

## APPENDIX D

### Draft Updated

#### **Corpus Christi Ship Channel and Corpus Christi New Work Ocean Dredged Material Disposal Sites Site Management and Monitoring Plan (2026)**

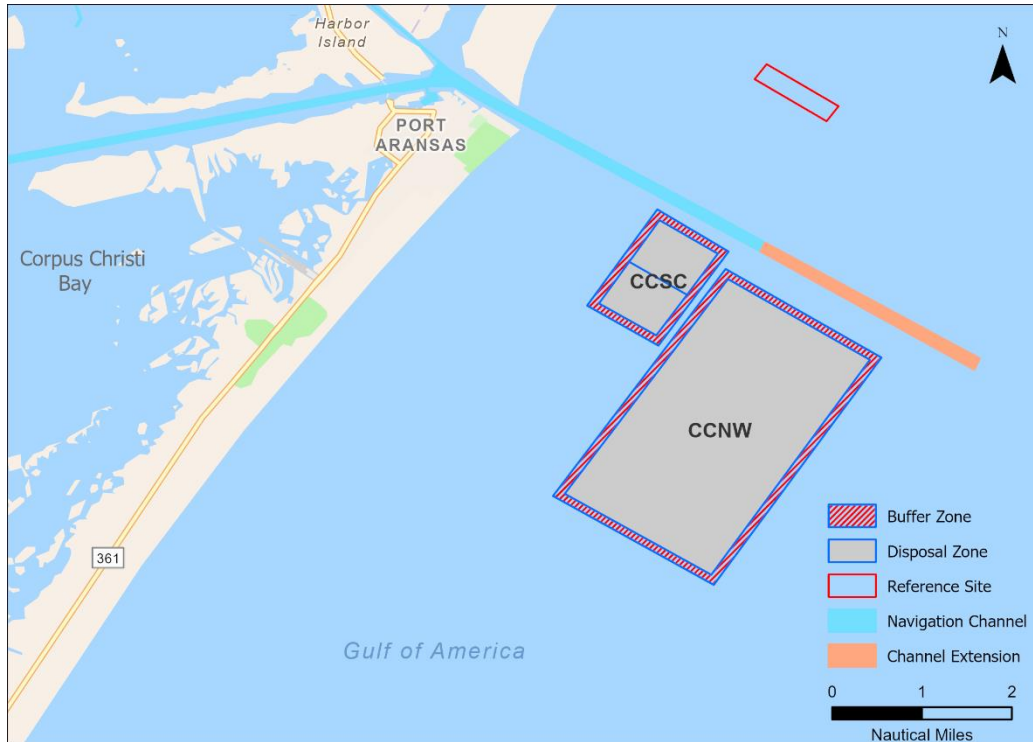
EPA-designated ocean disposal sites require a Site Management and Monitoring Plan (SMMP). Disposal at a designated site is subject to any project-specific restrictions from the EPA or USACE, as well as the overall conditions included in the SMMP. The SMMPs also lay out the periodic monitoring plan for each site, as well as potential management actions that will be considered in the event that monitoring identifies any adverse impacts. The SMMPs are expected to be reconsidered at least every 10 years, based on the results of the periodic site monitoring. This Appendix presents a draft updated SMMP reflecting the Proposed Action for expanding the CCSC and CCNW ODMDSs as described in this draft EA.

The EPA, in coordination with the USACE, will finalize the updated SMMP based on comments received and on the proposed rule being published simultaneously in the Federal Register. The updated SMMP would take effect beginning in 2026. However, even after it is finalized, the SMMP may be updated further as needed at any time by the EPA and USACE, following opportunity for additional public comment.

This appendix is available for download at [www.regulations.gov](http://www.regulations.gov) (Docket ID No. EPA-R06-OW-2025-3359) and at <https://www.epa.gov/marine-protection-permitting/marine-protection-permitting-epa-region-6>.

**The EPA is accepting comments on this Draft updated SMMP until 30 days following publication of the proposed rule.**

**DRAFT UPDATED  
CORPUS CHRISTI SHIP CHANNEL AND CORPUS CHRISTI NEW WORK OCEAN  
DREDGED MATERIAL DISPOSAL SITES  
SITE MANAGEMENT AND MONITORING PLAN**



**U.S. Environmental Protection Agency, Region 6**



**US Army Corps  
of Engineers®**

**U.S. Army Corps of Engineers, Galveston District**

**January 2026**

The following Site Management and Monitoring Plan (SMMP) for the Corpus Christi Ship Channel and the Corpus Christi New Work Ocean Dredged Material Disposal Sites (ODMDSs) has been revised to comply with Section 102(c)(3) of the Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972 (33 U.S.C. Section 1401, et seq.), as amended by Section 506 of the Water Resources Development Act (WRDA) Amendments of 1992 (Public Law 102-580) and has been approved by the following officials of the U.S. Environmental Protection Agency Region 6 and the U.S. Army Corps of Engineers, Southwestern Division, Galveston District.

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Name	Date
Scott Mason IV Regional Administrator U.S. Environmental Protection Agency Region 6	

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Name	Date
Colonel David W. Dake Commander-Galveston District U.S. Army Corps of Engineers	

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This plan is effective from the date of the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers signatures for a term not to exceed ten years. Partial midterm modifications do not extend the term. The MPRSA requires review and revision no less frequently than every ten years.

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DRAFT UPDATED  
CORPUS CHRISTI SHIP CHANNEL AND CORPUS CHRISTI NEW WORK  
OCEAN DREDGED MATERIAL DISPOSAL SITES  
SITE MANAGEMENT AND MONITORING PLAN

**1. INTRODUCTION**

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The Marine Protection, Research, and Sanctuaries Act (MPRSA), also referred to as the Ocean Dumping Act, regulates the transportation and dumping of any material into ocean waters. Under the MPRSA, no permit or authorization may be issued for ocean dumping where such dumping will unreasonably degrade or endanger human health or the marine environment.

In the case of dredged material, the U.S. Army Corps of Engineers Galveston District, hereafter referred to as the District, is responsible for issuing MPRSA permits and authorizing or conducting Federal projects involving ocean dumping of dredged material (33 U.S.C. Section 1413, MPRSA Section 103). The District applies the U.S. Environmental Protection Agency (EPA) marine protection criteria when evaluating permit or authorization requests for (and implementing Federal projects involving) the transportation of dredged material for the purpose of dumping into ocean waters. MPRSA permits and Federal projects involving the ocean dumping of dredged material are subject to the EPA's review and written concurrence. The EPA may concur with or without conditions or decline to concur (i.e., non-concur) on the permit or Federal project. If the EPA concurs with conditions, the final permit or the terms of the Federal project authorization must include those conditions. If the EPA declines to concur on an ocean dumping permit or federal project, the District cannot issue the permit, authorize, or conduct the transportation to and dumping of dredged material in the ocean associated with the Federal project. According to the regulations at 33 C.F.R. Section 325.6, MPRSA permits for and Federal projects involving the transportation of dredged material for the purpose of dumping into ocean waters may not exceed three years.

Under MPRSA Section 102, the EPA is responsible for the designation of all ocean dumping sites and the management of such designated sites. The EPA's MPRSA regulations at 40 C.F.R. Section 228 establish procedures for the designation and management of ocean disposal sites. Unless otherwise specifically noted, site management authority for each site set forth in 40 C.F.R. Section 228.15 is delegated to the EPA Regional office under which the site entry is listed. Management of a site consists of regulating times, rates, and methods of disposal; regulating quantities and types of materials disposed; developing and maintaining effective ambient monitoring programs for the site; conducting disposal site evaluation studies; and recommending modifications in site use and/or designation (40 C.F.R. Section 228.3(a)).

The EPA shares the responsibilities of conducting management and monitoring activities at EPA-designated ODMDSs with the District. Under MPRSA Section 102(c), the EPA, in conjunction with the District, is responsible for developing a site management and monitoring plan (SMMP) for each designated ODMDS. The objective of each SMMP is to ensure that dredged material ocean dumping activities will not unreasonably degrade the marine environment or endanger human health or economic potentialities or other uses of the ocean. The SMMP provisions are an integral part of managing all dumping activities at an ODMDS. Preparation of this SMMP has been informed by the *Guidance Document for Development of*

*Site Management Plans for Ocean Dredged Material Disposal Sites* (USEPA and USACE, 1996). This SMMP may be modified during its term if the EPA, in conjunction with the District, determines that such changes are warranted, including as a result of information obtained from monitoring or other factors. This SMMP will be reviewed and revised as needed, or at least every 10 years, whichever is sooner. The MPRSA provides that the SMMP shall include, but not be limited to:

- A baseline assessment of conditions at the site,
- A program for monitoring the site;
- Special management conditions or practices to be implemented at each site that are necessary for the protection of the environment;
- Consideration of the quantity of the material to be disposed of at the site and the presence, nature, and bioavailability of contaminants in the material;
- Consideration of the anticipated long-term use of the site including the anticipated closure of the site, if applicable, and any need for continued management after closure of the site; and
- A schedule for review and revision of the plan which shall be reviewed and revised at least every 10 years.

The provisions in this SMMP apply for all dredged material disposal activities at the Corpus Christi Ship Channel (CCSC) and Corpus Christi New Work (CCNW) Ocean Dredged Material Disposal Sites (ODMDSs) including monitoring and management activities by the federal agencies. This SMMP also includes template provisions for the District to include in future permits issued for and federal authorizations involving dredged material disposal at these sites (Appendix B). References in this SMMP to matters that “should be required” refer to implementation in a subsequent proceeding to authorize disposal of dredged material, whether in a permit, in a contract or other Federal project specification for the transportation and disposal of dredged material, or by the District directly. Other than the regulatory text copied below, this SMMP does not itself impose binding requirements or obligations, though the District would incorporate the terms and conditions from the SMMP into other authorizing documents. Other authorizing documents include permits and federal project documents that authorize transportation and disposal of dredged material at the ODMDS, that will then impose binding rights and obligations on persons responsible for the authorized transportation and disposal.

Matters that “should be required” are implemented through application of the template language included in Appendix C, though the language may vary from the terms of the Appendices as necessary and appropriate. If the translation of template terms by the District warrants further clarification, the EPA can ensure implementation of the template provisions in Appendix B as necessary through the EPA’s concurrence actions.

### **1.1. Roles and Responsibilities**

The EPA and the District work together to implement the site monitoring program for the CCSC and CCNW ODMDSs. Specific responsibilities of the EPA and the District are as follows:

EPA: The EPA is responsible for designating, modifying, and de-designating/cancelling ODMDSs under MPRSA Section 102, managing these sites by regulating site use,

developing and implementing site monitoring programs, including compliance monitoring, evaluating environmental effects of ocean dumping of dredged material at the sites, reviewing for concurrence on dredged material suitability determinations, and reviewing for compliance with the marine protection criteria, conditions, and restrictions for MPRSA Section 103 permits or federal projects authorizing the ocean dumping of dredged material.

Under MPRSA Sections 1411 and 1415(a), the EPA has broad authority to assess civil penalties and seek injunctive remedies for unauthorized transport of material for the purpose of dumping it into ocean waters, including deviations from transportation-related and disposal-related conditions required by a regulation establishing the ODMDS or deviations from transportation-related and disposal-related conduct required or authorized by the District in a permit or, in the case of federal projects, the terms of the contract documents.

The District: The District is responsible for evaluating dredged material suitability and compliance with the marine protection criteria, conditions, and restrictions, issuing MPRSA Section 103 permits and project authorizations, and, in conjunction with the EPA, regulating site use and developing and implementing site monitoring programs (including compliance monitoring) through development and use of the SMMP. The District also has a contract remedy process to enforce conditions related to ocean dumping with a contractor for a federal project. The District contract remedies are separate and distinct from statutory remedies under the MPRSA.

## **2. SITE DESCRIPTION**

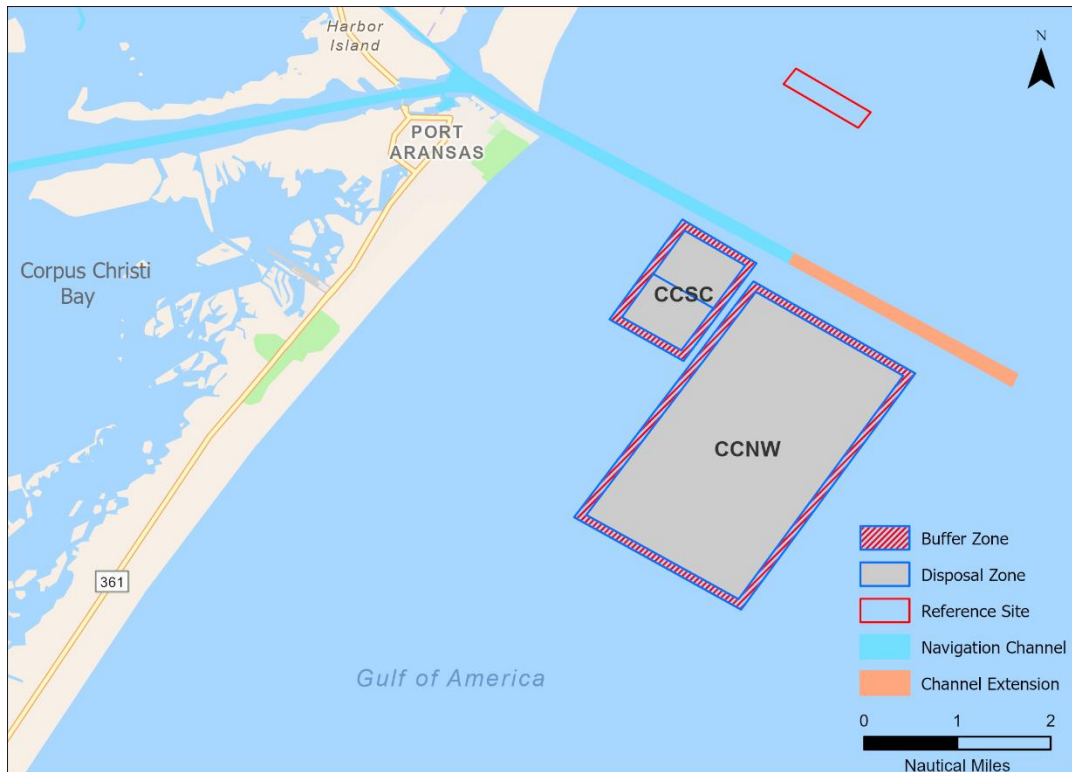
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The following Sections [2.1 through 2.5] are a summary of site-specific information used in the development of this SMMP.

### **2.1. Site History and Designation**

The location of the Corpus Christi Ship Channel (CCSC) ODMDS was first used as a dredged material disposal site in 1969. In 1977, a disposal site that partially overlaps the existing site was designated on an interim basis. The interim site was excluded during the 1989 designation (USEPA, 1989) of the CCSC ODMDS due to its proximity to a biologically sensitive area. The 1989 designation was based on a comprehensive environmental impact statement (EIS), and the EPA designated the CCSC ODMDS specifically for disposal of suitable dredged material from the ship channel during regular/annual maintenance dredging. Subsequently, a modification to the use restriction of the site was sought to allow for disposal of dredged material from the greater Corpus Christi, Texas vicinity, which the EPA then published in federal regulations on September 18, 2015 (80 FR 56395). Ongoing and proposed channel expansion activities have necessitated physical expansion of the CCSC ODMDS because there is limited available upland disposal capacity. This SMMP reflects the management of the CCSC ODMDS with the expansion finalized as proposed. The EPA published earlier versions of the SMMP for the CCSC ODMDS in 1996, 2008 and 2018.

The EPA designated the CCNW ODMDS in 1988 (USEPA, 1988) to provide a disposal area for both maintenance and construction (new work) material from the U.S. Navy's Homeport Project at Corpus Christi/Ingleside, Texas. The Homeport Project was cancelled, but the CCNW ODMDS remained designated and is used for the one-time disposal of suitable native channel improvement new work material. The EPA published a modification to the site restriction on August 6, 2014 (79 FR 45702), which became effective on September 5, 2014. The 2014 modification enabled disposal of suitable new work dredged material from other channel segments and non-federal projects to be disposed at the site (USEPA and USACE, 2018). Ongoing and proposed channel expansion activities have similarly necessitated physical expansion of the CCSC and CCNW ODMDSs (Figure 1) due to limited available upland disposal capacity. This SMMP reflects the management of the CCNW ODMDS with the expansion finalized as proposed. The EPA published the previous SMMP for the CCNW ODMDS in 2018.



**Figure 1. Overview of the CCSC ODMDS, CCNW ODMDS and Reference Site.**

**2.1.1. Final Rule Text from 40 C.F.R. Section 228.15(j)(16-17)**

The official CCSC and CCNW site designations are published at 40 C.F.R. Section 228.15(j)(16-17):

(16) Corpus Christi New Work ODMDS, Corpus Christi, TX.

(i) *Location:* 27°48'31.68" N, 97°00'24.12" W; 27°47'32.64" N, 96°58'40.44" W; 27°45'1.08" N, 97°00'32.04" W; 27°46'0.48" N, 97°02'19.32" W (NAD83).

(ii) *Size:* 5.57 square nautical miles.

(iii) *Depth:* Ranges from 45-55 feet.

(iv) *Primary Use:* Dredged material.

(v) *Period of Use:* Continuing use.

(vi) *Restrictions:* Disposal shall be limited to suitable dredged material from the greater Corpus Christi, Texas vicinity. Disposal shall comply with conditions set forth in the most recent approved Site Management and Monitoring Plan.

(17) Corpus Christi Ship Channel, TX.

(i) *Location:* 27°49'11.28" N, 97°01'9.84" W; 27°48'43.20" N, 97°00'22.32" W; 27°47'40.56" N, 97°01'9.12" W; 27°48'7.20" N, 97°01'56.64" W (NAD83).

(ii) *Size:* 1.05 square nautical miles.

(iii) *Depth:* Ranges from 35 to 50 feet.

(iv) *Primary use:* Dredged material.

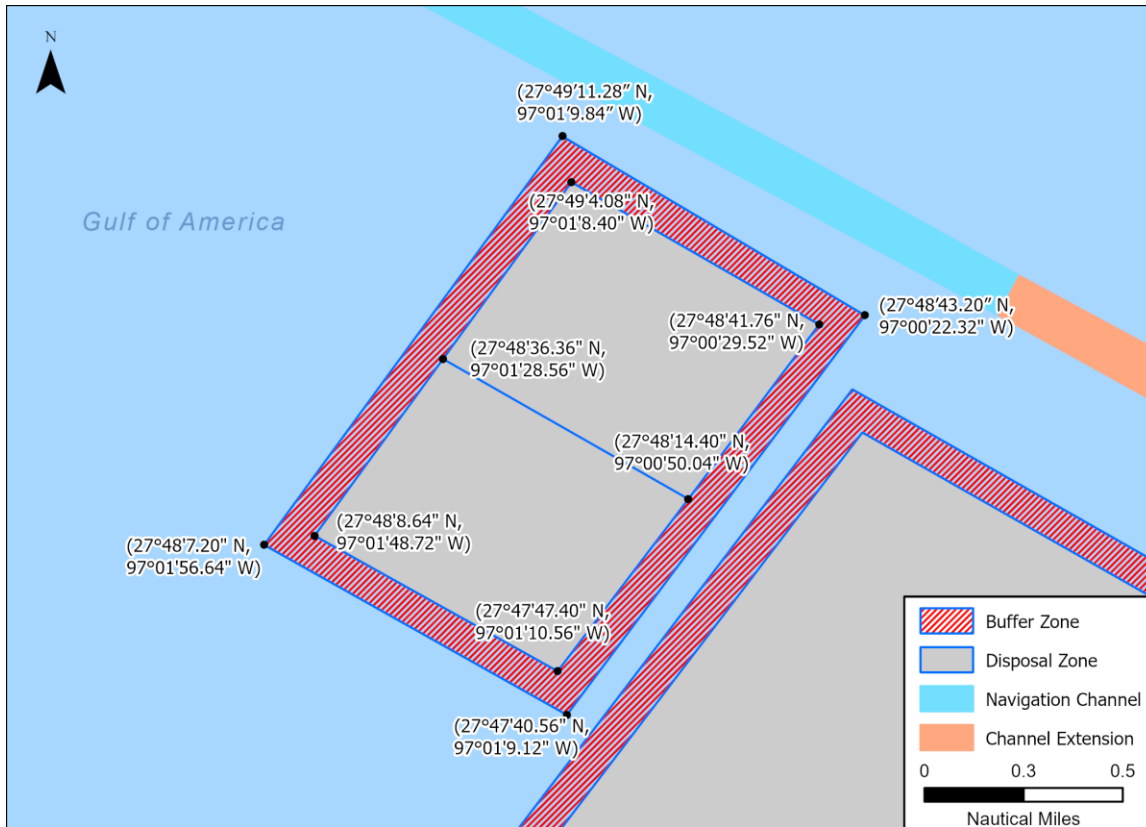
(v) *Period of use:* Indefinite use.

(vi) Restrictions: Disposal shall be limited to suitable dredged material from the greater Corpus Christi, Texas vicinity. Disposal shall comply with conditions set forth in the most recently approved Site Management and Monitoring Plan.

**2.2. Site Location**

CCSC ODMDS Characteristics

The CCSC ODMDS (Figure 2) is rectangular in shape and encompasses 1.39 square miles (mi<sup>2</sup>) (1.05 nautical miles [nmi<sup>2</sup>]) in water depths naturally ranging from approximately 35 to 50 feet. The site is located approximately 1.9 miles (mi) (1.7 nautical miles [nmi]) offshore. Table A-1 lists the corner coordinates of the overall site.



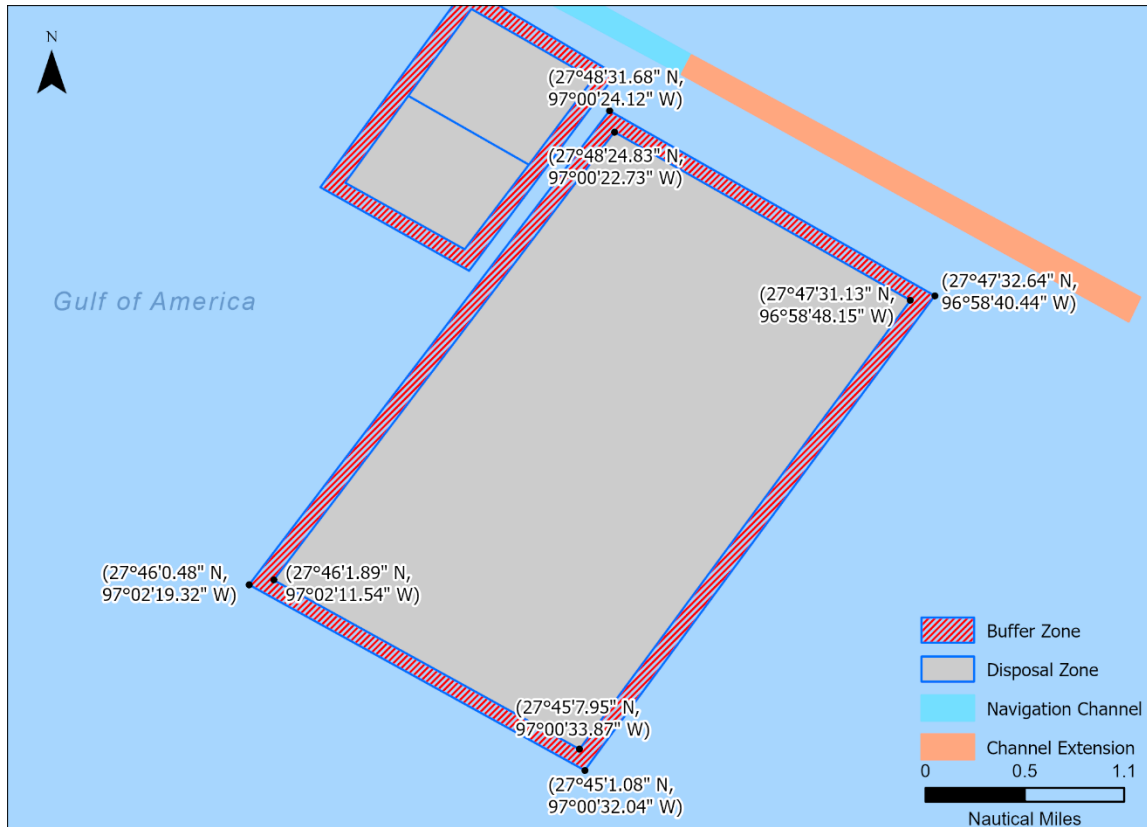
**Figure 2. CCSC ODMDS and Disposal Zones (NAD83).**

A 500-foot-wide buffer zone has been established immediately inside the site boundaries of the ODMDS to prevent short-term transport of material outside of the site. The EPA and the District have employed another management measure intended to deconflict site usage between federal and non-federal (private, third-party) users wherein the site will be delineated into two zones. Private third-party dredgers are allowed to dispose of material within the southwestern zone only, while federal projects may utilize both zones as needed.

CCNW ODMDS Characteristics

The CCNW ODMDS (Figure 3) is rectangular in shape and encompasses 7.38 mi<sup>2</sup> (5.57 nmi<sup>2</sup>) in water depths naturally ranging from approximately 46 to 53 feet. The site is located

approximately 3.1 mi (2.7 nmi) offshore. Table A-2 lists the corner coordinates of the overall site.

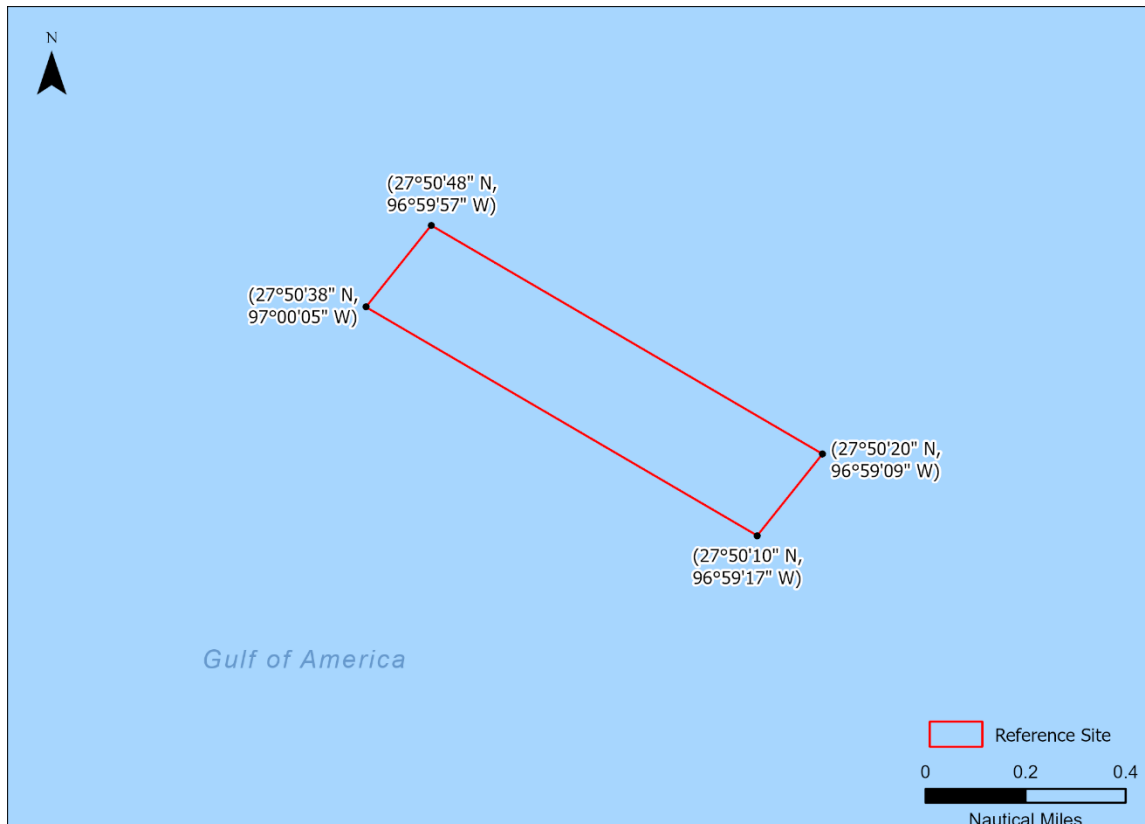


**Figure 3. CCNW ODMDS and Disposal Zone (NAD83).**

The site includes a buffer zone of 500 feet immediately inside the site boundaries of the CCNW ODMDS to prevent short-term transport of material outside of the site.

Reference Site Characteristics

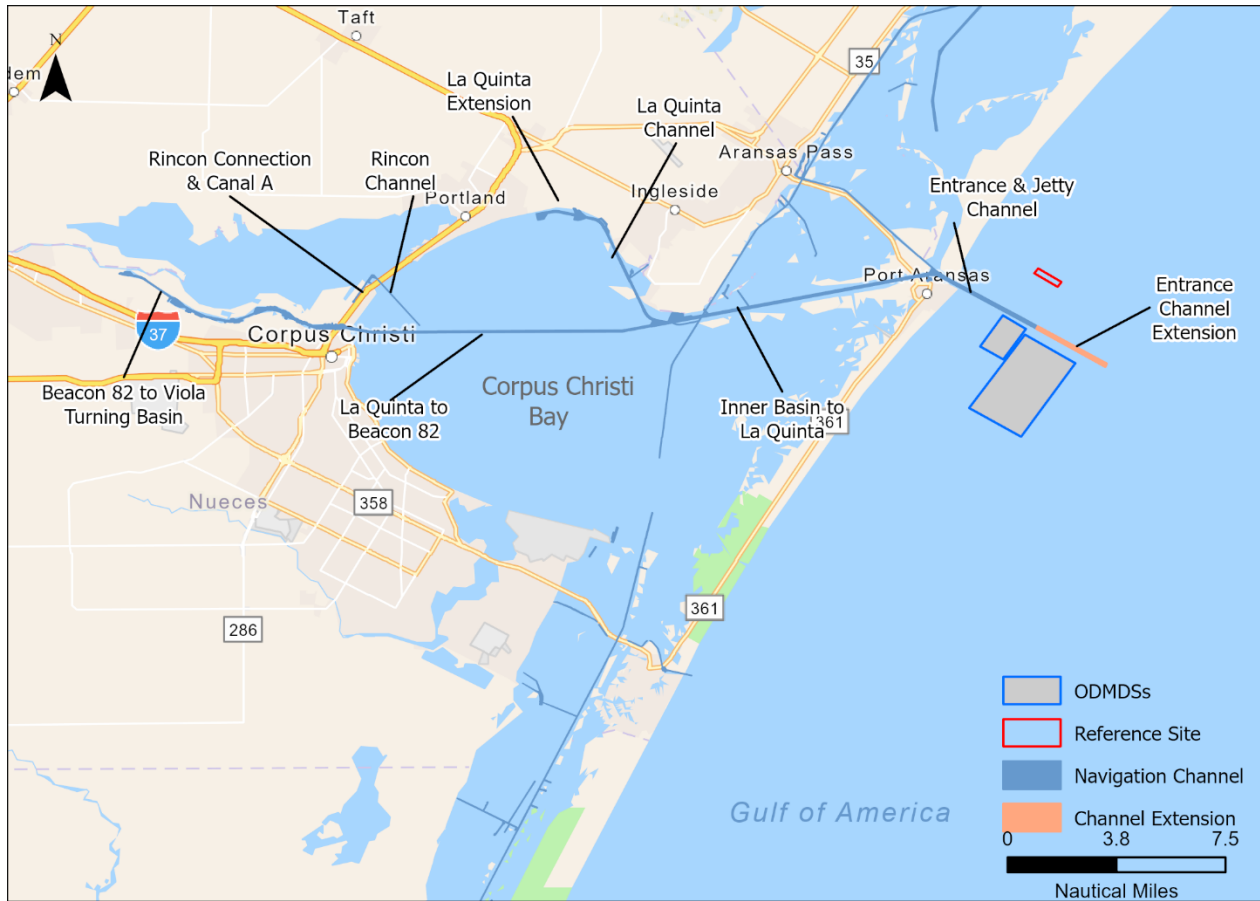
For designation of the sites and for management purposes, the EPA identified a reference site (Figure 4) that is rectangular in shape and encompasses 0.23 mi<sup>2</sup> (0.17 nmi<sup>2</sup>). The reference site is located north of the CCSC ODMDS and is approximately 2.5 mi (2.2 nmi) offshore. Table A-3 lists the corner coordinates of the reference site.



**Figure 4. Reference Site (NAD83).**

### 2.3. Site Use

The CCSC ODMDS has been historically used for placement of dredged material from the Corpus Christi Entrance and Jetty Channel (Figure 5 and Table A-5). During the period from 1989 through 2016, the average maintenance dredging frequency for the Entrance and Jetty Channel was approximately 2.5 years, with an average of 991,900 cubic yards (CY) of material excavated per dredging contract. Maintenance dredging quantities are expected to double following the completion of the Corpus Christi Ship Channel Improvement Project (CCSCIP). Therefore, the projected average maintenance dredging frequency is two (2) years for the Entrance and Jetty Channels with an estimated volume of 1.25 million cubic yards (MCY) per dredging contract (Table A-6 and Table A-7) (USEPA, 2018). The District plans to utilize the site to dispose of other suitable material from other channel segments less frequently (USACE, 2019). The future suitable maintenance material from the other channel segments may be placed at the CCSC ODMDS on a case-by-case basis.



**Figure 5. Corpus Christi Ship Channel Segments.**

The EPA initially designated the CCNW ODMDS site as part of the U.S. Navy’s Strategic Homeporting Project, but the site remained unused until the beginning of the CCSCIP in 2019. New work quantities are expected to increase significantly as the channel expansion projects (Table A-7) progress. Future suitable new work material from channel segments may be placed at the CCNW ODMDS on a case-by-case basis.

The proposed and ongoing development projects by federal and non-federal users within and around the Port of Corpus Christi are anticipated to generate volumes of dredged material that would have exceeded the available capacity for disposal at the unmodified sites. The District indicated that there is likely insufficient capacity at the federal upland placement areas to accommodate the new work dredged material generated by the CCSCIP, the proposed CDP, the non-federal Very Large Crude Carrier (VLCC) export terminals, as well as additional future expected non-federal projects. This necessitated the expansion of both the CCSC and CCNW ODMDSs as outlined in this SMMP.

#### **2.4. Past Monitoring Activities**

Baseline assessments and monitoring provide an important record of changes at the sites that have occurred during the use of the sites. Bathymetric surveys may be conducted before and after each disposal event. Other monitoring activities completed at the ODMDSs are outlined in Table

A-8. Data collected during these surveys are used to inform future monitoring activities and site disposal activity.

## **2.5. Site Characterization**

### **2.5.1. Physical Characterization**

Details of baseline physical conditions for the CCSC ODMDS are contained in the EIS supporting designation of the site in 1989 (USEPA, 1989). Likewise, baseline physical conditions at the CCNW ODMDS are contained in the EIS supporting the designation of the United States Navy Gulf Coast Strategic Homeporting Corpus Christi/Ingleside, Texas Ocean Dredged Material Disposal Site (USEPA, 1988).

In the 2020 EPA Monitoring Survey, samples were collected from three locations proximal to ten pre-defined centroid sampling locations throughout the CCSC and CCNW ODMDSs, prior to their expansion, and across the entire survey area. Table A-9 outlines summary statistics for samples taken both inside and outside the ODMDSs.

The CCSC ODMDS is approximately 1.9 miles (1.7 nmi) from shore with the sea floor gently sloping to depths ranging from 35 to 50 feet. During the 2020 EPA Monitoring Survey, the CCSC ODMDS was characterized as 73.4% sand and 26.1% silt and clay, with proportions of silt and clay increasing as distance from shore increases (Tetra Tech, Inc., 2020). The 2020 survey indicated that no trends in sediment grain size or contamination were apparent within the CCSC ODMDS, and all analytes were in very low concentrations. The area is characterized by predominant longshore currents to the northeast driven by the larger circulation patterns of the Gulf of America (USEPA, 2024). The CCSC ODMDS is characterized by a significant amount of biological activity with numerous bottom types that experience horizontal and vertical mixing forces of wave and current dynamics which contribute to dispersive conditions (Tetra Tech, Inc., 2020; USEPA, 2024).

The CCNW ODMDS is approximately 3.1 mi (2.7 nmi) from shore with the sea floor gently sloping to depths ranging from 46 to 53 feet. During the 2020 EPA Monitoring Survey, the CCNW ODMDS was characterized as 69.4% sand and 30% silt and clay, with proportions of silt and clay increasing as distance from shore increases (Tetra Tech, Inc., 2020). The 2020 survey indicated that no trends in sediment grain size or contamination were apparent within the CCNW ODMDS, and all analytes were in very low concentrations. The area is characterized by predominant longshore currents to the northeast driven by the larger circulation patterns of the Gulf of America (USEPA, 2024). The CCNW ODMDS is characterized by a significant amount of biological activity with numerous bottom types that experience horizontal and vertical mixing forces of wave and current dynamics which contribute to dispersive conditions (Tetra Tech, Inc., 2020; USEPA, 2024).

### **2.5.2. Chemical Characterization**

Details of baseline chemical conditions for the CCSC ODMDS are contained in the EIS supporting designation of the site in 1989 (USEPA, 1989). Likewise, baseline chemical conditions at the CCNW ODMDS are contained in the EIS supporting the designation of the United States Navy Gulf Coast Strategic Homeporting Corpus Christi/Ingleside, Texas Ocean Dredged Material Disposal Site (USEPA, 1988).

Results of the 2020 ODMDS expansion survey indicated no apparent trends in sediment chemistry at either the CCSC or CCNW ODMDSs (Table A-10). Three analytes, barium, manganese and nickel, exceeded screening thresholds (Table A-11) with a co-occurrence of concentrations with higher proportions of silt and clay; however, all analytes were in low concentrations lacking risk potential and indicated no issues of concern.

### **2.5.3. Biological Characterization**

Original designation survey results indicated the greatest abundance of phytoplankton occurred off the coast of Corpus Christi during summer months (USEPA, 1988; USEPA, 1989) with species abundance increasing with increasing distance from shore. Dominant species were mostly diatoms for phytoplankton and copepods for zooplankton, are typical for the South Texas coast. The 2020 survey results indicate that areas both inside and outside of the ODMDSs are very similar in terms of benthic species abundance and composition of major taxonomic groups (Annelida, Mollusca, Arthropoda). The benthic habitats both inside and outside the ODMDSs were dominated by annelids (polychaete, *Magelona uebelackerae*) with other taxa (arthropods) also abundant in significant numbers outside the ODMDSs (BVA, 2020). These benthic macroinfaunal assemblages found at stations both inside and outside the CCSC ODMDSs are adapted to a fluctuating environment and are typical of those found in nearshore, shallow water benthic habitats (Felder and Kemp, 2009).

### **2.5.4. Discussion of Critical Amenities**

There are no designated marine sanctuaries or reefs in the area, although there is a fish obstruction/haven approximately 3,800 feet to the north of the CCSC ODMDS.

As documented in the 1988 and 1989 EISs (USEPA, 1988; USEPA, 1989), the National Marine Fisheries Service (NMFS) had identified 10 species of aquatic vertebrates that were considered endangered or threatened in the greater project assessment area. These species included the green sea turtle (*Chelonia mydas*), Kemp's ridley sea turtle (*Lepidochelys kemp*), leatherback sea turtle (*Dermochelys coriacea*), loggerhead sea turtle (*Caretta caretta*), hawksbill sea turtle (*Eretmochelys imbricata*), blue whale (*Balaenoptera musculus*), black right whale (*Eubalaena glacialis*), common finback whale (*Balaenoptera physalus*), and sperm whale (*Physeter macrocephalus*).

Currently, the threatened and endangered species and critical habitats listed under the NOAA Fisheries jurisdiction include the green sea turtle (*Chelonia mydas*), Kemp's ridley sea turtle (*Lepidochelys kemp*), leatherback sea turtle (*Dermochelys coriacea*), loggerhead sea turtle (*Caretta caretta*), hawksbill sea turtle (*Eretmochelys imbricata*), oceanic whitetip shark (*Carcharhinus longimanus*), giant manta ray (*Manta birostris*), sperm whale (*Physeter macrocephalus*) and rice's whale (*Balaenoptera ricei*). The 2026 Environmental Assessment supporting expansion of the existing ODMDSs outlines the EPA's determination of effect for all listed species.

### 3. SITE MANAGEMENT

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Appropriate management of an ODMDS assures that disposal activities do not unreasonably degrade or endanger human health, welfare, the marine environment, or economic potentialities as directed under MPRSA Sections 102 and 103. The primary objectives for management of an ODMDS include, but are not limited to:

- Protecting the marine environment, such that:
  - No unacceptable physical, chemical, or biological impacts occur inside or outside the disposal site; and
  - Adequate site monitoring is conducted to detect environmental impacts.
- Ensuring that disposed material (1) meets the suitability requirements of the MPRSA regulations (40 C.F.R. Parts 220 through 228) and (2) is consistent with national and regional guidance for the evaluation of dredged material proposed for ocean dumping.
  - Under MPRSA Section 103, evaluation of any proposed dumping of dredged material into ocean waters must apply the EPA marine protection criteria. To apply the criteria, the Ocean Testing Manual, sometimes referred to as the Green Book (USEPA and USACE, 1991), and the Regional Implementation Agreement (RIA) (USEPA and USACE, 2003) provide guidance for sampling, testing, and analysis of water, sediment, and biological tissue to evaluate the environmental acceptability of dredged material proposed for ocean disposal. The criteria prohibit the ocean dumping of uncharacterized materials (40 C.F.R. Section 227.5(c)).
- Identifying management conditions to be implemented by the EPA and the District, as well as conditions that should be required in permits, authorizations, and documents establishing the terms of a federal project applicable to transportation and dumping in ocean waters.
  - For federal projects, the EPA should specify in the MPRSA concurrence letters that the EPA concurrence itself is conditioned on incorporation of the EPA concurrence conditions into any of the District's federal contract documents.
- Maintaining a long-term disposal alternative for dredged material, while encouraging beneficial use of dredged material where practicable.
- Identifying a schedule or condition triggering a review or renewal of this SMMP.

SMMP sections 3.1 through 3.4 summarize the disposal operation conditions that would be considered for management of the CCSC and CCNW ODMDSs as described in [40 C.F.R. Section 228.15\(j\)\(16-17\)](#). Enforceable conditions for dredged material disposal operations at the sites are included in the District-issued permits and transportation and dumping authorization documents for federal projects. The conditions intended to be enforceable are identified in this SMMP as necessary under MPRSA Section 103(a) or 103(e) and should be included as conditions in the EPA's concurrence if the permit or authorization documents do not already require such conditions.

The template language in Appendix B is intended to be applicable to dredging projects involving disposal of dredged material that are permitted by the District (federal and non-federal) as well as to the District-authorized federal projects involving dredged material, regardless of whether Government owned and operated dredging equipment or contracted equipment is used. The EPA may determine not to include one or more of the conditions identified in Appendix B. The EPA may also specify or confirm additional project-specific conditions in its concurrence.

Conditions and reporting requirements derived from the disposal site regulations and this SMMP become enforceable when included in MPRSA Section 103 permits, and in transportation and disposal-related authorizations for federal projects, when included in the District federal contract documents or other federal project specification documents.

Violations of the MPRSA by a permittee or dredging contractor—including conditions established in an MPRSA permit or federal project authorization—are subject to compliance action including suspension of disposal operations or possible assessment of substantial administrative, civil, or criminal penalties, or other injunctive remedies, as appropriate.

### **3.1. Marine Protection Criteria Compliance Process**

The District uses the marine protection criteria when evaluating permit applications and when implementing federal projects involving dredged material in ocean waters. The disposition of dredged material in the ocean must comply with the marine protection criteria unless the activity is expressly excluded (for example, for construction of a fixed structure or artificial island), and the EPA reviews the demonstrations of compliance when reviewing permits and projects for written concurrence, which may include conditions that must be incorporated into the permit or project authorization documents.

In the case of federal projects involving dredged material, the District implements substantive MPRSA requirements directly, including through the District contractors. Federal projects, though not required to have a permit, must adhere to the same criteria, factors to be evaluated, procedures, and requirements that apply to permits, including the process for evaluation of the project. Federal projects must receive the EPA's concurrence prior to authorization of transportation and disposition of dredged materials, and authorizing documents must contain any conditions included in the EPA's concurrence. The EPA and the District would coordinate early in the contracting process so that the District can incorporate any the EPA concurrence conditions into project authorization documents as early in the process as is feasible.

Ocean disposal of dredged materials from non-federal projects requires a permit issued by the District pursuant to MPRSA Section 103. A summary of the permitting process can be found at <https://www.epa.gov/marine-protection-permitting/mprsa-dredged-material-permits>.

### **3.2. Dredged Material Characterization**

Prior to any disposal of dredged material at the CCSC or CCNW ODMDSs, the EPA and the District evaluate the project applying the marine protection criteria (40 C.F.R. Part 227). To do so, it is important that the EPA and the District agree on the sampling and analysis plan for each project prior to any sampling of proposed dredged material.

Guidance for a process to determine the suitability of dredged material proposed for disposal at the CCSC or CCNW ODMDSs is described in the Ocean Testing Manual, sometimes referred to as the Green Book (USEPA/USACE, 1991), and the Regional Implementation Agreement (RIA) (USEPA/USACE, 2003).

Steps include:

1. Case-specific evaluation of proposed material against the exclusion criteria (40 C.F.R. Section 227.13(b));

2. Determination of the need to test non-excluded material, taking into consideration the time since previous testing and the potential of sediment contamination since last verification;
3. Conducting required testing to determine the suitability of the material for ocean disposal; and
4. Review and evaluation of testing data results by the District and the EPA to determine suitability.

Additional reviews by stakeholders including the public, states and other federal agencies would also be conducted through the District permitting or authorization processes.

Only material that the District and the EPA have determined to be suitable and in compliance with the marine protection criteria (40 C.F.R. Part 227) may be considered for transportation and disposal in the ODMDSs. No disposal activities may occur at the site until the EPA reviews the testing data results and transmits its written concurrence that the material is acceptable for disposal at the site. Additional information describing the types of material disposed at the site (source location, sediment type, etc) are discussed in Section 2.3 of this document.

### **3.3. Dredged Material Transportation and Disposal**

#### **3.3.1. Disposal Locations**

The dredged material release zone regulation at 40 C.F.R. Section 227.28 requires that release into an ODMDS occur at least 330 feet (100 meters) inside ODMDS boundaries. Implementation of the buffer for the release zone within the site boundaries ensures that dredged material released at the surface falls on the seabed within the site boundaries. Disposal authorization documents (e.g., a permit or federal project contract term) should require that disposal be both initiated and completed (i.e., doors closed) within the release zone boundary.

#### **3.3.2. Disposal Methods**

For enforcement and compliance assurance purposes, the permit or authorization documents should specify a requirement for “closed doors” to require both physically closed doors and a properly functioning hull status monitor indicating that the doors are closed. The permit or disposal authorization documents also should specify methods to prevent mounding of dredged materials from becoming an unacceptable navigation hazard.

#### **3.3.3. Disposal Vessel Tracking**

All permits and projects should specify a requirement for use of an electronic tracking system (ETS). An ETS provides surveillance of the transportation and disposal of dredged material. An effective ETS consists of a visual display of the beginning and ending locations of the disposal event relative to the disposal zone and is maintained and operated to continuously track the horizontal location and draft condition (accuracy $\pm$  0.1 foot) of the disposal vessel (i.e. hopper dredge or disposal scow) from the point of dredging to the disposal site and return to the point of dredging. Data should be required to be collected at least every 0.25 nmi or every four minutes during travel to and from the ODMDS and every 12 seconds or every 30 feet of travel within the ODMDS and while hull status is open. In addition to the continuous tracking data, the authorizing document also should specify that the following trip information be electronically recorded for each disposal cycle:

- Load Number
- Disposal Vessel Name and Type (e.g. scow)
- Estimated volume of Load
- Description of Material Disposed
- Source of Dredged Material
- Date, Time and Location at Initiation and Completion of Disposal Event

It is expected that disposal monitoring will be conducted utilizing the Dredge Quality Management (DQM) system [i.e., <http://dqm.usace.army.mil/Specifications/Index.aspx>], or equivalent acceptable system. Disposal monitoring ETS data would need to be reported to EPA Region 6 on a weekly basis utilizing the eXtensible Markup Language (XML) specification and protocol as described above.

The authorizing documents should require that EPA Region 6 and the District be notified within 24 hours (or the next business day) if any apparent leaking or spilling of dredged material occurs as indicated by an average loss of draft during transit from the dredging area to the disposal release zone(s) more than 2.0 feet. An average loss of draft transit means forward draft loss plus aft draft loss divided by 2. In addition, the permittee or federal project manager (and any disposal contractor) needs to understand that no debris is to be placed in the ODMDSs. Alerts would need to be sent via email within 24 hours of the District (and any disposal contractor) or the permittee becoming aware of the apparent issue. Both for federal and non-federal projects, the District representative would need to send the notification via email to the EPA Region 6 MPRSA Coordinator and pertinent MPRSA Program Staff (<https://www.epa.gov/marine-protection-permitting/forms/marine-protection-permitting-program-regional-contacts>).

If the event occurs on the weekend or holiday, notification would need to be made the following business day. If the EPA deems the event warrants further investigation, it would contact the District, and the District representative would follow up in a timely manner with a letter of justification, including how the incident occurred, how the issue would be addressed, pertinent dates, and corrective actions to be implemented to prevent repetition in the future.

### **3.4. Disposal Reporting**

#### **3.4.1. Project Initiation and Violation Reporting Requirements**

The District, or other site user, would need to notify the EPA at least 15 days prior to the beginning of a dredging cycle or disposal project. The user also would need to be required to notify the District and EPA within 24 hours if a violation of the permit and/or contract conditions related to required terms of the permit or project authorization occur during disposal operations.

Alerts regarding any degree of apparent disposal outside the ODMDS boundaries, and/or regarding any apparent substantial leakage/spillage or other loss of material on route to the ODMDS would need to be sent via email within 24 hours of the District or the permittee becoming aware of the apparent issue. Both for federal and non-federal projects, the District representative would need to send the notification via email to the EPA Region 6 MPRSA Coordinator and pertinent MPRSA Program Staff (<https://www.epa.gov/marine-protection-permitting/forms/marine-protection-permitting-program-regional-contacts>). If the event occurs on the weekend or holiday, notification would need to be made the following business day.

If the EPA deems the event warrants further investigation, the District representative would need to follow up in a timely manner with a letter of justification, including how the incident occurred, how the issue would be addressed, pertinent dates, and corrective actions to be implemented to prevent repetition in the future.

#### **3.4.2. Reporting Leaks, Spills or Dumping Outside the Site Boundaries**

Alerts regarding any degree of apparent dumping outside the ODMDS boundaries and/or any apparent significant leakage/spillage or other loss of material (including turbid water) in-route to either site (including excessive leakage as defined in the permit, contract term, or concurrence letter) should be sent via email within 24 hours of the permittee becoming aware of the apparent issue to the EPA Region 6 MPRSA staff and the District Regulatory Project Manager. If the event occurs on the weekend or holiday, notification should take place the following business day.

#### **3.4.3. Post-Disposal Summary Reports**

A site user would need to be required to provide a Post Disposal Summary Report to the EPA within 90 days after project completion if the project has had an incident indicating a loss of material occurred. Post Disposal reports would need to be required to include: vessel name, disposal start and end dates and times; dredging project; volume disposed, number of loads completed, type of material disposed; name of contractor conducting the work, permit and/or contract number; identification of any misplaced material; and dates of bathymetric surveys of the ODMDS. The disposal summary reports would need to be submitted with the bathymetry survey results (contour plot and X, Y, Z ASCII data file).

#### **3.4.4. Pre- and Post-Disposal Bathymetric Monitoring Requirements**

Pre- and post-disposal bathymetric surveys should be conducted by the District, or may be conducted by the permittee, along transects within the ODMDSs and extending 500 feet beyond the outside of the periphery of the ODMDSs. Transects should be taken perpendicular to the channel at a maximum spacing of approximately 500 feet. The recommended minimum performance standards for bathymetric surveys are as follows:

- Determined horizontal location of the survey lines and depth sounding points by an automated positioning system utilizing a differential global positioning system.
- Reference vertical datum to prescribed NOAA Mean Lower Low Water (MLLW) datum.
- Reference horizontal datum to the local State Plane Coordinate System (SPCS) for that area or in Geographical Coordinates (latitude-longitude).
- Reference horizontal reference datum using the North American Datum of 1983 (NAD 83).

All data should be collected using methodology described in Engineer Manual EM 1110-2-1003 ([https://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM\\_1110-2-1003.pdf](https://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_1110-2-1003.pdf)).

Pre-disposal bathymetric surveys would need to be conducted by the District or site user within three (3) months of project disposal. Post-disposal bathymetric surveys would need to be

conducted within 45 days after disposal project completion. Results from post- and pre-dredge bathymetry should be provided to EPA Region 6 when completed.

#### **3.4.5. Data Management**

The District currently maintains an Ocean Disposal Database (<https://odd.el.erd.c.dren.mil/>) through the Engineering Research and Development Center (ERDC). This database stores information on the quantities disposed of at the ODMDS and whether the material is from a civil works project or private entity. The EPA Region 6 and the District have agreed to use an eXtensible Markup Language (XML) standard for sharing of disposal monitoring data.

#### 4. SITE MONITORING

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Site monitoring is conducted to ensure the environmental integrity of a disposal site and the areas surrounding the site as well as to verify compliance with the site designation criteria; any special management conditions; and permit, contract, or Federal project authorization document requirements. Monitoring programs should be flexible, cost effective, and based on scientifically sound procedures and methods to meet site-specific monitoring needs. Tiered approaches to monitoring should be used where specific management actions or additional monitoring activities may be triggered when unacceptable environmental conditions are recorded.

Specific goals of the monitoring program are to provide the following:

1. Information indicating whether the disposal activities are occurring in compliance with the permit (or Federal project authorization documents) and site restrictions;
2. Information on the short-term and long-term fate of materials disposed of in the marine environment; and,
3. Information concerning the short-term and long-term environmental impacts of disposal activities.

The site monitoring program describes the monitoring actions that should be taken if issues are found during routine trend assessment monitoring or any other means. A tiered strategy for a monitoring program is used to ensure that more advanced monitoring activities are used only when necessary. With a tiered approach, an unacceptable environmental condition may trigger further and often more complex monitoring and/or changes to the management of the site. Data collected during site monitoring should be used to adjust site management and/or revise the SMMP.

A monitoring program should be structured to address specific questions (i.e., hypotheses) and measure key indicators and endpoints, particularly those defined during site designation or specific project-related issues that arise. Multi-year trend analyses are required in federal regulations at 40 C.F.R. Section 228.13. Trend analyses should be used to determine whether there are consistent changes from previous site conditions or baseline conditions. At a minimum, a trend assessment survey should be conducted at least once every ten years to support review and, if necessary, revision of the SMMP. Results from these surveys should be used to assess the need for additional targeted or more complex studies.

The monitoring program for the CCSC and CCNW ODMDs is designed to address the following questions:

*What are the short- and long-term fates of the material disposed at the sites?*

Fate considerations would include:

- Does disposed dredged material remain within the site boundaries or leave the site?
- If any disposed material leaves the sites, where does it go? Does it move toward sensitive areas such as marine sanctuaries or productive fisheries?
- Does disposed material create mounds within the sites or result in a dispersed layer on the sea bottom?
- Is there a potential for interference with navigation due to mounding of disposed material?
- Was any material dumped outside of the site boundaries?

*What are the short- and long-term environmental impacts of the disposal of material at the sites?*  
Environmental impact considerations would include:

- Has the benthic community structure changed due to disposal activities?
- Is there an absence of pollution-sensitive biota at the sites?
- Are there progressive, non-seasonal changes in water quality, sediment composition, or numbers of pelagic, demersal, or benthic biota at or near the disposal sites?
- Has there been an increase in contaminant levels in the sediments or biota at or near the sites?
- Are there any other impacts detected inside or outside the site boundaries?

Sections 4.1 and 4.2 below describe the monitoring strategy at the sites to address these and other questions and summarize the management actions that should be considered by the EPA, in coordination with the District, if thresholds are exceeded.

#### **4.1. Monitoring the Transportation, Disposal, and Fate of Disposed Materials**

Monitoring the transportation and disposal process is necessary to confirm that the disposal activities comply with all permit conditions and site restrictions. Monitoring the location and movement of disposed material at the site should be used to ensure that disposed material remains within the designated site boundaries, to determine that any accumulation of disposed material does not pose a navigational hazard in the area, and to confirm that future site use will not exceed the site's capacity. The monitoring activities used to achieve each of these management goals are summarized in Table 1.

**Table 1. Summary of Activities to Monitor the Transportation, Disposal and Fate of Disposed Material and Thresholds for Action.**

MANAGEMENT GOAL	MONITORING ACTIVITY	RESPONSIBLE ENTITY	PURPOSE	FREQUENCY	THRESHOLD FOR ACTION	THRESHOLD NOT EXCEEDED	THRESHOLD EXCEEDED
Ensure compliance with permit conditions and site restrictions	Disposal site use records and DQM data	Site User	Ensure management requirements are being met	Continuously during the project with weekly reports to project manager and/or EPA	Disposal records required by SMMP are not submitted or are incomplete.	Continue monitoring.	-Restrict site use until requirements are met.
					Review of records indicates a dump occurred outside ODMDS boundary, excessive leakage en route to disposal.	Continue constant monitoring and reporting.	-Notify the EPA Region 6 & the District and investigate why non-compliance occurred. -Verify corrective actions to be enacted; or -Take appropriate enforcement action.
Monitor Bathymetric Trends		Site User	Determine the extent of the disposal mound and major bathymetric changes or trends.	Post-Disposal for projects	Disposal mound occurs outside ODMDS boundaries.	Continue monitoring.	-Modify disposal method/disposal. -Restrict disposal volumes. -Consider the need for environmental monitoring
Ensure that site use does not exceed total site capacity	Bathymetry and capacity modeling	Site User or the District	Determine that large project volumes can be accommodated based on most recent bathymetry.	All projects	Verify that disposal will remain in the ODMDS at proposed (maximal) volume.	No action.	-Modify disposal. -Restrict disposal volumes. -Expand or modify the site.
Ensure Safe Navigation Depth	Bathymetry	Site User	Determine height of mound and any excessive mounding.	Pre & Post disposal for projects	Mounding height greater than 10 feet <sup>1</sup> from existing bottom elevation for CCSC ODMDS Mounding height greater than 15 feet <sup>1</sup> from existing bottom elevation for CCNW ODMDS	Continue Monitoring.	-Modify future disposal method/disposal.  -Restrict disposal volumes.

<sup>1</sup>Unless an alternate height is determined in agreement between EPA and District on a case-by-case basis.

#### **4.1.1. Post-Disposal Monitoring Requirements**

The District, or other site user, should be required to conduct a bathymetric survey consistent with the pre-disposal survey requirements within 45 days after disposal project completion. The number and length of transects required will be sufficient to encompass the release zone and a surrounding buffer zone of at least 500 feet in width from the outside boundary of each site. Bathymetric surveys should be required to monitor the disposal mound to ensure a navigation hazard is not produced, to assist in verification of material disposal, to monitor bathymetry changes and trends, and to ensure that the site capacity is not exceeded (i.e., the dredged sediment does not exceed the site boundaries on disposal).

#### **4.1.2. Post-Disposal Summary Reports**

A site user would need to be required to provide a Post-Disposal Summary Report to the EPA within 90 days after project completion. Post-Disposal reports would need to be required to include: vessel name, disposal start and end dates and times, dredging project, volume disposed, number of loads completed, type of material disposed, name of contractor conducting the work, permit and/or contract number, identification of any misplaced material, and dates of bathymetric surveys of the ODMDSs. The disposal summary reports would need to be submitted with the bathymetry survey results (contour plot and X, Y, Z ASCII data file).

#### **4.2. Monitoring Environmental Effects of Disposed Material**

Monitoring of impacts to the physical, chemical, and biological environment is necessary to ensure that the transport and disposal of dredged material does not result in unreasonable degradation to the marine environment or endanger human health, welfare, or economic potentialities.

The environmental impacts monitoring plan for the CCSC and CCNW ODMDSs summarized in Table 2 below is structured as a tiered monitoring approach; unacceptable conditions discovered during a lower tier assessment should trigger additional testing or other management action.

The District and EPA periodically assess environmental conditions of the entire site and surrounding area and consider other environmental data that may have been collected by other entities in the area. Periodically collected information is then used to assess overall site conditions and to conduct trend assessments. Enhanced environmental effects monitoring should be triggered if disposed material is found to have unexpectedly left the site or is observed in unexpected locations during the transportation, disposal, and fate monitoring activities described in section 4.1 of this document. Any monitoring at the site that identifies an issue of potential concern should trigger additional monitoring or management actions.

**Table 2. Environmental Impacts Monitoring Activities and Thresholds for Action.**

FREQUENCY	RESPONSIBLE ENTITY	MONITORING ACTIVITY	PURPOSE	THRESHOLDS FOR ACTION	THRESHOLD NOT EXCEEDED	THRESHOLD EXCEEDED
<b>Tier 1: Benthic Effects Monitoring &amp; Trend Assessment (40 C.F.R. Section 228.13)</b>						
Approximately every 10 years	EPA	Sediment Mapping (Gamma/ CS3), SPI	Determine aerial influence of dredged material	-Absence of pollution-sensitive biota at the site	Continue monitoring on prescribed schedule	-Conduct Tier 2 or Tier 3 Environmental Effects Monitoring -Review dredged material evaluation procedures and amend, if necessary -Discontinue site use.
		Water and Sediment Quality, Benthic Community Analysis (40 C.F.R. Section 228.13)	Periodically evaluate the impact of disposal on the marine environment (40 C.F.R. Section 228.9)	-Progressive non-seasonal changes in water or sediment quality		
<b>Tier 2: Environmental Effects Monitoring</b>						
Implement if disposal footprint extends beyond the site boundaries or if Tier 1 Trend Assessment results exceed established thresholds	EPA/the District	Chemical monitoring	Determine if sediment chemical contaminants are significantly elevated <sup>1</sup> within, and outside of, site boundaries.	Contaminants are found to be elevated in dredged sediments. <sup>1</sup>	Discontinue specific event monitoring	-Conduct directed, specific contaminant monitoring to define extent of management action required. -Perform biological testing on ODMDS samples (Tier 3) -Review and potentially alter dredged material evaluation procedures
		Benthic community monitoring	Determine whether there are adverse changes in the benthic populations outside of the site and evaluate recovery rates	Adverse changes observed outside of the site that may endanger the marine environment		

**Tier 3: Advanced Environmental Effects Monitoring**

Implement if Tier 2 environmental effects monitoring exceed established thresholds.	EPA/the District	Tissue chemical bioaccumulation analysis	Determine if the site is a source of adverse bioaccumulation which may endanger the marine environment.	Benthic body burdens and risk assessment models indicate potential for food chain impacts.	Discontinue monitoring	-Implement case-specific management options (e.g., remediation, limits on quantities or types of material disposed)
		Benthic effects monitoring	Determine if the site is a source of adverse sub-lethal <sup>2</sup> changes in benthic organisms which may endanger the marine environment.	Sub-lethal effects are unacceptable.		- Discontinue site use

<sup>1</sup> Significantly elevated: Concentrations above the range of contaminant levels in dredged sediments that the EPA and the District found to be suitable for disposal at the ODMS based on use of the regional testing manual.

<sup>2</sup> Examples of sub-lethal effects include without limitation the development of lesions, tumors, development abnormality, and/or decreased fecundity.

## **5. MODIFICATION OF THIS SMMP**

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This plan is effective and available for implementation from the date of signature. MPRSA section 102(c)(3) directs the EPA, in conjunction with the District, to review and revise this SMMP at least every ten years or sooner if site use and conditions at the site indicate a need for revision. Conditions for updating this SMMP may include but are not limited to:

Significant changes in disposal site use (change in frequency, site expansion, de-designation, new dredged material source location, etc.). Discovery of significant impacts to the physical, chemical, or biological environment during monitoring activities. Any other conditions or changes at the site or area surrounding the site that may necessitate a review or update to the SMMP.

## 6. REFERENCES

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**APPENDIX A – SITE CONDITIONS**

**Table A- 1. CCSC ODMDS and Disposal Zone Coordinates (NAD83).**

<b>COORDINATE</b>	<b>LATITUDE</b>	<b>LONGITUDE</b>	<b>CENTROID LATITUDE</b>	<b>CENTROID LONGITUDE</b>
ODMDS/Buffer Zone Northwest	27°49'11.28" N	97°01'9.84" W	27°48'25.56" N	97°01'9.48" W
ODMDS/Buffer Zone Northeast	27°48'43.20" N	97°00'22.32" W		
ODMDS/Buffer Zone Southeast	27°47'40.56" N	97°01'9.12" W		
ODMDS/Buffer Zone Southwest	27°48'7.20" N	97°01'56.64" W		
Federal Disposal Zone Northwest	27°49'4.08" N	97°01'8.40" W	27°48'39.24" N	97°00'59.04" W
Federal Disposal Zone Northeast	27°48'41.76" N	97°00'29.52" W		
Federal Disposal Zone Southeast	27°48'14.40" N	97°00'50.04" W		
Federal Disposal Zone Southwest	27°48'36.36" N	97°01'28.56" W		
Federal/Non-federal Disposal Zone Northwest	27°48'36.36" N	97°01'28.56" W	27°48'11.52" N	97°01'19.56" W
Federal/Non-federal Disposal Zone Northeast	27°48'14.40" N	97°00'50.04" W		
Federal/Non-federal Disposal Zone Southeast	27°47'47.40" N	97°01'10.56" W		
Federal/Non-federal Disposal Zone Southwest	27°48'8.64" N	97°01'48.72" W		

**Table A- 2. CCNW ODMDS and Disposal Zone Coordinates (NAD83).**

<b>COORDINATE</b>	<b>LATITUDE</b>	<b>LONGITUDE</b>	<b>CENTROID LATITUDE</b>	<b>CENTROID LONGITUDE</b>
ODMDS/Buffer Zone Northwest	27°48'31.68" N	97°00'24.12" W	27°46'46.20" N	97°00'29.16" W
ODMDS/Buffer Zone Northeast	27°47'32.64" N	96°58'40.44" W		
ODMDS/Buffer Zone Southeast	27°45'1.08" N	97°00'32.04" W		
ODMDS/Buffer Zone Southwest	27°46'0.48" N	97°02'19.32" W		
Disposal Zone Northwest	27°48'24.83" N	97°00'22.73" W	27°46'46.20" N	97°00'29.16" W
Disposal Zone Northeast	27°47'31.13" N	96°58'48.15" W		
Disposal Zone Southeast	27°45'7.95" N	97°00'33.87" W		

Disposal Zone  
Southwest      27°46'1.89" N      97°02'11.54" W

**Table A- 3. Reference Site Coordinates (NAD83).**

COORDINATE	LATITUDE	LONGITUDE	CENTROID LATITUDE	CENTROID LONGITUDE
Reference Northwest	27°50'48" N	96°59'57" W	27°50'29.04" N	96°59'36.96" W
Reference Northeast	27°50'20" N	96°59'09" W		
Reference Southeast	27°50'10" N	96°59'17" W		
Reference Southwest	27°50'38" N	97°00'05" W		

**Table A- 4. Corpus Christi Channel Reaches and Descriptions.**

SEGMENT/REACH	FROM STATION	TO STATION
Entrance Channel Extension	-330	-210
Entrance Channel	-210	36+00
Inner Basin to La Quinta	36+00	500+00
La Quinta to Beacon 82	500+00	1100+00
Beacon 82 to Viola Turning Basin	1100+00	1587+44.99
La Quinta Channel	0+00	300+00
La Quinta Extension	300+00	382+52.00
Rincon Channel	0+00	154+12.61
Rincon Connection and Canal A	1+09.01	69+94.94

**Table A- 5. Maintenance Dredging Disposal History at the CCSC ODMDS.**

START DATE	COMPLETION DATE	DREDGED MATERIAL VOLUME (CY)
May 12, 1969	July 3, 1969	898,568
June 8, 1970	July 19, 1970	570,010
May 19, 1971	September 25, 1971	4,846,577
July 3, 1972	June 30, 1973	1,749,500
March 5, 1973	March 26, 1973	123,036
July 1, 1973	November 6, 1973	1,586,547
September 23, 1976	October 27, 1976	1,026,053
April 20, 1979	May 31, 1977	671,622
April 14, 1978	August 2, 1978	337,422
August 14, 1980	December 31, 1980	1,663,879
January 1, 1981	March 1, 1981	1,970,490
August 10, 1982	September 30, 1982	1,748,765
August 15, 1984	October 12, 1984	1,208,871

July 8, 1986	August 2, 1986	1,340,500
October 5, 1988	October 29, 1988	261,300
September 6, 1989	September 7, 1989	5,000
September 4, 1992	December 6, 1992	1,774,816
August 9, 1995	September 18, 1995	724,339
June 11, 1999	July 11, 1999	1,417,492
April 9, 2003	July 7, 2003	930,657
July 21, 2006	August 10, 2006	149,706
February 24, 2007	May 23, 2007	954,566
December 28, 2009	December 31, 2009	118,100
January 1, 2010	January 17, 2010	791,900
November 14, 2012	November 23, 2012	70,000
December 29, 2014	December 31, 2014	50,000
January 1, 2015	January 18, 2015	200,000
August 4, 2016	September 4, 2016	846,600
September 4, 2017	October 7, 2017	850,000
May 6, 2022	May 9, 2022	62,383

**Table A- 6. Proposed Maintenance Dredging Volumes and Frequencies.**

SEGMENT/REACH	ESTIMATED VOLUME PER CONTRACT (MCY)	DREDGING RATE (YEARS)
Entrance Channel	1.0	2
Inner Basin to La Quinta	0.8	5
La Quinta to Beacon 82	1.0	2
Beacon 82 to Viola Turning Basin	1.5	4
La Quinta	0.5	3
Rincon	0.4	7

**Table A- 7. Projected Dredging Demand.**

PLANNED DREDGING PROJECTS	DREDGING TYPE	TOTAL QUANTITY (MCY)	PROPOSED DISPOSAL OPTION(S)	DREDGE CYCLE (YEARS)
Corpus Christi Ship Channel Improvement Project (CCSCIP)	Maintenance	208	62 MCY to be disposed at CCSC ODMDS and upland/ beneficial use areas	50
CCSCIP	New Work/ Construction	41	CCNW ODMDS and upland/ beneficial use areas	-

Port of Corpus Christi Authority's CDP	Maintenance	7.8	CCSC ODMDS and, upland placement areas or proposed feeder berms	20
Port of Corpus Christi Authority's CDP	New Work/ Construction	46	13.8 MCY to be disposed at CCNW ODMDS; clay portion to be placed for beneficial use	-
Axis Midstream's Harbor Island Terminal	Maintenance	500,000	CCSC ODMDS and upland placement areas	10
Axis Midstream's Harbor Island Terminal	New Work/ Construction	5.6	CCNW ODMDS and on-site beneficial use	-
Port of Corpus Christi Authority's Harbor Island Terminal	Maintenance	2,090,880	CCSC ODMDS and upland placement areas	10
Port of Corpus Christi Authority's Harbor Island Terminal	New Work/ Construction	6.5	CCNW ODMDS and upland/ beneficial use areas	-

Sources: USACE, 2003; USACE, 2019; USACE, 2020a and 2020b)

**Table A- 8. Sediment Testing History in the Vicinity of the CCSC and CCNW ODMDs.**

SITE MONITORING			
DATE	SURVEY/STUDY TITLE	CONDUCTED BY	PURPOSE
September 17, 1975	Pre-dredging Bulk Analyses-Maintenance (Pre-1989 Interim Site)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
October 6, 1975	During-dredging Bulk Analyses-Maintenance (Pre-1989 Interim Site)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
December 2, 1975	After-dredging Bulk Analyses-Maintenance (Pre-1989 Interim Site)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
April 1, 1978	Toxicity and Bioaccumulation Assessment-Maintenance (Pre-1989 Interim Site)	USACE	Water quality and sediment physical/chemical analysis in support of the CCSCIP
October 1, 1978	Toxicity and Bioaccumulation Assessment-Maintenance (Pre-1989 Interim Site)	USACE	Water quality and sediment physical/chemical analysis
July 1, 1980	Toxicity and Bioaccumulation Assessment-Maintenance (Pre-1989 Interim Site)	USACE	Water quality and sediment physical/chemical analysis
January 14, 1982	Pre-dredging Bulk Analyses-Maintenance (Pre-1989 Interim Site)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
February 22, 1983	Pre-dredging Bulk Analyses-Maintenance (Pre-1989 Interim Site)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
July 3, 1984	Pre-dredging Bulk Analyses-Maintenance (Pre-1989 Interim Site)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
April 1, 1985	Toxicity and Bioaccumulation Assessment-Maintenance (Pre-1989 Interim Site)	USACE	Water quality and sediment physical/chemical analysis
May 15, 1985	Pre-dredging Bulk Analyses-Maintenance (Pre-1989 Interim Site)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment

March 28, 1986	Pre-dredging Bulk Analyses-Maintenance (Pre-1989 Interim Site)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
March 18, 1987	Pre-dredging Bulk Analyses-Maintenance (Pre-1989 Interim Site)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
March 15, 1988	Environmental Impact Statement United States Navy Gulf Coast Strategic Homeporting Corpus Christi/ Ingleside, Texas (USEPA, 1988)-Construction/New Work (CCNW)	EPA	Sediment physical/chemical analyses from proposed ODMS and channel; benthic community assessment; sediment profile imaging
April 7, 1989	Environmental Impact Statement Corpus Christi Ship Channel Ocean Dredged (Maintenance) Disposal Site Designation (USEPA, 1989)-Maintenance (CCSC)	EPA	Sediment physical/chemical analyses from proposed ODMS and channel; benthic community assessment; sediment profile imaging
March/April 1990	Pre-dredging Bulk Analyses-Maintenance (CCSC)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
July 20, 1993	Pre-dredging Bulk Analyses-Maintenance (CCSC)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
September 1, 1995	Contaminant Assessment/ Toxicity and Bioaccumulation Assessment-Maintenance (April 1995) (CCSC)	USACE	Contaminant Assessment, Solid Phase Toxicity and Bioaccumulation
January 28, 1999	Pre-dredging Bulk Analyses-Maintenance (CCSC)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
November 1, 2000	Pre-dredging Bulk Analyses-Maintenance (CCSC)	USACE	Historical Grain Size, Bulk Chemistry-Sediment, Water Elutriate, Biological Assessment
August 1, 2002	MPRSA Section 103 Sampling, Chemical Analysis and Bioassessment Report (CCSC)	USACE	Sediment physical/chemical and bioassay/ bioaccumulation analyses
July 1, 2009	Corpus Christi Ship Channel-Entrance Channel Contaminant Assessment (CCSC)	USACE/ PBS&J	Sediment physical/chemical and bioassay/ bioaccumulation analyses
January 1, 2015	Final Report Sampling, Chemical Analysis, and Bioassessment Corpus Christi Ship Channel Port Aransas,	USACE/ ANAMAR	Sediment physical/chemical and bioassay/ bioaccumulation analyses

Texas (ANAMAR, 2015)  
(CCSC)

December 2016/ January 2017	Toxicity and Bioaccumulation Assessment - New Work (360 Factors EHS Consulting Services, 2017) (CCNW)	Port of Corpus Christi	Water quality and sediment physical/chemical analysis in support of the CCSCIP
February 13, 2020	Physical and Chemical Analysis of Bottom Sediments from Ocean Dredged Material Disposal Sites in the Corpus Christi (Texas, US) Survey Area; Corpus Christi, Texas Ocean Dredged Material Disposal Site 2020 Benthic Community Assessment for the 2020 Monitoring of Region 6 Ocean Dredged Material Disposal Sites and Potential Expansion Areas (BVA, 2020; Tetra Tech, Inc., 2020) (CCSC and CCNW)	EPA	Sediment physical/chemical analysis; benthic community assessment; sediment profile imaging in support of ODMDS expansion
December 2022	Sampling, Chemical Analysis and Bioassessment of Corpus Christi Ship Channel – Maintenance Material (CCSC)	USACE	Sediment physical/chemical analysis; benthic community assessment
August 2024	Sampling, Chemical analysis and Bioassessment of Corpus Christi Ship Channel (CCSC)	USACE	Sediment physical/chemical analysis; benthic community assessment

Note: Some sampling events include both in-channel sampling and sampling at the ODMDSs and reference site.

**Table A- 9. Sediment Physical Parameters, 2020 Survey.**

SEDIMENT TYPE	UNITS	INSIDE CCSC AVG	INSIDE CCSC RANGE	INSIDE CCNW AVG	INSIDE CCNW RANGE	OUTSIDE ODMDSs AVG	OUTSIDE ODMDSs RANGE
Gravel	%	3.6	1.6-6.3	0.6	0.0-4.7	0.0	0.0-0.0
Sand	%	89.4	86.6-93.0	69.4	32.8-95.7	72.7	7.9-96.1
Silt	%	5.7	4.0-6.9	21.9	2.7-49.8	17.8	1.4-63.7
Clay	%	1.3	0.9-1.7	8.2	1.4-17.4	9.5	2.1-34.2
Fines	%	7.0	5.4-8.6	30.0	4.1-67.2	27.3	3.9-92.1

**Table A- 10. Sediment Chemistry, 2020 Survey.**

ANALYTE	UNITS	n	MIN	MAX	MEAN	ST DEV	RSD
Aluminum	mg/kg	30	360	13000	3410.3	3882.2	113.8
Antimony	mg/kg	30	0.037	0.12	0.1	0	38.6
Arsenic	mg/kg	30	0.89	5.8	2.3	1.4	58.6
Barium	mg/kg	30	4.9	160	42.3	45.3	106.9
Beryllium	mg/kg	30	0.045	0.79	0.2	0.2	104.9
Cadmium	mg/kg	30	0.011	0.14	0.03	0.03	94.4
Chromium	mg/kg	30	0.58	18	5	5.1	103.3
Cobalt	mg/kg	30	0.57	7.9	2.9	2.2	74.3
Copper	mg/kg	30	0.38	9.7	2.3	2.8	119.7
Iron	mg/kg	30	750	20000	5375	5416.9	100.8
Lead	mg/kg	30	1.4	14	4.4	3.7	84.5
Manganese	mg/kg	30	44	500	184.8	113	61.1
Mercury	mg/kg	30	0.012	0.041	0.02	0.01	42.8
Nickel	mg/kg	30	0.61	16	4.4	4.6	105.2
Selenium	mg/kg	30	0.072	0.22	0.1	0.04	39
Silver	mg/kg	30	0.017	0.047	0.02	0.01	32.2
Thallium	mg/kg	30	0.025	0.18	0.1	0.05	65.9
Tin	mg/kg	30	0.2	0.77	0.3	0.2	51.9
Zinc	mg/kg	30	2.4	50	15.3	13.9	90.7

**Table A- 11. Application of Threshold Screening Values, 2020 Survey.**

ANALYTE	SCREENING SOURCE	SCREENING LEVEL (mg/kg)	SAMPLE EXCEEDANCE S (n=30)	CENTROID EXCEEDANCE S (n=10, max)	CENTROID EXCEEDANCE S (n=10, mean)
Barium	AET	48	9	3	3
Manganese	AET	260	8	3	3
Nickel	TEL	15.9	2	0	0

## **APPENDIX B – TEMPLATE FOR GENERIC SPECIAL CONDITIONS**

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### **TEMPLATE**

**For**

**Generic Special Conditions For**

**MPRSA Section 103 Permits CCSC AND CCNW ODMDS**

MPRSA section 102(c)(3) directs the EPA in conjunction with the District to develop a site management and monitoring plan (SMMP) for dredged material disposal sites; such plans are implemented through MPRSA permits issued by the District or through Federal projects subject to the same criteria, evaluation factors, procedures, and requirements as permits (including through terms and conditions in contracts for Federal projects).

The EPA in conjunction with the District developed the template language below for inclusion in permits, though the template language is intended to be included on a case-by-case basis. Neither the SMMP nor this Appendix directly impose requirements specific to permitted activity. Instead, the SMMP and this Appendix recommend conditions that the District should impose and, if not, that the EPA should require in concurring on the permit. The regulation designating an ODMDS also may impose conditions on a permittee directly. The terms of any particular permit incorporating the language from this Appendix (including as modified) would impose requirements specific to the permitted activity. The District is not obligated to impose any particular permit term based on the template language, though the District may elect to do so; the language is provided to facilitate the District permit development and to provide notice to third parties. For any future permit, EPA's concurrence review would confirm that appropriate terms are included to assure adequate implementation of the SMMP, and the EPA would consider this Appendix to guide its review. The EPA may condition its concurrence on compliance with specified terms and conditions derived from this Appendix, or other terms and conditions deemed appropriate to implement this SMMP or the MPRSA, and in such cases the District must include in the permit the terms and conditions specified by the EPA.

#### **DISPOSAL OPERATIONS**

The permittee shall certify the accuracy of the electronic positioning system proposed for use during disposal operations at the CCSC and CCNW ODMDSs. The certification shall be accomplished by providing current certification documentation from the National DQM Program for scow and hopper dredge instrumentation systems. The National DQM certification is valid for one year from the date of certification.

This permit does not authorize leakage or spillage out of barges, dump scows, or hopper dredges of water and/or excavated material while in route to the ODMDS disposal release zone(s). Leakage or spillage may be determined to be unpermitted dumping. Failure to repair leaks or change the method of operation that results in the leakage or spillage will result in the suspension of dredging operation and require prompt repair or change of operation as prerequisite to the resumption of dredging. Transit to the ODMDS begins as soon as dredged material loading into the disposal vessel is completed and the vessel begins movement to the ODMDS. All appropriate measures to avoid spillage during transit must be taken. Appropriate measures may include but

are not limited to: up-to-date U.S. Coast Guard and/or American Bureau of Shipping certification of all disposal-related vessels, maintenance (inspection and/or replacement) of gaskets on barge doors, minimization of excess free liquids in barge loads, pre-transit testing of barge door hydraulics, and pre-transport verification of appropriate weather and sea state conditions. The EPA Region 6 and the District shall be notified within 24 hours (or the next business day) if any apparent leaking or spilling of dredged material occurs as indicated by an average loss of draft during transit from the dredging area to the disposal release zone(s) (forward draft loss plus aft draft loss divided by 2) more than 2 feet. In addition, the permittee understands that no debris is to be placed in the transit vessel or at the ODMDSs.

A disposal operations inspector and/or captain of any tugboat, hopper dredge or other vessel used to transport dredged material to the ODMDSs shall insure compliance with disposal operation conditions defined in this permit. If the disposal operations inspector or the captain detects a violation, he/she shall report the violation to the permittee immediately.

The permittee shall contact the U.S. Army Corps of Engineers, Galveston District’s Regulatory Branch and the EPA Region 6 ([R6OceanDumping@epa.gov](mailto:R6OceanDumping@epa.gov)) to report the violation within twenty-four (24) hours after the violation occurs. A complete written explanation of any permit violation shall be included in the post-dredging report.

When dredged material is disposed, no portion of the hopper dredge, disposal barge, or scow shall be outside of the boundaries of the ODMDS as defined in Special Condition B. Additionally, disposal shall occur within a specified disposal zone defined as:

COORDINATE	LATITUDE	LONGITUDE
CCSC Federal Disposal Zone Northwest	27°49'4.08" N	97°01'8.40" W
CCSC Federal Disposal Zone Northeast	27°48'41.76" N	97°00'29.52" W
CCSC Federal Disposal Zone Southeast	27°48'14.40" N	97°00'50.04" W
CCSC Federal Disposal Zone Southwest	27°48'36.36" N	97°01'28.56" W
CCSC Federal/Non-federal Disposal Zone Northeast	27°48'36.36" N	97°01'28.56" W
CCSC Federal/Non-federal Disposal Zone Southeast	27°48'14.40" N	97°00'50.04" W
CCSC Federal/Non-federal Disposal Zone Southeast	27°47'47.40" N	97°01'10.56" W
CCSC Federal/Non-federal Disposal Zone Southwest	27°48'8.64" N	97°01'48.72" W
CCNW Disposal Zone Northwest	27°48'24.83" N	97°00'22.73" W
CCNW Disposal Zone Northeast	27°47'31.13" N	96°58'48.15" W
CCNW Disposal Zone Southeast	27°45'7.95" N	97°00'33.87" W
CCNW Disposal Zone Southwest	27°46'1.89" N	97°02'11.54" W

Disposal shall not occur closer than 1,300 feet to any oil or gas rig that may be present within the site boundaries.

The permittee shall use an automated disposal verification system that is certified by the National DQM program to continuously track the horizontal location and draft condition of the disposal vessel (hopper dredge or disposal barge or scow) to and from the ODMDSs. This real-time information is available on-line to the District and will be provided to the EPA Region 6 on a weekly basis via email using the eXtensible Markup Language (XML) specification and protocol. Data shall be provided per the EPA Region 6 XML format and delivered as an attachment to an email. The XML format is available from the EPA Region 6.

The permittee shall conduct a bathymetric survey of the ODMDS within 45 days of a disposal event following project completion.

The number and length of the survey transects shall be sufficient to encompass the defined disposal zone within the ODMDSs and a 500-foot-wide area around the disposal zone. Transects shall be spaced at 500-foot intervals or less with a depth recording density of 20 to 70 feet.

Vertical accuracy of the survey shall be  $\pm 0.1$  feet. Horizontal location of the survey lines and depth sounding points will be determined by an automated positioning system utilizing either a microwave line of site system or differential global positioning system. The vertical datum will be referenced to prescribed NOAA Mean Lower Low Water (MLLW) datum. MLLW is 1.8 feet below NGVD 1929. The horizontal datum will be Geographic (NAD 1983). State Plane coordinates shall be reported to the nearest 0.10 foot and latitude and longitude coordinates shall be reported as degrees and decimal minutes to the nearest 0.01 minutes.

The permittee has read and agrees to assure its actions are consistent with any revisions to the Site Management and Monitoring Plan (SMMP) in effect at the time of permit issuance.

The permittee shall not transport dredged material to the ODMDS until it confirms that the EPA has concurred that the proposed dredge material meets the marine protection criteria as given in 40 C.F.R. Section 227.

#### REPORTING REQUIREMENTS

The permittee shall send the U.S. Army Corps of Engineers, Galveston District's Regulatory Branch and the EPA Region 6 Assistance Programs Branch (1201 Elm St., Suite 500 Dallas, TX 75270) a notification of commencement of work at least 15 days before initiation of any dredging operations authorized by this permit.

The permittee shall submit to the U.S. Army Corps of Engineers and the EPA Region 6 weekly disposal monitoring reports. These reports shall contain the information described in Special Condition I. The permittee shall develop and send one copy of the disposal summary report to the District's Regulatory Branch and one copy of the disposal summary report to the EPA Region 6 documenting compliance with all general and special conditions defined in this permit.

The disposal summary report shall be sent within 90 days after completion of the disposal operations authorized by this permit.

The disposal summary report shall include the following information:

- Indication of whether all general and special permit conditions were met
- Detailed explanation of any violations of the permit The District's permit number
- Actual start date and completion date of dredging and disposal operations,
- Total cubic yards disposed at the ODMDS
- Locations of disposal events
- Post disposal bathymetric survey results (in hard copy and electronic formats)

#### PERMIT LIABILITY

The permittee and all contractors or other third parties who perform an activity authorized by this permit on behalf of the permittee shall be separately liable for a civil penalty for each violation of any term of this permit committed alone or in concert with the permittee or other parties.

Liability shall be individual, rather than joint and several, and shall not be reduced in any fashion to reflect the liability assigned to and civil penalty assessed against the permittee or any other third party as defined in MPRSA Section 105(a), 33 U.S.C. Section 1415(a).

If the permittee or any contractor or other third party knowingly violates any term of this permit (either alone or in concert), the permittee, contractor or other party shall be individually liable for the criminal penalties set forth in MPRSA Section 105(b), 33 U.S.C. Section 1415(b).