

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

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TENTATIVE ORDER NO. R9-2013-0093

**WASTE DISCHARGE REQUIREMENTS
FOR
NATIONAL STEEL AND SHIPBUILDING COMPANY
BAE SYSTEMS SAN DIEGO SHIP REPAIR, INC.**

~~**SAN DIEGO UNIFIED PORT DISTRICT**~~

~~**UNITED STATES NAVY**~~

**SAN DIEGO BAY ENVIRONMENTAL RESTORATION FUND – NORTH
SAN DIEGO BAY ENVIRONMENTAL RESTORATION FUND – SOUTH**

**SAN DIEGO SHIPYARD SEDIMENT REMEDIATION PROJECT
SAN DIEGO BAY
SAN DIEGO, CALIFORNIA**

The following Dischargers in Table 1 are subject to waste discharge requirements set forth in this Order:

Table 1. Discharger Information

Discharger	Address
BAE System San Diego Ship Repair, Inc.	2205 E. Belt Street, San Diego, CA 92113
National Steel and Shipbuilding Company	2798 Harbor Drive, San Diego, CA 92113
San Diego Unified Port District	3165 Pacific Highway, San Diego, CA 92101
United States Navy	1220 Pacific Highway, San Diego, CA 92101
San Diego Bay Environmental Restoration Fund South	2798 Harbor Drive, San Diego, CA 92113
San Diego Bay Environmental Restoration Fund North	2205 E. Belt Street, San Diego, CA 92113

Discharges from the discharge points identified below are subject to the waste discharge requirements set forth in this Order:

Table 2. Discharge Location

Discharge Point	Discharge Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Waters
Shipyard Sediment Site	Dredging of contaminated marine sediments, filling with sand to provide coverage under existing piers and placement of a ridge or blanket of protective rock material adjacent to destabilized structures.	32°14'22" (center reading)	-117 °8'34" (center reading)	San Diego Bay

Table 3. Administrative Information

This Order was adopted by the California Regional Water Quality Control Board, San Diego Region on:	July 10, 2013
This Order shall become effective on:	July 10, 2013

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on July 10, 2013.

Tentative _____
David W. Gibson
Executive Officer

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I. PROJECT INFORMATION

The following Project is subject to waste discharge requirements as set forth in this Order:

Table 4. Project Information

Discharger(s)	National Steel And Shipbuilding Company BAE Systems San Diego Ship Repair, Inc. San Diego Unified Port District United States Navy San Diego Bay Environmental Restoration Fund North San Diego Bay Environmental Restoration Fund South
Name of Project	San Diego Shipyard Sediment Remediation Project – North Shipyard Site San Diego Shipyard Sediment Remediation Project – South Shipyard Site
Project Location	The Project area includes the eastern shore of central San Diego Bay extending approximately from the Sampson Street Extension to the northwest and Chollas Creek to the southeast and from the shoreline out to the San Diego Bay main shipping channel to the west. This area is collectively referred to as the “Shipyard Sediment Site.”
Project Contact, Title, and Phone	North <u>Sediment Remediation Area</u> :: Mr. Shaun Halvax, BAE Systems San Diego Ship Repair, Inc. (619) 557-4210 South <u>Sediment Remediation Area</u> :: Mr. Michael Chee, National Steel and Shipbuilding Company (619) 544-7778
Mailing Address	North <u>Sediment Remediation Area</u> :: 2205 E. Belt Street, San Diego, CA 92113 South <u>Sediment Remediation Area</u> :: 2789 Harbor Drive MS 22A, San Diego, CA 92113
Type of Project	Dredge and Fill for Contaminated Sediment Cleanup Project
CIWQS Place Number	794466

II. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (hereinafter San Diego Water Board) finds:

Jurisdiction

- A. **Cleanup and Abatement Order.** BAE Systems San Diego Ship Repair (BAE Systems), Campbell Industries, City of San Diego, National Steel and Shipbuilding Company (NASSCO), San Diego Gas & Electric, San Diego Unified Port District, and the United States Navy are responsible to comply with the requirements of Cleanup and Abatement Order (CAO) No. R9-2012-0024 issued pursuant to Water Code sections 13267 and 13304 for the remediation of contaminated sediment and the attainment of target cleanup levels at the Shipyard Sediment Site (Site) in San Diego Bay waters. The CAO is incorporated in this Order by reference as if set forth herein.
- B. **Regulatory Authority.** To implement remedial dredging and filling activities in compliance with the sediment remediation requirements of the CAO, the Clean Water Act (CWA) requires permitting from the Army Corps of Engineers (ACOE) under CWA Section 404 and Water Quality Certification by the State under CWA Section 401.
1. Dredge and fill material discharges may also be regulated under the State of California's Porter Cologne Water Quality Control Act by Waste Discharge Requirements (WDR). Pursuant to California Water Code (Water Code) section 13263, the Regional Water Quality Control Boards are required to prescribe waste discharge requirements (WDRs) for any proposed or existing discharge unless WDRs are waived pursuant to Water Code section 13269.
 2. Surface waters affected by the Project are waters of the United States as defined by CWA section 502 and waters of the State, as defined by section 13050 of the Water Code. The discharge of dredge and fill material to these waters is subject to regulation under division 7 of the Water Code (commencing with section 13000) as follows:
 - i. The federal CWA requires that any applicant for a federal license or permit to conduct an activity that may result in discharges to navigable waters of the United States to provide the federal licensing agency with a certification, or a waiver of certification, from the state agency having jurisdiction over the navigable waters that the discharge will comply with applicable CWA and other applicable water quality requirements (water quality certification). CWA section 401, 33 U.S.C. section 1341. Persons seeking water quality certification are required to file an application with the San Diego Water Board and provide information set forth in regulations adopted by the State Water Resources Control Board (State Water Board). California Code of

Regulations (CCR), Title. 23, sections 3855-3861.

- ii. The Porter-Cologne Water Quality Control Act (Water Code section 13000, et seq.) requires any person who proposes to discharge waste that could affect the quality of waters of the state to submit a report of waste discharge. Water Code section 13260(a). Water Code section 13263 authorizes the San Diego Water Board to issue waste discharge requirements that implement any relevant water quality control plan. State Water Board regulations make clear that its regulations addressing water quality certification provide that the San Diego Water Board may issue or waive waste discharge requirements for activities subject to water quality certification.

C. Reports of Waste Discharge. Mr. R. Thomas Dorsey, de maximus inc., a trustee acting on behalf of the San Diego Bay Environmental Restoration Fund - North and the San Diego Bay Environmental Restoration Fund - South has submitted two separate Reports of Waste Discharge (ROWD) both dated February 18, 2013, to implement the dredging and filling activities necessary to comply with the sediment remediation requirements of the CAO for the Shipyard Sediment Site. The first ROWD submitted on behalf of the San Diego Bay Environmental Restoration Fund North¹ ~~and BAE Systems~~ for the ~~approximately 10.2 acre dredge footprint of the north shipyard sediment remediation area~~ (North ~~Shipyard Sediment Remediation Area~~) ~~addresses sediment cleanup within the BAE BAE Systems Systems San Diego Ship Repair's (BAE) leasehold water area~~ identified in Attachment A of this Order. The second ROWD submitted on behalf of the San Diego Bay Environmental Restoration Fund South² ~~and the National Steel and Shipbuilding Company (NASSCO)~~ for the ~~approximately 5 acre dredge footprint of the south shipyard sediment remediation area~~ (South ~~Shipyard Remediation Area~~) ~~addresses sediment cleanup within the National Steel and Shipbuilding Company's (NASSCO) leasehold water area~~ identified in Attachment A of this Order. The ~~se north and south~~ areas described in the two ROWDs are consistent with the same areas described as the Shipyard Sediment Site in the CAO.

D. Applications. An application for a ~~Clean Water Act CWA~~ section 404 Individual Permit (dredge or fill permit) to the United States Army Corps of Engineers (USACOE) and an application for ~~Clean Water Act CWA~~ section 401 water quality certification, included in the ROWDs, was also submitted for Project activities that propose to discharge dredge and fill material to waters of the United States. The water quality certification application proposes mitigation measures to compensate for impacts to waters of the United States and waters of the State. This Order grants

¹ ~~The San Diego Bay Environmental Restoration Fund North currently has BAE Systems San Diego Ship Repair as the only signatory. It is anticipated that as funding issues are resolved all parties named as a "Discharger" in the CAO will be signatory to the trust.~~

² ~~The San Diego Bay Environmental Restoration Fund South currently has National Steel and Shipbuilding Company as the only signatory. It is anticipated that as funding issues are resolved all parties named as a "Discharger" in the CAO will be signatory to the trust.~~

with conditions the Applicant's application for a water quality certification pursuant to CWA section 401 ~~of the Clean Water Act~~ and imposes waste discharge requirements (WDRs) pursuant to Water Code section 13263, consistent with State Water Board regulations. This Order includes conditions and requirements to comply with the CWA and the California Water Code.

- E. **Water Quality Certification.** This Order is issued pursuant to the California Water Code (Division 7 commencing with section 13000) and serves as a CWA section 401 water quality certification for discharges of waste (dredging and filling) to waters of the U.S. from the San Diego Shipyard Sediment Remediation Project that will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the CWA. Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the Applicant's project description and requirements of this Order, and (b) on compliance with all applicable requirements of the San Diego Water Board's Basin Plan.

Determination of Responsible Person and Discharger(s) Determination

- F. **Dischargers.** The CAO identifies seven entities as "Dischargers" with legal responsibility for remediating sediments at the Project Site: BAE Systems, Campbell Industries, City of San Diego, NASSCO, San Diego Gas & Electric, San Diego Unified Port District, and United States Navy. These seven entities, along with the San Diego Bay Environmental Restoration Fund North and San Diego Bay Environmental Restoration Fund South, the two signatories of the ROWDs, are accountable for ensuring that the Project attains the target cleanup levels defined in Directive 2.a of the CAO within the remedial dredging area footprint.

The Project Site in San Diego Bay waters is leased by NASSCO and BAE Systems from the San Diego Unified Port District (Port of San Diego), the owner of the Site, in its capacity as trustee of tidelands for the State of California. The northern Project sediment staging and stockpile area is located on Port Tidelands property leased to San Diego Gas & Electric and subsequent sublease to BAE Systems. The southern Project sediment staging and stockpile area is located on property owned by the United States Navy and leased to NASSCO. BAE Systems, and NASSCO, ~~the San Diego Unified Port District and the United States Navy~~, as landowners or the remediation project operators, are named as "Dischargers" in this Order in addition to the two ROWD signatories, the San Diego Bay Environmental Restoration Fund North and San Diego Bay Environmental Restoration Fund South.

Project Overview

G. Project Description. Discharges of metals and other pollutant wastes to San Diego Bay over the years have resulted in the accumulation of pollutants in bay-bottom marine sediments along the eastern shore of central San Diego Bay in San Diego, California. These pollutants are impairing the aquatic life, aquatic-dependent wildlife, and human health beneficial uses designated for San Diego Bay.

The Project is to dredge contaminated marine bay sediments adjacent to the BAE Systems and NASSCO shipyards in San Diego Bay using environmental dredging techniques performed specifically for the removal of contaminated sediment while minimizing the spread of contaminants to the surrounding environment during dredging operations. The dredged sediment will be off-loaded from haul barges to a land-side staging area (sediment staging area or sediment management area); dewatered and solidified (onshore or on a barge); sampled for waste characterization; and transported by trucks to the appropriate landfill disposal facility. Wastewater generated from dredged sediment dewatering activities will be containerized; sampled for waste characterization; treated (if necessary); and discharged into the community sewer system, where it will be treated at the City of San Diego's Point Loma Wastewater Treatment Plant and discharged through the existing ocean outfall. Wastewater not meeting sanitary sewer criteria will be removed from the site by a licensed waste hauler and taken to a facility for further treatment and/or disposal. In sediment areas where existing piers, pilings and other infrastructure constrain or prevent dredging, a clean sand ~~cover or gravel cover and other armor material~~ will be placed on top of the contaminated sediment. A clean sand or gravel cover may also be placed over the dredged surface when chemical exceedances in the newly exposed sediment surface are considered marginal or when hard undredgeable material is encountered. Following sediment removal, the stability of existing marine structures, seawalls, and side slopes will be maintained, if needed, by placing a ridge or blanket of protective rock material adjacent to the structure in question, thereby overcoming the destabilizing effect of sediment removal.

The primary goal of the Project is to improve water quality conditions in San Diego Bay consistent with the provisions of the CAO. A main Project objective is to attain the target cleanup levels for mercury, copper, high molecular weight polycyclic hydrocarbons (HPAHs), total polychlorinated biphenyls (PCBs) and tributyltin (TBT) defined in Directive 2.a of the CAO, within the remedial dredging area footprint, through dredging and filling in areas of San Diego Bay defined by the CAO and the ROWD.

H. Project Location. The Project is located south of Coronado Bridge along the eastern shore of central San Diego Bay, extending approximately from the Sampson Street Extension on the northwest to Chollas Creek on the southeast, and from the shoreline out to the San Diego Bay main shipping channel. The Project is located within the planning jurisdiction of the San Diego Unified Port District (Port District) and is identified as District 4 in the certified Port Master Plan. The North and South Projects Sediment rRemediation areas, also referred to as the Shipyard Sediment

Site remedial footprint in the CAO, comprise approximately 15.2 acres that are subject to dredging and 2.3 acres that are subject to clean sand or gravel cover, primarily under piers. The Project Sediment rRemediation aAreas consist of marine sediments on the bay bottom that contain elevated levels of pollutants above San Diego Bay background conditions. ~~The These sSediment rRemediation aAreas~~, combined with the following Sediment Management Areas -1) the 1.2 acre parcel sediment staging and offloading area for the North Project Site located at the BAE Systems facility, and 2) the 2.5 acre S-Lane Parcel sediment staging and offloading area for the South Project Site, located on the NASSCO leasehold on the north side of Chollas Creek; are hereinafter collectively referred to as the "Project Site". ~~The sediment staging and offloading areas are also referred to as sediment management areas in this Order.~~

- I. **Project Schedule.** The CAO requires initiation of dredging activities at the Project site to begin no later than September 15, 2013. The CAO establishes a five year schedule for the completion of remediation activities at the Project Site which concludes in March 2017 with submission of final reports documenting that the alternative sediment cleanup levels have been met. Once construction is underway, the Project schedule may be constrained by the limited dredging window of September 15 through March 31 established to protect the endangered California least tern unless authorization to continue dredging in this period is provided by the federal resource agencies. As a result, dredging and marine construction work is typically restricted to the months of September through March. Further scheduling impacts are expected to result from the variety of ongoing and planned shipyard activities. Because of the reduced dredging window, at least three annual dredging episodes are anticipated to complete the required remedial action. During the annual dredging episodes it is anticipated that dredging will be conducted 24 hours per day and 6 to 7 days per week ~~with the exception of downtime for equipment maintenance and movement of equipment between dredging footprints and for shipyard traffic~~ and to the extent permitted by the mitigation measures required to reduce the potential environmental impacts (see Mitigation Monitoring and Reporting Program in Attachment B of this Order). A production rate of up to 1,200 cy per day is expected to be achieved.
- J. **Remedial Action Plan.** The San Diego Water Board has approved a final Remedial Action Plan (RAP) (as revised October 2012) for the Shipyard Sediment Site submitted by the responsible parties in compliance with CAO Directive B.1. The RAP describes the process by which cleanup of the Shipyard Sediment Site will be managed, designed, planned, implemented, and monitored in accordance with the CAO. This Order requires implementation of activities set forth in the RAP pertaining to the Project. The RAP is incorporated in this Order by this reference as if set forth herein.
- K. **Sediment Dewatering and Staging Areas (Sediment Management Areas).** Drying and dewatering of dredged sediments (e.g., with drying agents) is necessary to meet sediment transport and landfill disposal requirements. The sediment must be

~~staged and stockpiled pending analytical results sampled and analyzed~~ to classify the material for transport and disposal. The sediment may be sampled in situ prior to dredging or sampled once it is staged and stockpiled in the sediment management area. A single day's dredge material production will typically require a three to five day holding time prior to transport and disposal. The Discharger(s) may elect to use chemical admixtures to accelerate the dewatering process and reduce the dewatering time to 1 to 2 days. Under the terms and conditions of this Order, ~~Project the sSediment mManagement aAreas~~ must be ~~outfitted designed and constructed~~ to fully and completely contain the dredged sediment and any water that drains from it through the use of best management practices and engineered systems including closed perimeter barriers, liners, and water handling facilities. Liners must be constructed of impervious materials capable of preventing the stockpiled sediment or water from contacting the underlying land surface.

State Water Board Resolution No. 92-49, Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304 provides that Regional Water Boards may, pursuant to Water Code section 13269, conditionally waive regulation of short term and temporary discharges under California Code of Regulations (CCR) Title 27, Division 2 for temporary waste management units equipped with features that provide for full and complete containment of the discharges for the treatment or storage period. The dredged material stockpiled in the Project sediment management areas may be classified for disposal as an "inert waste" under California Code of Regulations (CCR), Title 27, section 20230 or a "designated waste" under CCR, Title 27, section 20210. The drying, dewatering and stockpiling of dredged sediments at the Sediment Management Areas from each day dredging activity is a temporary and short term staging activity prior to transport of the material to an approved landfill. The best management practices and engineered systems proposed for the sediment management areas adequately provide for the containment of the stockpiled material and associated discharges to prevent conditions of soil or water pollution or nuisance and are an engineered alternative to prescriptive standards under CCR, Title 27, section 20080(b). More over the attainment of the Project goal to improve water quality conditions in San Diego Bay consistent with the provisions of the CAO is a longstanding matter that is clearly in the public interest. Based on all of these considerations that San Diego Water Board hereby waives the application of CCR Title 27, Division 2 regulations to the Sediment Management Areas.

If a portion of the dredged material stockpiled in the sediment management areas is classified for disposal as a "hazardous waste" under CCR, Title 22, Division 4.5, Chapter 11, this Order requires the Discharger(s) to consult with the California Department of Toxic Substances Control (DTSC) and implement any additional controls required by DTSC to manage the dredged material in a manner that protects human health and the environment consistent with the requirements of CCR, Title 23, Division 3, Chapter 15.

L. **Transportation and Disposal.** Once the dredged sediment material has been dried ~~and tested~~, it will be loaded onto trucks for disposal at an approved landfill. For purposes of this Project, it is assumed that 85 percent of the material will be transported from the staging area to Otay Landfill, which is approximately 15 miles southeast of the Shipyard Sediment Site. Although the sediment is not known to be classified as a hazardous material, it will be tested ~~upon removal and~~ prior to disposal. It is assumed that up to 15 percent of the material will require transport to a hazardous waste facility (a Class I facility). Currently it is anticipated that the Buttonwillow Hazardous ~~Water-Waste~~ Landfill at 2500 West Lokem Road in Buttonwillow, California 93206 will be utilized for disposal of dredged sediments classified as hazardous waste.

Receiving Water Considerations

M. **Site Bathymetry.** Bathymetry (water depth) at the North Project Site in the ~~BAE~~ BAE Systems water area varies substantially due to the presence of shipways, dry docks, and berths, and ranges from -2 feet, mean lower low water (MLLW) along the bulkheads to -70 feet MLLW at the BAE Systems' dry dock sump area. Bathymetry (water depth) at the South Project Site in the NASSCO water area varies substantially due to the presence of shipways, dry docks, and berths, and ranges from -2 feet, mean lower low water (MLLW) along the bulkheads to -60 feet MLLW at the floating dry dock sump area.

N. **Receiving Water Impacts.** The Project entails implementation of remedial actions in San Diego Bay waters within the Project Site including environmental dredging, application of clean sand cover, placement of protective rock material and/or natural recovery depending upon a number of factors, including levels of contamination in the sediment and site accessibility. Environmental dredging and disposal of sediments is the proposed remedy for approximately 15.2 acres of the total Project Site and is expected to generate approximately 143,400 cubic yards of contaminated marine sediment. Project impacts on San Diego Bay include the following:

1. Dredging in the North Project Site Sediment Remediation Area will occur within approximately 10.2 acres of the 16.6-acre offshore site and is expected to generate approximately 90,800 cubic-yards of contaminated marine sediment based on dredging to bay point formation at an estimated depth of 5- 7 feet throughout the dredge area. In order to moor the dredge barges close enough to shore for offloading, an additional 15,000 cubic yards of what is expected to be clean sediment material will need to be dredged. -The ~~North Project Site~~ dredge footprint for the North Sediment Remediation Area is presented in Attachment 3 of the CAO and Figure 2 of the ROWD.
2. Dredging in the South Project Site Sediment Remediation Area will occur within approximately 5.0 acres of the 46-acre offshore site and is expected to generate approximately ~~90,800~~ 52,600 cubic-yards of contaminated marine sediment based on dredging to bay point formation at an estimated depth of 7 feet

throughout the dredge area. The South Project Site dredge footprint is presented in Attachment 4 of the CAO and Figure 2 of the ROWD. ~~Project impacts on San Diego Bay include the following:~~

3. Patches and beds of eelgrass are present within the Project area and would be adversely affected by dredging activities through direct removal;
4. An increase in turbidity is anticipated during dredging and clean sand cover placement, which will result in a temporary reduction in submarine light levels, resulting in a short-term reduction of plankton productivity within the Project area. Because plankton drifts with the currents and turbidity is expected to be localized, impacts to the plankton community are anticipated to be short term and less than significant.
5. Dredging and placement of clean sand cover will result in the loss of the majority of benthic infauna within the remedial footprint. The dredged areas and clean fill sand are expected to be recolonized by a more diverse assemblage of benthic invertebrates compared to existing conditions, and benthic biomass (i.e., productivity) will be higher, which would benefit the benthic foraging fishes of the Bay; and
6. The Project is relatively small in area compared to the Bay overall, and dredging activities occur throughout the Bay periodically under existing conditions; therefore, it is not expected to substantially change the ecosystem composition or result in permanent habitat loss. The removal of toxic sediments is intended to improve ecological function at the Project site.

Water Quality Standards

- O. **Water Quality Control Plan.** The San Diego Water Board adopted a Water Quality Control Plan for the San Diego Region (hereinafter Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for San Diego Bay, and other receiving waters addressed through the Plan. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Resources Control Board (State Water Board). Beneficial uses applicable to the San Diego Bay specified in the Basin Plan are as follows:

Table 5. Basin Plan Beneficial Uses of San Diego Bay

Discharge Points	Receiving Water Name	Beneficial Use(s)
	San Diego Bay	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; estuarine habitat; wildlife habitat; rare, threatened, or endangered species; marine habitat; migration of aquatic organisms; spawning reproduction, and/or early development; and shellfish harvesting.

Together with an anti-degradation policy, the Basin Plan beneficial uses and water quality objectives serve as water quality standards under the CWA. This Order specifies waste discharge requirements that are necessary to adequately address effects on, and threats to, applicable water quality standards resulting from discharges attributed to the Project. Through compliance with the waste discharge requirements of this Order, the Project will not result in State water quality standards being exceeded.

- P. **National Toxics Rule and California Toxics Rule.** USEPA adopted the National Toxics Rule (NTR) on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the California Toxics Rule (CTR). The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.
- Q. **Anti-Degradation Policy.** The State Water Resources Control Board established California's anti-degradation policy in State Water Board Resolution No. 68-16 (Policy) which requires that existing quality of waters be maintained unless degradation is justified based on specific findings. Minimal water quality degradation may be allowed under the Policy if any change in water quality is consistent with the maximum benefit to the people of the State; the degradation will not unreasonably affect present and anticipated beneficial uses; the degradation will not result in violation of any applicable Water Quality Control Plan; and, discharges must use the best practicable treatment or control to avoid pollution or a condition of nuisance. Consistent with the Policy, this Order contains waste discharge requirements to ensure beneficial uses are maintained or enhanced through mitigation and monitoring requirements for impacts to waters of the State. The waste discharge requirements are designed to ensure and verify that the highest level of water quality is maintained consistent with the maximum benefit to the people of the State.

Consideration of Environmental Impacts

- R. **No Net Loss Policy.** In 1993, the Governor of California issued the California Wetlands Conservation Policy (Executive Order W- 59-93). Commonly referred to as the "No Net Loss Policy" for wetlands, the Executive Order requires state agencies

to “ensure no overall net loss [of wetlands] and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship and respect for private property.” This Order meets the objectives of Executive Order W-59-93 through the establishment of compensatory mitigation requirements which offset adverse water quality impacts attributed to the Project in a manner that protects and restores the abundance, types and conditions of aquatic resources and supports their beneficial uses.

S. California Environmental Quality Act. The California Environmental Quality Act (“CEQA”), Pub. Res. Code section 21000 et. Seq., requires public agencies when approving or carrying out projects that could impact the quality of the environment to consider potential environmental impacts of their actions. The San Diego Water Board is the lead agency for the San Diego Shipyard Sediment Remediation Project for purposes of CEQA. The San Diego Water Board certified a Final **Programmatic Program** Environmental Impact Report (**PEIR**) for the Project and filed a Notice of Determination (SCH # 2009111098) on March 14, 2012, in accordance with California Code of Regulations, title 14, section 15094 (California Code of Regulations, title 14 section 15000 et seq. hereinafter referred to as “CEQA Guidelines”) ~~under CEQA Guidelines Title 14, California Code of Regulations.~~ The San Diego Water Board determined the Project, without mitigation, could result in potentially significant environmental impacts. Therefore the Final **PEIR Programmatic EIR** incorporates mitigation measures that ~~mitigate lessen many of the Project’s effects on the environment to less than significant any potentially significant environmental impacts from the Project to a level of insignificance.~~

~~For the environmental effects associated with the Project that were found to be significant, unavoidable, notwithstanding the imposition of all feasible mitigation measures, The the San Diego Water Board made adopted Findings and a Statement of Overriding Considerations for the Final Programmatic PEIR finding that the Project’s benefit is substantial and overrides the unavoidable impacts. (See Exhibit A of Resolution R9-2012-0025) The San Diego Water Board also adopted a Mitigation Monitoring and Reporting Program to ensure the proper implementation of mitigation measures contained in the Final Programmatic EIR. The Mitigation Monitoring and Reporting Program prepared within the Final Programmatic EIR is contained in Attachment B of this Order, and is fully incorporated by this reference as if set forth herein. This Order requires the Discharger to comply with and implement the mitigation measures described in the Mitigation Monitoring and Reporting Program contained in Attachment B of this Order to reduce water quality impacts to “less than significant.~~

Since the adoption of the Final PEIR, Project changes that were not known and could not have been known at the time the Final PEIR was certified have been proposed by NASSCO and BAE Systems, two of the parties named as Dischargers in the CAO for the Site. The Project changes are described in the Report of Waste Discharge submitted to the San Diego Water Board on February 18, 2013 by the San Diego Bay Environmental Restoration Fund – South and a June 18, 2013

Shipyard Sediment Site Dredge Volume Analysis submitted by LSA Associates on behalf of BAE Systems and NASSCO. The San Diego Water Board reviewed the Project changes and integrated the changes into this Order. The changes to the Project pertain to an increase in dredge volume and the identification of a different Sediment Management Area for the dewatering and stockpiling of dredged sediment (Project Changes). A comparison of the Project Changes with the impacts, analysis and mitigation evaluated in the Final PEIR is provided in the Addendum.

In approving the increase in dredge volume and the use a different Sediment Management Area, the San Diego Water Board adopts the following findings and determinations:

1. No major revisions of the previous PEIR are required; no new significant environmental effects would result, and there is no substantial increase in the severity of the previously identified significant effects.
2. There have been no substantial changes with respect to the circumstances under which the Project is undertaken which will require major revisions to the previous EIR where there are no changes to the significant environmental effects or no substantial increase in the severity of previously identified significant effects.
3. The Project Changes were not known and could not have been known with the exercise of reasonable diligence at the time the Final PEIR was certified.
4. The Project Changes would not result in one or more significant effects not discussed in the Final PEIR.
5. The Project Changes would not result in an increase in severity of the impact.
6. The Project Changes do not warrant a change to the existing or the need for new mitigation measures.
7. The Project Changes in this Order would not alter the conclusions made for each of the alternatives previously analyzed in the Final PEIR and there are no alternatives which are considerably different from those previously analyzed that would substantially reduce the significant effects on the environment and still achieve the Project objectives.
8. The Project Changes do not require the preparation of a subsequent EIR under Public Resources Code section 21166 or CEQA Guidelines section 15162 where none of the conditions under CEQA Guidelines section 15162 trigger the need for the San Diego Water Board to prepare a subsequent EIR; and

9. An Addendum is appropriate where the Project Changes create minor alterations to the Project but do not result in a change to the Final PEIR conclusions. An Addendum may be used to fulfill the environmental review requirements of the Project.

The analysis in the Addendum is not substantially different from those determined in the Final PEIR. As further described in the Addendum, no change to the Final PEIR conclusions are warranted by these Project Changes and no subsequent CEQA action is required. Because the potentially significant adverse environmental impacts of these waste discharge requirements of this Order were anticipated, identified and mitigated, where feasible, in the Final Programmatic EIR, no further CEQA analysis is required for their approval. The San Diego Water Board has determined that the Project Changes do not trigger the requirement of preparing a subsequent EIR. Accordingly, the San Diego Water Board relies on the Addendum in conjunction with the existing Final PEIR to provide CEQA compliance in adopting this Order. (See CEQA Guidelines § 15168(c)(2)).

Administrative Findings

- T. **Water Quality, Sediment and Disposal Monitoring and Reporting Requirements.** Water Code sections 13267 and 13383 authorize the San Diego Water Board to require technical and monitoring reports. Monitoring during Project remediation activities is needed to document that remedial actions have not caused water quality standards to be violated outside of the remedial footprint, that the target cleanup levels have been reached within the remedial footprint, and to assess sediment for appropriate disposal. The Monitoring and Reporting Requirements in sections VII and VIII of this Order establishes water quality, sediment, and disposal monitoring and reporting requirements to ensure that the requirements of this Order are met, and the Mitigation Monitoring and Reporting Program in Attachment B is implemented.
- U. **Mitigation Monitoring and Reporting.** The San Diego Water Board adopted a Mitigation Monitoring and Reporting Program to ensure the proper implementation of mitigation measures contained in the Final PEIR. The Mitigation Monitoring and Reporting Program prepared within the Final Programmatic EIR is contained in Attachment B of this Order, and is fully incorporated by this reference as if set forth herein. This Order requires the Discharger(s) to comply with and implement the mitigation measures described in the Mitigation Monitoring and Reporting Program contained in Attachment B of this Order to reduce water quality impacts to "less than significant."
- V. **Executive Officer Delegation of Authority.** The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to Water Code section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any

matter within this Order unless such delegation is unlawful under Water Code section 13223 or this Order explicitly states otherwise.

W. **Statement of Basis.** The San Diego Water Board developed the requirements in this Order based on the ROWDs and CWA section 401 Applications and other available information contained in 1) the CAO and supporting Technical Report, 2) the Final Environmental Impact Report, Shipyard Sediment Remediation Project, San Diego Bay, California and 3) the Remedial Action Plan submitted in compliance with CAO Directive B.1. These documents contain background information and the supporting rationale for the requirements of this Order and constitute part of the findings for this Order.

X. **Public Notice.** The San Diego Water Board has notified the Dischargers and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

Y. **Public Hearing.** The San Diego Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, the Discharger(s) shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

- A. The discharge of waste, in a manner or location other than as described in the Report of Waste Discharge or findings of this Order, and for which valid waste discharge requirements are not in force is prohibited.
- B. The discharge of sand, silt, clay, or other earthen materials from any activity in quantities which cause deleterious bottom deposits, turbidity, or discoloration in waters of the State or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.
- C. The treatment, storage, or disposal of waste in a manner that creates a pollution, contamination or nuisance, as defined by Water Code section 13050, is prohibited.
- D. The dumping, deposition, or discharge of waste directly into waters of the State, or adjacent to such waters in any manner which may permit it's being transported into the waters, is prohibited unless authorized by the San Diego Water Board.
- E. The Discharger(s) must comply with all applicable Discharge Prohibitions contained in Chapter 4 of the Basin Plan, incorporated into this Order as if fully set forth herein.

IV. RECEIVING WATER LIMITATIONS

The receiving water limitations set forth below for San Diego Bay waters are based on applicable water quality standards contained in water quality control plans and policies and federal regulations and are a required part of this Order. Project activities shall not cause or contribute to exceedances of these receiving water limitations in San Diego Bay. Compliance with these limitations shall be determined from samples collected at the points of compliance described in the Monitoring Requirements in section VII of this Order.

- A. **Visual.** Floating particulates and grease and oil shall not be visible.
- B. **Color.** Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.
- C. **Hydrogen Ion Concentration.** The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
- D. **Hydrogen Ion Concentration.** The pH shall not be depressed below 7.0 nor raised above 9.0.
- E. **Turbidity.** If natural turbidity is between 0 to 50 nephelometric turbidity units (NTUs), the maximum increase from dredge activities must not exceed 20 percent of the measured natural turbidity. If natural turbidity is between 51 to 100 NTUs, the maximum increase from dredge activities must not exceed 10 NTUs. If natural turbidity is greater than 100 NTUs, the maximum increase from dredge activities must not exceed 10% above natural background levels.
- F. **Dissolved Oxygen.** The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally.
- G. **Benthic Communities.** Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities.
- H. **Human Health.** Pollutants shall not be present in sediments at levels that will bioaccumulate in aquatic life to levels that are harmful to human health.
- I. **Water Quality Objectives.** Water quality objectives applicable to San Diego Bay established in Chapter 3 of the San Diego Water Board's *Water Quality Control Plan for the San Diego Basin* (Basin Plan) shall not be exceeded.
- J. **Priority Pollutant Criteria.** Priority pollutant criteria applicable to San Diego Bay promulgated by the U.S. Environmental Protection Agency (U.S. EPA) through the a) *National Toxics Rule* (NTR) (40 CFR 131.36 promulgated on December 22, 1992 and amended on May 4, 1995) and b) *California Toxics Rule* (CTR) (40 CFR 131.38, (65 Fed. Register 31682-31719), adding Section 131.38 to Title 40 of the Code of Federal Regulations, on May 18, 2000) shall not be exceeded.

V. CONSTRUCTION BEST MANAGEMENT PRACTICES

- A. Prior to the start of the project, and annually thereafter, the Discharger must educate all personnel involved with dredging, and handling the dredged material on the requirements in this Order, including pollution prevention measures, the potential hazards resulting from accidental oil and/or fuel spills, spill response, and Best Management Practices (BMPs) implementation and maintenance.
- B. The ~~Discharger~~Discharger(s) must, at all times, maintain appropriate types and sufficient quantities of materials on-site to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the United States and/or State.
- C. The Discharger, and/or all legally responsible parties in the Project construction area, must enroll in and comply with the requirements of State Water Resources Control Board Water Quality Order No. 2009-0009-DWQ, NPDES No. CAS000002, *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, and any subsequent revisions thereto. Project construction shall not commence until the ~~Discharger~~Discharger(s) and/or all legally responsible parties in the Project construction area is (are) enrolled.
- D. The treatment, storage, and disposal of wastes attributable to the Project must be done in accordance with waste discharge requirements established under Water Code section 13260, unless such requirements are waived under Water Code section 13269 and the waiver is not against the public interest.
- E. Except as authorized by this Order, substances hazardous to aquatic life including, but not limited to, petroleum products, raw cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs must be implemented to prevent such discharges during each Project activity involving hazardous materials.
- F. Water containing mud, silt, or other pollutants from equipment washing or other activities, must not be discharged to waters of the United States and/or the State or placed in locations that may be subjected to storm flows.
- G. Substances hazardous to aquatic life including, but not limited to, petroleum products, raw cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs must be implemented to prevent such discharges during each Project activity involving hazardous materials.
- H. The ~~Discharger~~Discharger(s) shall comply with and implement all mitigation measures, actions and verification reporting assigned to the "Contractor" the

“Project Marine Biologist” and the “Shipyards” and the “Port District” as described in the Mitigation Monitoring and Reporting Program contained in Attachment B of this Order. The ~~Discharger~~Discharger(s) shall also ensure that all mitigation measures, actions and verification reporting assigned to the “Project Marine Biologist” are performed by a qualified marine biologist, competent and proficient in the field pertinent to the required activities.

- I. The ~~Discharger~~Discharger(s) shall comply with and implement all requirements of Cleanup and Abatement Order R9-2012-0024 and the Remedial Action Plan applicable to Project activities.

Silt Curtain Deployment

- J. The installation and maintenance of silt curtains for the Project under this Order shall be conducted in accordance with the applicable requirements of Cleanup and Abatement Order R9-2012-0024, the Remedial Action Plan, the Mitigation Monitoring and Reporting Program contained in Attachment B of this Order and the requirements set forth below.
 1. The ~~Discharger~~Discharger(s) shall use and maintain a continuous length of double silt curtains, installed and maintained fully surrounding the ~~active dredge areas~~Project construction area and around the dredge barge/bucket area to control and contain the migration of resuspended sediments at the water surface and at depth.
 2. The silt curtains must be comprised of connected lengths of Type III geotextile material.
 3. The silt curtains must restrict the surface visible turbidity plume to the area of construction and dredging.
 4. A continuous length of floating silt curtain must be arranged to fully encircle the dredging equipment and the scow barge being loaded with sediment.
 5. The silt curtains must be supported by floating debris booms in open water areas such as along the bayward side of the dredging areas. Along pier edges the silt curtains may be connected to the pier structure.
 6. The bottom of the silt curtains must be weighted with ballast weights or rods affixed to the base of the fabric to resist the natural buoyancy of the geotextile fabric and lessen its tendency to move in response to currents. The silt curtains shall extend from the bay surface to at least 20 feet into the water column. Where feasible and applicable, the floating silt curtains must be anchored and deployed from the surface of the water to just above the substrate.

7. If necessary, silt curtains with tidal flaps must be installed to facilitate curtain deployment in areas of higher flow. Air curtains may be used in conjunction with silt curtains to contain resuspended sediment, enhance worker safety, and allow barges to transit into and out of the work area without the need to open and close silt curtain gates.
8. The silt curtains must be continuously monitored for damage, dislocation or gaps and must be immediately repaired where it is no longer continuous or where it has loosened.

Eelgrass Beds

- K. Prior to construction, the boundaries of the eelgrass beds not directly impacted by dredging activities must be staked with ridged PVC markers or self-centering buoys visible at all tide heights to protect sea turtles foraging within the eelgrass beds. The PVC markers or self-centering buoys must be protected, replaced, and maintained as needed to ensure that they remain in place and properly stake the boundaries of the eelgrass beds.
- L. The turbidity curtain must be kept a minimum of 30 feet away from staked eelgrass beds not directly impacted by dredging in order to prevent damage to eelgrass beds from curtain drag or movement.
- M. Throughout the duration of dredge and fill activities, project-related barges and work vessels operating in areas where eelgrass beds exist shall be operated in a manner to ensure that eelgrass beds are not impacted through grounding, propeller damage, or other activities that may disturb the seafloor. Such measures shall include speed restrictions, establishment of off-limit areas, and use of shallow draft vessels.

Sediment Dredging in the Shipyard Sediment Site Remedial Footprint

- N. All dredging activities under this Order within the Shipyard Sediment Site remedial footprint shall be conducted in accordance with the applicable requirements of Cleanup and Abatement Order R9-2012-0024, the Remedial Action Plan, the Mitigation Monitoring and Reporting Program contained in Attachment B of this Order and the requirements set forth below.
 1. As provided in CAO Directive A.2., dredging shall be conducted to remove impacted sediments from all accessible portions of the remedial footprint to concentrations less than 120 percent of the post remedial dredge area concentrations described in Table A.2.a. of the CAO. If the concentration of any primary constituents of concern (COC's) in subsurface sediments (deeper than the upper 5 cm) is above 120 percent of the post-remedial dredge area concentration after completion of initial dredging, then additional sediments shall be dredged by performing an additional "pass" with the equipment. If

- concentrations of primary COC's are below 120 percent of post-remedial dredge area concentrations, then the dredging is sufficient and may stop.
2. The dredging of contaminated sediment must be conducted using an environmental cable arm clamshell bucket. The clamshell bucket must be entirely closed during dredging activities when withdrawn from San Diego Bay waters and moved to the barge, and when withdrawn from the barge and moved to the truck. As a secondary measure to ensure when the clamshell bucket is completely closed, marks painted on the clamshell bucket's holding cable and closing cable shall be used to visually verify when the bucket is fully closed. These marks will align when the clamshell bucket is completely closed and they must be placed so that they are visible to the dredging operator at all times.
 3. The clamshell bucket must be completely empty of sediment prior to being moved back to the barge to minimize sediment being spilled over the dock.
 4. The clamshell bucket must not be overfilled in order to prevent the spillage of dredged material back in to San Diego Bay waters.
 5. Dredging must be conducted to remove dredge material and not stockpile material on the floor of San Diego Bay or level the bottom surface with the clamshell bucket.
 6. The drop height from the clamshell bucket into the barge must be controlled to prevent splashing or sloshing of dredged material back into San Diego Bay waters.
 7. The swing radius of unloading equipment must be controlled to prevent spillage of dredged material back into San Diego Bay waters.
 8. Dredged sediments must be loaded onto wide pocket material barges with watertight compartments and water collection systems to prevent return water from re-entering San Diego Bay waters.
 9. Dredged material barges must not be filled to a point that overflow or spillage could occur. Each material barge must be marked in such a way to allow the operator to visually identify the maximum load point.
 10. Load-controlled barge movement, line attachment, and horsepower requirements of tugs and support boats at the project site must be specified to avoid resuspension of sediment and ensure that sea turtles and marine mammals are not injured or harassed through excessive vessel speed or propeller damage. Such measures may include speed restrictions, establishment of off-limit areas, and use of shallow draft vessels.

11. Excess or decanted water from dredged sediments must not be discharged into San Diego Bay waters.

Clean Sand and Gravel Cover Operations

- S. All clean sand cover operations and placement under this Order within the Shipyard Sediment Site remedial footprint must be conducted in accordance with the applicable requirements of Cleanup and Abatement Order R9-2012-0024, the Remedial Action Plan and the Mitigation Monitoring and Reporting Program contained in Attachment B of this Order and the requirements set forth below.
1. Sediment areas within the required remedial footprint that are beneath piers and other overwater structures, where dredging would significantly impact or damage existing infrastructure, shall receive a clean layer of imported sand and gravel on the sediment surface to meet cleanup objectives.
 2. Clean sand and gravel covers must be thick enough to physically isolate the sediments from aquatic organisms to prevent the uptake of bioaccumulative contaminants.
 3. Placement of clean sand covers must be done in layers of controlled lifts to ensure proper placement over the required areas, minimize the potential for disturbance and intermixing of underlying sediments and appropriate thicknesses are achieved.
 4. The DischargerDischarger(s) shall submit a Borrow Source Characterization Report, for review and verification by the San Diego Water Board, prior to any on-site placement of import materials. This characterization report shall include identification of import material source(s), map(s) documenting the origin of the materials, site inspection documentation, and material sampling results for characterization (physical and chemical testing, as specified) to ensure that the import material will uniformly meet the specifications of its intended use and is well below the cleanup levels listed in the CAO.
 5. The DischargerDischarger(s) may supplement dredged areas with placement of a clean sand cover layer over the dredged surface if confirmatory samples indicate chemical exceedances in the new surface sediment are marginal or when hard undredgeable material is encountered.

Sediment Dewatering and Staging Areas

- T. All dredged sediment dewatering, solidification and staging shall be done in accordance with the applicable requirements of Cleanup and Abatement Order R9-2012-0024, the Remedial Action Plan, the Mitigation Monitoring and

Reporting Program contained in Attachment B of this Order and the requirements set forth below.

1. The upland areas for dewatering, solidification and stockpiling of dredged material shall be limited to a) the 1.2 acre parcel identified in the ROWD as the sediment staging and offloading area in the Northern Project Site located at the BAE ~~Systems~~ facility, and 2) the 2.5 acre S-Lane Parcel identified in the ROWD as the sediment staging and offloading area in the Southern Project Site, located on the NASSCO leasehold on the north side of Chollas Creek.
2. The sediment offloading and stockpiling areas shall be outfitted to fully contain the sediment and any water (effluent) that drains from it, through the use of best management practices, including but not limited to, closed perimeter barriers, base liner, sand, asphalt, liners, and water handling facilities).
3. Dredged sediments may be mixed with a cement based reagent (pozzolanics) to facilitate drying and to bind the sediments.
4. ~~Dredged sediments stockpiled on shore must be covered by a suitable heavy gauge plastic sheeting (not less than 10 mills thick) to adequately prevent rainwater infiltration, control fugitive dust and other nuisances.~~ Alternative control methods to prevent fugitive dust and other nuisances, including covering the stockpiles, may be utilized in addition to the required Mitigation Measures if sufficient information is provided to demonstrate that the proposed as long as the proposed alternatives is are protective of water quality and human health.
5. The on-shore dredged sediment dewatering area must be designed as a no-discharge facility to prevent decanted water from flowing back into Chollas Creek or San Diego Bay waters and prevent infiltration into underlying groundwater. The design must also prevent storm water run-on or run-off from adjacent areas from entering the dewatering area. The discharge of decanted water from sediment stockpiled in the staging areas or any storm water collected in the staging areas to Chollas Creek or San Diego Bay is prohibited.
6. At all times during Project construction, storm water in contact with sediment and dredge barge decant water shall be collected in closed-top tanks to prevent infiltration and overflow during a storm event. This will involve the decant and/or storm water being collected in a sump in the operation area, pumped to aboveground tanks, and disposed of either within the sanitary sewer or off site. The storage areas shall be surrounded by a curb, dike, berm, or some other type of secondary containment system. All storage areas

that are paved must be free of cracks and gaps, and shall be able to contain leaks and overflows until they can be addressed.

7. Prior to initiating dredging operations the Discharger(s) shall apply for and obtain an Industrial User Discharge Permit from the City of San Diego for the discharge of wastewater into the City's sanitary sewer system. The Discharger(s) submit also submit a copy of the permit to the San Diego Water Board prior to initiating dredging operations.
8. Prior to discharge to the sanitary sewer system, the dredge sediment decant water must meet the City of San Diego's requirements for discharge of wastewater to the sanitary sewer system. The discharge must comply with any limits on pollutant concentrations, discharge times and flow rates required by the City of San Diego. If the decanted water does not meet City of San Diego's requirements for discharge of wastewater to the sanitary sewer, it must be removed by a licensed waste hauler for treatment and disposal at an authorized site.
9. Prior to staging or stockpiling dredged sediment at the sediment management areas, the Discharger(s) must consult with the California Department of Toxic Substances Control (DTSC) and implement any additional controls required by DTSC to manage dredged material characterized as hazardous waste. If sediments meeting hazardous waste criteria are encountered, the hazardous waste must be segregated from other materials, in accordance with CCR, Title 22, Division 4.5, Chapter 15, Article 12.

Transportation and Disposal

- U. The transport and disposal of dredged material shall be done in accordance with the applicable requirements of Cleanup and Abatement Order R9-2012-0024, the Remedial Action Plan, the Mitigation Monitoring and Reporting Program contained in Attachment B of this Order and the requirements set forth below.
 1. All dewatered dredged sediments must be disposed in regulated upland landfill facilities. Those sediments classified as nonhazardous, must be transported for disposal at a landfill permitted for accepting this material. Dredged sediments classified as hazardous must be transported to a hazardous waste landfill permitted for accepting this material. Alternative disposal of dredge materials at non-permitted disposal facilities is prohibited.
 2. The Discharger(s) shall meet performance standards associated with transportation and disposal in conformance with the Project's Construction Plans and Technical Specifications, 401 Water Quality Certification, and other permits for this work. The specific design criteria and performance standards shall be specified in the Construction Plans submitted to the San Diego Water

Board prior to dredging.

Response Actions to Monitoring Results

- V. In the event that visual observations or water quality monitoring indicate an exceedance of an applicable Receiving Water Limitation described in Section IV of this Order at an early warning station, the Discharger(s) shall promptly take all necessary steps to prevent an exceedance at the compliance station(s) including but not limited to adjustments of dredging operations or BMPs.
- W. In the event that visual observations or water quality monitoring indicate an exceedance of an applicable Receiving Water Limitation described in Section IV of this Order, the Discharger(s) shall implement the additional or enhanced operational or engineering BMPs described below:
1. Evaluate the concurrent measurements at background-reference and compliance monitoring stations and supporting visual evidence to determine whether the exceedance is caused by construction activities or by other ambient conditions in San Diego Bay (e.g., wind waves, boat wakes, barge/ship traffic, and storm inflow).
 2. Immediately re-take measurements at background-reference and compliance stations.
 3. If the exceedance is confirmed, immediately notify the dredge contractor to immediately modify operations or implement additional BMPs to mitigate the exceedance and any further harm to water quality. Operational modifications may include, but are not limited to the following modifications implemented individually or in combination:
 - a. Adjust the sequence and/or speed of dredging and disposal operations;
 - b. Reposition dredge operations in such a way as to ensure future exceedances do not occur;
 - c. Fix, maintain, and/or upgrade floating silt curtains; and
 - d. Modify, either on a temporary or permanent basis, dredge equipment (such as the dredging bucket size or type).
 4. Re-evaluate field measurements at all relevant stations 30 minutes later, after additional BMPs or operational modifications are implemented.
 5. If the receiving water limitation exceedance continues to persist, even with additional BMPs, determine and implement more aggressive BMPs or operational modifications that resolve the exceedance or stop work to further assess the source of the exceedance, identify effective mitigation measures, and allow the water column to recover.

VI. COMPENSATORY MITIGATION

- A. **Eelgrass.** A pre-construction eelgrass survey must be completed in accordance with the requirements of the Southern California Eelgrass Mitigation Policy (SCEMP) by a qualified biologist, prior to initiation of construction activities at the site. This survey must include both aerial and density characterization of the beds. A post-construction survey must be performed by a qualified biologist within 30 days following project completion to quantify any unanticipated losses to eelgrass habitat. Impacts must then be determined from a comparison of pre- and post-construction survey results. Impacts to eelgrass, if any, must be mitigated through conformance with the SCEMP, which defines the mitigation ratio and other requirements to achieve mitigation for significant eelgrass impacts. If required following the post-construction survey, the SCEMP defined mitigation must be developed; approved by the San Diego Water Board, U.S. Army Corps of Engineers and National Marine Fisheries Service; and implemented to offset losses to eelgrass.
- B. **California Least Tern.** In-water construction activities are anticipated to be scheduled to occur outside the California least tern nesting season. Should in-water Project activities be conducted during the least tern breeding season, a qualified Biological Monitor familiar with the California least tern and other special status seabirds and waterfowl shall be retained by the ~~Discharger~~Discharger(s) to conduct monitoring within 500 feet of construction activities and a silt curtain installed during breeding season. The monitor shall be empowered to delay commencing work, and shall do so if terns are actively foraging (e.g., searching and diving) within the work area. Should adverse impacts to terns occur (e.g., agitation or startling during foraging activities), the Biological Monitor shall be empowered to delay or halt construction, and shall do so until California least terns have left the project site.
- C. **Green Sea Turtles and Marine Mammals.** Mitigation measures to ensure that green sea turtles and marine mammals are not injured or harassed during dredging operations shall be incorporated into the Communication Plan. Mitigation measures must provide oversight by a qualified marine biologist and include training of the dredging crew on appropriate operation of barges and work vessels to minimize potential harm to green sea turtles and marine mammals. Construction activity must be temporarily stopped if a green sea turtle or marine mammal is sighted within 330 feet (100 meters) of the construction zone until all green sea turtles or marine mammals have left the Project site.

VII. MONITORING REQUIREMENTS

- A. **Receiving Water.** The receiving water quality monitoring requirements of this Order include but are not limited to:

1. Samples and measurements taken as required herein must be representative of the volume and nature of the discharge. Monitoring points shall not be changed without notification to and the approval of the San Diego Water Board. The Discharger(s) shall provide split samples to the San Diego Water Board upon prior timely notice.
2. Monitoring must be conducted according to United States Environmental Protection Agency test procedures approved under Title 40, Code of Federal Regulations (CFR), Part 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants under the Clean Water Act* as amended, unless other test procedures have been specified in this Order.
3. All laboratory analyses must be performed in a laboratory certified to perform such analyses by the California Department of Health Services, or a laboratory approved by the San Diego Water Board.
4. If the ~~Discharger~~Discharger(s) monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR, Part 136, or as specified in this Order, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharger's reports. The increase in frequency of monitoring must also be reported.
5. The ~~Discharger~~Discharger(s) must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records must be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this Order or when requested by the San Diego Water Board.
6. Records of monitoring information must include:
 - a. The date, exact place, and time of sampling, measurements;
 - b. The individual(s) who performed the sampling, measurements, or observations;
 - c. The date (s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or method used; and
 - f. The results of such analyses.
7. All monitoring equipment used by the ~~Discharger~~Discharger(s) to fulfill the prescribed monitoring requirements must be properly calibrated according to manufacturer's specifications and be maintained in optimal condition prior to and during the monitoring project. Logs of calibration procedures shall be

retained as a standard operating procedure (SOP). The log shall be maintained for the duration of the project and shall be available for review upon request.

8. The San Diego Water Board Executive Officer may make revisions to the monitoring requirements at any time, and may include a reduction or increase in the number of parameters to be monitored, locations monitored, the frequency of monitoring, or the number and size of samples collected.

- B. The receiving water monitoring program must be performed throughout the duration of dredging activities as specified below and in the RAP. The ~~Discharger~~Discharger(s) shall conduct water quality monitoring to demonstrate that dredging activities do not result in violations of applicable water quality standards, outside of the construction area. The water quality monitoring requirements including monitoring parameters, monitoring locations and depths, field procedures, and compliance criteria are described below.

1. **Monitoring Parameters.**

The following parameters shall be monitored outside the construction area during dredging activities:

- a. **Visual Parameters.**

- (1) No floating particulates, suspended materials, grease, or oil
- (2) No significant discoloration of the water surface

- b. **Field Parameters.**

- (1) Turbidity (in nephelometric turbidity units [NTU])
- (2) Dissolved oxygen (DO; in milligrams per liter [mg/L])
- (3) Hydrogen ion concentration (pH)

2. **Monitoring Locations (Stations) and Depths.**

During each monitoring event, water quality parameters including turbidity, DO, and pH shall be measured at seven stations, as shown in Attachment C. All water quality parameter measurements shall be monitored on two arcs (early warning and compliance). Two early warning and four compliance stations shall be spaced evenly along the arcs to capture all tidal and current conditions.

Monitored water quality measurements shall be compared to “ambient” ~~background reference~~ measurements outside the construction area, including San Diego Bay conditions and effects of non-remedial shipyard activities. The location of the ~~background reference~~ station shall remain the same for all monitoring events. Water quality measurements shall be collected from a depth of 10 feet below the water surface at each of the stations.

Station descriptions are as follows:

- a. **Compliance Stations.** Four compliance stations shall be located 500 feet from the construction area. Two compliance stations (Compliance Station Nearshore, North [CNN] and Compliance Station Nearshore, South [CNS]) shall be located on the North and South sides of the 500-foot compliance arc at approximately the same distance from shore as the construction activity. Two additional compliance stations (Compliance Station Offshore, North [CON] and Compliance Station Offshore, South [COS]) shall be located on the North and South sides of the 500-foot compliance arc offshore from the construction activity. The compliance stations shall be adjusted in the field to better target a visible turbidity plume, if a visible plume is observed.
 - b. **Early Warning Stations.** Two early warning stations shall be located 250 feet from the construction area. The North and South early warning stations (Early Warning Station, North [EWN] and Early Warning Station, South [EWS]) shall be spaced evenly along the north and south sides of the 250-foot early warning arc. The objective of the early warning stations is to become quickly aware of potential water quality impacts at the construction work area and to be able to adjust dredging operations or BMPs before an exceedance occurs at the compliance station. The early warning stations shall be adjusted in the field to better target a visible turbidity plume, if a visible plume is observed.
 - c. **Background-Reference Station.** The background-reference station shall be located 1,000 feet from the dredging activity in the direction of the head of the bay and beyond the influence of construction activities. The background-reference station shall be monitored during every event, because the turbidity criterion is based on an acceptably small increase in the vicinity of the construction activity relative to ambient background reference levels.
3. **Field Procedures.**
The field procedures are described below.

a. **Monitoring Frequency.**

During dredging, manual water quality samples shall be collected once daily for a minimum of 1 hour at the start of dredging operations. A reference station outside the influence of dredging shall also be sampled at similar depths and frequency for comparison to the samples collected from the dredge area. In accordance with Section 34.1.1 of the CAO Technical Report sampling will be reduced to weekly sampling if no water quality exceedances are observed after 3 consecutive days of monitoring. During weekly water column monitoring (after 3 consecutive days without an exceedance), all water quality parameters will be measured during one

~~monitoring event per week. Consistent with the requirements of the Technical Report, monitoring frequency will return to daily if a significant change in operations occurs (i.e., switching from dredging to material placement or debris removal) or an exceedance of the Receiving Water Limitations described in section IV. of this Order is observed. Monitoring frequency can again be reduced to weekly if 3 consecutive days of monitoring show there are no exceedances. Figure 2 of the Remediation Monitoring Plan provides a decision flow chart summarizing monitoring frequency requirements." Turbidity and other water quality conditions (DO and pH) shall be monitored by the Discharger using an automatic system throughout dredging operations to provide real-time feedback to the dredge operator. The automatic system will include threshold alarms to alert the dredge operator and/or other appropriate personnel to recognize that one or more water quality criteria have been exceeded.~~

~~The automatic system shall be supplemented by a robust system of manual water quality monitoring that will be conducted by the Discharger's Project Team field representatives. During dredging, samples shall be collected once daily after dredging operations have been underway for a minimum of 1 hour. A reference station outside the influence of dredging shall also be sampled at similar depths and frequency for comparison to the samples collected from the dredge area.~~

~~Manual water quality parameters (i.e., turbidity, DO, and pH) will be measured daily at the start of dredging operations. In accordance with Section 34.1.1 of the CAO Technical Report sampling will be reduced to weekly sampling if no water quality exceedances are observed after 3 consecutive days of monitoring. During weekly water column monitoring (after 3 consecutive days without an exceedance), all water quality parameters will be measured during one monitoring event per week. Consistent with the requirements of the Technical Report, monitoring frequency will return to daily if a significant change in operations occurs (i.e., switching from dredging to material placement or debris removal) or an exceedance of the Receiving Water Limitations described in section IV. of this Order is observed. Monitoring frequency can again be reduced to weekly if 3 consecutive days of monitoring show there are no exceedances.~~

b. Methods and Equipment.

Dredging activities shall be monitored using an automatic Early Alert Systems (EAS) set at fixed locations as described in section VII.B.2. The compliance stations evaluated during dredging shall be monitored using instrumentation capable of measuring dissolved oxygen (DO), pH, and turbidity (in nephelometric turbidity units (NTU's)).

c. Sample Location and Depth Control.

Monitoring station positions shall be located using a Global Position System (GPS) accurate to within ± 3 meters. Monitoring depths shall be determined using a depth finder with an accuracy of ± 0.5 feet.

d. **Station Identification.**

Water quality monitoring stations shall be identified as follows:

Stations shall be identified using the nomenclature specified in the Remedial Action Plan (RAP) for the Shipyard Sediment Site CAO (Anchor 2012). All station information shall be recorded on project specific water quality monitoring forms, and consistently applied from one monitoring event to the next. Station names shall use the following identification scheme consisting of nine alphanumeric characters:

A-BB-YYMMDD

Where:

“A” shall be used to identify the construction activity being monitored and will be one of the following:

- D = dredging
- P = material placement
- R = debris removal

“BB” shall be used to identify the water quality monitoring location and will be one of the following:

- BG = Background Reference Station¹
- EWN = Early Warning Station, North¹
- EWS = Early Warning Station, South¹
- CNN = Compliance Nearshore Station, North¹
- CNS = Compliance Nearshore Station, South¹
- CON = Compliance Offshore Station, North¹
- COS = Compliance Offshore Station, South¹

¹ Stations will be monitored with automatic system described in this Order.

“YYMMDD” shall be used to identify the monitoring date and represents the following:

- YY = The last two digits of the year of collection
- MM = The month of collection
- DD = The day of collection

For example, following this identification scheme, "D-CNS-131018" represents field monitoring during dredging in the Compliance Nearshore Station, South on October 18, 2013.

e. **Field Documentation.**

Daily visual observations shall be recorded on a standard observer form throughout dredging activities. Manual water quality monitoring field logs shall include date and time of sampling, tide information, water depth, and observations of water quality including sheen, color, odor, floating particulate, and plume observations. Logs shall also include weather conditions such as wind speed/direction and cloud cover.

f. **Sample Integrity.**

The integrity of each water sample collected shall be maintained from the time of collection to the point of data reporting. Proper record keeping and chain of custody (COC) procedures shall be implemented to allow samples to be traced from collection to final disposition. After collection of water samples, documentation on various logs and forms shall be required to adequately identify and catalog sample information.

4. **Compliance Criteria.**

Receiving Water Limitations are provided in Section IV of this Order. The point of compliance with these receiving water limitations shall be located 500 feet from the edge of the construction area. The construction area is defined as the area(s) occupied by the dredging barge(s), the sediment scow(s), sand and rock placement equipment, demolition work equipment, silt curtains, and other work.

C. **Caulerpa Taxifolia.** The Applicant must conduct a surveillance-level survey for *Caulerpa taxifolia* not more than 90 days before the initiation of construction to determine presence/absence of this species within the immediate vicinity of the project. If *Caulerpa taxifolia* is identified during a survey, or at any other time before, during, or within 120 days following completion of authorized activities, the San Diego Water Board, National Marine Fisheries Service and California Department of Fish and Wildlife must be contacted within 24 hours of first noting the occurrence. In the event *Caulerpa* is detected, all disturbing activity must cease until such time as the infestation has been isolated and treated, or the risk of spread from the disturbing activity is eliminated in accordance with the *Caulerpa* Control Protocol.

D. **Sediment Monitoring.** The Sediment Monitoring Program shall follow the requirements specified in section 34.1.2 of the CAO Technical Report as detailed in the RAP. Prior to initiation of a sediment monitoring program in areas where the dredge contractor believes it has completed the work, a post-remedial bathymetric survey shall be performed to verify that the dredge contractor has reached the target dredge depths and extents to accomplish full removal of

chemically impacted sediment. The sediment monitoring approach is summarized below:

1. **Sediment Management Units.** As detailed in the RAP, the remedial footprint area for the North and South Remediation Areas has been subdivided into individual Sediment Management Units (SMUs) with similar physical characteristics and dredge depths to facilitate dredging activities. Sediment monitoring will occur in each footprint polygon described in the CAO as represented by a SMU within the remedial footprint. The SMUs will be finalized in the final dredge design and will be used for evaluating successful attainment of Post Remedial Dredge Area concentrations (referred to as background concentrations) for PCBs, copper, HPAHs, TBT, and mercury described in Directive A.2.a of the CAO.
2. **Methods, Locations, and Timing.** Sediment sampling will be implemented immediately within 24 to 48 hours after the dredging contractor has confirmed that dredge depths within the footprint area have been achieved. Dredge depths will be confirmed using multibeam dual frequency sonar coupled to differential Global Positioning System (dGPS) equipment. Confirmation sediment sampling will consist of core sediment sample collection in each footprint polygon. Sediment concentrations in a horizon that represents the first undisturbed depth beneath the dredge depth will be measured. This will be determined based on the accuracy to which the dredge operator can guarantee the depth to which they dredge. Samples will be collected from beneath this elevation using appropriate sampling techniques. Sample cores will be just deep enough to collect sufficient sample for analysis.
3. **Performance Standard for Dredging.** ~~COCs that~~ Sediment chemical constituents of concern (COCs) will be monitored and compared to Post Remedial Dredge Area concentrations (referred to as background concentrations) for ~~background sediment chemistry levels include~~ PCBs, copper, HPAHs, TBT, and mercury described in Directive A.2.a of the CAO. With respect to determining sediment remediation success, there will be natural variability in the sediment chemistry data collected, which does not represent a true difference from the expected value. Natural variability can be attributed to random error in laboratory instrument outputs, sample collection and handling techniques, grain size distribution variance in sediment samples, or other random non-systematic differences that cannot be measured or specifically accounted for. Furthermore, sediment cannot be dredged at depths of 10 centimeters or less. Therefore, dredging success will be evaluated based on the following decision rules applied to subsurface monitored sediment:
 - a. If all concentrations of COCs in subsurface sediments (deeper than the upper ~~10- 5~~ cm) within an SMU are above-greater than 120 percent of

~~background sediment chemistry levels~~ Post Remedial Dredge Area concentrations specified in Directive A.2.a of the CAO, the following additional remedial actions shall will considered in consultation with the San Diego Water Board:

- (1) Additional dredging of the SMU;
- (2) Additional analysis of discrete archived samples if multiple samples were collected in the SMU and/or additional sample collection to better define the extent of the exceedance(s); and
- (3) Placement of clean sand if additional dredging is determined to be inefficient.

The Discharger(s) shall implement the additional remedial action(s), individually or in combination depending upon the type, scope and scale of the exceedance(s) and shall comply with any conditions set by the San Diego Water Board. ~~, then additional sediments will be dredged by performing an additional "pass" with the equipment.~~

- b. If all concentrations of COCs in subsurface sediments are ~~below-less~~ than or equal to 120 percent of ~~background concentrations~~ Post Remedial Dredge Area concentrations specified in Directive A.2.a of the CAO, then SMU cleanup shall be considered complete and dredging may is sufficient and will stop. A sand cover ~~cap will shall~~ be placed on the sediment surface, if necessary.
- c. If no sample can be collected because the equipment cannot penetrate a hard substrate, than this area ~~will shall~~ be evaluated to determine whether sand cover is required. A sand cover shall be placed on the sediment surface, if necessary.

E. **Disposal Monitoring.** Prior to sediments leaving the sediment management areas the ~~Discharger~~ Discharger(s) shall perform analytical testing of stockpiled sediment (unless the analytical testing was conducted on sediment samples obtained in situ prior to dredging) as dictated by landfill acceptance criteria, to demonstrate and document the material's suitability for disposal at selected landfill(s). Specific requirements for waste characterization at the disposal site ~~will shall~~ be developed by the Dischargers after one or more disposal facilities have been identified. Specific testing requirements will be based on the Waste Discharge Requirements of the disposal facilities.

VIII. REPORTING REQUIREMENTS

A. **Water Quality Monitoring.** The Discharger(s) shall prepare and submit a monthly receiving water quality monitoring report that contains the results of receiving water quality monitoring activities for each week of that month. The reports must include:

1. The following identification numbers in the header or subject line: Place ID 794466, Order No. R9-2013-0093;
2. The names, qualifications, and affiliations of the persons contributing to the report;
3. A tabulation of the daily volume (in cubic yards) of dredged material, the locations from which the material was removed and the final disposal location including waste manifests;
4. A summary table of the monitoring results with a comparison to receiving water limitation compliance criteria;
5. An evaluation, interpretation, and tabulation of the visual observations and water quality data including interpretations and conclusions as to whether applicable receiving water limitations were attained at each monitoring station; and
6. A description of all incidents of non-compliance and its cause, the period of the noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. Compensatory Mitigation Completion Report. The Discharger(s) must prepare and submit a report to the San Diego Water Board, within 30 days of completion of mitigation site preparation and planting, containing the following information:

1. Pre-construction and post construction eelgrass surveys;
2. Evaluation of total permanent impacts to eelgrass including impact and mitigation area maps;
3. The as-built status of the mitigation sites; and
4. A survey report documenting the boundaries of mitigation sites.

C. Noncompliance Reports. The Discharger(s) must report to the San Diego Water Board any noncompliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger(s) becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger(s) becomes aware of the circumstances. The written submission shall contain a description of the incident and its cause, the period of the noncompliance including exact dates and times; and if the noncompliance has

not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Discharger(s) shall also provide notification of the noncompliance to Community Members pursuant to the procedures for emergency notifications contained in the RAP, Appendix E, Community Relations Plan when directed to do so by the San Diego Water Board. The San Diego Water Board may waive the above-required written report under this provision on a case by case basis if an oral report has been received within 24 hours.

- D. Production of Plans and Reports Required for in the Mitigation Monitoring and Reporting Program and the Remedial Action Plan.** The Discharger(s) shall provide the San Diego Water Board with a copy of the final plans and reports required pursuant to the Remedial Action Plan and the Mitigation Monitoring and Reporting Program no later than one week prior to the date of the public meeting to be held as required by the Community Relations Plan, Appendix E of the RAP. The following list of plans and reports is illustrative and not meant to be a comprehensive list of the plans or reports required to be produced by the Discharger(s).
1. The RAP requires the following plans in addition to those provided in Appendix A through Appendix F of the RAP:
 - a. Environmental Protection Plan
 - b. Waste Generated Plan
 - c. Vessel Management Plan
 - d. Health and Safety Plan
 2. The Mitigation Monitoring and Reporting Program requires the following plans:
 - a. Dredging Management Plan
 - b. Parking Management Plan
 - c. Contingency Plan
 - d. Communication Plan (see Mitigation Measure 4.3.5)
 - e. Sediment Management Plan (see Mitigation Measure 4.3.6, which also includes the requirement to generate a Dust Control and Monitoring Plan)
 - f. Hazardous Materials Transportation Plan (see Mitigation Measure 4.3.7)
 - g. Traffic Control Plan (see Mitigation Measure 4.3.8)
 - h. Biological Assessment and Essential Fish Habitat (EFH) Evaluation Report
- E. Mitigation Monitoring and Reporting Program Verification Report.** The Mitigation Monitoring and Reporting Program provides that certain mitigation measures be “verified by the San Diego Water Board.” To fulfill this requirement, the San Diego Water Board requires that the Discharger(s) submit a report or notification to the San Diego Water Board no later than fifteen days following the completion of a component of the Mitigation Measure or completion of the full

requirements of the Mitigation Measure.

- F. **Commencement Notification.** The Discharger(s) must notify the San Diego Water Board in writing at least 5 days prior to actual commencement of dredge and fill activities.
- G. **Hazardous Substance Discharge.** Except for a discharge which is in compliance with this Order, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, shall as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the County of San Diego, Environmental Health Division in accordance with California Health and Safety Code section 5411.5 and the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.17), and immediately notify the State Water Board or the San Diego Water Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of section 13271 of the Water Code unless the Discharger(s) is in violation of a Basin Plan prohibition.
- H. **Oil or Petroleum Product Discharge.** Except for a discharge which is in compliance with this Order, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.1). This requirement does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Clean Water Act section 311, or the discharge is in violation of a Basin Plan prohibition.
- I. **Report Submittal.** The Discharger(s) shall submit both one complete electronic copy (on CD or other appropriate media) and one complete paper copy of all reports required under this Order including notifications, technical reports, and monitoring reports. All correspondence and documents submitted to the San Diego Water Board must include the following identification numbers in the header or subject line: Place ID No. 794466, Order No. R9-2013-0093. The preferred electronic format for each report submission is PDF format that is

Optical Character Recognition (OCR) capable.

J. **Signatory Requirements.** All applications, reports, or information submitted to the San Diego Water Board must be signed and certified as follows:

1. For a corporation, by a responsible corporate officer of at least the level of vice president; or
2. For a partnership or sole proprietorship, by a general partner or proprietor, respectively; or
3. For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.

K. **Duly Authorized Representative.** Applications, reports, or information submitted to the San Diego Water Board may be signed by a duly authorized representative of that person described in Reporting Requirement H above if:

1. The authorization is made in writing by a person described above;
2. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity; and
3. The written authorization is submitted to the San Diego Water Board.

If such authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the Project, a new authorization satisfying the above requirements must be submitted to the San Diego Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative.

L. **Certification.** All applications, reports, or information submitted to the San Diego Water Board must be signed and certified as follows:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

M. **Submittal Address.** The Discharger(s) must submit reports required under this Order, or other information required by the San Diego Water Board, to:

Executive Officer

California Regional Water Quality Control Board, San Diego Region
 9174 Sky Park Court, Suite 100
 San Diego, California 92123

IX. PROVISIONS

- A. **Duty to Comply.** The ~~Discharger~~Discharger(s) must comply with all conditions of this Order. Any noncompliance with this Order constitutes a violation of the Water Code and is grounds for (a) enforcement action; (b) termination, revocation and reissuance, or modification of this Order; or (c) denial of a report of waste discharge in application for new or revised waste discharge requirements.
- B. **Duty to Comply.** The ~~Discharger~~Discharger(s) must, at all times, fully comply with the engineering plans, specifications and technical reports submitted to the San Diego Water Board) to support this Order and all subsequent submittals required under this Order and as described herein. The conditions within this Order shall supersede conflicting provisions within such plans, specifications, technical reports and other submittals required under this Order.
- C. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a ~~Discharger~~Discharger(s) in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.
- D. **Duty to Mitigate.** The ~~Discharger~~Discharger(s) shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.
- E. **Property Rights.** This Order does not convey any property rights of any sort or any exclusive privileges. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.
- F. **Inspection and Entry.** The ~~Discharger~~Discharger(s) must allow the San Diego Water Board or the State Water Resources Control Board, and/or their authorized representative(s) (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to:
1. Enter upon the Discharger's premises, where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

2. Access and copy, at reasonable times, any records that must be kept under the conditions of this Order;
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this Order; and
4. Sample or monitor, at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the Water Code, any substances or parameters at any location.

G. **Retention of Records.** The ~~Discharger~~Discharger(s) shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. Records may be maintained electronically. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the San Diego Water Board.

H. **Duty to Provide Information.** The ~~Discharger~~Discharger(s) shall furnish to the San Diego Water Board, within a reasonable time, any information which the San Diego Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The ~~Discharger~~Discharger(s) shall also furnish to the San Diego Water Board, upon request, copies of records required to be kept by this Order.

I. **Duty to Provide Information.** When the ~~Discharger~~Discharger(s) becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the San Diego Water Board, it shall promptly submit such facts or information.

J. **Reopener Provision.** This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

1. Violation of any terms or conditions of this Order.
2. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts.
3. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

This Order serves as a CWA section 401 Certification action, it is subject to modification or revocation upon administrative or judicial review, including review

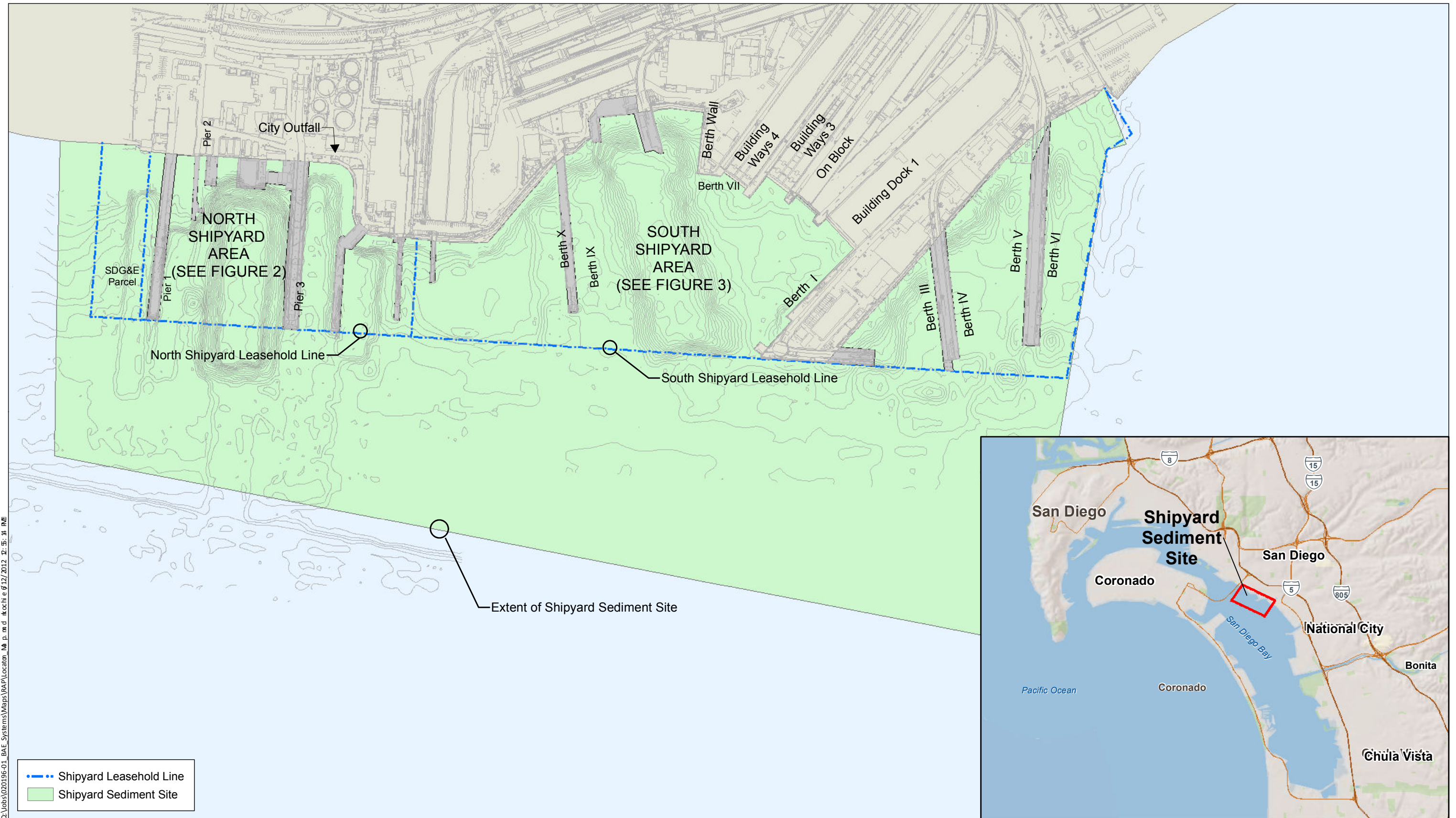
and amendment pursuant to section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).

- K. **Reopener Provision.** The filing of a request by the ~~Discharger~~Discharger(s) for the modification, revocation, reissuance, or termination of this Order, or notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
- L. **Reopener Provision.** The San Diego Water Board reserves the right to suspend, cancel, or modify and reissue this Order, after providing notice to the ~~Discharger~~Discharger(s), if the San Diego Water Board determines that the Project fails to comply with any of the terms or requirements of this Order or if the or if the results of the Project have unintended impacts to water quality.
- M. **Transfer of Responsibility.** This Order is not transferable to any person except after notice to the San Diego Water Board. This notice must be in writing and received by the San Diego Water Board at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new ~~Discharger~~Discharger(s) containing a specific date for the transfer of this Order's responsibility and coverage between the current ~~Discharger~~Discharger(s) and the new discharger. This agreement shall include an acknowledgement that the existing Discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. The San Diego Water Board may require modification or revocation and reissuance of this Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the Water Code.
- N. **Hydroelectric Facility.** This Order is not intended and shall not be construed to apply to any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license, unless the pertinent WDR application was filed pursuant to CCR, title 23, section 3855, subdivision (b), and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- O. **Payment of Fees.** This Order is conditioned upon total payment of any fee required under California Code of Regulations, Title 23 section 3833, and owed by the ~~Discharger~~Discharger(s).
- P. **Order Availability.** A copy of this Order, the application, and supporting documentation must be available at the Project site during construction for review by site personnel and agencies. A copy of this Order must also be provided to the contractor and all subcontractors working at the Project site.

- Q. **Enforcement Authority.** In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under State law.
- R. **Investigation of Violations.** In response to a suspected violation of any condition of this Order, the San Diego Water Board may, pursuant to Water Code sections 13267 and 13383, require the holder of any permit or license subject to this Order to investigate, monitor, and report information on the violation. The only restriction is that the burden, including costs of preparing the reports, must bear a reasonable relationship to the need for and the benefits to be obtained from the reports.

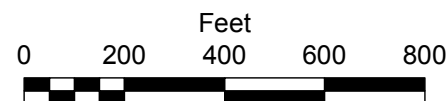
X. NOTIFICATIONS

- A. These requirements have not been officially reviewed by the United States Environmental Protection Agency and are not issued pursuant to CWA section 402.
- B. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.
- C. This Order becomes effective on the date of adoption by the San Diego Water Board.



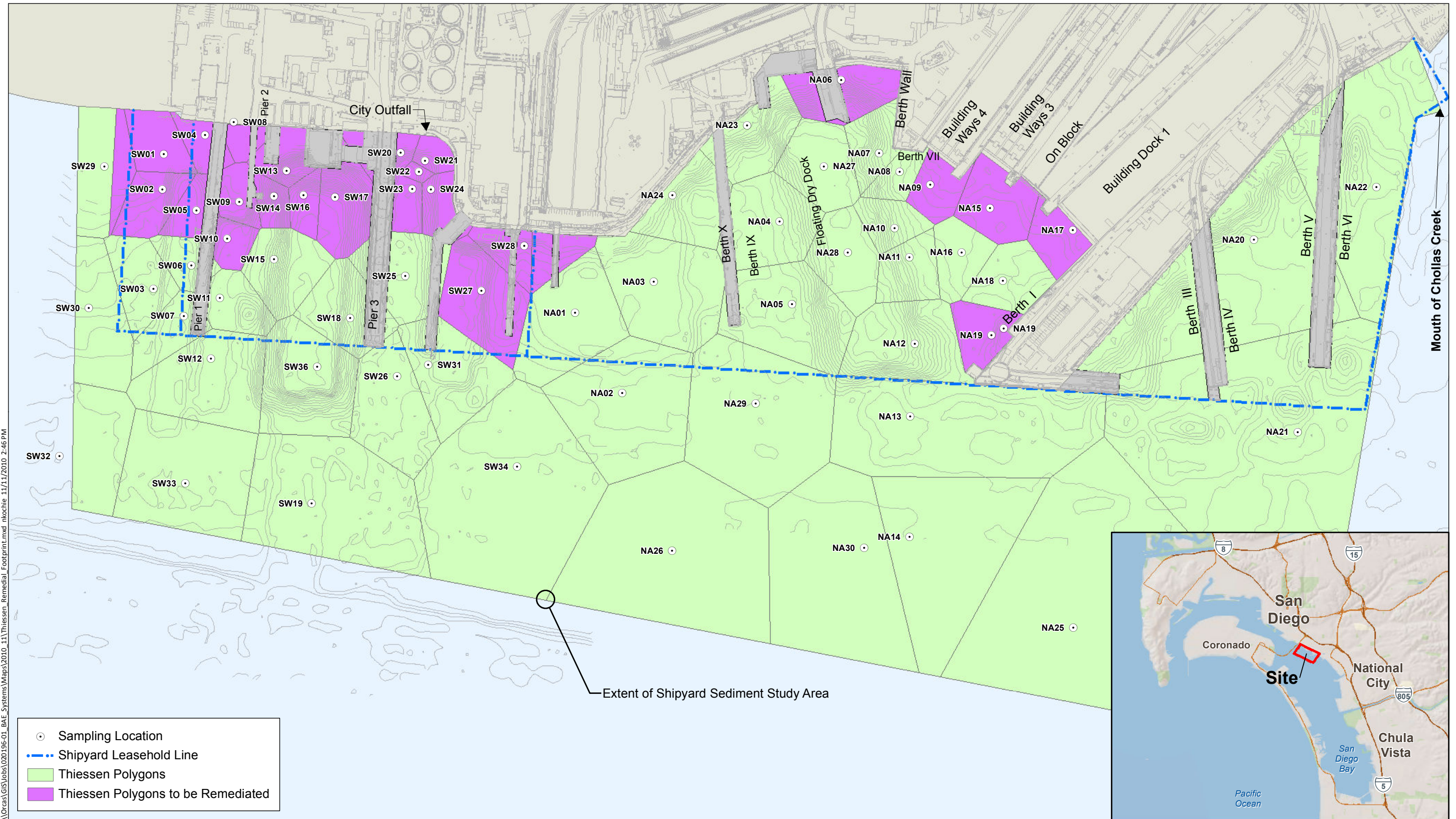
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- - - Shipyard Leasehold Line
- Shipyard Sediment Site



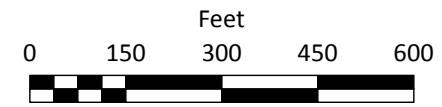
R9-2013-0093
ATTACHMENT A
PROJECT SITE MAPS
SHIPYARD SEDIMENT SITE

Figure 1
 Site Map
 San Diego Shipyard Sediment Site



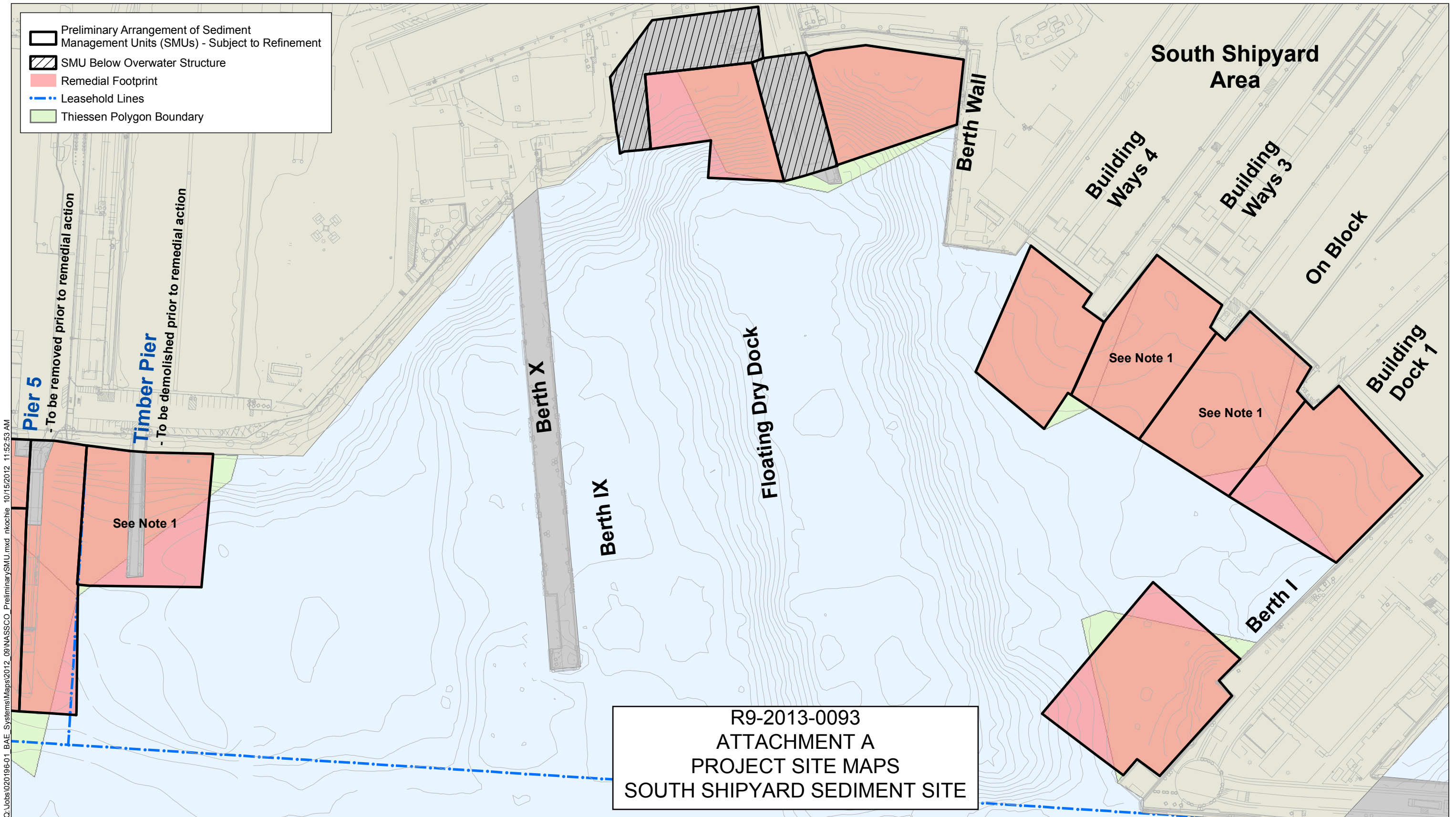
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Extent of Shipyard Sediment Study Area



R9-2013-0093
 ATTACHMENT A
 PROJECT SITE MAPS
 REMEDIATION AREAS

Figure 2
 Thiessen Polygon and Required Cleanup Areas
 San Diego Shipyard Sediment Site



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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

MITIGATION MONITORING AND REPORTING PROGRAM

**SHIPYARD SEDIMENT REMEDIATION PROJECT
ENVIRONMENTAL IMPACT REPORT (EIR)
(SCH #2009111098)**

**R9-2013-0093
ATTACHMENT B
MITIGATION MONITORING AND
REPORTING PROGRAM**

March 14, 2012

Introduction

The Mitigation Monitoring and Reporting Program (MMRP) has been prepared in compliance with California Environmental Quality Act (Pub. Resources Code § 21000 et seq.; CEQA) and the specific requirements of Public Resources Code section 21081.6. The MMRP describes the requirements and procedures to be followed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) to ensure that all mitigation measures adopted as part of the Cleanup and Abatement Order project (the CAO Project) will be carried out as described in this Program EIR. It is anticipated that a subsequent discretionary approval(s) will be required to fully comply with the directives of the CAO Project. Subsequent discretionary approvals will include, at a minimum, a specific Remedial Action Plan requiring a Clean Water Act permit. To the extent it can be demonstrated to the San Diego Water Board on the basis of substantial evidence that alternative mitigation measures to those set forth herein are equally or more effective at mitigating the identified potentially significant adverse environmental impacts and at protecting the environment, those mitigation measures may be adopted in lieu of those set forth herein at the time subsequent discretionary approvals are granted.

This MMRP incorporates changes made regarding mitigation measures in response to comments received on the Draft Program EIR and proposed Final Program EIR during the public comment period.

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
4.1 Traffic and Circulation		
Mitigation Measure 4.1.1: Should one or more of Staging Areas 1 through 4 be selected, the contractor shall require, and the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify, that the project-related truck traffic is routed on Harbor Drive (southbound) to the Civic Center Drive access to Interstate 5 (I-5) for the duration of the dredge-and-haul activity and sand import activity. This requirement will be reflected in the contract documents for the primary contractor and sub-contractors. Haul, delivery, and employee traffic shall be discouraged at the I-5 southbound ramp/Boston Avenue intersection and on the roadway segment of Boston Avenue between 28th Street and the I-5 southbound ramp.	San Diego Water Board	Ongoing during the dredge and haul activity
Mitigation Measure 4.1.2: Should Staging Area 5 be selected, the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall consult with the San Diego Association of Governments (SANDAG) and the San Diego Unified Port District (Port District) on the implementation status of Segment 5 of the Bayshore Bikeway in order to locate the staging activity away from the planned bike path. The consultation shall include information regarding the specific location, configuration, and operation of the temporary staging area, as well as appropriate bikeway safety and access considerations. If Staging Area 5 is selected, the contractor shall implement the staging area as agreed to by the agencies.	San Diego Water Board, in consultation with SANDAG and the Port District	Ongoing during the dredge and haul activity
Mitigation Measure 4.1.3: Should one or more of Staging Areas 1 through 4 be selected, the shipyards, in consultation with the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), San Diego Unified Port District (Port District), and City of San Diego, shall prepare a Parking Management Plan (PMP) to identify appropriate substitute parking areas, shuttles, and commuter routes, as necessary, to meet the need created by the short-term loss of employee parking spaces. The need for off-site parking shall be based on anticipated employment during the dredge period (which may be reduced compared to existing conditions as a result of the dredge activity displacing some ship building/repair activity), and the loss of parking in the selected staging area. The PMP shall be approved by the City of San Diego Traffic Engineer prior to the initiation of dredging, and its implementation shall be verified by the San Diego Water Board.	Shipyards, in consultation with the San Diego Water Board, the Port District and the City of San Diego	Plan approval prior to the initiation of dredging, and implementation ongoing during the dredge and haul activity

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
4.2 Hydrology and Water Quality		
<p>Mitigation Measure 4.2.1: During dredging operations, the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify that the contractor/dredge operator is using automatic rather than manual monitoring of the dredging operations, which will allow continuous data logging with automatic interpretation and adjustments to the dredging operations for real-time feedback for the dredge operator. Automatic systems shall also be used to monitor turbidity and other water quality conditions in the vicinity of the dredging operations to facilitate real-time adjustments by the dredging operators to control temporary water quality effects. The automatic systems shall include threshold level alarms so that the operator or other appropriate project personnel recognize that a particular system within the operation has failed. If the threshold-level alarms are activated, the dredge operator shall immediately shut down or modify the operations to reduce water quality constituents to within threshold levels. The San Diego Water Board shall further verify that the contractor/operator is using visual monitoring and recording of water turbidity during the dredging operations, including the temporary cessation of dredging if exceedances of the turbidity objective in the Basin Plan occur. Water quality sampling for contaminants of concern (COCs) shall be required if silt curtains are not deployed during any phase of the in-water activities.</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dredging operations</p>
<p>Mitigation Measure 4.2.2: During dredging operations, the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify that the dredge contractor is implementing standard Best Management Practices (BMPs) for minimizing resuspension, spillage, and misplaced sediment during dredging operations, as the deposition of such material would increase turbidity and compromise cleanup efforts. Such BMPs shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> • The contractor shall not stockpile material on the bottom of the San Diego Bay floor and shall not sweep or level the bottom surface with the bucket. • The contractor shall use and maintain double silt curtains that encircle the area of dredging and shall minimize the times in which these 	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dredging operations</p>

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<p>curtains are temporarily opened, to contain suspended sediments.</p> <ul style="list-style-type: none"> • The contractor may use air curtains in conjunction with silt curtains to contain re-suspended sediment, to enhance worker safety, and allow barges to transit into and out of the work area without the need to open and close silt curtain gates. • The contractor shall ensure the environmental clamshell bucket is entirely closed when withdrawn from the water and moved to the barge. This action requires extra attention when debris is present to make sure debris does not prevent the bucket from completely closing. Two closure switches shall be on each side of the bucket near the top and bottom to provide an electrical signal to the operator that the bucket is closed. Use of the switches shall minimize the potential of sediment leaking from the bucket into the water column during travel to the surface. • The contractor shall not overfill the digging bucket because overflow results in material overflowing back into the water. Use of instrumentation such as Clam Vision[®] shall allow the operator to visualize in real time the depth of cut that shall be designed to prevent overfilling. • The contractor shall utilize wide-pocket material barges having watertight containments to prevent return water from re-entering San Diego Bay. The contractor shall not overfill the material barge to a point where overflow or spillage could occur. Each material barge shall be marked in such a way to allow the operator to visually identify the maximum load point. The marking should allow sufficient interior freeboard to prevent spillage in rough water such as ship wakes during transit. Initiating the material barge marking shall minimize impact of load spillage during transit to the unloading area. • The contractor shall not use weirs as a means to dewater the scow and shall allow additional room for sediment placement. Preventing this action shall minimize the introduction of turbidity to the water column. • The contractor shall place material in the material barge such that splashing or sloshing does not occur, which could send sediment back 		

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>into the water. Splashing can be controlled by restricting the drop height from the bucket.</p> <ul style="list-style-type: none"> • If the use of a grate to collect debris is required, the contractor shall not allow material to pile up on the grid and flow or slip from the grid back into the water. The debris scalper shall be positioned in such a way as to be totally contained on the shore side of the unloading operations. The dredge operator shall visually monitor for debris build-up and alert the support personnel on the barge to assist in clearing the debris, as necessary. Debris that is derived from dredging activities shall be removed from the grate by the environmental clamshell bucket and placed in a contained area on the dredge barge or in a second material barge for subsequent removal to the onshore dewatering facility. • The contractor shall restrict barge movement and work boat speeds (i.e., reducing propeller wash) in the dredge area. The remedial design should identify the various areas where this operational control should be used. 		
<p>Mitigation Measure 4.2.3: During dredging operations, the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify that the contractor is deploying inner- and outer-boundary floating silt curtains fully around the dredging area at all times. Double silt curtains shall be utilized for containment of the dredge area; configurations, technologies, and actual locations of silt curtains in relation to the dredge barge shall be finalized during the design phase of the project. The floating silt curtain shall be comprised of connected lengths of Type III geotextile fabric. A continuous length of floating silt curtain shall be arranged to fully encircle the dredging equipment and the scow barge being loaded with sediment. The silt curtain shall be supported by a floating boom in open water areas (such as along the bay ward side of the dredging areas). Along pier edges, the contractor shall have the option of connecting the silt curtain directly to the structure. The contractor shall continuously monitor the silt curtain for damage, dislocation, or gaps and immediately fix any locations where it is no longer continuous or where it has loosened from its supports. The bottom of the silt curtain shall be weighted with ballast weights or rods affixed to the base of the fabric. Where feasible and applicable, the floating silt curtains shall be anchored and deployed from the surface of the water to just above the</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dredging operations</p>

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>substrate. If necessary, silt curtains with tidal flaps may be installed to facilitate curtain deployment in areas of higher flow. Air curtains may be used in conjunction with silt curtains to contain resuspended sediment, enhance worker safety, and allow barges to transit into and out of the work area without the need to open and close silt curtain gates.</p>		
<p>Mitigation Measure 4.2.4: Throughout the remediation process of dredging and application of the clean sand covers, the contractor shall conduct water quality monitoring to demonstrate that implementation of the remedial activities does not result in violations of water quality objectives in the Basin Plan outside of the construction area. The contractor shall submit weekly water quality reports to the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board). If water quality objectives are violated, the San Diego Water Board may temporarily halt activity and impose additional required measures to protect water quality.</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dredging operations</p>
<p>Mitigation Measure 4.2.5: Prior to initiation of dredging activities, the contractor shall determine the swing radius of the unloading equipment and shall place a steel plate (swing tray or spill plate) between the material barge and the hard cape to prevent spillage from falling directly into the water. The steel plate shall be sufficiently large enough to cover the swing radius of the unloading equipment. The spill plate shall be designed to prevent any “drippings” from falling between the material barge and dock where the unloading equipment is stationed. The spill plate shall be positioned so that any “dripped” material/water either runs back into the material barge or onto the unloading dock, which shall be lined with an impermeable material and beamed to contain excess sediment/water. The steel plate shall be designed to prevent any water or sediment from re-entering San Diego Bay. As a secondary containment measure, filter fabric material shall be placed over the spill plate and between edges of the barge and unloading dock to prevent any drippings from falling into San Diego Bay. Upon completion of unloading a material barge, the spill plate shall be thoroughly rinsed so that excess sediment is drained into the material barge or onto the unloading dock (depending on spill plate positioning) and then placed on the lined dock until the next unloading sequence. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall be responsible for ensuring adherence to the requirements of this measure.</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Prior to initiation of and ongoing during dredging and sediment unloading operations</p>
<p>Mitigation Measure 4.2.6: During dredging activities, the contractor shall ensure that the</p>	<p>Contractor, as verified</p>	<p>Ongoing during</p>

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>environmental clamshell bucket is entirely closed when withdrawn from the barge and moved to the truck. In addition, the contractor shall ensure that the bucket is completely empty of sediment prior to being moved back to the barge to minimize sediment being spilled over the dock. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall be responsible for ensuring adherence to the requirements of this measure.</p>	<p>by the San Diego Water Board</p>	<p>dredging operations</p>
<p>Mitigation Measure 4.2.7: During final design of the clean sand covers, the sand layer thickness and distribution shall be designed to stabilize the contaminated sediments being covered, control the resuspension and redistribution of existing contaminated sediments, and control substantial perturbation (mixing and overturning) of underlying contaminated sediments. The clean sand cover design may be limited to fill from the placement of clean sand. The clean sand cover design shall be thick enough to physically isolate the sediments from benthic or epigenetic organisms to prevent the uptake of bioaccumulative contaminants (e.g., polychlorinated biphenyls [PCBs]) by aquatic organisms either directly from the sediments or by foraging on benthos. The clean sand covers shall be designed to be thick enough to stabilize the contaminated sediments being covered and minimize the potential for them to be resuspended, eroded, or otherwise transported away from beneath the under pier areas. The final engineering plans shall include the source and type of sand required for subaqueous application of the clean sand covers. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall review and have approval authority for the final engineering plans, and shall verify implementation. A regulatory oversight contractor may be used by the San Diego Water Board.</p>	<p>San Diego Water Board</p>	<p>Ongoing during application of clean sand cover</p>
<p>Mitigation Measure 4.2.8: During application of the clean sand covers, the contractor shall place the initial layers of the clean sand cover in controlled lifts so as to ensure proper placement over the required area, minimize the potential for disturbance and intermixing of the underlying sediments, and ensure that the required sand cover thicknesses are achieved. The sand shall be placed in such a manner as to reduce the vertical impact and lateral spreading of the clean sand cover material and the potential for resuspending the contaminated surface sediments. Controlled placement shall also minimize the mixing of</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during application of clean sand cover</p>

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>the clean sand covers and underlying sediment by allowing the sediment to slowly gain strength before subsequent layers are deposited. Operational controls such as silt curtains shall also be employed during placement of the clean sand covers. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), with the assistance of a regulatory oversight contractor, shall be responsible for ensuring adherence to the requirements of this measure.</p>		
<p>Mitigation Measure 4.2.9: Prior to dredging operations, a Dredging Management Plan (DMP) shall be prepared. The contractor shall implement the measures listed in the DMP during dredging operations. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall be responsible for review and approval of the DMP. The DMP shall contain Standard Operating Procedures (SOPs) for the project to assist the dredge contractor in preventing accidental spills and providing the necessary guidelines to follow in case of an oil or fuel spill. In addition to providing SOPs to prevent accidental oil/fuel spills during construction activities, the DMP shall address the identification of dredging needs, a methodology and process for determining dredging priorities and scheduling, the feasibility and requirements for expedited permitting, Quality Assurance Project Plan (QAPP) to comply with regulatory requirements, alternatives for control and operation of dredging equipment, and Best Management Practices (BMPs) to implement in the event of equipment failure and/or repair. Typical BMPs for equipment failure or repair shall be identified in the DMP and could include: communication to project personnel, proper signage and/or barriers alerting others of potentially unsafe conditions, all repair work to be conducted on land and not over water, repair work involving use of liquids to be performed with proper spill containment equipment (e.g., spill kit), and a contingency plan identifying availability of other equipment or subcontracting options. Furthermore, the DMP shall specify that water discharges to San Diego Bay are prohibited; therefore, the barge shall implement measures necessary to capture all return water and prevent discharge to San Diego Bay. In addition, the DMP shall include, at a minimum, the following measures to prevent accidental oil/fuel spills during construction activities:</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Prior to initiation of and ongoing during dredging operations</p>

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<ul style="list-style-type: none"> • As an operational control element, all oil and fuel shall be housed in a secondary containment structure to ensure that any spill or leakage is prevented from entering the water column. • Personnel involved with dredging and handling the dredged material shall be given training on the potential hazards resulting from accidental oil and/or fuel spills. This operational control shall provide the personnel with an awareness of the materials they are handling as well as the potential impact to the environment. • All equipment shall be inspected by dredge contractor personnel before starting the shift. These inspections are intended to identify typical wear or faulty parts that may contain oil or fuel. • Personnel shall be required to visually monitor for oil or fuel spills during construction activities. • In the event that a sheen or spill is observed, the equipment shall be immediately shut down and the source of the spill identified and contained. Additionally, the spill shall be reported to the applicable agencies presented in the DMP. • The shipyards currently have oil/fuel spill kits located at various locations on site for routine ship repair operations. All personnel associated with dredging activities shall be trained on where these spill kits are located, how to deploy the oil sorbent pads, and proper disposal guidelines. The dredging barge shall have a full complement of oil/fuel spill kits on board to allow for quick and timely implementation of spill containment. • The use of oil booms shall be deployed surrounding the dredging activities. In the event that a spill occurs, the oil and/or fuel shall be contained within the oil boom boundary. This operational control shall be the last line of defense against accidental oil/fuel spill occurrences. The oil boom shall be deployed along the entire length of the outer silt curtain. <p>The San Diego Water Board shall be responsible for verifying adherence to the requirements of this measure.</p>		

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>Mitigation Measure 4.2.10: The containment area constructed around the dewatering containment cell shall be designed to consist of berms (K-rails and/or dry dock blocks) surrounding the area that restrict decanted water/storm water to the land adjacent to the dewatering containment and prevent the water from flowing into San Diego Bay or the water table if a breach in the pad were to occur. If any area(s) adjacent to the dewatering containment cell are unpaved, a liner shall be utilized if necessary to prevent infiltration. The containment cell shall be designed as a “no discharge” facility and in a manner that prevents storm water runoff/run-on from adjacent areas to the cell from entering the dewatering area. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall review and approve the design of the dewatering containment cell and verify its implementation in accordance with approved plans.</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Prior to initiation of and ongoing during dewatering operations</p>
<p>Mitigation Measure 4.2.11: If a containment liner is used, the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify that the contractor has provided a salvaging layer of sand that is properly designed and implemented to provide a visual indicator to the excavator operator that he/she is getting close to the containment liner, or the use of closely spaced K-rails and dry dock blocks at key points (i.e., corners) to prevent the operator from getting to the containment liner, in order to prevent a breach in the dewatering pad.</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dewatering operations</p>
<p>Mitigation Measure 4.2.12: During dewatering operations, the contractor shall comply with the provisions of the <i>National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities</i> (Construction General Permit) (Order No. 2009-0009-DWQ, NPDES No. CAS000002), and any subsequent permit, as they relate to activities conducted in the staging areas. This shall include submission of the Permit Registration Documents, including a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and signed certification statement to the State Water Resources Control Board (State Water Board) via the Storm Water Multi-Application and Report Tracking System (SMARTS) at least 7 days prior to the start of dewatering activities at the staging areas. Construction activities shall not commence until a Waste Discharger Identification (WDID) number is received from the SMARTS. The SWPPP shall be prepared by a Qualified SWPPP Developer (QSD);</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dewatering operations</p>

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>shall meet the requirements of the Construction General Permit; and shall identify potential pollutant sources associated with dewatering activities, identify non-storm water discharges, and identify, implement, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants associated with the construction site. BMPs shall include, but not be limited to, Good Housekeeping, Erosion Control, and Sediment Control. The BMPs identified in the SWPPP shall be implemented during project construction. An Annual Report shall be submitted using the SMARTS no later than September 1 of each year during dewatering operations. A Notice of Termination (NOT) shall be submitted to the State Water Board within 90 days of completion of dewatering activities and stabilization of the site. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall be responsible for verifying the contractor's adherence to the requirements of this measure.</p>		
<p>Mitigation Measure 4.2.13: Prior to any discharge to the sanitary sewer system, the contractor shall ensure that the decanted water is analytically tested following the discharge requirements for the San Diego Publically Owned Treatment Works (POTW). If water samples exceed the City of San Diego requirements for discharge of wastewater to the sanitary sewer system, the water shall be taken off site for treatment and subsequent disposal. In addition, the contractor shall comply with any limits on pollutant concentrations, discharge times, and flow rates required by the City of San Diego. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall be responsible for verifying the contractor's adherence to the requirements of this measure.</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Prior to any discharge to the sanitary sewer system</p>
<p>Mitigation Measure 4.2.14: The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall coordinate water quality monitoring efforts and share water quality monitoring data with other dredging projects in San Diego Bay throughout the duration of the project. Considerations for the issuance of dredge permits or General Waste Discharge Requirements (WDRs) shall include distance(s) between sites and proposed timing of in-water activities that shall involve potential impacts to water quality, selection of appropriate water quality reference sampling locations in San Diego Bay, configuration of silt curtains, and coordination of expected commercial and recreational vessel traffic.</p>	<p>San Diego Water Board</p>	<p>Ongoing during dredging operations</p>
<p>4.3 Hazards and Hazardous Waste</p>		

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>Mitigation Measure 4.3.1: Secondary Containment. As an operational control element, the contractor shall ensure, and the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) will verify, that all oil and fuel is housed in a secondary containment structure to ensure that spilled or leaked oil or fuel will be prevented from entering the water column.</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dredging and dewatering operations</p>
<p>Mitigation Measure 4.3.2: Dredging Management Plan. The contractor shall ensure that a Dredging Management Plan (DMP) containing Standard Operating Procedures (SOPs) for the project is developed prior to the initiation of dredging and implemented for the duration of the dredging activity. The DMP will include the following measures to prevent release of hazardous materials during construction activities:</p> <ul style="list-style-type: none"> • Personnel involved with dredging and handling the dredged material will be given training on their specific task areas, including: <ul style="list-style-type: none"> ○ Potential hazards resulting from accidental oil and/or fuel spills; ○ Proper dredging equipment operation; and ○ Proper silt curtain deployment techniques. ○ Proper response in the event that ordnance or munitions are encountered. • All equipment will be inspected by the dredge contractor and equipment operators before starting the shift. These inspections are intended to identify typical wear or faulty parts. • Required instrumentation to avoid spillage of dredging material will be identified for each piece of equipment used during dredging operations. • Personnel will be required to visually monitor for oil or fuel spills during construction activities. • In the event that a sheen or spill is observed, the equipment will be immediately shut down and the source of the spill identified and contained. Additionally, the spill will be reported to the applicable agencies presented in the DMP. 	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Prior to and ongoing during dredging operations</p>

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<ul style="list-style-type: none"> • All personnel associated with dredging activities will be trained as to where oil/fuel spill kits are located, how to deploy the oil-absorbent pads, and proper disposal guidelines. The dredging barge shall have a full complement of oil/fuel spill kits on board to allow for quick and timely implementation of spill containment. • The use of oil booms will be deployed surrounding the dredging activities. In the event that a spill occurs, the oil and/or fuel will be contained within the oil boom boundary. The oil boom shall be deployed along the entire length of the outer silt curtain. • Shallow areas along the haul route will be mapped and provided to the dredge operator for review. These areas will be avoided to the extent possible to prevent propeller wash resuspension of sediment. • Load-controlled barge movement, line attachment, and horsepower requirements of tugs and support boats at the project site will be specified to avoid resuspension of sediment. • Barge load limits and loading procedures will be identified, and the appropriate draft level will be marked on the materials barge hull. • A protocol will be developed for the project in conjunction with the U.S. Department of the Navy to address any munitions and ordnance that have been found during the project. As required for projects within San Diego Bay Ship Channels, the project shall be coordinated with the Navy NAVFAC Southwest Division in San Diego for munitions clearance. <p>Implementation of the DMP will be verified by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board). The Department of the Navy will be provided an opportunity to review and comment on the DMP, particularly with respect to ordnance and munitions that have been identified in proximity to the Shipyard Site.</p>		
<p>Mitigation Measure 4.3.3: Contingency Plan. The contractor shall ensure that a Contingency Plan has been developed prior to the initiation of dredging and implemented for the duration of the dredging activity to address equipment and operational failures that could occur during dredging operations. The Contingency Plan will also address the potential to encounter munitions or ordnance. The</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Prior to and ongoing during dredging operations</p>

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>Contingency Plan will include the following measures to prevent release of hazardous materials during construction activities:</p> <ul style="list-style-type: none"> • Actions to implement in the event of equipment failure, repair, or silt curtain breach. These include: <ul style="list-style-type: none"> ○ Communication to project personnel; ○ Proper signage and/or barriers alerting others of potentially unsafe conditions; ○ Specification for repair work to be conducted on land and not over water; ○ Identification of proper spill containment equipment (e.g., spill kit); ○ A plan identifying availability of other equipment or subcontracting options; ○ Emergency procedures to follow in the event of a silt curtain breach; ○ Incident reporting and review procedure to evaluate the causes of an accidental silt curtain breach and steps to avoid further breaches; and ○ Response procedures in the event of barge overfill. • Actions to implement in the event that munitions or ordnance are encountered during project activities. These include: <ul style="list-style-type: none"> ○ Immediate stoppage of all in-water work activities until further notice to proceed is received; ○ Contact the Site Safety Manager; ○ Refer to the Contingency Plan section that presents the emergency contact name(s) and telephone number(s) for NAVFAC Southwest Division; and ○ Contact NAVFAC Southwest Division personnel. The recovery 		

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>and disposal of munitions and/or ordnance item(s) found will become the responsibility of NAVFAC Southwest Division.</p> <p>Implementation of the Contingency Plan will be verified by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board).</p>		
<p>Mitigation Measure 4.3.4: Health and Safety Plan. The contractor shall ensure that a Health and Safety Plan (H&S Plan) has been developed prior to the initiation of dredging and implemented for the duration of the dredging activity to protect workers from exposure to contaminated sediment. The H&S Plan will include the following requirements at a minimum:</p> <ul style="list-style-type: none"> • Training for operators to prevent spillage of sediment on the bridges during dredging activities • Training for operators in decontamination and waste containment procedures • Training for operators in appropriate notification/handling procedures for munitions/ordnance • Identification of appropriate Personal Protection Equipment (PPE) for all activities, including sediment removal, management, and disposal • Certification of personnel under safety regulations such as Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) 1910.120 • Documentation that requires that health and safety procedures have been implemented <p>Implementation of the H&S Plan will be verified by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board).</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Prior to and ongoing during dredging operations</p>
<p>Mitigation Measure 4.3.5: Communication Plan. The contractor shall ensure that a Communication Plan and operational guidelines are developed between the Port of San Diego and/or the Harbor Master and all vessel operators prior to the initiation of dredging to ensure the safe movement of project vessels from the dredge to the unloading area. Features of the Communication Plan will include:</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Prior to and ongoing during dredging operations</p>

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Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<ul style="list-style-type: none"> • Identification of vessel speed limitations (wake/no wake); and • Notification to project personnel using air horns as necessary. <p>Implementation of the Communication Plan for the duration of the dredging activity will be verified by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board).</p>		
<p>Mitigation Measure 4.3.6: Sediment Management Plan. The contractor shall implement Best Management Practices (BMPs) and follow Standard Operating Procedures (SOPs) during sediment unloading, transport, drying/dewatering, and disposal operations for the duration of the dredging activity. At a minimum, these BMPs/SOPs will include:</p> <ul style="list-style-type: none"> • Mechanical stops to limit the swing arm of the crane; • Placement of a spillage plate to prevent any dropped sediment from impacting the water column; • Conveyance of sediment on the spillage plate to a collection sump; • Utilization of a power wash arm to clean sediment from equipment into the collection sump; • Contractor identification of haul truck load limits on first load each day; • Driver training and enforcement of safe driving procedures; • Only liquid drying agents will be utilized to avoid airborne release of these materials; • Implementation of a dust control and monitoring plan during sediment staging; • The stockpile liner will be protected from excavator penetration by a visual indicator such as sand, or by physical barriers such as railroad rails or K-rails; • Decanted water from sediment and any storm water in the staging area will be managed by sloping the staging area to a common sump or 	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dredging and dewatering operations</p>

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>pond (containment cell) or pumped to a series of tanks. The containment device(s) will be designed to meet a performance standard of “no discharge” so that storm water runoff cannot enter the bay or adjacent areas and to ensure that storm water surrounding areas cannot penetrate the containment area. The containment device(s) will be inspected daily during sediment staging. Prior to discharge, the liquid will be tested to evaluate whether it meets discharge criteria for the San Diego Publically Owned Treatment Works (POTW) or if treatment is required prior to discharge;</p> <ul style="list-style-type: none"> • Sediment loading for transport off site will be conducted in a contained area, and haul trucks will be power washed prior to exit to prevent sediment from being discharged to the bay or surrounding area; and • All hazardous materials (liquid, sediment, or chemicals used during the project) will be handled, transported, and disposed of at the proper disposal facility in accordance with state regulations. <p>Implementation of these BMPs/SOPs will be verified by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board).</p>		
<p>Mitigation Measure 4.3.7: Hazardous Materials Transportation Plan. Prior to the initiation of dredging, the contractor shall prepare and implement a Hazardous Materials Transportation Plan for the duration of the dredging activity that specifies the following procedures:</p> <ul style="list-style-type: none"> • Sediment containment procedures • Emergency notification procedures <p>The Hazardous Materials Transportation Plan will be subject to review by, and its implementation will be verified by, the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board).</p>	Contractor, as verified by the San Diego Water Board	Prior to and ongoing during dredging and transportation operations
<p>Mitigation Measure 4.3.8: Traffic Control Plan. The contractor shall prepare a Traffic Control Plan that will be developed prior to the initiation of dredging and implemented for off-site transport of the sediment, and will include, but not be limited to, the following information:</p>	Contractor, as verified by the San Diego Water Board	Prior to and ongoing during dredging and off-site transportation operations

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<ul style="list-style-type: none"> • Planned haul truck routes • Haul truck escorts, if required • In case of accidental spillage, emergency vehicle access and sediment containment and removal procedures <p>The Traffic Control Plan will be subject to approval by the City of San Diego and/or the National City Traffic Engineer, and implementation for the duration of the dredging activity will be verified by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board).</p>		
4.4 Noise		
<p>Mitigation Measure 4.4.1: The contractor shall ensure, and the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) and City of San Diego Noise Control Officer shall verify, that treatment and haul activity in the City of San Diego is prohibited between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in section 21.04 of the San Diego Municipal Code, with the exception of Columbus Day and Washington’s Birthday, or on Sundays, that would create disturbing, excessive, or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator in conformance with San Diego Municipal Code section 59.5.0404.</p>	Contractor, as verified by the San Diego Water Board and City of San Diego Noise Control Officer	Ongoing during treatment and haul operations
<p>Mitigation Measure 4.4.2: The contractor shall ensure, and the National City Noise Control Officer and California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify, that treatment and haul activity in National City is prohibited between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on weekends or holidays as specified in section 12.10.160 of the City of National City Municipal Code.</p>	Contractor, as verified by the San Diego Water Board and the National City Noise Control Officer	Ongoing during treatment and haul operations
<p>Mitigation Measure 4.4.3: The contractor shall implement, and the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify, the following for the duration of project implementation (dredging, treatment, and loading) in order to reduce potential construction noise impacts on nearby sensitive receptors:</p>	Contractor, as verified by the San Diego Water Board	Ongoing during dredging, treatment and loading operations

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<ul style="list-style-type: none"> • All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers consistent with manufacturers' standards. • All stationary construction equipment shall be placed so that emitted noise is directed away from sensitive receptors nearest the project site. • All equipment staging shall be located to create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site. 		
<p>4.5 Biological Resources</p>		
<p>Mitigation Measure 4.5.1: A pre-construction eelgrass habitat mapping survey for the Shipyard Sediment Site shall be completed by the shipyards within 120 days of the proposed start dates of each project phase in accordance with the Southern California Eelgrass Mitigation Policy (SCEMP) (National Marine Fisheries Service [NMFS], 1991 as amended) to document the amount of eelgrass that will likely be affected by dredging activity. The results of these surveys shall be integrated into a Final Eelgrass Mitigation Plan prepared by the shipyards for the project and used to calculate the amount of eelgrass to be mitigated. The Final Eelgrass Mitigation Plan shall be subject to approval by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) and NMFS, and shall include the following elements:</p> <ul style="list-style-type: none"> • A detailed map of the area including distribution, density and relationship to depth contours of any eelgrass beds likely to be impacted by project construction. • The identification of mitigation site factors such as distance from project, depth, sediment type, distance from ocean connection, water quality, and currents should be considered in evaluating potential sites. • Techniques for the construction and planting of the eelgrass mitigation site consistent with the best available technology at the time of the project. 	<p>Shipyards, as verified by the San Diego Water Board, in concert with the appropriate resource agencies</p>	<p>Prior to dredging and post-dredging operations</p>

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<ul style="list-style-type: none"> • Proposed mitigation timing schedule. • Proposed mitigation monitoring activities. <p>A post-dredging project eelgrass survey shall be completed by the shipyards within 30 days of the completion of each dredging episode in accordance with the SCEMP and shall be submitted to the NMFS, United States Fish and Wildlife Service (U.S. FWS), California Department of Fish and Game (CDFG), and the Executive Director of the California Coastal Commission (CCC), as well as the San Diego Water Board.</p> <p>Criteria for determination of transplant success shall be based upon a comparison of vegetation coverage (area) and density (turions¹ per square meter) between the project adjusted impact area (original impact area multiplied by 1.2 or the amount of eelgrass habitat to be successfully mitigated at the end of 5 years) and the mitigation site(s). The extent of vegetated cover is defined as that area where eelgrass is present and where gaps in coverage are less than 1 meter between individual turion clusters. Density of shoots is defined by the number of turions per area present in representative samples within the original impact area, control or transplant bed.</p> <p>Specific criteria are as follows:</p> <ul style="list-style-type: none"> • The mitigation site shall achieve a minimum of 70 percent area of eelgrass and 30 percent density as compared to the adjusted project impact area after the first year. • The mitigation site shall achieve a minimum of 85 percent area of eelgrass and 70 percent density as compared to the adjusted project impact area after the second year. • The mitigation site shall achieve a sustained 100 percent area of eelgrass bed and at least 85 percent density as compared to the adjusted project impact area for the third, fourth, and fifth years. <p>The amount to be transplanted shall be based upon the guidelines in the SCEMP. If remedial transplants at the project site are unsuccessful, then</p>		

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>eelgrass mitigation shall be pursued at the secondary eelgrass transplant location. The San Diego Water Board shall verify implementation of this mitigation measure.</p>		
<p>Mitigation Measure 4.5.2: In order to protect sea turtles that could potentially forage within and among eelgrass beds identified at or near the project site, the project marine biologist shall mark the positions of eelgrass beds with buoys prior to the initiation of any construction to minimize damage to turtles foraging within eelgrass beds outside the construction zone. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify that buoys have been properly placed.</p>	<p>Project Marine Biologist as verified by the San Diego Water Board</p>	<p>Prior to and throughout dredging operations and application of clean sand cover</p>
<p>Mitigation Measure 4.5.3: The project marine biologist shall meet with the construction crews prior to dredging as well as periodically throughout the project to review pre-dredge survey areas of eelgrass beds to avoid those located adjacent to the project site and to review proper construction techniques. A training log shall be maintained by the project marine biologist and shall be submitted monthly to the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), who shall verify implementation of this measure.</p>	<p>Project Marine Biologist as verified by the San Diego Water Board</p>	<p>Prior to and periodically throughout dredging operations and application of clean sand cover</p>
<p>Mitigation Measure 4.5.4: The contractor shall ensure that throughout the duration of dredge and clean sand cover placement activities, project-related barges and work vessels operating in areas where eelgrass beds exist shall be operated in a manner to ensure that eelgrass beds are not impacted through grounding, propeller damage, or other activities that may disturb the seafloor. Such measures shall include speed restrictions, establishment of off-limit areas, and use of shallow draft vessels. The project marine biologist shall periodically confirm that these measures are implemented and shall submit a monthly monitoring report to the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board).</p>	<p>Contractor and Project Marine Biologist, as verified by the San Diego Water Board</p>	<p>Ongoing throughout dredging operations and application of clean sand cover</p>
<p>Mitigation Measure 4.5.5: The contractor shall ensure that throughout the duration of dredge and clean sand cover placement activities, barges and work vessels shall be operated in a manner to ensure that sea turtles and marine mammals are not injured or harassed through excessive vessel speed or propeller damage. Such measures shall include speed restrictions, establishment of off-limit areas, and use of shallow draft vessels. The project marine biologist shall periodically confirm that these measures are implemented and shall submit a monthly monitoring report to the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board).</p>	<p>Contractor and Project Marine Biologist, as verified by the San Diego Water Board</p>	<p>Ongoing throughout dredging operations and application of clean sand cover</p>

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>Mitigation Measure 4.5.6: The contractor shall ensure that construction crews and work vessel crews are briefed daily on the potential for sea turtles and marine mammals to be present and provided with identification characteristics of sea turtles, seals, sea lions, and dolphin. The project marine biologist shall periodically confirm that this measure is implemented and include verification in a monthly monitoring report.</p>	<p>Contractor and Project Marine Biologist, as verified by the San Diego Water Board</p>	<p>Ongoing throughout dredging operations and application of clean sand cover</p>
<p>Mitigation Measure 4.5.7: The contractor shall ensure that all construction activity be temporarily stopped if a sea turtle or marine mammal is sighted within 100 meters of the construction zone until the sea turtle or marine mammal is safely outside the outer perimeter of project activities. The biological monitor, who will be on site periodically during dredging activities, shall have the authority to halt construction operation and shall determine when construction operations can proceed. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify implementation of this mitigation measure.</p>	<p>Contractor and Project Marine Biologist, as verified by the San Diego Water Board</p>	<p>Ongoing throughout dredging operations and application of clean sand cover</p>
<p>Mitigation Measure 4.5.8: The biological monitor shall prepare an incident report of any green sea turtle or marine mammal activity in the project area and shall inform the contractor to have his/her crews be aware of the potential for additional sightings. The report shall be provided within 24 hours to the California Department of Fish and Game (CDFG) and National Marine Fisheries Service (NMFS). In the event a sea turtle, pinniped, or cetacean is injured or killed as consequence of a collision, the vessel operator and the appointed shipyard safety personnel shall be required to immediately notify the NMFS (Southwest Division) and shall submit a written, follow-up report within 24 hours of the incident. Any injured sea turtle or marine mammal shall be transported to an agency-approved treatment facility. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify implementation of this mitigation measure.</p>	<p>Project Marine Biologist, as verified by the San Diego Water Board</p>	<p>Upon sighting or green sea turtle or marine mammal during dredging operations and application of clean sand cover</p>
<p>Mitigation Measure 4.5.9: A qualified biologist familiar with the California least tern and other special-status seabirds and waterfowl shall be retained and be on site to assess the roosting and foraging behavior of special-status seabirds and waterfowl at the Shipyard Sediment Site and selected staging area(s) immediately prior to and during the initial start-up phase of dredging and clean sand cover placement activities. Once it has been determined that activities are not adversely affecting seabirds and waterfowl, the biologist shall not be required to be on site continuously; however, monitoring shall</p>	<p>Project Biologist, as verified by the San Diego Water Board</p>	<p>Prior to and ongoing throughout dredging operations and application of clean sand cover</p>

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>be performed at least once per week (or more often if required by the resource agencies) to adequately assess whether substantial adverse impacts to special-status seabirds and waterfowl are resulting from project activities (e.g., disrupting nesting or foraging activities, harassing roosting birds). The biologist shall be present during either of the selected dredge scheduling options. In the event of an imminent threat to California least tern and/or other special-status species, the monitor shall immediately contact the contractor's construction manager. In the event the construction manager/contractor is not available, the monitor shall have the authority to redirect or halt construction activities if determined to be necessary. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall verify implementation of this mitigation measure.</p>		
<p>Mitigation Measure 4.5.10: If Staging Area 5 is selected, prior to initiation of dredging and during final design, the contractor shall endeavor to restrict dewatering and treatment activities to within the western and northern portions of the staging area to the extent feasible. To the extent practicable, activities shall be conducted in locations where existing buildings obstruct sensitive habitat areas from noise sources. The staging area layout shall be submitted to the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) (and to the resource agencies, if required) for review and approval.</p>	<p>Shipyards and San Diego Water Board</p>	<p>Prior to initiation of dredging operations</p>
<p>Mitigation Measure 4.5.11: If Staging Area 5 is selected, the California Department of Fish and Game (CDFG) shall be notified not less than 30 days in advance and shall be given the opportunity to provide recommended measures to minimize impacts from increased noise and human activity to species in the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge (NWR). All agency-recommended measures (or agency-approved substitute measures, if recommended measures are infeasible) shall be implemented throughout the duration of project activities in Staging Area 5. At a minimum, the applicant shall conduct pre-activity nesting bird surveys within 300 feet of all noise-intensive activities if such activities will be initiated within the breeding season for special-status species (conservatively February 1 through August 31). If nesting birds are identified within 300 feet of activities, a qualified (and, if appropriate based on the species, agency-permitted) biological monitor shall be present on site to observe the behavior of the nesting birds during initiation of</p>	<p>Project Biologist , as verified by the San Diego Water Board</p>	<p>Not less than 30 days prior to initiation of dredging operations and ongoing every 2 weeks or more frequently during nesting season</p>

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>activities. The biological monitor shall have the authority to temporarily halt or redirect activities in the event that adverse effects to the birds are evident (e.g., there is a risk of nest failure or other indication of harassment, as defined by the Endangered Species Act). If adverse effects to nesting birds appear to be likely, the monitor shall recommend additional measures (e.g., installation of sound barriers, limiting duration of activities, relocating activities to another area, or postponing activities until the nest is no longer active) in concert with resource agency personnel.</p> <p>Regardless of whether nesting birds are identified during pre-activity nesting bird surveys, the biological monitor shall inspect the site and any adjacent areas supporting potential nesting habitat at least every 2 weeks during project activities that are conducted during the nesting season (conservatively February 1 through August 31) and shall report monthly to the State Water Resources Control Board (State Water Board).</p>		
4.6 Air Quality		
<p>Mitigation Measure 4.6.1: The contractor shall be required by contract specifications to ensure that dredging, treatment, and haul activities are timed so as not to interfere with peak-hour traffic and to minimize obstruction of through traffic lanes adjacent to the site. If necessary, a flag person shall be retained by the construction supervisor to maintain safety adjacent to existing roadways. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to the issuance of construction permits. The San Diego Water Board shall verify implementation of this measure.</p>	Contractor, as verified by the San Diego Water Board	Ongoing during dredging, treatment and haul activity
<p>Mitigation Measure 4.6.2: During dredging and dewatering activities, the contractor shall support and encourage ridesharing and transit incentives for the construction crew. These specifications shall be included in the proposed project's construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to the issuance of a construction permit.</p>	Contractor, as verified by the San Diego Water Board	Ongoing during dredging, and dewatering operations
<p>Mitigation Measure 4.6.3: During dredging and dewatering activities, the contractor shall ensure that on-site vehicle speed shall be limited to 15 miles per hour (mph). Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water</p>	Contractor, as verified by the San Diego Water Board	Ongoing during dredging, and dewatering operations

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Quality Control Board, San Diego Region (San Diego Water Board) prior to the issuance of construction permits. The San Diego Water Board shall verify implementation of this measure.		
Mitigation Measure 4.6.4: During dredging and dewatering activities, the contractor shall ensure that all on-site roads are paved. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to the issuance of construction permits. The San Diego Water Board shall verify implementation of this measure.	Contractor, as verified by the San Diego Water Board	Ongoing during dredging, and dewatering operations
Mitigation Measure 4.6.5: During dredging and dewatering activities, the contractor shall adhere to San Diego Air Pollution Control District (APCD) Rule 55 to ensure that all material excavated or graded is sufficiently watered to prevent airborne dust from being visible beyond the property line. Watering with complete coverage, and/or surfactants shall be applied to stockpiles of dirt, inactive construction areas, and construction roads if and as necessary. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to the issuance of construction permits. The San Diego Water Board shall verify implementation of this measure.	Contractor, as verified by the San Diego Water Board	Ongoing during dredging, and dewatering operations
Mitigation Measure 4.6.6: During dredging and dewatering activities, the contractor shall ensure that all earthmoving activities cease during periods of high winds (i.e., greater than 25 mph averaged over 1 hour). Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to the issuance of construction permits. The San Diego Water Board shall verify implementation of this measure.	Contractor, as verified by the San Diego Water Board	Ongoing during dredging, and dewatering operations
Mitigation Measure 4.6.7: During dredging and dewatering activities, the contractor shall ensure that all material transported off site is either sufficiently wet or securely covered to prevent excessive amounts of dust. In addition, per San Diego Air Pollution Control District (APCD) Rule 55, the construction contractor shall ensure that visible roadway dust from track-out/carry-out be minimized. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego	Contractor, as verified by the San Diego Water Board	Ongoing during dredging, treatment and haul activity

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
Water Board) prior to the issuance of construction permits. The San Diego Water Board shall verify implementation of this measure.		
Mitigation Measure 4.6.8: The contractor shall be required by contract specifications to ensure that all diesel-powered equipment used are retrofitted with after-treatment products (e.g., engine catalyts) to the extent that they are readily available in the San Diego Air Basin (SDAB). Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to issuance of a construction permit. The San Diego Water Board shall verify implementation of this measure.	Contractor, as verified by the San Diego Water Board	Ongoing during dewatering and treatment operations
Mitigation Measure 4.6.9: The contractor shall be required by contract specifications to ensure that all heavy-duty diesel-powered equipment operating and refueling at the project site use low oxides of nitrogen (NO _x) diesel fuel to the extent that it is readily available and cost effective (up to 125 percent of the cost of California Air Resources Board [ARB] diesel) in the San Diego Air Basin (SDAB). (This does not apply to diesel-powered trucks traveling to and from the project site.) Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to issuance of a construction permit. The San Diego Water Board shall verify implementation of this measure.	Contractor, as verified by the San Diego Water Board	Ongoing during dewatering and treatment operations
Mitigation Measure 4.6.10: The contractor shall be required by contract specifications to ensure that alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, and unleaded gasoline) are utilized to the extent 1) that the equipment is readily available and 2) if such equipment is available in the San Diego Air Basin (SDAB), it is also cost effective. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to issuance of a construction permit. The San Diego Water Board shall verify implementation of this measure.	Contractor, as verified by the San Diego Water Board	Ongoing during dewatering and treatment operations
Mitigation Measure 4.6.11: The contractor shall be required by contract specifications to ensure that construction equipment engines are maintained in good condition and in proper tune per manufacturer's specification for the duration of construction. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California	Contractor, as verified by the San Diego Water Board	Ongoing during dewatering and treatment operations

Mitigation Monitoring and Reporting Program (MMRP)

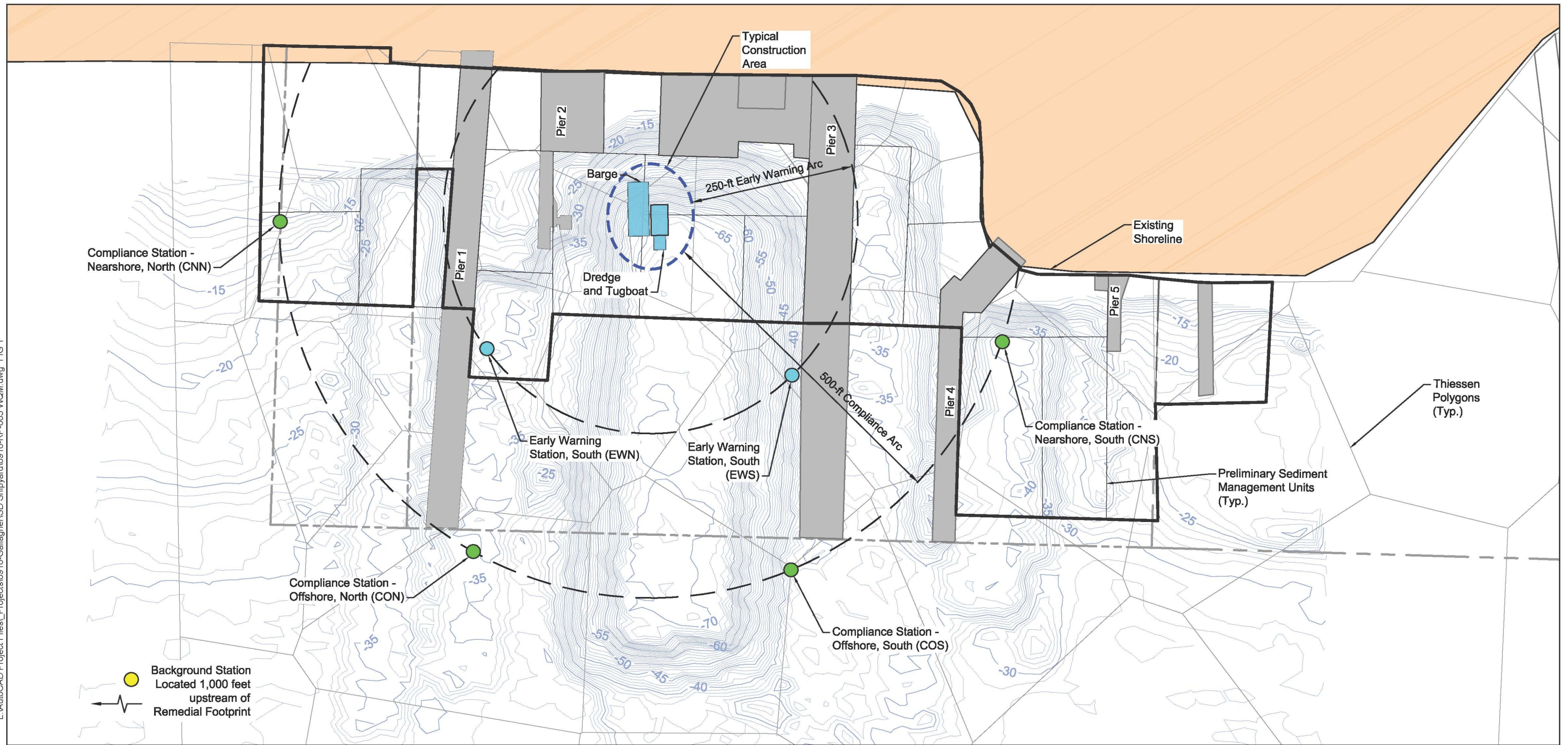
Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to issuance of a construction permit. The San Diego Water Board shall verify implementation of this measure.</p>		
<p>Mitigation Measure 4.6.12: The contractor shall be required by contract specifications to ensure that construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, is turned off when not in use for more than 5 minutes. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to issuance of a construction permit. The San Diego Water Board shall verify implementation of this measure.</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dewatering and treatment operations</p>
<p>Mitigation Measure 4.6.13: The contractor shall be required by contract specifications to ensure that construction operations rely on the electricity infrastructure surrounding the construction site rather than electrical generators powered by internal combustion engines to the extent feasible. Contract specifications shall be included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to issuance of a construction permit. The San Diego Water Board shall verify implementation of this measure.</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dewatering and treatment operations</p>
<p>Mitigation Measure 4.6.14: The contractor shall utilize alternative-fueled construction equipment to the maximum extent feasible. All diesel-powered construction equipment shall meet or exceed Tier III standards, or shall be equipped with ARB-verified oxidation catalysts and diesel particulate filter emission controls, using the greatest control efficiency for the specific category of equipment where feasible. The construction contractor shall demonstrate that these verified/certified technologies are available to be used at the time of project dredging and dewatering activities. These specifications shall be included in the proposed project's construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to the issuance of a construction permit. The San Diego Water Board shall verify implementation of this measure.</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dewatering and treatment operations</p>
<p>Mitigation Measure 4.6.15: To accelerate the decomposition process and reduce odor impacts, the contractor shall apply a mixture of Simple Green and water (a ratio of 10:1) to the dredged material to the extent odor issues arise with respect to particular portions of the dredged material. Contract specifications shall be</p>	<p>Contractor, as verified by the San Diego Water Board</p>	<p>Ongoing during dredging and dewatering operations</p>

Mitigation Monitoring and Reporting Program (MMRP)

Mitigation Measures	Responsible Party	Timing for Mitigation Measure
<p>included in the proposed project construction documents, which shall be reviewed by the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) prior to the issuance of construction permits. The San Diego Water Board shall verify implementation of this measure.</p>		
<p>4.7 Global Climate Change</p>		
<p>There are no additional mitigation measures for this topic</p>		

¹ A turion is a specialized overwintering bud produced by aquatic herbs.

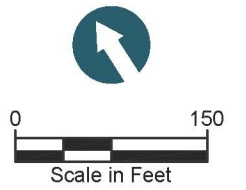
L:\AutoCAD Project Files\Projects\0918-CaughanSD Shipyard\0918-RP-003 WQM.dwg FIG 1
 Sep 07, 2012 8:47am mpralschner



SOURCE: Contours from Southwest Marine survey dated January 2012. Sampling locations from Exponent 2003. Shoreline from SAN GIS.
HORIZONTAL DATUM: California State Plane, NAD83, Zone 6, U.S. Feet.
VERTICAL DATUM: Mean Lower Low Water (MLLW).

LEGEND:

	Background Station		Lease Line
	Compliance Station		Remedial Footprint
	Early Warning Station		Existing Bathymetry



**R9-2013-0093
 ATTACHMENT C
 RECEIVING WATER MONITORING DIAGRAM**