on Google Earth (Google Earth 2024). The primary Geographic Information System resource layers that were reviewed included historical shorelines and shoreline rates of change, shoreline inventory of key features (e.g., bank cover, shoreline bank height and condition, marsh and beach buffers, stabilization structures, and invasive common reed [*Phragmites australis*]), recent and historical submerged aquatic vegetation (SAV), sea level rise vulnerability, coastal resiliency assessment, living resources, and finfish habitat.

Site visits to document conditions at each of the areas were conducted on 12, 14, and 15 June 2024. Photographs of each area were taken and some of the key features identified were noted at each site. In addition, local successful shoreline stabilization projects that implemented a combination of nature-based solutions (NbS) and human-made solutions were visited as potential reference sites to help guide the development of potential mitigation options.

An SPCT On-Site Mitigation Site Search and Concepts – Draft Technical Memorandum (EA Engineering, Science, and Technology, Inc., PBC [EA] 2024a) was prepared for TTT in late June 2024 that provided detailed descriptions of the desktop analysis, findings and photographs from the site visits, and a description of the mitigation opportunities and preliminary concepts for each of the nine areas visited. This remained an internal document to guide discussions related to potential costs associated with each project and to discuss ideas with the agencies to receive feedback for more formally defined feasible on-site mitigation options.

The sites were originally presented to the agencies during a Joint Evaluation Committee Meeting on 26 June 2024. At this meeting and for several days after the meeting, several agency personnel provided additional ideas for potential offsite and out-of-kind mitigation opportunities for TTT to consider, including dam removals and fish stocking, derelict crab trap removals, oyster or other shellfish reef creation, shellfish aquaculture funding, and participation with ongoing Middle Branch Resilience projects. Feedback was also provided from the agencies related to the types of on-site restoration options that would be acceptable for mitigation of the proposed impacts and options that would not be acceptable for crediting as mitigation.

Mitigation Package Refinement

Taking agency recommendations into account, TTT developed the SPCT On-Site and Off-Site Mitigation Options Fact Sheets – Draft (EA 2024b) in early August 2024. This internal document updated the previous draft technical memorandum by organizing mitigation options by action type instead of by site, simplifying the creation of a table detailing anticipated mitigation

credits. At that time, a goal was established to mitigate 35 acres of tidal water impacts, factoring in the smaller offshore DMCF at Coke Point. The fact sheets described nine on-site mitigation options and eight combined off-site mitigation options, the existing conditions at each site, the anticipated benefits, and a rough-order-of-magnitude cost estimate. Several of the off-site recommendations provided by the agencies were incorporated into these fact sheets. These initial efforts resulted in an estimated 151.6 acres of mitigation activity on-site, which was estimated to provide 61.5 acres of mitigation credit. Due to the out-of-kind nature of the off-site mitigation options, an estimate of the mitigation credits for those options was not determined.

Mitigation options considered included:

- Tidal emergent wetland creation in uplands at the Old Road Bay at the Craighill Lighthouse Peninsula and at Jones Creek at the North Point and Pleasant Yacht Clubs

- SAV planting/seeding and woody debris fish habitat structures at North Bear Creek at the Rod & Wire Mill, Bear Creek Shoreline at the landfill, Jones Creek at Wharf Road, and Craighill Lighthouse Peninsula at Old Road Bay

- Tidal open water wave attenuation structures at Coke Point and the Southeast Peninsula along the Patapsco River

- Tidal emergent wetland creation, NbS, and improved bottom habitat at Bear Creek at Bethlehem Boulevard, mouth of Bear Creek at West Gate Peninsula, and Coke Point and Southeast Peninsula along the Patapsco River

- Tidal emergent wetland enhancement and Phragmites control along Sparrows Point shorelines at North Bear Creek at Wire Mill, Bear Creek Shoreline at the landfill, Bear Creek at Bethlehem Boulevard, Jones Creek at the Yacht Clubs, Jones Creek at Wharf Road, Old Road Bay at Craighill Lighthouse Peninsula, and Southeast Peninsula along Patapsco River

- Natural oyster/shellfish bars and woody debris fish habitat improvements for species in need of conservation at North Bear Creek at Wire Mill, Bear Creek Shoreline at the landfill, Bear Creek at Bethlehem Boulevard, Jones Creek at Wharf Road, and Old Road Bay at Craighill Lighthouse Peninsula

- Beach nourishment and creation along open waters in Bear Creek at the landfill, Jones Creek at the North Point Yacht Club, and Southeast Peninsula along Patapsco River

- Terrestrial habitat and riparian buffer enhancement and diversification at Bear Creek at Bethlehem Boulevard, Bear Creek at West Gate Peninsula, Jones Creek at the Yacht Clubs, Jones Creek at Wharf Road, Old Road Bay at Craighill Lighthouse Peninsula, and Coke Point and Southeast Peninsula at Patapsco River

- Dam removal for fish passage for anadromous and diadromous fish species at Daniels Dam with shad and herring restoration through fish stocking (off-site option)

- Derelict crab trap removal in recreational fishing grounds in the upper Chesapeake Bay (off-site option)

- Reef/fish and shellfish habitat creation and tidal wetlands using NbS techniques in surrounding communities (off-site option)

- Solar Oysters shellfish aquaculture collaboration/funding and reef replenishment (off-site option)

- Middle Branch Resiliency Initiative Project collaboration/funding (off-site option)

The mitigation options above were discussed with the agencies at a Joint Evaluation Meeting on 28 August 2024, to receive feedback on acceptability of each option. The layered effect of the multi-habitat creation efforts proposed at several of the on-site locations was preferred over single goal efforts as a site. Several of the options that would not be given credit or any significant credit for mitigation for the proposed tidal open water impacts were recommended for removal from the package including beach nourishment, oyster reef creation onsite due to potential biofouling, activities that would disturb existing healthy SAV populations in Bear Creek north of Interstate 695/Baltimore Beltway (I-695), and options that only involved assisting in funding projects undertaken by others rather than active participation in the implementation of those projects. Potential oyster reef creation and replenishment at the nearby Fort Carroll Oyster Reef Sanctuary owned by MDNR was suggested as an additional off-site option.

Reduction of Anticipated Impacts and First Recommended Mitigation Package

In October 2024, TTT determined that a significant amount of the anticipated dredged material could be placed at the on-site High-Head Reservoir and through ocean placement options. This reduced the need for a large offshore DMCF at Coke Point. TTT determined placement of the remaining dredged material in the Coal Pier Channel instead of offshore of the west-side of Coke Point, which would reduce the tidal mitigation needs from 35 acres to approximately 20 acres.

Based on the agency input received in August 2024 and the reduced footprint for the DMCF and mitigation needs, TTT updated the proposed mitigation package and prepared and submitted the Sparrows Point Container Terminal Proposed On-Site & Off-Site Mitigation Rationale and Technical Memorandum (EA 2024c) and the Coal Pier Channel DMCF plans to the agencies for formal review and comments on October 21, 2024. The mitigation package presented had been reduced to include the following sites and elements:

- ***Bear Creek Shoreline along Bethlehem Boulevard***—This area is situated just north of the proposed U.S. Environmental Protection Agency Cleanup site. A multi-habitat restoration and creation approach consisting of an approximate 1,850 linear feet perimeter sill using NbS structures, 6.5 acres of improvements to bottom substrate including introduction of woody debris habitat structures, and 1.75 acres of creation of low to high marsh tidal emergent wetlands along the nearshore area were proposed. In addition, *Phragmites* stands along several shoreline areas totaling 1.7 acres would receive chemical and physical removal controls and tidal wetland enhancement activities would

be undertaken to remove rhizomes and lower the marsh plain to allow for native wetland plants to become established. Terrestrial habitat and riparian buffer enhancement and diversification along 2.6 acres were also proposed along the shoreline.

- ***Southeast Peninsula along the Patapsco River Shoreline***—This area involved the installation of an approximate 5,500 linear feet tidal open water wave attenuation structure running parallel to the shoreline to protect an additional 47.5 acres of other mitigation features and the existing eroding slag along the shoreline from the large fetch, wave and boat wake action that occurs in this area. A multi-habitat restoration and creation approach consisting of 23.4 acres of improvements to deep to shallow water substrate, including installation of large woody structures for habitat improvement and SAV seeding, as well as 11.9 acres of creation of low to high marsh tidal emergent wetlands along the shoreline were proposed behind the wave attenuation structure. *Phragmites* control and tidal wetland enhancement of approximately 10 acres was also proposed along the existing shoreline. Terrestrial habitat and riparian buffer enhancement and diversification of approximately 2.2 acres were proposed along the existing shoreline.

- ***High Pier Wharf***—TTT also sought credit from the agencies for the 2018 removal of the High Pier Wharf located in the turning basin area. At the time of permitting the approval of that removal, TTT had requested consideration from MDE for the 1.62 acres of removal towards future projects, such as the SPCT project.

- ***Derelict Crab Trap Removal (offsite)***—Removal of derelict crab traps from recreational fishing grounds located near the mouth of the Patapsco River near the SPCT project site or between Hart-Miller Island and Tolchester Beach was proposed following a similar successful approach to a project undertaken by Maryland Department of Transportation SHA in 2017–2018 for out-of-kind tidal wetland mitigation credits for a bridge replacement project. The quantity of traps to be removed or acreage of tidal habitat enhancement to be accomplished through this project was not defined at this time, but TTT's goal was to fulfill any remaining mitigation needs not achieved through the on-site mitigation efforts through this project.

The above on-site mitigation options totaled 46 acres of potential restoration and creation, and 16.5 acres of enhancement activities. Initial agency comments on the package were received in early November 2024. The agencies had concerns about the viability of the Southeast Peninsula mitigation option and stated preferred options included sites where new tidal open water and wetlands could be created from existing upland and historically filled or disturbed areas.

Draft Phase I Mitigation Plan and Draft Environmental Impact Statement

In response to the agency comments, TTT eliminated the large Southeast Peninsula shoreline restoration area from the package and began investigating sites that would involve excavation of uplands to create tidal open water and wetlands. These areas included land located at the Yacht Basins on Jones Creek, man-made land at the Craighill Lighthouse Peninsula area along Old Road Bay, and man-made land at the Southeast Peninsula easternmost point or spit. TTT also

considered oyster reef creation/replenishment again at Fort Carroll based on recommendations from the agencies.

A Draft Phase I Tidal Mitigation Plan (EA 2024d) was prepared as Appendix B to the Draft EIS that was submitted in December 2024, which included the following options in the mitigation plan:

- ***Bear Creek Shoreline along Bethlehem Boulevard***—Multi-habitat restoration and creation activities totaling 8.46 acres and invasive species management and tidal wetland enhancement of 1.8 acres, for a total of 4.68 acres of mitigation credit.

- ***Yacht Basins, Craighouse Lighthouse Peninsula, and Southeast Peninsula Point—*** These areas involved excavation of uplands to create tidal open water and tidal wetland habitats along with wharf, dock and pier removal within existing tidal open waters totaling 11.94 acres and invasive species management and tidal wetland enhancement of 1.05 acres, for a total of 12.2 acres of mitigation credit. A new public boat ramp would be left in place or constructed at one of the yacht basins.

- ***High Pier Wharf*** – Credit for previous wharf removal actions totaling 1.62 acres, for a total of 1.62 acres of mitigation credit.

- ***Derelict Crab Trap Removal (offsite)*** – Removal of derelict crab traps in the Middle Chesapeake Bay watershed totaling 1.3 acres of mitigation credit. This acreage could be adjusted if additional mitigation credits were needed.

- ***Oyster Reef Creation/Replenishment (offsite)*** – Implementation of an oyster reef creation and replenishment project at the Fort Carroll Sanctuary for an unspecified number of acres to make up for any additional mitigation needs for the project.

The Phase I Mitigation Plan described above resulted in a minimum of 19.8 acres of mitigation credit to offset the anticipated impacts associated with the Coal Pier Channel DMCF.

An agency field review meeting of the SPCT project site and the proposed mitigation sites was conducted on 6 March 2025. At this meeting, agency personnel stated that mitigation credits for the High Pier Wharf removal would not be granted as the work would have been necessary for construction of the SPCT project. The agency personnel also expressed concern about potentially impacting existing SAV within Jones Creek near the Pleasant Yacht Basin ramp area and noted that there was considerable community concern and opposition to the mitigation proposed at both yacht basins. Removal of the docks and pilings would not be given mitigation credit. In addition, it was noted that the public boat ramp would require its own permitting and may result in additional impacts to SAV that would require mitigation.

The Craighill Lighthouse Peninsula site was considered a good site by the agencies, and while at that site, TTT also discussed the feasibility of removing existing sheet pile near the Pennwood Wharf and within the Pennwood Canal that impeded fish and other aquatic species movement from accessing the existing shoreline. The agencies took this option into consideration but were uncertain of the credits that could be gained, as movement of species was not totally blocked by

the corroded sheet pile. For the Southeast Peninsula point, the agencies noted that surrounding communities near Fort Howard and across Old Road Bay from the peninsula expressed concerns about removing the spit of land, as it served as a jetty to protect their shorelines from fetch, wake, and wave action. The agencies suggested removal of the spit but keeping a lower profile jetty that extends to the existing tip of the point in place. The agencies also liked the multi-habitat restoration/creation approach for the Bethlehem Boulevard site and noted that there may be an opportunity to tie the work in with the U.S. Environmental Protection Agency cleanup work.

Discussions were also held on the off-site mitigation options. Early discussions on crab pot removal requirements considered the removal of 1,080 crab pots to reflect a 2:1 out-of-kind mitigation requirement. At the meeting, MDE updated this number to 1,400 crab traps per acre of credit to reflect an appropriate level of functional uplift by reducing bycatch, and mortality rates of blue crabs and finfish. For the Fort Carroll oyster reef creation and replenishment efforts, the agencies noted that the Key Bridge project was also looking at that site for potential mitigation. The agencies stated that 1 acre of mitigation credit would be granted for 2 acres of new substrate placement and seeding, with two additional reseedings needed in subsequent years.

The agencies noted that mitigation activities would need to occur before, simultaneously or as the impacts occur. The Phase II Mitigation Plan would be required by the agencies before the final permits could be approved and issued.

Reduction of Impacts/Mitigation Need

In late April 2025, TTT further reduced the need for mitigation associated with the SPCT project by eliminating the Coal Pier Channel tidal open water DMCF and shifting to placement of the dredged material from the project entirely at the High Head Reservoir, existing MPA-owned facilities, and through ocean placement. This eliminated the federal requirement for mitigation and reduced the state's mitigation requirement to only those impacts associated with the dredging and development of the terminal.

From April through June 2025, TTT developed updated plans reflecting changes in the project and identifying all impacts and worked closely with MDE to determine which impacts would require mitigation and if there would be an impact adjustment factor applied to any of the work based on improved habitat conditions over existing site conditions at the proposed wharf area. Impacts requiring mitigation included an area of land infill above existing MHW, pile installation impacts for the wharf, dredging between the current MHW and -3 ft mean low water (MLW) (i.e., shallow water habitat areas) not including the pile impacts, and areas beyond 10 feet channelward of current MHW where revetment is placed and shaded by the wharf not including the pile impacts or dredging in the shallow water habitat areas. A 50 percent impact adjustment factor would be applied to the areas beyond 10 feet channelward of MHW where revetment is placed and shaded by the wharf. These areas and impact adjustment factors resulted in the net mitigation required being reduced to 3.08 acres of mitigation credit.

2.2.2 Selected Mitigation Site(s)

Due to the considerable reductions in impacts associated with further avoidance and minimization efforts undertaken by TTT, the uncertainty of agency or public acceptance of actions proposed at several sites, and/or unknown nature of subsurface conditions at the on-site mitigation areas proposed in the Phase I Mitigation Plan without further detailed study of those sites, TTT is proposing that mitigation for the SPCT project be accomplished through offsite derelict crab trap removal efforts. At 1,400 crab traps removed per acre of credit, the above impacts would require a minimum of 4,312 derelict crab traps removed.

TTT began discussions with ORP in June 2025 to discuss partnering on a derelict crab trap removal project to meet their mitigation needs. While many of the mapped recreational fishing grounds are currently assumed to be “feasible” sites for this type of mitigation, confirmation that one or more sites are viable sites for achieving the overall mitigation goals for this project are a part of the ORP Project Work Plan, as provided in Section 4.3.

The following sections of this Phase II Plan describe the strategies to meet the requirements of the proposed mitigation and benefits that the proposed mitigation will provide.

3. ANTICIPATED IMPACTS

Impacts to tidal waters associated with terminal development and channel improvements required for the SPCT Project are summarized in Table 1. Permanent impacts are characterized as placement of fill or grading within a wetland or tidal water or any activity which changes, expands, or diminishes the course, current or cross-section of a watercourse, floodway, or body of water. Permanent impacts for the project are associated with dredging tidal waters below existing MHW, excavating new tidal waters from upland areas above MHW, placement of fill within a tidal waters in a sump area where slag has eroded, installation of revetment from the top of slope to the toe of slope of the proposed shoreline, installation of piles, and installation of a wharf, which will result in shading of the new and existing tidal open waters. Temporary impacts normally result from short-term disturbances and do not typically require mitigation since the disturbed area is returned to pre-construction conditions. Temporary impacts for the project are associated with construction access from the water and the minimum work area needed for construction, including any required erosion and sediment controls such as turbidity curtains. For the SPCT Project, temporary and permanent impacts were avoided and minimized to the greatest extent practicable. Mitigation is required for tidal water impacts resulting from implementation of this project. No impacts are associated with the proposed mitigation in this Plan.

Table 1. SPCT Project Impacts

Resource	Permanent		Temporary	
	Linear Feet	Square feet	Linear Feet	Square Feet
Nontidal Wetland	—	0	—	0
25-feet Nontidal Wetland Buffer	—	0	—	0
Nontidal Waters	—	0	—	0
Existing Tidal Waters	Varies	187,543*	141	2,479**
Proposed Tidal Waters***	Varies	277,329	—	0
Wharf Shading over Tidal Waters	3,000 X 128	384,000	—	0

Notes:
* Includes permanent impacts associated with tidal waters fill, pile installation, dredging, and placement of revetment in shallow water habitat areas and beyond 10-foot channelward of current MHW (Table 3. Summary of Mitigation Requirements)
** Includes temporary impacts associated with Outfalls #1, #2, and #3 and cofferdams for each during construction.
*** Includes excavation for the wharf in areas currently above MHW that will become tidal waters.
MHW = mean high water

3.1 ASSESSMENT OF FUNCTIONS AND VALUES

Tidal open waters provide a wide range of ecological functions, as well as economic and recreational benefits and serve as critical habitats for and/or support a diversity of plant and wildlife species including submerged aquatic vegetation, fish, shellfish, benthic organisms, reptiles, and amphibians (i.e., herpetofauna), and waterfowl and shorebirds, while providing essential spawning and nursery grounds for many commercially important species. They contribute to water quality improvement by filtering sediments, nutrients, pollutants, and toxic substances. Stable tidal bottom and shoreline substrates can trap sediments and provide shoreline

protection and reduce shoreline erosion by absorbing currents and storm energy or surges, reducing flooding and protecting coastal communities.

Wetland functions are physical, chemical, and biological processes or attributes of wetlands that are vital to the integrity of a wetland system, while wetland values are attributes not necessarily important to the integrity of a wetland system but perceived as valuable to society. A formal function and value assessment method was not performed for the SPCT project as the areas proposed for impact are located at a historically industrial site where slag was placed in the water to build out the site. Various studies were completed at the site to report issues such as benthic community, sediment quality, etc. In addition, the proposed mitigation for the project involves a non-traditional type of mitigation that does not fit well into the typical function and value assessment methods. Below is a description of the existing conditions and ecological functions and services observed at the project site, an explanation on anticipated improvements and gains in functions and services at the project site through the proposed project actions, and a description of the gains in functions and services anticipated through the implementation of actions at the proposed mitigation site.

3.1.1 Proposed Project Site

Permanent impacts to existing tidal open waters associated with the SPCT project site may result in a loss of functions and values of tidal open waters habitats, as well as improvements to existing habitat conditions through removal of legacy contaminants. The project will impact waters of the Patapsco River, Sparrows Point Channel, and the existing Turning Basin, all of which are classified as Use-II waters (support of estuarine and marine aquatic life). Permanent impacts at the project site will also result in the creation of new tidal open waters and their resulting habitats. Impacted areas at the site provide the following functions and values that would be lost, decreased, improved, or created resulting from implementation of the project.

Sparrows Point Channel Dredging and Terminal Development Dredging (Existing Tidal Open Waters)

The dredging and removal of sediments east of the Coke Point peninsula to widen, deepen, and improve the channel for anticipated shipping traffic and to construct the terminal wharf and revetment structure would permanently remove approximately 4.2 MCY of sediments. Removal of the river bottom sediments from dredging to deepen and widen the channel would create a deeper water habitat within and adjacent to the existing Sparrows Point Channel. The river bottom in the project area is a soft-bottom environment, comprised mainly of silt and clay and deeper sand in the north portion of the channel. The dredging activities would also impact approximately 65,527 square feet (1.50 acres) of degraded shallow water habitat defined as areas between current MHW to -3 ft MLW. No SAV is present in the shallow water habitat or deeper channel areas (Corps 2025).

The physical removal of sediments from the dredging area, as well as resuspended sediment, has the potential for direct loss or injury to fish 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, causing mortality for any non-mobile organisms in or on the sediment and

reducing foraging opportunities for juvenile and adult fish species. Dredging could create temporary and localized water column turbidity that could affect filter-feeding 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 the fish will avoid waters that do not contain enough oxygen. This would also reduce potential prey sources for fish that consume benthic organisms (Corps 2025).

A portion of these dredged materials include legacy contaminants from historical industrial activities and dredging 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, polychlorinated biphenyls, 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 that utilize the area. 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 (Corps 2025).

Terminal Development Excavation and Wharf Construction (New and Existing Tidal Open Waters)

Terminal development and wharf construction include both dredging the channel to attain the preferred alignment for the wharf, as included in the dredging activities described above, and excavation of the existing shoreline. Excavation for the wharf and associated revetment extending beyond the edge of the wharf would create 5.3 acres of new tidal 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 wharf pilings would result in mortality of any benthic organisms present in the footprint and a permanent loss of 0.2 acres of available bottom benthic habitat. These habitat changes would cause localized impacts on benthic organisms and prey, thus impacting fish in the area (Corps 2025).

3.1.2 Mitigation Site(s)

The Mitigation Site(s) would provide environmental benefits through the improvement of functions and values of the Patapsco River and/or Middle Chesapeake Bay watersheds within the mitigation area(s). Environmental benefits resulting from the removal of derelict crab traps will include fish and shellfish habitat improvement, recreational and economic benefits, as well as protection of sensitive species.

Fish and Shellfish Mortality Reduction

Habitat for finfish, shellfish, and other wildlife species would be improved through the removal of derelict crab traps. Yearly estimates indicate that 3.3 million blue crabs, or approximately 4.5 percent of the annual harvest, are trapped in derelict crab traps within the Chesapeake Bay (Bilkovic et al. 2016). Crabs and other marine species are attracted to derelict crab traps long after the bait has been removed, and trapped species may continue to draw other species into the derelict crab traps. Removal of the derelict crab traps will reduce mortality of blue crabs and bycatch species within the Mitigation Site(s).

Economics and Recreation

Bycatch in derelict crab traps results in the mortality of commercially important fish species such as white perch, and Atlantic croaker (*Micropogonias undulates*) (Bilkovic et al. 2016). Reducing mortality improves fish habitat and provides economic benefit though an improvement in harvest. Catch efficiency in active traps has been shown to increase when derelict crab traps are removed (Bilkovic et al. 2016). For example, eliminating just 10 percent of derelict crab traps (approximately 4,400) from the five most heavily fished sites in each of Virginia and Maryland could increase blue crab harvest in the Chesapeake Bay by 22 million pounds or approximately 14 percent (Bilkovic et al. 2016). Derelict crab traps can negatively impact recreational fisheries due to loss of gear that becomes entangled with the traps and create navigational and safety hazards.

The mitigation will also provide direct economic benefit to numerous local watermen and crews who will be paid to implement the mitigation project. The removal will be performed during a time of year when they are not typically working. ORP has provided an estimate of contractual costs to hire watermen and their boats/equipment for both derby-style and roving retrieval events, contracted sonar surveys, and associated fees for gear disposal, recycling, landfill access, marina use, and dumpster placement over three seasons of removals, as described in greater detail in the timeline provided in the proposed work plan.

Fish and Shellfish Habitat

Improved habitat environment/conditions and reduced mortality from the removal of derelict crab traps would be expected to result in increases in local crab populations.

Derelict crab traps may damage the seafloor, sensitive shoreline habitats, and benthic habitats (Bilkovic et al. 2016). Given the footprint of a typical crab pot (0.36 square meters) and estimates of seasonal derelict crab traps in the Chesapeake Bay, 0.15 to 0.25 square kilometers could be physically disturbed, not accounting for the movement of derelict crab traps across the sea floor (Bilkovic et al. 2016). The removal of derelict crab traps as part of the proposed mitigation would eliminate impacts to benthic habitat within the Mitigation Site(s).

Mortality of crab, fish, and other marine species associated with derelict crab traps has likely decreased the current functional value of the Mitigation Site(s) as habitat. Removal of derelict crab traps would improve habitat for wildlife by removing a potential source of mortality from the environment.

Protection of Sensitive Species

Wildlife habitat would also be improved through the reduction in bycatch mortality of the diamondback terrapin. While further study of the impact of derelict crab traps on diamondback terrapins is needed, recent studies by Bilkovic et al. (2016) have attributed population declines and sex-ratio changes in this species to impacts resulting from derelict crab traps. Removal of derelict crab traps from the Mitigation Site(s) may reduce diamondback terrapin mortality and improve populations.

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4. COMPLIANCE WITH USACE 2008 COMPENSATORY MITIGATION RULE

4.1 DETERMINATION OF CREDITS

Agencies require that a minimum area of wetland resources be restored, created, or enhanced to compensate for impacts to those resources to result in No Net Loss of Wetlands. For the SPCT project, MDE is the only agency requiring mitigation for planned impacts to Waters of the State, including tidal shallow water habitat and tidal open water areas associated with the planned construction of the wharf and other elements of the terminal project. Typical tidal mitigation guidance from MDE would require a proposed mitigation ratio of 1:1 for on-site, in-kind creation or restoration efforts, a ratio of 2:1 for onsite or offsite but within the same watershed, out-of-kind creation or restoration efforts. A derelict crab trap removal project, by its nature, does not fit well into any of these typical mitigation ratio scenarios, so MDE has requested that TTT follow guidance associated with a similar project recently permitted.

Initial discussions with MDE in November 2024, that looked at both the financial value of crab pot removal and the functional uplift of a crab pot removal project resulted in a proposal of 1,080 crab pots per acre of required mitigation, which was also based on a crab trap removal mitigation project completed by the SHA in Winter 2017/2018. For this project, a fleet of up to 25 watermen were able to remove 1,451 derelict pots over a period of approximately 10 working days. This would equate to approximately 1.34 acres of mitigation credit based on the initial calculations provided by MDE. After evaluating the project, MDE determined 1080 crab pots per acre to be too low for mitigation for crab pot removal based on ratios from previous projects. MDE also reviewed literature on crab pot removal and consulted with the USACE, as well as NOAA and DNR. During these discussions, 1,400 pots per acre was determined to provide functional uplift by reducing bycatch and mortality rates in blue crabs and finfish. MDE provided TTT with the updated guidance requiring 1,400 crab pots per acre during a 6 March 2025 mitigation site walk with the agencies. The crab trap removal efforts would need to occur in the Patapsco River watershed (8-digit HUC 02130903), or the neighboring Middle Chesapeake Bay watershed (8-digit HUC 02139997), depending on where the greatest density of crab traps and benefit to the environment could be achieved.

Required mitigation for impacts related to the SPCT project are listed in Table 2.

Table 2. Summary of Mitigation Requirements

Resource Impacted	Permanent Impacts	Impact Adjustment Factor	Required Mitigation	Out-of-Kind Enhancement at Mitigation Site
Area of Land Infill Below MHW Converted to Uplands	12,468 square feet/0.29 acres	0 %	0.29 acres	N/A
Area of Pile Impact Channelward of MHW	3,542 square feet/0.08 acres	0 %	0.08 acres	N/A
Area of Dredging Between Current MHW and 3.0 feet MLW (i.e., shallow water habitat) (excluding piles)	64,680 square feet/1.48 acres	0 %	1.48 acres	N/A
Area Beyond 10 feet Channelward of Current MHW where Revetment is Placed and Shaded by the Wharf (excluding shallow water dredging and piles)	106,853 square feet/ 2.45 acres	50 %	1.23 acres	N/A
Total Tidal Water Impacts and Net Mitigation Required	187,543 square feet*/ 4.3 acres	Varies	3.08 acres	Minimum of 4,312 derelict crab traps removed**

Notes:
* Includes permanent impacts associated with tidal waters fill, pile installation, wharf shading, and placement of revetment in shallow water habitat areas and beyond 10-feet channelward of current MHW.
** An estimated 1,400 derelict crab traps per acre of mitigation required will be removed from the selected Mitigation Site during a multi-day removal effort.
MHW = mean high water
N/A = not applicable

4.2 SITE PROTECTION INSTRUMENT

The derelict crab trap Mitigation Site(s) is located within the Chesapeake Bay or its tributaries and is owned in entirety by the State of Maryland; and therefore, an easement is not required. Under Maryland State Environment Article Title 16 and Code of Maryland Regulations 26.24, MDE is authorized to regulate activities related to filling, construction, and dredging within tidal Waters of the State. In addition, special interest groups including federal and state agencies, local governments, non-profits, and academic institutions will work together to protect Chesapeake Bay.

4.3 MITIGATION WORK PLAN

TTT has chosen to partner with ORP to implement the proposed mitigation. ORP brings over a decade of experience leading derelict crab trap debris removal efforts in Maryland, with more than 30,000 pieces of gear removed to date. Recent projects in Anne Arundel (2025) and Baltimore (2022, 2023) counties are among the latest examples of this ongoing work. ORP has developed trusted relationships with watermen, established operational protocols, and uses global positioning tracking systems to support real-time monitoring. ORP is also experienced in

processing and interpreting side-scan sonar data to identify and prioritize gear removal zones. It has the infrastructure to recruit and contract with watermen, train participants, oversee fieldwork, and manage logistics at the scale required to meet the project's mitigation goals. These capabilities are supported by longstanding partnerships with the MDNR, MDE, and local county governments, all of whom contribute to permitting, gear disposal, and interagency coordination.

Project Details and Timeline

TTT and ORP are proposing to remove approximately 4,500 to 5,000 pieces of derelict crab trap debris from priority areas near Hart-Miller Island, the Patapsco River, and the Magothy River. The project will follow a 3-year phased approach, combining annual derby-style events and roving retrievals with targeted side-scan sonar mapping. Additional sonar surveys will be conducted in Year 1 to fill data gaps, with priority retrieval zones identified each January. ORP will hire and train commercial watermen to conduct all on-water activities and oversee daily operations, safety procedures, data entry, and equipment use. Derby-style events will involve multi-day coordinated efforts, while roving deployments will consist of smaller, independent teams working in assigned zones. ORP will lead all permitting, planning, and coordination efforts, including site vetting with state agencies and collaboration with county governments on gear disposal, recycling logistics, and dumpster access. ORP will also ensure data quality through regular oversight, Global Positioning Systems (GPS) trackline review, and final data analysis and reporting. TTT will review all reports provided by ORP, provide comments for ORP to address, submit the interim and final data analysis and report to MDE for approval and acceptance to show the mitigation efforts for the SPCT project have been satisfied.

Contingencies

Although the project has been scoped across three years, the primary objective is to reach the mitigation target of 4,500 to 5,000 pieces of derelict crab trap debris removed. Project funding will cover the technical, labor, and equipment resources needed to retrieve this amount. However, the program's success depends on the actual quantity of derelict traps present in the locations outlined in this scope of work. ORP has identified areas where high-trap densities are expected, based on prior experience, existing data sources, and proprietary modeling. Still, it is possible that the selected sites may not contain enough derelict traps in which case additional locations and/or funding may be needed to meet the mitigation goal. The program includes a new roving retrieval method, and ORP will review retrieval progress in real-time to assess whether the target amount can be reached. ORP will provide regular updates to TTT and consult with them if additional sites or funding are necessary. While the project goal is to remove 4,500 to 5,000 derelict crab traps within 3 years, the project deadline will be year 5 (with completion by June 30, 2030). If the crab pot removal project has not reached the required removal of 4,312 crab pots by that date, TTT will propose to MDE an alternate form of mitigation within 90 days (September 30, 2030) to achieve the requirement.

While unlikely, it is also possible that retrieval locations will yield more than enough derelict traps to meet the mitigation goal. ORP's progress reviews and updates to TTT will help track progress toward the goal in near real time. If early completion is achieved, TTT will notify MDE to request approval and acceptance of the mitigation for the project at that time. It is not TTT's

intent to have ORP perform 3 years of debris removal activities to bank additional credits if the mitigation target for the project can be achieved sooner.

The month-by-month breakdown in Table 3 outlines key milestones, responsibilities, and deliverables.

Table 3. Anticipated Mitigation Schedule

Task	Year 1 (2025–2026)						Year 2 (2026–2027)					Year 3 (2027–2028)				
	July–October	November–December	January	February	March	April –June	July–December	January	February	March	April to June	July– October	November–December	January	February	March–June
Project preparation	■	■	■				■					■	■			
Side-scan and derelict crab trap debris identifications		■	■	■			■	■								
Logistics and coordination		■	■	■			■	■	■				■	■	■	
Watermen training				■					■						■	
Retrieval work																
Derby-style				■	■	■			■	■	■				■	■
Roving				■	■	■			■	■	■				■	■
Data entry and analysis						■					■					■
Report write-up						■					■					■

<u>Year 1 Activities: July 2025–June 2026</u>

July–October 2025:

- Confirm project roles and expectations with TTT.
- Finalize retrieval sites for derby-style and roving operations using existing side-scan sonar data in the Patapsco River Mouth and Hart-Miller areas.
- Begin regulatory coordination, including site vetting with the MDNR (including Natural Resources Police), MDE, and any federal agency to obtain all necessary permits and approvals.
- Advertise opportunities and begin recruiting watermen for both retrieval approaches, vet applicants for eligibility and availability.
- Coordinate with county governments on gear disposal and recycling logistics, including landfill access and temporary dumpster placement.

November–December 2025:

- Review watermen applications and notify selected participants for derby-style and roving efforts.
- Confirm logistics with county governments for gear disposal, recycling procedures, and dumpster placement.
- Begin preparing gear for the field—ensure tablets are functional, finalize datasheets, and gather necessary equipment. This includes preparing portable side-scan sonar units for attachment to roving monitor boats.
- Analyze existing side-scan data to identify remaining mapping gaps and prioritize areas for new surveys.
- Begin creating draft maps and identifying priority retrieval zones in the Patapsco and Hart-Miller areas.
- Complete all regulatory coordination steps and receive final approvals or clearances for upcoming fieldwork.

January 2026:

- Conduct watermen training sessions.
- Finalize locations and scope of new side-scan sonar surveys; confirm any remaining permitting needs.
- Coordinate with county staff on dumpster placements and retrieval zone logistics.
- Secure a contractor to complete sonar mapping in February and March 2026.
- Assign watermen to roving and derby teams based on availability, vessel capacity, and zone characteristics. Roving teams will also be assigned to mapped zones with a preliminary spring retrieval schedule.

February–March 2026:

- Launch the first round of roving retrievals in zones identified through existing sonar data or with vessels outfitted with a side-scan sonar unit.
- Begin contracted side-scan sonar mapping for areas adjacent to the Magothy River and any other strategic locations to expand spatial coverage of potential derelict trap debris locations.

- Conduct one derby-style retrieval event, lasting approximately 7 to 14 days, with ORP oversight and daily site coordination. Derby teams submit retrieval data electronically using an existing app or on paper datasheets.

- Roving teams submit retrieval data electronically using an existing app or on paper datasheets; ORP performs regular remote and in-person check-ins, portable side-scan sonar, and Navigation Electronic Monitoring Organization Vessel Monitoring System (NEMO VMS) trackline (GPS-recorded vessel paths) reviews, and quality assurance/quality control of incoming data.

April–June 2026:

- Complete final retrieval days for roving teams before the commercial crabbing season begins April 2026.

- Initiate data analysis, including gear counts, trap types, conditions, and any reported bycatch.

- Compile a summary of Year 1 retrieval to determine status to meet mitigation goal. Update TTT on status review and adjust Year 2 operations or funding, if necessary.

Year 2 Activities: July 2026–June 2027

July–December 2026:

- Process side-scan imagery collected in early 2026, identify derelict crab trap debris, and finalize maps and retrieval zones.

- Advertise opportunities and begin recruiting watermen for both retrieval approaches, vet applicants for eligibility and availability.

- Coordinate with county governments on gear disposal and recycling logistics, including landfill access.

- Confirm logistics with county governments for gear disposal and recycling procedures.

- Begin preparing field gear—ensure tablets are functional, finalize datasheets, and prepare portable side-scan sonar units for deployment on roving vessels.

- Confirm that all regulatory coordination is complete and approvals are in place for upcoming fieldwork.

January 2027:

- Review watermen applications and notify selected participants for derby-style and roving efforts.

- Conduct watermen training sessions.

- Assign watermen to roving and derby teams based on availability, vessel capacity, and zone characteristics. Roving teams will also be assigned to mapped zones with a preliminary spring retrieval schedule.

- Coordinate with county staff on landfill drop-off logistics.

February–March 2027:

- Launch the second round of roving retrievals in zones identified through existing sonar data or with vessels outfitted with a side-scan sonar unit.

- Conduct one derby-style retrieval event, lasting approximately 7 to 14 days, with ORP oversight and daily site coordination. Derby teams submit retrieval data electronically using an existing app or on paper datasheets.

- Roving teams submit retrieval data electronically using an existing app or on paper datasheets; ORP performs regular remote and in-person check-ins, portable side-scan sonar, and NEMO VMS trackline (GPS-recorded vessel paths) reviews, and quality assurance/quality control of incoming data.

April–June 2027:

- Complete final roving retrieval days before the commercial crabbing season begins in April.

- Initiate data analysis, including gear counts, trap types, conditions, and any reported bycatch.

- Compile a summary of Year 2 retrieval outcomes to inform adjustments for Year 3.

Year 3 Activities: July 2027–June 2028

July–December 2027:

- Review derelict crab trap debris density maps and retrieval results from Years 1 and 2 to identify priority zones for follow-up. These may include:

  — Areas with high trap densities not fully addressed in previous efforts.
  — Zones with weather delays or incomplete coverage.

- Coordinate internally and with partners to finalize derby and roving deployment plans.

- Reconfirm logistics with county governments regarding landfill and recycling access, and dumpster placements.

- Advertise opportunities and begin recruiting watermen for both retrieval approaches, vet applicants for eligibility and availability.

- Begin preparing gear and equipment.

January 2028:

- Conduct watermen training sessions.

- Assign watermen to roving and derby teams based on availability, vessel capacity, and zone characteristics. Roving teams will also be assigned to mapped zones with a preliminary spring retrieval schedule.

- Finalize site logistics for staging, launch points, and gear disposal coordination.

February–March 2028:

- Conduct one derby-style retrieval event, lasting approximately 7 to 14 days, with ORP oversight and daily site coordination. Derby teams submit retrieval data electronically using an existing app or on paper datasheets.

- Conduct final round of roving retrievals, with participating vessels working independently in assigned zones.

- Watermen submit data electronically or using paper datasheets, as needed.

- ORP staff oversee operations through in-person and remote check-ins, trackline reviews via NEMO VMS, and quality assurance/quality control of submitted data.

April–June 2028:

- Complete all remaining retrieval activities before the start of the commercial crabbing season.

- Conduct full analysis of Year 3 data: trap counts, types, gear condition, and any bycatch.

- Evaluate whether the project has met the mitigation target of 4,500–5,000 traps.

- Compile and submit a final project report to TTT and relevant partners. The report will include:

  — Total traps removed by site and method
  — Summary of mapping and retrieval coverage
  — Maps, figures, and bycatch documentation
  — Lessons learned and recommendations for future efforts

4.4 MAINTENANCE PLAN

TTT does not plan to implement a maintenance plan for the derelict crab trap Mitigation Site(s). The proposed mitigation is a one-time effort; and therefore, is considered complete once the derelict crab traps and fishing gear are removed. No additional or future maintenance is planned once the removal effort has been completed.

4.5 PERFORMANCE STANDARDS

TTT will be responsible for the performance of the derelict crab trap mitigation plan. During the removal, TTT will make recommendations, as necessary, if site conditions and recovery results should vary from those that are anticipated. Watermen will be trained to properly document gear recovered and trapped species observed. Following the completion of the one-time removal, TTT in coordination with their partner ORP will provide a final report documenting gear and organisms recovered during the effort that will be submitted for agency approval. Coordination with both MDE and MDNR during the removal effort will occur, to ensure that the minimum standards have been met, which includes removing and disposing of or recycling a minimum of 4,312 derelict crab traps from the Mitigation Site(s).

4.6 MONITORING REQUIREMENTS

The proposed derelict crab trap mitigation is a one-time effort; and therefore, is considered complete once a minimum of 4,312 derelict crab traps has been removed and properly disposed of or recycled, and the report is submitted and approved by MDE and BPW. No monitoring of the mitigation site is planned.

4.7 LONG-TERM MANAGEMENT PLAN

TTT does not plan to implement long-term management of the derelict crab trap mitigation site(s). The proposed mitigation is a one-time, minimum 4,312 derelict crab trap removal from the Mitigation Site(s). Derelict crab traps in Chesapeake Bay are estimated to persist for 1 to 7 years (Arthur et al. 2014). Although the proposed mitigation is a one-time effort, the ecological benefits of removing the derelict crab pots will have a long-term positive impact on the Mitigation Site(s).

Reducing the concentration of derelict crab traps from the project area will decrease site-specific annual mortality of blue crab and other resident aquatic species. Individuals not captured in derelict crab traps will have the potential to be captured commercially or recreationally or will provide longer term ecological benefits by contributing to the population through spawning or serving as prey for other species.

The positive socioeconomic and ecological benefits from the proposed mitigation are expected to continue for many years until derelict trap concentrations reach pre-removal densities. While derelict crab trap accumulation rates at the mitigation site(s) are unknown, the concentrations of derelict traps are not expected to reach pre-removal levels within the next 10 years. In the short-term, the positive socioeconomic benefit to potential watermen used to perform the mitigation

from environmental justice communities would benefit those individuals and communities, especially during winter months when they are typically not making money on the water.

4.8 ADAPTIVE MANAGEMENT PLAN

The Mitigation Site will remain under the ownership of the State of Maryland and will continue to be protected under state law and by special interest groups. TTT will be responsible for implementing the proposed mitigation and ensuring that the site meets the minimum proposed parameters as submitted in this Phase II Mitigation Plan. TTT will make recommendations as necessary if site conditions vary from those that are anticipated. For example, if recovery numbers begin to slow or are lower than anticipated during the removal effort, TTT may recommend expanding the removal effort to include additional areas shown on Figure 2, extending the project into a potential year 4 or 5, or possibly considering an alternate form of mitigation. Coordination with both MDE and MDNR during the removal efforts would occur to ensure that the minimum standards are met as agreed upon in this Phase II Mitigation Plan.

4.9 FINANCIAL ASSURANCES

TTT will provide the fiscal resources necessary for implementation of the derelict crab trap mitigation project. Bonding for the one-time effort should not be necessary.

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