Gulf Coast Ecosystem Restoration Council
Finding of No Significant Impact
Upper Mobile Bay Beneficial Use Wetland Creation Site - Implementation

The Gulf Coast Ecosystem Restoration Council (Council) hereby adopts the U.S. Army Corps of Engineers (USACE) Environmental Assessment (EA) included in the statement of findings for USACE permit SAM-2021-00246-DCH approved on April 4, 2025. The Council adopts the EA in order to address requirements of the *National Environmental Policy Act* (42 U.S.C. §§ 4321 et seq.) (NEPA) associated with the approval of implementation funding for the Upper Mobile Bay Beneficial Use (BU) Wetland Creation Site Project (Upper Mobile Bay BU project) sponsored by the State of Alabama.

The Upper Mobile Bay BU project is included in the Council's 2026 Funded Priorities List (FPL). From November 20, 2025 to January 2, 2026, the Council sought public comment on the 2026 FPL. The Council received two comments in support of the Upper Mobile Bay BU project and one comment raising concerns with the USACE permit process for the project. The Council addressed these comments in its June 2026 document entitled: *RESTORE Council Draft 2026 Funded Priorities List Responses to Comments*.

The Council has reviewed the EA and determined that it addresses the environmental effects of the Upper Mobile Bay BU project. The Council has determined that approval of funding for the Upper Mobile Bay BU project would not result in a significant effect on the human environment. The following is a brief description of the Upper Mobile Bay BU project, the EA being adopted by the Council, and contact information pertaining to this action.

Funded Activity

The Upper Mobile Bay BU project was first approved by the Council in the 2015 Initial FPL. This project funded design and environmental compliance of a wetland restoration project in upper Mobile Bay. In the 2026 FPL, the Council approved an additional $24 million in funding to construct a 100-acre wetland restoration cell in Upper Mobile Bay as the first phase of restoring 1,200 acres of tidal wetlands.

The project will beneficially utilize sediment dredged during navigation channel maintenance for effective and sustainable coastal restoration. The project will support the primary Comprehensive Plan goal to restore and conserve habitat by restoring the estuarine marsh through the construction of a semisubmerged containment area and placement of dredge material. Additional benefits include providing habitat for living coastal and marine resources, enhancing community resilience by providing a buffer to a main transportation thoroughfare between Mobile and Baldwin Counties, and enhancing the economy of the region by providing cost effective disposal options for the many navigation-related industries located along the Mobile River. The project's duration is 3 years.

More information on the RESTORE Act and the 2015 and 2026 FPLs can be found at www.restorethegulf.gov.

Environmental Assessment Adopted

The EA is hereby incorporated by reference into this Council finding, consistent with the Council's NEPA Procedures (May 6, 2026). Prepared pursuant to NEPA, the EA analyzes the environmental impacts and cumulative effects of and alternatives for the Upper Mobile Bay BU project. Additional environmental compliance coordination was completed for the *Endangered Species Act* (ESA), the *Magnuson-Stevens Fishery Conservation and Management Act* (MSA), the *National Historic Preservation Act* (NHPA) and other applicable laws during the environmental evaluation process for USACE Clean Water Act permit SAM-2021-00246-DCH.

Environmental Conditions

In addition to NEPA, the Council has an independent responsibility to comply with all other applicable Federal laws. To ensure compliance with ESA, MSA, NHPA and other relevant laws, the Council will require that the sponsor of the project adhere to all applicable conditions in the EA, USACE permit authorization and the associated environmental compliance documents. Compliance with these conditions is mandatory and serves to limit the environmental effects of an action to those that are insignificant, discountable or beneficial, and do not result in take or adverse effects to designated critical habitat. The project sponsor is also responsible for ensuring that any contractors that may work on this project are aware of and comply with all environmental compliance requirements.

Finding of No Significant Impact

Based on an independent review of the information and analysis provided in the EA, the Council hereby issues this Finding of No Significant Impact (FONSI) for the Upper Mobile Bay BU project. The EA is incorporated herein by reference. The Council has authorized the Executive Director of the Council to execute the FONSI on its behalf.

Determination by Responsible Official

I have determined that the Upper Mobile Bay BU project would not have a significant effect on the human environment.

Mary S. Walker
Executive Director, Gulf Coast Ecosystem Restoration Council

(Signature) MARY WALKER Digitally signed by MARY WALKER Date: 2026.06.16 13:55:59 -05'00'

For Further Information

For further information, please contact John Ettinger, Director of Policy and Environmental Compliance, Gulf Coast Ecosystem Restoration Council, at (504) 444-3522 or by e-mail at john.ettinger@restorethegulf.gov.

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above-Referenced Standard Individual Permit Application

This document constitutes the Environmental Assessment, Section 404(b)(1) Guidelines Evaluation, Public Interest Review, and Statement of Findings for the subject application.

1.0 Introduction and Overview

Information about the proposal subject to one or more of the United States Army Corps of Engineers' (Corps') regulatory authorities is provided in Section 1, detailed evaluation of the activity is found in Sections 2 through 11 and findings are documented in Section 12 of this memorandum. Further, summary information about the activity including administrative history of actions taken during project evaluation is attached (ORM2 Summary) and incorporated in this memorandum.

1.1 Applicant name

Alabama Port Authority
Attention: Mr. Doug Otto
Email Address: Doug.Otto@alports.com
250 North Water Street
Mobile, Alabama 36602

1.2 Activity location

The project is located within Upper Mobile Bay; approximately 1.5 miles south of US Highway 90/98 causeway; at Latitude 30.646906°, Longitude -88.000935°; Mobile, Mobile County, Alabama.

1.3 Description of activity requiring permit

This permit authorizes the phased construction of a 1,200-acre beneficial use (wetland creation) dredged-material placement area in Upper Mobile Bay. The completed project will allow for the placement of up to 10 million cubic yards of material dredged from Upper Mobile Bay area within three (3) wetland creation area (WCA) containment dikes protected by rock breakwaters or revetment at the south boundary of the project area progressing to the north boundary, as needed, into softer containment structures. Three (3) types of shoreline protection and external containment structures will be utilized, dependent on the controlling environmental conditions: Type I includes a rock breakwater with a maximum crest elevation of +4 feet NAVD88, a marsh buffer, and an internal earthen containment dike with a crest elevation of +6 feet NAVD88. Type II includes a sand containment dike protected by a rock revetment, with a crest elevation of +6 feet NAVD88. Type III includes a sand containment dike and a fronting beach, with a maximum crest elevation of +6 feet NAVD88. Project design elevations may be adjusted as the project is implemented, to account for sea level rise.

Individual wetland creation cells (WCC) will be constructed within the larger WCAs to provide manageable-sized areas for material placement and targeted wetland habitat creation. Each cell will be 40-60 acres in size. Construction of internal containment structures will proceed as existing WCCs approach capacity to allow for continued dredge-material placement. Material obtained for construction of the internal containment dikes will be hydraulically or mechanically dredged within individual WCC on site. If material must be sourced from existing upland dredge placement areas and transported by hopper barge to the WCA, it will be demonstrated to meet sediment suitability criteria prior to construction activities. If in-situ material is utilized, internal borrow areas will be filled over time and incorporated into habitat creation activities for each WCC.

Habitat creation will include the excavation of tidal creeks, tidal ponds, embayments, low- and high-marsh features, and scrub shrub mounds. Dredged material utilized for marsh creation will be placed by hydraulic dredge lines. Dredged material construction fill elevation will not exceed +4 feet NAVD88 to accommodate settling to the wetland design target elevation of +1 feet NAVD88. Within the initial five years, approximately 100 acres of wetlands will be created through the placement of dredged material, with approximately 40-80 acres of wetlands being created each following year. Estimated fill impacts for each area of the overall project are described in Table A below.

A corridor for vessels and equipment will be established where the minimal water depth is met to access the project site. A Project Access Facility (PAF) will be constructed at the project site for equipment and personnel access and material offloading for use over the lifespan of the project. This activity will require installation of steel sheet piles for construction of a bulkhead, and timber piles for mooring and berthing activities. The PAF will be constructed to a maximum elevation of +6 feet NAVD88 and be approximately 30 feet wide and 100 feet long. The PAF will intersect the external containment dike system to provide access throughout the project site.

Corridors for dredge pipelines will be established between dredging locations and the project site. The corridor will include crossing(s) for the Mobile Ship Channel and will be routed through open water along a route that minimizes navigation impacts and impacts to benthic habitat and avoids cultural resource and submerged aquatic vegetation (SAV) areas. During each dredge cycle, the dredge pipeline will be temporarily placed within the pipeline corridor. All dredged materials used for the project will be determined suitable for open-water disposal in accordance with the EPA Inland Testing Manual (EPA/USACE 1994) and the methods developed in conjunction with EPA during this project evaluation.

Dredged materials for beneficial use will be primarily obtained from four main areas in Mobile Harbor including portions of the upper harbor near Mobile River (Piers 2, 4, 7, 8, and adjacent to Pier A), the Pinto Island berths, the APM-Terminal berths (Choctaw Point Terminal), or the McDuffie Island berths adjacent to the federal ship channel. Any material placed in the wetland creation cells will be evaluated through separate permit authorizations and NEPA evaluations.

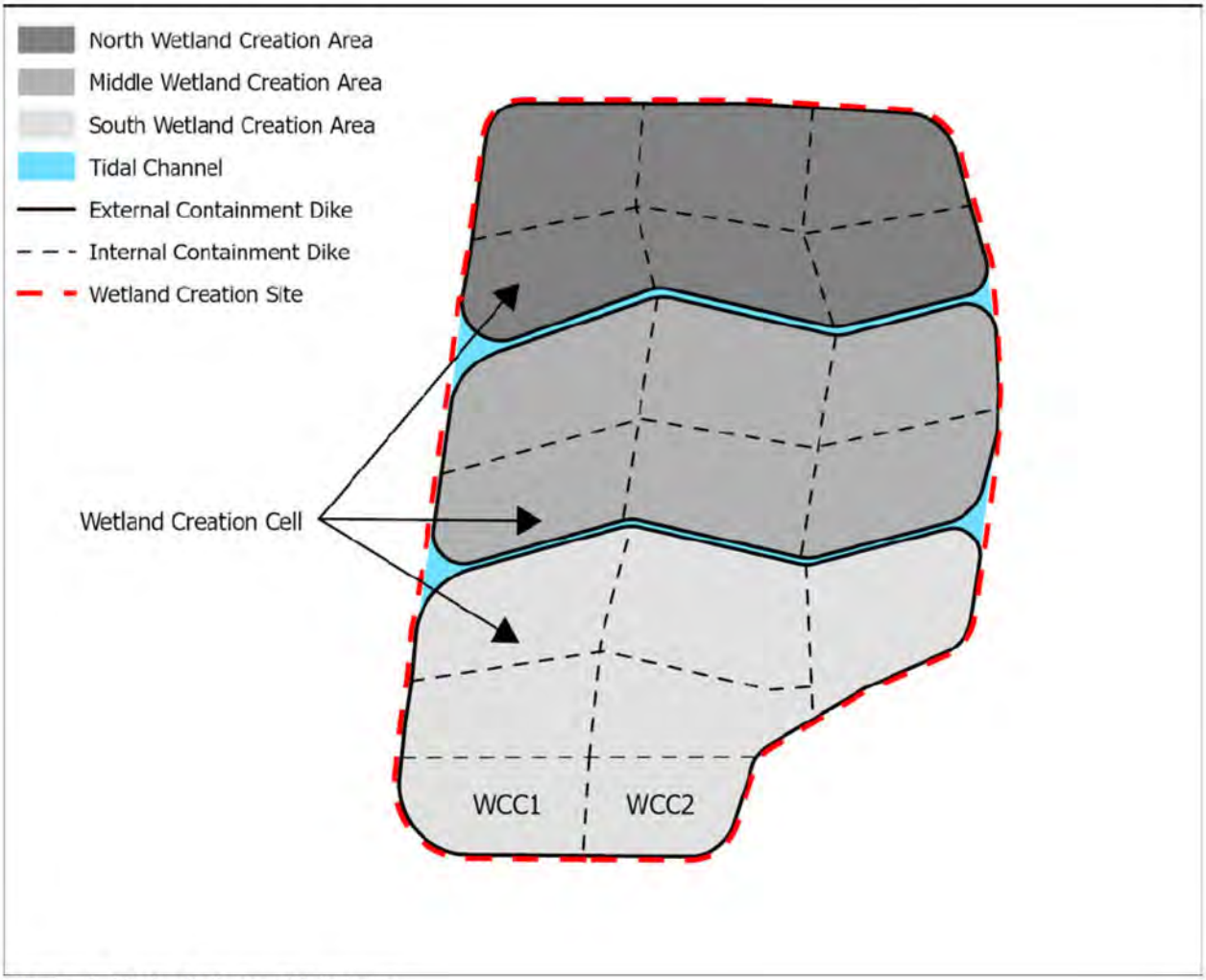

Figure 1. Project Element Diagram

FILL SUMMARY		
EXCAVATIONS - EXTERNAL CONTAINMENT	**VOLUME (cubic yards)**	**AREA (square feet)**
SOUTH WCA	974,156	2,630,221
MIDDLE WCA	659,716	1,781,234
NORTH WCA	606,240	1,636,849
EXCAVATIONS - INTERNAL CONTAINMENT	**VOLUME (cubic yards)**	**AREA (square feet)**
SOUTH WCA	349,744	944,309
MIDDLE WCA	293,829	793,339
NORTH WCA	214,799	579,958
FILL - DREDGE FILL FOR EXTERNAL CONTAINMENT	**VOLUME (cubic yards)**	**AREA (square feet)**
SOUTH WCA	487,078	1,262,836
MIDDLE WCA	329,858	1,027,635
NORTH WCA	303,120	818,425
FILL - DREDGE FILL FOR INTERNAL CONTAINMENT	**VOLUME (cubic yards)**	**AREA (square feet)**
SOUTH WCA	115,255	770,232
MIDDLE WCA	146,915	762,368
NORTH WCA	107,400	618,338
FILL - RIP RAP FOR EXTERNAL CONTAINMENT	**VOLUME (cubic yards)**	**AREA (square feet)**
SOUTH WCA	493,154	2,020,538
MIDDLE WCA	296,806	1,644,216
NORTH WCA	272,748	1,309,479
FILL - DREDGE FILL FOR WETLAND CREATION	**VOLUME (cubic yards)**	**AREA (square feet)**
SOUTH WCA	4,079,554	16,411,955
MIDDLE WCA	3,281,707	14,992,569
NORTH WCA	2,410,898	13,071,136

1.3.1 Proposed avoidance and minimization measures

An extensive alternatives analysis was conducted to select an appropriate disposal Wetland Creation Site (WCS) that met the project purpose and also avoided commercial and recreational fishing areas, special aquatic sites, known Civil War historic properties, and air traffic from the Mobile Downtown Airport. The Alabama Port Authority (Port) has surveyed, identified, and avoided areas containing historic properties and submerged aquatic vegetation (SAV). There is no oyster habitat in this area. The design of the WCS minimizes the linear feet of external containment while maximizing wetland habitat and reducing conversion of water bottom to hard substrate. It is located at water depths that avoid unsuitable soils.

siderations that have been implemented include the use of soft start procedures (ramping up) during the construction of a permanent staging area, the Project Access Facility (PAF). The PAF will be used to support the long-term operations and management of the Upper Mobile Bay Wetland Creation Project. This one-time, approximate four-month construction event would include vibratory installation of sheet pile and impact driving of timber pile. Soft start procedures for pile driving begins with softer or quieter pounding at the start that is gradually "ramped up" to alert the marine mammals in the region to move out before louder sound commences.

Dredge corridors, as shown in Figure 2 below, would cross the Mobile Ship Channel and would be routed through open water along a route that minimizes navigation impacts and impacts to benthic habitat and avoids cultural resource and SAV areas.

The Port will utilize best management practices (BMPs) for turbidity, noise control, and material containment. A turbidity curtain will be used during the placement of sediment if turbidity levels exceed 50 Nephelometric Turbidity units (NTUs) above background. Use of these turbidity curtains and diking of internal containment cells will reduce impacts to adjacent waters.

1.3.2 Proposed compensatory mitigation

No mitigation is required because project impacts would not involve the discharge of fill into any wetlands, SAV, or other special aquatic sites. Permanent losses of water bottoms will measure 1,200 acres, but the quantitative natural capital benefit analyses conducted by the applicant based on monetary values of resources established in response to the Deepwater Horizon incident and utilized by the RESTORE council indicated that there would be a net natural resource gain in value of $419,420,531 by converting those open waters to wetlands.

Additionally, during project evaluation the Port submitted a letter of financial commitment to the District Engineer that communicated their assurance to supporting the construction, monitoring, and maintenance of the project site throughout its life cycle.

1.4 Existing conditions and any applicable project history

The Mobile Bay watershed is the fourth largest watershed in the United States. The rivers draining into it support the Tennessee-Tombigbee Waterway, the Port of Mobile, commercial fisheries, tourism and recreation, industry, and commercial development. These waters transport sediments and nutrients south from northern Alabama to the Mobile-Tensaw Delta, into Upper Mobile Bay and finally the Gulf of America.

The Upper Mobile Bay area, located south of the delta, is an estuarine transition zone where five rivers flow into the bay and mix with saltwater from the Gulf of America. There is SAV in the northern area of the bay that provide nursery areas for finfish and blue crabs. The City of Mobile and the Port of Mobile are located at the Upper Bay

where major east-west transportation corridors (Interstate 10 and US Highway 90/98) connect Mobile and Baldwin County and the Mobile Ship Channel connects the north and south of Alabama by water.

The in-situ soils of Mobile Bay consist of various mixtures of sand, silt, and clay covering most of the bay bottom. The Mobile Bay sediments are approximately 50% sand and 50% clay as described by the Navy (1986). The northern portion of the bay is comprised of deltaic sands, silty sand, silts and clayey silts carried in by the Mobile River. Salinity distribution in Mobile Bay and the study area is a result of the interaction of freshwater discharge tides, currents, winds, circulation, evaporation, and bathymetry (Hummell, 1990); however, the most important factor affecting salinity is the fresh-water discharge from the Mobile-Tensaw River system (Chermock and others, 1974). (GRR/SEIS, 2019)

The Port of Mobile is the only deep-water port in Alabama. It requires annual maintenance dredging of approximately 350,000-500,000 cubic yards of material to operate, which is currently managed in multiple upland placement areas and hauled to landfills. State and federal resource managers have been contemplating and developing this project for years in an attempt to restore thousands of acres of historical anthropogenic impacts to the Upper Mobile Bay while preserving dredged sediments within the bay system. Development that has impacted the Upper Bay includes previously-constructed berths and structures, as well as ongoing operational impacts such as dredging. Because ongoing dredging is required to provide the use of Port in Mobile, structures and work that have impacted the area cannot simply be removed or abandoned to restore ecological function. The systemic loss of ecological function and sediments because of these prior and ongoing construction activities can ideally be managed and addressed through restoration projects. Mobile Bay National Estuary Program (MBNEP) wetland mapping shows there are approximately 6,200 acres of emergent wetlands in the Upper Mobile Bay/Mobile-Tensaw Delta area. This project is intended to retain dredged sediments within the system that would otherwise be lost to upland disposal sites while increasing emergent wetland habitats in the bay area by fifteen percent.

An Interagency Working Group (IWG) consisting of representatives from the Port, the U.S. Army Corps of Engineers (USACE), Alabama Department of Conservation and Natural Resources (ADCNR) - State Lands Division (SLD), ADCNR - Marine Resources Division (MRD), Alabama Department of Public Health (ADPH), U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS) - Habitat Conservation Division (HCD), MBNEP, Mobile Airport Authority (MAA), Dauphin Island Sea Lab (DISL), The Nature Conservancy (TNC) and others met on February 9, April 19, and June 12, 2012, to discuss and refine beneficial use opportunities in the upper bay. In 2015, the Gulf Coast Ecosystem Restoration Council recommended the project for RESTORE funding, and in 2019, made the Port the sponsor for project implementation.

A Pre-Application Consultation with Regulatory Division was requested by the Port on February 25, 2021, and a virtual meeting with representatives from the Port, Moffatt & Nichol (the agent for the Port), a representative for the subconsultant Stantec, and

twelve employees of the USACE representing Regulatory, Navigation, and 408 offices was held March 30, 2021. Additional pre-application meetings regarding the proposal were held on May 21, 2021, with the Port, Moffatt & Nichol, the ADEM, ADCNR-MRD, the EPA, and NOAA-HCD and on June 7, 2021, with the Port, Moffatt and Nichol, Mobile Airport Authority, USFWS, NMFS-PRD and NMFS-HCD, as well as a representative from the RESTORE Council.

On September 16, 2021, the Port applied for a permit to construct a dredged material placement area utilizing sediment from multiple Port berths into a 1,200-acre zone of the Upper Mobile Bay to create wetlands over a potentially-20-year period.

A 30-day Public Notice was issued on December 2, 2021, which was extended for an additional 30 days. The project evaluation was withdrawn in June 2022 and again in October 2023 to provide the Port with the opportunity to respond to requests for additional information. Project evaluation was re-initiated in October 2024 after a final sediment testing report was submitted.

1.4.1 Jurisdictional Determination

Is this project supported by a jurisdictional determination? No Jurisdictional Determination

1.5 Permit authority

Table 1 – Permit Authority	
Section 10 of the Rivers and Harbors Act (33 USC 403)	X
Section 404 of the Clean Water Act (33 USC 1344)	X
Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1413)	

2.0 Scope of review for National Environmental Policy Act (i.e., scope of analysis), Section 7 of the Endangered Species Act (i.e., action area), and Section 106 of the National Historic Preservation Act (i.e., permit area)

2.1 Determination of scope of analysis for National Environmental Policy Act (NEPA)

The scope of analysis always includes the specific activity requiring a Department of the Army permit that is located within the Corps' geographic jurisdiction. In addition, we have applied the four factors test found in 33 CFR Part 325, Appendix B to determine if there are portions of the larger project beyond the limits of the Corps' geographic jurisdiction where the federal involvement is sufficient to turn these portions of an essentially private action into a federal action.

Based on our application of the guidance in Appendix B, we have determined that the scope of analysis for this review includes only the Corps geographic jurisdiction.

Final description of scope of analysis: The NEPA scope of analysis was determined to

include the 1,200 acres of estuarine water bottoms and water column where rip rap revetment will be placed and in-situ material moved during containment structure construction and the dredged material placement areas, including the footprint of where plants will be installed for the construction of the WCS. The NEPA scope of analysis also includes the PAF, which will be constructed within approximately 3,200 square feet (0.073-acre) of water bottoms adjacent to the WCS. Finally, the NEPA scope of analysis includes the water bottoms, water column, open waters, and anchoring locations for the floating and submerged dredge pipeline routes where a boat access corridor will be established and dredged material is being transported for placement. These locations can be found on Figure 2 below, which identifies the footprint of the project discharge in green, the access corridor in black, and the potential pipeline locations in orange and light blue.

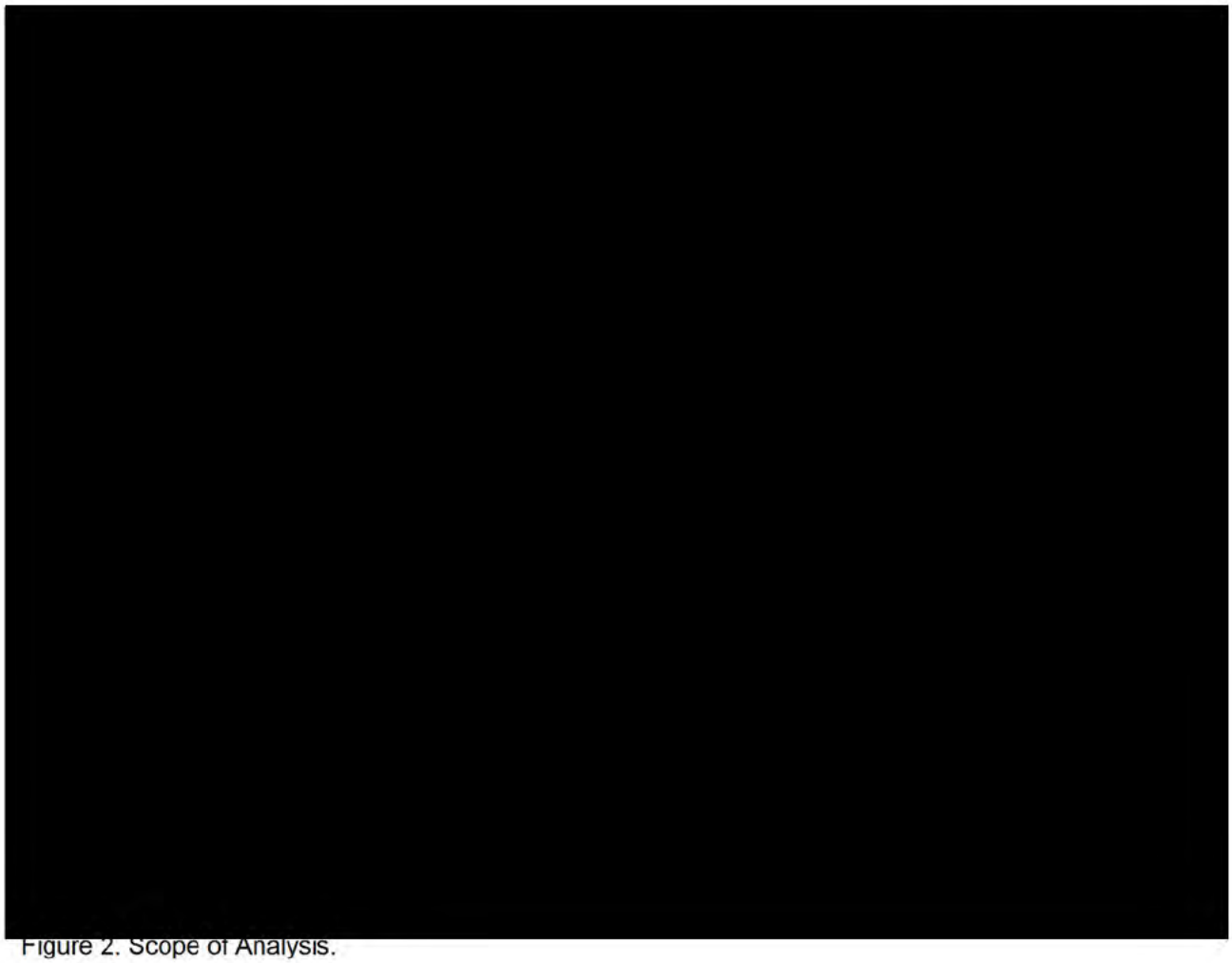

Figure 2. Scope of Analysis.

The NEPA scope has been determined to include the entire footprint of the project which occurs entirely in Mobile Bay, over which the USACE has sufficient control and responsibility, based on consideration of the USACE NEPA implementing regulations at 33 CFR 325 Appendix B.

NEPA Consideration Factors:

[redacted]ely a link" in corridor type project?
This project is not a "corridor" type of project and therefore this factor is not applicable to this project.

ii. Are there aspects of the upland facility in immediate vicinity of the regulated activity which will affect the location and configuration of the regulated activity?
No aspects of any upland facilities in the immediate vicinity of the regulated activity affect the location and configuration of regulated activities in Section 10 and 404 waters. Any dredged material that would be considered for placement at this site will be evaluated through separate permitting actions or NEPA evaluations.

iii. What is the extent to which the entire project will be within USACE jurisdiction?
The entire project under evaluation is within USACE jurisdiction. This includes the entire footprint of the project in Section 10 waters that would be directly affected by the Section 10/404 activities under review.

iv. What is the extent of cumulative Federal control and responsibility?
The extent of cumulative federal control and responsibility is limited to waters of the United States under USACE jurisdiction.

2.2 Determination of the Corps' action area for Section 7 of the Endangered Species Act (ESA)

The Section 7 ESA action area was determined to include the 1,200 acres of estuarine water bottoms and water column where rip rap revetment will be placed and in-situ material moved during containment structure construction, dredged material placement areas, and the footprint of where plants will be installed for the construction of the WCS. Additionally, this includes the PAF, which will be constructed within approximately 3,200 square feet (0.073-acre) of water bottoms adjacent to the WCS. Finally, the Section 7 ESA action area includes the water bottoms, water column, open waters, and anchoring locations for the floating and submerged dredge pipeline routes where a boat access corridor will be established and dredged material is being transported for placement. The action area includes the project footprint, areas affected by vessel traffic during construction and materials placement, the physical extent of water quality impacts, and the extent of project-related noise within Mobile Bay.

2.3 Determination of Corps' permit area for Section 106 of the National Historic Preservation Act (NHPA)

The permit area includes only those areas comprising waters of the United States that will be directly affected by the proposed work/structures. Activities outside of waters of the U.S. are not included; all three tests in 33 CFR 325, Appendix C(g)(1) have not been met.

Final description of the permit area: The Section 106 permit area was determined to include the 1,200 acres of estuarine water bottoms and water column where rip rap revetment will be placed and in-situ material moved during containment structure

construction, dredged material placement areas, and the footprint of where plants will be installed for the construction of the WCS. The Section 106 permit area also includes the PAF, which will be constructed within approximately 3,200 square feet (0.073-acre) of water bottoms adjacent to the WCS. Finally, the Section 106 permit area includes the water bottoms, water column, open waters, and anchoring locations for the floating and submerged dredge pipeline routes where a boat access corridor will be established and dredged material is being transported for placement.

3.0 Purpose and Need

3.1 Project purpose and need

Project purpose and need for the project as provided by the applicant and reviewed by the Corps:

The purpose of the project is to provide an economically feasible and environmentally beneficial solution to the dredged material management needs of the Port. Creation of wetlands as a beneficial use strategy would increase valuable and historically compromised habitat within Mobile Bay and provide critical, long-term, and cost-effective capacity for maintenance dredged material. The Port maintains its berths to a depth commensurate with the depths in the Mobile Ship Channel. Between 350,000-500,000 cubic yards of dredged material annually are pumped into one of three nearby upland disposal sites. These upland disposal sites are filled to near capacity.

A sustainable, long-term, cost-effective solution is needed to address the limited capacity of current options, and the Port requires a long-term dredged material plan to meet USACE standards for dredge material management (USACE, 2000). Given that maintenance dredging activities are estimated to generate at least 10 million cubic yards of sediment over the next 20 years, a beneficial use placement site should minimally be 1,200 acres in size to provide the needed 20-year capacity.

3.2 Basic project purpose

Basic project purpose, as determined by the Corps: The basic project purpose is to establish a large-scale, long-term beneficial use dredged-material placement area to create wetland habitat.

3.3 Water dependency determination

The activity does not require access or proximity to or siting within a special aquatic site to fulfill its basic purpose. Therefore, the activity is not water dependent.

3.4 Overall project purpose

Overall project purpose, as determined by the Corps:

The overall project purpose is to construct multiple individual Wetland Creation Cells, as needed, within three larger phased Wetland Creation Areas to use material dredged

from the Mobile Harbor area to create up to 1,200 acres of intertidal wetland habitat in Upper Mobile Bay.

4.0 Coordination

4.1 Public Notice Results

The results of coordinating the proposal on public notice are identified below, including a summary of issues raised, any applicant response and the Corps' evaluation of concerns.

Were comments received in response to the public notice? Yes

Were comments forwarded to the applicant for response? Yes

Was a public meeting and/or hearing requested, and if so, was one conducted?

Yes, a public meeting/hearing was requested but was not held.

In response to a public notice issued on December 2, 2021, twenty-seven (27) form letters and eight (8) individual requests and/or mentions of a public hearing were received by the USACE Mobile District, Regulatory Division. This included multiple requests for a Public Notice period extension, which was granted for an additional 30 days. The requests for a Public Hearing were received from Glendon Coffee on January 1, 2022, Mobile Bay Sierra Club on January 7, 2022, Nancy Milford on January 28, 2022, Alabama Sierra Club on January 31, 2022, Stan Graves on February 1, 2022, Mobile Baykeeper on February 3, 2022, Peninsula of Mobile on February 3, 2022, and Barbara Caddell on February 3, 2022, via email. Additionally, the form comments through Mobile Baykeeper were submitted between December 20, 2021 through February 3, 2022 from Cynthia Penny, "Cassie" from the Baykeeper Communications Team, Cade Kistler, Mark Calametti, Zach Sandifer, William Inman, Sue Winter, Lukas Mikurda, Christine Falls, Alton Maier, Clifford Chandler Ogburn, J. Steven McClure, Jerry Odom, Galen Brey, AJ Cabana, David Bagley, Patti Kahn, Michael LaSarge, William Wyatt, Guy Etherton, Taurus Lewis, John Howard, Ramsey Sprague, Catherine Odom, Ilka Porter, John Czachurski, Jacob Hartley. Copies of the emails, as well as the Mobile District's email acknowledgements are in the SAM-2021-00246-DCH administrative record.

The public hearing requests included the following concerns:

A. The materials proposed for creation of wetland habitat should be tested for contaminants prior to use.

B. An Environmental Impact Statement should be performed.

C. Additional details were requested in project plans to document depths, layouts, slopes, elevations, dimensions, etc.

D. Additional considerations for alternative placement sites were requested.

E. USACE should identify the other entities which could potentially be placing material in the project site and whether they would be charged to offset construction and maintenance costs.

F. What costs are anticipated for the project over the 20-year implementation period.

G. An analysis should be performed to evaluate the potential for dike failure in the event of severe weather. The analysis should be made public.

H. The project should have been included as a disposal option in the 2019 GRR/SEIS.

I. What are the anticipated impacts of sea level rise on the project and what maintenance is planned?

J. The project could affect the hydrology of Mobile Bay.

K. There is concern that the project could impact fish (such as tarpon), reduce fishing opportunity, disrupt valuable habitat, and be overall detrimental to the ecosystem.

L. Provide an analysis of the ecological tradeoffs that would result from project implementation.

M. The public has not been adequately informed of the project and requests that a public hearing is held.

Copies of all comments were provided to the applicant on February 18, 2022, via email, along with a request for the applicant to respond to the comments.

Concern A. The materials proposed for creation of wetland habitat should be tested for contaminants prior to use.

Applicant Response: Sediments which are proposed to be placed in the Alabama Port Authority's Upper Mobile Bay Beneficial Use site require a determination of suitability for open-water disposal in accordance with Environmental Protection Agency and U.S. Army Corps of Engineers joint testing guidance. Sediments will be tested to ensure the materials are safe for wetland creation before placement. See the Sediment Evaluation Protocol Framework Memorandum for additional details on the evaluation of potential dredged material.

Mobile District Evaluation: The USACE is required to complete a pre-testing evaluation (Subpart G, 40 CFR 230.60) when considering the potential for contaminants at a

disposal site. During the public notice period and subsequent coordination between the USACE, the EPA, and the Port, both commentors and the EPA asserted that sediment testing should occur prior to authorization because there was a "reason to believe" sediment could be a carrier of contaminants due to their industrial location of origin. It was EPA's stance that simply submitting a sediment evaluation framework for future testing requirements was not sufficient to ensure that a factual determination could be made regarding potential effects of sediment on the physical, chemical, and biological components of the aquatic environment. The USACE required sediment testing prior to issuance of a permit decision to ensure that suitable Port material was available for placement in the proposed wetland creation area.

All testing criteria, sampling locations, and methodology were coordinated with the EPA during project evaluation. A draft Sampling and Analysis Plan (SAP) and a Quality Assurance Project Plan (QAPP) were submitted to the EPA and the USACE on August 16, 2023. EPA responded with edits and recommendations on September 1, 2023. On October 10, 2023, the agent for the Port responded with a revised SAP/QAPP. Representatives for the EPA accepted this document and signed it before it was sent to the USACE for concurrence and signature. On October 19, 2023, the USACE signed the final SAP/QAPP, directing the Port to begin testing. The Port began sampling approximately one month later. Testing on samples was performed between December 2023 and June 2024. Preliminary results focusing on Tier 1 and Tier 2 testing were provided to the EPA and USACE in March 2024, and a memo with results of the sediment testing was submitting to USACE for review by Mobile District Planning and Environmental Division in April. The final sediment analysis reports were sent to the USACE and EPA in October 2024. The material from the potential Port dredge sites passed all required suitability tests as described in Section 6.6 below. Testing of material prior to placement will be required by the permit, according to all Tier 1 and Tier 2 regulatory requirements. This comment has been sufficiently addressed.

<u>Concern B. An Environmental Impact Statement (EIS) should be performed.</u>

Applicant Response: The USACE will determine whether an EIS is warranted based on impacts.

Mobile District Evaluation: The National Environmental Policy Act (NEPA) of 1969 excuses or excludes the Corps from the preparation of any formal environmental analysis with respect to actions that result in minor or no environmental effects, which are known as "categorical exclusions." For an action that is not categorically excluded the Corps must prepare an Environmental Assessment (EA) (see 33 CFR § 230.6-7, 9) [40 Code of Federal Regulations (CFR) §1501.3 (a) and (b)]. Based on the EA, the Corps either prepares an EIS, if one appears warranted, or issues a "Finding of No Significant Impact" (FONSI), which satisfies the NEPA requirement.

Throughout project evaluation, the Mobile District Regulatory Division routinely evaluated whether this proposed project, with additional information requested from and provided by the applicant, would have a significant impact on the human environment. This discussion was held with the applicant during pre-application meetings and

throughout project evaluation, offering them repeated opportunities to request an EIS. It was reiterated during this evaluation that if sediment testing, modelling analysis, or any other factors being considered under NEPA arrived at a determination that there would be a significant impact, an EIS would still be necessary. It was also communicated throughout the evaluation that the project was only being considered for a ten-year permit and the Port would be required to request another permit to complete the full 1,200 acres of construction after submitting data demonstrating success of the initial phases.

All comments received during the public notice period were thoroughly addressed in the following years. The Port provided sediment testing and analysis beyond their regulatory requirements (by completing Tier 3 sediment testing) to ensure suitable beneficial use material was available. The Port also provided two-dimensional hydrodynamic and spectral wave modelling as well as three-dimensional current speed, current direction, and bed shear stress modelling for each stage of the proposed project's construction to simulate potential impacts to the immediate vicinity of the project and the larger bay system.

It was determined that these simulations did not indicate the project would cause any significant changes to current flow or sediment transport in the bay. The project was coordinated with all stake holder regulatory agencies for impacts to Endangered Species, Essential Fish Habitat, Cultural Resources, Historic Properties, and the state issued a Section 401 Clean Water Act Certification. There are no consideration factors within the USACE purview that would indicate the project will have a significant impact on the quality of the human environment and therefore require an EIS. This comment has been sufficiently addressed.

Concern C. Additional details were requested in project plans to document depths, layouts, slopes, elevations, dimensions, etc.

Applicant Response: Plans revised as requested in RAI (a) and provided.

Mobile District Evaluation: Additional figures depicting construction layouts, elevations, slopes and other details were submitted to the USACE and coordinated with the EPA, NOAA-HCD, and other agencies during project evaluation. Commentors may browse the Port's various social media channels, go to the website specifically created for this project to sign up to receive email updates (https://uppermobaywetlands.com/), or submit a Freedom of Information Act request to the USACE, Mobile District in order to see more detailed plans. This comment has been sufficiently addressed.

Concern D. Additional considerations for alternative placement sites were requested.

Applicant Response: Revised alternatives analysis provided as requested in RAI (h).

Mobile District Evaluation: An updated Alternatives Analysis was submitted by the applicant on September 16, 2022, that detailed potential beneficial use placement mechanisms and locations considered during project development. This analysis was

reviewed and further updated throughout the project's evaluation and revised again when the agent submitted their own Environmental Assessment on June 30, 2023. There were 13 alternatives, including the applicant's preferred design, considered during project development. An alternative strategy requiring thin-layer placement within 8,660-acres of the bay was considered. Other placement locations considered included a new upland disposal area, a 1,200-acre area north of the causeway, and a 1,200-acre area in the middle of Mobile Bay near Galliard Island. Seven on-site alternatives (near the preferred proposal) were considered. The USACE determined that the proposed project was the Least Environmentally Damaging Practicable Alternative (LEDPA) that would accomplish the project purpose. Commentors may submit a Freedom of Information Act request to the USACE Mobile District to see details about the considered alternatives. This comment has been sufficiently addressed.

Concern E. USACE should identify the other entities which could potentially be placing material in the project site and whether they would be charged to offset construction and maintenance costs.

Applicant Response: Entities other than the APA could include private berths within the port. These sediments could be utilized for marsh creation pending sediment testing and permit approval. Long-term planning for such alternative sources and the potential for tipping fees are being considered to offset construction and maintenance costs.

Mobile District Evaluation: The beneficial use wetland creation site was evaluated as a containment area to be constructed by the Port. This evaluation was focused on the review of the containment structures within which to place Port material and the overall footprint of completed wetland cell construction but would not specify sources for dredged sediment. However, potential Port source material was identified prior to making factual determinations about the anticipated effects of dredged materials placement. At this time, no other entities have requested to be included in this evaluation for review. Any future placement of beneficial use dredged material inside of the wetland creation site, whether from the Port or other entities, would need to be authorized by a separate USACE permit evaluation while adhering to the requirements of material suitability that would be conditioned within this permit. All materials placed within the containment areas in the future would need to be tested according to the criteria developed during the project evaluation, in accordance with the Inland Testing Manual.

While the Alabama State Port Authority would incur costs due to the construction of the project, they have determined that beneficial use of Mobile Bay dredged materials managed by the Port would reduce overall operational costs, therefore reducing costs to the state and tax paying citizens. Should the Corps or any other entity request to use the site for sediment placement in the future, the Port would be required to coordinate that with the USACE Mobile District Regulatory Division after ensuring acceptable sediment testing results. During project evaluation, the Port submitted a letter of financial commitment to the District Engineer affirming support of this project throughout its planning, design, construction, monitoring, and maintenance life cycle. This comment has been sufficiently addressed.

Concern F. What costs are anticipated for the project over the 20-year implementation period.

Applicant Response: Project costs were considered as part of the alternatives analysis and an opinion of probable construction cost was developed by the consultant as part of project design. Under the RESTORE Act, funding dollars are available for programs, projects, and activities that restore and protect the environment and the economy of the Gulf Coast region. This Project will restore fisheries and wildlife habitat while enhancing the economy of the region. The APA is also contributing APA program management and grant administration resources to deliver the project. The project reduces the overall cost of dredging and dredge material management to ensure safe navigation of all commercial vessels using Alabama's only seaport. This project will lessen federal taxpayer and state dredging cost burdens.

Mobile District Evaluation: The General Public Interest Review (33 CFR 320.4 and RGL 84-09) requires the USACE to evaluate the proposal on various public interest review factors, including economics. The project was recommended by and would be supported through the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE Act). The RESTORE Act requires the RESTORE Council to "undertake projects and programs, using the best available science that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast." While the Alabama State Port Authority would incur costs due to the construction of the project, they have determined that beneficial use of the Port's annually-dredged 350,000-500,000 cubic yards of material would reduce overall operational costs for the Port, and therefore the state and tax-paying citizens.

With regards to ecological costs, a natural capital benefit analysis examining productivity and habitat services of the proposed water bottom conversion within the project footprint was performed by the agent for the Port and evaluated by the NMFS-HCD and the USACE. It determined that the functional natural capital increase due to the conversion of open waters to wetlands would be at least 127%. Cost was a selection criteria considered during the alternatives analysis for this project design, which was selected as the LEDPA.

There will be costs associated with long-term maintenance of the site and the reporting of survey results to the USACE, and the Port has affirmed its commitment to managing the project throughout its life cycle. The USACE, Mobile District has determined that the activity would result in a neutral (mitigated) effect on economics due to the lessened burden of dredge material management costs and the net increase of productive wetland habitat upon successful completion of wetland cell construction. This comment has been sufficiently addressed.

Concern G. An analysis should be performed to evaluate the potential for dike failure in the event of severe weather. The analysis should be made public.

Applicant Response: Modeling analyses were performed to inform design of the dikes for Mobile Bay severe weather events. These analyses were provided to the USACE as part of the RAI.

Mobile District Evaluation: Water-level, bed shear stress, erosion, and sedimentation time series were simulated for high and low river discharge events, as well as Hurricane Katrina and Hurricane Ike conditions to predict hydrodynamic effects in the bay-both with the project and without the project footprint fill. The project engineers for the Port designed the rock revetment armoring structures to withstand severe weather events and have submitted (and updated based on comments from agencies) an adaptive management plan that addresses corrective measures that will be taken in the event of structure or sediment displacement after severe weather. In the case of severe weather events, the permit will be conditioned to require a monitoring report detailing damage to the site and that new construction is suspended until such time that the site is returned to its intended design specifications. Commentors may submit a Freedom of Information Act request to the USACE, Mobile District to see details about the mitigative and adaptive management plans for storm events. This comment has been sufficiently addressed.

Concern H. The project should have been included as a disposal option in the 2019 GRR/SEIS.

Applicant Response: The Mobile Harbor GRR/SEIS evaluated federal channel maintenance disposal capacity to satisfy the new work and the related maintenance dredge material needs in accordance with federal requirements. For the federal Mobile Harbor project GRR/SEIS, the Upper Mobile Bay Beneficial Use Wetlands Creation Site was ***not*** *an authorized placement area and was therefore not considered as an option for the placement of new work material. The Upper Mobile Bay Beneficial Use Wetlands Creation Site (Planning) Project is a separate and distinct effort from other on-going area work. This project does not propose use of the material resulting from the widening and deepening project.*

Mobile District Evaluation: Because this project is not a USACE-sponsored construction activity, the federal Mobile Harbor project GRR/SEIS did not include this location in its scope of review. The purpose of the beneficial use wetland creation site is to create a long-term dredged-material placement area for sediments in the Mobile Bay ports. Should the USACE or any other entity wish to utilize the site in the future, they would be required to perform a separate NEPA evaluation of or obtain a permit for any dredging activities adhering to sediment suitability requirements prior to use of the site for placement. The Port will be required to ensure all dredged material considered for placement within the containment structures adheres to standards set forth in the permit conditions. This will be coordinated with Regulatory Division prior to the activity. This comment has been sufficiently addressed.

Concern I. What are the anticipated impacts of sea level rise on the project and what maintenance is planned?

Applicant Response: Settlement of the hydraulic dredged material, settlement of the in-situ foundation materials, the subsidence rate, eustatic sea level rise, accretion, and the high- and low water benchmarks were accounted for when designing the wetland fill elevations for the 20-year project life. A monitoring and adaptive management plan (updated) outlines future potential adaptive manage actions to raise the elevation of the containment structures and the wetland habitat.

Mobile District Evaluation: The USACE Sea-level Change Curve Calculator was used to estimate sea level rise (SLR). Initial SLR estimates were taken from an "intermediate" SLR scenario from the years 2020 to 2040. The amount of anticipated SLR included in the project design over the course of anticipated construction was 0.62 feet. The project engineers for the Port designed the project to account for sea level changes and have submitted (and updated based on comments from the agencies) an adaptive management plan that addressed corrective measures that will be taken in the event of SLR. Thin-layer placement of dredged material could be utilized as necessary in future construction events after coordination with the USACE. Maintenance of structural features would be performed when required to ensure successful containment, and design modifications of later project phases and wetland creation cells would occur in response to on-site sea level as the project is implemented. Commentors may submit a Freedom of Information Act request the USACE, Mobile District to see details about the mitigative and adaptive management plans for SLR. This comment has been sufficiently addressed.

Concern J. The project could affect the hydrology of Mobile Bay.

Applicant Response: The results of the hydrodynamic model indicate that the proposed Wetland Creation Site will have a minor impact on the local flow field and a negligible impact on the ship channel and mouth of the Mobile, Tensaw and Apalachee rivers. This is a reasonable conclusion because the Wetland Creation Site will be constructed in a shallow area are not directly affected by river inflows. Discharge from the Mobile River moves down the western shore of Mobile Bay and does not directly reach the proposed Wetland Creation Site due to the presence of a well-established shoal that diverts the flow.

Mobile District Evaluation: The USACE is required to evaluate proposed discharge under Section 404 of the Clean Water Act through demonstration of compliance with the 404(b)(1) Guidelines, including the various physical and chemical components which characterize the non-living environment of the candidate site. Consideration is given to potential impacts on physical and chemical characteristics of the aquatic ecosystem (Subpart C 40 CFR 230.20-40 CFR 230.25), including substrate, water, current patterns and water circulation, and salinity gradients.

The agent for the Port performed two-dimensional (2D) wave, hydrodynamic, and mud transport modelling during early stages of project development to assess potential impacts to the upper bay should the project be constructed. During the Regulatory Division's project evaluation, a three-dimensional (3D) model was developed in conjunction with USACE, Mobile District Engineering Division and the U.S. Army

r (ERDC), which evaluated each proposed
the efficacy of the existing two-dimensional
model.

The original model was extended from 2D to 3D. Low-flow conditions for salinity transport were introduced to add baroclinic flow effects to the overall hydrodynamic evaluation. The 2D model results were then compared to the 3D model results. The 2D model generally resulted in higher current speeds in the area of interest than the 3D model. The 2D model therefore predicted higher bed shear stresses, and a larger area of impact to areas that exceed the critical bed shear stress under with project conditions but not without project conditions. Based on these results, the 2D and 3D models show similar locations and patterns of impacts, but the 2D model is conservative compared to the 3D model as it results in higher magnitudes of impacts.

The impacts of the 1,200-acre with project conditions on current speed, current direction, and bed shear stress (erosion potential) were calculated for the high- and low-discharge conditions. The specific changes to current speeds, current directions, and bed shear stresses were quantified in terms of areas that did not exceed the critical bed shear stress under without project conditions but did exceed the critical bed shear stress under with project conditions for the 90th percentile bed shear stress values. The percent increase of water bottom within an appropriate area of interest that increased above the critical bed shear stress during with project conditions and results in the potential for additional erosion at 90th percentile bed shear stress values was found to be 3.9% for the high discharge simulation and 3.7% for the low discharge simulation.

Each increment of the proposed project could modify currents in upper Mobile Bay to varying, minor extents. The changes in simulated current speeds are indicative of expected changes in bed shear stresses, and therefore expected changes in sediment transport potential. The percent increase of water bottoms within the study area that the critical bed shear stress during with project conditions and results in the potential for additional erosion at 90th percentile bed shear stress values was found to be 0.7%, 1.0%, and 2.7% for the high discharge simulation for 100-acres, south, and middle wetland creation area scenarios, respectively and 3.5%, 3.6%, and 3.7% for the low discharge simulation for 100-acres, south, and middle wetland creation area scenarios, respectively.

The results of these model simulations were reviewed by a team of USACE coastal hydrologists, and the Engineering Division determined on September 16, 2024, that the model investigation did not demonstrate the likelihood of any significant sedimentation or other changes to hydrology of the bay in the immediate area. This comment has been sufficiently addressed.

<u>Concern K. There is concern that the project could impact fish (such as tarpon), reduce fishing opportunity, disrupt valuable habitat, and be overall detrimental to the ecosystem.</u>

Applicant Response: Tarpon –

i) The project team contacted Kevin Anson, Chief Biologist with the Alabama Marine Resources Division (AMRD), to evaluate tarpon presence in Mobile Bay. Mr. Anson responded that the AMRD had limited data for Tarpon in Mobile Bay. This included the following fisheries independent and dependent data:
Two records of fish captured in gillnet surveys (2002-2021)
One fish caught 10/21/2009 in Heron Bay.
One fish caught 12/14/2017 near May Day Park.
No Atlantic Tarpon were caught in the 16' otter trawl (1981-2021).
One fish identified from a beam plankton tow from Coden Beach (MS Sound) in 2018 (1981-2021).
There have been two interviews of anglers during NOAA recreational angler surveys (interviews collected on 8/4/2007). Time period of survey is 1981-2021. Both interviews were in Mobile Bay (lowest water body resolution level) from the same boat and each angler caught one fish which was released. From these two interviews an estimated 1,920 fish were caught and released in 2007.

ii) In addition to contacting AMRD, a review of publicly available maps from the Tarpon satellite tracking project conducted by Mississippi State University, the University of South Alabama, MS/AL Sea Grant, AMRD and others (https://m.facebook.com/MarineFisheriesEcology), was conducted. This project placed GIS-satellite transponder tags on 10 adult tarpons captured off Alabama during early summer 2018. These tagged tarpons were then tracked for a number of months. Out of the 10 tarpons tagged, only two fish entered upper Mobile Bay (Fish 13 and Fish 18). Most of the remaining fish stayed in the open waters of the Gulf of Mexico, with a small number (two) entering lower Mobile Bay for a brief period of time.

iii) Based on the lack of fisheries independent and dependent data from 1981-2021, and the results of the satellite tracking data, the usage of upper Mobile Bay by significant numbers of Tarpon appears to be limited. Additionally, even at full implementation and completion of the project, the footprint of the project will not significantly impact the total acreage of foraging habitat available for Tarpon in upper Mobile Bay. Further, the creation of wetland habitat from the project will provide additional nursery habitat for tarpon prey species, such as blue crab (Callinectes sapidus) and white mullet (Mugil cephalus).

Reduce fishing opportunity - Project location was selected with consideration for limiting recreational and commercial fishing impacts. It is not likely that the project area would be accessible to recreational and commercial fishers during and after project construction. Although the limited area of soft bottom and open water habitat within Mobile Bay would be reduced as a result of project implementation, there is ample adjacent soft bottom and water column habitat within the bay. The area is closed to oyster and shrimp fisheries as well as gillnetting. The project could provide enhanced nursery habitat thereby benefiting fisheries species; creation of more productive wetland habitat which supports increased primary and secondary productivity (Peterson, 2007); and an increase in catch due to habitat improvements resulting in increased fish, shrimp, and crab populations.

Disruptive and detrimental to the ecosystem – Project benefits include increased nursery habitat where shrimp, crabs, mullet, trout, and other finfish species will breed and grow; increases in future natural resources including sport fishing and other opportunities for people to recreate; wise environmental stewardship practices that put to good use the beneficial, nutrient-rich dredge material that would otherwise be lost from the Upper Mobile Bay system; reduced damage resulting from storm surge; and reduced wave action and erosion within the area to existing wetlands.

Mobile District Evaluation: The General Public Interest Review (33 CFR 320.4 and RGL 84-09) requires the USACE to evaluate a proposal on various public interest review factors, including fish and wildlife values, recreation, food production, and general environmental concerns. While the project would result in up to 1,200 acres of Section 10 water bottom fill impacts over the course of ten (or potentially up to twenty) years, the activity would be constructed in precisely planned phases, to slowly ramp up those impacts over time. The location was chosen specifically to minimize impacts to commercial and recreational fishing areas, avoiding areas where shrimping and gill netting is allowed. Because the total footprint of the project upon completion would encompass approximately 0.45% of Mobile Bay, there would be ample other suitable recreational fishing and boating area available to the public. The USACE Mobile District considers effects to recreation to be negligible and effects to food production to be neutral (mitigated) due to the increase of productive habitat.

The construction is anticipated to increase productive wetland habitats while utilizing sediment for wetland creation that would otherwise be lost to landfills or land-based development. The USACE Mobile District consulted with multiple environmental resource agencies during evaluation of the application, including the NMFS, EPA, and the ADEM. All comments received from agencies and other groups notified during the 60-day Public Notice were thoroughly addressed during project evaluation. After consultation with the agencies, in consideration of local agreements, and due to the permit conditions that will be implemented over the life of the project (including monitoring and adaptive management), the USACE, Mobile District considers the effects on fish and wildlife values and general environmental concerns to be neutral (mitigated). This comment has been sufficiently addressed.

<u>Concern L. Provide an analysis of the ecological tradeoffs that would result from project implementation.</u>

Applicant Response: To demonstrate the potential positive uplift and provide a reasonable estimate of the overall benefit to cost ratio, in terms of natural capital (productivity and habitat services), M&N, on behalf of the Alabama Port Authority, developed a net-benefit analysis to appraise the long-term natural capital benefits provided by the project (M&N 2022). Without the project, the monetary value of the natural resources from the habitats, as-is after 30 years would be $1,687,217,911 for the Wetland Creation Site. The Total Natural Capital Value of the Wetland Creation Site is $2,106,638,442. The net natural capital benefit, representing the resource gain for the project is $419,420,531.

Mobile District Evaluation: The General Public Interest Review (33 CFR 320.4 and RGL 84-09) requires the USACE to evaluate a proposal on various public interest review factors, including land use, fish and wildlife values, and general environmental concerns. The project will replace an area of oligohaline soft bottom with a more productive brackish marsh featuring tidal creeks and is intended to enhance nursery habitat. The Deepwater Horizon incident resulted in the assignment of currency values to ecosystem services for the quantification of various restoration activities. Those values were compiled by the Port's agent as a basis for determining the natural capital benefit lift provided by this project over the course of its implementation. The USACE, Mobile District considers this project's effects on land use to be beneficial.

The proposal was consulted with multiple environmental resource agencies during evaluation of the application, including the NMFS, EPA, and ADEM. After consultation with these agencies, in consideration of local agreements, and due to the permit conditions that will be implemented over the life of the project (including monitoring and adaptive management), the USACE, Mobile District considers the effects on fish and wildlife values and general environmental concerns to be neutral (mitigated). This comment has been sufficiently addressed.

Concern M. The public has not been adequately informed of the project and requests that a public hearing is held.

Applicant Response: The project team is willing to support a public hearing as deemed necessary by the USACE.

Mobile District Evaluation: Because this project was originally submitted for consideration of RESTORE project funding, the RESTORE Council began outreach regarding a beneficial use proposal in 2015, holding public meetings across gulf states. When the project development was transferred to the Port, their agent established an outreach plan prior to the submittal of a permit application, which included the creation of a website, email lists, virtual meetings, press releases, and one-on-one meetings with community representatives across the region. The comment period for this application was extended to 60 days, and 38 comments were received from agencies and the public which were all addressed during evaluation. Requests for a public hearing are granted when the Corps determines there may be comments that could be presented by the public that could not otherwise be provided in written correspondence. While a public hearing was not held, the public was given ample opportunity to submit comments to both the Port and the USACE, Mobile District. This comment has been sufficiently addressed.

According to 33 CFR 327.4, a public hearing means a public proceeding conducted for the purpose of acquiring additional information which may be needed for making a decision on a permit application. In accordance with the policies of 33 CFR 327, the need for a public hearing to complete the public interest review and reach a decision upon the application has been evaluated. The above concerns and those of other commentors were carefully considered in the Mobile District's evaluation of the proposed project.

After considering the extent of concerns expressed in the request for a public hearing, it has been determined the commentors' concerns are sufficiently addressed as detailed below, and such a hearing would have presented no new information or evidence which would assist in making a final decision in this permit request. Therefore, the requests for a public hearing are denied.

Comments received in response to public notice:

Comment 1: A representative from the Choctaw Nation of Oklahoma (CNO) commented on December 9, 2021, requesting copies of Cultural Resource surveys, avoidance measures, sheet pile details, geotechnical boring information, and mooring traffic over the life of the project.

Applicant's Response: On January 14, 2022, the Port's agent responded specifically to the CNO's questions by providing shapefiles of work areas as well as a memo answering their questions with details of the previously conducted surveys and descriptions of how future mooring would occur.

Corps' Evaluation: When the Regulatory Division archaeologist initiated consultation with the tribes, surveys and additional information were provided. Subsequent comments were considered and addressed.

Comment 2: A representative from the EPA emailed on December 13, 2021, asking if an EIS had been conducted and if the EPA was involved in that process,

Applicant's Response: N/A

Corps' Evaluation: On December 14, 2021, the Corps responded that an EIS had not been prepared and the Corps has not yet made a determination regarding whether the proposed action would significantly affect the quality of the human environment. The Project Manager communicated that EPA representatives had been on Pre-Application meetings for this project and how some comments about sediment sampling and sea-level rise had already been addressed and discussed.

Comment 3: On December 14, 2021, a representative from the Alabama Historical Commission (AHC) responded to the notice requesting that when this project was submitted to that office for review, shapefiles be included into the consultation request.

Applicant's Response: The agent for the Port provided shapefiles of the project area, survey areas, and avoidance areas.

Corps' Evaluation: When the archaeologist initiated consultation with the AHC, this information was provided.

Comment 4: On December 17, 2021, the NMFS Habitat Conservation Division (HCD) requested copies of the EFH Assessment and Marsh Planting and Monitoring Plan.

Applicant's Response: The applicant submitted an EFH Assessment and Marsh Planting and Monitoring Plan for review prior to submittal of the permit application.

Corps' Evaluation: On December 17, 2021, the Corps Project Manager forwarded these documents to the NMFS-HCD for initial review. These documents were repeatedly updated and edited, with all comments resolved during project evaluation.

Comment 5: On December 21, 2021, the Vice President of Internal/External Affairs for the Port submitted a comment requesting a 30-day comment period extension.

Applicant's Response: N/A

Corps' Evaluation: The Regulatory Division extended the Public Notice comment period by an additional 30 days. Notification of this extension was published on the website and sent to the PN distribution list on January 3, 2022.

Comment 6: On behalf of Mayor Michael McMillan of the City of Spanish Fort, a letter requesting a 60-day comment period extension was submitted by the City Clerk on December 22, 2021.

Applicant's Response: N/A

Corps' Evaluation: The Regulatory Division extended the Public Notice comment period by an additional 30 days. Notification of this extension was published on the website and sent to the PN distribution list on January 3, 2022.

Comment 7: On December 22, 2021, a representative from Mobile Baykeeper submitted a letter requesting a 60-day comment period extension and a public hearing due to project scope.

Applicant's Response: N/A

Corps' Evaluation: The Regulatory Division extended the Public Notice comment period by an additional 30 days. Notification of this extension was published on the website and sent to the PN distribution list on January 3, 2022. It was determined that a public hearing would not be held because commentors' concerns were sufficiently addressed during project evaluation, and such a hearing would present no new information or evidence which would assist in making a final decision in this permit request.

Comment 8: On December 28, 2021, a representative from the NMFS-HCD responded to the notice and forwarded EFH documents with requests for additional information on planting, proposed wetland elevations, gapping. They requested marsh settlement curves, info on temporal loss, and that performance metrics be included on the draft Monitoring and Adaptive Management Plan.

Applicant's Response: The agent for the Port provided revised documents throughout

evaluation based on meetings with NMFS and comments left on the draft documents.

Corps' Evaluation: NMFS-HCD was heavily involved in providing advisory comments and reviewing the submitted EFH Assessment and Monitoring and Adaptive Management Plan during project evaluation. On August 15, 2023, NMFS-HCD provided final comments that with the inclusion of special conditions regarding EFH and reporting requirements, the agency did not object to the project as proposed and no further consultation was necessary.

Comment 9: On December 28, 2021, Hayden Olds submitted an email expressing concern that the proposed wetland creation area is prime habitat for tarpon and the large size of the area would affect the natural flow of water through the area. The commentor also asserted the project would lead to the degradation and loss of suitable habitat to sustain aquatic species populations.

Applicant's Response: This comment is addressed above in Concern K.

Corps' Evaluation: This comment is addressed above in Concern K.

Comment 10: On December 30, 2021, Rick Voll submitted an email expressing opposition to the plan because the notice did not specify how dredged material would be ensured to be suitable for use.

Applicant's Response: This comment is addressed above in Concern A.

Corps' Evaluation: This comment is addressed above in Concern A.

Comment 11: On December 30, 2021, Lynn Yonge submitted an email requesting a 30-day comment period extension. They expressed concern about unexpected hydrology changes of the bay and requested that the project be engineered for its potential beneficial ecosystem effects.

Applicant's Response: This comment is addressed above in Concern J.

Corps' Evaluation: This comment is addressed above in Concern J.

Comment 12: On January 1, 2022, Glendon Coffee submitted a letter dated December 31, 2021, to the District Commander expressing opposition to the project and requesting an EIS. The commentor also requested a public hearing.

Applicant's Response: These comments were addressed above in Concerns B and M.

Corps' Evaluation: These comments were addressed above in Concerns B and M.

Comment 13: On January 3, 2022, Christian Wagley on behalf of Healthy Gulf submitted an email with comments in support of beneficial use, but with concerns that this project should require an EIS, sediment testing, EFH assessment, and a sea level

Applicant's Response: These comments were addressed above in Concerns A, B, I, and K.

Corps' Evaluation: These comments were addressed above in Concerns A, B, I, and K.

Comment 14: On January 5, 2022, Margaret Henderson submitted comments via email expressing general environmental concerns over the project and support of the Sierra Club's comments.

Applicant's Response: These comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M.

Corps' Evaluation: These comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M.

Comment 15: On January 5, 2022, "Richard" submitted an email in general opposition to the project and demanding an environmental study.

Applicant's Response: N/A

Corps' Evaluation: Extensive environmental analysis and coordination with resources agencies was completed prior to finalizing a permit decision.

Comment 16: On January 5, 2022, Carol Adams-Davis on behalf of the Mobile Bay Sierra Club submitted a letter requesting an EIS, requesting a Public Hearing, and extending the Public Notice Period. The requests for public hearing were based on scope, long-term impacts, use of public land, general environmental concerns, and insufficient public advertisement.

Applicant's Response: These comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M.

Corps' Evaluation: The Regulatory Division extended the Public Notice comment period by an additional 30 days. Notification of this extension was published on the website and sent to the PN distribution list on January 3, 2022. Additionally, these comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M.

Comment 17: On January 15, 2022, Paul Pacey II submitted an email suggesting the expansion of Galliard Island as an alternative to this project.

Applicant's Response: This comment was addressed above in Concern D.

Corps' Evaluation: This comment was addressed above in Concern D.

Comment 18: On January 19, 2022, Pagan Mosher submitted an email in general

[redacted]o seafood, aesthetics, and recreation.

Applicant's Response: N/A

Corps' Evaluation: The Corps conducted a Public Interest Review during the project's evaluation, considered impacts to commercial and recreational fishing, as well as aesthetics. This is detailed in the General Public Interest Review (33 CFR 320.4 and RGL 84-09) in Section 7.1 below.

Comment 19: On January 19, 2022, Stephanie Gilbert submitted an email communicating general environmental concerns, expressing their anticipation of risks associated with storm damage to the site, and inquiring regarding the ecological value of converting existing habitat to wetlands.

Applicant's Response: These comments were addressed above in Concern F, G, and L.

Corps' Evaluation: These comments were addressed above in Concern F, G, and L.

Comment 20: On January 19, 2022, Beth Olson submitted an email in general opposition to the project.

Applicant's Response: N/A

Corps' Evaluation: N/A

Comment 21: On January 19, 2022, Elizabeth Hagard submitted an email requesting an EIS before proceeding with the project.

Applicant's Response: This comment was addressed above in Concern B.

Corps' Evaluation: This comment was addressed above in Concern B.

Comment 22: On January 19, 2022, George Crozier submitted an email in support of Sierra Club's comments and requesting an EIS.

Applicant's Response: These comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M.

Corps' Evaluation: These comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M.

Comment 23: On January 19, 2022, Pat Harris submitted an email in opposition to the project based on water quality concerns.

Applicant's Response: N/A

Corps' Evaluation: The applicant obtained Water Quality Certification from the Alabama

Department of Environmental Management as part of the permit process. This certification was forwarded to the EPA pursuant to 40 CFR 121.12(a), who did not respond. Sediment suitability requirements will be conditioned within the permit.

Comment 24: On January 21, 2022, Violetta Simpson submitted an email expressing concerns over long-term effects and requesting an EIS.

Applicant's Response: This comment was addressed above in Concern B.

Corps' Evaluation: This comment was addressed above in Concern B.

Comment 25: On January 28, 2022, Nancy Milford submitted a comment letter via email expressing general environmental concerns and requesting a public hearing regarding the project.

Applicant's Response: These comments were addressed in Concerns K, L, and M above.

Corps' Evaluation: These comments were addressed in Concerns K, L, and M above.

Comment 26: On January 29, 2022, Lella Lowe submitted an email detailing general environmental concern, expressing possible risk during storm events, and requesting an EIS.

Applicant's Response: These comments were addressed in Concerns B, G, and K above.

Corps' Evaluation: These comments were addressed in Concerns B, G, and K above.

Comment 27: On January 29, 2022, Jerry Lee sent an email forwarding Sierra Club comments via web link.

Applicant's Response: These comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M.

Corps' Evaluation: These comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M.

Comment 28: On January 31, 2022, the District Commander received a letter dated January 14, 2022, from Joi Travis on behalf of the Alabama Sierra Club requesting an EIS and a Public Hearing based on scope, long-term impacts, use of public land, cost, general environmental concerns, and insufficient public advertisement.

Applicant's Response: These comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M.

Corps' Evaluation: These comments were addressed above in Concerns A, B, D, E, F,

G, K, L, and M.

Comment 29: On February 1, 2022, NMFS-HCD submitted a comment in response to the second Public Notice reaffirming their intention to consult on the project.

Applicant's Response: N/A

Corps' Evaluation: On February 2, 2022, the Corps reiterated its position that consultation would be initiated when additional information requested from the applicant on behalf of NMFS-HCD had been received.

Comment 30: On February 1, 2022, Stan Graves submitted a letter to the district requesting a public hearing, requesting an EIS, and expressing concern about the loss of sediment due to the activity that is needed on Dauphin Island.

Applicant's Response: These comments were addressed above in Concerns B, J, and M.

Corps' Evaluation: These comments were addressed above in Concerns B, J, and M. Additionally, since this project went on Public Notice, a separately-authorized project has been constructed to reuse sediment from the ship channel on Dauphin Island Causeway and repair erosion.

Comment 31: On February 2, 2022, Myrt Jones submitted a letter to the district in general opposition of the project and requesting an EIS.

Applicant's Response: This comment was addressed above in Concern B.

Corps' Evaluation: This comment was addressed above in Concern B.

Comment 32: On February 3, 2022, Nancy Muse submitted an email requesting an EIS.

Applicant's Response: This comment was addressed above in Concern B.

Corps' Evaluation: This comment was addressed above in Concern B.

Comment 33: On February 3, 2022, Cade Kistler on behalf of Mobile Baykeeper submitted a comment letter via email requesting a Public Hearing, requesting an EIS, and expressing concerns about a Monitoring and Adaptive Management Plan, sediment testing, and the need for phasing.

Applicant's Response: These comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M.

Corps' Evaluation: These comments were addressed above in Concerns A, B, D, E, F, G, K, L, and M. Additionally, phasing was discussed throughout the project evaluation and will be conditioned within the permit.

Cagle on behalf of the Alabama Mining Association submitted a comment letter via email in support of the project.

Applicant's Response: N/A

Corps' Evaluation: The General Public Interest Review (33 CFR 320.4 and RGL 84-09) in Section 7.1 below considers economics, general environmental concerns, and public benefits.

Comment 35: On February 3, 2022, John Cutts on behalf of Peninsula of Mobile submitted a letter requesting an EIS and a Public Hearing based on scope, long-term impacts, use of public land, effects on fisheries, sediment suitability, effects of storms, cost, general environmental concerns, alternatives, hydrodynamic modelling, and insufficient public advertisement.

Applicant's Response: These comments were addressed above in Concerns A through M.

Corps' Evaluation: These comments were addressed above in Concerns A through M.

Comment 36: On February 3, 2022, Barbara Caddell submitted an email requesting an EIS, requesting a Public Hearing, and expressing concerns about sediment suitability and environmental tradeoffs.

Applicant's Response: These comments were addressed above in Concerns A, B, L, and M.

Corps' Evaluation: These comments were addressed above in Concerns A, B, L, and M.

Comment 37: On February 3, 2022, Rosemary Calli of the EPA submitted comments via email in support of beneficial use and requesting additional information regarding hydrodynamic modelling and sediment transport with regards to 404(b)(1) analyses, advising regarding sediment suitability requirements, and offering assistance for sediment evaluation. She requested continued coordination while the project details, such as a Monitoring and Adaptive Management plan, were developed.

Applicant's Response: These comments were addressed above in Concerns A and J above.

Corps' Evaluation: These comments were addressed above in Concerns A and J above. Additionally, monitoring and adaptive management of the construction activities will be required through permit conditions.

Comment 38: Twenty-seven (27) form comments through Mobile Baykeeper were submitted between December 20, 2021 through February 3, 2022 from Cynthia Penny, "Cassie" from the Baykeeper Communications Team, Cade Kistler, Mark Calametti,

Zach Sandifer, William Inman, Sue Winter, Lukas Mikurda, Christine Falls, Alton Maier, Clifford Chandler Ogburn, J. Steven McClure, Jerry Odom, Galen Brey, AJ Cabana, David Bagley, Patti Kahn, Michael LaSarge, William Wyatt, Guy Etherton, Taurus Lewis, John Howard, Ramsey Sprague, Catherine Odom, Ilka Porter, John Czachurski, Jacob Hartley. These form letters included requests for an EIS, requests for a Public Hearing, sediment testing, sea level rise impacts, scope, phasing, and ecological tradeoffs.

Applicant's Response: These comments were addressed above in Concerns A, B, G, I, K, L, and M.

Corps' Evaluation: These comments were addressed above in Concerns A, B, G, I, K, L, and M.

Additional discussion of submitted comments, applicant response and/or Corps' evaluation: On November 8, 2023, a letter from Joseph Mahoney on behalf of the Mobile Bay Sierra Club postmarked November 2, 2023, and dated October 31, 2023, was received by the District Commander. The letter reiterated the environmental concerns conveyed throughout the Public Notice period from that group. It also accused the Regulatory Division of failing to reply to that communication. A response to their letter is contained within the Administrative Record. On November 9, 2023, the Regulatory Division responded to this letter, acknowledging receipt and communicating that their comments were considered during the project review.

The District Commander received a letter postmarked February 10, 2025, and dated January 21, 2025, from Mr. Glendon Coffee who also submitted comments during the Public Notice period. This letter accused the district of intentionally failing to evaluate this proposed wetland creation areas during the Mobile Harbor Supplemental EIS. Because this is not a Corps-sponsored project, the Corps did not evaluate the location in its NEPA review. Should the Corps ever propose to place material within the Port's site, the Corps would be required to develop a Supplemental EIS for that activity.

The District Commander received a letter postmarked February 3, 2025, and dated January 31, 2025, from Mr. Vaughn Millner on behalf of the Mobile Bay Sierra Club who also submitted comments during the Public Notice period. This letter accused the district of ignoring previous letters and requested another Public Notice about the status of the project be distributed. Regulatory Division responses to Public Notice comments are contained within the administrative record, and Regulatory Division has no record of a May 2023 letter referenced in this letter. This letter also accused the district of intentionally failing to evaluate the proposed wetland creation areas during the Mobile Harbor Supplemental EIS. Because this is not a Corps-sponsored project, the Corps did not evaluate the location in its NEPA review. Should the Corps ever propose to place material within the Port's site, the Corps would be required to develop a Supplemental EIS for that activity.

4.2 Additional issues raised by the Corps

Representatives from multiple offices throughout USACE, Mobile District, including OP-TN, OP-G, EN-HW, and 408 were included in pre-application discussions with the applicant. After the Public Notice was distributed and the comment period closed, the applicant was directed to develop a hydrodynamic modelling framework for review and discussion with the EN-HH to ensure that this project would not increase the burden on the USACE to dredge sediment from the federal channel.

A meeting was held with Engineering and the Port on March 7, 2022, to obtain feedback on proposed modelling methods. Advice directing the development of evaluation methods was given to the Port by USACE Coastal Engineers, and the Port submitted a written modelling plan on March 22, 2022. On April 4, 2022, EN-HH made some additional suggestions to the written plan, which were immediately forwarded to the applicant. A two-dimensional *WAVE, HYDRODYNAMIC, AND MUD TRANSPORT MODELING REPORT* was submitted for review on September 16, 2022. This was forwarded to EN-HH representatives on September 28, 2022.

Engineering Division continued to advise the applicant regarding technical revisions to the model until September 1, 2023, when it expressed to Regulatory Division that in consideration of EPA concerns about the lack of three-dimensional modelling and their own understanding of the two-dimensional work performed, additional three-dimensional modelling investigations would be required to more reasonably simulate project impacts. A new modelling work plan was submitted by the applicant on October 19, 2023, that extended the two-dimensional model into three dimensions with the addition of salinity flow simulations. Weekly meetings were held with EN-HH, ERDC, Regulatory Division, and the Port to advise the development and calibration of the model for this project. A revised work plan was submitted January 23, 2024, which was continually coordinated with EN-HH until June 12, 2024, when results from Phase 1 of the 3D model were submitted to the EN-HH for review. It was then determined that the model was sufficient and that Phase 2 of the 3D model should be completed and documented. This documentation was submitted to Regulatory Division and forwarded to ERDC and EN-HH for review. In a call with a representative from ERDC and representatives from EN-HH on August 22, 2024, Regulatory Division was advised that the Corps' issues with the early versions of the hydrodynamic models had been addressed and that the work completed since was sufficient to demonstrate a low likelihood of major changes to the areas surrounding the project footprint.

4.3 Comments regarding activities and/or effects outside of the Corps' scope of review

Commentors repeatedly expressed apprehensions about the Corps evaluating the potential effects of this activity because the initial project development in the early 2010s was guided by the Corps. It was asserted that, due to this, the "independence and objectivity of district permitting process has been compromised." Additionally, commenters expressed "concern over the inherent bias, which without question, must adversely influence the Mobile District's ability to fairly, objectively, and impartially decide on the merits whether to grant the desired permit." While there may be confusion amongst the regulated public about the Regulatory Division's role within the

Corps, the Regulatory Program is committed to protecting the Nation's aquatic resources and navigation capacity, while allowing reasonable development through fair and balanced decisions. Regulatory Division is neither for nor against any project and was not involved in Interagency Working Group (IWG) discussions to develop Mobile Bay beneficial use strategies in preceding years. During an IWG working group meeting held on July 2, 2012, it was determined that the Port would take the lead on final design of this project and responsibility for any subsequent NEPA compliance and permitting actions. The commentors appear to have assumed that an EIS public-involvement process was standard operating procedure for work in and around Port properties, but at the time of Public Notice, the Regulatory Division had not yet determined whether the project required that level of analysis. The Corps was not a project proponent during pre-application investigations and was only involved after application submission in a technical review capacity to ensure modelling was sufficient for Regulatory Division's evaluation.

The timing of the Public Notice was questioned. The Public Notice was distributed to 26 mailing addresses, including local community managers and mayors, as well as the typical Mobile District email distribution list, as soon as it had been drafted and reviewed by Mobile District, South Alabama Branch Regulatory Division project managers and management. While the timing did overlap with winter holidays, the Port also requested an extension of the notice period to a total of 60 days so that comments could continue to be submitted. An extension was granted. Additionally, Regulatory Division documents and considers all comments received at any time during or after a Public Notice and used all information received from the public during this evaluation in its review.

5.0 Alternatives Analysis

(33 CFR Part 325 Appendix B, 40 CFR 230.5(c), 40 CFR 1501, and RGL 88-13). An evaluation of alternatives is required under NEPA for all jurisdictional activities. NEPA requires discussion of a reasonable range of alternatives, including the no action alternative, and the effects of those alternatives. An evaluation of alternatives is required under the Section 404(b)(1) Guidelines for projects that include the discharge of dredged or fill material to waters of the United States. Under the Section 404(b)(1) Guidelines, practicability of alternatives is taken into consideration and no alternative may be permitted if there is a less environmentally damaging practicable alternative.

5.1 Site selection/screening criteria

In order to be practicable, an alternative must be available, achieve the overall project purpose (as defined by the Corps) and be feasible when considering cost, logistics and existing technology.

Criteria for evaluating alternatives as evaluated and determined by the Corps:

Three levels of project screening were done during the site selection for this project, which are included within this alternatives analysis. Screening Level 1 included consideration of practicable alternatives that both met the project purpose and need and

[redacted]gistics, availability, and compliant use of [redacted]on. Screening Level 2 included consideration of environmental minimization/avoidance metrics and thresholds to determine a more precise location within the bay that would be most suitable for further project development. Screening Level 3 assessed an alternative's success when evaluating additional on-site design considerations.

Due to the project size, scope, and potential impacts from the activity, Screening Level 1 was focused on identifying an appropriate method of dredged sediment utilization and a suitable general geographic location.

Selection Criteria for Screening Level 1 is included below:

Cost – The current cost to the Port for upland disposal is about $50/cubic yard. This criterium evaluates whether an alternative would cost less than this threshold. The distance between a placement site and the Port's berths is a factor controlling the cost per cubic yard. Therefore, for maximum dredging efficiency, a practicable alternative would need to be located within approximately 3 miles (4.8 km) of Port's berths, as anything over 3 miles would require a booster pump and require more money for operation.

Capacity – This criterium considers whether the method and/or location of disposal can accommodate enough material to achieve the project purpose of beneficial use while satisfying the requirements of a 20-year dredged material management plan. At least 350,000 (and up to 500,000) cubic yards of material are dredged per year in the Port's public berths, which could generate up to 10 million cubic yards of dredged sediment over the next 20 years. For an alternative to be considered practicable, it must be able to accommodate up to 10 million cubic yards of dredged material.

Site Maintenance Logistics –This criterium evaluates the practicability of site access for placing dredged material and performing maintenance lifts. The distance of the alternative from the Port where maintenance activities would be based must be manageable with regards to travel time and interference with navigation in the federal ship channel.

Real Estate/Riparian Rights – This criterium evaluates the avoidance of conflict with the riparian rights of landholders. Alternatives located on state owned water bottoms not currently in use for other state or federal activities would avoid the riparian issues associated with adjacent private landholders nearshore.

Impacts to Navigation – For an alternative to be practicable, the site should minimize interference with ships / boats that are utilizing the Mobile Ship Channel. Project activities should not result in any impacts to navigation or utilization of the ship channel. From a Section 408 perspective, a buffer of at least 100 feet should be provided between project activities and the federal navigation channel. A farther distance may be more practicable from a design perspective to minimize ship wake affects.

Airfield Buffer Zone – A wetland creation site has the potential to attract birds that can interfere with airplanes. For an alternative to be practicable, the alternative must not interfere with the line of the flight path for Brookley Airfield (Mobile's downtown airport). The Mobile Airport Authority, during Interagency Working Group meetings, requested that a wetland creation site have a 3-mile buffer from the Brookley Airfield to completely avoid bird strikes.

RESTORE Act Compliance/ Habitat Requirements – This criterium assesses whether an alternative is compliant with RESTORE Act funding requirements for habitat restoration. This criterium considers whether there would be overall beneficial effects to the environment due to the activity.

After a practicable site location (Upper Mobile Bay) was determined during the Off-Site Alternatives / Screening Level 1, a finer screening analysis incorporating 404(b)(1) and NEPA criteria was performed.

These criteria focus on environmental minimization/avoidance measures within Upper Mobile Bay that met the project purpose and had the least environmental damage with regards to hydrodynamics, essential fish habitat, threatened and endangered species, and cultural resources.

Selection Criteria for screening level 2 is included below:

Hydrology – This criterium evaluates whether the project would have a direct adverse effect on hydrology. Qualitative thresholds based on river currents and bay circulation were determined with low, medium, and high threshold. Determination of these thresholds was based on Du *et al.* (2018).

Sedimentation – This criterium evaluates whether the project would have a direct adverse effect on sedimentation. Qualitative thresholds of the effects of hydrology and wave climate on sediment movement in Upper Mobile Bay were determined with low, medium, and high threshold. Determination of these thresholds was based on Du *et al.* (2018). This criterium evaluates whether the project would have a direct adverse effect on sedimentation.

Salinity Gradients – This criterium evaluates whether the project would have a direct adverse effect on salinity. Deeper areas (>7.5 feet) of Upper Mobile Bay have shown strong vertical salinity gradients including the Mobile Ship Channel, however shallow areas do not show this gradient and, especially in the upper bay, are largely affected by freshwater inputs (Du *et al.,* 2018). Alternatives located in water deeper than 7.5 feet, such as an isolated dredged depression, could impact that salinity gradient.

EFH habitats – This criterium evaluates whether the project would have a direct adverse effect on essential fish habitats. An EFH Assessment was performed for this project for the Upper Mobile Bay area. Reference to this analysis and effects were used. Overall, this is based on an acreage and species affected metric, which is the same for all alternatives. Species under the Fishery Management Plans in the area include

shrimp, red drum, reef fish, and highly migratory species. EFH for the identified Fishery Management Plans within the project vicinity includes estuarine soft bottom, water column, SAV, sand, and shell substrates.

SAV/Oyster Habitat – This criterium evaluates whether the project would have a direct adverse effect on SAV or oysters. Based on the habitat restoration goal for the project, the threshold for effects on SAV and oyster habitat was complete avoidance of these habitats. Long-term data (40 years) on the SAV habitats are based on a Stout *et al.* (1982) and MBNEP (2002, 2010, 2016, 2020). Oyster habitat data was provided by Alabama Marine Resources Division.

Threatened and Endangered (T&E) Species – This criterium evaluates whether the project would have a direct adverse effect on threatened and endangered species. The level and duration of impact to T&E species was analyzed by species as a threshold for this metric. In Upper Mobile Bay, this metric analysis is the same for all alternatives. Potential protected species include Alabama red-belied turtle (E), West Indian manatee (T), wood stork (T), green sea turtle (T), Kemp's ridley sea turtle (E), loggerhead sea turtle (T), Gulf sturgeon (T), and giant manta ray (T).

Fisheries – This criterium evaluates whether the project would have a direct adverse effect on fisheries. The presence or absence of fisheries related activities were a threshold considered for analysis to minimize affects to commercial and recreational fisherman. Fisheries resources include artificial reefs, finfish, shrimp nursery, gillnetting, and crabbing.

Cultural Resources – This criterium evaluates whether the project would have a direct adverse effect on cultural resources. For cultural resources, based on the Alabama Historical Commission's advice to-date on the project, the alternative should avoid or minimize effects to these resources. The threshold for this metric is based on presence or absence of cultural resources as identified in the MBNEP report (2019).

Wetland habitat type and acres of habitat – This criterium evaluates the type and acreage of additional wetland habitat created by the project alternatives, with a maximization of increased wetland acreage being the optimal scenario.

Screening Level 3 alternatives consider the appropriate depths within the area, minimization of hardened external containment footprints, and effects of hydrodynamics as it relates to the federal navigation channel and Mobile River inflows and submerged vegetation.

Selection Criteria for screening level 3 is included below:

Bathymetry – This criterium considers the depth of water (in feet) as a factor that informs the size requirements of the containment features. Shallower areas less than 7.5 feet deep are preferable to control costs and the foundational life span of those features.

External Containment Perimeter - This criterium considers the size of external containment dikes that would be required in Alternatives 6.5.1 and 6.5.2 below. The perimeter distance in linear feet of the containment features is important because it results in the conversion of benthic habitat to hard, less-productive substrate, and it increases construction costs associated with the amount of hardened structures. Minimization of external containment size would reduce costs and increase wetland habitat.

Minimization of Hydrodynamic effects on Navigation Channel and Submerged Aquatic Vegetation – This criterium considers the distance from the Mobile River and the potential for sedimentation in the adjacent areas, where being further from the channel is desired.

5.2 Description of alternatives

5.2.1 No action alternative

Alternative 1. The no-action alternative would include the continued disposal in existing upland disposal sites, located east of the Mobile River, with continued maintenance and double-handling of material (placement and removal after dewatering to other locations or landfills) to be disposed at approved landfills (Figure 3).

5.2.2 Off-site alternatives

For this project, USACE considered "off-site alternatives" to be an analysis of methods of dredge material management and locations within the bay area in which to construct the project.

Alternative 2. Thin-layer Placement– This alternative site is located in the open-water habitats of Mobile Bay and would include placement of material in a 6-inch thin layer over 8,660 acres over a 20-year period. This is a similar method used by the USACE in approved sites along the Mobile Ship Channel (Figure 3).

Alternative 3. New Authorized Upland Disposal Area – This alternative includes locating a disposal site of about 80 to 100 acres (with approximately 20 ft tall containment dikes) that could receive dredged material and would have the capacity to hold 20 years of dredged material. A site would need to be within a reasonable distance of the Port's berths for logistical disposal and transportation purposes (Figure 3).

Alternative 4. North of the Causeway – This alternative would be located in the oligohaline waters found north of the causeway in an area that has a 1,200-acre site to create intertidal wetland habitat (e.g., Polecat and/or Chocalatta Bay), to satisfy the capacity requirements of the Port over the next 20 years. This location is within 3 miles of the Port's berths (Figure 3).

Alternative 5. Middle Bay – This alternative is located in the euryhaline habitats of middle Mobile Bay. This location would provide a 1,200-acre site to create intertidal wetland habitat for the capacity of the Port over the next 20 years. This location is over

[redacted]ile Number, SAM-2021-00246-DCH)

[redacted]r the USACE placement area (Gaillard

Alternative 6 (Applicant's Preferred Location – Level 1 Screening). Upper Mobile Bay – This broad alternative is located in the oligohaline habitat of Upper Mobile Bay in open water south of the Causeway. This location would have a 1,200-acre site to satisfy Port's dredged material capacity requirements over the next 20 years. This location is within 3-5 miles of the Port's berths (Figure 1).

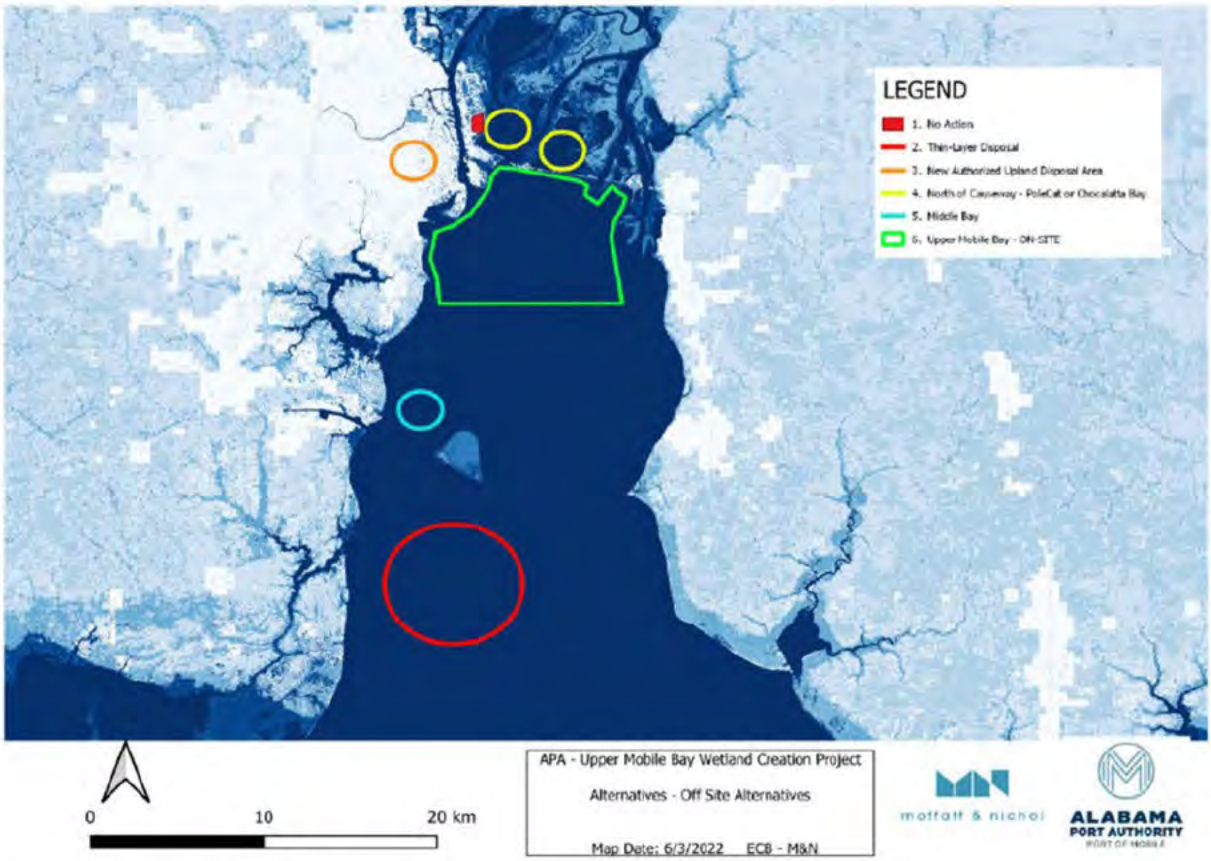

Figure 3. Screening Level 1. Location of the No-Action, Off-site and "On-site" alternatives identified in Alternatives 1-6.

5.2.3 On-site alternatives

When the Upper Mobile Bay was selected from the off-site alternatives, on site-alternatives (various locations throughout the Upper Mobile Bay) were considered.

Alternative 6.1. Arlington Channel – This alternative is located on the shallow flats south of Arlington Channel and west of the Mobile Ship Channel in oligohaline open-water habitat. This location would have a 1,200-acre site for the Port's dredged material capacity requirements over the next 20 years. This site is within 3 miles of the Port's berths (Figure 4).

Alternative 6.2. Little Sand Island - This alternative is located east of the Mobile Ship

Channel and south of Little Sand Island at the mouth of the Mobile River in oligohaline habitat. This location would have a 1,200-acre site for the Port's dredged material capacity requirements over the next 20 years. This site is within 3 miles of the Port's berths (Figure 4).

Alternative 6.3. Wetland extension – This alternative is located directly adjacent to the existing wetland habitats south of the Causeway. This location would have a 1,200-acre site for the Port's dredged material capacity requirements over the next 20 years. This site is within 3 miles of the Port's berths (Figure 4).

Alternative 6.4. Historic Oyster Deposits – This alternative is located in areas that were historically mined for oyster material from approximately 1930 to 1950. These areas in the Upper Mobile Bay are approximately +7 feet deep and cumulatively cover around 1,340 acres. This site is 5 miles from the Port's berths (Figure 4).

Alternative 6.5. South of the Causeway (Applicant's Preferred Location – Level 2 Screening) – This alternative is located a mile south of the Causeway in oligohaline habitat. This location could support up to 2,500 acres for the Port's dredged material capacity requirements over the next 20 years. This location is approximately 3-5 miles from the Port's berths (Figure 4).

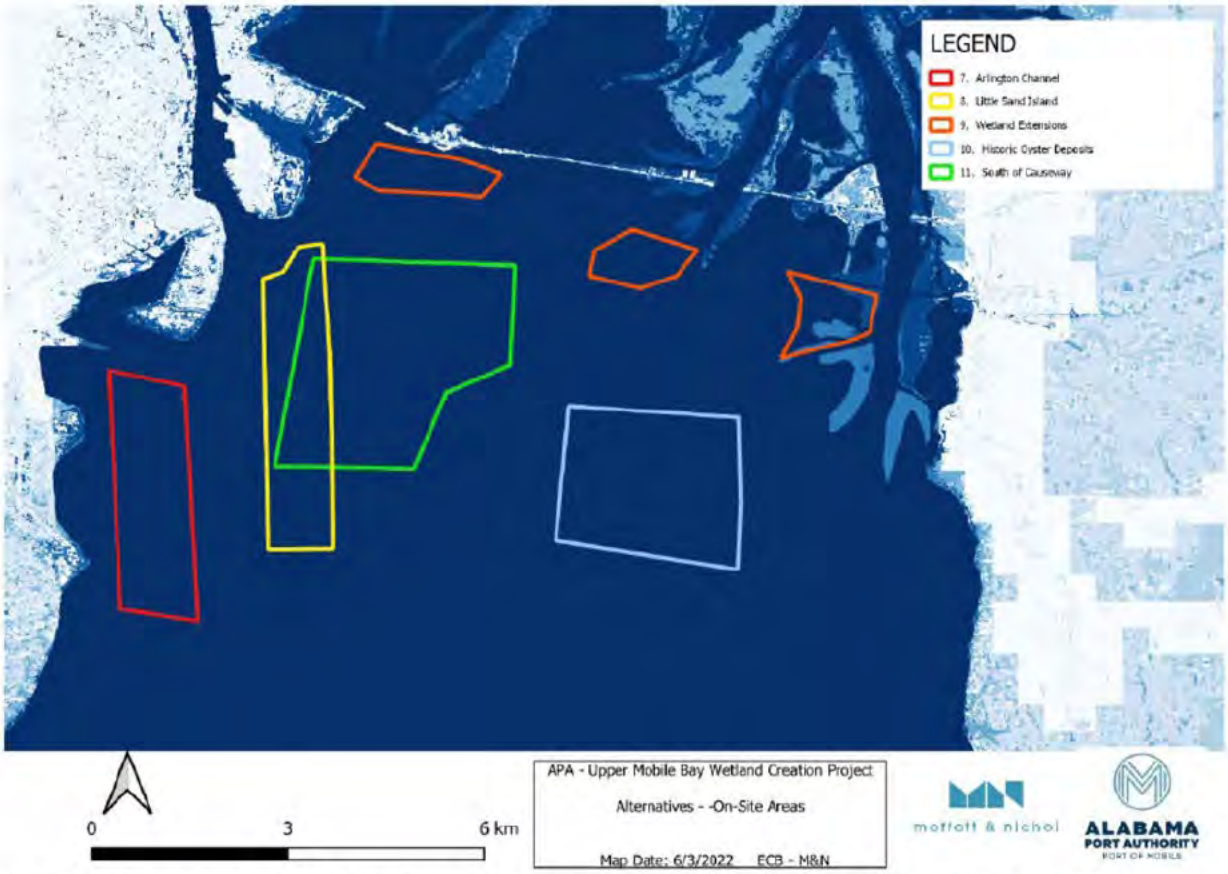

Figure 4. Screening Level 2. Location of On-site Alternatives identified in Alternatives 6.1-6.5.

When "South of the Causeway" was selected as the preferred site location within Upper Mobile Bay, two alternatives within the 2,500-acre area of the South of Causeway Alternative were considered.

Alternative 6.5.1. Two Wetland Creation Sites – This alternative would entail wetland creation in the oligohaline habitat of Upper Mobile Bay though two separate sites cumulatively totaling 1,200 acres within the greater 2,500-acre footprint of the "South of the Causeway" (#6.5) alternative. These locations are within 3 miles of the Port's berths (Figure 5) and would require 43,916 linear feet of external containment dikes.

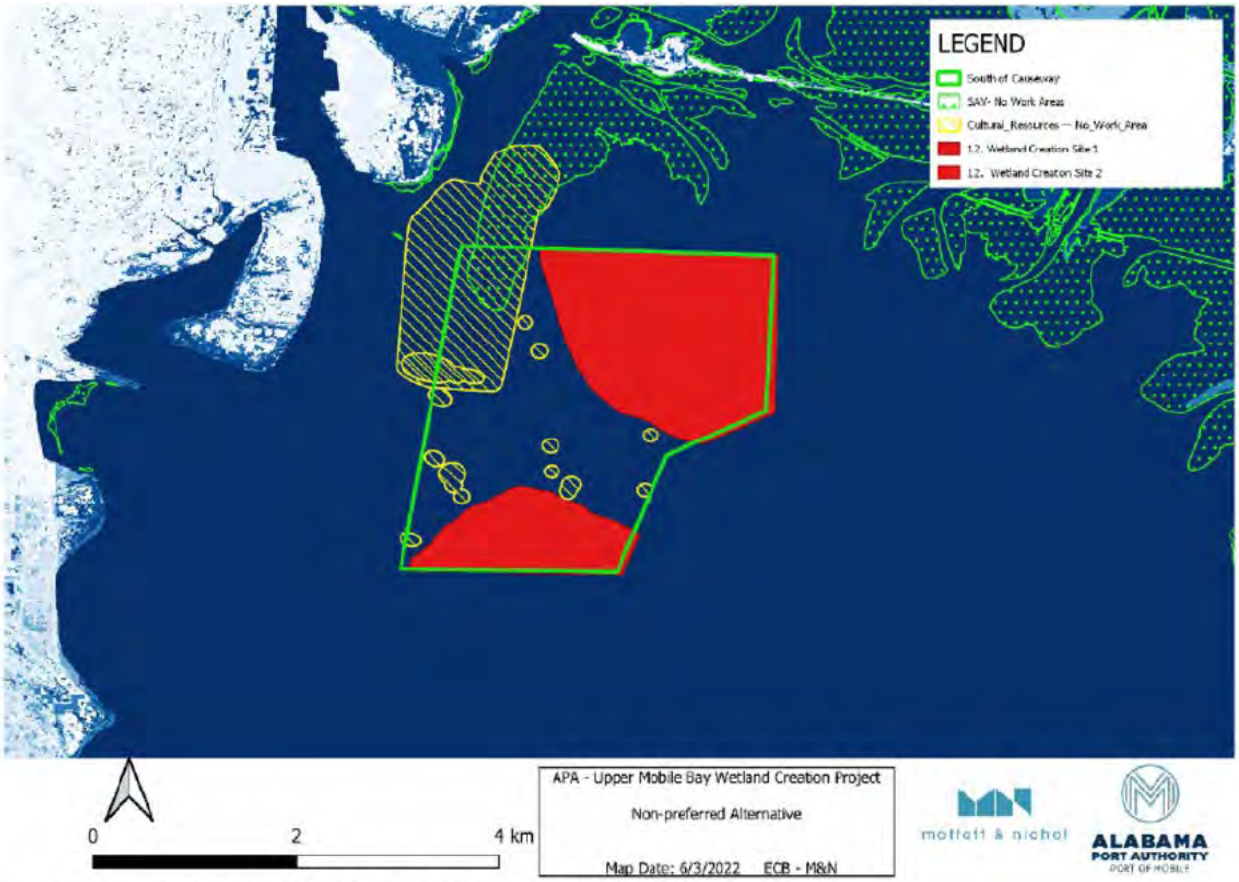

Figure 5. Screening Level 3. On-site Alternative 6.5.1 - Two wetland sites.

Alternative 6.5.2. (Applicant's Preferred Alternative – Level 3 Screening). One Wetland Creation Site – This alternative would entail wetland creation in the oligohaline habitat of Upper Mobile Bay at one 1,200-acre wetland site within the greater 2,500-acre footprint of the "South of the Causeway" (#6.5) alternative. This location is within 3 miles of the Port's berths (Figure 6) and would require 27,578 linear feet of external containment dikes.

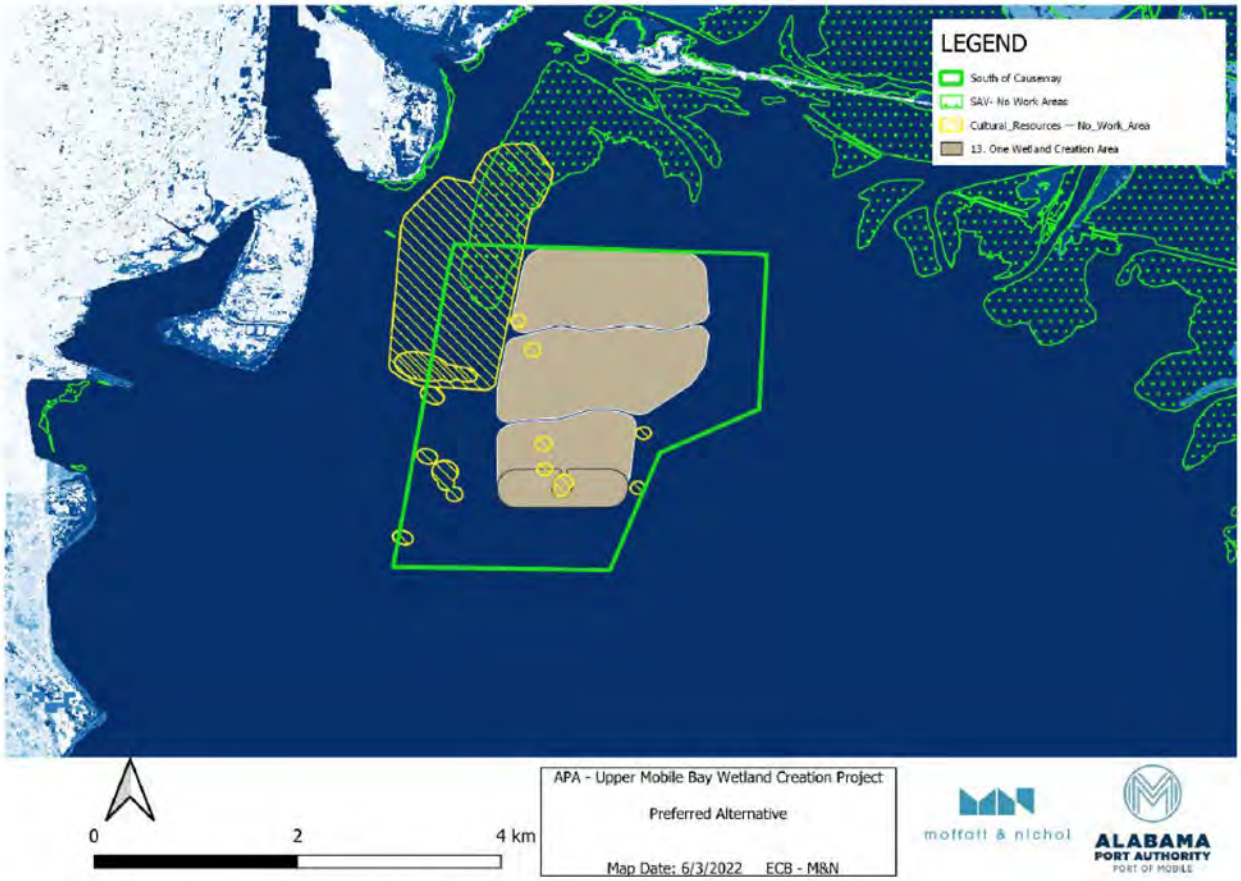

Figure 6. Screening Level 3. On-site Alternative 6.5.2 - One wetland site.

5.3 Alternatives evaluation under the Section 404(b)(1) Guidelines and NEPA

Table B. Screening Level 1 – Method and Location

Criterium and Threshold	1. No-Action Alternative	2. Thin-layer disposal	3. New Upland Disposal	4. North of Causeway	5. Middle Bay	6. Upper Mobile Bay
Cost of <$50 / CY	No	No	No	No	No	Yes
Capacity for 350,000 CY/year for 20 years	No	Yes	Yes	No	No	Yes
Logistics - Distance from Port for work and maintenance	No	Yes	No	No	No	Yes
Real Estate - Avoidance of private land	Yes	No	No	Yes	Yes	Yes
Navigation - Distance from federal channel	Yes	No	Yes	Yes	Yes	Yes
Airfield Buffer - Avoidance of flight path	Yes	Yes	Yes	Yes	No	Yes
Habitat Requirements for RESTORE compliance	No	No	No	Yes	Yes	Yes

Alternative 1. The no-action alternative would not cost less than $50/cubic yard, would not increase dredged material storage capacity, would not be within a reasonable distance to the port for sediment management, and would not create any beneficial wetland habitats. This alternative would avoid private lands, the federal channel, and the airfield buffer requested by the Airport Authority.

Alternative 2. The thin-layer placement alternative would not cost less than $50/cubic yard, would not increase logistical efficiencies, and would not create wetland habitat. This alternative would potentially reduce USACE open water disposal capacity and not avoid federal channel navigation areas. This alternative would support capacity requirements, require little-to-no maintenance, and avoid private land and the airfield avoidance area.

Alternative 3. Creating a new upland disposal site would not keep costs below $50/cubic yard due to double-handling material and would not satisfy the logistics criterium because the location would be further than 5 miles from Port facilities. It would require acquisition of additional real estate. It could potentially handle a large amount of material over 20 years and would avoid the navigation channel and the airfield buffer.

Alternative 4. Creating wetlands north of the causeway would increase the cost of materials handling/disposal beyond $50/cubic yard due to double-handling. This

location presents maintenance challenges. It is further than 5 miles from Port facilities, and the extensive SAV in the area would limit the size and capacity potential reducing the ability to satisfy habitat creation requirements and be in full compliance with RESTORE funding guidelines. This alternative would avoid private lands and the airfield buffer while allowing some wetland creation.

Alternative 5. Creating wetlands within the Middle Bay would cost more than $50/cubic yard due to booster pump requirements for handling the material. Logistically, Middle Bay is further than 5 miles from Port facilities. The alternative would also put any created wetlands within the flight path of the airfield avoidance areas requested by the Airport Authority.

Alternative 6 (Applicant's Preferred Method and Area). The Upper Mobile Bay Screening Level 1 alternative meets all practicability metrics. Upper Mobile Bay is approximately 3 miles from the Port's berths, reducing costs of materials management below $50/cubic yard. This site has the capacity for 1,200 acres of wetland creation required to manage 20-years of dredged material and would satisfy RESTORE requirements for wetland creation. The water bottoms being state-owned would prevent real estate complications, and the location is sufficiently far from the airport's airfield and the channel to prevent direct impacts.

Table C. Screening Level 2 – Within Upper Mobile Bay

Criterium and Threshold	6.1 Arlington Channel	6.2 Little Sand Island	6.3 Wetland Extension	6.4 Historic Oyster Deposits	6.5 South of Causeway
Hydrological effect to be minor	No	No	Yes	Yes	Yes
Sedimentation effects to be minor	No	No	Yes	Yes	Yes
Salinity gradient effects less than 2.5 meters depth	Yes	Yes	Yes	No	Maybe
EFH impacts to be minor in scope	Yes	Yes	Yes	No	Yes
Avoidance of SAV/oyster habitat	No	No/Yes	No	Yes	Yes
Only minor impacts to T&E	Yes	Yes	Yes	Yes	Yes
Presence of commercial/recreational fisheries	No	Yes	No	No	Yes
Minimization and avoidance of cultural resources	No	No	Yes	No	Yes
Sufficient acreage and type of habitat to be created	Yes	Yes	Yes	Yes	Yes

Alternative 6.1. Utilizing the Arlington Channel alternative would have a direct adverse effect on hydrology. Surface waters travel down the western side of Mobile Bay, driven by discharge from Mobile River. Creating wetlands in this area would likely lead to the disruption of sediment transport along the western shore of Mobile Bay, though it would likely not impact salinity gradients due to shallower depths. This alternative would directly impact cultural resources. This location contains 88 acres of oyster reefs which could be affected by wetland creation. Impacts to EFH and T&E would be minor under this alternative, and the area could support sufficient wetland creation acreage.

Alternative 6.2. Placing a wetland creation area near Little Sand Island would have a direct adverse effect on hydrology and sedimentation. There is SAV directly adjacent to portions of this alternative which could be directly and secondarily impacted by the project. This alternative would directly impact cultural resources. Because of the depth of the area, salinity gradients would not be affected by this alternative. Impacts to oysters, EFH, and T&E would be minor or negligible under this alternative, and the area could support sufficient wetland creation acreage.

Alternative 6.3. Extending the existing wetlands in the Upper Bay Area would not create adverse hydrological, sedimentary, or salinity effects. Impacts to EFH and T&E would be minor under this alternative, and the area could support sufficient wetland creation acreage. However, there is significant SAV in the area, and while the site could support a large wetland creation, utilizing this location which features these significant SAV resources would impact commercial and recreational fisheries.

Alternative 6.4. Utilizing this region of the upper bay, which historically featured oyster reefs could affect hydrology, sedimentation, and salinity gradients due to its proximity to Blakely River, as well as the existing depths over 7.5 feet due to prior removal of oyster reefs. This alternative would directly impact cultural resources and would interfere with commercial shrimp trawling. Impacts to T&E would be minor under this alternative, and the area could support sufficient wetland creation acreage.

Alternative 6.5. (Applicant's Preferred Location) South of the Causeway – The Screening Level 2 analysis for the South of the Causeway orientation meets all practicability metrics. Depending on the orientation and design chosen for this preferred location, the project could avoid high flows coming out of Mobile River, and therefore minimize impacts to sedimentation and the salinity gradient. While there are cultural resources in the area, the project can be designed to avoid impacts to those resources while creating a sufficient acreage of wetland. Impacts to oysters, EFH, and T&E would be minor or negligible under this alternative. While construction disturbances could temporarily impact crabbing and recreational fishing, the wetlands created are anticipated to enhance fishery nursery areas long-term.

Table D. Screening Level 3 – South of the Causeway design considerations

Criterium and Threshold	6.5.1 Two wetland creation sites	6.5.2 One wetland creation site
Bathymetry less than 7 feet for engineering and cost savings	No	Yes
External Containment Minimization to increase wetland acreage	No	Yes
Hydrodynamics in relation to channel and SAV	No	Yes

Alternative 6.5.1. Two Wetland Creation Sites – This alternative would entail wetland creation in the oligohaline habitat of Upper Mobile Bay though two separate sites cumulatively totaling 1,200 acres within the greater 2,500-acre footprint of the "South of the Causeway" (#6.5) alternative. Portions of this alternative would be in waters too deep to ensure with reasonable certainty that no adverse impacts to the salinity gradient occurred. The external containment structures for this design would require 43,916 feet of hardened structure placement and would be too close to the federal channel to ensure effects on sediment transport to the channel or nearby SAV did not occur.

Alternative 6.5.2. (Applicant's Preferred Alternative) One Wetland Creation Site – This alternative would entail wetland creation in the oligohaline habitat of Upper Mobile Bay at one 1,200-acre wetland site within the greater 2,500-acre footprint of the "South of the Causeway" (#6.5) alternative. This location is within 3 miles of the Port's berths, which ensures costs are kept low and maintenance activities are logistically manageable. It avoids cultural resources, impacts to T&E species, and EFH, and would require only 27,578 linear feet of external containment dikes. Two-dimensional and three-dimensional modelling studies conducted during the project evaluation indicated only minor and statistically insignificant changes to hydrodynamics could occur should this be constructed. The depth is shallow enough that salinity gradients would not be affected by the project. This design would avoid privately-owned lands, federally-utilized lands, and the airfield buffer requested by the Mobile Airport Authority.

5.4 Least environmentally damaging practicable alternative under the Section 404(b)(1) Guidelines

The No-Action Alternative is not practicable because the project purpose is to beneficially use dredged sediment to create wetlands within the Mobile Bay area. Without action involving work in waters of the United States, sediment would continue to be lost to upland disposal sites and removed from the system. Alternatives 2-5 are not practicable due to cost restraints and various other selection criteria as described above. Funding sources require that dredged material management supported by RESTORE is used in a beneficial matter. Middle Bay placement is too close to the regional airport to satisfy airfield buffer requirements. These alternatives were determined to be impracticable during Screening Level 1 based on these fundamental

selection criteria. Alternative 6 did satisfy these selection criteria, which led to an evaluation of on-site alternatives within the Upper Mobile Bay area.

Arlington Channel and Little Sand Island are too close to the federal channel to be practicable alternatives due to hydrology and sediment transport. These alternatives would impact cultural resources and sensitive oyster/SAV habitats. Extending the existing wetlands of the bay by constructing additional wetlands around them would not meet the selection criteria of SAV and fisheries avoidance. Utilizing the historic oyster fields would impact cultural resources and commercial fisheries and likely adversely affect salinity gradients in the area. Alternatives 6.1-6.4 do not satisfy the additional selection criteria in Screening Level 2, while the South of the Causeway Alternative (#6.5) does meet all these criteria.

Finally, Screening Level 3 evaluated the selection criterium of bathymetry, external containment sizes, and hydrodynamics in relation to the channel and environmental resources. The Two Wetland Creation Sites alternative did not satisfy these practicability criteria. While portions of the project would be in appropriate depths, the initial construction stages would be in water depths that could potentially adversely affect the salinity gradient, and portions of this design would be too close to the federal channel and SAV to completely avoid sedimentation. The external containment structure requirements would be approximately 2 times that of the Applicant's Preferred Alternative, increasing the amount of hard structure within the bay and reducing the final wetland footprint.

The One Wetland Creation Site Alternative (Applicant's Preferred Alternative) satisfies the selection criteria from all 3 Screening Levels. This project design is in shallow enough waters to prevent sediment gradient impacts, minimizes the footprint of external containment structures, and is further from the federal channel and SAV grass beds than the Two Wetland Creation Sites alternative, making impacts to those features less likely. Therefore, Alternative 6.5.2 satisfies the project goals and purpose while ensuring the least impacts to the natural environment and is therefore the Least Environmentally Damaging Practicable Alternative

6.0 Evaluation for Compliance with the Section 404(b)(1) Guidelines

The following sequence of evaluation is consistent with 40 CFR 230.5

6.1 Practicable alternatives

Practicable alternatives to the proposed discharge consistent with 40 CFR 230.5(c) are evaluated in Section 5.

The statements below summarize the analysis of alternatives:

In summary, based on the analysis in Section 5 above, the no-action alternative, which would not involve discharge into waters of the United States, is not practicable.

It has been determined that there are no alternatives to the proposed discharge that would be less environmentally damaging (Subpart B, 40 CFR 230.10(a)).

The proposed discharge in this evaluation is the practicable alternative with the least adverse impact on the aquatic ecosystem, and it does not have other significant environmental consequences.

6.2 Candidate disposal site delineation (Subpart B, 40 CFR 230.11(f))

Each disposal site shall be specified through the application of these Section 404(b)(1) Guidelines:

The disposal site is comprised of 1,200 acres of oligohaline habitat, which includes soft bottom benthic habitat and open water. Oligohaline areas (0-5 ppt) in Mobile Bay cover approximately 67,700 acres (during low flow) and 141,200 acres (during high flow), south of the Causeway. The disposal site proposed for sediment placement and habitat conversion represents 1.7% (low flow) to 0.8 % (high flow) of the total oligohaline habitat in Mobile Bay, not including adjacent embayments (Weeks Bay, Fowl River and Dog River). The project will displace an area of oligohaline soft bottom with a more productive brackish marsh. Estuarine soft bottom, sand and shell, and water column within Mobile Bay will be permanently reduced by approximately 0.45% in size as a result of this project.

6.3 Potential impacts on physical and chemical characteristics of the aquatic ecosystem (Subpart C 40 CFR 230.20-40 CFR 230.25)

The following has been considered in evaluating the potential impacts on physical and chemical characteristics (see Table 2):

Table 2 – Potential Impacts on Physical and Chemical Characteristics

Physical and Chemical Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Substrate					X	
Suspended particulates/ turbidity					X	
Water					X	
Current patterns and water circulation					X	
Normal water fluctuations					X	
Salinity gradients					X	

Discussion:

An initial modeling work plan dated March 22, 2022, detailed a two-step process for assessing project impacts to support planning and environmental permitting. The work plan outlined an initial 2D hydrodynamic and spectral wave modeling effort, which would be followed by more intensive salinity and sediment transport modeling, and/or Boussinesq wave modeling if it was determined the initial modeling was not able to accurately assess project impacts based on the results of the initial modeling, and the related coastal processes. The first step of the modeling outlined in the work plan was completed, and a report provided to USACE dated September 13, 2022. After review, the USACE provided a Request for Additional Information on October 3, 2023, to formally request 3D hydrodynamic modeling as Step 2 of the initial modeling work plan to better assess project impacts on the environment and the federal navigation channel within upper Mobile Bay. The USACE, APA, and Moffatt & Nichol met on October 12, 2023, to coordinate the 3D modeling effort. M&N provided a 3D modeling work plan with a final revision dated January 23, 2024. This work plan was split into three phases. Phase 1 included without-project conditions and the full 1,200-acre with-project conditions. Phase 2 included with-project conditions for the three planned intermediate stages of construction. These three intermediate stages of construction are the 100-acre, south wetland creation area, and south and middle wetland creation areas. Phase 3 would involve sediment transport modeling to determine the fate of sediments impacted by the project.

During follow-up meetings, USACE requested that the hydrodynamic model be calibrated for discharge in the Mobile River. This was completed and documented in a discharge calibration memo dated March 26, 2024. Moffatt & Nichol then proceeded with work on the Phase 1 3D model simulations, and a memo documenting these simulations was provided in August 2024. After review of the Phase 1 memo, USACE stated in an e-mail dated August 23, 2024, that the 3D model was sufficient for the purposes of demonstrating potential changes to the surrounding environment of the proposed project. Moffatt & Nichol then completed the Phase 2 modeling, and USACE stated that the Phase 3 modeling would not be required.

Substrate: The substrate of the aquatic ecosystem underlies open waters of the United States. It consists of organic and inorganic solid materials and includes water and other liquids or gases that fill the spaces between solid particles. Possible loss of environmental characteristics and values due to the discharge of dredged material can result in varying degrees of change in the complex physical, chemical, and biological characteristics of the substrate. Discharges which alter substrate elevation can result in changes in water circulation, depth, current pattern, water fluctuation and water temperature. Discharges may adversely affect bottom-dwelling organisms at the site by smothering immobile forms or forcing mobile forms to migrate. Benthic forms present prior to a discharge are unlikely to recolonize on the discharged material if it is very dissimilar from that of the discharge site. Erosion, slumping, or lateral displacement of surrounding bottom of such deposits can adversely affect areas of the substrate outside the perimeters of the disposal site by changing or destroying habitat. While the proposed disposal would potentially smother benthic organism, the discharged material

will be of similar composition to the existing water bottoms, suggesting organisms would quickly recolonize where appropriate. Due to the relatively shallow depths at the disposal site, and that the dredge material will be tested for suitability prior to placement, there will be minor, but long-term effects on the substrate in the area.

Suspended particulates/turbidity: The particles present in typical estuarine silt material that would be discharged at the project site are not expected to remain suspended in the water column for long periods of time. Particulates may remain suspended in the water column for variable periods of time as a result of such factors as agitation of the water mass, particulate specific gravity, particle shape, and physical and chemical properties of particle surfaces. Any increase in turbidity and suspended particulates would likely cause fish and other mobile species in the adjacent water column to move out of the area, at least temporarily until turbidity subsides. Any fine-grained material suspended in the water column would likely settle on the water bottoms, which could cause smothering and potentially the killing of sessile or less mobile organisms attached to or embedded in native substrate or fixed materials on the substrate. Given the use of material that will be tested prior to placement for suitability, the proposed dredged and deposition design, the use of turbidity curtains, and the implementation of recommended BMPs as outlined in Alabama's Erosion and Sediment Control Handbook and required by the ADEM's Section 401 Water Quality Certification conditions, it is anticipated that only minimal temporary releases would occur during construction and dredged sediment placement events. Therefore, there should not be an amount of deposition substantial enough to be deleterious to benthic organisms or free-swimming organisms in the adjacent waters. Implementation of a construction Best Management Practices Plan (CBMPP) for handling construction phase sediment, pollutants, and stormwater discharges to reduce turbidity and introduction of suspended particulates into waters of the state of Alabama is a requirement of ADEM water quality regulations to reduce the potential for sediment discharges from the construction site. Proper implementation of BMPs and permanent stabilization measures for the finished project should minimize any temporary sedimentation/turbidity in the adjacent waterway. Therefore, the project is expected to have a minor, short-term effect on suspended particulates/turbidity.

Water: Water is the part of the aquatic ecosystem in which organic and inorganic constituents are dissolved and suspended. Water forms part of a dynamic aquatic life-supporting system. Water clarity, nutrients and chemical content, physical and biological content, dissolved gas levels, pH, and temperature contribute to its life-sustaining capabilities. The discharge of dredged material can change the chemistry and physical characteristics of the receiving water at a disposal site through the introduction of chemical constituents in suspended or dissolved form. The applicant would discharge material dredged from the existing Port berths, which will be required by permit conditions not to contain or introduce chemical contaminants into receiving waters. This material will be tested according to the methods required in the Inland Testing Manual and compared to a reference site investigated during the development of a SAPP/QAP in conjunction with the EPA during project evaluation. The CWA Section 401 Water Quality Certification issued by ADEM on October 13, 2022, conditionally certified that the discharge resulting from the approved activity would not violate applicable water

quality standards. Therefore, the project is expected to have a minor, long-term effect on water.

Current patterns and water circulation: Current patterns and water circulation are the physical movements of water in the aquatic ecosystem. Currents and circulation respond to natural forces as modified by basin shape and cover, physical and chemical characteristics of water strata and masses, and energy dissipating factors. The discharge of dredged material can modify current patterns and water circulation by obstructing flow, changing the direction or velocity of water flow, changing the direction or velocity of water flow and circulation, or otherwise changing the dimensions of a water body. During project evaluation, the applicant submitted 2D and 3D modelling evaluating the various stages of construction on the movement of water, sediment transport, and bed shear stress. The results in the worst-case-scenario simulation showed only statistically insignificant potential changes to hydrology in the area due to the construction of the project. This project is therefore expected to have a minor, long-term effect on current patterns and water circulation.

Normal water fluctuations: Normal water fluctuations in a natural aquatic system consist of daily, seasonal, and annual tidal and flood fluctuations in water level. Biological and physical components of such a system are either attuned to or characterized by these periodic water fluctuations. The discharge of dredged or fill material can alter the normal water-level fluctuation pattern of an area, resulting in prolonged periods of inundation, exaggerated extremes of high and low water, or a static, non-fluctuating water level. These water level modifications may alter erosion or sedimentation rates, aggravate water temperatures, and upset the nutrient and dissolved oxygen balance of the aquatic ecosystem. The proposed discharge associated with the wetland creation beneficial use site was designed and would be constructed in such a way that the disposal site is resilient against normal water fluctuations and storm events. The water bottoms will be converted to wetlands and feature structural gapping that allows for tidal fluctuations within tidal creeks and ponds, which naturally receive normal water fluctuations. Therefore, this project is expected to have only a minor, long-term effect on normal water fluctuations.

Salinity gradients: Salinity gradients form where salt water from the ocean meets and mixes with fresh water from land. Obstructions which divert or restrict flow of either fresh or salt water may change existing salinity gradients. During ebb tides the water within the bay moves to the south in a generally uniform fashion (Hummell, 1990). As the saline water from the Gulf meets and blends with the freshwater discharge from the north a saltwater wedge can form in the bay as a result of the difference in water densities (USACE, 2019). This stratification within the bay fluctuates seasonally with various hydrologic influences and can further affect circulation patterns (Hummell, 1990; USACE, 2019). While the location and magnitude of the salinity wedge varies, it has been found that salinity in the bay increases with depth under all environmental conditions (Braun and Neugarten, 2005). This site location was selected in part due to the shallow waters in the area, minimizing potential for disturbing the salinty gradient. During project evaluation, the applicant submitted 3D modelling simulating potential effects of the project on salinity in the bay, by comparing with- and without-project as

cenarios from the nearby rivers. The results
d only statistically insignificant potential
nstruction of the project. Therefore, the
effects on salinity gradients.

6.4 Potential impacts on the living communities or human uses (Subparts D, E and F)

6.4.1 Potential impacts on the biological characteristics of the aquatic ecosystem (Subpart D 40 CFR 230.30)

The following has been considered in evaluating the potential impacts on biological characteristics (see Table 3):

Table 3 – Potential Impacts on Biological Characteristics

Biological Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Threatened and endangered species					X	
Fish, crustaceans, mollusks, and other aquatic organisms				X		
Other wildlife					X	

Discussion:

Threatened and endangered species: The U.S. Army Corps of Engineers (USACE), Mobile District has determined the proposed project would not result in adverse effects to listed threatened and endangered species nor modifications of designated critical habitat. The project was advertised by a 60-day Public Notice period that began on December 2, 2021 and received no comments from USFWS or NMFS regarding threatened and endangered species. The USACE, Mobile District's "may affect, not likely to adversely affect" determinations on the West Indian manatee and the Alabama red-bellied turtle and "no effect" determination on the red knot were made based on species-specific Standard Local Operating Procedures for Endangered Species (SLOPES) keys. The SLOPES keys with rationale for these determinations are included in the administrative record. The USACE also initiated Informal Consultation (SERO-2022-03067) with NMFS-Protected Resources Division on December 9, 2022, regarding all other threatened and endangered species with the potential to exist in the area, including green sea turtle, Kemp's Ridley sea turtle, Loggerhead sea turtle, gulf sturgeon, and giant manta ray. They responded with concurrence with our effects determination of the project on April 25, 2023. Because the project purpose is to create marsh and intertidal habitat areas from beneficial use material, and the permit will be conditioned to avoid direct impacts to protected species and submerged grass beds in the area that could support those species, implementation of this project will result in

increased habitat quantity that will positively and not adversely affect threatened and endangered species. Therefore, the project is expected to have minor, long-term effect on threatened and endangered species. A detailed evaluation of ESA effects is provided in Section 10.1 below.

Fish, crustaceans, mollusk, and other aquatic organisms: The discharge of fill material associated with the project would result in the loss of water bottoms and refuge of organisms which utilize wetland habitat during portion(s) of their life cycle. Due to the small size and inability of these organisms to cover large areas of ground quickly to flee disturbance, most of the individuals of these species that are present within the permit area would be killed. However, natural areas that remain intact beyond the limits of the project would continue to support populations of these organisms. New intertidal habitat creation that would support nursery and breeding grounds is also likely with the construction of this project. An EFH Assessment was provided by the applicant, which was reviewed by NMFS-Habitat Conservation Division during the project. Due to the Monitoring and Adaptive Management Plan that was developed in conjunction with the resources agencies for this activity, the Water Quality Certification that was conditionally issued by the ADEM on October 13, 2022, and the permit conditions that will be included in order to ensure adaptive measures are taken to ensure no adverse effects to aquatic organisms occur, the project is expected to result in only minor, short-term effects to fish, crustaceans, mollusks, and other aquatic organisms.

Other wildlife: The discharge of fill material associated with the project would result in permanent loss of subtidal habitat, displacing and/or disrupting the normal patterns of wildlife, such as birds, reptiles (turtles and snakes), and amphibians that could potentially utilize the natural undeveloped areas in the project vicinity. The project activities are expected to disrupt utilization of these corridors by such species. Populations of these species would continue to utilize the adjacent areas that will remain intact beyond the limits of the project. The project would result in minor, long term effects to wildlife habitat.

6.4.2 Potential impacts on special aquatic sites (Subpart E 40 CFR 230.40)

The following has been considered in evaluating the potential impacts on special aquatic sites (see Table 4):

Table 4 – Potential Impacts on Special Aquatic Sites

Special Aquatic Sites	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Sanctuaries and refuges	X					
Wetlands	X					
Mud flats	X					
Vegetated shallows		X				
Coral reefs	X					

		acts on Special Aquatic Sites				
		t	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Riffle pool complexes	X					

Discussion:

Sanctuaries and refuges, Wetlands, Mud flats, and Coral Reefs: These resources do not exist within proximity to the project area, and no information has been provided that would indicate implementation of the project would result in any type of discharge that would have an effect on the above-listed special aquatic sites. Accordingly, evaluation of these aquatic sites is not applicable.

Vegetated shallows: Vegetated shallows are permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation in estuarine or marine systems. The discharge of dredged or fill material can smother vegetation and benthic organisms. It may also create unsuitable conditions for their continued vigor by changing water circulation patterns, releasing nutrients that increase undesirable algal populations, releasing chemicals that adversely affect plants and animals, increasing turbidity levels, thereby reducing light penetration and hence photosynthesis, and changing the capacity of a vegetated shallow to stabilize bottom materials and decrease channel shoaling. The discharge of dredged or fill material may reduce the value of vegetated shallows as nesting, spawning, nursery, cover, and forage areas, as well as their value in protecting shorelines from erosion and wave actions. It may also encourage the growth of nuisance vegetation. This project design and location was selected specifically to avoid direct impacts to submerged grasses in the area. Modelling analysis was performed to simulate the project footprint's effects on water circulation, sediment transport potential, and salinity, and it was found that any changes to the area from the movement of water around the site would be statistically insignificant. Permit conditions that will be included in the authorization require that all material is tested to standards developed in conjunction with the EPA during this activity, preventing the release of chemicals that could adversely affect any grass beds in the area. A Water Quality Certification issued by the state on October 13, 2022, requires that the applicant implement best management practices (BMPs) to minimize turbidity impacts and ensure the work causes no substantial visible contrast in project waters. Permit conditions that will be included with the authorization and the Monitoring and Adaptive Management Plan that was developed in conjunction with the resource agencies for use during this activity will ensure grass beds in the area are regularly monitored for any unauthorized secondary impacts. Due to these measures, it is anticipated that the project will have no effect on vegetated shallows.

6.4.3 Potential impacts on human use characteristics (Subpart F 40 CFR 230.50)

The following has been considered in evaluating the potential impacts on human use characteristics (see Table 5):

s on Human Use Characteristics						
Human Use Characteristics	**N/A**	**No Effect**	**Negligible Effect**	**Minor Effect (Short Term)**	**Minor Effect (Long Term)**	**Major Effect**
Municipal and private water supplies		X				
Recreational and commercial fisheries					X	
Water-related recreation					X	
Aesthetics					X	
Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves		X				

Discussion:

Municipal and private water supplies: The proposed project is located within estuarine waters which are not utilized as a public and private water supply. The proposed discharge should not have an effect on any groundwater resources, due to the distance of the project to water supply wells. Additionally, there would be no temporary or permanent relocation(s) of any public or private water supply infrastructure. Therefore, the project is expected to have no effect on municipal or private water supplies.

Recreational and commercial fisheries: The discharge of material associated with the proposed project may result in temporary, localized turbidity and boat traffic in the area due to the construction of the Project Access Facility and containment features, and the use of access corridors. However, this site was selected from 13 possible alternatives in order to minimize disturbance in areas with known commercial and recreational fisheries. The completed project is expected to have a beneficial effect on nursery grounds, as wetland habitats are more productive than benthic habitats and provide refugia for commercially and recreationally important fisheries species (zuErmgassen *et al.*, 2021). It is not likely that the project area would be accessible to recreational and commercial fishers during project construction. This could result in minor direct impacts to fisheries, though there are ample adjacent undisturbed areas that commercial and recreational fishers could use during construction. The area is closed to oyster and shrimp fisheries as well as gillnetting. Therefore, the project is expected to have a minor, long-term effect on recreational and commercial fisheries.

Water related recreation: The discharge of fill material associated with the proposed project will result in the conversion of open waters that are sometimes used during recreational boating to intertidal wetland habitat. However, given that the project will be

constructed in phases over ten or more years and that full extent of the completed project would encompass only 0.45% of the footprint of the bay, there is ample other area within which water related recreation could occur. The location of the project is in a shallow area near the federal channel that is typically used by commercial and industrial boat traffic. This location is not near any public parks or boat launches used for kayaking or swimming. Therefore, the project is expected to have a negligible effect on water related recreation.

Aesthetics: The project would result in minor, long-term aesthetic effects associated with construction of containment dikes and materials placement. Because construction would occur repeatedly over the length of the ten-year authorization (and it is anticipated the Port will request another permit for full project completion before this authorization expires), impacts to the visual landscape would occur more than once. However, the phased approach to construction will result in a gradual ramp-up of the creation of marsh wetlands and other intertidal habitat that resembles other natural environments in the upper bay area. The completed project is expected to have a minor, long-term effect on aesthetics.

Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves: The proposed project is not located within or in the vicinity of any state or nationally recognized monument, parks, waterways, wilderness areas, or other similar lands. Therefore, the project is expected to have no effect on these resources.

6.5 Pre-testing evaluation (Subpart G, 40 CFR 230.60)

The following has been considered in evaluating the biological availability of possible contaminants in dredged or fill material (see Table 6):

Table 6 – Possible Contaminants in Dredged/Fill Material	
Physical substrate characteristics	X
Hydrography in relation to known or anticipated sources of contaminants	X
Results from previous testing of the material or similar material in the vicinity of the project	X
Known, significant sources of persistent pesticides from land runoff or percolation	X
Spill records for petroleum products or designated hazardous substances (Section 311 of the Clean Water Act)	
Other public records or significant introduction of contaminants from industries, municipalities, or other sources	X
Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	

Discussion: A geotechnical survey was performed by Geotechnical Engineering & Testing (GET) for this project, including of the lower Port berths that would be used as sediment source material during project construction, and compiled with data from

previous surveys. Results can be found in the Sampling and Analysis Plan entitled *EVALUATION OF DREDGED MATERIAL PROPOSED FOR OPEN WATER BENEFICIAL USE AND OCEAN PLACEMENT MOBILE, ALABAMA* dated October 2023 and found in the administrative record for this project. Results from previous sampling and sediment analysis of the Choctaw Point and McDuffie Island Port terminals indicated some heavy metal detection at concentrations between the threshold effect level (TEL) and the probable effect level (PEL).

The Port of Mobile has been an active industrial area for a century, serving as a center for numerous activities where various materials have been stored and transported. Hazardous wastes are not handled by the Port, but approximately 10 terminals currently handle coal, petroleum products, and containerized hazardous materials (USACE, 2019). The dredging equipment used for routine maintenance of the Mobile Ship Channel and the large vessels traveling the channel would be expected to have fuel and lubricants on board, but hazardous materials are not generated in the channel (USACE, 2019).

There are no active contaminated sites or CERCLA sites within a 3-mile radius of the proposed project. However, a number of sites reporting under various EPA programs identifying contaminants were identified within 3 miles of the restoration areas. These programs include Toxic Release Inventory (TRI); Hazardous Waste (RCRA), water discharges (NPDES), the Brownfield program (Brownfield ACRES) and the Biennial Reporting program. Locations of these sites are seen below in Figure 5.

Figure 5. Facilities identified on the EPA EnviroMapper Database for reporting under EPA requirements within 3 miles of the project area.

It has been determined that testing is required because of known contamination. The Inland Testing Manual (USEPA/USACE 1998) provides the tiered testing approach / guidelines for open water placement of dredged material. The Corps requested bulk sediment and elutriate analyses, whole sediment bioassays, and bioaccumulation testing for the proposed beneficial use project in order to evaluate the project with respect to the Clean Water Act.

6.6 Evaluation and testing (Subpart G, 40 CFR 230.61)

Discussion: The USACE required sediment testing prior to issuance of a permit decision to ensure that suitable Port material was available for placement in the proposed wetland creation area. All testing criteria, sampling locations, and methodology were coordinated with the EPA during project evaluation. A draft Sampling and Analysis Plan (SAP) was submitted to the EPA and the USACE on August 16, 2023. EPA responded with edits and recommendations on September 1, 2023. On October 10, 2023, the agent for the Port responded with a revised SAP. Representatives for the EPA accepted this document and signed it before it was sent to the USACE for concurrence and signature. On October 19, 2023, the USACE signed the final SAP, directing the Port to begin testing. The Port began sampling approximately one month later. Testing on samples was performed between December 2023 and June 2024. Preliminary results focusing on Tier I and Tier II testing were provided to the EPA and USACE in March 2023, and a memo with results of the sediment testing was submitted to USACE for review by Mobile District Planning and Environmental Division in April.

Elutriate samples were prepared as specified in the SAP and analytical chemical analyses performed. The results indicated that all samples were below applicable Alabama's water quality criteria for metals, tributyl tins, semivolatiles and chlorinated pesticides. PCB's, PAH's and Dioxins were generally below detection or if detected were at or below reporting limits. Cyanide was below the laboratory reporting levels in all except one elutriate sample where cyanide was detected, but below the reporting limits. No further action was suggested by EPA.

In the sediment samples, a few metals were flagged as being above threshold effect level (TEL) criteria including arsenic, copper, nickel. Individual dioxins and furans were generally below reporting limits. However, high moisture content in the sediments, resulted in a high dioxin toxicity equivalent quotient (TEQ). This is an artifact of the methodology which requires dioxins and furans Non-Detects (ND) to be summed at the Reporting Limits (RL) = 1. Only one semi-volatile compound was flagged because, while below detection, the high RL exceeded the threshold effect level (TEL).

While the total PCB's exceeded the TEL when summed using the conservative full detection limit (concentration using the reporting limit) individual PCB's were all below the detection limits. With the exception of acenaphthene, all Polycyclic Aromatic Hydrocarbons (PAH's) were also below applicable criteria and or below detection limits as well. Similar results were found for chlorinated pesticides which were below

applicable criteria or not detected. No further analyses were recommended by EPA for these compounds.

With the exception of unpurged elutriate samples and a single ammonia purged sediment sample for larval *Mytilis sp*. all bioassay results for both elutriate (water column) and sediments did not show significant toxicity (EC50 > 100%). While the ammonia purged sediment sample for *Mytilis sp*. demonstrated some minimal toxicity, the overall survival was > 80% and was determined not ecologically significant. The unpurged ammonia sample tests indicate that unmitigated high ammonia levels in the sediments are at levels that produce some toxicity. However, the relatively high EC50's with a minimal mixing zone will result in elimination of the observed toxicity and meet State water quality standards within the mixing zone.

The final sediment analysis reports were sent to the USACE and EPA in October 2024. The material from the potential Port dredge sites was found to be suitable for use in the wetland creation site by reviewers in the Mobile District Planning and Environmental Division. Water Quality Criteria (WQC), water column toxicity, benthic toxicity, and benthic bioaccumulation were evaluated to determine potential for aquatic and water column impacts related to placement of material within the bay. Whole sediment bioassays were conducted using *L. plumulosus* (estuarine amphipod) and *N. arenaceodentata* (marine polychaete). Dredged material is predicted to be acutely toxic to benthic organisms when mean test organism mortality is statistically greater than in the reference sediment, and exceeds mortality (or other appropriate endpoint) in the reference sediment by at least 10 percent (or 20 percentage points for amphipods). Based on statistical comparisons to reference concentrations, pre-test tissue concentrations, ecological nonspecific effects thresholds, comparisons to effect concentrations in the USACE's online Environmental Residue Effects Database, and other factors, the mean concentrations of detected analytes in the Mobile River Berthing Area tissues sampled for this project are not expected to be ecologically significant and, therefore, open water beneficial use in Mobile Bay is not predicted to result in benthic bioaccumulation of contaminants. Reference sites for both the dredge units and the placement site were identified in the Sampling and Analysis Plan provided in October 2023, *Evaluation of Dredged Material Proposed for Open Water Beneficial Use and Ocean Placement Mobile, Alabama*, and the final sediment evaluation report submitted in October 2024, *Evaluation of Dredged Material Proposed for Open Water Beneficial Use Mobile Bay, Alabama*. These documents can be found within the Administrative Record for this project.

Testing of material prior to placement to (at minimum) Tier I and Tier II regulatory requirements will be required by the permit conditions.

6.7 Actions to minimize adverse impacts (Subpart H)

The following actions, as appropriate, have been taken through application of 40 CFR 230.70-230.77 to ensure no more than minimal adverse effects of the proposed discharge (see Table 7):

Minimize Adverse Effects	
e discharge	X
e discharged	X
discharge	X
ersion	X
	X
opulations	X
	X

arge was selected to minimize smothering of organisms. The substrate will be similar in composition to that which will be discharged, and best management practices will be used to minimize the extent of any sediment plumes and turbidity.

Material: The dredged material will be tested for contaminants and would be directed in such a manner that physiochemical conditions are maintained and the potency and availability of pollutants are reduced.

Control of material after discharge: The discharged material will be placed within containment structures designed to prevent sedimentation and turbidity in the adjacent waterway. State Water Quality Certification standards and permit conditions will require the applicant to maintain and contain the discharged material properly to prevent point and nonpoint sources of pollution.

Actions affecting the method of dispersion: The applicant will use appropriate best management practices such as turbidity curtains to confine suspended particulate/turbidity to a small wetland creation area within which settling can occur.

Actions related to technology: The discharged material will be placed using appropriate equipment and will be monitored and maintained to protect the integrity of the site. The location selected for discharge is sufficiently close to the areas from where sediment would be dredged to minimize transport of material in barges, which could have more of an effect on sediment dispersion.

Actions affecting plant and animal populations: This location was selected to completely avoid submerged grass beds. The discharged material will be placed at the site in distinct phases that will allow certain animal populations to exit the area before site work occurs. Contractors will be required by permit conditions to abide by the NMFS' Protected Species Construction Conditions.

Actions affecting human use: The discharge site is in an area that is typically too shallow for boating and most recreation. The activity is not located in the vicinity of a public water supply take.

6.8 Factual Determinations (Subpart B, 40 CFR 230.11)

The following determinations are made based on the applicable information above, including actions to minimize effects and consideration for contaminants (see Table 8):

Table 8 – Factual Determinations of Potential Effects

Site	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Physical substrate					X	
Water circulation, fluctuation and salinity					X	
Suspended particulates/turbidity				X		
Contaminants					X	
Aquatic ecosystem and organisms					X	
Proposed disposal site					X	
Cumulative effects on the aquatic ecosystem					X	
Secondary effects on the aquatic ecosystem					X	

Discussion:

Physical Substrate: As discussed in Section 6.3 above, possible loss of substrate environmental characteristics and values due to the discharge of dredged material can result in varying degrees of change in the complex physical, chemical, and biological characteristics of the substrate. Discharges which alter substrate elevation can result in changes in water circulation, depth, current pattern, water fluctuation and water temperature. Effects would include adverse impacts to bottom-dwelling organisms at the site by smothering immobile forms or forcing mobile forms to migrate. Erosion, slumping, or lateral displacement of surrounding bottom of such deposits can adversely affect areas of the substrate outside the perimeters of the disposal site by changing or destroying habitat. While the proposed disposal would potentially smother benthic organism, the discharged material will be of similar composition to the existing water bottoms, suggesting organisms would quickly recolonize where appropriate. Due to the shallow depths at the disposal site, and that the dredged material will be tested for suitability of placement within the water bottoms to be filled, there will be minor, but long-term effects on the substrate in the area.

Water circulation, fluctuation, and salinity: As discussed in detail in Section 6.3 above,

the discharge of dredged material can modify current patterns and water circulation by obstructing flow, changing the direction or velocity of water flow and circulation, or otherwise changing the dimensions of a water body. The discharge of dredged material can alter the normal water-level fluctuation pattern of an area, resulting in prolonged periods of inundation, exaggerated extremes of high and low water, or a static, non-fluctuating water level. The proposed discharge associated with construction of containment berms and the placement of dredged material for beneficial use would not have a major effect on normal water circulation, fluctuation, or salinity.

During project evaluation, the EPA submitted comments that requested the applicant provide full modelling analyses of the entire project footprint so that impacts to the surrounding environment could be more accurately simulated. A more robust three-dimensional model was developed by the Port with technical support from Mobile District Coastal Engineers and the US Army Engineer Research and Development Center (ERDC), which evaluated each proposed phase of construction individually. In consideration of agency requests that the construction should be completed in phases with checkpoints to demonstrate success, the Mobile District will only issue a 10-year permit, which will be conditioned to require continued avoidance of effects on water circulation and salinity before additional permits are considered.

While the temporal scope of the project will span a period of years, each dredge deposition event would be relatively minor. Salinity of dredged material will match the receiving waters, and the impact of project construction at these depths is not anticipated to have a statistically significant effect on salinity gradients in the upper bay area. Bed shear stress (scour) simulations did not indicate that the project would increase water circulation speed beyond approximately 3 percent.

The containment structures were designed in consideration of stresses from the storms of record. Water fluctuations during overtopping events cause acute stress through direct wind/wave impact that increase regional water levels through storm surge then add the holistic stresses on the project of complete submersion, where it is shielded from wind/wave impacts but subject to currents, scour and other forces. Well sorted sand dikes (which will comprise the internal containment berms) are highly uniform in structure and less prone to breaching or point failures than a structure with significant variability. Additionally, storm forcing primarily acts holistically across the entire dike structure with primary variation being overall intensity from different compass points. This means that a focused force is unlikely to occur at any specific point of the containment dike. Furthermore, a breach in this structure would not cause a significant displacement of material once the initial process water had dissipated. Any release of material would be incremental, and while some internal material could be mobilized by an overtopping event, this would simply mirror the broad mobilization of benthic sediments occurring across natural marshes and water bottoms surrounding the project. Specific impacts from material displacement from this project during a major overtopping event would not be significant in the context of regional impacts. This project is therefore expected to have a minor, long-term effect on water circulation, fluctuation, and salinity due to the results of the modelling simulations, the long temporal scope of the construction activities, and the design considerations of the wetland

creation site.

Suspended particulates/turbidity: As discussed in Section 6.3 above, the particles present in typical estuarine silt that would be discharged at the project site are not expected to remain suspended in the water column for long periods of time. Particulates may remain suspended in the water column for variable periods of time as a result of such factors as agitation of the water mass, particulate specific gravity, particle shape, and physical and chemical properties of particle surfaces. Any increase in turbidity and suspended particulates would likely cause fish and other mobile species in the adjacent water column to move out of the area, at least temporarily until turbidity subsides. Any fine-grained material suspended in the water column would likely settle on the water bottoms, which could cause smothering and potentially the killing of sessile or less mobile organisms attached to or embedded in native substrate or fixed materials on the substrate. Given the deposition design, the use of turbidity curtains, and the implementation of recommended BMPs as outlined in Alabama's Erosion and Sediment Control Handbook and required by the ADEM's Section 401 Water Quality Certification conditions, it is anticipated that only minimal temporary releases would occur, if any. If the project is inundated during an extreme hurricane event, unconsolidated dredge material could be suspended into the water column. However, as discussed in Gailani *et al.* 2014, as well as the USACE Regional Sediment Management plan for Mobile Bay, Mobile Bay sediments are already frequently mobilized and re-suspended into the water column by even minor events such as frontal passages. However, the likelihood of an acute, asymmetric release of turbidity from this site is not practically enhanced by typical severe storms. Fine sediment would be mobilized inside the project similarly to the surrounding marine and terrestrial landscape. Although high in energy, forces incurred during tropical storm events are broad scale and relatively uniform and react nominally with homogenous structures. These are not true containments that would be subject to enormous hydraulic head stresses if they remain filled while surround water levels recede. The habitat in upper Mobile Bay is adapted to these turbid, high suspended-sediment, and frequently changing water bottom conditions and if this occurs during infrequent extreme events, the habitat in Mobile Bay is not expected to be affected any more than if naturally occurring sediment suspension and redistribution occurred during an extreme event.

Over the life of the project, there should not be an amount of suspended particulate deposition substantial enough to be deleterious to benthic organisms or free-swimming organisms in the adjacent waters. Implementation of a construction Best Management Practices Plan for handling construction phase sediment, pollutants, and stormwater discharges to reduce turbidity and introduction of suspended particulates into waters of the state of Alabama is a requirement of ADEM water quality regulations to reduce the potential for sediment discharges from the construction site. Proper implementation of BMPs and permanent stabilization measures for the finished project should minimize any temporary sedimentation/turbidity in the adjacent waterway. Therefore, the project is expected to have a minor, short-term effect on suspended particulates/turbidity.

Contaminants: As discussed in detail in Sections 6.5 and 6.6 above, the USACE required sediment testing prior to issuance of a permit decision to ensure that suitable

Port material was available for placement in the proposed wetland creation area. All testing criteria, sampling locations, and methodology were coordinated with the EPA during project evaluation. The material from the potential Port dredge sites was found to be suitable for use in the wetland creation site by reviewers in the Mobile District Planning and Environmental Division. Although the discharged material may be a carrier of minimal amounts of contaminants, it is not likely to degrade the disposal site. Testing of material prior to placement to (at minimum) Tier I and Tier II regulatory requirements will be required by the permit conditions. This project will have a minor, long-term effect on contaminants.

Aquatic ecosystem and organisms: As discussed in sections 6.4 and 6.7 above, the overall project effects on the numerous organisms and the aquatic ecosystem they reside should be minor. The discharge of fill material associated with the project would result in the loss of water bottoms that are shallow and relatively unproductive with no evidence of wetland or submerged aquatic vegetation. Due to the small size and inability of these organisms to cover large areas of ground quickly in order to flee disturbance, any individual species that are present within the permit area would be killed. However, natural areas that remain intact beyond the limits of the project would continue to support populations of these organisms, and at completion, the wetland creation site will increase nursery grounds for many species. The project would result in minor, long-term effects to direct habitat and support habitat for aquatic organisms.

Proposed disposal site: The overall project effects on the disposal area have been determined to be minor but long-term. The nature and extent of the proposed disposal site has been minimized to the maximum extent practicable while accomplishing the project purpose, and project effects have been prescribed by the states' 401 Water Quality Certification. The construction will be phased so that appropriate monitoring and adaptive management actions are taken throughout the entire activity. As discussed in Sections 6.3, 6.4.2, and 6.7 above, the project activities are expected to have a minor, long-term effect on the disposal site.

Cumulative effects on the aquatic ecosystem: As discussed in detail in Section 9.0 below, the proposed activities would involve permanent fill within 1,200 acres of water bottoms, which may cause the permanent displacement of aquatic species that would have occupied the area previously. While the activity would remove an area of soft bottom benthic habitat from the system, it will be replaced with more productive intertidal wetland habitat that would support aquatic species nurseries. Sediment that would otherwise be lost from the Upper Mobile Bay system will be retained within it to create approximately 15% more wetlands than exist today. There could be a minor, temporary decrease of suitable habitat for aquatic organisms in the immediate project vicinity due to sediment or pollution runoff during materials placement events. Therefore, the cumulative project effects on the aquatic ecosystem are expected to be minor and long-term.

Secondary effects on the aquatic ecosystem: Secondary effects could include an increase of sedimentation around the project site due to material placement over a long temporal period. Minor changes to circulation of water within and around the project

area could occur. However, modelling analyses performed during the project evaluation did not indicate a high likelihood of those effects. Sea level rise over the life of the project construction may require on-site adaptive management of earlier phases to ensure success of the site, which could temporarily contribute to turbidity in the immediate vicinity in the future. A detailed discussion of cumulative and secondary effects is presented in Section 9.0 below.

6.9 Findings of compliance or non-compliance with the restrictions on discharges (40 CFR 230.10(a-d) and 230.12)

Based on the information above, including the factual determinations, the proposed discharge has been evaluated to determine whether any of the restrictions on discharge would occur (see Table 9):

Table 9 – Compliance with Restrictions on Discharge

Subject	Yes	No
1. Is there a practicable alternative to the proposed discharge that would be less damaging to the environment (any alternative with less aquatic resource effects, or an alternative with more aquatic resource effects that avoids other significant adverse environmental consequences?)		X
2. Will the discharge cause or contribute to violations of any applicable water quality standards?		X
3. Will the discharge violate any toxic effluent standards (under Section 307 of the Clean Water Act)?		X
4. Will the discharge jeopardize the continued existence of endangered or threatened species or their critical habitat?		X
5. Will the discharge violate standards set by the Department of Commerce to protect marine sanctuaries?		X
6. Will the discharge cause or contribute to significant degradation of waters of the United States?		X
7. Have all appropriate and practicable steps (Subpart H, 40 CFR 230.70) been taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?	X	

Discussion:

Subject 1: It has been determined that the applicant's preferred alternative is the least environmentally damaging practicable alternative that meets the overall purpose and need of the project and does not have other significant environmental consequences. See section 5.2 for a detailed discussion of the alternative considered.

Subject 2: By letter dated October 6, 2022 and received October 13, 2022, ADEM issued 401 Water Quality Certification for the project. The ADEM certified there is reasonable assurance that the discharge resulting from proposed activities as submitted will not violate applicable water quality standards and that there are no applicable effluent limitations under Sections 301 and 302 nor applicable standards under Sections

306 and 307 of the Clean Water Act.

Subject 3: On October 31, 2024, the applicant provided a final Sediment Analysis Report that demonstrated the materials identified for use within this site met suitability criteria based on comparison to the reference site. The EPA worked in conjunction with the applicant to develop a Sampling and Analysis Plan during project investigations. EPA was given the opportunity to make a determination relative to neighboring jurisdictions after state Water Quality Certification was issued pursuant to 40 CFR 121.12(a), which they did not exercise. All sediment sampling and analysis results were reviewed by Mobile District Planning & Environmental Division, and no toxic effluent standards are expected to be exceeded during this activity.

Subject 4: The U.S. Fish and Wildlife Service (USFWS) was notified of the project via Public Notice on December 2, 2022. No response was received from the USFWS, and the project was determined to have either "No Effect" or "May Affect, but is Not Likely to Adversely Affect" threatened and endangered species under their jurisdiction within the project area, in accordance with the species-specific Standard Local Operating Procedures for Endangered Species (SLOPES) keys. There is no critical habitat within the project area. No further coordination with USFWS was required. Informal Consultation with NMFS-Protected Resource Division was initiated on February 23, 2023. NMFS-PRD requested additional information on March 21, 2023. They replied with their concurrence with the project on April 25, 2023. They acknowledged the Corps' "May Affect, but Not Likely to Adversely Effect" determinations on threatened and endangered species within their jurisdiction, provided that the NMFS Protected Species Construction Conditions were followed during the construction activity. A detailed discussion regarding compliance with the Endangered Species Act is provided in Section 10.0 below.

Subject 5: The project is not located within proximity to any marine sanctuaries. Therefore, the discharge is not expected to violate standards to protect marine sanctuaries.

Subject 6: The applicant has proposed to implement construction BMPs to contain sediment and fill material. The proposed fill material is not expected to contain any contaminants. The project should not adversely impact overall water quality. The EPA reviewed the project's state Water Quality Certification pursuant to 40 CFR 121.12(a) as related to neighboring jurisdictions and did not determine that it would cause any effects. Therefore, the proposed project would not cause or contribute to significant degradation of WOUS.

Subject 7: Actions taken by the applicant to ensure adverse effects are minimized include implementation of appropriate state-required BMPs to contain and control the dispersion of discharged material. See Section 6.7 above for a detailed discussion of the steps that have been taken in accordance with Subpart H, 40 CFR 230.70 to minimize the potential for adverse impacts of the discharge. Based on this, the USACE has determined all appropriate and practicable steps have been taken to minimize impacts to the aquatic environment.

7.0 General Public Interest Review (33 CFR 320.4 and Regulatory Guidance Letter 84-09)

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 as stated at 33 CFR 320.4(a). To the extent appropriate, the public interest review below also includes consideration of additional policies as described in 33 CFR 320.4(b) through (r). The benefits which reasonably may be expected to accrue from the proposal are balanced against its reasonably foreseeable detriments.

7.1 Public interest factors review

All public interest factors have been reviewed and those that are relevant to the proposal are considered and discussed in additional detail (see Table 10):

Table 10 – Public Interest Factors

Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
1. Conservation: The subject property consists of shallow state submerged lands, which is not owned by land or wildlife conservation organizations nor designated for conservation purposes. The USACE has determined that the discharge of fill material into water bottoms for the purpose of wetland creation would have no effect on conservation.	X					

Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
2. Economics: The Port of Mobile contributes to the regional economy and supports various industries and businesses, including cargo and vessel activities, shipbuilding, the cruise industry, aerospace, chemicals and manufacturing, healthcare, logistics and transportation, oil and gas and technology (Chamber of Commerce, 2018). According to the Port in 2021, the Port of Mobile contributes a total economic value of approximately $25.4 Billion annually, an increase from the 2014 value of $24.8 billion. The Port of Mobile supports 154,447 direct and indirect jobs, and dredged materials management is integrally related to the ability for the Port to remain competitive in shipping and industry. This project is expected to save the Port the cost of double-handling dredged material from some of its berths, making their operations more streamlined and efficient, saving state taxpayers money. The construction of the wetland creation site would create a small number of jobs over the life of the project. The Natural Capital Benefit Analysis performed during project development in conjunction with NMFS-HCD suggests that up to $419,420,531 value in natural resource gain of the aquatic resource would be generated by this project through the conversion of benthic habitat to productive wetlands. Therefore, the project is expected to have a beneficial effect on economics.					X	
3. Aesthetics: While there would be some temporary, negative impacts during the construction, the completed project will not negatively change the aesthetics of the viewshed, which is comprised of shallow open waters in a traditionally industrial area of the bay. Upon completion, the wetland creation site will feature similar aesthetic value to the intertidal marsh that exists on the north of the causeway. Given this, the project's overall effect on aesthetics to be negligible.				X		

Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
4. General Environmental Concerns: The USACE, Mobile District consulted with multiple environmental resource agencies during evaluation of the application, including the USFWS, NMFS, USEPA, ADCNR, ADEM, USCG, ALEA, and the AHC. All the above-listed agencies and groups notified during the 60-day Public Notice either provided no comments or objections to the proposed project or advised the applicant throughout project evaluation regarding investigative and preventative measures to be taken to satisfy agency concerns. In consideration of the lack of unresolved comments on the project and the USACE evaluation, the project effects on general environmental concerns are expected to be neutral.			X			
5. Wetlands: The full project footprint would result in the creation of 1,200 acres of additional intertidal wetlands within Mobile Bay. During project evaluation, coordination with resource agencies resulted in the identification of suitable sediment sources and a monitoring and adaptive management plan ensuring successful wetland performance. This wetland creation site will increase the total amount of estuarine emergent wetlands in Mobile Bay by 15%. With adherence to the required permit special conditions, the project is expected to be beneficial to wetlands.					X	

Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
6. Historic Properties: The proposed activities were coordinated with the AHC/SHPO via 60-day Public Notice. The USACE, Mobile District archeologist provided a review to AHC/SHPO--including submerged resource surveys performed for the site--with the determination that the project would have "No Adverse Effect" to historic properties. Through consultation, the AHC/SHPO concurred with the project and agreed to allow the capping of identified magnetic features within the site provided that permit conditions protecting these magnetic anomalies from bottom disturbance were included with the final permit. The CNO requested additional information in response to the PN, which was provided to them for review. After some additional questions from the CNO regarding the survey standards, the RD archeologist reiterated the No Adverse Effect determination, explained that the AHC concurred with the project on November 15, 2023, and confirmed that an inadvertent discovery clause would be included in any future permit. Given the above information, and that the permit will be conditioned to require long-term monitoring and avoidance of the magnetic signatures, the project is expected to have a neutral (mitigated) effect on historic properties. See Sections 10.3 and 10.4 below for detailed discussion regarding historic/tribal resources.			X			
7. Fish and Wildlife Values: The proposed project would result in the conversion of 1,200 acres of open waters into wetlands over the course of ten years or longer. The proposal was consulted with multiple environmental resource agencies during evaluation of the application, including the NMFS, EPA, and ADEM. After consultation with these agencies, in consideration of local agreements, and due to the permit conditions that will be implemented over the life of the project (including monitoring and adaptive management), the USACE, Mobile District considers the effects on fish and wildlife values and general environmental concerns to be neutral (mitigated).			X			

Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
8. Flood Hazards: This factor considers the project's effect on flooding. The proposed project would be located within open waters of Mobile Bay, and the placement of sediment within 1,200 acres of bay waters over the course of ten or more years would not have any appreciable effects on flood hazards. The wetland creation site could have a small impact on flood control. Therefore, the project effects on flood hazards are expected to be negligible.				X		
9. Floodplain Values: Floodplains possess natural values that provide numerous functions important to the public interest including the natural moderation of floods and the provision of fish, wildlife, and plant resources. This project would be constructed within the open waters of the bay and is not located within a floodplain. The creation of marsh wetlands could lead to storm resilience of the upper bay. The activity is expected to improve the quality of fishery nurseries in the immediate area and will provide new habitat for fish and wildlife. The requirements of Executive Order (EO) 11988 have been fully considered and there are no impacts to floodplains. The project site is in open waters, and direct, indirect, and cumulative detrimental effects on floodplain values are not expected. The functional lift that will be provided by the proposed activity will be similar to values provided by floodplains.	X					

Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
10. Land Use: The project will replace an area of oligohaline soft bottom with a more productive brackish marsh featuring tidal creeks and intended to enhance nursery habitat. These water bottoms are state-owned and were selected from a range of alternatives because of their minimal impact on fisheries. The Deepwater Horizon incident resulted in the assignment of monetary value to ecosystem services for the quantification of various restoration activities. Those values were compiled by the Port's agent as a basis for determining the natural capital benefit lift provided by this project over the course of its implementation. This Natural Capital Benefit Analysis performed during project development suggests that up to $419,420,531 in natural resource gain of the aquatic resource would be generated by this project through the conversion of benthic habitat to productive wetlands. The USACE, Mobile District considers this project's effects on land use to be beneficial.					X	
11. Navigation: This project will have a minor effect on navigation due to the placement of a permanent wetland creation area within the upper bay. The location was selected from a range of alternatives because it would be sufficiently far away from the federal navigation channel to prevent direct impacts to navigation. The proposed project was coordinated with ALEA and USCG via 60-day Public Notice on December 2, 2021, and no comments or objections were received. The installation of signage during construction and after completion will alert users of the surrounding waterway to the marsh creation. This project will have only a negligible effect on navigation.			X			
12. Shoreline Erosion and Accretion: The proposed project will be constructed in an area of open waters where no present shoreline will be impacted. The activity is expected to have no effect on erosion and accretion.	X					

Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
13. Recreation: The proposed project is not located in proximity to any official public recreational areas. However, the project site is used by boaters and recreational fisherman in the local area. While this activity would prevent recreational use of the area, the location was chosen specifically to minimize impacts to commercial and recreational fishing areas. Because the total footprint of the project upon completion would encompass approximately 0.45% of Mobile Bay, there would be ample other suitable recreational fishing and boating area available to the public. This location is not near any public parks or boat launches. Because of the ecological improvements to the area due to the creation of wetlands, this activity is considered to have a negligible effect on recreation.				X		
14. Water Supply and Conservation: The proposed project should not affect water supply or water conservation as the activity would not involve the removal or use of water from streams and tributaries for industrial our consumptive uses nor would it effect the availability of water. Therefore, consideration of this factor is considered not applicable.						X

Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
15. Water Quality: A pre-file meeting for the project was requested on September 16, 2021, which was declined by the ADEM on September 20, 2021. The state issued a WQC for the project on October 13, 2022, via a certification letter dated October 6, 2022. It will be required that the applicant implement best management practices (BMPs) to minimize turbidity impacts and ensure the work causes no substantial visible contrast in project waters. Despite implementation of BMPs, it is anticipated that some suspended particulates would escape containment measures and would be re-deposited on water bottoms in the vicinity of the proposed work. However, the internal containment features should prevent particulates from entering areas outside of the larger Wetland Creation Areas. Sediment testing was performed to identify potential suitable sources of dredged material, which was tested in accordance with EPA requirements. Therefore, the project is expected to have a negligible effect on water quality.				X		
16. Energy Needs: The project is not an energy-related project. Therefore, the project effects on energy needs are not applicable.						X
17. Safety: The creation of marsh intertidal habitat to utilize dredged material beneficially does not involve activities that would pose a substantial safety risk to the public. The proposed project was coordinated with ALEA and USCG via 60-day Public Notice on December 2, 2021, and no comments or objections were received. During construction, signs and/or buoys will be deployed to warn navigational interests of the ongoing construction hazards and other potential dangers. Dredging equipment and pipelines will be marked and lighted in accordance with Coast Guard Navigational Rules. Notices to mariners will be published and broadcast by the Coast Guard. After construction, the appropriate aids to navigation will be installed and maintained. With these measures, the activity is expected to have no effect on safety.			X			

Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
18. Food and Fiber Production: This site was selected from a range of alternatives in consideration of limiting impacts to commercial fisheries. It is not likely that the project area would be accessible to recreational and commercial fishers during and after project construction. Although the 1,200 acres soft bottom and open water habitat within Mobile Bay would be lost as a result of project implementation, there is ample adjacent soft bottom and water column habitat within the bay. The area is closed to oyster and shrimp fisheries as well as gillnetting. The project could provide enhanced nursery habitat thereby benefiting fisheries species; creation of more productive wetland habitat which supports increased primary and secondary productivity, and an increase in catch due to habitat improvements resulting in increased fish, shrimp, and crab populations. It is expected this project will have a neutral (mitigated) impact on food and fiber production.			X			
19. Mineral Needs: There will be no effect on mineral supply as the proposed project area is not employed in the extraction or production of aggregate or mineral commodities. An analysis of potential effects to mineral needs are not applicable for this proposal.						X
20. Consideration of Property Ownership: The impacts will occur on state-owned water bottoms. This activity will not impede the use of any private property or prevent the general public from utilizing the ample remaining areas within Mobile Bay. This project is expected to have no effect on property ownership.	X					

Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
21. Needs and Welfare of the People: The construction of this project will have beneficial effects on the needs and welfare of the people, including the creation of job opportunities for the construction of the project, a reduction of costs to the Port and therefore taxpayers, the reduction of energy consumption associated with upland material disposal, and the creation of ecological benefit associated with the establishment of wetland habitat. Due to economic and potential ecological benefits of the project, the permanent conversion of water bottoms to marsh and intertidal habitat, this project is considered to have a beneficial effect on the needs and welfare of the people.					X	

Additional discussion of effects on factors above: N/A

7.2 Public and private need

The relative extent of the public and private need for the proposed structure or work:

The public need for this project is integrally related to the Port's dredged material capacity. The Port receives federal and state funding to continue operation in support of the regional economy and therefore the general public. Upland disposal sites in the vicinity of the Port of Mobile are filled to near capacity. Environmentally beneficial solutions to the dredged material management needs of the Port could replace wetlands that have been lost due to the anthropogenic effects of development along Mobile Bay. Localized beneficial use helps reduce the systemic geomorphic impacts of sediment loss and provides options that can offset the costs of institutional dredge disposal. A transition from upland disposal to a properly designed and located wetland creation project would allow the Port to more effectively use taxpayer resources to provide a serviceable port to the public.

The Port of Mobile contributes to the regional economy and supports various industries and businesses, including cargo and vessel activities, shipbuilding, the cruise industry, aerospace, chemicals and manufacturing, healthcare, logistics and transportation, oil and gas and technology. The private need for the project includes the operational use of deepwater port facilities for commerce and industry. The construction of the wetland creation site would not inhibit the use of the remaining bay by private individuals.

7.3 Resource use unresolved conflicts

ile Number, SAM-2021-00246-DCH)

ce use, explain how the practicability of
ethods to accomplish the objective of the

d as to resource use.

7.4 Beneficial and/or detrimental effects on the public and private use

The extent and permanence of the beneficial and/or detrimental effects that the proposed work is likely to have on the public and private use to which the area is suited is described below:

Detrimental effects are expected to be minimal and permanent.

Beneficial effects are expected to be more than minimal and permanent.

Detrimental effects of the project would include temporary turbidity and noise disturbance during construction, as well as the loss of any non-motile organisms within the fill footprint. However, all organism populations within the immediate project impact areas are expected to quickly recover after construction activities have ceased. The footprint of the completed project would remove the use of approximately 0.45% of Mobile Bay for commercial and recreational fishing, though the site was selected from a range of alternatives to minimize that impact.

Beneficial effects of the proposed project would include the creation of job opportunities for the construction of the project, would reduce costs to the Port and therefore taxpayers, reduce energy consumption associated with upland material disposal, and provide an ecological benefit associated with the establishment of wetland habitat across the extent the project footprint. The project is expected to create intertidal wetland habitat that will enhance nursery grounds for some aquatic species. Brackish marshes and tidal creeks are important nursery areas, providing refuge and food for various fish and shellfish species which are economically important components of both commercial and recreational fisheries.

8.0 Mitigation

(33 CFR 320.4(r), 33 CFR Part 332, 40 CFR 230.70-77, and 40 CFR 1508)

8.1 Avoidance and minimization

Avoidance and Minimization: When evaluating a proposal including regulated activities in waters of the United States, consideration must be given to avoiding and minimizing effects to those waters. Avoidance and minimization are described in Section 1.3.1 above.

Describe other mitigative actions including project modifications implemented to minimize adverse project impacts? (See 33 CFR 320.4(r)(1)(i))

Potentially adverse impacts to waters of the U.S. associated with construction have been minimized in the project site selection and design process. An Alternatives Analysis can be found in Section 5.0, and avoidance and minimization measures are discussed in Section 1.3.1. Further minimization of potentially adverse impacts will be accomplished during construction through the use of appropriate construction methods, equipment, and best management practices. The proposed project will not adversely impact wetlands, submerged aquatic vegetation, cultural resources, oyster reefs, or State-established fishing reefs. During construction, signs and/or buoys will be deployed to warn navigational interests of the ongoing construction hazards and other potential dangers. Dredging equipment and pipelines will be marked and lighted in accordance with Coast Guard Navigational Rules. Notices to mariners will be published and broadcast by the Coast Guard. After construction, the appropriate aids to navigation will be installed and maintained.

8.2 Compensatory mitigation requirement

Is compensatory mitigation required to offset environmental losses resulting from proposed unavoidable impacts to waters of the United States? No

Provide rationale: No mitigation is required because project impacts would not involve the discharge of fill into any wetlands, submerged aquatic vegetation, or other special aquatic sites and it does not result in a loss of aquatic resource functions and services. The proposed project is intended to improve aquatic resource functions through the creation of wetland habitat. While this is not a project that would require traditional compensatory mitigation, Mobile District is responsible for ensuring the successful management of a project of this scope. Therefore, during project evaluation the Port submitted a letter of financial commitment to the District Engineer that communicated their assurance to supporting the construction, monitoring, and maintenance of the project site throughout its life cycle.

9.0 Consideration of Cumulative Effects

(40 CFR 1508 & RGL 84-9) Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor direct and indirect but collectively significant actions taking place over a period of time. A cumulative effects assessment should consider how the direct and indirect environmental effects caused by the proposed activity requiring DA authorization (i.e., the incremental impact of the action) contribute to the aggregate effects of past, present, and reasonably foreseeable future actions, and whether that incremental contribution is significant or not.

9.1 Identify/describe the direct and indirect effects which are caused by the proposed activity:

equired to construct the project. This construction of a Project Access Facility, the placement of rip rap revetment to construct containment berms that will hold dredged sediments, the placement of dredged sediment, the planting of wetland vegetation, all dredging/excavation that would be required to construct internal containment berms, excavation during gapping activities after sediment settlement occurs so that tidal creeks and ponds may be completed, anchoring of dredge pipelines near the site, increased boat traffic during the construction activities, and temporary turbidity and noise disturbance during construction. The directly regulated impacts would include the filling of 1,200 acres of water bottoms and water column which would prevent access for aquatic organisms and minor, temporary turbidity in the water column during the construction.

Indirect effects from the project could include temporary increased turbidity during construction or sediment placement, which could lead to minor short-term disturbance to wildlife in the area, including the loss of benthic organisms. Should dredged material not be contained during construction or after placement, it could have secondary effects on submerged grass north of the project site, including sedimentation and smothering of sensitive vegetation. Other indirect effects could include minor changes in current patterns, sedimentation, and salinity. However, these effects are unanticipated, as 2D and 3D modelling of the total project footprint was conducted to simulate changes to the hydrology of the bay, and the results indicated only statistically insignificant changes. Indirect effects could also include turbidity or noise impacts due to adaptive management of the site should storm events or sea level rise require corrective action. These effects would be similar to those that would occur during normal construction.

Direct and indirect benefits could include enhanced water quality and increased detritus thereby benefiting fisheries species, the creation of more productive marsh habitat which supports increased primary and secondary productivity, and an increase in catch due to habitat improvements resulting in increased fish, shrimp, and crab populations. Brackish marshes and tidal creeks are important nursery areas, providing refuge and food for various fish and shellfish species which are economically important components of both commercial and recreational fisheries. The completed activity would increase the total amount of emergent wetlands in Mobile Bay by 15%, providing a large ecological lift to the watershed. The project is expected to create intertidal wetland habitat that will enhance nursery grounds and habitat for some aquatic species or birds.

9.2 The geographic scope for the cumulative effects assessment is:

The geographic area considered for this assessment is Mobile Bay, Mobile County, Alabama watershed (8-digit HUC 03160205) in which the project is located. The area under consideration is located within the State of Alabama. This 8-digit HUC watershed is the most geographically relevant unit of area for which the USACE Operations and Maintenance Business Information Link Regulatory Module 2 (ORM2) database can query permit data for cumulative effects analysis purposes.

9.3 The temporal scope of this assessment covers:

The assessment covers the time frame for the 2011 – March 2025 period. The Cumulative Impacts report generated from the National Regulatory Viewer *HUC 8 National Cumulative Impacts Dashboard – ORM Data FY11 – Present* for this HUC area reflects a summary of Regulatory Actions occurring within the HUC boundary during the specified time-frame for which accurate data exists. The analysis of future impacts extends to those actions that are reasonably foreseeable. Due to the potential for the project construction work to take as long as 20 years to be completed, reasonably foreseeable actions considered include all effects anticipated until project completion in 2045 and monitoring and maintenance activities that could occur until 2050.

9.4 Describe the affected environment:

Mobile Bay is an estuary in Alabama where fresh water discharged from Mobile-Tensaw River System mixes with tidally influenced saltwater from the Gulf of America. The Mobile Bay estuary exhibits great biological diversity and productivity. Habitats within the bay and river delta include bogs, bottomland hardwoods, freshwater and hardwood swamps, freshwater wetlands, maritime forests, pine savanna, SAV, tidal and brackish water marshes and oyster reefs.

The bay has an area of around 413 square miles and a length of 31 miles. It is triangular in shape with a maximum width of 24 miles. The entrance to the bay is a natural inlet with a width of about 3 miles. The entrance to the bay, commonly referred to as the Mobile or Main Pass, is found between the east end of Dauphin Island and the west end of Mobile Point.

The Mobile Ship Channel and the Gulf Intracoastal Waterway (GIWW) intersect just inside the pass providing a gateway for international commerce to the region. The deepest waters within the bay are in the ship channel (75 feet) but the bay as a whole is one of the shallowest for its size with an average depth of 10 feet (USACE, 2019; MBNEP, 2021).

One hundred percent of the area within a half mile of the project site is open water. No land cover or development exists within the project area, and I-10 is located approximately 2 miles north of the project site as a multi-lane, divided highway. Additionally, US Highway 90/98, referred to in this area as the Causeway, is a four-lane highway which is located approximately 1.5 miles north of the project site.
The closest shoreline of the western bay is heavily developed for industrial and commercial use. The toe of the federal navigation channel is nearly a mile from the project site. The selected site is approximately 5,800 feet from Mobile River inflows.

Available Department of the Army (DA) permitting reports from the National Regulatory Viewer *HUC 8 National Cumulative Impacts Dashboard – ORM Data FY11 – Present* indicates that for the eight-digit Hydrologic Unit Code (HUC) in which the proposed project site is located (03160205), over the 14-year period from FY2011 through March 2025, approximately 2,140 DA permits have been issued authorizing the permanent

loss of roughly 690 acres of aquatic resources (wetland, stream, and open water). This dashboard indicates that approximately 125 acres of dredging has been authorized during this time frame.

The USACE Operations and Maintenance Business Information Link Regulatory Module 2 (ORM2) database, which only runs reports going back 10 years, indicates that other impacts within the watershed include the installation of approximately 45 acres of pier and boat lift structures in Traditionally Navigable Waters. The 10-year data further indicates that approximately 348 acres and 10,206 linear feet of mitigation have been required for issued permits over this time period.

In the 14-year time frame identified by the National Cumulative Impacts Dashboard, the permit type most frequently issued by USACE in this watershed are Regional General Permits (1,503 permits), which typically authorize minor Section 10 structures with no associated fill. Nationwide Permits (492 permits) which typically allow for a maximum of 0.5-acre of permanent wetland filling impacts and up to 300 linear feet of impacts to stream channels are the second most commonly issued type of DA permit in the watershed. The third most commonly issued type of permit in the watershed was Standard Permits consisting of Individual Permits (88 permits) and Letters of Permission (57 permits). Based on this review of past DA permitting records, it is reasonable to assume that an average of 153 permit requests would be processed to completion annually for recreational water access structures, dredging activities, commercial and/or residential development projects, and road infrastructure resulting in the loss of productive wetland and upland habitat, and fragmentation of undeveloped natural areas within this 8-digit HUC area.

9.5 Determine the environmental consequences:

The categories of work under consideration for permit authorization are similar in nature to work already authorized under USACE, Mobile District Nationwide Permits NWP-13, Bank Stabilization, NWP-54, Living Shorelines, and ALGP-11, Shoreline and Bank Stabilization, and Nationwide Permit-27, Aquatic Habitat Restoration. The cumulative effects of these general permit activities have been extensively evaluated prior to issuance of the Nationwide Permits in 2021/2022 and the Regional General Permits in October 2021. There are many categories of activities that contribute to cumulative effects on wetlands, streams, and other aquatic resources in this watershed, and which alter the quantity of those resources, the functions they perform, and the ecosystem services they provide. Activities authorized by previous DA permits and/or those exempt from Section 404 permitting within the watershed have resulted in direct and indirect impacts to wetlands, streams, and other aquatic resources. Those activities may have legacy effects that have added to the cumulative effects and affected the quantity of those resources and the functions they provide. There are a wide variety of causes and sources of impairment of the rivers, streams, wetlands, and estuarine waters within the subject watershed which also contribute to cumulative effects to these aquatic resources. Many of those causes of impairment are point and non-point sources of pollutants that are not regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. For open waters, impairment due to habitat

alterations, flow alterations, and hydrology modifications may involve activities regulated under Section 10 and Section 404, but these causes of impairment may also be due to unregulated activities, such as changes in upland land use that affects the movement of water through a watershed or contributing drainage area or the removal of vegetation.

Notwithstanding the relative functions and values of aquatic resources lost as a result of DA permitted activities tracked during this 14-year assessment, the amount of proposed permanent loss (1,200 acres) of water bottoms is equivalent to 174 percent of the total amount of permanent loss of wetlands and water bottoms (689 acres) within the 8-digit HUC from DA authorized activities during the 14-year assessment range. However, it is important to note, that the increase in wetlands due to the completion of the project would offset the amount of wetlands authorized for permanent fill during this assessment range (453.5 acres of tidal and non-tidal wetlands) by a factor 265 percent, more than offsetting the loss of wetlands to DA permit actions during this time frame. This amount of water bottom impacts for the purpose of wetland creation is unprecedented in the area and could potentially lead to increased stewardship of natural resources by the local governing community, resource agencies, and other local stakeholders. The permanent loss of 1,200 acres of open waters is due to their conversion into wetland marsh systems, tidal creeks and ponds, and scrub shrub wildlife habitat, which is not contributing to the fragmentation of aquatic resources in the area. Only 6,200 acres of estuarine emergent marsh remain in Mobile Bay, and this project is expected to beneficially use dredged sediment that would otherwise be lost to the bay system to create an additional 1,200 acres of habitat.

Aquatic resource impacts and losses in the vicinity of the permit area, primarily from industrial activities, pre-date USACE regulation under the Clean Water Act. There has been no DA permitting activities within the project footprint or within approximately 2 miles of the activity in recent decades. This project would involve minor, short-term effects on the surrounding minimally-productive environment but provide a large increase in productive habitat in exchange. As discussed in previous sections above, water quality in the immediately adjacent receiving waters may be temporarily adversely affected by potential turbidity resulting from construction activities. This temporary impact would likely occur many times over the course of the next 25 years. There would be some temporal loss of functionality while the open waters are converted to wetlands. When each wetland cell construction occurs, sediment settlement within those cells could take up to four years. It is anticipated that wetlands within each new cell would not be fully established and successful until up to five years later. There will, therefore, be periods of functional loss during the construction life cycle for this project, but the ecological benefits of wetland creation upon completion are expected to provide increased habitat for aquatic and other species.

Anticipated environmental consequences of the proposed activities include the permanent conversion of water bottoms as well as minor temporary changes to water quality within the project areas during construction activities. It is anticipated that any negative impacts to the aquatic environment would be minor in comparison to the benefits that would be realized after creating and managing new 1,200-acre wetland habitat in Upper Mobile Bay.

[redacted]pacts:

When considering the direct and indirect impacts that will result from the proposed activity, in relation to the overall direct and indirect impacts from past, present, and reasonably foreseeable future activities, the incremental contribution of the proposed activity to cumulative impacts in the area described in section 9.2, are not significant . Compensatory mitigation will not be required to offset the impacts of the proposed activity to eliminate or minimize its incremental contribution to cumulative effects within the geographic area described in Section 9.2. Mitigation required for the proposed activity is discussed in Section 8.0.

10.0 Compliance with Other Laws, Policies and Requirements

10.1 Section 7(a)(2) of the Endangered Species Act (ESA)

Refer to Section 2.2 for description of the Corps' action area for Section 7 of the ESA.

10.1.1 Lead federal agency for Section 7 of the ESA

Has another federal agency been identified as the lead agency for complying with Section 7 of the ESA with the Corps designated as a cooperating agency and has that consultation been completed? No

10.1.2 Listed/proposed species and/or designated/proposed critical habitat

Are there listed or proposed species and/or designated critical habitat or proposed critical habitat that may be present or in the vicinity of the Corps' action area? Yes

Effect determination(s), including no effect, for all known species/habitat, and basis for determination(s):

Species under US Fish and Wildlife Service jurisdiction:

Based on the Alabama 10-digit HUC (0316020503 – Mobile Bay) 2021 Google Earth data layer provided by the USFWS Daphne field office, and an IPaC resource list provided by USFWS, species-specific Standard Local Operating Procedures for Endangered Species (SLOPES) keys, the USACE has made the following determinations for species that have the potential to occur within the action area. Rationale for determinations is provided in the SLOPES keys available in the Administrative Record.

West Indian Manatee (*Trichechus mana*) (T): May Affect, but is Not Likely to Adversely Affect.

Rufa Red Knot (*Calidris canutus rufa*)(T): No Effect.

Alabama Red-bellied Turtle (*Pseudemys alabamensis*)(E): May Affect, but is Not Likely

to Adversely Affect.

Species under National Marine Fisheries Service jurisdiction:

Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)(E): May Affect, but is Not Likely to Adversely Affect.

Green Sea Turtle (*Chelonia mydas*)(T): May Affect, but is Not Likely to Adversely Affect.

Loggerhead Sea Turtle (*Caretta caretta*)(T): May Affect, but is Not Likely to Adversely Affect.

Gulf Sturgeon (*Acipenser oxyrinchus desotoi*)(T): May Affect, but is Not Likely to Adversely Affect.

Giant manta ray (*Mobula birostris*)(T): May Affect, but is Not Likely to Adversely Affect.

10.1.3 Section 7 ESA consultation

Consultation with either the National Marine Fisheries Service and/or the United States Fish and Wildlife Service was initiated and completed as required, for any determinations other than "no effect" (see the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation)

The USFWS was notified of the project via Public Notice on December 2, 2021, but no written response was received. Consideration of the activity on T&E species under USFWS was covered through the species-specific SLOPES keys. According to the Memorandum of Agreement between USACE and USFWS, USFWS concurs with determinations made in accordance with the SLOPES keys and further written concurrence is not required.

Consultation with NMFS-Protected Resource Division was initiated on February 23, 2023. NMFS-PRD requested additional information on March 21, 2023. They replied with concurrence on April 25, 2023. NMFS acknowledged the Corps' "May Affect, but Not Likely to Adversely Effect" determinations on the Kemp's Ridely sea turtle, the green sea turtle, the gulf sturgeon, and the giant manta ray and ensured through consultation that the NMFS Protected Species Construction Conditions would be followed.

10.2 Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), Essential Fish Habitat (EFH)

10.2.1 Lead federal agency for EFH provisions of the Magnuson-Stevens Act

Has another federal agency been identified as the lead agency for complying with the EFH provisions of the Magnuson-Stevens Act with the Corps designated as a cooperating agency and has that consultation been completed? No

10.2.2 Magnuson-Stevens Act

Did the proposed project require review under the Magnuson-Stevens Act? Yes

10.2.3 EFH species or complexes

Were EFH species or complexes considered? Yes. The EFH resources considered for this project consist of estuarine waters, water column, and substrate within and immediately adjacent to the project area and associated aquatic species typical to Mobile Bay. An EFH spatial data report downloaded for the project area from the NOAA Habitat Conservation/Habitat Protection mapper website [http://www.habitat.noaa.gov/protection/efh/efhmapper/index.html] identifies these species as Red Drum, Reef Fish (43 Species), Coastal Migratory Pelagics, Shrimp (4 Species), bull shark, and spinner shark.

Effect determination and basis for that determination: No adverse effect. Due to the lack of special aquatic sites within the permit area, the 2D and 3D modelling investigations that were completed to simulate potential current and salinity changes, the avoidance of all submerged aquatic vegetation near the project site, the Monitoring and Adaptive Management Plan that was developed in conjunction with the NMFS, and permit conditions that will be included with the permit, the proposed project is expected to have no adverse effect on EFH species or complexes considered. The NMFS was notified of the project via the Public Notice on December 2, 2021. The NMFS-HCD entered into consultation with the Corps regarding this project on December 17, 2021, via their request for an updated EFH Assessment and Planting and Monitoring Plan. During the extended Public Notice period, NMFS again contacted Regulatory Division reiterating their intention to consult on the project and reserving the right to provide EFH conservation recommendations. In March 2022, a meeting was held with the agent for the Port, the USACE, and the NMFS-HCD to discuss the EFH Assessment and monitoring plan for the beneficial use site. Many revisions to these documents were made over the following years. The NMFS requested a Natural Capital Benefit Analysis, habitat gapping plans, and a dredged material sediment curve from the applicant. In order to ensure the project would provide an appropriate functional lift as a mitigative measure due to losing 1,200 acres of water bottoms in the upper bay area, the NMFS-HCD concurred with these documents and studies and provided suggested permit conditions to include with the Corps' authorization, which will be included in a final permit.

10.2.4 National Marine Fisheries Service consultation

Consultation with the National Marine Fisheries Service was initiated and completed as required (see the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation)

As discussed in Section 10.2.3, NMFS-HCD was consulted during the project, by email dated August 15, 2023, NMFS-HCD stated "Based on the revised project information and USACE's intent on including special conditions as part of this permit, NMFS does not object to the project as proposed."

Refer to Section 2.3 for permit area determination.

10.3.1 Lead federal agency for Section 106 of the NHPA

Has another federal agency been identified as the lead federal agency for complying with Section 106 of the NHPA with the Corps designated as a cooperating agency and has that consultation been completed? No

10.3.2 Historic properties

Known historic properties present? Yes

Two (2) submerged cultural resources surveys of the Upper Mobile Bay BU wetland creation site were conducted by Southeastern Archaeological Research, Inc. (SEARCH) in December 2013 and April 2021. The 2013 Phase I cultural resource survey covered approximately 2,530-acres and collected magnetic and bathymetric data and side-scan sonar imagery resulting in the identification of a large American Civil War obstruction and 14 magnetic anomalies. In 2021, SEARCH conducted a refinement survey on the previously identified marine remote-sensing targets identified in 2013. This investigation resurveyed eight of the 14 previously identified potential submerged cultural resources [redacted] Based on the additional data, all eight previously identified targets are extant; however, anomalies [redacted] no longer resemble shipwreck signatures and are not likely to represent submerged cultural resources.

Effect determination and basis for that determination: No Adverse Effect.

On May 5, 2023, the Corps submitted an effects determination letter to the AHC/SHPO with findings from the 2013 Phase I cultural resource survey "*A Phase I Archaeological Marine Survey of Beneficial Use Areas for Mobile Bay Sediment Placement Project Mobile County, Alabama (2013)*" and the 2021 refinement Phase I cultural resource survey "*Technical Memorandum Refined Remote-Sensing Survey for the Mobile Bay beneficial Use Project, Mobile Bay, Mobile County, Alabama (2021)*". The USACE determined that based on the results of the 2013 and 2021 surveys that the discharge of fill material would have no adverse effect on historical properties. This determination was contingent on requiring that the Civil War obstruction area, as defined in the 2013 report, be surrounded by a 100-meter (328 feet) buffer and the 14 previously identified anomalies identified during the 2013 survey and refined by the 2021 survey be surrounded by a 50- meter (164 feet) buffer where no dredging, anchoring, or spudding will be permitted within these areas. Additionally, the USACE will require the avoidance areas be marked on maps and construction drawings and placed in a propriety GPS system as navigational hazards. Given the hydrology of the area, the purpose of the proposed project, the depositional environment, and types of cultural resources / anomalies identified, the low-impact placement of dredge material over the identified resources and anomalies would be beneficial for preservation and protection.

In a letter dated May 23, 2023, the AHC/SHPO responded to the Corps determination letter and agreed with the findings of the 2013 cultural resources assessment and the recommendations outlined in the 2021 refinement survey. However, they requested additional information about the specific resources that may be impacted by the low-impact placement of dredged material and how the dredge material could be beneficial to the potential historic properties. In response to the requested information, SEARCH submitted a "*Technical Memorandum Refined Remote-Sensing Survey for the Mobile Bay Beneficial Use Project, Mobile Bay, Mobile County, Alabama (2021)*" that included a literature review of archaeological and conservation studies concerning the preservation potential of organic and metallic objects found in submerged contexts on June 16, 2023. It was concluded that based on the additional data, all eight anomalies were determined to be extant and that anomalies [redacted] no longer resemble those of verified shipwreck signatures and are not likely to represent a potentially significant historic property. SEARCH recommended SHPO coordination for Anomalies [redacted] and maintained their recommendation for the other six Anomalies ([redacted].

The ACH/SHPO submitted a second letter on July 18, 2023, in response to the memorandum and requested additional information regarding placement methodology, expressing concerns about burying the resources before properly identifying the true nature of the resources. Additionally, they requested that SEARCH conducts a scientific dive on six magnetic anomalies (Targets [redacted]. On June 29, 2023, the Mobile District regulatory archaeologist responded to the ACH/SHPO maintaining that the placement of fill material will result in a no adverse effect to historic properties based on the cultural resource surveys and the technical memorandum. Divers from SEARCH coordinated with the USACE and the AHC/SHPO in August 2023 to perform additional investigations on those anomalies. On October 13, 2023, the USACE submitted a second determination letter to the AHC/SHPO and provided a Technical Memorandum addendum that was produced as a result of the requested diver investigation "*Technical Memorandum Upper Mobile Bay Beneficial Use Wetland Creation Site Project Phase 1B Diver Investigations, Mobile Bay, Mobile County, Alabama".* The USACE maintained that the placement of fill would have no adverse effect on historic properties based on the 2013, 2021, and 2023 investigations.

In response to the USACE October 13, 2023, determination letter, the AHC/SHPO provided concurrence on November 14, 2023 with the "No Adverse Effect" determination, provided the permit includes special conditions regarding inadvertent discovery and provided that bottom disturbing equipment is maintained outside of this buffer zone, AHC/SHPO concurred with project activities including placing sediment on and near the target areas as this will only add to the protective overburden already present.

10.3.3 Consultation with the appropriate agencies, tribes and/or other parties for effect determinations

Consultation was initiated and completed with the appropriate agencies, tribes and/or other parties for any determinations other than "no potential to cause effects." (See the

attached ORM2 Summary sheet for begin date, end date and closure method of the consultation)

The Choctaw Nation of Oklahoma responded to both Public Notices requesting additional information, which was provided to them after AHC/SHPO consultation was complete and Tribal Consultation was initiated. The Mobile District regulatory archaeologist coordinated the project via email with 13 federally recognized tribes on January 29, 2024. The Chickasaw Nation responded to the coordination by letter dated February 26, 2024, and did not request government-to-government consultation because the project is outside of their area. They did not object to the proposed project.

The CNO responded to the coordination email on February 29, 2024, requesting updated civil drawings and detailed information on how the 2013 survey, and subsequent technical memoranda searched for submerged cultural resources lacking magnetic signatures. This information was provided to CNO on March 18, 2024. In a second response from the CNO on April 18, 2024, they requested additional information and stated that they did not concur with the findings. The Mobile District Regulatory Division archaeologist responded to the CNOs request on June 12, 2024, providing the additional information and maintaining the determination that the project will result in no adverse effect to historic properties. No further responses to the coordination with CNO were received.

10.4 Tribal Trust Responsibilities

10.4.1 Tribal government-to-government consultation

Was government-to-government consultation conducted with federally-recognized tribe(s)? No

Provide a description of any consultation(s) conducted including results and how concerns were addressed.

On January 29, 2024, the Corps initiated Tribal Consultation with 13 federally recognized tribes by communicating the history of cultural work on the property under review and the historic sites within that property. The tribes included in the initial consultation letter were: Choctaw Nation of Oklahoma, Mississippi Band of Choctaw Indians, Chickasaw Nation, Coushatta Tribe of Louisiana, Muscogee (Creek) Nation, Seminole Tribe of Florida, Poarch Band of Creek Indians, Alabama-Coushatta Tribe of Texas, Absentee – Shawnee Tribe, Jena Band of Choctaw Indians, Alabama-Quassarte Tribal Town, Thlopthlocco Tribal Town, and Tunica-Biloxi Tribe of Louisiana.

10.4.2 Other Tribal consultation

Other Tribal consultation including any discussion of Tribal Treaty rights.

N/A

10.5 Section 401 of the Clean Water Act – Water Quality Certification (WQC)

10.5.1 Section 401 WQC requirement

Is an individual Section 401 WQC required, and if so, has the certification been issued or waived?

An individual WQC is required and has been granted.

A pre-file meeting for the project was requested on September 16, 2021, which was declined by the ADEM on September 20, 2021. The state issued a WQC for the project on October 13, 2022, via a certification letter dated October 6, 2022.

10.5.2 401(a)(2) Process

If the certifying authority granted an individual WQC, did the United States Environmental Protection Agency make a determination that the discharge 'may affect' water quality in a neighboring jurisdiction? No

Provide an explanation of the determination of the effect on neighboring jurisdiction.

A WQC was provided by the certifying authority on October 13, 2022. It was forwarded to the EPA that same day for their review and determination. No response relative to neighboring jurisdictions was received.

10.6 Coastal Zone Management Act (CZMA)

10.6.1 CZMA consistency concurrence

Is a CZMA consistency concurrence required, and if so, has the concurrence been issued, objected to, or presumed?

An individual CZMA consistency concurrence was required, and the appropriate agency did not respond to the consistency request; therefore, CZMA consistency concurrence is presumed.

10.7 Wild and Scenic Rivers Act

10.7.1 National Wild and Scenic River System

Is the project located in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system? No

The project will not affect a waterway within the National Wild and Scenic River System nor a study river for inclusion in the system. The only river system in Alabama currently designated as a component of the National Wild and Scenic River System is the Sipsey Fork of the West Fork in Winston and Lawrence Counties. The only river segment in Mobile County, Alabama which is listed in the Nationwide Rivers Inventory (NRI) and is therefore potential candidates for inclusion in the Wild and Scenic River System is the

Chickasaw, which is not located within the project area. The Corps has determined that it has fulfilled its responsibilities under the Wild and Scenic Rivers Act.

10.8 Effects on Corps Civil Works Projects (33 USC 408)

10.8.1 Permission requirements under Section 14 of the Rivers and Harbors Act (33 USC 408)

Does the applicant also require permission under Section 14 of the Rivers and Harbors Act (33 USC 408) because the activity, in whole or in part, would alter, occupy, or use a Corps Civil Works project?

No, the appropriate non-Regulatory office has determined that there will be no effects to federal projects that require permission from the Corps.

As detailed in Section 4.2, non-Regulatory offices were heavily involved in pre-application discussions, as well as in the development of hydrodynamic modelling for review to ensure that the project would not increase the burden on the USACE to dredge sediment from the federal channel. This activity will occur near the Mobile Harbor, Alabama Channel Deepening and Widening project. The wetland creation site, however, will be set back far enough from the channel to prevent direct impacts.

Project plans were originally sent to OP-TN in March and August 2021, and the Regulatory Division project manager requested the appropriate offices begin their review of the activity relative to required 408 permissions on May 26, 2023. The OP-TN requested additional time to review the project. After EN-HH became involved with the development of the 3D models in September 2023, it was determined that RD would ensure the hydrodynamic simulations were adequate to predict potential change in the vicinity of the federal project. When these reviews were completed, Regulatory Division again requested permission from the 408 Coordinator on September 16, 2024. On September 17, 2024. The Planning and Environmental Division responded that the activity does not require a 408 review, as the project is not within the channel and would not disrupt operations.

10.9 Corps Wetland Policy (33 CFR 320.4(b))

10.9.1 Wetland Impacts

Does the project propose to impact wetlands? No

10.9.2 Wetland impact public interest review

Based on the public interest review herein, the beneficial effects of the project outweigh the detrimental impacts of the project.

10.10 Other (as needed)

N/A

10.11 Compliance Statement

The Corps has determined that it has fulfilled its responsibilities under the following laws, regulations, policies, and guidance:

Table 13 – Compliance with Federal Laws and Responsibilities		
Laws, Regulations, Policies, and Guidance	**Yes**	**N/A**
Section 7(a)(2) of the ESA	X	
EFH provisions of the Magnuson-Stevens Act	X	
Section 106 of the NHPA	X	
Tribal Trust	X	
Section 401 of the Clean Water Act	X	
CZMA	X	
Wild and Scenic Rivers Act		X
Section 408 - 33 USC 408	X	
Corps Wetland Policy (33 CFR 320.4(b))	X	
Other: N/A		X

11.0 Special Conditions

11.1 Special condition(s) requirement(s)

Are special conditions required to ensure minimal effects, ensure the authorized activity is not contrary to the public interest and/or ensure compliance of the activity with any of the laws above? Yes

11.2 Required special condition(s)

A. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the USACE, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

Rationale: This condition is necessary to inform the permittee in writing of the fact and the possibility that a federal project that may be constructed in the vicinity of the proposed work might necessitate its removal or reconstruction and that the United States will, in no case, be liable for any damage or injury to the structures or work authorized by Sections 9 or 10 of the Rivers and Harbors Act of 1899 or by Section 404 of the Clean Water Act that may be caused by, or result from, future operations undertaken by the Government for the conservation or improvement of navigation or for other purposes, and no claims or right to compensation will accrue from any such damage. (33 CFR 320.4 (g) (4)).

ensure that all persons and contractors
ral and special conditions of the permit. A
al conditions shall remain available on site
ties.

Rationale: This condition places the permittee on notice that he/she is ultimately responsible to ensure that the permitted activity complies with all General, Special, and project-specific and state-imposed conditions placed on the permit regardless of contractors or subcontractors who may be hired to conduct work or monitor compliance. Also makes permittee aware that a copy of the permit and conditions should be kept available for reference at the project site.

C. Compliance with all terms and General and Special Conditions of this Permit is mandatory. This project shall not be modified from the work described in the attached plans without prior coordination and written approval from the USACE, Mobile District.

Rationale: This condition is necessary to inform the permittee that the work described in the attached plans is the only authorized work for this project.

D. The attached yellow Notice of Authorization sign must be posted at the site during construction of the permitted activity.

Rationale: This condition is included to ensure the permittee is aware of what he or she is required to do with the Notice of Authorization sign and emphasizes the requirement of posting this sign. Posting of these signs helps curb alleged violation calls from members of the public.

E. The USACE, Mobile District, must be notified of the commencement and completion of each phase of containment area and/or wetland cell construction. The attached commencement and completion forms may be used for that purpose. The permittee shall provide detailed as-built drawings and post-construction elevations with each completion notification.

Rationale: This condition is included to emphasize to the permittee the importance of completing these forms. These forms will assist in monitoring phased construction and compliance with other permit conditions.

F. The Upper Mobile Bay Beneficial Use site shall be constructed in three distinct Phases of wetland creation, beginning at the South Wetland Creation Area (Phase 1), as described in the Project Description. This permit is valid for 10 years from the date of issuance. To commence the second and third phases of the project, the permittee must coordinate with the USACE, Mobile District prior to expiration of this permit to demonstrate the success of the initial phase of construction. A comprehensive report including updated design features, wetland performance and success, and a modelling simulation of expected sediment transport potential and baroclinic flow surrounding the project site must be submitted to the USACE, Mobile District at the completion of each Phase of Wetland Creation Area construction, prior to the continuance of construction of

Phases 2 and 3 and any request for an extension of the permit. The permittee shall obtain written confirmation from the USACE that all the compliance requirements have been met before ongoing additional Phases of construction, or any additional activities for which the permittee is authorized may be discontinued.

Rationale: This condition is included to emphasize that while the full project footprint is authorized, the permittee must demonstrate the success of initial phases in order to continue construction. During project evaluation, resource agencies were clear that continued construction should be based on success of the initial phase of wetland creation.

G. The permittee shall notify the USACE, Mobile District prior to planned levee gapping activities for each constructed wetland cell. This notification must: (1) evaluate field fitting the location of gaps based on natural drainage locations prior to mobilizing for gapping activities, (2) evaluate if internal gaps would be required for fisheries access, (3) evaluate potential for adjusted placement of gaps, (4) coordinate the timing of gapping to avoid temporal ecological losses, and (5) determine the minimum cross-sectional area per gap for each wetland creation cell. Only once there is confirmation from the USACE that all sediment placed within a wetland creation cell meet the requirements specified in *UPPER MOBILE BAY BENEFICIAL USE WETLAND CREATION SITE PROJECT - FINAL MONITORING AND ADAPTATIVE MANAGEMENT PLAN*, shall the containment features be breached. NMFS-HCD will be given 14 days from notification to resolve any comments on the gapping plans.

Rationale: This condition is included to comply with requests made during consultation with NMFS-Habitat Conservation Division in order to implement the EFH provisions of the Magnuson-Stevens Fishery Conservation and Management Act.

H. The permittee shall monitor the progress of the vegetative establishment following the breaching of each Phase for a minimum of 10 years from the breaching event and longer if the vegetative success criteria are not achieved. Methods, criteria, and general approach are described in *UPPER MOBILE BAY BENEFICIAL USE WETLAND CREATION SITE PROJECT - FINAL MONITORING AND ADAPTATIVE MANAGEMENT PLAN*, which shall be followed, along with the application of adaptive management principles, to ensure satisfactory results.

Rationale: This condition is included to comply with requests made during consultation with NMFS-Habitat Conservation Division in order to implement the EFH provisions of the Magnuson-Stevens Fishery Conservation and Management Act.

I. The design of subsequent phases of the project shall reflect the knowledge gained from monitoring earlier project phases, particularly as it relates to optimum elevations for target plant species establishment, sedimentation rates, settlement rates, and processes at the project site. The permittee shall provide the U.S. Army Corps of Engineers Mobile District with the 60 and 95 percent engineering designs, including geotechnical analysis and settlement curves which evaluate expected settlement rates, prior to construction activities for all subsequent marsh creation cells.

Rationale: This condition is included to emphasize to the permittee the importance of adaptive management throughout the life of the project. These submissions will assist in monitoring phased construction and compliance with other permit conditions.

J. The USACE, Mobile District, must be notified prior at least 14 days prior to the commencement of each event of dredged sediment placement within the site. This commencement notification should include Tier 1 and Tier 2 sediment testing results, sampled and analyzed in accordance with the methods developed in conjunction with the EPA during this project's evaluation and contained within "*EVALUATION OF DREDGED MATERIAL PROPOSED FOR OPEN WATER BENEFICIAL USE MOBILE BAY, ALABAMA*" (EA Engineering, Science, and Technology, Inc., PBC, 2024).

Rationale: This condition is included to emphasize to the permittee the importance of advanced notification of sediment placement within the site. These forms will assist in monitoring sediment suitability for beneficial use.

K. All sediments proposed for use within the Upper Mobile Bay Beneficial Use Site must be demonstrated during commencement notification to meet the suitability criteria summarized in the attached *Sediment Evaluation Protocol Framework Memorandum*. Sediment must be tested and analyzed in accordance with "*TABLE 1. ANALYTICAL TESTING SCHEME FOR DREDGED SEDIMENTS TO BE PLACED IN ALABAMA PORT AUTHORITIES BENEFICIAL USE SITE MOBILE BAY, ALABAMA*" and compared with suitability criteria within "*TABLE 2. USEPA AND STATE OF ALABAMA ACUTE MARINE WATER QUALITY CRITERIA FOR THE PROTECTION OF AQUATIC LIFE*". Sediment suitability for placement within the site must be determined in comparison to contaminant detection levels published in "*U.S. Environmental Protection Agency (USEPA). 2024. National Recommended Water Quality Criteria for saltwater*", or the material may not be used in the Upper Mobile Bay Beneficial Use Site.

Rationale: This condition is included to specify the sediment characteristics that are allowable in the beneficial use sediment.

L. The permittee shall maintain complete records of the sediment sources, their physical and chemical characteristics, and of the location of such sediments within the site. The total volume of dredged materials and their chemical characteristics will be submitted to the USACE, Mobile District with the comprehensive report submitted after each Phase of project construction.

Rationale: This condition is included to ensure an accurate accounting of compliance with the authorized project impacts.

M. The permittee will maintain Clean Water Act Section 401(a) Water Quality Certification (ADEM-2021-292-WQC-COE-IP) as required by ADEM certification letter dated October 6, 2022.

Rationale: This condition ensures the permit holder is aware of the conditioned State 401 Water Quality Certification concurrence. This condition is necessary to ensure adverse impacts to water quality due to construction activities are minimized to the maximum extent practicable.

N. Best Management Practices (BMPs) shall be implemented to minimize erosion, siltation, and damage to adjacent waters of the United States in which the discharge of fill material has not been authorized. Appropriate erosion and sediment control measures must be utilized and maintained in effective operating condition during construction. All exposed structural components and fill material must be permanently stabilized at the earliest practicable opportunity. All temporary erosion control features shall remain in place until permanent stabilization measures have been completed and become fully effective. Reference the "*2018 Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas*" for state recommended practices and implementation guidance.

Rationale: This condition reinforces the importance of ensuring compliance with state required and recommended construction site and stormwater management measures, which minimize adverse impacts to water quality, wetlands & streams, wildlife habitat, and wildlife species.

O. The permittee will ensure that turbidity generated during construction activities must not cause substantial visible contrast nor result in an increase of more than fifty (50) Nephelometric turbidity units (NTUs) above background in state waters. Silt curtains must immediately be installed during the placement of sediment within internal containment dikes if turbidity levels exceed 50 NTUs above background.

Rationale: This condition is necessary to ensure that any discharges resulting from construction activities during project implementation will not result in excessive turbidity in the receiving waters so as to cause the receiving water to fail to meet its water use criterion. This condition is included despite the waiver/presumed concurrence of 401 Water Quality Concurrence by the state.

P. It is the responsibility of the permittee to coordinate this activity with the Alabama Department of Conservation and Natural Resources, State Lands Division, for any approvals, riparian easements, and/or fees that may be required for impacting public submerged lands at: Alabama Department of Conservation and Natural Resources, State Lands Division, Coastal Section, 31115 Five Rivers Boulevard, Spanish Fort, Alabama 36527, (251) 621-1238.

Rationale: This condition ensures the permit holder is aware of the State Land Division requirements. This condition is necessary to ensure adverse impacts to state water bottoms from construction activities are minimized to the maximum extent practicable.

Q. The permittee shall contact the community's designated officials responsible for FEMA floodplain regulations and enforcement to obtain necessary authorizations and to

plain ordinances and safety precautions in

Rationale: This condition informs the permittee that other authorizations regarding floodplain regulations may be necessary prior to project implementation.

R. In order for the U.S. Coast Guard (USGC) to give proper notice to the maritime community, the permitted owners, contractors, or responsible party shall contact Coast Guard Sector Mobile Waterways Management Branch (spw), 1500 15th Street, Mobile, Alabama 36615, (251) 441-5166 or (251) 441-5940, 60 days prior to performing the proposed action. The permitted owners, contractors, or responsible party must also install and maintain, at the permitted owner's, contractor's, or responsible party's expense, any safety lights, signs and signals required by the USCG, through regulations or otherwise, on the permitted owner's, contractor's, or responsible party's fixed structures. To receive a USCG's Private Aids to Navigation marking determination, at no later than 30 days prior to the installation of any fixed structures in navigable waters, you are required to contact the Eighth Coast Guard District (dpw), 500 Poydras Street, Suite 1230, New Orleans, Louisiana 70130, (504) 671-2124, or via email to D8oanPATON@uscg.mil. For general information related to Private Aids to Navigation, please visit the Eight CG District website at www.atlanticarea.uscg.mil/District-8/District-Divisions/Waterways/PATON/.

Rationale: This standard condition is placed on the permit such that the USCG can ensure a navigation advisory notice is published so mariners will be aware of the proposed work and can make plans to avoid any navigation conflicts.

S. Signs and/or buoys must be deployed around the project area to warn navigational interests of the ongoing construction hazards. When construction is complete, the applicant must follow all U.S. Coast Guard rules and regulations for marking and lighting structures, as described in the U.S. Coast Guard's Private Aids to Navigation literature. Rationale: This condition is necessary to ensure that the structures associated with this project do not create a navigational hazard to the boating public.

T. The permittee assumes complete financial responsibility for all necessary adaptive management, monitoring, reporting, and repair response associated with maintaining the project footprint to its authorized design specifications.

Rationale: This conditions states that the Port must continue to manage the site after commencement of construction.

U. The permittee shall implement the attached "Alabama Standard Manatee Construction Conditions" throughout project construction. In the event of an equipment strike, collision with and/or injury to a manatee as a result of project implementation, work shall cease and the permittee shall immediately contact this office at (251) 508-4266 or (251) 690-2658, and the U.S. Fish and Wildlife Service in Daphne, (251) 441-5181.

Rationale: Rationale: This condition is included pursuant to the Alabama SLOPES with the USFWS regarding potential effects to federally listed threatened and endangered species. A "May Affect, Not Likely to Adversely Affect" determination regarding manatee was made under the premise that standard manatee conditions would be required as part of the DA permit authorization.

V. The permittee must establish an underwater "exclusion zone" for all marine mammals, defined as the distance where underwater noise levels will exceed 120 dBrms for continuous noise or 160 dBrms for impact noise to prevent all possible Level A or Level B harassment to marine mammals. ESA listed species and marine mammal monitoring of the exclusion zone shall be conducted prior to commencement of pile installation. Pile installation activities shall not commence until marine mammals are not sighted in the exclusion zone for 15 minutes. Pile-driving will commence with a soft start procedure (ramping up) in order to alert nearby wildlife, allowing them to move out of the area prior to construction activities.

Rationale: In accordance with NMFS Protected Species Conditions and through consultation with NMFS-PRD, this condition requires avoidance of exposing marine mammals to sound levels in excess of the Level A and Level B criteria.

W. The permittee will implement NMFS Southeast Region's *Measures for Reducing Entrapment Risk to Protected Species* (2012), *Protected Species Construction Conditions* (2021), and *Vessel Strike Avoidance Measures* (2021) during project construction. If a protected species is seen within 100 yards of the active daily construction operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a protected species. Operation of any mechanical construction equipment shall cease immediately if a protected species is seen within a 50-ft radius of the equipment. Activities may not resume until the species has departed the project area of its own volition. Further, construction must be limited to daylight hours, which will assist construction workers in seeing listed species and, if present, avoiding interactions with them.

Rationale: This special condition is required pursuant to Section 7 of the ESA for NMFS, and in accordance with the concurrence letter from NMFS-PRD for the project dated April 25, 2023.

X. Containment feature and sediment elevation monitoring reports must be submitted as described in the attached *UPPER MOBILE BAY BENEFICIAL USE WETLAND CREATION SITE PROJECT - FINAL MONITORING AND ADAPTATIVE MANAGEMENT PLAN.* Reporting schedules shall be followed as outlined therein, with regular reporting to the Project Manager at jessica.c.comeaux@usace.army.mil with a copy to CESAM-RD@sam.usace.army.mil.

Rationale: This special condition is necessary to ensure successful completion of the project and to ensure adverse effects on the aquatic environment have been minimized to the maximum extent practicable.

Y. If monitoring results indicate that fill elevations (after accounting for projected settlement and consolidation) have exceeded the performance criteria in the *UPPER MOBILE BAY BENEFICIAL USE WETLAND CREATION SITE PROJECT - FINAL MONITORING AND ADAPTATIVE MANAGEMENT PLAN*, those overfilled areas shall be graded down to design elevations within six months of completion of sediment placement within each cell.

Rationale: This special condition is necessary to ensure successful completion of the project and to ensure adverse effects on the aquatic environment have been minimized to the maximum extent practicable.

Z. Wetland performance monitoring surveys must be conducted post construction at the peak of the growing season (mid to late summer) in accordance with the attached *UPPER MOBILE BAY BENEFICIAL USE WETLAND CREATION SITE PROJECT - FINAL MONITORING AND ADAPTATIVE MANAGEMENT PLAN*. These reports should be sent to the project manager at jessica.c.comeaux@usace.army.mil with a copy to CESAM-RD@sam.usace.army.mil. The annual report shall describe, at a minimum, the current site conditions, estimated performance on the sediment settlement curve, and an estimated work plan for the next year's activities to include geotechnical analyses, gapping plans, and vegetative planting plans. During the year-5 report, the permittee should determine whether performance criteria is met and make recommendations to the USACE, Mobile District regarding adaptive management and continued monitoring.

Rationale: This special condition is necessary to ensure successful completion of the project to ensure adverse effects on the aquatic environment have been minimized to the maximum extent practicable.

AA. Side casted materials from construction activities shall not obstruct hydrological and biological interconnectivity.

Rationale: This special condition is necessary to ensure successful adherence to NMFS-HCD consultation requirements to minimize adverse effects to the aquatic environment to the maximum extent practicable.

BB. Tidal ponds shall not be fully contained to allow for fish movements from the tidal creeks flowing into the tidal ponds.

Rationale: This special condition is necessary to ensure successful adherence to NMFS-HCD consultation requirements to minimize adverse effects to the aquatic environment to the maximum extent practicable.

CC. Post-storm event monitoring and reporting is required. In the event that any named tropical storm changes water levels at the Upper Mobile Bay Beneficial Use site beyond typical tidal fluctuations, the structural integrity of the containment areas, the elevations of any sediment, and the percent coverage of planted wetland vegetation within must be documented and forwarded within 60 days to the Project Manager at

jessica.c.comeaux@usace.army.mil with a copy to CESAM-RD@sam.usace.army.mil. Should there be any damage to the site such that structures, elevations, and vegetation does not comply with the attached permit drawing specifications, potential adaptive management actions should be submitted to the USACE Regulatory Division for review. Any subsequent construction of the wetland creation areas or materials placement will be suspended until such time that mitigative measures are taken to ensure the containment structures are repaired and planted areas are revegetated.

Rationale: This special condition is necessary to ensure successful completion of the project and to ensure adverse effects on the aquatic environment have been minimized to the maximum extent practicable.

DD. This permit does not authorize impacts, either directly or indirectly, to any area of water bottoms that contain submersed grass beds. Conditions of submerged aquatic vegetation within one half mile of the full project footprint should be monitored yearly during regular wetland performance monitoring and evaluated in comparison to the SAV baseline found in *Evaluation of the Potential Impacts of the Proposed Mobile Harbor Navigation Channel Expansion on the Aquatic Resources of Mobile Bay*, Berkowitz *et al.,* 2020.

Rationale: This special condition is necessary to ensure successful avoidance of known submerged grass beds in the area and to ensure no net loss of special aquatic resources.

EE. Should loss or degradation of submerged aquatic vegetation (SAV) in the vicinity of the project be observed, the permittee is required to provide a restoration plan to the USACE, Mobile District and the NOAA-HCD. This plan must be provided within 60 days of the completion of a field survey that demonstrates a loss or degradation of special aquatic sites, including all submerged aquatic vegetation. Any subsequent construction of the wetland creation areas or materials placement will be suspended until such time that mitigative measures are taken to ensure no net loss of submerged grass beds in the project's vicinity.

Rationale: This special condition is necessary to ensure successful avoidance of known submerged grassbeds in the area and to ensure no net loss of special aquatic resources.

FF. In order to ensure that the permitted activity does not impact the magnetic anomalies present during historic property investigations, all construction activities including pipelaying, excavating, dredging, anchoring, spudding, or other subsurface ground disturbance are prohibited within 50 meters (164 feet) of [redacted] as defined in *A Phase I Archaeological Marine Survey of Beneficial Use Areas for Mobile Bay Sediment Placement Project Mobile County, Alabama* (2013). The avoidance areas must be marked on maps and construction drawings and placed in a propriety GPS system used by contractors as navigational hazards.

Rationale: This special condition specifically advises the permittee that the USACE is requiring all potential cultural resources be avoided by ground disturbance.

GG. In order to ensure that the permitted activity does not impact the American Civil War obstruction areas, as defined in *A Phase I Archaeological Marine Survey of Beneficial Use Areas for Mobile Bay Sediment Placement Project Mobile County, Alabama* (2013), all construction activities including pipelaying, excavating, dredging, anchoring, spudding, or other subsurface ground disturbance are prohibited within 100 meters (328 feet) of those resources. The avoidance areas must be marked on maps and construction drawings and placed in a propriety GPS system used by contractors as navigational hazards.

Rationale: This special condition specifically advises the permittee that the USACE is requiring all potential cultural resources be avoided by ground disturbance.

HH. Should historic properties, archaeological material, or cultural resources be encountered during project activities, all work shall cease and the USACE, Mobile District shall be consulted immediately, such that appropriate coordination with state, federal, and tribal organizations may be initiated. It is the permittee's responsibility to ensure that contractors are aware of this requirement. If any archaeological or cultural materials are discovered during the project undertaking, neither the construction team nor the applicant will disclose this information to the public or the media in any manner. Discoveries of archaeological materials will be kept private and confidential. The following USACE representatives must be contacted immediately in the event of inadvertent discovery:

CESAM-RD@usace.army.mil

Jessica Comeaux, Project Manager
Jessica.C.Comeaux@usace.army.mil
(251) 508-4266

Kad Henderson, Archaeologist
Kad.M.Henderson@usace.army.mil
(251) 477-0849

Rationale: This condition is somewhat duplicative of General Condition 3, which is a standard condition of all Individual Permits. However, this special condition specifically advises the permittee that in the event of an inadvertent discovery, work must cease until the USACE in coordination with state, federal, and tribal entities has determined appropriate documentation and/or recovery efforts. Cessation of work upon identification of an inadvertent discovery is required by the project concurrences provided by the Alabama SHPO and the various consulting tribes.

II. The permittee shall provide an updated Technical Memorandum for a Refined Remote-Sensing Survey to the USACE, Mobile District every five years from the date of first construction until 5 years after completion of construction documenting the status of

the American Civil War obstruction areas and 6 other identified magnetic anomalies as defined in *A Phase I Archaeological Marine Survey of Beneficial Use Areas for Mobile Bay Sediment Placement Project Mobile County, Alabama* (2013) and referenced in Special Conditions FF and GG.

Rationale: This special condition specifically advises the permittee that the USACE is requiring all potential cultural resources should be regularly monitored throughout project implementation to ensure compliance with the National Historic Preservation Act.

12.0 Findings and Determinations

12.1 Section 176(c) of the Clean Air Act General Conformity Rule Review:

The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed *de minimis* levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

12.2 Presidential Executive Orders (EO)

12.2.1 EO 11988, Floodplain Management

Alternatives to location within the floodplain, minimization and compensatory mitigation of the effects were considered above.

12.2.2 EO 13112, Invasive Species, as amended by EO 13751

There are no invasive species issues involved in this proposed project.

12.2.3 EO 13212 and EO 13302, Energy Supply and Availability

The proposal is not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety.

12.3 Findings of No Significant Impact

Having reviewed the information provided by the applicant and all interested parties and an assessment of the environmental impacts, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an environmental impact statement will not be required.

12.4 Compliance with the Section 404(b)(1) Guidelines

The proposed discharge complies with the Guidelines, with the inclusion of the

appropriate and practicable special conditions to minimize pollution or adverse effects to the affected ecosystem.

12.5 Public interest determination

Having reviewed and considered the information above, I find that the proposed project is not contrary to the public interest. The permit will be issued with appropriate conditions included to ensure minimal effects, ensure the authorized activity is not contrary to the public interest and/or ensure compliance of the activity with any of the authorities identified in Section 10.

PREPARED BY:

Digitally signed by Jessica Crochet Comeaux
Date: 2025.04.04 12:56:58 -05'00'

Date:

Jessica C. Comeaux
Team Leader, Mobile District Liaison
Technical Regional Execution Center, Savannah District

REVIEWED BY:

Digitally signed by Philip A. Hegji
Date: 2025.04.04 13:10:07 -05'00'

Date:

Philip Hegji
Branch Chief, South Alabama Branch
Regulatory Division, Mobile District

APPROVED BY:

Allison Monroe

Digitally signed by Allison Monroe
Date: 2025.04.04 15:25:35 -05'00'

Date:

Allison Monroe
Chief, Regulatory Division
Mobile District