

RECORD OF DECISION

Department of the Army Permit Application No. SWG-2019-00067

Port of Corpus Christi Authority - Channel Deepening Project

This document constitutes the Clean Water Act (CWA) Section 404(b)(1) guidelines evaluation, as applicable; Ocean Dumping Guideline compliance evaluation, public interest review; summary of findings for 33 USC 408 Permission, and statement of findings for the subject application.

1.0 INTRODUCTION AND OVERVIEW

This document constitutes the U.S. Army Corps of Engineers (Corps) Galveston District's Record of Decision (ROD) and review and compliance determination under 1) the National Environmental Policy Act (NEPA) of 1969, as amended; 2) Section 10 of the Rivers and Harbors Act of 1899 (33 United States Code [USC] 403); Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408); 3) Section 404 of the CWA of 1972 (33 USC 1344), including the 404(b)(1) guidelines; 4) Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA); and 4) the public interest review in accordance with 30 Code of Federal Regulations (CFR) 320.4(a) for the Corpus Christi Channel Deepening Project (CDP) proposed by the Port of Corpus Christi Authority (PCCA or Applicant).

The CDP required authorization in accordance with Section 404 of the CWA because of the discharge of dredged or fill material into waters of the United States (WOTUS). In accordance with NEPA, as defined in 40 CFR 1501.5, the Corps acted as the lead agency on the preparation of the draft environmental impact statement (DEIS) and final environmental impact statement (FEIS). The Environmental Protection Agency, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and U.S Coast Guard are Cooperating Agencies. In making this permit decision, the Corps relied on the FEIS (Corps, 2024); supporting information, data, and analyses; and information contained in the Applicant's Department of the Army (DA) CWA Section 404 Permit application and the Applicant's Section 401 Water Quality Certification dated 27 June 2024 (Section 401 of the CWA and in accordance with 33 CFR 320.4(a) public interest review). In doing so, the Corps considered the possible consequences of the Applicant's Preferred Alternative in accordance with regulations published in 33 CFR 320 through 332 and 40 CFR 230 and considered and stated views of interested agencies and the public regarding the CDP. PCCA has selected the proposed layout identified in the FEIS as Alternative 1: Channel Deepening as their preferred alternative. A detailed description of the CDP can be found in Section 2.2 of the FEIS.

1.1 Applicant

Port of Corpus Christi Authority
400 Harbor Drive
Corpus Christi, Texas 78401

1.2 Activity Location

The CDP is located at Port Aransas, Nueces County, Texas. The CDP channel alignment is within the existing channel bottom of the Corpus Christi Ship Channel (CCSC) starting at Station 110+00 near the southeast side of Harbor Island. The CDP traverses easterly through Aransas Pass and extends beyond the currently authorized terminus at Station -330+00. The CDP extension terminates at an additional 29,000 feet into the Gulf of Mexico (Gulf) at Station -620+00, the channel's proposed new terminus. The approximate distance of the proposed CDP is 13.8 miles. The Federal navigation channel segments from Stations 110+00 to -72+50 (Jetties Channel's seaward limits) is currently authorized at -54 feet mean lower low water (MLLW). The Federal navigation channel segments from -72+50 to -330+00 (Offshore Channel's seaward limits) is currently authorized at -56 feet MLLW. For these segments, the Federally authorized channel bottom widths vary from 530 feet (inshore segments) to 700 feet (offshore segments). See the FEIS for the full extent of the CDP.

1.3 Description of Activity Requiring Permit

The PCCA is proposing to deepen the CCSC from its current authorized depth of -54 feet MLLW from Station 110+00 to Station -72+50 to -75 feet MLLW. From Station -72+50 to Station -330+00, the channel would be deepened from -54 feet MLLW to -77 feet MLLW. The proposed project includes a 29,000-foot extension of the CCSC from Station -330+00 to Station -620+00 and would be deepened to -77 feet MLLW. Two feet of advanced maintenance and 2 feet of allowable overdredge would be applied to each CDP channel segment. Therefore the max dredge depth from Station 110+00 to Station -72+50 is -79 MLLW and the max dredge depth from Station -72+50 to Station -330+00 is -81 MLLW.

The proposed CDP would span approximately 13.8 miles from a location near the southeast side of Harbor Island to the -80-foot MLLW bathymetric contour in the Gulf. The proposed CDP footprint would cover 1,778 acres, generating 46.3 million cubic yards (mcy) of new work dredged material.

The proposed project consists of the following:

- Deepening a portion of the CCSC from the current authorization of -54 and -56 feet MLLW to final constructed deepened channel ranging from -75 to -77 feet MLLW to accommodate fully-laden very large crude carriers (VLCC) transiting from Harbor Island to the Gulf from Stations 110+00 to -620+00;
- Extending the existing terminus of the authorized channel an additional 29,000 feet into the Gulf to reach the -80-foot MLLW bathymetric contour to accommodate fully-laden VLCCs transiting from Harbor Island to the Gulf;
- Expanding the existing Inner Basin at Harbor Island as necessary to accommodate VLCCs turning;
- Straightening the northeast channel limits of the Harbor Island Transition Flare to accommodate VLCC turning;
- Beneficial use (BU) placement of new work dredged material at Harbor Island and Port Aransas to restore eroded shorelines adjacent the CCSC;

- Placement of new work dredged material into an existing upland dredged material placement area (DMPA) at Harbor Island;
- BU placement of new work dredged material on the eastern portion of Harbor Island to restore the eroded bluff and shoreline;
- BU placement of dredged material on the Gulf-facing shoreline of San José Island for beach restoration;
- BU placement of dredged material on Gulf-facing shoreline of Mustang Island for beach restoration;
- BU placement of dredged material within nearshore berms offshore San José and Mustang islands; and
- Disposal of new work dredged material within the Corpus Christi Expanded New Work Ocean Dredged Material Disposal Site (ODMDS).

PCCA submitted an application to the Corps for a DA permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403), Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408), Section 404 of the CWA (33 USC 1344), and Section 103 of the MPRSA (Permit SWG-2019-00067). The Applicant's Preferred Alternative includes the discharge of dredged material or fill material into special aquatic sites and WOTUS: 122 acres of palustrine wetlands, 16.61 acres estuarine wetlands, 6.88 acres of seagrass, and 0.10 acres of live oysters for BU placement.

1.3.1 Proposed Avoidance and Minimization Measures

Construction of the beneficial use sites will impact approximately 139 acres of palustrine and estuarine wetlands. However, the Beneficial Use Monitoring Plan (BU Plan) would create approximately 216 acres of estuarine marsh. Beneficial use placement would impact approximately 6.88 acres of seagrass and 0.10 acre of live oyster. However, mitigation efforts would re-establish these resources via transplanting live seagrasses and oysters from the impacted area. Overall, the BU Plan included sites that were designed to protect approximately 2,400 acres of seagrass in Redfish Bay and Charlies Pasture.

In response to comments on the DEIS, PCCA eliminated 58.76 acres of proposed impact to high quality, palustrine dune swale wetlands on San José Island. The material proposed for this site was redirected to the ODMDS.

1.3.2 Proposed Compensatory Mitigation

The CDP includes plans to provide on-site, in-kind mitigation to compensate or exceed for the functional loss of estuarine and palustrine wetlands, seagrass, and live oyster as a result of the placement of BU dredged material. The PCCA proposes to utilize BU site SS1 to construct their permittee responsible mitigation (PRM) site. A high berm will be constructed to stabilize the shoreline at SS1, also serving to protect the reestablished special aquatic sites within the proposed mitigation site to further help protect and restore habitats within Redfish Bay. These restorative mitigation actions will be accomplished through establishment of 32.94 acres of estuarine wetlands, 42.08 acres

of palustrine wetlands and the relocation 6.88-acres of seagrass and 0.10-acres of live oyster that will be impacted within the CDP footprint.

The Applicant has prepared a CMP that includes the restoration of estuarine and palustrine wetlands and transplant of seagrass, and live oyster that will result in the reestablishment of wetland functions and values, and ultimately improve the quality and quantity of special aquatic sites and aquatic resources that contribute to the overall functional capacity within the Aransas watershed (see FEIS Appendix K).

1.4 Existing Conditions and Any Applicable Project History

The CDP footprint is located within the existing CCSC in Port Aransas, Nueces County, Texas. The project site is bordered by Mustang Island to the south and Harbor Island, San José Island, and Redfish Bay to the north. The project site also extends into the Gulf (see Figure 1-1 in the FEIS). The CCSC is currently maintained at a navigation channel depth of –45 feet in Corpus Christi Bay and the Inner Harbor. The Corpus Christi Ship Channel Improvement Project (CCSCIP) is underway that would deepen the inshore sections to the authorized depth of –54 feet. The proposed BU placement sites contain 139.07 acres of wetlands, 6.88 acres of seagrass, 0.10 acres of oysters, and 407.97 acres of flats/beach. The project site and proposed BU placement sites are located entirely within the Western Gulf coastal plain (U.S. Environmental Protection Agency [EPA] level III ecoregion). This is a low-elevation area adjacent to the Gulf (Griffith et al., 2004; EPA, 2013). Due to its nutrient-rich soils and abundance of rain, much of the surrounding land has been converted to cropland and pastures for livestock.

2.0 SCOPE OF REVIEW

2.1 Determination of Scope of Analysis for NEPA

The determination of the scope of analysis for the Corps Federal action is guided by the Corps Regulatory Program NEPA implementing regulations at 33 CFR 325, Appendix B. The scope of analysis will always include WOTUS where regulated impacts are proposed, as well as uplands where there is sufficient Federal control and responsibility to warrant Corps review. The purpose of establishing the scope of analysis is to identify the geographic area within which the Corps is responsible for evaluating environmental effects, thereby ensuring the impacts of the specific activity requiring a DA permit and those portions of the entire project over which the Corps has sufficient control and responsibility to warrant Federal review are evaluated. Based on the Corps' application of the guidance in Appendix B of 33 CFR 325, it has been determined that the scope of analysis for this review concludes the entire preferred project is within Corps jurisdiction.

2.2 Determination of the Corps Action Area for Section 7 of the Endangered Species Act

The Action Area as defined by the National Marine Fisheries Service (NMFS) includes and is adjacent to Corpus Christi Bay, includes Nueces, San Patricio, Refugio, and Aransas counties. This is the area where potential effects of the project may have potential consequences to listed species or designated critical habitats. The NMFS Action Area is the CDP study area boundary (see Figure 3-1 in the FEIS).

The Action Area as defined by the U.S. Fish and Wildlife Service (USFWS) begins in Port Aransas, Nueces County, Texas within the existing channel bottom of the CCSC near the southeast side of Harbor Island, and traverses easterly through Aransas Pass and extends an additional 5.5 miles beyond the existing terminus of the channel. The USFWS Action Area is the CDP project area boundary (see Figure 3-2 in the FEIS).

The Action Area includes uplands, inshore and offshore channel dredging, Gulf side placement actions, beach nourishment, and placement in ODMDS that would impact open water/bottom habitat. For inshore PA construction, open water/bottom habitat, estuarine wetlands, palustrine wetlands, unconsolidated shorelines (tidal sand flats/algal flats/beach), seagrass, and oyster reef habitat would be impacted. Existing habitat within the proposed project footprint includes developed and urbanized land, armored and natural shorelines, beaches, tidal flats, open water, brackish to saltwater wetlands, submerged aquatic vegetation (SAV), oyster reefs, uplands, sand dunes, coastal prairie, and mud flats.

2.3 Determination of Permit Area for Section 106 of the National Historic Preservation Act

The Corps Procedures for the Protection of Historic Properties (Appendix C to 33 CFR 325) defines the Permit Area as those areas comprising WOTUS that would directly be affected by the CDP or structures and uplands directly affected as a result of authorizing the Project or structures.

2.3.1 *Final Description of the Permit Area*

The Permit Area includes those areas comprising WOTUS that will be directly affected by the proposed work or structures, as well as activities outside of WOTUS. because all three tests identified in 33 CFR 325, Appendix C (g)(1) have been met. For the CDP, the Permit Area covered those areas as described in the final NEPA scope of analysis.

3.0 PURPOSE AND NEED

3.1 Purpose and Need for the Project as Provided by the Applicant and Reviewed by the Corps

The following is an Applicant prepared statement submitted with the application as required in 33 Code of Federal Regulations (CFR) 325.1(d).

The purpose of the preferred project is to construct a channel with the capability to accommodate transit of fully-laden VLCCs from multiple locations on Harbor Island into the Gulf. Factors influencing the Applicant's need for the project include:

- The ability for more efficient movement of U.S. produced crude oil to meet current and forecasted demand in support of national energy security and national trade objectives,
- Enhancement of the PCCA's ability to accommodate future growth in energy production, and
- Construction of a channel project that the PCCA can readily implement to accommodate industry needs.

Currently, crude oil is primarily exported using Aframax and Suezmax vessels. VLCCs are now regularly calling on existing crude export facilities further up the channel at Ingleside, including at the Moda terminal. Suezmax and VLCC vessels are light loaded (lightered) due to depth restrictions in the existing CCSC and would continue to be light loaded when the current Federally-authorized CCSC deepening project is completed. Reverse lightering translates into additional vessel trips, cost, man hours, operational risk, and air emissions. To efficiently and cost effectively move crude oil cargo, oil exporters are increasingly using fully loaded vessels, including VLCCs. To fulfill its mission of leveraging commerce to drive prosperity in support of national priorities, the Port must keep pace with the global marketplace.

The need for the preferred project is driven by the considerations below, which are explained in the following paragraphs:

- Pipelines from Eagle Ford and Permian Basins are being constructed to the Port and to Harbor Island. Crude oil terminals are also being planned at Harbor Island using the Federally-authorized –54-foot-deep channel. However, use of the –54-foot-deep channel limits the ability to fully load VLCCs, decreasing efficiency and requiring reverse lightering of these vessels.
- Bolstering national energy security through the growth of U.S. crude exports.
- Protecting national economic interests by decreasing the national trade deficit.

- Supporting national commerce by keeping pace with existing and expanded infrastructure being modified or already under development to export crude oil resulting from the large growth in the Permian and Eagle Ford oil field development, which has helped the U.S. recently become the top oil-producing nation in the world.
- Improve safety and efficiency of water-borne freight movements.

The infrastructure and proximity to the major Texas shale plays makes the Port an attractive location for efficiently exporting crude oil by VLCC vessels. The Port has received interest from new and existing customers for developing crude oil export terminals and facilities. Production and export of crude oil and natural gas have greatly increased over the years and are providing an economic boom to the Port and the region.

In 2021 the Port exported an average of 1.63 million barrels per day (bpd) of crude oil (Port of Corpus Christi, 2022), and projections indicate that exports could increase to 4.5 million bpd by 2030. Investments at the Port that are directly aimed at products from the Eagle Ford Shale and Permian Basin are over \$300 million. In the latter part of July 2018, the Port sold more than \$216 million in bonds to fund energy export products. A portion of this money will be used for the authorized deepening of the CCSC, and will also help fund other improvements, including a crude oil export terminal under design at Harbor Island. The new oil export terminals being planned at the Port will have loading arms, handling equipment, storage tanks, and other related facilities for larger ships including VLCCs. Similar crude export facilities are planned by multiple other entities at Harbor Island.

More efficient transport of crude in greater volumes is the impetus for the Port to deepen the channel to accommodate fully loaded VLCCs. Presently, the existing channel depth requires that current crude carriers, whether VLCCs or other vessels, depart partially loaded from the Port, or that VLCCs remain offshore while smaller tankers transfer their cargo to the larger VLCCs, a process known as reverse lightering. The inefficiency of this process is compounded by some of these smaller vessels also not being able to be fully loaded while moving through the Port.

Production from the Permian and Eagle Ford basins continues to increase, and several of the major midstream companies are currently undergoing major expansions to facilitate the export of greater volumes of crude. One example of these expansions is the new terminals which are at the center of an emerging pipeline and storage hub near Taft, Texas. The terminals are planned to be connected to the Cactus II Pipeline, the Grey Oak Pipeline, and other crude systems, to store crude oil and supply it to the export markets at Corpus Christi. As these exports increase, the number of lightering vessels and product carriers will also increase, adding to shipping delays and congestion inside and outside of the Port. These delays and congestion will increase the cost of transportation, which in turn will increase the cost of crude oil with the ultimate consequence of making U.S. crude less competitive in the global market.

3.2 Basic Project Purpose, as Determined by the Corps

The basic purpose of the CDP is to safely, efficiently, and economically export current and forecasted crude oil inventories from the facilities at the Port.

3.3 Water Dependency Determination

The CDP does not require access or proximity to, or siting within, a special aquatic site in order to fulfill its basic purpose. Alternatives that do not involve impacts to special aquatic sites are presumed to be available.

3.4 Overall Project Purpose, as Determined by the Corps

The overall project purpose, as determined by the Corps after concurrence with the Cooperating Agencies is: To export safely, efficiently, and economically current and forecasted crude oil inventories via VLCC, a common vessel in the world fleet. Crude oil is delivered via pipeline from the Eagle Ford and Permian Basins to multiple locations at the Port. Crude oil inventories exported at the Port have increased from 280,000 bpd in 2017 to 1,650,000 barrels in January 2020 with forecasts increasing to 4,500,000 bpd by 2030. Current facilities require vessel lightering to fully load a VLCC which increases cost and effects safety.

4.0 PUBLIC OUTREACH, COORDINATION, AND COMMENTS

The Corps published the Joint Public Notice with TCEQ on August 1, 2019 which initiated the pre-scoping steps for the Lead, Cooperating, and commenting agencies. By letter dated June 18, 2019, the Corps confirmed the project meets the definition of a covered project as defined in 42-USC 4370m(6)(A) of FAST-41. A FAST-41 Interagency Coordination Meeting was held on July 22, 2019 to discuss the development of the Coordinated Project Plan (CPP), as required by FAST-41. This meeting included the attendance of the FAST-41 Federal Permitting Improvement Steering Council (FPISC) Executive Director, the Corps Chief Environmental Review Permitting Officer, and the Corps District Commander, which they emphasized for the agencies to focus on delivering a reasonable and predictable schedule per the regulations. The Corps also held two webinars with the agencies on July 31, 2019 and August 1, 2019 to discuss the development of the initial CPP. Throughout the process, the Corps has coordinated updates of the CPP quarterly with the Cooperating Agencies.

On March 24, 2020, the Corps issued a memorandum: *Interim Army Procedures for National Environmental Policy Act (NEPA)* in response to the coronavirus (COVID-19) pandemic. The memorandum established interim Army NEPA procedures in consideration of the COVID-19 public health emergency. These interim NEPA procedures apply to all Army NEPA proponents responsible for NEPA compliance. In response to this memorandum, the Corps determined that the scoping meeting for the PCCA CDP would be moved to a virtual platform in accordance with this guidance.

An interagency scoping meeting was held via Cisco WebEx Events on May 14, 2020. Agencies that attended the meeting included the EPA, USFWS, NMFS, Texas Commission on Environmental Quality (TCEQ), Texas Parks and Wildlife Department (TPWD), Texas General Land Office (GLO), and the U.S. Coast Guard. Interagency coordination has assisted the Corps in determining the scope of this EIS; developing CDP components and objectives; identifying the range of alternatives; identifying constraints; and defining potential environmental impacts, impact significance, and feasible mitigation measures.

The Corps held a series of virtual public scoping meetings to solicit input from the community and public agencies regarding Project design, alternatives selection, and the scope and content of the EIS. The first of this series of virtual public scoping meetings was held on Tuesday, June 9, 2020, utilizing PublicInput.com. This virtual meeting platform encountered numerous technical problems, severely restricting public access, and participation in the virtual public scoping meeting. As a result of the technical problems encountered, the Corps adjourned the meeting early and publicly acknowledged and apologized for the technical problems on the project website (publicinput.com/PCCA-Channel-EIS). To avoid postponement of the remaining scheduled meetings, virtual scoping meetings were scheduled on an alternative virtual platform, Cisco WebEx Events. Scoping meetings were held on June 11, 15, 16, and 18, 2020, hosted on Cisco WebEx Events. The June 15, 2020 scoping meeting was an additional meeting scheduled due to the technical issues experienced during the June 9, 2020 meeting. All comments received during scoping are presented in Appendix B4 of the FEIS.

Following the scoping meetings, the project website (publicinput.com/PCCA-Channel-EIS) was replaced by a Corps CDP website. The Corps established a webpage for the proposed CDP to provide the public access to pertinent information about the proposed CDP, including the permit application, Notice of Intent, Notice of Availability, Special Public Notices, the Draft EIS (DEIS), and other information as it becomes available. Additionally, the information available on the webpage provides information about the public review period and how to provide comments on the DEIS. The Special Public Notice was published on the Corps webpage on May 24, 2022. The website is included below:

<https://www.swg.usace.army.mil/Missions/Regulatory/Special-Projects-Environmental-Impact-Statements.aspx>)

The Corps solicited comments on the CDP DEIS from the public, Federal, State, and local agencies and officials; tribes; and other interested parties. The Notice of Availability for the DEIS was published by the Corps in the *Federal Register* on June 10, 2022 (*Federal Register* 87:35548). The public meeting for the CDP was conducted in-person on June 22, 2022 from 3 – 7:30 PM in Corpus Christi, Texas. Access information and additional information regarding the CDP were made available on the CDP website prior to the public hearings. Comments on the DEIS were received after the publication of the public notice; during the public hearings as recorded and transcribed in the meeting transcript; and during the commenting period, which ended on August 9, 2022.

An estimated 283 comments were received. Additional comments were received after the comment period, these comments were reviewed and considered.

The notice of availability for the FEIS was published by the Corps in the *Federal Register* on March 22, 2024 (Federal Register 89:20469) and was available for a 30-day public review period. Comments from the public, including other Federal and State agencies, were considered by the Corps during the development of CDP FEIS. Comments and responses are available in Appendix B7 of the FEIS. Comments received on the FEIS that require additional responses are addressed in Section 11 of this ROD.

5.0 ALTERNATIVES ANALYSIS (33 CFR 325 APPENDIX B(7), 40 CFR 230.5(C), AND CFR 1501.14

An evaluation of alternatives is required under NEPA for all jurisdictional activities. An evaluation of alternatives is required under CWA Section 404(b)(1) guidelines for projects that include the discharge of dredged or fill material into WTOUS. NEPA requires discussion of a reasonable range of alternatives, including the No-Action Alternative, and the effects of those alternatives; under the 404(b)(1) guidelines, practicability of alternatives is taken into consideration, and no alternative may be permitted if there is a LEDPA. For the CDP, the LEDPA determination only applies to the discharge of dredged and/or fill material in waters of the U.S. The components of the project that are subject to Section 404 of the CWA are the placement of dredged material associated with the Beneficial Use Plan. Disposal of dredge material in ocean waters, like the ODMDS, are subject to MPRSA, not CWA, and evaluated accordingly. See Section 7 of this ROD for evaluation for compliance with ocean dumping.

5.1 Site Selection and Screening Criteria

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.

The Corps conducted a multi-step process to screen the range of alternatives to determine which alternatives are reasonable, practicable, and meet the project purpose. The project alternatives were analyzed using the following screening criteria to identify a range of reasonable alternatives: satisfaction of the overall Project purpose, practicability based on CWA Section 404(b)(1) guidelines (i.e., technology, logistics, and cost), and consideration of potential aquatic resources impacts.

Alternatives that are practicable are those that are available and capable of being done by the Applicant considering the project purpose. An alternative needs to fail only one practicability factor to be eliminated during the screening process. Those practicability factors include:

- *Existing Technology* – The alternatives examined should consider the limitations of existing technology yet incorporate the most efficient/least-impacting construction methods currently available. Implementation of state-of-the-art

technologies might be available and should be considered if applicable. However, it is recognized that such actions may result in the alternative being determined as impracticable due to costs.

- *Logistics* – The alternatives evaluated may incorporate an examination of various logistics associated with the project. Examples of alternatives that may not be practicable considering logistics could include placement of facilities too far from major thoroughfares, no available existing storage or staging areas, and/or safety concerns that cannot be overcome.
- *Costs* – The overall scope/cost of the project is considered as to whether it is unreasonably expensive. This determination is typically made in relation to comparable costs for similar actions in the region or analogous markets. If costs of an alternative are clearly exorbitant compared to those similar actions, and possibly the Applicant's preferred action, they can be eliminated without the need to establish a cost threshold for practicability determinations. Cost is to be based on an objective, industry-neutral inquiry that does not consider an individual Applicant's financial standing. The data used for any cost must be current with respect to the time of the alternatives analysis. A location far from existing infrastructure might not be practicable based on the costs associated with upgrading/establishing the infrastructure necessary to use that site. However, just because one alternative cost more than another does not mean that the more expensive alternative is impracticable. It is important to note that in the context of this definition, cost does not include economics. Economic considerations, such as job loss or creation, effects to the local tax base, or other effects a project is anticipated to have on the local economy are not part of the cost analysis.

Regarding an alternative's availability, the 404(b)(1) Guidelines state that if it is otherwise a practicable alternative, an area not presently owned by the Applicant that could reasonably be obtained, utilized, expanded, or managed to fulfill the overall purpose of the proposed activity can still be considered a practicable alternative. In other words, the fact that an Applicant does not own an alternative parcel, does not preclude that parcel from consideration as a practicable alternative. This factor is normally a consideration as a logistics and possibly a cost limitation.

Based on this analysis, after coordination with the Cooperating Agencies, the Corps has determined that the No-Action Alternative and three action alternatives be carried forward for detailed analysis in this EIS. See Section 2.0 of the FEIS for further detail on evaluation of reasonable alternatives.

5.2 Description of Alternatives

5.2.1 No-Action Alternative (No Federal Action)

Under the No-Action Alternative, the CCSC would not be deepened to –75 feet MLLW and would remain at –54 feet MLLW. VLCCs would continue to be partially loaded and reverse-lightered offshore. The No-Action Alternative assumes that the Harbor Island

and Axis Midstream marine terminal projects have been constructed. The No-Action Alternative does not meet the project purpose and need but is carried forward for detailed analysis in this EIS for comparison purposes.

5.2.2 *Alternative 1: Channel Deepening (Proposed Action)*

Alternative 1, hereafter referred to as the Proposed Action, consists of deepening the CCSC to a max dredge depth –81 feet and –79 feet MLLW from the Gulf to station 110+00 near Harbor Island, including the approximate 10 mile-extension to the Entrance Channel necessary to reach sufficiently deep waters. As a result of one-way transit assumed for VLCCs, the planned widths for the –54-foot currently authorized project are nominally sufficient. Therefore, no widening other than the minor incidental widening to keep these bottom widths and existing channel slopes at the proposed deeper depths would occur. Deepening would take place largely within the footprint of the currently authorized –54-foot channel. Under this alternative, only berths at Axis Midstream and Harbor Island terminals would be capable of fully loading VLCCs; however, partially loaded outbound VLCCs at Ingleside could top off at Harbor Island and potentially reduce or eliminate reverse lightering.

Dredging 46.3 mcy would be required with inshore and Gulf placement of the material. Placement would occur in a mix of PAs, BU sites, and/or the Corpus Christi New Work ODMDS. The Applicant selected these potential PAs through a process that included agency input and consideration of State and Federal coastal restoration plans. Based on review of existing borings from geotechnical investigation conducted by the PCCA, approximately 29.2 mcy of the new work material would consist of sandy material (about 63 percent), and 17.1 mcy would consist of clays, with the remainder comprised of other material types (Fugro USA Land, Inc., 2019).

The Proposed Action consists of the following elements (see FEIS Figure 2-1):

- Deepening from the authorized –54 feet MLLW to approximately –75 feet MLLW, with 2 feet of advanced maintenance and 2 feet of allowable overdredge, from Station 110+00 into the Gulf to Station –72+50 (3.5 miles). This is a max dredge depth of -79 MLLW.
- Deepening from the authorized –56 feet MLLW to approximately –77 feet MLLW, with 2 feet of advanced maintenance and 2 feet of allowable overdredge, from Station –72+50 to Station 620+00 in the Gulf (10.4 miles). This is a max dredge depth of -81 MLLW.
- Placement of new work dredged material at the following BU and PA sites (see FEIS Table 2-3 and Figure 2-1):
 - SS1: Restoring eroded shorelines
 - SS2: Restore eroded shoreline along Port Aransas Nature Preserve/Charlie’s Pasture
 - PA4: Reestablish eroded shoreline and land loss in front of PA4 (SS1 Extension), and upland placement within PA4

- HI-E: Bluff and shoreline restoration with site fill
 - PA6: Raise levee 5-foot and fill with new work material
 - SJI: Beach nourishment at San José Island
 - B1–B9: Nearshore berms offshore of San José Island and Mustang Island
 - MI: Beach nourishment for Gulf side of Mustang Island
 - ODMDS: Place within New Work ODMDS
- Incremental future maintenance material may be placed at the following PA sites as material suitability allows:
 - Existing Maintenance ODMDS in the vicinity of the CCSC
 - Proposed nearshore berms B1 through B9

5.2.3 *Alternative 2: Offshore Single Point Mooring*

Under Alternative 2, the CCSC would not be deepened to a max dredge depth of -81 feet MLLW and would remain at -54 feet MLLW. The Offshore Single Point Mooring (SPM) Alternative is a multi-buoy, single-point mooring system consisting of multiple sets in an array of SPM buoys (also known as Single Buoy Moorings). It would be in the Gulf approximately 15 miles from the Gulf-side shoreline. To meet the project purpose, eight individual SPM buoys or four sets in an array would be required. Vessels would be loaded entirely offshore, eliminating the need to traverse the CCSC. This alternative would also eliminate dredging of the channel and the impacts associated with dredged material placement.

5.2.4 *Alternative 3: Inshore/Offshore Combination*

Under Alternative 3, the CCSC would not be deepened to a max dredge depth of -81 feet MLLW and would remain at -54 feet MLLW. Like Alternative 2, the Inshore/Offshore Combination Alternative is a SPM buoy located in the Gulf approximately 15 miles from the Gulf-side shoreline. Each set consists of two SPMs that would be serviced by either one or two pipelines from shore originating in Ingleside or Harbor Island facilities. Vessels are partially loaded inshore then traverse the CCSC offshore to the SPM to fully load. This alternative would also eliminate dredging of the channel and the impacts associated with dredged material placement.

5.3 Alternatives Evaluation

5.3.1 *Reasonableness of Alternatives under NEPA*

A comprehensive analysis of reasonable alternatives is provided in Section 2.0 of the FEIS. A range of alternatives were considered and dismissed from detailed consideration because they were not available to the Applicant or did not meet the CDP purpose and need. In the FEIS, the No-Action Alternative and three action alternatives (the Proposed Action, Alternative 2, and Alternative 3) were considered.

5.3.2 *Practicable Alternatives Under Section 404(b)(1) Guidelines*

An alternative is practicable only if it is 1) available and 2) capable of being done after taking into account cost, existing technology, and logistics in light of overall project purposes (see 40 CFR 230.10(a)(1)). A multi-step process to screen the range of alternatives to determine which alternatives are reasonable, practicable, and meet the CDP purpose was conducted and coordinated for concurrence with the Cooperating Agencies. The alternatives were analyzed using the following screening criteria to identify a range of alternatives: satisfaction of the overall project purpose, practicability based on CWA Section 404(b)(1) guidelines (i.e., technology, logistics, and cost), and consideration of potential aquatic resources impacts.

5.4 *Least Environmentally Damaging Practicable Alternative and Environmentally Preferred Alternative*

The proposed action, Alternative 1, is the Applicant's Preferred Alternative that proposes to deepen the existing Federal channel to Harbor Island where it will serve multiple users. The dredge event will result in 46.3 mcy of excavated material. The dredging activity is regulated under Section 10 of the Rivers and Harbors Act and is not subject to a LEDPA determination pursuant to the CWA Section 404(b)(1) Guidelines. Impacts from the channel dredging are discussed in Section 3.0 of the FEIS and in Sections 8 and 10 of the ROD.

Documented in Section 2.2.1 of the Corps' FEIS, the new work dredge material will consist of approximately 29.2 mcy of sandy material (about 63 percent), 17.1 mcy consist of clays, and the remainder comprised of other material types like silt. The Applicant has proposed to dispose approximately 22.5 mcy yards to the New Work ODMDS which is not subject to the CWA Section 404(b)(1) Guidelines; MPRSA has its own analysis requirements. The use of the ODMDS is documented in Appendix J of the FEIS and Section 7 of this ROD.

The remaining material is proposed for placement in a BU Plan subject to the LEDPA determination. The BU Plan is provided in Appendix C2 of the FEIS. The detailed plan included in the FEIS describes an overall objective to restore shorelines to address ongoing loss. The BU Plan incorporates a combination of categories of BU including: beach nourishment, habitat development, and construction/industrial development. The proposed BU construction will impact 122 acres of palustrine wetlands, 16.6 acres of estuarine wetlands, and require the relocation of 6.88 acres of seagrass and 0.10 acres of live oyster. However, the Applicant's BU Plan proposes to minimize loss and provide beneficial gain through placement of the dredged material.

The beach nourishment component is proposed for Mustang Island and the privately owned and undeveloped San José Island. The beach nourishment can result in a wider and higher beach that can provide storm protection, create new habitat, and enhance beach recreation. Section 3.2.2.2 of the FEIS documents that although the rate of retreat along these beaches has slowed or reversed in some areas, there is a net loss since 1930. There is no history of previous beach nourishment activities on this section of Mustang Island or San José Island. The size, quality, mineralogy, and other

requirements of the Texas Administrative Code are included in the BU Plan to ensure compliance with the GLOs parameters for nourishing State-owned beaches.

In addition to the nourishment, the BU Plan proposes to construct nearshore berms along these same islands. The nearshore berms will reduce the amount of material removed from the littoral system through dredging and reintroduces them to an adjacent littoral region preserving the sediment resources that would have otherwise been lost to the nearshore system. A detailed study of the nearshore berm proposal is in Appendix C5 of the DEIS and FEIS.

The habitat development components include the placement of dredged material along the CCSC on Harbor Island and Mustang Island where erosion is caused by vessel wakes of large transiting vessels. The BU Plan describes the construction of armored berms and the placement of dredged material to elevations conducive to provide several aquatic resources and upland prairie. The site located on the north side of the channel, SS1, is designed to have approximately 110 acres of low marsh and 72 acres of high marsh, a total of 182 acres of marsh. Although not relevant to the LEDPA decision, SS1 will also include the compensatory mitigation described in Appendix K of the FEIS and discussed in Section 9 of this ROD. The other site, SS2, will include thin layer placement mechanically graded to target elevation and planted to establish approximately 34 acres of high marsh. These two sites in the BU Plan will result in a total of 216 acres of marsh.

The construction/industrial component of the BU Plan is the rehabilitation of two of the federally authorized DMPAs on High Island. Dredged material will be used to restore levees and capacity of the eroding DMPAs. Once the levees are raised, up to 4.6 mc of dredged material may be placed. Restoring the existing Federal approved DMPAs is an alternative to creating a new DMPA with a similar capacity within the project vicinity.

In the “future without project” analysis documented in the Vessel Wake Study located in Appendix E of the FEIS, the Corps analyzed Aframax and light loaded VLCC vessels and confirmed that erosion along the CCSC is caused by vessel wakes and will continue even in the scenarios without the project. The erosion is visible in the aerials over time and the recent deepening of the channel to –54 feet MLLW may increase vessel traffic and vessel wake impacts. The BU Plan will impact special aquatic sites, but the Applicant has developed a detailed plan that includes performance metrics, monitoring criteria, maintenance and adaptive management plans, and will actively plant and manage the BU sites targeting marsh establishment rather than relying on a “build it and it will come” approach.

Alternatives 2 and 3 evaluate the environmental impacts of deep-water ports projects. Throughout the public involvement process evaluating the Applicant’s preferred option, the public has requested the Corps consider the proposed Bluewater Texas Terminal Deepwater Port project (Bluewater), who’s DEIS was published in October 2021, be considered as the LEDPA. The Bluewater project utilizes two co-located 30-inch pipelines running from onshore to offshore and two SPMs, and their appurtenances, located approximately 27 miles offshore. In regard to wetland impacts, the Bluewater project is expected to impact 41.14 acres of wetlands onshore and 75.83 acres inshore, mostly in the proposed pipeline right-of-way. No wetland mitigation plan is proposed.

The full impacts of the Bluewater project are documented in the *Draft Environmental Impact Statement Bluewater Texas Terminal Deepwater Port Project* dated October 2021 and Docket No MARAD-2019-0094.

As described in Section 2.3.1 of the Corps' FEIS, literature from project planning and offshore permitting documentation indicates that SPM facility planners expect a monthly usage rate of approximately eight VLCCs per SPM buoy. With two SPM buoys, 16 VLCCs can be loaded monthly with approximately 1.1 million bpd. To meet the 4.5 million bpd monthly rate proposed by the Applicant, an array of eight individual SPM buoys fed by eight 30-inch or larger pipelines would be necessary.

For this reason, the Corps did not carry the Bluewater project through its alternatives analysis because it is not practicable at meeting the 4.5 million bpd monthly rate. In addition, MARAD placed the Bluewater license on hold pending additional coordination with the EPA. The Bluewater DEIS was published in 2021 and the FEIS has not been published. Comparatively, the Corps DEIS was published in 2022 and the FEIS was published in 2024. Considering the difficulty and lengthy licensing process deep water ports go through, SPM alternatives seem less practicable now than when originally scoped. However, the Corps did evaluate two deepwater port alternatives that used the concept of the SPM that met the proposed project's monthly rate.

Alternative 2 describes an SPM concept that includes the array of eight individual SPM buoys fed by eight 30-inch or larger pipelines. There are no historic or current proposals for an eight SPM array, but this alternative could fully load VLCCs and eliminate lightering while meeting exportation projection. Although some of the additional pipelines would be co-located in the same right-of-way, more impacts to WOTUS than proposed in the 2-SPM concept (117 acres) should be expected. This alternative would also reduce vessel traffic, but existing vessel traffic would continue to contribute to the existing erosion along the CCSC.

Alternative 3 evaluates a project that consists of 2-SPM buoys offshore, similar to the Bluewater project. However, this alternative includes the necessary vessel traffic to account for the shortfall of exportation volume only two SPMs would produce. For analysis purposes, this alternative takes a conservative approach by selecting the largest vessel, a VLCC, and assuming it will continue to be light loaded inshore and then fully-laden at the SPM buoy, eliminating lightering. In practice, if this 2-SPM alternative were implemented, there could be a variety of vessel types used and lightering may still occur. This alternative does not reduce vessel traffic compared to alternatives 1 and 2 and existing vessel traffic would continue to contribute to existing erosion along the CCSC. Impacts to aquatic resources, including wetlands, are assumed to be comparable to the Bluewater project approximately 117 acres.

All three alternatives propose impacts to wetlands and other special aquatic sites during construction. The Applicant's Preferred Alternative, Alternative 1 is the only alternative that may result in a net gain of wetlands. With the proposed BU placement, the Applicant will establish 291 acres of wetland habitat to replace the 138.61 acres lost. In addition, these features are sited to protect inshore habitat complexes such as Redfish Bay, Lighthouse Lakes, and Charlie's Pasture against erosion from all vessel traffic. Alternative 1 will also nourish 803 acres of beach habitat and beneficially reuse dredge

material to restore two DMPAs providing over 4.6 mcy of capacity. The proposed BU Plan is a net gain in wetlands and conditioning the permit to require compliance with the BU Plan will help assure the efforts to minimization impacts to aquatic resources is completed as described and the proposed net gain in aquatic resources is realized.

The analysis of both the Applicant's Preferred Alternative and the two SPM alternatives identifies the Applicant's Preferred Alternative as the practicable alternative with the least adverse effect on the aquatic ecosystem.

6.0 EVALUATION FOR COMPLIANCE WITH SECTION 404(B)(1) GUIDELINES

The following evaluation is consistent with 40 CFR 230.5.

6.1 Practicable Alternatives

Practicable alternatives to the proposed channel deepening and placement consistent with 40 CFR 230.5(c) are evaluated in Section 5. The statements below summarize the analysis of alternatives:

In summary, the No-Action Alternative, which would not involve discharge into waters, is not practicable.

The proposed discharge in Alternative 1 is the practicable alternative with the least adverse impact on the aquatic ecosystem, and it does not have other significant environmental consequences. It has been determined that there are no alternatives to the proposed discharge that would be less environmentally damaging (Subpart B in 40 CFR 230.10(a)).

6.2 Disposal Site

Each disposal site must be specified through the application of candidate disposal site delineation guidelines (Subpart B in 40 CFR 230.11(f)). The disposal sites are associated with the Beneficial Use Plan and the CMP. The following factors were considered: depth of water at the disposal site and current velocity, direction, and variability at the disposal site. Placement of new work dredged material would be used beneficially to restore eroding shorelines, nourish beaches, create marsh/wetland habitats, and placement within the New Work ODMDS. The Beneficial Use Plan is included in Appendix C1 of the FEIS and the CMP is included in Appendix K of the FEIS. A detailed description of the disposal sites pursuant to this evaluation are included in Section 1.5 of Appendix O.

6.3 Potential Impacts on Aquatic Ecosystem

This section discusses the potential impacts from the placement of dredged material described in the BU Plan and the CMP on the physical and chemical characteristics of the aquatic ecosystem listed in Table 1 (Subpart C in 40 CFR 230.20). Information

regarding the referenced chemical and physical characteristics can be found in FEIS sections 3.2, 4.1, 5.4.1, and 5.4.2.

Table 1
Potential Impacts on Physical and Chemical Characteristics

Aquatic Ecosystem	Effect Determination	Cumulative Effects
Physical and chemical characteristics	Testing of sediments concluded that no adverse environmental effects would be expected; material is suitable for placement. Discharged material will be similar to material at the discharge site.	The BU Plan will not have a substantial contribution to cumulative effects to physical and chemical characteristics of the aquatic ecosystem.
Substrate	Discharges during placement of dredged material will change bottom elevations and bottom dwelling organisms will be displaced. The discharges are designed to stabilize shorelines by reducing erosion caused by vessel traffic,	
Suspended particulates and turbidity	Short-term impacts expected during placement of dredged material include reduced light levels and some local oxygen reduction. Testing of sediments concluded that no adverse environmental effects would be expected in the water column.	
Water	No impacts from chemical contaminants expected; short-term suspension of nutrients during placement anticipated; lower dissolved oxygen (DO) anticipated during placement would be localized and temporary	
Current pattern and water circulation	Dominant current and flow patterns in the region will not be altered by the dredged material. Erosion from vessel wake will be reduced in some areas.	
Normal water fluctuations	The placement of dredged material will not prolong periods of inundation or modify local tidal regimes.	
Salinity gradients	The placement of dredge material will not alter existing salinity gradients.	

Dredged material excavated during the channel deepening will be placed in WOTUS as described in the BU Plan and the CMP. The proposed plan will impact areas of wetlands, seagrass, and oysters and areas previously identified as flats (see Section

4.2.1 of the FEIS). Post placement of the dredged material, the BU Plan will result in 216 acres of wetland habitat and 803 acres of beach nourishment. The CMP will result in an additional 73 acres of wetlands for a total of 291 acres. Short-term effects on the physical and chemical characteristics of the non-living environment would be short-term. For a detailed analysis see Section 2 of Appendix O of the FEIS.

6.4 Potential Impacts on Living Communities or Human Uses

6.4.1 Biological Characteristics of the Aquatic Ecosystem

More information regarding potential impacts on the biological characteristics of the aquatic ecosystem (Subpart D in 40 CFR 230.30) are listed in Table 2 and can be found in the FEIS sections 4.2.2, 4.2.4, 4.2.5.2–4.2.5.5, and 5.4.8–5.4.11.

Table 2
Potential Impacts on Biological Characteristics

Biological Characteristics	Effect Determination	Cumulative Effects
Threatened and endangered species	May affect, not likely to adversely affect: Sperm Whale West Indian Manatee Giant Manta Ray Northern Aplomado Falcon Piping Plover Piping Plover Critical Habitat Red Knot (Rufa) Whooping Crane Whooping Crane Critical Habitat Eastern Black Rail Green Sea Turtle Hawksbill Sea Turtle Kemp’s Ridley Sea Turtle Leatherback Sea Turtle Loggerhead Sea Turtle May affect, not likely to jeopardize continued existence: Monarch Butterfly	The BU Plan and CMP could contribute to cumulative effects to threatened and endangered species, fish (including EFH), and wildlife. Ecosystem restoration initiatives would yield beneficial effects on biological characteristics.
Fish (including Essential Fish Habitat [EFH]), crustaceans, mollusks, and other aquatic organisms	Short-term impacts by disturbing bottom sediments and increasing turbidity; benthos would be affected until natural recovery occurs; direct loss of oyster reef habitat requiring mitigation; dredged material used beneficially has long-term positive benefits to the bay system	

Biological Characteristics	Effect Determination	Cumulative Effects
Other wildlife	Short-term impacts with increased turbidity and lower DO during placement activities; dredged material used beneficially has long-term positive benefits to wildlife, SS2 specifically intended to protect Piping Plover Critical Habitat	

Information on threatened and endangered species is detailed in the Final Biological Assessment (see FEIS Appendix D1). EFH and all impacts associated with the CDP are described in detail in Appendix E of the FEIS.

6.4.2 *Special Aquatic Sites*

Potential impacts on special aquatic sites (Subpart E in 40 CFR 230.40) are listed in Table 3 and can be found in the FEIS sections 3.3.2, 3.3.5.1, 4.2.1, and 4.2.5.1.

Table 3
Potential Impacts on Special Aquatic Sites

Special Aquatic Sites	Effect Determination	Cumulative Effects
Sanctuaries and refuges	Not applicable	The BU Plan and CMP will contribute to cumulative effects to special aquatic sites. Impacts would be reduced through required compensatory mitigation and BMPs. Ecosystem restoration initiatives would yield beneficial effects on special aquatic sites.
Wetlands	Short-term turbidity impacts during construction; inshore PA construction, 16.61 acres of tidal wetlands, and 122.46 acres of non-tidal wetlands	
Oyster reefs	Approximately 0.10 acres of live oysters would be temporarily impacted through relocation to the mitigation site for reestablishment	
Mud flats	Not applicable	
Vegetated shallows	6.88 acres of SAV would be temporarily impacted through relocation to the mitigation site for reestablishment	
Coral reefs	Not applicable	
Riffle and pool complexes	Not applicable	

Under the Applicant's Preferred Alternative, dredged material would be placed over approximately 1,455.58 acres. Impacts would occur to approximately 139 acres of wetlands. However, the BU Plan would create approximately 216 acres of marsh and the CMP would create an additional 75 acres of wetlands. Approximately 6.88 acres of seagrass and 0.10 acre of live oyster would re-establish via transplanting I, The BU Plan

included sites that were designed to protect approximately 2,400 acres of seagrass in Redfish Bay and Charlies Pasture (Port of Corpus Christi, 2023).

6.4.3 Human Use Characteristics

Potential impacts on human use characteristics (Subpart F in 40 CFR 230.50) are listed in Table 4 and can be found in the FEIS sections 3.3.3.3, 3.5, 4.2.2.2.2, 4.4, and 5.4.13.

Table 4
Potential Impacts on Human Use Characteristics

Human Use Characteristics	Effect Determination	Cumulative Effects
Municipal and private water supplies	Not applicable	The BU Plan and CMP could contribute to cumulative effects to human use characteristics. Ecosystem restoration initiatives would yield beneficial effects.
Recreational and commercial fisheries	Short-term disruptions during construction due to turbidity; long-term may benefit from higher productivity associated with BU Plan wetlands	
Water-related recreation	Short-term impacts to recreational beach users and inshore and offshore recreational fishing during dredged material placement operations	
Aesthetics	Temporary impacts to beach aesthetics during nourishment.	
Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	Not Applicable	

6.5 Pre-testing Evaluation

The characteristics in Table 5 have been considered in evaluating the biological availability of possible contaminants in dredged or fill material (Subpart G in 40 CFR 230.60).

Table 5
Contaminant Evaluations for Dredged or Fill Material

Contaminant Evaluations	Evaluated
Physical characteristics	X
Hydrography in relation to known or anticipated sources of contaminants	X
Results from previous testing of the material or similar material near the CDP	X

Known, significant sources of persistent pesticides from land runoff or percolation	X
Spill records for petroleum products or designated hazardous substances (Section 331 of CWA)	X
Other public records or significant introduction of contaminants from industries, municipalities, or other sources	X
Known existence of substantial material deposits of substances that could be released in harmful quantities to the aquatic environment by human-induced discharge activities	X

A Sampling Analysis Plan (SAP) for MPRSA Section 103 evaluation of sediment was developed to determine if the new work material sediments proposed to be dredged are acceptable for disposal in the New Work ODMDS. Included in that plan is a Tier I analysis that concluded additional testing is required. The SAP includes the biological testing of sediment, including sediment toxicity and bioaccumulation (Freese and Nichols, Inc., 2021; see FEIS Appendix J1).

6.6 Evaluation and Testing

To provide greater flexibility for placement during construction, the dredged material was tested to the technical guidelines established in the *Evaluation of Dredged Material Proposed for Ocean Disposal* (Green Book) so that all material could be analyzed for ocean disposal. Typically, dredged material placed in waters pursuant to the CWA are tested using the *Evaluation of Dredge Material Proposed for Discharge in Waters of the U.S.* (Inland Testing Manual or ITM). Both manuals use an effects-based testing methods in a sequenced or tiered approach. However, 33 CFR 336.0(c) instructs the Corps to evaluate materials proposed for disposal in the territorial seas in accordance with MPRSA standards when the Corps determines that the materials would not be adequately evaluated under section 404(b)(1) Guidelines. In addition to using the Green Book to assure testing to MPRSA standards, the evaluation and testing was also subject to the *Regional Implementation Agreement for the Testing and Reporting Requirements for Ocean Disposal of Dredged Material off the Louisiana and Texas Coasts under Section 103 of the Marine protection, Research, and Sanctuaries Act*.

The standards under CWA and MPRSA for determining the need for testing differ. The requirement for testing of dredged material under the CWA is based on a reason to believe that contaminants are present in the material proposed for discharge and have the potential to cause an unacceptable adverse impact (40 CFR 230.60). Testing under the MPRSA is required when the dredged material does not meet the exclusionary criteria in 40 CFR 227.13(b)3. Once it is determined that testing is needed, however, the physical, chemical, and biological (bioassay) tests relied upon for evaluating dredged material are similar.

By requiring MPRSA standards for this project, all material was tested to Tier III levels (Bioassay). This includes material that may have been excluded from testing, such as beach nourishment materials, by the ITM.

The testing of sediments concluded that the dredged material is not a carrier of contaminants (Subpart G in 40 CFR 230.61) (see FEIS Appendix J). The EPA concurred that the testing complied with the SAP and that the material was suitable for ocean dumping by letter dated February 7, 2024.

6.7 Actions to Minimize Adverse Impacts

The actions in Table 6 have been taken (Subpart H in 40 CFR 230.70-230.77) to ensure minimal adverse effects of the proposed discharge.

Table 6
Actions to Ensure Adverse Effects are Minimized

Action	Action Taken
Actions concerning the location of the discharge	X
Actions concerning the material to be discharged	X
Actions controlling the material after discharge	X
Actions affecting the method of dispersion	X
Actions affecting plant and animal populations	X
Actions affecting human use	X

Best management practices will be used to reduce impacts resources where applicable.

6.8 Factual Determinations

The determinations (Subpart B in 40 CFR 230.11) in Table 7 are made based on the applicable information in the FEIS, including actions to minimize effects and consideration for contaminants.

Table 7
Factual Determinations of Potential Impacts

Site	Determination
Physical substrate	No effect
Water circulation, fluctuation, and salinity	Short-term effects during placement activities. Long-term beneficial effects by reducing erosion
Suspended particulates/turbidity	Short-term effects during placement activities
Contaminants	No effect, material was found to be suitable for placement
Aquatic ecosystem and organisms	Short-term effects during placement activities. Long-term beneficial effects from increases acreage of wetlands
Proposed disposal site	Disposal sites have been vetted, detailed information in the DMMP (see FEIS Appendix C)

Site	Determination
Cumulative effects on the aquatic ecosystem	Long-term beneficial effects from increased wetland acreage, shoreline stabilization and protection adjacent to established aquatic resources, and beach nourishment
Secondary effects on the aquatic ecosystem	Long-term benefit from reduced erosion

Placement of sediments for BU would have temporary impacts associated with burial of nearby benthic communities and increase turbidity near those sites. Beneficial use of dredged material is expected to have a long-term positive benefit by improving and protecting habitat and building resistance to rising sea levels. Beneficial use would also create protective barriers along the Gulf shorelines and the eroding shores of Harbor Island and Dagger Island. Without this additional strategically placed material, erosion of these shores combined with rising sea level would threaten substantial zones of valuable estuarine habitat.

6.9 Restrictions on Discharges

Based on the information in Section 6, including the factual determinations (see Section 6.8), the proposed discharge has been evaluated to determine whether any of the restrictions on discharge would occur (40 CFR 230.10(a-d) and 230.12).

The applicable subjects in Table 8 have been identified and addressed through the EIS process; development of adaptive management plans; the TCEQ water quality certification; and continuous coordination among local, State, and Federal agencies.

Table 8
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 CWA)?		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 U.S. Department of Commerce to protect marine sanctuaries?		X
6. Will the discharge cause or contribute to significant degradation of WOTUS?		X
7. Have all appropriate and practicable steps (Subpart H in 40 CFR 230.70) been taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?	X	

7.0 EVALUATION FOR COMPLIANCE WITH OCEAN DUMPING GUIDELINES

The following information is provided to fulfill the requirements of Title 40 CFR Section: 225.2(a)(5-7); 227.1-6, 227.9-10, 227.13-22; and 228 of the Ocean Dumping Regulations.

7.1 Part 225 Authorized Disposal Effects

Dredged material deposited at the New Work ODMDS disperse and erode quickly. There are no significant environmental resources delineated within or immediately outside of the designated New Work ODMDS. Since this site is dispersive in nature, the primary concern of the use of the site is the potential short-term buildup of dredged material, such that a hazard to navigation is presented. Another concern is whether there is significant short-term transport of the dredged material beyond the New Work ODMDS boundaries; specifically, the benthic community can be impacted if significant rapid movement of material off the site occurs, resulting in burial of benthic populations outside the site.

7.2 Part 225 Length of Disposal Site Use

Dredging will be conducted via a hopper dredge, hydraulic cutter head dredge, and/or mechanical clamshell dredge to excavate the material that will be directly loaded to a dump scow barge. Deepening of the channel from –56 feet MLLW to a maximum of –81 feet MLLW would generate approximately 46 mcy of dredged material over 3 to 5 years. Placement would occur in a mix of BU sites and the Corpus Christi New Work ODMDS. Of the 46 mcy, PCCA is requesting to dispose of up to 38,888,600 mcy in the New Work ODMDS.

7.3 Part 225 Characteristics and Composition of the Dredged Material

The portion of the proposed CDP reach was previously tested for offshore disposal under MPRSA Section 103 as part of the CCSCIP. The site is dominated by sands from 58 to 84 percent with the remainder of particles silt and clay. Based on the results of the sampling, testing, and evaluation of the sediment, the CCSCIP analysis concluded that no adverse environmental effects would be expected from dredging or placement of the sediment from the project area into the New Work ODMDS.

7.4 Part 227 Subpart A

The Corp has reviewed the information provided by PCCA and concludes that the proposed project complies with the criteria published by EPA in Title 40 CFR, Parts 220–228 subparts C, D, E, and G and sections 227.4, 227.5, 227.6, 227.9, 227.10 and 227.13 of Subpart B.

Specific testing methods are described in the *Evaluation of Dredged Material Proposed for Ocean*

Disposal – Testing Manual (EPA and Corps, 1991) and the Regional Implementation Agreement for Testing and Reporting Requirements for Ocean Disposal of Dredged Material off the Louisiana and Texas Coasts under Section 103 of the Marine Protection, Research and Sanctuaries Act (EPA and Corps, 2003).

Based on the findings provided in the October 23, 2023 Report and the November 6, 2023 Report, the Applicant has also demonstrated that the material proposed for disposal in the New Work ODMDs satisfies the environmental impact criteria set forth in Subpart B.

7.5 Part 227 Subpart B

Due to the composition, the material did not meet the Section 227.13(b) criteria and further testing of the liquid, suspended, particulate and solid phases was required.

Based on the analysis provided in the October 23, 2023 Report and the November 6, 2023 Report, all major constituents of the liquid phase are in compliance with the marine water quality criteria or have had bioassays on the liquid phase to assure it does not exceed limiting permissible concentrations. In addition, bioassay on the suspended particulate and solid phases show that a discharge will not exceed limiting permissible concentrations. The dredged material does not contain prohibited constituents and meets the criteria set forth in 227.13(c).

7.6 Part 227 Subpart C

The material dredged from the CCSC is a mixture dominated by sands with the remainder of particles silt and clay that do not require treatment and is not a manufacturing waste. Therefore, it is compliant with factors 227.15(a) and (b). A more detailed analysis of alternatives to ocean dumping, in fulfillment with factor (c), is in the FEIS and the PCCA's BU Plan.

The PCCA's BU Plan identifies six sites categorized into one of the following three categories: habitat restoration and development, beach nourishment, and construction/industrial development. The overall objective of the BU sites is to restore shorelines so they efficiently address ongoing and historical impacts to seagrass, wetland, aquatic, and critical coastal habitats. BU site selection considered proximity to the CDP and the need for restoration. All BU sites are adjacent to the CDP and within a reasonable distance to hydraulically place dredge material effectively. Without the strategically placed dredged material, continued erosion of these shorelines will threaten substantial acreages of valuable habitat. Port Corpus Christi identified six sites to restore habitat, nourish beaches, and support industrial (DMPA) development.

The Corps has evaluated PCCA's dredged material placement plan in accordance with the factors listed in 227.15 and concluded that PCCA has maximized the BU of the dredged material and that there are no practicable alternative locations and methods of placing the remaining dredge material which have less adverse environmental impact or potential risk to other parts of the environment than the proposed methods of ocean disposal.

7.7 Part 227 Subpart D

The Corps FEIS evaluated the impact of PCCA's proposed project on esthetic, recreational, and economic values and concluded that there may be minor, temporary impacts to recreational and commercial enterprises as a result of the disposal activity. The location of the approved New Work ODMDS is outside of the fairways and anchorages used by commercial shipping. The site may, at times, be used by both recreational and commercial fishermen. The material proposed for disposal does not contain toxic chemical constituents, pathogenic organisms, or chemical constituents known to bioaccumulate. The composition and color of the material is comparable to both the New Work ODMDS and the reference sites. Minor impacts to fisherman may occur during disposal of the material. However, no notable loss of dollars or reduction in recreational areas is anticipated to occur.

7.8 Part 227 Subpart E

The Corps has evaluated the impact of the CDP to other uses of the ocean and has concluded that the proposed project will not result in an irreversible or irretrievable commitment of resources if authorized. The proposed project may have a temporary impact on commercial and recreational fishing in the open ocean area where the New Work ODMDS is located resulting from the dredge disposal events. However, the Corps has concluded that there is no indication that deposited material will have unacceptable adverse effects on navigation of shallow draft vessels, such as commercial and recreational vessels, or living marine resources within or beyond the current New Work ODMDS boundary.

7.9 Part 228

To satisfy legal requirements associated with MPRSA, the permit, if authorized, will be conditioned to require PCCA to comply with the special conditions identified in Section 13 of this ROD.

7.10 Concurrence

The Corps reviewed the information provided by PCCA and concluded that the appropriate criteria for evaluating the disposal of the maintenance dredged material into the New Work ODMDS was utilized and the material is suitable for ocean disposal.

The EPA notified the Corps, by letter dated February 7, 2024, that EPA concurs with the Corps' determination and concludes that the work described in your letter complies with

the applicable subparts of 40 CFR Parts 225–228. This determination is provided in accordance with 40 CFR 225.2(d).

Regarding concurrence on the suitability for ocean disposal of maintenance material from the Federal navigation channel, CCSC, Channel Deepening Project, new physical, chemical, and biological testing is needed on a five-year period. The period starts from the suitability determination request date. Therefore, new testing will be required for Corpus Christi prior to maintenance dredging planned for fiscal year 2028.

8.0 GENERAL PUBLIC INTEREST REVIEW

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 that may be reasonably expected to accrue from the proposal are balanced against its reasonably foreseeable detriments.

8.1 Public Interest Factors

All public interest factors have been reviewed, and those that are relevant to the CDP are considered and discussed in additional detail. See Table 9 and any discussion that follows.

Table 9
Public Interest Factors

Interest Factor	Effects	FEIS Section
1. Conservation	No effect	Not applicable
2. Economics	Beneficial effects	4.4.2
3. Aesthetics	No effect	Not applicable
4. General environmental concerns	Negligible effects	4.0
5. Wetlands (see below for discussion)	Neutral (Mitigated) Effect	4.2.1 BU Plan and CMP
6. Historic properties	Negligible effects	4.3.2
7. Fish and wildlife values (see below for discussion)	Neutral (Mitigated) Effect	4.2.2.2.2, 4.2.5.3.2
8. Flood hazards (see below for discussion)	Neutral (Mitigated) Effects	4.1.2.1.2, 4.1.3.4.2
9. Floodplain values (see below for discussion)	Negligible effects	7.19
10. Land use	Negligible effects	4.4.2
11. Navigation (see below for discussion)	Neutral (Mitigated) effects	4.5.2
12. Shoreline erosion and accretion (see below for discussion)	Neutral (Mitigated) Effect	4.1.1.2.2

Interest Factor	Effects	FEIS Section
13. Recreation	Negligible effects	4.4.2
14. Water supply and conservation	Not Applicable	Not applicable
15. Water quality	Negligible effects	4.1.4.1.2
16. Energy needs (see below for discussion)	Negligible Effect	Not applicable
17. Safety	Negligible effects	4.4.2
18. Food and fiber production	Not Applicable	Not applicable
19. Mineral needs	No effect	4.1.7.2
20. Consideration of property ownership	Not applicable	Not applicable
21. Needs and welfare of the people	Negligible effects	4.4.2

Wetlands and other Special Aquatic Sites: Impacts would occur to approximately 139 acres of wetlands. However, the BU Plan would create approximately 216 acres of estuarine wetlands and the CMP would create an additional 33 acres of estuarine and 42 acres of palustrine wetlands. Beneficial use placement would also impact approximately 6.88 acres of seagrass and 0.10 acre of live oyster. However, mitigation efforts would re-establish these resources via transplanting of live seagrasses and oysters from the impacted area to the mitigation area. Overall, the BU Plan included sites that were designed to protect approximately 2,400 acres of seagrass in Redfish Bay and Charlies Pasture.

Fish and Wildlife Values: Estuarine habitats and fauna would be directly affected due to dredging and placement activities. Dredging and placement of sediments for BU would have temporary impacts associated with burial of nearby benthic communities and increase turbidity near those sites. Beneficial use of dredged material is expected to have a long-term positive benefit by improving and protecting habitat and building resistance to rising sea levels. Beneficial use would also create protective barriers along the Gulf shorelines and the eroding shores of Harbor Island and Dagger Island.

Section 4.2.2.2.2 of the FEIS acknowledges that Aransas Pass is the main route for larval transport of estuarine dependent species from the Gulf to local estuaries and that changes in hydrology due to the deepening of the channel could impact the recruitment of estuarine dependent species. A study was published in the Journal of Marine Science and Engineering in 2021 that assessed the potential impact that deepening the CCSC could have on the transport of Red Drum larvae through Aransas Pass. Their passive particle modeling indicated a slight reduction of the maximum velocity due to channel deepening. The Corps modeling also found that under the proposed project the current speeds are expected to decrease an average of 0.23 feet per second with the deeper entrance channel. The study concluded that changes in channel bathymetry (i.e. deepening) had little effect on recruitment of Red Drum larvae, with the model predicting a slight increase in the number of larvae entering the estuary with the decreased velocities. The slight decrease in velocity with the proposed project is not anticipated to have an impact on recruitment of estuarine dependent species and the impacts of channel deepening to overall larval transport at Aransas Pass should be minimal.

Flood Hazards and Floodplain Values: Overall, the impact of future with project on water level is insignificant. It is unlikely to increase the flood risk associated with changes in high tide or navigation risk associated with the changes in low tide and mean sea level in the Corpus Christi Bay. The impact on water level should be limited to the segment of the navigation channel from Point Mustang to Humble Basin (see FEIS Appendix I).

The Hydrodynamic Study in Appendix I of the FEIS documents modeling efforts to assess impacts to water levels from the project. The assessment concluded that a slight rise in high tide and a light drop in low tide should be expected. The tide will increase at most 0.78 inches with an average over the study area of 0.39 inches with the rate of change decreasing as you move away from Aransas Pass. For visual reference, 0.39 inches is equal to the diameter of a peppercorn or the head of tack. In contrast, the low tides are expected to drop a maximum of 1.57 inches, or the diameter of a golf ball, with the amount of lowering of the tide decreasing with the distance from the Aransas Pass.

Figure 4.5 in the FEIS shows the location between Point Mustang and Humble Basin on the inner channel where the largest water level change is predicted to occur. In this location, the high tide is expected to increase to 1.57 inches with a maximum potential of 3.5 inches, similar to the nominal width of a common 2x4. To the north and south of this location the project has proposed to place BU sites designed to address existing erosion from vessel wakes. These BU sites will address changes in water level over both short-term and long-term effects protecting the aquatic resource behind them. Any effect from the water level changes in these locations will be moderated by these BU sites' shoreline protection rock.

Section 4.1.3.4.2 acknowledged the proposed project has a potential to increase storm surge in the project area. Based on studies conducted by the Heart Research Institute on the now constructed CCSCIP's—54-foot channel and additional studies, increases in storm surge water levels and slight increases in the inundation extent expected. The area of most increase in storm surge elevation, maximum 3.5 inches, was identified in an undeveloped area adjacent to Harbor Island between Point Mustang and Humble Basin. The proposed project includes placement of the BU sites in this area that will moderate the increase in storm surge in this hotspot.

The Corps' evaluation of floodplain impacts, in accordance with 33 CFR 320.4(l) Floodplain Management and Executive Order 11988 - Floodplain Management (EO), is conducted primarily through the alternatives analysis. The implementation of the EO, as stated in 320.4(l)(3), requires that "the district engineer should avoid authorizing floodplain developments whenever practicable alternatives exist outside the floodplain. If there are no such practicable alternatives, the district engineer shall consider, as a means of mitigation, alternatives within the floodplain which will lessen any significant adverse impact to the floodplain." The Corps included impacts to floodplains in all of its alternatives.

Navigation: Temporary impacts to commercial and recreational navigation during dredge and disposal events. Temporary impacts will be similar to other dredge events that occur in the region. Long-term effects of operations were evaluated in and documented in the FEIS. A vessel wake analysis was performed to assess bed and

shoreline change induced by vessel transits resulting from the CDP (see FEIS Appendix H). Results indicated the CDP would have minimal impacts to the shorelines along the CCSC. Ship simulations were performed on the CDPs laden VLCC vessel (see FEIS Appendix L) which concluded five 120 metric ton bollard pull rotor tugs would provide higher margins of safety. In addition, the use of these tugs would allow for operating fully loaded VLCCs for most environmental conditions. Therefore, it was concluded the CDP channel configurations with the underlying environmental conditions would be acceptable to safely operate fully loaded VLCC originating from the Harbor Island terminal. A propeller scour assessment (see FEIS Appendix M) determined the scour potential was small or unlikely for most areas modeled. The exception was along a shoreline wall of Harbor Island at the confluence of the CCSC and the Lydia Ann Channel, where there is larger scour potential but can be mitigated with placement of armor protection.

Shoreline erosion: The beach nourishment and nearshore berm component is proposed for Mustang Island and the privately owned and undeveloped San José Island. The beach nourishment can result in a wider and higher beach that can attenuate wave energy, provide storm protection, create new habitat, and enhance beach recreation. The BU placement along the Inner Channel is designed to address erosion, primarily from vessel wake, protecting wetlands and seagrasses behind it.

Energy: In accordance with 33 CFR 320.4, energy conservation and development are major national objectives, and this evaluation received the appropriate priority during permit processing. This priority does not impact impartial decision-making with respect to application review and any final permit decision, either substantively or procedurally.

8.1.1 *Climate Change*

The proposed activities within the Corps' Federal control and responsibility likely will result in a negligible release of greenhouse gasses into the atmosphere when compared to global greenhouse gas emissions. Greenhouse gas emissions have been shown to contribute to climate change. Aquatic resources can be sources and/or sinks of greenhouse gases. For instance, some aquatic resources sequester carbon dioxide, whereas others release methane; therefore, authorized impacts to aquatic resources can result in either an increase or decrease in atmospheric greenhouse gas. These impacts are considered de minimis. Greenhouse gas emissions associated with the Corps' Federal action may also occur from the combustion of fossil fuels associated with the operation of construction equipment, increases in traffic, etc. The Corps has no authority to regulate emissions that result from the combustion of fossil fuels. These are subject to Federal regulations under the Clean Air Act. Greenhouse gas emissions from the Corps'

action have been weighed against national goals of energy independence, national security, and economic development and have been determined not contrary to the public interest.

8.2 Public and Private Need for the Project

There is no direct public need for the CDP. The private need is to provide more efficient movement of U.S. produced crude oil to meet current and forecasted demand, enhancement of the PCCA's ability to accommodate future growth in energy production, and construction of a channel project that the PCCA can readily implement to accommodate industry needs.

8.3 Unresolved Resource Use Conflicts

There were no unresolved conflicts identified regarding resource use. The practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed work was considered in detail in the FEIS.

8.4 Beneficial and Detrimental Effects on Public and Private Use

Detrimental effects on the public and private use of the CDP site are expected to be minimal and temporary. Beneficial effects on the public and private use of the CDP site are expected to be minimal and permanent. The Corps has determined that with conditions on the permit to require compliance with the BU Plan and CMP, the long-term beneficial effects of the Project will outweigh the detrimental effects of the Project.

9.0 MITIGATION

This section describes CDP mitigation (33 CFR 320.4(r), 33 CFR 332, 40 CFR 230.70-77, 40 CFR 1508.20, and 40 CFR 1502.14).

9.1 Avoidance and Minimization

When evaluating a proposal including regulated activities in WOTUS, consideration must be given to avoiding and minimizing effects to those waters. Avoidance and minimization measures are described in Section 1.3.1 of this ROD and within the FEIS.

Were any other mitigative actions, including Project modifications, discussed with the Applicant implemented to minimize adverse Project impacts?

The Applicant's initial BU Plan, included in the DEIS, did not include steps to minimize risk and assure success. The Corps required the Applicant to further develop their BU Plan to include performance metrics, monitoring criteria, and adaptive management. These additional measures will reduce the risk of failure and help ensure the loss of function is minimized.

Is compensatory mitigation required to offset environmental losses resulting from proposed unavoidable impacts to WOTUS?

Yes.

9.2 Type and Location of Compensatory Mitigation

Is the impact in the service area of an approved mitigation bank?

No.

Is the impact in the service area of an approved in-lieu fee program?

No.

9.2.1 Selected Compensatory Mitigation Type/Location(s)

Compensatory mitigation will include on-site permittee-responsible mitigation (Table 10).

Table 10
Mitigation Type and Location

Mitigation Type	Mitigation Selected
Mitigation bank credits	
In-lieu fee program credits	
Permittee-responsible mitigation under a watershed approach	
Permittee-responsible mitigation, on-site and in-kind	X
Permittee-responsible mitigation, off-site and/or out of kind	

Does the selected compensatory mitigation option deviate from the order of the options presented in 33 CFR 332.3(b)(2)–(6)?

No.

9.3 Amount of Compensatory Mitigation

Impacts to special aquatic sites occur at 4 locations in the beneficial use plan; 1) SS1, 2) SS2, 3) HI-E; and 4) PA4. HI-E and PA4 are designated federal dredged material placement areas formed through sediment placement from CCSC constructions. The sites have undergone measurable erosion since their construction which has allowed freshwater, palustrine wetlands to develop in their footprints. The Corps concluded that since these sites are federal constructed placement areas the palustrine wetlands that have formed do not need to be mitigated. However, both sites also contain estuarine wetlands and seagrasses; the loss of which must be compensated. Sites SS1 and SS2 are also subjected to measurable erosion, as previously discussed, but they are not existing federal placement areas. The BU plan will temporally impact palustrine wetlands at SS2 that the Corps determined did not require compensation but the palustrine wetlands at SS1 will be permanently lost and like the estuarine wetlands at both sSS1 and SS2 require compensation.

The Corps therefore concluded that the permanent impacts to 44.63 acres of special aquatic sites requires compensatory mitigation to offset the permanent losses. These

include 21.04 acres of palustrine wetlands and 23.59 acres of EFH comprised of 16.61 acres estuarine wetlands, 6.88 acres of SAV, and 0.10 acres of live oysters. The PCCA proposes to utilize SS1 to construct their PRM site. The objective is restoration through the re-establishment of 32.94 acres of estuarine wetlands, 42.08 acres palustrine wetlands, 6.88 acres of SAV, and 0.10 acres of live oysters by returning historic functions to a degraded aquatic resource. The proposed mitigation site is 75.12 acres and would be contained within the SS1 footprint. The site would be surrounded by dredged material on three sides and connect to the bayward edge of Brown and Root Flats to the north, which would provide a critical hydrologic connection.

Rationale for required compensatory mitigation amount: The amount of compensatory mitigation for the estuarine wetlands was calculated in accordance with the Corps Hydrogeomorphic (HGM) model for the Northwest (NW) Gulf of Mexico Tidal Fringe Wetlands. In the absence of a functional assessment for the remaining special aquatic resource types, a suitable ration was proposed. Palustrine wetlands are proposed at 2:1 ratio and seagrasses and oysters will be mitigated at a 1:1 ratio. Section 6 of the 12-Step Permittee Responsible CMP included in the FEIS, Appendix K, provided more detail.

9.4 Mitigation Plan Requirements

For PRM identified in Section 9.3 above, the final mitigation plan must include the items described in 33 CFR 332.4(c)(2) through (c)(14) at a level of detail commensurate with the scale and scope of the impacts. As an alternative, the district engineer may determine that it would be more appropriate to address any of the items described in (c)(2) through (c)(14) as permit conditions, instead of components of a compensatory mitigation plan. The presence of sufficient information related to each of these requirements in the Applicant’s mitigation plan is indicated by “Yes” in Table 11. “No” indicates absence or insufficient information in the plan, in which case, additional rationale must be provided below on how these requirements will be addressed through special conditions or why a special condition is not required.

Table 11
Permittee-Responsible Mitigation Plan Requirements

Requirement	Yes	No
Objectives	X	
Site selection	X	
Site protection instrument	X	
Baseline information	X	
Determination of credits	X	
Mitigation work plan	X	
Maintenance plan	X	
Performance standards	X	
Monitoring requirements	X	
Long-term management plan	X	

Requirement	Yes	No
Adaptive management plan	X	
Financial assurances	X	

10.0 CUMULATIVE IMPACTS

Cumulative impacts (or effects) (40 CFR 230.11(g), 40 CFR 1508.7, Regulatory Guidance Letter 84-9) are the impacts on the environment that result 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 cumulative effects, and whether that incremental contribution is significant.

10.1 Direct and Indirect Effects

Construction-related impacts that would contribute to cumulative impacts include dredging and dredged material placement activities and would mostly be temporary and localized and considered minimal with implementation of BMPs to help decrease impacts. The CDP would contribute to cumulative effects to increased erosion, turbidity, and tidal range; however, the project BU Plan that includes shoreline restoration and beach nourishment should help mitigate these impacts. Refer to Section 5.0 of the FEIS.

10.2 Cumulative Effects Analysis Area

For the cumulative effects analysis, the study area (see FEIS Figure 5-1) is considered the spatial boundary and it includes substantial portions of four counties, four bays, portions of several coastal watersheds, three barrier islands, and offshore extents. For a temporal boundary, projects considered for the cumulative effects analysis included projects that had been completed approximately within the past 5 years (2016 to 2020) or might be constructed approximately within the next 5 years.

10.3 Mitigation to Avoid, Minimize, or Compensate for Cumulative Effects

Based on the cumulative effects analysis, several resources have the potential for cumulative impacts; however, with appropriate mitigation measures, many impacts may be reduced, including potential impacts to water quality and wetlands and potential impacts to terrestrial and aquatic wildlife and vegetation. Beneficial cumulative impacts may also be expected when considering the CDPs BU Plan and combined with restoration actions that are planned within the study area by State and Federal agencies, non-governmental organizations, and private entities. Mitigative efforts or actions that decrease risks of potential cumulative effects of the CDP include: agency

and stakeholder coordination, implementation of one-way channel traffic, slower speed requirements, appropriate tugboat assistance requirements, placement actions targeting BU, avoidance and minimization efforts, and shoreline armoring.

10.4 Cumulative Impacts Conclusions

When considering the overall impacts that will result from the proposed activity, in relation to the overall impacts from past, present, and reasonably foreseeable future activities, the incremental contribution of the proposed activity to cumulative impacts are considered localized, temporary, and minor. Compensatory mitigation will be required to help offset the impacts to eliminate or minimize the proposed activity's incremental contribution to cumulative effects within the geographic area described.

11.0 COMMENTS ON THE FINAL ENVIRONMENTAL IMPACT STATEMENT

The Corps received comments on the FEIS from 342 individuals and/or organizations. Many of the comments were a reiteration or resubmission of comments submitted on the DEIS, which are not addressed herein (see Appendix B7 of the FEIS for response to DEIS comments). Additional comments or new comments received related to questions about 1) FEIS comment period extension request, 2) the lack of need for the project, 3) the Corps narrow scope of analysis, 4) detrimental impacts from changes in tide and storm surge, 5) incomplete or inadequate mitigation, 6) detrimental impacts to larval transport and Essential Fish Habitat, 7) Suitability of Dredge Material Testing, and 8) detrimental impacts from the beach nourishment and nearshore berms. Response to comments received on the FEIS but not addresses below are included in Appendix A of the ROD.

Request for an Extension of Time

Several commentors requested an extension of time to comment on the FEIS.

The Corps published the DEIS and provide it on their website for review and comment in 2022: where it is still available. In addition to the DEIS and its appendices, the Corps provided access on the same webpage to geotechnical studies, aquatic delineations, and other baseline information that is in the administrative record that was requested under the Freedom of Information Act. This information is also still available on the website.

The Corps published the FEIS two years later in 2024. The FEIS is an update to the DEIS to address comments received during the DEIS comment period (Appendices B6 and B7), as well as document the completion of consultation processes, such as ESA, EFH (Appendix E), and Cultural Resources, which were discussed in the DEIS but not completed. The FEIS also included updates to:

- Endangered Species Act Consultation
- PCCA Dredged Material Management Plan (Appendix C1)
- PCCA Beneficial Use Monitoring Plan and Drawings (Appendix C2 and C3)

- Essential Fish Habitat Consultation (Appendix E)
- Cultural Resources Survey Reports (Appendix F2 and F3)
- Inshore and Offshore Dredge Material Sediment Testing Reports (Appendix J2 and J3)
- PCCA 12-Step Permittee Responsible Compensatory Mitigation Plan (Appendix K)
- Section 404(b)(1) Evaluation (Appendix O),
- Coastal Zone Management Program Consistency Determination (Appendix P)

The Corps provided a 30-day comment period for the FEIS as a courtesy to the stakeholders and the public. Neither the CEQ's NEPA regulations nor the Corps NEPA implementation regulations require a comment period following the release of an FEIS. Therefore, the Corps considered the 30-day courtesy comment period sufficient time to review and provide substantive comment on the minor changes made between the DEIS and the FEIS. Based on the 783 individual comments received in response to the FEIS, the Corps concludes the public has had sufficient time to voice their objections.

Objection to Need for the Project

Several commentors stated that the applicant does not have a need for the project.

The applicant has stated that they have a need at the port to increase capacity to export crude oil. Commentors on the project state that the applicant has not conducted sufficient analysis and that the Corps should deny the permit because there is no need in the local marketplace to increase crude exportation.

The Public Interest review factor for economics (33 CFR 230.4(q)), directs the Corps to assume that an applicant has made the appropriate economic evaluations, the proposal is economically viable, and is needed in the marketplace. However, the Corps in appropriate cases, may make an independent review of the need for the project from the perspective of the overall public interest.

The objectives (i.e., purpose) of the proposed project must be legitimate and the legitimacy is based on the applicants evaluation of the need to support the purpose. To assess this, the need for the project can be considered the problem that needs solving. For the purpose of this permit application, the problem is that the applicant wants to export crude more quickly and efficiently. The solution to this problem is to modify the navigation channel to allow VLCCs, an existing fleet of petroleum carriers, to leave fully laden from Harbor Island.

The Corps initiated the evaluation of this permit in 2019. At the time the applicant projected that crude exportation from the Permian basin would increase as the basis for the need for the project. In an article written by Arathy Somasekhar titled Record U.S. crude exports, rising shale output boosts oil flow to Houston published by Reuters on May 12, 2023, is a summary of industry reports show that the crude export volumes from Corpus Christi accounted for about 60% of all U.S. oil exports in 2022, up from 28% in 2018. The article goes on to state that Permian production is expected to

increase. In a December 18, 2023 article published on Reuters written by Georgina McCartney, the CEO of the PCCA stated that the Port was the number 1 exporter of crude in the U.S. and number 3 in the world. While this review does not constitute a re-evaluation of the permit application's economic viability, it does seem to indicate a re-evaluation of the need for increased crude exportation is not warranted.

Corps Scope of Analysis

During the process of evaluating a permit, the Corps develops a scope of analysis. The Corps' scope describes the portions of an overall project the Corps will evaluate as the area subject to the federal action. The Corps uses four factors described in 33 CFR 325 Appendix B to determine the geographic limit of that federal action. Factors ii and iii are the most relevant the scope for this project and the decision is documented in Section 1.5.2 of the FEIS.

The Corps' scope is generally limited to the specific activity impacting waters of the United States and any additional portions, such as uplands, over which there is sufficient Federal control and responsibility. In addition, when analyzing indirect impacts, the Corps must consider the strength and relationship between those impacts outside of the Corps federal control with those impacts from the regulated activity. For instance, would the impacts occur even if the permit is not issued?

As currently proposed, the proposed project will provide access to multiple locations on Harbor Island. While these facilities are not currently constructed, two permit applications have been submitted for the construction of two independent terminals on Harbor Island with -54 feet MLLW basins; matching the current federally authorized and constructed channel depth. If the permit is authorized, it is reasonable to foresee that any authorized facilities at Harbor Island, whether constructed or not, would request modification of their permit to dredge to the deeper depths. However, if this permit is not authorized and/or constructed, the proposed Harbor Island facilities would continue to meet their current stated purpose and need at the currently authorized depths of -54-foot MLLW. Therefore, the Corps may conclude that the multiple locations and proposed facilities on Harbor Island are independent of the channel deepening project. The fact that it is reasonable to foresee their construction and possible expansion requires their inclusion in the cumulative effects analysis, but not in the permit's scope of analysis.

Similarly, the desalination projects proposed in the region may have similar impacts to aquatic resources but they are not interdependent with the channel deepening project. For instance, if the CDP is not constructed, the desalination plants would still undergo an independent review, be constructed, and meet their stated need and purpose without the channel deepening or the previously mentioned terminals on Harbor Island.

However, the Corps does recognize that the desalination projects and the terminal projects have cumulative effects and have addressed that in Chapter 5 of the FEIS.

Comments related to LEDPA, mitigation sequencing, and 404(b)(1) requirements:

Both public and agency commentors stated that the applicant's preferred alternative is not the least environmentally damaging practicable alternative in accordance with the 404(b)(1) Guidelines.

The Corps has followed requirements under the 404(b)(1) guidelines, including LEDPA selection. Refer to Sections 5.3.2, 5.4, and 6 of this ROD for detailed analysis. In summary, all three alternatives propose impacts to wetlands and other special aquatic sites during construction by the Applicant's Preferred Alternative, Alternative 1 is the only alternative that is proposed to result in a net gain of wetlands. With the proposed BU placement, the Applicant will establish 291 acres of wetland habitat to replace the 138.61 acres lost. In addition, these features are sited to protect inshore habitat complexes such as Redfish Bay, Lighthouse Lakes, and Charlie's Pasture against erosion from all vessel traffic. Additionally, Alternative 1 will nourish 803 acres of beach habitat and beneficially reuse dredge material to restore two DMPAs providing over 4.6 mcy of capacity. The proposed BU Plan is a net gain in wetlands and conditioning the permit to require compliance with the BU Plan will help assure the efforts to minimization impacts to aquatic resources is completed as described.

Detrimental Impacts from Changes in Tides and Storm Surges

Several commentors stated that the changes in tide, storm surges and salinity are not in the public interest.

Overall, the impact of future with project on water level is insignificant. It is unlikely to increase the flood risk associated with changes in high tide or navigation risk associated with the changes in low tide and mean sea level in the Corpus Christi Bay. The impact on water level should be limited to the segment of the navigation channel from Point Mustang to Humble Basin (see FEIS Appendix I).

The Hydrodynamic Study in Appendix I of the FEIS documents modeling efforts to assess impacts to water levels from the project. The assessment concluded that a slight rise in high tide and a light drop in low tide should be expected. The tide will increase at most 0.78 inches with an average over the study area of 0.39 inches with the rate of change decreasing as you move away from Aransas Pass. For visual reference, 0.39 inches is equal to the diameter of a peppercorn or the head of tack. In contrast, the low tides are expected to drop a maximum of 1.57 inches, or the diameter of a golf ball, with the amount of lowering of the tide decreasing with the distance from the Aransas Pass.

Figure 4.5 in the FEIS shows the location between Point Mustang and Humble Basin on the inner channel where the largest water level change is predicted to occur. In this location, the high tide is expected to increase to 1.57 inches with a maximum potential of 3.5 inches, similar to the nominal width of a common 2x4. To the north and south of this location the project has proposed to place BU sites designed to address existing erosion from vessel wakes. These BU sites will address changes in water level over both short-term and long-term effects protecting the aquatic resource behind them. Any effect from the water level changes in these locations will be moderated by these BU sites' shoreline protection rock.

Section 4.1.3.4.2 acknowledged the proposed project has a potential to increase storm surge in the project area. Based on studies conducted by the Heart Research Institute on the –54-foot channel and additional studies Increases in storm surge water levels and slight increases in the inundation extent expected; maximum elevation gain is 3.5 inches. The area of most increase in storm surge elevation was identified adjacent to Harbor Island between Point Mustang and Humble Basin. The placement of the BU sites in this area will moderate the increase in storm surge in this hotspot.

Incomplete or Inadequate Mitigation

Several commentors stated that the mitigation for wetlands is insufficient and the tidal flats require compensatory mitigation. For the purpose of this discussion, special aquatic sites are defined in 40 CFR 230 Subpart E. These definitions do not include “tidal flats” or “algal flats”. The special aquatic sites identified include wetlands, vegetated shallows, mud flats, and coral (oyster) reefs located below the high tide line. Those sites located above the high tide line are not considered waters of the U.S. and therefor not subject to Section 404 of the Clean Water Act.

Impacts to special aquatic sites occur at four locations in the beneficial use plan; 1) SS1, 2) SS2, 3) HI-E; and 4) PA4. Of these four, HI-E and PA4 are designated federal dredged material placement areas formed through sediment placement from CCSC construction. Although currently designated, the sites have not been utilized in many years and have undergone measurable erosion since their construction. This erosion has allowed palustrine wetlands and mud flats to develop in their footprints. The Corps concluded that since these sites are federally authorized placement areas that could be utilized by a federal project without additional mitigation, the palustrine wetlands and mud flats that have formed from the erosion do not need additional mitigation. However, both sites also contain estuarine wetlands and vegetated shallows that function as Essential Fish Habitat; the loss of which is addressed in the CMP.

Sites SS1 and SS2 are also subjected to measurable erosion, which was determined to be the dominant geomorphic process forming the current mud flats. In the future without project modeling conducted in the Vessel Wake Study documented in Appendix H and summarized in Section 4.2.11 of the FEIS, the erosion will continue to transport sediment away resulting in a loss of these mud flats through submersion or erosion. Therefore, the Corps concluded the mud flats in SS1 are a result of ongoing erosion and do not represent normal circumstance. However, the palustrine wetlands at SS1 and the estuarine wetlands at both SS1 and SS2 are stable resources functioning as Essential Fish Habitat; the loss of which is addressed in the CMP.

Additional consideration of the impacts to mud flats impacts was also given during the Corps analysis of impacts to federally listed shorebirds that utilize the mud flats resources. Specifically, the Corps concluded in the August 2022 Final Biological Assessment for the Proposed Corpus Christi Ship Channel Deepening Project (BA) that post-construction, the dredge material placement areas would result in a positive effect for red knots and piping plovers(Appendix D1 of the FEIS). Using red knots and piping plovers as a keystone species for shorebirds we can further assess the general impact to similar species.

There are wintering populations of piping plovers and red knots that are regularly observed within the beach area and they may occur in similar tidal mud flat habitats found in the BU plan. The USFWS January 2023 Final Conference and biological Opinion (BCO, included in Appendix D3 of the FEIS) identified 2.136 acres of preferred piping plover habitat and red knot habitat in the estuarine low marsh and tidal flats of PA4 and approximate 126.88 acres in SS1. No habitat for piping plover and red knots was identified in HI-E or SS2. During surveys conducted for the BA, no piping plover, or red knots were observed in SS2, PA4, or HI-E. The piping plover was found in the mangrove marsh and some of algal dominated flats in SS1. The red knot were found in the mud flats SS1.

As previously described, the dominant geomorphic process forming the current mud flats is erosion. Many of the areas identified as tide flats by the commentors are above the High Tide Line and not considered waters of the U.S. Based on surveys for threatened and endangered species, a suitable keystone species, the mud flat sites in SS1 that are currently waters of the U.S. are minimally used. The proposed estuarine wetlands combined with the beach nourishment that are proposed in both the CMP and the BU will have a net positive benefit for shorebirds, no compensatory mitigation is required.

Detrimental Impacts to Larval Transport and Essential Fish Habitat

Essential Fish Habitat

Consultation with NMFS was initiated with the release of the DEIS and receipt of any comments regarding EFH impacts. An EFH Assessment has been prepared for this project and was coordinated with NMFS (Appendix E). NMFS provided EFH Conservation Recommendations on the project in August 2022. Coordination with NMFS with respect to the MSFCMA was concluded in November 2022 (see Appendix B8). NMFS attempt to re-initiate EFH consultation in response to the publishing of the FEIS is incorrect.

Larval Transport

Section 4.2.2.2 of the FEIS acknowledges that Aransas Pass is the main route for larval transport of estuarine dependent species from the Gulf to local estuaries and that changes in hydrology due to the deepening of the channel could impact the recruitment of estuarine dependent species. A study was published in the Journal of Marine Science and Engineering in 2021 (Valseth et al., 2021) that assessed the potential impact that deepening the CCSC could have on the transport of Red Drum larvae through Aransas Pass. Their passive particle modeling indicated a slight reduction of the maximum velocity due to channel deepening. The Corps modeling also found that under the proposed project the current speeds are expected to decrease an average of 0.23 feet per second with the deeper entrance channel. The study concluded that changes in channel bathymetry (i.e. deepening) had little effect on recruitment of Red Drum larvae, with the model predicting a slight increase in the number of larvae entering the estuary with the decreased velocities. The slight decrease in velocity with the proposed project is not anticipated to have an impact on recruitment of estuarine dependent species and

the impacts of channel deepening to overall larval transport at Aransas Pass should be minimal.

Suitability of Dredge Material Testing

A commentor stated that the materials proposed for beneficial use must be tested in accordance with the Inland Testing Manual (ITM).

A detailed description of the dredge material testing is in Section 6.6 of this ROD. In summary, by requiring MPRSA standards for this project in accordance with 33 CFR 336.0(c), all material was tested to Tier III levels (Bioassay). This includes material that may have been excluded from testing, such as beach nourishment materials, by the ITM.

Detrimental Impacts from the Beach Nourishment and Nearshore Berms

Beach Nourishment

Several commentors stated the placement of material on the beach will cause irreparable damage to the beach.

The beach nourishment component is proposed for Mustang Island and the privately owned and undeveloped San José Island. Beach nourishment can result in a wider and higher beach that can provide storm protection, create new habitat, and enhance beach recreation. Section 3.2.2.2 of the FEIS documents that although the rate of retreat along these beaches has slowed or reversed in some areas, there is a net loss since 1930. There is no history of previous beach nourishment activities on this section of Mustang Island or San José Island.

The size, quality, mineralogy, and other requirements of the Texas Administrative Code are included in the BU Plan to ensure compliance with the GLO's parameters for nourishing State-owned beaches. In addition, the beach nourishment activities were included in the consultation for federally listed threatened and endangered species. The January 2023 Biological and Conference Opinion (BCO) from the USFWS, included in Appendix D3 of the FEIS, outlines the sea turtle conservation measures necessary for placement of beach nourishment material.

The Corps will condition the permit to require compliance with the BCO and the BU Plan as well as any other state or local requirements. This will restrict the materials to beach suitable materials that will be properly placed to provide continued habitat for marine species, including sea turtles.

Nearshore Berm

The EPA stated that the proposed nearshore berm is subject to Section 103 of the MPRSA.

The EPA has not provided a reference or citation to law or regulation for this conclusion. The Corps assumes EPA is referencing the definition of Dumping found in 40 CFR 220.2(e). However, the Corps reminds EPA that 33 CFR 336 - Factors to be Considered in the Evaluation of Army Corps of Engineer Dredging Projects Involving the Discharge of Dredged Material into Waters of the U.S and Ocean Water states in § 336.0(b) that "In those cases where the district engineer determines that the discharge of dredged

material into the territorial sea would be for the primary purpose of fill, such as the use of dredged material for beach nourishment, island creation, or construction of underwater berms, the discharge will be evaluated under section 404 of the CWA."

The Corps will also point out that 33 CFR 336.0(c) states that "For those cases where the district engineer determines that the materials proposed for discharge in the territorial sea would not be adequately evaluated under the section 404(b)(1) guidelines of the CWA, he may evaluate that material under the ODA" [Ocean Dumping Act]. The 48 MCY of material were tested to MPRSA standards and EPA provided concurrence that the material was suitable for ocean disposal on February 7, 2024.

12.0 COMPLIANCE WITH OTHER LAWS, POLICIES, AND REQUIREMENTS

12.1 Section 7(a)(2) of the Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), EFH

Refer to Section 2.2 of this ROD for a description of the Corps' Action Area for Section 7 consultation.

Has another Federal agency been identified as the lead agency for complying with Section 7 of the Endangered Species Act (ESA) with the Corps designated as a cooperating agency and has that consultation been completed?

No, the Corps has completed Section 7 ESA consultation with the U.S. Fish and Wildlife Service.

Are there listed species or designated critical habitat present or in the vicinity of the Corps' Action Area?

The Biological Assessment (see FEIS Appendix D1) concludes that the proposed Project may affect, but is not likely to adversely affect, the Sperm Whale, West Indian Manatee, Giant Manta Ray, Northern Aplomado Falcon, Piping Plover, Piping Plover Critical Habitat, Red Knot (Rufa), Whooping Crane, Eastern Black Rail, Green Sea Turtle, Hawksbill Sea Turtle, Kemp's Ridley Sea Turtle, Leatherback Sea Turtle, Loggerhead Sea Turtle and may affect, not likely to jeopardize continued existence of the Monarch Butterfly. Designated Critical Habitat occurs within the Action Area for the Piping Plover, Red Know (Rufa), Whooping Crane, and Loggerhead Turtle. The PCCA will implement species-specific conservation measures and general construction conservation measures to avoid and minimize effects to Federally listed, proposed, and candidate species.

Has consultation with either the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service been initiated and completed as required, for any determinations other than “no effect?”

Yes. The NMFS BO was received in December 2022 and the USFWS BO in January 2023 (see FEIS Appendix D)

Is there Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), essential fish habitat present or in the vicinity of the Corps' Action Area?

Yes. EFH is designated for the study area in which the CDP is located. Consultation with NMFS was initiated with the release of the DEIS and receipt of any comments regarding EFH impacts. An EFH Assessment has been prepared for this project and was coordinated with NMFS (see FEIS Appendix E). There are no Habitat Areas of Particular Concern designated in the project area (National Oceanic and Atmospheric Administration, 2021). NMFS provided EFH Conservation Recommendations on the project in August 2022. Coordination with NMFS with respect to the Magnuson-Stevens Fishery Conservation and Management Act was concluded in November 2022 (see FEIS Appendix B8).

12.2 Section 106 of the National Historic Preservation Act

See Section 2.3 of this ROD for Permit Area determination.

Has another Federal agency been identified as the lead Federal agency for complying with Section 106 of the National Historic Preservation Act (Section 106) with the Corps designated as a cooperating agency and has that consultation been completed?

No, the Corps was the lead Federal Agency and Section 106 consultation was completed in May 2023 (see FEIS Appendix B8).

Are known historic properties present?

Yes. The Corps, in consultation with the Texas State Historic Preservation Officer (SHPO) has determined that sites 41AS119, SS *Mary* (41NU252), *Utina* (41NU264, 41NU292), M275/M277, and M97/M102/M112/M126 are present within the permit area.

Effect determination and basis for that determination:

The Corps, in consultation with the SHPO, have determined that the magnetic anomalies and sonar targets associated with the SS *Mary* and with the *Utina* are located outside the area being dredged and will be avoided by project activities. However, the permittee shall establish a 50-meter avoidance buffer surrounding these locations. The buffer shall stop at the top of the cut for the existing CCSC. No ground disturbing project activities shall occur within the buffered zones.

Was consultation initiated and completed with the appropriate agencies, tribes, and/or other parties for any determinations other than “no potential to cause effects”?

Yes, the Corps has conducted consultation with the SHPO. Based on a review of the information in this section, the Corps has determined that it has fulfilled its responsibilities under Section 106 of the National Historic Preservation Act.

12.3 Tribal Trust Responsibilities

Was government-to-government consultation conducted with Federally recognized Tribe(s)?

Yes. The CDP was coordinated with the Tribes, as appropriate. No response was received from any Federally recognized Native American Tribes and/or affiliated groups. The Corps has determined that it has fulfilled its tribal trust responsibilities.

Other tribal consultation including any discussion of tribal treaty rights?

Not applicable.

12.4 Section 401 of the Clean Water Act – Water Quality Certification

Is a Section 401 water quality certification required, and if so, has the certification been issued, waived, or presumed?

Yes. A water quality certification is required and was issued by the Texas Commission of Environmental Quality on 27 June 2024.

The EPA concluded in their 8 July 2024 letter that based on our review of the provided materials; the location of the project; the absence of a neighboring jurisdiction as defined by 40 CFR 121.1(g); the amount and nature of the material to be discharged; and the additional project information before us, EPA Region 6 has decided to not make a “may affect” finding.

12.5 Coastal Zone Management Act

Is a Coastal Zone Management Act consistency concurrence required, and if so, has the concurrence been issued, waived or presumed?

A Coastal Zone Management Act consistency concurrence is required. Based on an evaluation of the CDPs compliance with Federal goals and policies (see FEIS Appendix P), the project is consistent with the Federal goals and objectives of the Coastal Zone Management Program. The Texas Commission on Environmental Quality concluded that their certification is consistent with the applicable CMP goals and policies.

12.6 Wild and Scenic Rivers Act

Is the CDP 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.

12.7 Effects on Corps Civil Works Projects

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?

Yes.

12.7.1 Corps project description and authorization

Corpus Christi Ship Channel, Senate Document 99, 90th Congress, 2nd session.

12.7.2 Description and reference to the review plan process followed, including SAR determination

The 408 package was reviewed internally by Navigation Branch, Geotechnical Branch, Hydraulics and Hydrology Branch and the Operations Division. The proposed project was found to not negatively impact the Federal project.

12.7.3 Summary of rationale and conclusions for recommending approval or denial, including determinations for the impact to the usefulness of the Corps project; whether or not the alteration is considered integral to the Corps project; and impacts to the public interest

The Applicant proposes to deepen the CCSC. The action was coordinated internally with the Navigation Branch and the 408 package was reviewed internally by Navigation Branch and the Operations Manager for the CCSC. The action was found to not impair the usefulness of the CCSC and is not injurious to the public interest.

12.7.4 Certification of legal sufficiency by Office of Counsel

Please see attached legal sufficiency memo.

12.7.5 ***Certification by the District Chief of Real Estate Division that all real property required for the proposed alteration has been identified; the identified real property is sufficient to support the alteration; and the proposed alteration will not adversely affect the Corps project's real property. If the proposed alteration will be integral to the functioning of the Corps project, the District Chief of Real Estate Division must also certify that standard estates are being used for the acquisition of any new real property that will become or may become a part of the Corps project, or that the requester is seeking approval to use non-standard estates (see paragraph 11.e.)***

The Real Estate Division is reviewing this action under REIN-19-111.

12.7.6 ***Description of any related, ongoing Corps studies (if applicable), including how the proposed alteration may impact those studies***

The Coastal Texas Protection team provided clearance to the proposed CDP in an electronic mail dated 8 March 2024. The proposed action will result in no issues for the Coastal Texas Study.

12.7.7 ***Summary of input from the non-Federal Sponsor, if the non-Federal Sponsor is not the requester demonstrating that the district provided opportunity for the non-Federal Sponsor to review and evaluate the proposed alteration along with the technical analysis and design, environmental effects, real estate requirements, and potential O&M effects and that the district sought to incorporate the non-Federal Sponsors feedback and concerns into the decision-making process***

The PCCA is the non-Federal Sponsor and Applicant.

12.7.8 ***Summary of any changes to the O&M manual***

No changes to O&M manual from proposed action.

12.7.9 ***If the district has determined that Corps would assume O&M responsibilities as part of its responsibilities for the Corps project, include the rationale and any anticipated increase in Corps O&M costs or if changes to O&M requirements would have to be implemented by the non-Federal Sponsor, documentation that the non-Federal Sponsor has agreed to those changes to their responsibilities***

No Corps O&M associated with proposed action.

12.8 Corps Wetland Policy

Does the CDP propose to impact wetlands (33 CFR 320.4(b))?

Yes.

Based on the public interest review herein, do the beneficial effects of the CDP outweigh the detrimental impacts of the Project?

Yes.

13.0 SPECIAL CONDITIONS

Are special conditions required to protect the public interest, ensure that effects are not significant, and/or ensure compliance of the activity with any of the laws above?

Yes.

13.1 Required Special Condition(s)

Rationale: The special conditions are established to ensure compliance with the Corps' authorization; ensure compliance with compensatory mitigation regulations (33 CFR 332); ensure the greatest potential for achieving compensatory mitigation success criteria; establish BMPs and Applicant-committed measures to minimize effect of the Project on the surrounding natural environment; maintain compliance with other State, local, and Federal regulations.

1. The time limit for utilizing the Corpus Christi New Work ODMDS, Corpus Christi, Texas ends on 17 July 2027. The time limit for utilizing the physical, chemical, and biological testing ends on 7 February 2029.
2. Dredging, dredged sediment discharge/placement, and monitoring of the dredging projects using the Dredging Quality Management (DQM) system shall be implemented for this permit when the project activity is using dredging equipment. The permittee 's DOM system must have been certified by the National DQM Support Center (DQM Center) within one calendar year prior to the initiation of the dredging/discharge/placement of sediments. The permittee is responsible for ensuring that the DQM system is operational throughout the dredging and discharge/placement of sediments, and that the project data is submitted to the DOM Center in accordance with the specifications provided at the DOM website. Questions regarding codification and/or additional information about DOM program should be addressed to the DQM Center at (877) 840-8024 and/or <https://dqm.usace.army.mil>.
3. The permittee will provide weekly reports during dredge events utilizing the Corpus Christi New Work Ocean Dredged Material Disposal Site by close of business Friday. Reports will include individual details for each load. Details shall include: 1) Load Number; 2) Transit start and end times and date(s); 3) Bin volume at start of transit; 4) Initial draft (aft & fore); 5) Vessel and tow tug names;

- 6) Material source; 7) Placement start and placement end details including Latitude and Longitude, start and end times as well as start and end draft; 8) Graphic representation of the vessel route demarcating where in the route placement starts and ends.
4. The permittee will comply with the terms, conditions, and reporting requirement of the 2018 Corpus Christi, Nueces County, Texas Maintenance and New Work Ocean Dredged Material Disposal Sites Site Management and Monitoring Plan as Required by Section 102 of the Marine Protection, Research, And Sanctuaries Act (SMMP) or any subsequent revisions.
 - a. In accordance with Section 2.7.5 Disposal Technique, the permittee will develop for Corps and EPA a placement strategy that will spread the material uniformly throughout the disposal zone.
 - b. In accordance with Section 3.2.1 (i) Routine Bathymetric Survey – Navigational Safety, bathymetric surveys shall be obtained and supplied to the Corps and EPA before the start of the disposal operations, and monthly (30 days) thereafter until operations are complete. Bathymetry Survey Reports will be provided to the Corps and EPA monthly.
 - c. If the monthly surveys indicate deposited dredged material is mounding to heights greater than the threshold elevation above the existing bottom elevation and/or there is movement of material outside of the designated limits, then the disposal operation will be paused to allow review by the Corps and EPA to determine if the disposal sequence is being properly followed.
 5. With the exemption of emergencies, Barge Scow and/or Hopper dredge doors will only be opened when the vessel(s) is within the Offshore Dredge Material Disposal Site's "Actual Disposal Area".
 6. The Biological Opinions (BOs) contain mandatory terms and conditions to implement the reasonable and prudent measures that are associated with the "incidental take" that is specified in your BOs. Authorization under this Corps permit is conditional upon compliance with all the mandatory terms and conditions associated with incidental take in the Section 7 action areas identified in the BOs, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with the incidental take in the Section 7 action areas identified in the BOs, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with the permit. The USFWS and NMFS are the appropriate authority to determine compliance with the terms and conditions of their BO's, and with the Endangered Species Act.
 7. The permittee shall establish a 50-meter buffer surrounding the magnetic anomalies and sonar targets associated with the SS Mary and the Utina shipwrecks. The buffer shall stop at the top of cut for the existing Corpus Christi Ship Channel as shown on the attached figures. No ground disturbing project activities shall occur within the buffered zones.

8. The mitigation work plan, maintenance plan, performance standards, and monitoring requirements outlined in the mitigation plan titled 12-Step Permittee Responsible Compensatory Mitigation Plan, dated 18 January 2024 (Rev), must be accomplished for the compensatory mitigation requirement to be considered complete.
9. Should mitigation be determined to be unsuccessful by Corps personnel at the end of the monitoring period, the permittee will be required to take necessary corrective measures, as approved by the Corps. Once the corrective measures are completed, the permittee will notify the Corps and a determination will be made regarding success of the mitigation.
10. The dredge placement work plan, monitoring requirements, performance standards, and maintenance plan outlined in the Beneficial Use Monitoring Plan -Channel Deepening Project: SWG-2019-00067, dated January 2024 Version 5, must be accomplished for the beneficial use plan requirement to be considered complete.
11. Should the beneficial use plan be determined to be unsuccessful by Corps personnel at the end of the monitoring period, the permittee will be required to take necessary corrective measures described in the adaptive management plan, as approved by the Corps. Once the corrective measures are completed, the permittee will notify the Corps and a determination will be made regarding success of the beneficial use plan.
12. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure 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 Corps, 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.
13. When structures or work authorized by this permit are determined by the District Engineer to have become abandoned, obstructive to navigation or cease to be used for the purpose for which they were permitted, such structures or other work must be removed, the area cleared of all obstructions, and written notice given to the Corps, Galveston District, Regulatory Division, within 30 days of completion.

14.0 FINDINGS AND DETERMINATIONS

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

The Project has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. No air quality permits are anticipated to be required for this project. Because the CDP is located in Aransas, San Patricio, and Nueces counties, and these counties have been designated in attainment or

unclassifiable with the 2015 8-hour ozone standard, the General Conformity requirements are not applicable, and a General Conformity Determination is not required.

14.2 Presidential Executive Orders

14.2.1 Executive Order 11988 (Floodplain Management)

Executive Order 11988 directs Federal agencies to evaluate the potential effects of preferred actions on floodplains. Such actions should not be undertaken that directly or indirectly induce growth in the floodplain unless there is no practicable alternative. Each agency has a responsibility to evaluate the potential effects of any actions it may take in a floodplain associated with the one percent annual chance event. The CDP is not expected to significantly affect floodplains.

14.2.2 Executive Order 11990 (Protection of Wetlands)

Executive Order 11990 applies to this study. The potential effects of the study on wetlands are discussed in FEIS Section 4.2.1. Effects will be considered during the review of all permits required under the CWA (see FEIS Appendices A and O).

14.2.3 Executive Order 12898 (Environmental Justice)

Executive Order 12898 applies to the study and the potential impacts to minority and low-income groups are described in FEIS Section 4.4. Based on a demographic analysis of the study area and findings of an environmental justice review, the CDP would not have a disproportionately high and adverse impact on any low-income or minority population.

14.2.4 Executive Order 13045 (Protection of Children)

Executive Order 13045 directs Federal agencies to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. Examples of risks to children include increased traffic volumes and industrial or production-oriented activities that would generate substances or pollutants that children may contact with or ingest. The FEIS evaluated the potential for the CDP to increase these risks to children, and it has been determined that children in the project area would not likely experience any adverse effects from the CDP.

14.2.5 Executive Order 13112 (Invasive Species)

Executive Order 13112 addresses the prevention of the introduction of invasive species and provides for their control and minimization of the economic, ecological, and human health impacts the invasive species causes. It establishes the Invasive Species Council, which is responsible for the preparation and issuance of the National Invasive Species

Management Plan, which details and recommends performance-oriented goals and objectives and specific measures of success for Federal agencies.

Ship traffic would be expected to decrease with the CDP due to larger ships being able to traverse the CCSC, the decrease would be less than the predicted growth of ship traffic under the No-Action Alternative, and therefore, no additional impacts with respect to ballast water are expected. Furthermore, no changes in foreign ports of call are predicted.

14.2.6 Compliance with Section 404(b)(1) Guidelines

Having completed the evaluation above, I have determined that the proposed discharge complies with the 404(b)(1) guidelines, with the inclusion of the appropriate and practicable special conditions to minimize pollution or adverse effects to the affected ecosystem.

14.2.7 Public Interest Determination

Having reviewed and considered the information in this ROD, I find that the proposed CDP is not contrary to the public interest.

July 17, 2024

Date

Rhett A. Blackmon
Colonel, U.S. Army Corps of Engineers
District Engineer

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