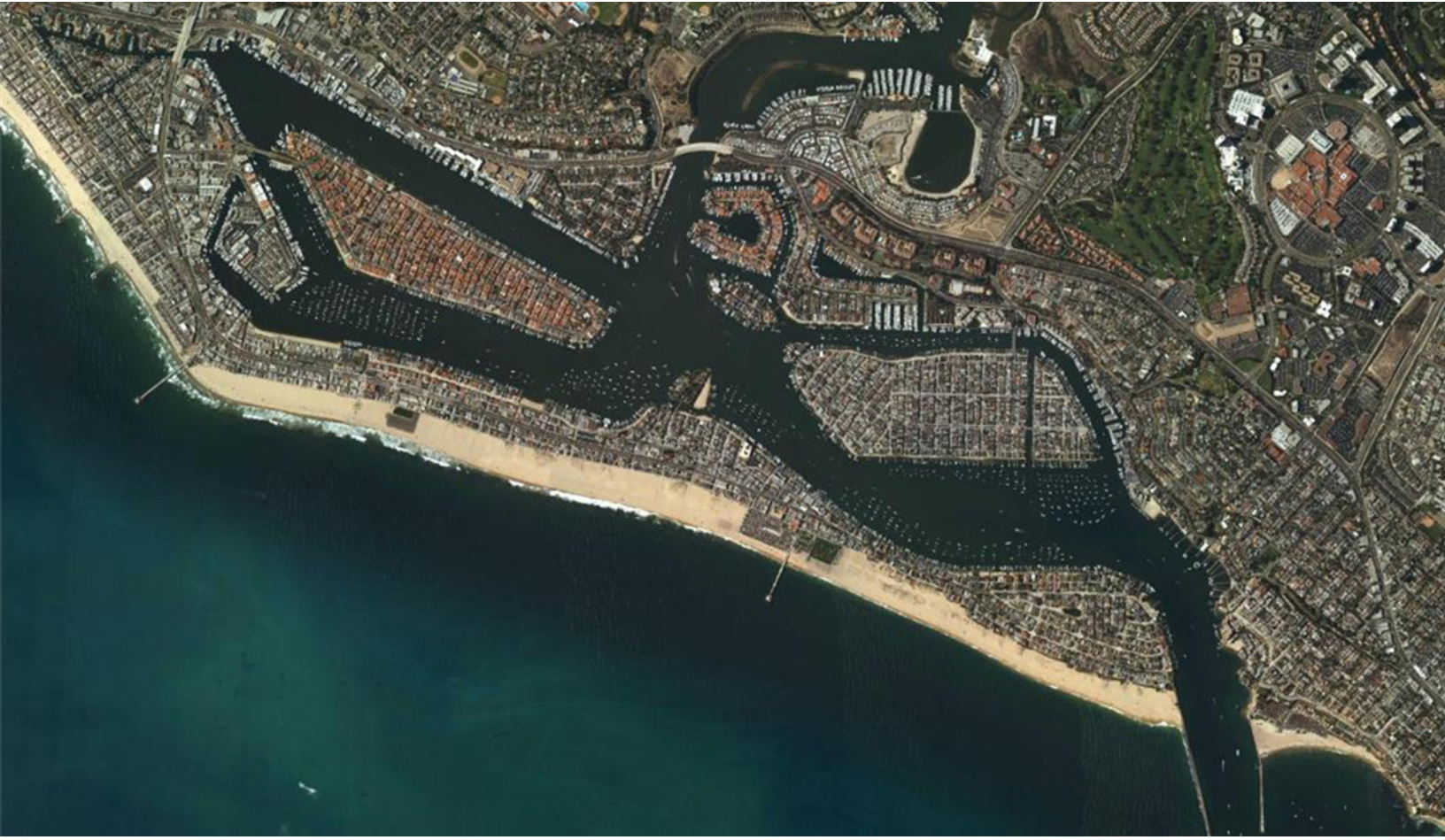

December 4, 2020
Lower Newport Bay Confined Aquatic Disposal (CAD) Construction Project (PA2019-020)
State Clearinghouse Number: 2019110340

Draft Environmental Impact Report

Prepared for the City of Newport Beach

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Draft Environmental Impact Report

Prepared for
City of Newport Beach
Public Works Department
100 Civic Center Drive
Newport Beach, California 92660

Prepared by
Anchor QEA, LLC
9700 Research Drive
Irvine, California 92618

Executive Summary

A CAD facility is a depression in an aquatic seafloor used to contain and store sediment.

This Draft Environmental Impact Report (DEIR) was prepared in compliance with the California Environmental Quality Act (CEQA) to assist the City of Newport Beach (City) in considering the approval of the proposed Lower Newport Bay Confined Aquatic Disposal (CAD) Facility Construction Project (PA2019-020), hereafter referred to as the proposed Project, in accordance with 22 California Code of Regulations (CCR) Section 66265 et seq. Under the proposed Project, the City would construct a CAD facility in the central portion of Lower Newport Bay between Bay Island, Lido Isle, and Harbor Island where dredged sediment unsuitable for open ocean disposal or nearshore placement can be contained. Clean material suitable for beach nourishment generated from constructing the CAD facility will be transported and disposed of at an approved open ocean disposal site (LA-3 Ocean Dredged Material Disposal Site) or along the nearshore ocean beaches. The City is also proposing to allow maintenance dredging in sections of the Harbor outside the Federal Channels maintenance dredging program area to re-establish safe navigation.

The City has principal responsibility for making a determination on the adequacy of the EIR and approving the proposed Project. The City is the lead agency under CEQA (California Public Resources Code [PRC] 21000 et seq.) and the CEQA Guidelines (14 CCR 15000 et seq.).

The City aims to accomplish the following as part of the DEIR:

- Describe the proposed Project and its regulatory background.
- Identify all reasonably foreseeable and potentially significant adverse environmental effects associated with the proposed Project.
- Identify feasible mitigation measures to reduce the significant impacts of the proposed Project.
- Discuss a reasonable range of potentially feasible alternatives that would avoid or otherwise reduce the significant impacts of the proposed Project.

As detailed in the Notice of Preparation (NOP) and Initial Study (IS) circulated for public review from November 18, 2019, through January 17, 2020, and included as Appendix A to the DEIR, the proposed Project is not expected to result in environmental impacts in several resource areas. The DEIR relies on the analyses presented in the NOP/IS and focuses on the following areas that may result in environmental impacts: aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas (GHG) emissions, hazards and hazardous materials, hydrology/water quality, land use and planning, noise, recreation, and tribal cultural resources.

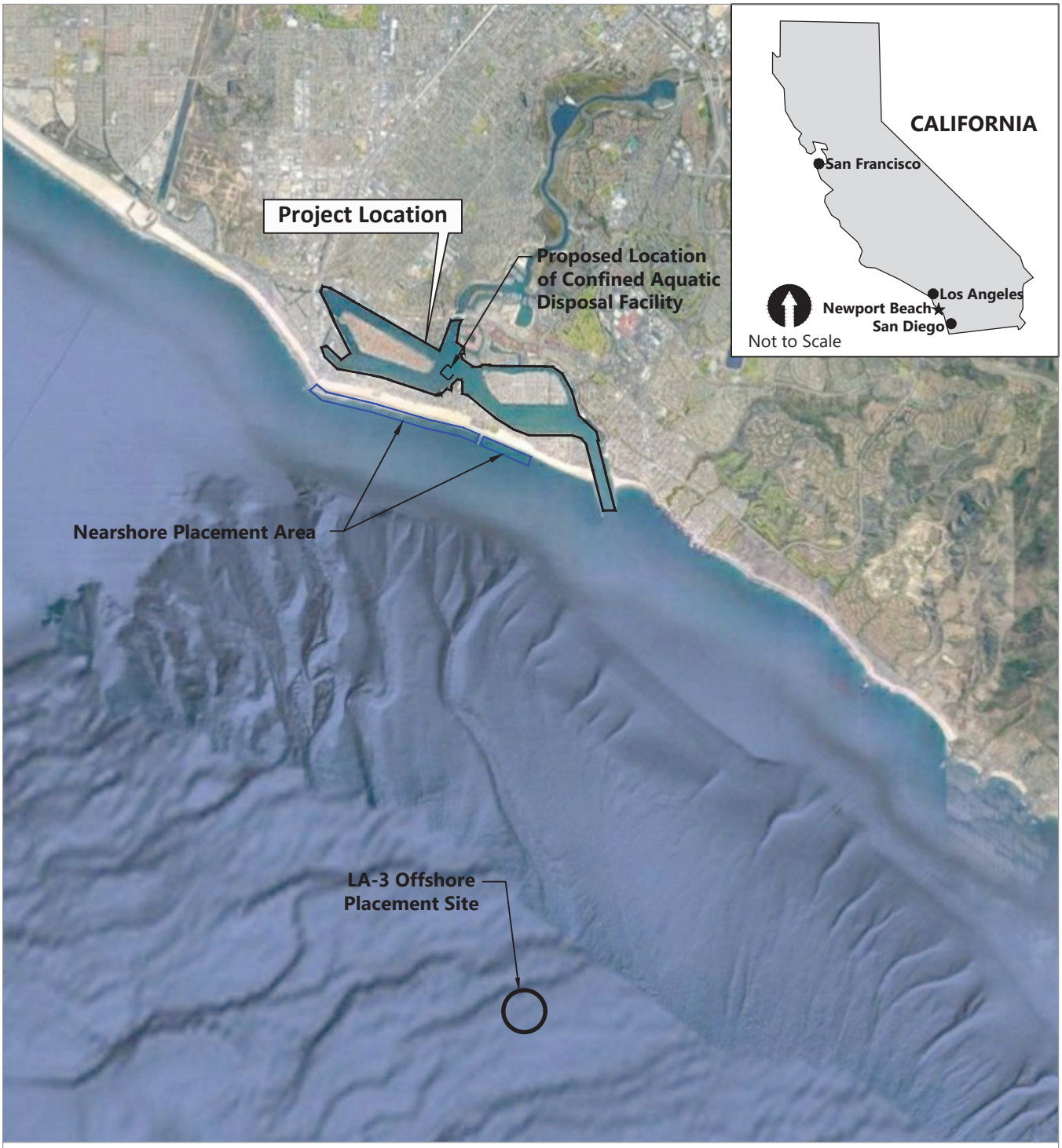
Proposed Project

Newport Harbor located in Newport Bay is one of the largest recreational harbors in the United States. Natural processes result in the movement and accumulation of sediment, which must be dredged periodically to maintain channel depth for safe navigation. As shown in Figure ES-1, the Federal Channels are composed of the deeper entrance, several sections of the Main Channel leading to the Turning Basin, and several shallower offshoots from the Main Channel. The Federal Channels are maintained by the U.S. Army Corps of Engineers (USACE). The remainder of the Harbor is managed and maintained by the City and Orange County. The City often contributes funds to assist with federal dredging because the amount allocated by the federal government is generally not enough to maintain the entire Federal Channels at their authorized depth.

Newport Bay is the coastal body in which Newport Harbor was developed. The Harbor was developed in the early 1900s when the federal government and the County Harbor District dredged the Lower Bay, extended jetties, and created the present-day contour of Newport Harbor. The Bay is often discussed in context of location, with the Upper Bay referring to the area north of the Highway 1 Bridge and Lower Bay synonymous with Newport Harbor. The Federal Channels are the main navigation channels and include the protected Entrance Channel.

USACE conducts annual bathymetric surveys to determine the amount of sediment that has accumulated in the Federal Channels and to assess the need for maintenance dredging. Recent sediment sampling was also conducted to define the sediment characteristics to evaluate disposal options. The most recent sediment sampling effort conducted in 2018 and 2019 determined that most of the material was determined suitable for disposal at a permitted open ocean location (or nearshore). However, dredging in the Main Channel and channel offshoots will expose some sediment that has been determined to be unsuitable for ocean disposal and therefore requires an alternate disposal location. Therefore, dredging of these areas is not feasible without also identifying a practicable management option for the unsuitable sediment.

To manage the unsuitable material, the City proposes to construct a confined aquatic disposal (CAD) facility in the central portion of the Lower Harbor between Bay Island, Lido Isle, and Harbor Island where dredged sediment unsuitable for open ocean disposal or nearshore placement can be contained. Clean material suitable for beach nourishment generated from constructing the CAD facility will be transported and disposed at an approved open ocean disposal site or along the nearshore ocean beaches. The City is also proposing to allow maintenance dredging in sections of Newport Harbor outside the Federal Channels to re-establish safe navigation. The proposed location of the CAD facility is shown in Figure ES-1.



SOURCE: Image from Bing maps.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83
VERTICAL DATUM: Mean Lower Low Water (MLLW)

Approximate Project Location:
33° 36.540', 117° 54.230'

0 1.5
Miles

Publish Date: 2020/05/06 9:08 AM | User: bhurry
Filepath: K:\Projects\0243-City of Newport Beach\Federal Channel\0243-RP-024 EIR VIC MAP.dwg Figure ES-1

ANCHOR QEA

Figure ES-1
Vicinity Map

Project Objectives

The fundamental underlying purpose of the proposed Project is to provide a safe, efficient, and effective dredged material management option that allows navigation maintenance dredging to proceed while protecting the marine environment and recreational users of the Lower Harbor.

Additional project objectives are as follows:

- Identify a disposal location for dredged material deemed unsuitable for open ocean disposal that meets the following requirements:
  - Contains chemically impacted sediment safely and permanently
  - Is located within the southern California area and is available for disposal
  - Can accommodate a small volume of dredged material from outside the Federal Channels
- Dispose of unsuitable dredged sediment in a manner that is safe to human and ecological health and that minimizes secondary environmental impacts.
- Promote beneficial reuse through beach nourishment.
- Dredge limited areas outside the Federal Channels.

Summary of Project Alternatives

CEQA requires that a DEIR consider a range of reasonable alternatives to the project or to the location of the project that would feasibly attain most of its basic objectives but would avoid or substantially lessen any of the significant effects of the project. (CEQA Guidelines Section 15126.6). The alternatives fully considered in this DEIR for the proposed Project are the following:

- Alternative 1: No Project Alternative/No Dredging
- Alternative 2: No CAD Construction Alternative
- Alternative 3: Reduced Dredging
- Alternative 4: Upland Trucking of Material
- Alternative 5: Alternative Location within Newport Harbor

A complete evaluation of these alternatives, as well as alternatives considered but rejected for full analysis—including their ability to meet most of the objectives of the proposed Project, and their ability to avoid or substantially reduce significant environmental impacts—is provided in Section 6 of this DEIR.

Alternative 1: No Project Alternative/No Dredging

The No Project Alternative, which is required by CEQA, represents what would reasonably be expected to occur in the foreseeable future if the proposed Project were not approved. Under this alternative, no dredging of unsuitable material would occur, and the unsuitable material would remain in place.

Alternative 2: No CAD Construction Alternative

Under the No CAD Construction Alternative, CAD construction would not occur. Dredging of unsuitable material would occur, and, because no other fill areas within Los Angeles or Orange counties currently exist, any dredged sediment deemed unsuitable for open ocean disposal would be trucked to a permitted upland landfill facility.

Alternative 3: Reduced Dredging

This reduced dredging alternative includes construction of a smaller CAD footprint and less dredging of unsuitable material.

Alternative 4: Upland Trucking of Material

Under this reduced dredging alternative, any dredged sediment deemed unsuitable for open ocean disposal that could not be placed in the smaller CAD footprint would be trucked to permitted upland facilities.

Alternative 5: Alternative Location in Newport Harbor

Several alternate CAD locations were evaluated in Newport Harbor in which unsuitable material could be placed. The alternate locations contemplated existing site conditions, constructability, proximity to unsuitable material, and disruption to harbor operations, including temporarily relocated existing mooring locations.

Notice of Preparation

The City distributed the NOP (Appendix A) for the proposed Project on November 18, 2019, for a 60-day public review period ending on January 17, 2020. Public comments received during the scoping process were considered in this DEIR. The following comment letters were received during the public comment period for the NOP:

- City of Newport Beach Water Quality/ California State Lands Commission
- Coastal Tidelands Committee
- County of Orange
- Native American Heritage Commission
- Santa Ana Regional Water Quality Control Board (2)
- South Coast Air Quality Management District
- Southern California Association of Government
- Lido Isle Community Association
- Surfrider
- Anita M Gillett
- Betsy Decker
- Bob Yates
- Brooke Sharp
- Bruce and Janie Major
- David Alderfer
- David Rhodes
- Debbie Robson
- Dick and Alice Brewer

- Frances Farrer
- Drs. Gail and Sorel Reisman
- H Roger Heartman
- Jack Thomson
- Jim Mosher
- John E. Clement
- Kent Stoddard
- Laura Thomsom
- Lawrence Cunningham
- Leslie Ellis
- Linda Meriffield
- Marion Smith
- Marsha Ferrall
- Nancy Helm
- Paul and Laura Sharp
- Roger MacGregor
- Ronda Clark
- Shana Conzelman
- Shelly Trainer

Availability of the Draft Environmental Impact Report

The City of Newport Beach is the lead agency for this DEIR. Per Executive Order (EO) N-80-20, signed on September 23, 2020, certain requirements for filing, noticing, and posting CEQA documents with county clerk offices have been conditionally suspended and alternate requirements must be taken in lieu of those requirements. Consistent with the EO and CEQA requirements, copies of the DEIR and technical appendices are available for a 45-day public review period beginning December 4, 2020, and ending January 20, 2021 (2 days have been added to the review period to accommodate the two federal holidays that will occur during the review period), in several locations and both electronically and in hard copy.

The DEIR is available on the City's website at www.newportbeachca.gov/ceqa. It is also posted on the State Clearinghouse website at https://ceqanet.opr.ca.gov/2019110340/2 and is available by searching for the project on the CEQAnet Web Portal at https://ceqanet.opr.ca.gov/ using SCH Number 2019110340.

Hard copies of the DEIR and technical appendices are available at the following Newport Beach Public Library locations:

Central Library
1000 Avocado Avenue
Newport Beach, California 92660

Mariners Branch
1300 Irvine Avenue
Newport Beach, California 92660

Balboa Branch
100 East Balboa Boulevard
Newport Beach, California 92661

Corona del Mar Branch
410 Marigold Avenue
Corona del Mar, California 92625

In addition, hard copies of the DEIR and technical appendices are available for review at the City Public Works counter, which is located in the Civic Center at 100 Civic Center Drive, Newport Beach, California 92660.

The City will accept responses to the DEIR submitted via email received through the close of business on January 20, 2021. Email responses may be sent to cmiller@newportbeachca.gov. Responses may also be mailed to City of Newport Beach Public Works Department, 100 Civic Center Drive, Newport Beach, California 92660.

Summary of Resource Areas with No Environmental Impacts

As noted in Section 1.4 of this DEIR, an IS was prepared and included with the NOP for the proposed Project to determine which environmental effects could potentially result in significant impacts to resource areas (and thus focus the DEIR on those resource areas). As detailed in the IS, several resource areas were found to not result in any potential environmental impacts and therefore do not warrant additional analysis in the DEIR. The resource areas with no potential impacts are summarized as follows (see Appendix A for the complete IS):

- **Agriculture and Forestry Resources:** Neither the proposed Project area nor the immediate surrounding areas currently support agricultural use or forestry resources.
- **Energy:** The proposed Project would not require any unusual or excessively inefficient construction equipment or practices compared to projects of similar type and size. Operation of the CAD facility would not require direct sources of energy use.
- **Mineral Resources:** The proposed Project area does not include a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.
- **Population and Housing:** No new homes would be constructed as a result of the proposed Project, nor are there housing units in the proposed Project area.
- **Public Services:** The proposed Project area is adequately served by the City Fire Department and City Police Department. The proposed Project would not result in increased demand on any existing facilities or services, including fire protection, police, schools, or parks.
- **Transportation:** The Transportation Section of the IS focuses on land-based transportation systems. Maritime transportation is addressed in Section 3.11 of the DEIR.
- **Utilities and Service Systems:** The proposed Project will not affect utilities and service systems because it consists of removing unsuitable sediment from the proposed Project for barge transport to the CAD facility and will not place additional demands on existing utilities and service systems or create future demands on them.
- **Wildfire:** The proposed Project area is in the Lower Harbor, and all work will occur in the aquatic zone, which is not considered at risk of wildfire. Therefore, the proposed Project precludes the potential for wildfire impacts.

Summary of Project-Level Impacts

With the incorporation of mitigation measures, the proposed Project would result in either no project-level impacts or less-than-significant project-level impacts to the following resource areas: aesthetics; agriculture and forestry resources; biological resources; cultural resources; energy; geology and soils; GHG emissions; hazards and hazardous materials; hydrology and water quality; land use and planning; mineral resources; noise; population and housing; public services; recreation; transportation; tribal cultural resources; utilities and service systems; and wildfire. The project would not result in significant and unavoidable impacts.

Summary of Cumulative Impacts

The DEIR provides information on the potential cumulative impacts that could result from implementation of the proposed Project and a list of past, present, and probable future projects that could cause related impacts (Table 4-1). In consideration of these projects, cumulative impact analyses for each environmental resource area potentially affected by the proposed Project are presented in Section 4. Implementation of the proposed Project, in combination with the related past, present, or probable future projects, would result in significant and unavoidable cumulative air quality impacts.

The potential cumulative impacts of the proposed Project, when considering past, present, and reasonably anticipated future projects that may cause related impacts, are also considered for each environmental resource area, as summarized in Section 4. Anticipated environmental effects associated with the proposed Project are evaluated in Sections 3 and 4 of this DEIR. Feasible mitigation measures that could minimize significant adverse impacts are also identified in those sections. Table ES-1 presents a summary of the reasonably foreseeable environmental effects of the proposed Project and includes mitigation measures for the significant adverse impacts.

Table ES-1
Summary of Proposed Project Impacts and Mitigation Measures

	Impact Determination	Mitigation Measures	Impact Determination after Mitigation
Aesthetics			
A-1: Would the project have a substantial adverse effect on a scenic vista?	Less than significant	None	Less than significant
A-2: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	Less than significant	None	Less than significant
A-3: Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less than significant	None	Less than significant
A-4: Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	Less than significant	None	Less than significant
Air Quality			
AQ-1: Would the project's emissions conflict with or obstruct implementation of the applicable air quality plan?	Less than significant	None	Less than significant
AQ-2: Would the project's emissions result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Significant	MM-AQ-1	Less than significant
AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?	Less than significant	None	Less than significant
AQ-4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than significant	None	Less than significant

	Impact Determination	Mitigation Measures	Impact Determination after Mitigation
Biological Resources			
BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Less than significant	None	Less than significant
BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Potentially significant	MM-BIO-1 MM-BIO-2	Less than significant
BIO-3: Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means?	No impact	None	No impact
BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Potentially significant	MM-BIO-1 MM-BIO-2	Less than significant
BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No impact	None	No impact
BIO-6: Would the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	No impact	None	No impact
Cultural Resources			
CHR-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	No impact	None	No impact
CHR-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Potentially significant	MM-CHR-1	Less than significant
CHR-3: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	Potentially significant	MM-CHR-1	Less than significant

	Impact Determination	Mitigation Measures	Impact Determination after Mitigation
Geology/Soils			
GEO-1: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: • Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? • Strong seismic ground shaking? • Seismic-related ground failure, including liquefaction? • Landslides?	No impact	None	No impact
GEO-2: Would the project result in substantial soil erosion or the loss of topsoil?	Less than significant	None	Less than significant
GEO-3: Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	Potentially significant	MM-GEO-1	Less than significant
GEO-4: Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	No impact	None	No impact
GEO-5: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	No impact	None	No impact
GEO-6: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No impact	None	No impact
Greenhouse Gas Emissions			
GHG-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Potentially significant	MM-GHG-1	Less than significant
GHG-2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than significant	None	Less than significant

	Impact Determination	Mitigation Measures	Impact Determination after Mitigation
Hazards and Hazardous Materials			
HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than significant	None	Less than significant
HAZ-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less than significant	None	Less than significant
HAZ-3: Would the project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	No impact	None	No impact
HAZ-4: Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No impact	None	No impact
HAZ-5: Would the project be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard or excessive noise for people residing or working in the project area?	No impact	None	No impact
HAZ-6: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No impact	None	No impact
HAZ-7: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No impact	None	No impact

	Impact Determination	Mitigation Measures	Impact Determination after Mitigation
Hydrology/Water Quality			
HYDRO-1: Would the project Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Potentially significant	MM-HYDRO-1 MM-HDYRO-2 MM-HYDRO-3	Less than significant
HYDRO-2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge, such that the project may impede sustainable groundwater management of the basin?	No impact	None	No impact
HYDRO-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would: • Result in substantial erosion or siltation on site or off site? • Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site? • Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? • Impede or redirect flood flows?	No impact	None	No impact
HYDRO-4: Would the project in flood hazard tsunami, or seiche zones, risk release of pollutants due to project inundation?	No impact	None	No impact
HYDRO-5: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No impact	None	No impact
Land Use/Planning			
LU-1: Would the project physically divide an established community?	No impact	None	No impact
LU-2: Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No impact	None	No impact

	Impact Determination	Mitigation Measures	Impact Determination after Mitigation
Noise			
NV-1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than significant	None	Less than significant
NV-2: Would the project result in generation of excessive groundborne vibration or groundborne noise levels?	No impact	None	No impact
NV-3: Would the project result in, for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No impact	None	No impact
Recreation			
R-1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Potentially significant	MM-REC-1	Less than significant
R-2: Would the project Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	No impact	None	No impact
Tribal Cultural Resources			
TCR-1: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or ii)A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	Potentially significant	MM-CHR-1	Less than significant

TABLE OF CONTENTS

TABLES

FIGURES

PHOTOGRAPHS

APPENDICES

ABBREVIATIONS

µg/m^3	microgram per cubic meter
µm	micron
AB	Assembly Bill
AHIP	Affordable Housing Implementation Plan
APST	Aboveground Petroleum Storage Tank
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
Basin Plan	Santa Ana River Basin Water Quality Control Plan
BMP	best management practice
BODR	Basis of Design Report
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAD	Confined Aquatic Disposal
Cal/OSHA	California Division of Occupational Safety and Health
CalARP	California Accidental Release Prevention
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAO	Cleanup and Abatement Order
CAPCOA	California Air Pollution Control Officers
CCA	California Coastal Act
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEMP	California Eelgrass Mitigation Policy
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
CHRIS	California Historic Resources Information System
CHSC	California Health and Safety Code
City	City of Newport Beach
CLUP	Coastal Land Use Plan
CNDDB	California Natural Diversity Database

CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalence
CRHR	California Register of Historical Resources
CSLC	California State Lands Commission
CSTF LTMS	Los Angeles Contaminated Sediments Task Force Long-Term Management Strategy
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
cy	cubic yard
dB	decibel
dBA	A-weighted decibel
DEIR	Draft Environmental Impact Report
DMMP	*Los Angeles Dredged Material Management Plan Feasibility Study, Baseline Conditions (F3) Report*
DMMT	Dredge Material Management Team
DOT	U.S. Department of Transportation
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
EAP	Energy Action Plan
EFH	essential fish habitat
EIR	Environmental Impact Report
EO	Executive Order
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FDA	U.S. Food and Drug Administration
Fed. Reg.	Federal Register
FEMA	Federal Emergency Management Agency
FGC	California Fish and Game Code
FMP	Fishery Management Plan
g	ground acceleration rate based on both probabilistic and deterministic seismic ground motion
GHG	greenhouse gas
GHG Rx	Greenhouse Gas Reduction Exchange

GWP	global warming potential
H:V	horizontal to vertical
Harbor Patrol	Orange County Sheriff's Department Harbor Patrol-Marine Operations Bureau
HHW	higher high water
HLW	higher low water
HMMP	Hazardous Material Management Plan
HMTA	Hazardous Materials Transportation Act
HMTUSA	Hazardous Materials Transportation Uniform Safety Act
hp	horsepower
HRA	health risk assessment
HW	Hazardous Waste
IS	Initial Study
LA-3	LA-3 Ocean Dredged Material Disposal Site
LCP	Local Coastal Program
LHW	lower high water
LLW	lower low water
MATES	Multiple Air Toxics Exposure Study
MBTA	Migratory Bird Treaty Act
mg/L	milligram per liter
MLLW	mean lower low water
MMPA	Marine Mammal Protection Act
MND	mitigated negative declaration
MRZ-1	Mineral Resource Zone 1
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSDS	material safety data sheet
mty	metric tons per year
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP/HCP	Natural Community Conservation Plan/Habitat Conservation Plan
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NNCPC	North Newport Center Planned Community
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation

NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTU	nephelometric turbidity unit
O_3	ozone
ODMDS	ocean dredged material disposal site
OEHHA	Office of Environmental Health Hazard Assessment
OMMP	Operations, Maintenance, and Monitoring Plan
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PL	Public Law
PM	particulate matter
PM_{10}	PM less than 10 microns in diameter
$PM_{2.5}$	PM less than 2.5 microns in diameter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
proposed Project	Lower Newport Bay Confined Aquatic Disposal Facility Construction Project
re 1 µPa	relative to 1 micropascal of pressure
RGP 54	Regional General Permit 54
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
sf	square feet
SIP	State Implementation Plan
SMP	Sediment Management Plan
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
STFATE	Short-Term Fate
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TMDL	total maximum daily load

TPH	total petroleum hydrocarbon
TSS	total suspended solids
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VOC	volatile organic compound
WEC	Watershed Executive Committee

1 Introduction

This Draft Environmental Impact Report (DEIR) analyzes the potential environmental impacts of the proposed Lower Newport Bay Confined Aquatic Disposal (CAD) Facility Construction Project (proposed Project) under California Environmental Quality Act (CEQA), the CEQA Guidelines (13 Public Resources Code [PRC] 21000 et seq.), and 14 California Code of Regulations (CCR) 15000 et seq.).

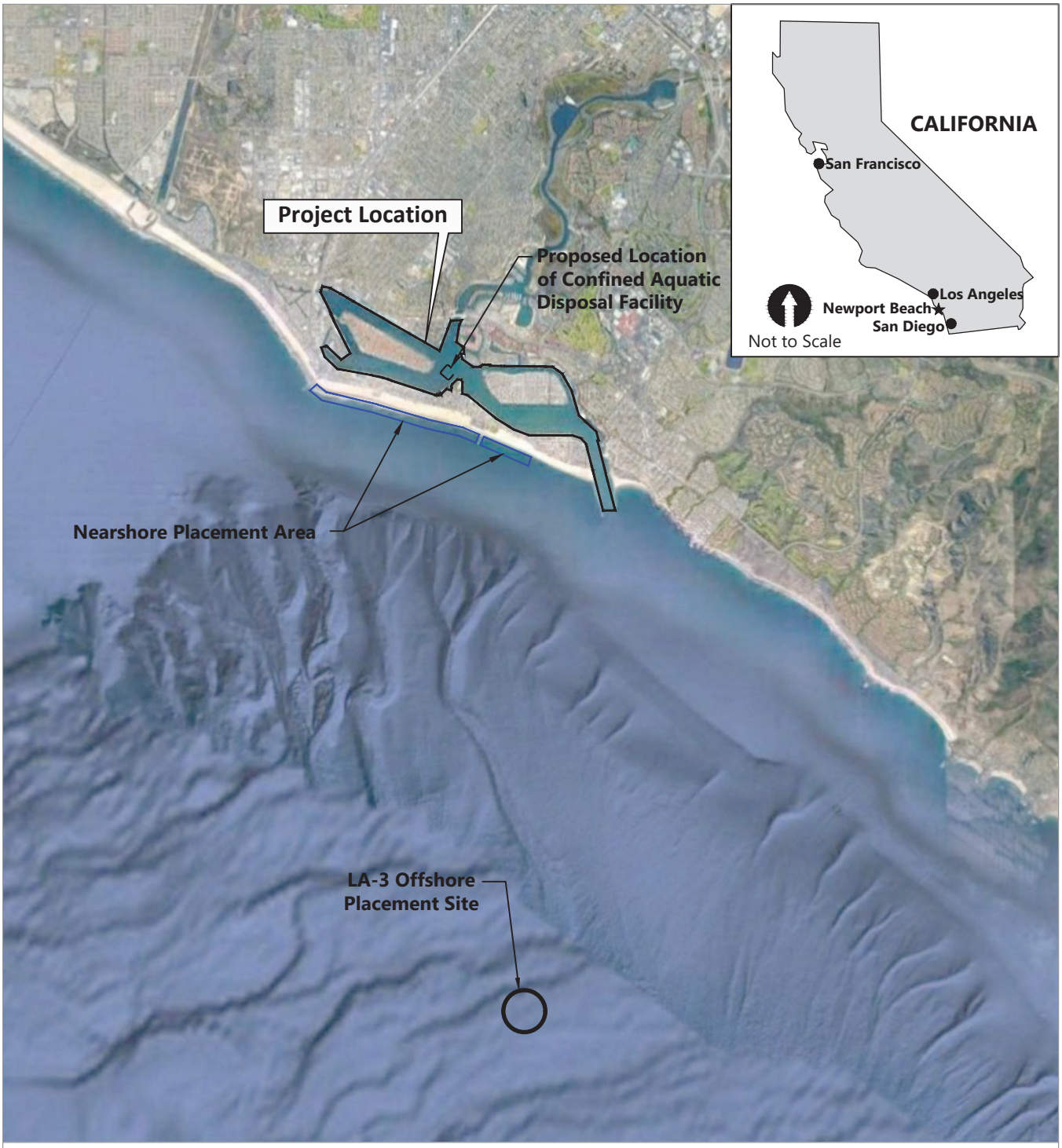
1.1 Proposed Project Overview

Newport Harbor is one of the largest recreational harbors in the United States. Natural processes result in the movement and accumulation of sediment, which must be dredged periodically to maintain channel depth for safe navigation. As shown in Figure 1-1, the Federal Channels are composed of the deeper entrance, several sections of Main Channel leading to the Turning Basin, and several shallower offshoots from the Main Channel. It is maintained by the U.S. Army Corps of Engineers (USACE). The remainder of the Harbor is managed and maintained by the City of Newport Beach (City) and Orange County. The City often contributes funds to assist with federal dredging because the amount allocated by the federal government is generally not enough to maintain the entire Federal Channel at its authorized depth.

Newport Bay is the coastal body in which Newport Harbor was developed. The Harbor was developed in the early 1900s when the federal government and the County Harbor District dredged the Lower Bay, extended jetties, and created the present-day contour of Newport Harbor. The Bay is often discussed in context of location, with the Upper Bay referring to the area north of the Highway 1 Bridge and Lower Bay synonymous with Newport Harbor. The Federal Channels are the main navigation channels and include the protected Entrance Channel.

USACE conducts annual bathymetric surveys to determine the amount of sediment that has accumulated in the Federal Channel and to assess the need for maintenance dredging. Recent sediment sampling was also conducted to determine the sediment characteristics in order to evaluate disposal options. Although the most recent sediment sampling, conducted in 2018 and 2019, determined that most of the material was suitable for disposal at a permitted open ocean (or nearshore) location, dredging in the Main Channel and channel offshoots will expose some sediment that has been determined unsuitable for ocean disposal and therefore requires an alternate disposal location. Therefore, dredging of these areas is not feasible unless a practicable management option for the unsuitable sediment is identified.

To manage the unsuitable material, the City proposes to construct a confined aquatic disposal (CAD) facility in the central portion of the Lower Harbor between Bay Island, Lido Isle, and Harbor Island. Clean material generated from constructing the CAD facility and suitable for beach nourishment will be transported and disposed of at an approved open ocean disposal site or along the nearshore ocean beaches. The City also proposes to allow maintenance dredging in sections of Newport Harbor outside the Federal Channels to re-establish safe navigation.



SOURCE: Image from Bing maps.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83
VERTICAL DATUM: Mean Lower Low Water (MLLW)

Approximate Project Location:
33° 36.540', 117° 54.230'

0 1.5
Miles

Publish Date: 2020/05/06 9:08 AM | User: bhurry
Filepath: K:\Projects\0243-City of Newport Beach\Federal Channel\0243-RP-024 EIR VIC MAP.dwg Figure ES-1

ANCHOR QEA

Figure 1-1
Project Site and Vicinity

Administrative Draft Environmental Impact Report
Lower Newport Bay Confined Aquatic Disposal (CAD) Construction Project (PA2019-020)

1.2 Intended Use of this Environmental Impact Report

This DEIR was prepared by the City to identify the potential environmental impacts of the proposed Project under CEQA. Per CEQA, a project means "the whole of the action," not "each separate governmental approval." The City is the lead agency for construction and management of the CAD facility and for maintenance dredging of areas outside the Federals Channels; USACE is the lead agency for dredging the Federal Channels. However, because some of the material generated by federal dredging would be disposed of in the CAD facility, this DEIR considers the potential environmental impacts of dredging the Federal Channels along with the construction and management of the CAD facility, including nearshore beach placement, and long-term maintenance dredging.

The DEIR is being circulated to all responsible and trustee public agencies and to the public for a 45-day review and comment period, which begins December 4, 2020, and ends January 20, 2021 (two additional days have been provided to accommodate the two federal holidays that will occur during the review period). Notice of this DEIR is also being provided via direct mailing to those who have previously requested notice in writing.

Enacted by the California Legislature in 1970, CEQA requires public agencies to consider the environmental effects of their actions. The primary purpose of this DEIR is to inform the public, decision-makers, and other responsible and interested agencies about the following:

- Identification and evaluation of the reasonably foreseeable and potentially significant adverse environmental effects of the proposed Project
- The manner in which significant environmental effects can be avoided or significantly reduced through implementation of feasible mitigation measures
- Any effects that—even with implementation of mitigation measures—would be significant and unavoidable
- Identification and analysis of alternatives that may avoid or substantially lessen any significant environmental effects of the proposed Project

1.3 Agency Roles and Responsibilities

The CEQA Guidelines defines the lead agency as the public agency with the principal responsibility for carrying out or approving a project (CEQA Guidelines Section 15367). The City is the CEQA lead agency for the proposed Project. in accordance with its responsibilities as lead agency, the City aims to do the following in this DEIR:

- Describe the proposed Project and regulatory background.
- Identify any significant environmental effects associated with construction and operation of the proposed Project.

- Discuss alternatives and feasible mitigation measures for environmental resources where significant effects are identified.

Under CEQA Guidelines Section 15086, lead agencies must consult with, and request comments on, a draft Environmental Impact Report (EIR) from public agencies that are responsible agencies; trustee agencies with resources affected by the project; and any state, federal, or local agency that has jurisdiction by law with respect to the project or that exercises authority over resources that may be affected by the project as follows:

- **Responsible Agency**: A responsible agency is a public agency that proposes to carry out or approve a project for which a lead agency is preparing or has prepared an EIR or a Negative Declaration. For the purposes of CEQA, the term "responsible agency" includes all public agencies other than the lead agency that have discretionary approval authority over a project (CEQA Guidelines Section 15381).
- **Trustee Agency**: A trustee agency is a state agency that has jurisdiction over natural resources affected by a project that are held in trust for the people of the state of California (CEQA Guidelines Section 15386). Trustee agencies include the following: 1) The California Department of Fish and Wildlife (CDFW), regarding fish and wildlife, native plants designated as rare or endangered, game refuges, and ecological reserves; 2) The California State Lands Commission (CSLC), regarding state-owned "sovereign" lands such as the beds of navigable waters and state school lands; 3) The California Department of Parks and Recreation, regarding units of the state park system; and 4) The University of California, regarding sites in the Natural Land and Water Reserves System.

USACE is responsible for National Environmental Policy Act (NEPA) compliance for the Federal Channels maintenance dredging component of the proposed Project. USACE released the Final Environmental Assessment (EA) for the Lower Newport Bay Maintenance Dredging Project (September 2020) to support a portion of the dredging, the Entrance Channel extending to the first section of the Main Channel, that is not reliant on the CAD facility. USACE will need to supplement this EA to support dredging in the rest of the Main Channel and channel offshoots, as described in this DEIR. As the lead federal agency and part of the Federal Channels maintenance dredging program, the USACE has assumed responsibility for coordinating with resource agencies such as the National Marine Fisheries Service (NMFS) and CDFW and for ensuring compliance with requirements of statutes such as the Endangered Species Act (ESA) and the Magnuson-Stevens Fishery Conservation and Enhancement Act (MSA). The USACE will also obtain a federal Consistency Determination from the California Coastal Commission to satisfy requirements of the Coastal Zone Management Act and a Clean Water Act (Section 401) water quality certification from the Santa Ana Regional Water Quality Control Board. The identification, design, permitting, and

construction of an alternate disposal location is the responsibility of the City as the local sponsor and is assessed in this DEIR.

Maintenance dredging in most areas of Newport Harbor outside the Federal Channels is authorized by Regional General Permit 54 (RGP 54), which was issued to the City by the USACE, California Coastal Commission (CCC), and Santa Ana Regional Water Quality Control Board (RWQCB) in 2015 and amended in 2019; it is currently anticipated to be reauthorized in December 2020.

Table 1-1 summarizes the regulatory agencies with potential oversight of the proposed Project and their statutory authority as it relates to the proposed Project.

Table 1-1
Regulatory Agencies and Authority Applicable to the Proposed Project

Regulatory Agency	Jurisdiction	Statutory Authority/Implementing Regulations
U.S. Army Corps of Engineers	N/A	Lead Federal Agency for Federal Channels dredging. Reviews and authorizes confined aquatic disposal under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Section 103 of the Marine Protection, Research and Sanctuaries Act; subject to NEPA Additionally, pursuant to 33 United States Code 408 (Section 14 of the Rivers and Harbors Act of 1899, as amended), review under Section 408 is required for any proposed activity that might interfere with, injure, or impair the use of a river or harbor improvement project. This approach furthers the USACE's interest, expressed throughout the Rivers and Harbors Act of 1899, in protecting the navigability of United States waters by prohibiting the use or alteration of navigation or flood control works where contrary to the public interest or where it would impair those works' usefulness
National Oceanic and Atmospheric Administration	N/A	Ensure compliance with the Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act; subject to NEPA
National Marine Fisheries Service		
U.S. Navy		
State Agencies		
California State Lands Commission	Trustee Agency	Reviews dredging and dredged material disposal activities in state tidelands and would oversee development of the CAD facility
California Coastal Commission	Responsible Agency	Reviews DEIR to ensure compliance with the Coastal Zone Management Act and consistency with the California Coastal Act; performs a federal Consistency Determination; and reviews and issues Coastal Development Permit upon project approval. A Surface Lease Agreement may be required from the California State Lands Commission.

Regulatory Agency	Jurisdiction	Statutory Authority/Implementing Regulations
California Department of Fish and Wildlife	Trustee Agency	Reviews and submits recommendations in accordance with the California Environmental Quality Act; the City will consult with California Department of Fish and Wildlife in accordance with the Fish and Wildlife Coordination Act
Local Agencies		
Santa Ana Regional Water Quality Control Board	Responsible Agency	Permitting authority for water quality, reviews proposed Project for authorization under the Porter-Cologne Water Quality Control Act, Waste Discharge Requirements, and Clean Water Act Section 401 State Certification of Water Quality and Section 402: National Pollutant Discharge Elimination System Permit An application for reauthorization of RGP 54 was submitted to the Santa Ana RWQCB on November 27, 2019.The Santa Ana RWQCB responded to the application in mid-January 2019, requesting a more detailed analysis under CEQA for sediment dredged under the RGP 54 and disposed in the CAD facility, and therefore that component will be included in this DEIR (Section 2.3.2.1). The RGP 54 would be amended assuming certification of this DEIR.

1.4 Scope of this Environmental Impact Report

Per the CEQA Guidelines (Section 15120, as amended December 2018), EIRs must include numerous components (but are allowed to be prepared in a variety of formats so long as the essential elements of information are included). Further, an EIR must identify and focus on the significant environmental effects of a project (CEQA Guidelines Section 15126.2). In assessing the potential environmental effects of a project, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the Notice of Preparation (NOP) is published, or where no NOP is published, when an environmental analysis begins.

This DEIR considers the existing Lower Harbor with accumulated unsuitable sediments and existing environmental conditions as the baseline for assessing the reasonably foreseeable and potentially significant adverse environmental impacts of constructing and implementing the CAD facility. The Lower Harbor is a small craft harbor that offers a variety of recreational boating activities ranging from single-person kayaks to larger sailing and motor vessels capable of transocean navigation. Local beachfront and harbor-front communities support water-use recreational services.

An Initial Study (IS) was prepared and included in the NOP for the proposed Project to determine which environmental effects could potentially result in significant impacts to resource areas (and thus focus the DEIR on those resource areas). As detailed in the IS, several resource areas were found not to result in any potential environmental impacts and therefore do not warrant additional

analysis in the DEIR. The complete NOP and IS are provided in Appendix A, and the resource areas with no potential impacts are summarized as follows.

Agriculture and Forestry Resources: Neither the proposed Project area nor the immediate surrounding areas currently support agricultural use or forestry resources. There are no timberland zoned properties within the City as of 2019 (City 2019a); the nearest forest areas are the Cleveland National Forest and the San Bernardino National Forest (National Forest 2019), which are more than 65 and 75 miles away, respectively. The proposed Project is located in a waterway and is not zoned. Thus, it is not designated for agriculture or forestry resources. All property surrounding the proposed Project has been developed for residential, commercial, special purpose, and mixed-use land uses.

Energy: The proposed Project would not require any unusual or excessively inefficient construction equipment or practices compared to projects of similar type and size. It would comply with standard best management practices (BMPs) such as equipment idling restrictions and maintaining equipment according to manufacturers' specifications. As such, construction of the proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy. Operation of the CAD facility would not require any direct sources of energy use. Therefore, there would be no impact to energy.

Mineral Resources: The *City of Newport Beach General Plan* (City 2006a) encourages consolidation of existing oil and gas activities but contains policies that prohibit additional, future oil extraction within the City and opposes new offshore oil and gas drilling activities (City 2006a). Moreover, due to the proposed Project's location in Mineral Resource Zone 1 (MRZ-1), continued development of the area would not limit access to any known mineral resources. As a result, the proposed Project would neither interfere with any existing extraction operations nor reduce the availability of any known mineral resources. Moreover, the proposed Project area does not include a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, there would be no impact to mineral resources.

Population and Housing: No new homes would be constructed as a result of the proposed Project, nor are there housing units in the proposed Project area. The proposed Project would have no effect on the number of area residences, and the area's zoning precludes future housing developments.

Public Services: The proposed Project area is adequately served by the City Fire Department and City Police Department. The proposed Project would not result in increased demand on any existing facilities or services, including fire protection, police, schools, or parks.

Transportation: The Transportation Section of the IS focuses on land-based transportation systems. Maritime transportation is addressed in Section 3.11. The proposed Project is a harbor maintenance dredging project using aquatic sediment management techniques and will have no significant impact on the City's street transportation, including transit, roadway, bicycle, and pedestrian facilities. Construction may include some truck trips for initial construction equipment staging. In addition, small amounts of debris may be removed from the proposed dredge footprint and, if so, will require transportation to a landfill. It is anticipated that a total of approximately five trucks will travel to and from the proposed Project area over the entire construction period. These trips will not result in a substantial increase to traffic volume or vehicle trips nor will it affect the existing level of service standards. As for operation, no new vehicle trips would be required in the long term. Therefore, there would be no impact to existing transportation during construction and operation activities.

Utilities and Service Systems: The proposed Project will not affect utilities and service systems because it consists of removal of unsuitable sediment from the proposed Project site for barge transport to the CAD facility and does not result in additional demands on existing utilities and service systems or create future demands on them. The contractor will be required to confirm the location, alignment, and depth of any utilities, and the existence of any utility easements, potentially located within the proposed Project area prior to dredging. In addition, as part of the construction plan, all overhead and buried upland utility lines will need to be demarcated prior to initiating construction and avoided by the contractor during construction. The proposed Project will not result in new demands on water supply, wastewater treatment, or solid waste management systems.

Wildfire: The proposed Project area is in the Lower Harbor. All work will be performed within the aquatic zone, which is not considered as a risk of wildfire. Therefore, the proposed Project precludes the potential for wildfire impacts.

1.5 Public Participation, Consultation, and Coordination

Public participation is an integral part of the CEQA process. It facilitates two-way communication between the public and the lead agency (i.e., the City) decision-makers, ensuring that community concerns and input are considered in the final decision. The City's public participation process ensures that interested persons are informed about discretionary decisions and afforded opportunities to provide input. The City also consults with local, state, and federal public agencies in a variety of ways when developing CEQA documents, including direct agency outreach and distribution of documents.

Sections 1.5.1 through 1.5.5 describe the actions undertaken by the City to ensure public participation; consultation sought with the public and local, state, and federal agencies; and public

comments received to date, whether during the NOP public scoping meeting, or separately though direct or indirect email communication. Each of these sections begins with a brief explanation of applicable laws, then descriptions of the City's actions in accordance with those laws are provided.

1.5.1 Notice of Preparation

After deciding that an EIR is needed, the lead agency (in this case, the City) is required to prepare and distribute a notice informing interested parties that an EIR will be prepared. CEQA requires that the lead agency prepare a NOP to inform interested parties of a proposed Project and to solicit their participation in the EIR scoping process. The CEQA Guidelines require that an NOP be sent "immediately after deciding that an environmental impact report is required for the project" (CEQA Guidelines Section 15082[a]) and include "sufficient information describing the project and the potential environmental effects to enable the responsible agencies to make a meaningful response" (CEQA Guidelines Section 15082[a][1]). The City distributed the NOP and accompanying IS (Appendix A) for the proposed Project on November 18, 2019, for a 60-day public review period ending on January 17, 2020. All public comments were considered in this DEIR (Appendix B).

1.5.2 Public Scoping and Agency Coordination

As part of CEQA's consultation requirements, the CEQA Guidelines recommend that public scoping be combined to the extent possible with consultation with responsible and trustee agencies, as required under 14 CCR 15086. Consultation is conducted with agencies that will be locally involved in the environmental review process, as well as state and federal agencies and tribal governments as appropriate.

Per Sections 15086(a)(1–2) of the CEQA Guidelines, lead agencies are required to formally consult with responsible and trustee agencies. On November 18, 2019, the City filed the NOP/IS with the Governor's Office of Planning and Research (OPR) and the Orange County Clerk. The City also sent the NOP/IS directly to responsible and trustee agencies.

In addition to making the NOP/IS available for a 60-day public comment period, the City also conducted a public scoping meeting. The meeting was held on December 4, 2019, at 6:00 p.m. in the Friends Room of the Newport Beach Main Public Library located at 1000 Avocado Avenue in Newport Beach, California. Project-related information, maps, and literature were provided at the scoping meeting. To encourage public comments, the City also set out collection boxes for written comments.

The meeting concluded with a comment period in which the City invited the public to provide written and verbal comments on the proposed Project. Participants were also given the opportunity to take a comment form to fill out and mail in later. Appendix B summarizes public comments on the NOP/IS.

1.5.3 Assembly Bill 52

On September 25, 2014, Governor Jerry Brown signed Assembly Bill 52 (AB 52), expanding the provisions of CEQA to provide California Native American tribes, including those that are not federally recognized, an opportunity to engage in formal consultation with public agencies considering approval of projects that could result in impacts to "tribal cultural resources." Under AB 52, "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC 21084.2).

AB 52 applies to projects with an NOP of an EIR or of a negative declaration or mitigated negative declaration (MND) issued on or after July 1, 2015. Two Native American tribes—the Juaneño Band of Mission Indians, Acjachemen Nation, and the Gabrieleño Band of Mission Indians – Kizh Nation—have requested consultation on CEQA documentation for projects at the City. The City initiated consultation with the two tribes and requested a search of the Native American Heritage Commission's (NAHC's) Sacred Lands Information File on November 13, 2019. A response from the Juaneño Band of Mission Indians, Acjachemen Nation, was received on December 10, 2019, requesting that the proposed Project include inadvertent discovery provisions, which are proposed as mitigation measures in this DEIR. Based on their request, the City will continue to consult with the Juaneño Band of Mission Indians, Acjachemen Nation.

1.5.4 Public Comments

Thirty-two comment letters were received during the public scoping period. One individual also provided comments during the public scoping meeting. In addition, six letters were received outside of the scoping period and were also considered in the preparation of the DEIR (Appendix B).

Letters were received from the following agencies:

- California State Lands Commission
- City of Newport Beach Water Quality/Coastal Tidelands Committee
- County of Orange
- Native American Heritage Commission
- Santa Ana Regional Water Quality Control Board
- South Coast Air Quality Management District
- Southern California Association of Government

Table 1-2 presents summaries of the key comments received during the NOP public comment period. A list of all comments, including those received outside of the scoping period, is provided in Appendix B. All comments were considered during development of the DEIR.

Table 1-2
Summary of Notice of Preparation Comments

Commenter	Key Issues Raised
State, Regional, and Local	
Santa Ana Regional Water Quality Control Board	• Recommendation to include a technical advisory committee to provide input on the project • Recommendation to include the RGP 54 coverage in the CEQA analysis of the CAD facility • Recommendation to include a discussion of storm-associated sediment dynamics, sea level rise, and non-RGP 54 contaminated sediment remediation in all areas of the bay • Recommendation to include more information on interim cap • Recommendation to include an alternative analysis, including reduced proposed Project alternative of trucking the highest levels of contaminated sediment to hazardous waste facility and two smaller CAD facilities • Recommendation to include sediment characterization data as an appendix • Recommendation to discuss Sediment Management Plan in the CEQA document • Recommendation to evaluate the potential for biological impacts, including effects due to bioaccumulation and biomagnification
Santa Ana Regional Water Quality Control Board (Scoping Meeting comment)	• Recommendation to include alternative analysis: reduced proposed Project alternative, full trucking, smaller CAD facility locations • Permitting covering all locations and dredging jurisdictions (federal and city) • Need for analysis of all detected contaminants in the sediment cores
Native American Heritage Commission	• Requirement for SB 18 and AB 52 tribal consultation
South Coast Air Quality Management District	• Request for a copy of the EIR and all appendices and technical documents related to air quality, health risk, and greenhouse gas analyses • Recommendation to use the CalEEMod land use emissions software • Recommendation to use the localized significance thresholds or dispersion modeling to perform a localized air quality analysis • Need to identify any potential adverse air quality impacts, mitigation measures, and alternatives • Recommendation for Health Risk Assessment if proposed Project generates vehicular trips
County of Orange	• Request for a copy of the EIR
Southern California Association of Government	• Recommendation to determine the proposed Project's consistency with the Regional Transportation Plan/Sustainable Community Strategy goals and inclusion of transportation mitigation measures
City of Newport Beach Water Quality/Coastal Tidelands Committee	• Improvement of water quality with increased tidal exchange and flushing by dredging
California State Lands Commission	• Requirement to notify CSLC of the intent to dredge in writing at least 120 days prior to dredging

Commenter	Key Issues Raised
Organizations	
Surfrider	• Recommendation to include alternative analysis
Lido Isle Community Association	• Analysis of vertical gradients of contaminants • Alternative analysis should consider taking the unsuitable materials offshore and upland • Impaired water quality • Moving unsuitable materials to areas with suitable materials
Individuals	
Anita M Gillett	• Interference with sailing • Recommendation to include alternative analysis
Betsy Decker	• General opposition to the proposed Project • Recreation impact: swimming
Bob Yates	• Recreation impact: sailboat, commercial tour boats, sailing teams and programs, kayaks, paddleboards, Duffy electric boats, recreational boaters, transit boats; only space to accommodate a fair sailing course during southerly winds • Recommendation to include a different disposal location and solution • Suggested that coordination occurs with the boating community
Brooke Sharp	• General opposition to the proposed Project • Recreation impact: swimming and sailing • Concern for health risk • Concern for business impact
Bruce and Janie Major	• Recommendation to include a hazardous risk assessment of the proposed Project
David Alderfer	• General opposition to the proposed Project
David Rhodes	• Recreation impact: small boat regattas and youth sailing programs • Suggests there may be a conflict of interest for Anchor QEA as the engineer and environmental consultant • Permanency of the CAD facility • Calculation of the amount of unsuitable material should rely on core samples • Recommendation to include a Sediment Management Plan
Debbie Robson	• Recommendation to include a different disposal solution and location • Recreation: concern about traffic in the proposed Project area
Dick and Alice Brewer	• Recommendation to include a different disposal solution: landfill
Frances Farrer	• Recommendation to include a different disposal solution and location
Drs. Gail and Sorel Reisman	• Recommendation to include a different disposal solution
Jack Thomson	• Concern for dredging • Concern for sea level rise • Impaired water quality • Concern about faults, soil, and sand liquefaction

Commenter	Key Issues Raised
Jim Mosher	• Unclear intent of the EIR: assessing impacts of CAD facility or all dredging • Construction feasibility: unsuitable material during CAD facility excavation and unexpected obstacles (such as bedrock) • Relevance of design depths • Consistency with the Harbor Area Management Plan • Tidal flushing and water quality
John E. Clement	• General opposition to the proposed Project • Recommendation to include a different disposal location
Kent Stoddard	• General opposition to the proposed Project
Laura Thomsom	• Impaired water quality • Concern for sea level rise
Lawrence Cunningham	• General opposition to the proposed Project • Recommendation to include a different disposal location
Leslie Ellis	• General support for the proposed Project
Marion Smith	• Recreation impact: boaters, kayak, canoe, paddleboard, and swimming use in the proposed Project area • Moving unsuitable to suitable • Recommendation to include a different disposal location
Paul and Laura Sharp	• General opposition to the proposed Project • Recreation impact: sailing and anchorage • Recommendation to include a different disposal location
Roger MacGregor	• General opposition to the proposed Project • Concern for human exposure
Shana Conzelman	• Information request on the scoping meeting
Shelly Trainer	• Concern for overall dredging

1.5.5 Basis of Design Report

A Basis of Design Report (BODR; Anchor QEA 2020a) completed by Anchor QEA for the City is included as Appendix C. The BODR was prepared to evaluate the overall technical feasibility of the proposed Project, investigate key technical details associated with the proposed work, evaluate necessary design features and a feasible construction approach, and develop and implement a permitting strategy for the various parties (Appendix C). As such, the BODR represents the design document that developed the project details analyzed in this DEIR.

Key technical details that were investigated include the subsurface conditions and soil types within and near the proposed location of the CAD facility, the required size of the CAD facility, the ability of the CAD facility to provide long-term isolation of sediments, the stability of the CAD facility dredging and adjacent features, the equipment types that would be associated with the proposed Project, and the overall permitting strategy. Numeric modeling was used to evaluate potential

scour forces acting on the various surface cap layers to be installed, including an assessment of wind waves, storm waves, vessel wakes, and propeller wash forces from vessels passing through. All BODR analyses were purposefully conducted using reasonably conservative assumptions and engineering judgment to design a CAD facility that would function properly over the long term.

The following list provides summaries of each section of the BODR (provided as Appendix C):

- **Introduction:** This section describes the purpose and objectives of the BODR.
- **Maintenance Dredging of Federal Channels:** This section describes overall site and sediment characteristics and provides an overview of the dredging requirements for the Federal Channels.
- **Sediment Disposal Alternatives:** This section includes a feasibility review of various sediment disposal alternatives for materials both suitable and unsuitable for open ocean or nearshore placement. This includes the alternative sediment placement strategy of CAD.
- **Concept for CAD Facility in Lower Newport Bay:** This section describes how a CAD facility could be constructed and managed within Lower Newport Bay and a rationale for where it should be located to minimize impacts and costs while maximizing its benefit.
- **Design of CAD Facility for Long-Term Environmental Protection:** This section describes the technical basis for the design of the CAD facility dredging, filling, and overall protectiveness, including discussions of the following:
  - Ability of capping material to isolate contaminants of concern in underlying sediments
  - Stability of capping material against erosive forces and anchoring
  - Stability of CAD facility dredging and adjacent facilities
  - Consolidation of sediments in the CAD facility over time
  - Protection against bioturbation
- **Engineering Analysis of CAD Facility Dredging and Filling:** This section provides information on the engineering analyses conducted as part of the design of the CAD facility.
- **Short-Term Water Quality Impacts from Construction:** This section evaluates potential short-term water quality impacts from construction and sediment disposal.
- **Permitting Strategy:** This section describes the permitting process for the CAD facility.
- **Construction Sequencing and Anticipated Schedule:** This section provides information on the anticipated construction sequencing and schedule for the Federal Channels and CAD facility construction.
- **Operations, Management, and Monitoring Plan:** This section describes the management and monitoring processes to be employed during dredging as well as long-term monitoring of the CAD facility.
- **References:** This section provides references for the materials cited in the BODR.

The following BODR appendices are also included in Appendix C:

- Appendix A: 2019 Bathymetric Survey
- Appendix B: Sampling and Analysis Program Report
- Appendix C: Utility Location Report
- Appendix D: Chemical Isolation Cap Analysis
- Appendix E: Vessel Scour Analysis
- Appendix F: Geotechnical Investigations
- Appendix G: Analysis of Short-Term Water Quality Impacts During Construction
- Appendix H: Operations, Management, and Monitoring Plan

1.5.6 Incorporation by Reference

As permitted in Section 15150 of the CEQA Guidelines, an EIR may reference all or portions of another document that is a matter of public record or is generally available to the public. Information from documents incorporated by reference are briefly summarized in the appropriate sections of this DEIR. The documents that are incorporated by reference are available for review at the internet links provided in Sections 1.5.6.1 and 1.5.6.2 of this DEIR or in person at the City of Newport Beach Public Works Department, 100 Civic Center Drive, Newport Beach, California 92660 from 7:30 a.m. to 5:30 p.m. Mondays through Thursdays and from 7:30 a.m. to 4:30 p.m. on Fridays. Documents incorporated by reference are described in Sections 1.5.6.1 and 1.5.6.2.

1.5.6.1 City of Newport Beach General Plan

The *City of Newport Beach General Plan* (City 2006a), adopted in July 2006, is incorporated by reference in this DEIR. The General Plan represents a comprehensive revision of the City's prior General Plan and is the result of 4 years of work by 38 residents representing all segments of this community. These residents—members of the General Plan Advisory Committee, or GPAC—developed the plan after thorough examination of input from thousands of their neighbors that was received during the most extensive public outreach in the City's history. After receiving community input, GPAC developed a "Vision Statement"—a description of the City that residents want Newport Beach to be now and in 2025—to serve as a blueprint for this General Plan update (City 2006a).

The General Plan recognizes that the City is primarily a residential community, with diverse coastal and upland neighborhoods. Because the City is almost fully developed, the General Plan focuses on conserving the existing pattern of land uses and establishes policies for their protection and long-term maintenance. However, there are a number of areas of the City that are not achieving their full potential, so the General Plan establishes strategies for their enhancement and revitalization. The General Plan identifies creative strategies for the reuse of land to provide opportunities for new housing and commercial uses that will complement and enhance the City's character and

livability. The General Plan also provides guidance to preserve the qualities that define the natural and built environment. Specific goals and policies address the enhancement of open space, marine and harbor uses, historic and cultural resources, and recreational facilities. Other portions of the General Plan provide strategies to protect residents and businesses from adverse impacts such as noise and safety hazards.

The General Plan (City 2006a) is available on the City's website at: https://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan

1.5.6.2 City of Newport Beach Coastal Land Use Plan

The Coastal Land Use Plan (CLUP; City 2019b) of the Local Coastal Program of the City of Newport Beach, first approved by the CCC on October 13, 2005, with the most recent update approved on January 22, 2019, is incorporated by reference in this DEIR. The CLUP was prepared in accordance with the California Coastal Act of 1976. The CLUP sets forth goals, objectives, and policies that govern the use of land and water in the coastal zone within the City and its sphere of influence, with the exception of Newport Coast and Banning Ranch. The physical boundaries of the area to which the CLUP applies are shown on the Coastal Land Use Map included in the Plan. Newport Coast is governed by the previously certified and currently effective Newport Coast segment of the Orange County Local Coastal Program

The CLUP (City 2019b)is available on the City's website at: https://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/local-coastal-program/coastal-land-use-plan

1.6 Environmental Impact Report Organization

The content and format of this DEIR are organized into the following sections to meet the requirements of CEQA and the CEQA Guidelines:

- **Executive Summary:** Summarizes the proposed Project and alternatives, potential impacts, and mitigation measures
- **Section 1 – Introduction:** Describes the purpose and use of the DEIR and outlines the organization of the DEIR
- **Section 2 – Project Description:** Describes the proposed Project's history, provides details on the construction and operation of the proposed Project, and discloses objectives of the proposed Project
- **Section 3 – Environmental Impact Analysis:** Describes the current environmental conditions within and near the proposed Project, significance criteria, environmental impacts, and mitigation measures for each environmental resource area examined and significant impact identified

- **Section 4 – Cumulative Impacts:** Discusses other categories of environmental impacts that must be evaluated in an EIR in addition to those addressed in Section 3
- **Section 5 – Other Required Analysis:** Identifies unavoidable significant impacts, significant irreversible environmental changes, and direct and indirect growth-inducing impacts of the proposed Project
- **Section 6 – Alternatives:** Discusses a range of reasonable alternatives to the proposed Project that would feasibly attain all or most of the basic objectives and would avoid or substantially lessen any of the potentially significant environmental effects of the proposed Project and identifies the environmentally superior alternative
- **Section 7 – References:** Provides a list of references used to provide information in preparation of this DEIR
- **Section 8 – List of Preparers:** Identifies the preparers of this DEIR
- **Appendices:** The following appendices are attached to this DEIR:
  - Appendix A: Notice of Preparation and Initial Study
  - Appendix B: Public Involvement and Comment Letters
  - Appendix C: Basis of Design Report
  - Appendix D: Sediment Management Plan
  - Appendix E: Harbor-Wide Eelgrass Survey
  - Appendix F: Air Quality and Greenhouse Gas Report
  - Appendix G: Special-Status Species Potentially Present in Project Area
  - Appendix H: Marina Park Project Grunion Monitoring Plan
  - Appendix I: Navigation Study Memorandum

2 Project Description

Newport Harbor is one of the largest recreational harbors in the United States. Natural processes result in the movement and accumulation of sediment in Lower Newport Bay from Upper Newport Bay, which must be dredged periodically by the USACE to maintain channel depth for safe navigation in the Harbor. USACE and the City conduct surveys to determine the need for federal dredging and to determine the sediment characteristics for disposal options. The most recent sediment sampling effort, in 2018 and 2019, determined that most dredged material is suitable for disposal at a permitted ocean disposal location or can be used to nourish the adjacent beaches. However, dredging in the main Federal Channel and channel offshoots will expose some sediment that is deemed unsuitable for ocean disposal and therefore requires an alternate management location.

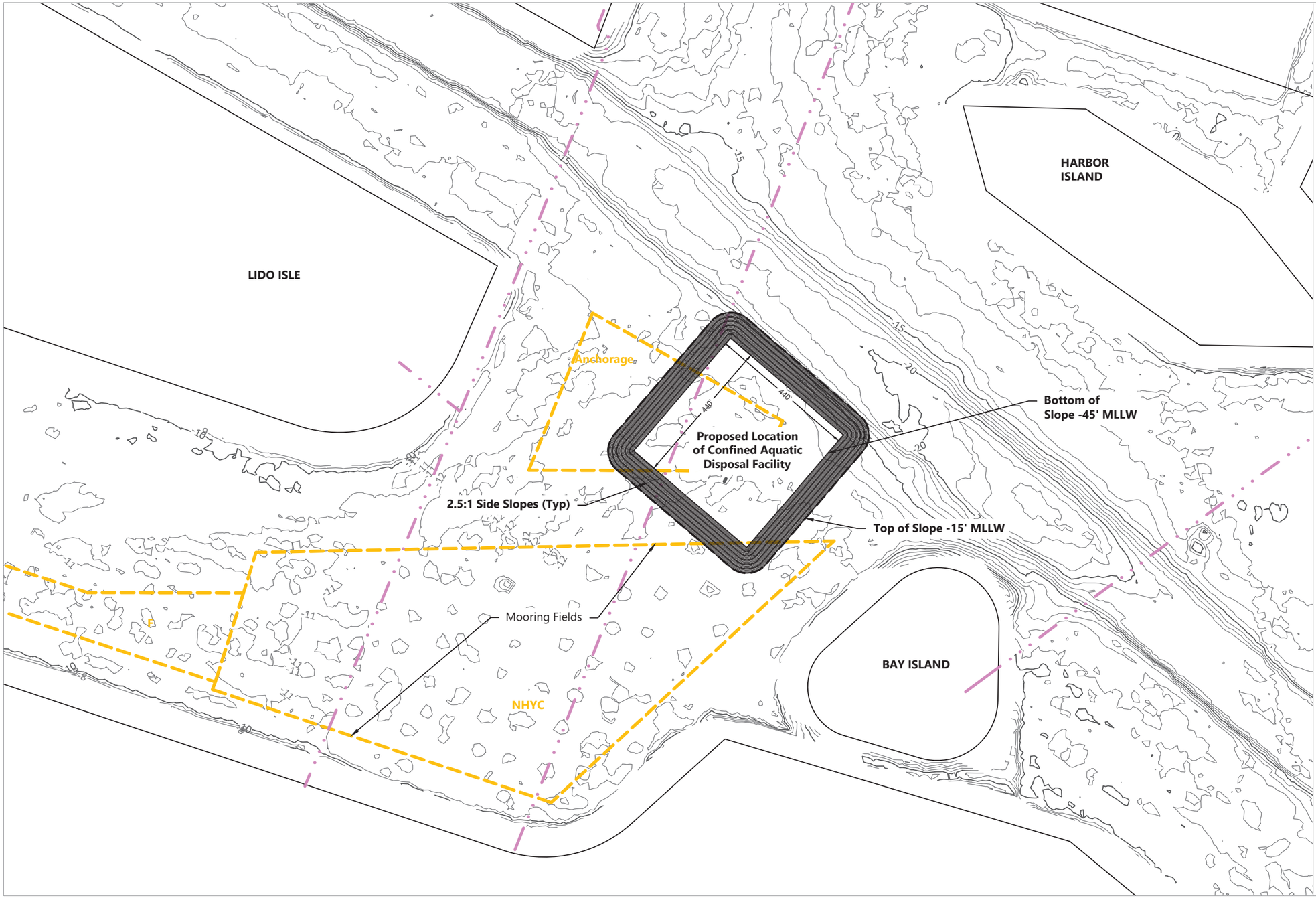
To manage the unsuitable material, the City proposes constructing a CAD facility in the central portion of the Lower Harbor between Bay Island, Lido Isle, and Harbor Island where dredged sediment unsuitable for open ocean disposal or nearshore placement can be contained (Figure 2-1). Clean material suitable for beach nourishment generated from constructing the CAD facility will be transported for disposal at an approved open ocean disposal site or along the nearshore ocean beaches. The City is also proposing to use the CAD facility to accommodate sediment from maintenance dredging in sections of Newport Harbor outside the Federal Channels to re-establish safe navigation under and adjacent to private, public, and commercial docks, floats, and piers.

A CAD facility is a *depression in an aquatic seafloor used to contain and store sediment. Figure 2-6 presents an overview of construction.*

Potential CAD facility locations were selected based on preliminary feedback from the City's Harbor Commissioners. The Harbor Commissioners recommended siting the CAD facility adjacent to or within locations where sediment was determined to be unsuitable and will require placement in the CAD facility. Although the recommendation was integral to the siting process, other factors were evaluated including the following: 1) analyses of geotechnical data to demonstrate compliance with current engineering standards and practices; 2) the suitability of the excavated material for beneficial reuse; 3) feasibility to design and construct the CAD based on the volume of sediment to be managed; 4) logistics during construction; 5) disruption to existing harbor moorings and anchorages; and 6)

Technical support for the design and operation of the CAD facility is included in the BODR (Anchor QEA 2020a) summarized in this DEIR and available at: https://www.newportbeachca.gov/government/departments/community-development/planning-division/projects-environmental-document-download-page/environmental-document-download-page

public outreach. In addition, the proposed CAD location is in a central area, thereby reducing overall transit distances for dredged sediments and providing access for deeper water that will enable the barges to be filled to their capacity. This in turn will reduce construction duration, costs, and air quality/greenhouse gas emissions that would otherwise result from increased barge travel and tugboat operations.



SOURCE: Drawing prepared from Bing maps. Bathymetric contours from U.S. Army Corps of Engineers survey dated June 2018. Dredge units from U.S. Army Corps of Engineers.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83
VERTICAL DATUM: Mean Lower Low Water (MLLW)

LEGEND:

- City of Newport Beach Mooring Fields
- Approximate Existing Utilities
- Dredge Footprint

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Filepath: K:\Projects\0243-City of Newport Beach\Federal Channel\0243-RP-021 Plan View Figure 2-1.dwg Figure 2-1

ANCHOR QEA

Figure 2-1
Plan View of CAD Facility

Draft Environmental Impact Report
Lower Newport Bay Confined Aquatic Disposal (CAD) Construction Project (PA2019-020)

2.1 Proposed Project Background

2.1.1 Dredged Material Management in Southern California

Dredge sediment is managed in southern California by the Dredged Material Management Team (DMMT), an interagency team that provides coordinated reviews of dredging projects and policy issues in San Diego, Orange, Los Angeles, Ventura, and Santa Barbara counties and parts of San Luis Obispo County. Sediment management options in southern California have been studied thoroughly and documented in two key regional documents: the *Los Angeles Contaminated Sediments Task Force Long-Term Management Strategy* (CSTF LTMS; CSTF 2005) and the *Los Angeles Dredged Material Management Plan Feasibility Study, Baseline Conditions (F3) Report* (DMMP; USACE 2004).

> *Anthropogenic contaminants are contaminants that relate to or result from the influence of human beings.*
>
> *Bioaccumulation is the accumulation over time of a substance or contaminant (such as a pesticide or heavy metal) in a living organism.*

Prior to ocean disposal or beach nourishment, sediment must be tested in accordance with the *Evaluation of Dredged Material Proposed for Ocean Disposal – Testing Manual* (USEPA/USACE 1991) to determine its suitability for unconfined aquatic disposal. Testing for ocean disposal includes physical and chemical analyses and biological testing. There are no specific sediment chemistry thresholds for ocean disposal. Sediment chemistry results are compared to reference sediment and sediment quality guidelines to determine the potential significance of elevated contaminants of concern. Biological testing is performed to determine whether anthropogenic contaminants of concern are present at such concentrations that ocean disposal of dredged material would pose unacceptable risks of toxicity directly to biota or through bioaccumulation. Biological testing includes benthic and water column toxicity tests and bioaccumulation tests. Benthic toxicity tests are performed on two species, an amphipod and a polychaete, and test results are compared with reference results to determine potential impacts. Water column toxicity tests are performed on three species, a fish, a mysid shrimp, and bivalve larvae, and results are compared with the control; if needed, a mixing model is used to determine potential water column impacts. Bioaccumulation tests are performed on two species, a clam and a polychaete, and results are compared with U.S. Food and Drug Administration (FDA) action levels and reference results. If tissue concentrations are less than FDA action levels, but greater than the reference, a weight-of-evidence approach is used that includes a comparison to toxicity reference values. Based on results of each test and coordination with the U.S. Environmental Protection Agency (USEPA) and other DMMT agencies, sediments are determined to be either suitable or unsuitable for unconfined aquatic disposal.

If sediment is determined to be suitable (or clean), the preferred sediment management alternative is beach nourishment. However, the material must also have comparable grain size and aesthetic characteristics to that of the beach being nourished. If the grain size and aesthetic characteristics of the clean sediment are not compatible with the receiver beach or nearshore placement area and no other beneficial reuse opportunities are available, the sediment may be placed at an ocean dredged material disposal site (ODMDS) designated, managed, and approved by the USEPA. The LA-3 Ocean Dredged Material Disposal Site (LA-3) is the closest ODMDS to Newport Harbor; it is located approximately 6 miles to the southwest.

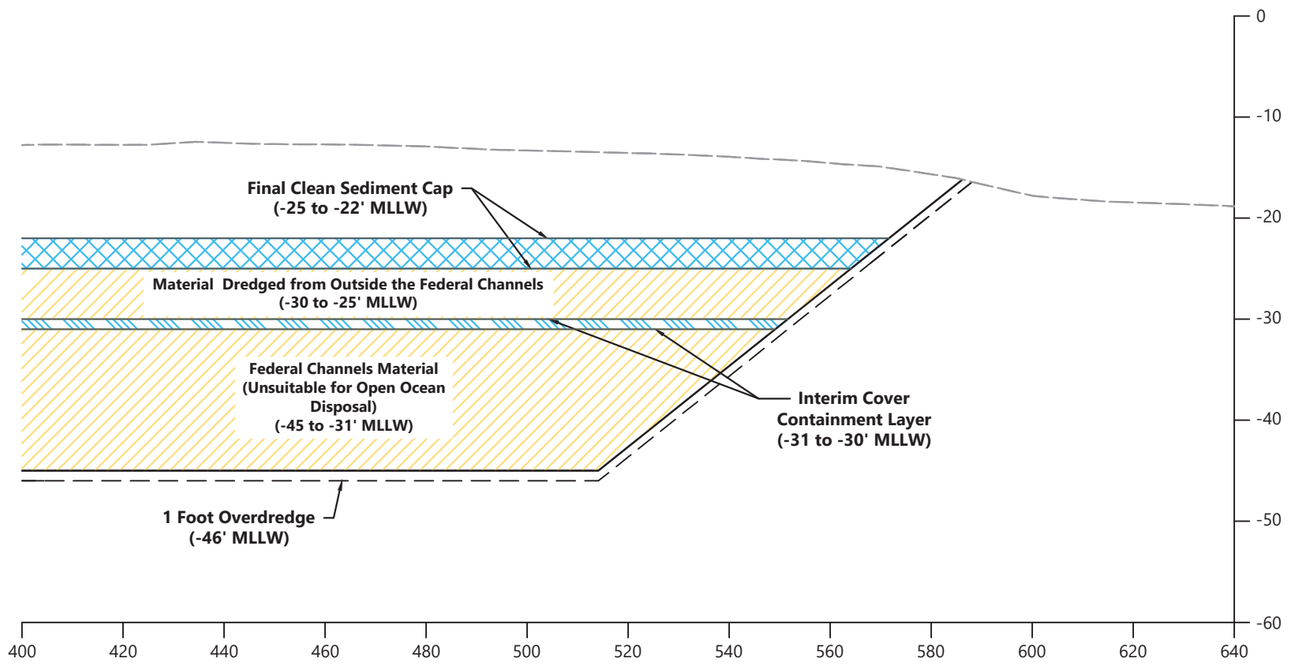
As outlined in the CSTF LTMS and DMMP, beneficial reuse in a fill project (i.e., nearshore confined disposal facility) is the preferred alternative for sediment not suitable for ocean disposal. Nearshore confined disposal facilities are typically created by constructing a containment dike, placing contaminated dredged sediment and structural fill material (i.e., clean sand) behind the dike, using weirs to dewater the material, and covering the material with asphalt or concrete to create new land.

In the absence of an available nearshore confined disposal facility, CAD facilities have been shown to be an effective long-term management solution for sediment that does not meet regulatory standards for open ocean disposal (CSTF 2005). A CAD facility is constructed underwater by placing contaminated sediment inside a depression, allowing it to settle, and capping it with clean sediment, typically to an elevation that matches the surrounding grade (Figure 2-2). Capping with clean sand creates a physical barrier between the contaminants and the overlying water column and benthic organisms.

The CAD facility concept has long been used successfully, including the following projects in southern California over the last 20 years:

- At Port Hueneme, which was jointly developed by the U.S. Navy, USACE, and the Oxnard Harbor District
- At the City of Long Beach (North Energy Island Borrow Pit)
- At the Port of Long Beach (Western Anchorage Sediment Storage Site and Middle Harbor locations)

In addition, multiple CAD facilities have been constructed across the country—including harbors in Boston, Massachusetts and Providence, Rhode Island; at the Puget Sound Naval Shipyard in Bremerton, Washington; and at the St. Louis River–Duluth Tar Site in Duluth, Minnesota—and internationally (e.g., at Hong Kong airport; Fredette 2005).



SOURCE: Ariel from Bing Maps, 2018.
HORIZONTAL DATUM: California State Plane, Zone 6, North American Datum of 1983 (NAD83), U.S. Survey Feet
VERTICAL DATUM: Mean Lower Low Water (MLLW)

LEGEND:

- Required Dredge Elevation
- Allowable Overdepth Elevation
- Existing Mudline

0 30
Feet

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Filepath: K:\Projects\0243-City of Newport Beach\Federal Channel\0243-RP-022 Cross Section View Figure 2-2.dwg Figure 2-2

ANCHOR QEA

Figure 2-2
Cross Section of a CAD Facility

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Lower Newport Bay Confined Aquatic Disposal (CAD) Construction Project (PA2019-020)

2.1.2 Need for Dredging in Newport Harbor

Lower Newport Bay requires periodic maintenance dredging to remove sediment that accumulates over time and impedes navigation and full use of the Harbor. Lower Newport Bay was last dredged between May 2012 and January 2013, when 600,000 cubic yards (cy) of sediment were removed. Unsuitable sediment was placed at the Port of Long Beach's Middle Harbor Fill Site, and sediment which met the required standards was placed at LA-3. Prior to that maintenance dredging episode, approximately 270,000 cy of clean sediment were removed, in 1998 and 1999, from the Main Channel and the Upper Bay Channels and disposed of at LA-3.

Based on USACE harbor-wide bathymetric surveys in 2018, sedimentation has occurred in many areas of Lower Newport Bay. USACE conducts bathymetric surveys in the Federal Channels each summer. The 2018 survey indicated that approximately 1.2 million cy of sediment requires maintenance dredging in the Federal Channels to achieve authorized design depths, plus 2 feet of overdredge allowance. Authorized design depths in the Federal Channels range from -10 to -20 feet mean lower low water (MLLW). Areas that require the most dredging include the Entrance Channel, Main Channel 1 through 5, Bay Island Area, Turning Basin, and Newport Channel 1 through 3 (Figure 2-3).

USACE is proposing to dredge the Federal Channels to the currently authorized design depths as part of the Federal Channels maintenance dredging program authorized by the Rivers and Harbors Act of 1937 (maintenance) and 1945, modified by the Water Resources Development Act of 1986. USACE's Federal Channels maintenance dredging program is analyzed in a separate EA under the NEPA. Sediment sampling conducted in 2018 in coordination with the DMMT has determined that dredging will expose sediment that is unsuitable for open ocean disposal. Therefore, a Sediment Management Plan (SMP) was developed to determine a practicable management option for the unsuitable sediment. The SMP is provided in Appendix D to this DEIR.

SOURCE: Drawing prepared from Bing maps. Bathymetric contours from U.S. Army Corps of Engineers survey dated June 2017. Dredge units from U.S. Army Corps of Engineers.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83
VERTICAL DATUM: Mean Lower Low Water (MLLW)

LEGEND:

- Authorized Federal Channel Limits and Dredge Unit Boundaries
- (-20) Authorized Depth
- —10— Existing Bathymetry
- Dredged Material Not Suitable for Open Ocean or Nearshore Disposal
- Dredged Material Suitable for Open Ocean or Nearshore Disposal
- Proposed Confined Aquatic Disposal Facility
- Nearshore Placement Area

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Feet

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Filepath: K:\Projects\0243-City of Newport Beach\Federal Channel\0243-RP-023 EIR BODR SUITABILITY.dwg Figure 2-5

ANCHOR QEA

Figure 2-3
Federal Channels Maintenance Dredging Sediment Suitability Map

Draft Environmental Impact Report
Lower Newport Bay Confined Aquatic Disposal (CAD) Construction Project (PA2019-020)

2.1.2.1 Regional General Permit 54

For most areas outside the Federal Channels, maintenance dredging in Newport Harbor is authorized by RGP 54, which was issued to the City by USACE, CCC, and Santa Ana RWQCB in 2015 and amended in 2019. RGP 54 is currently anticipated to be reauthorized by December 2020. Following certification of this DEIR, the City will amend RGP 54 to allow disposal in the CAD facility as an available option.

RGP 54 authorizes small-scale maintenance dredging in Newport Harbor and covers the following regulated activities in eligible areas of Newport Harbor: 1) maintenance dredging under and adjacent to private, public, and commercial docks, floats, and piers; and 2) discharge of dredged material at adjacent in-bay beach sites for beach nourishment, at LA-3, or at approved upland disposal sites.

The RGP 54 planning area is shown in Figure 2-4. Much of the material within the RGP 54 planning area was determined to be suitable for unconfined aquatic disposal; however, certain areas of Newport Harbor require additional confirmatory sampling for both the dredge cut and/or predicted Z layer[1] prior to beneficial reuse or open water disposal. If confirmatory testing exceeds thresholds, sediments will require alternative disposal or management options and would not qualify under RGP 54. Maintenance dredging will generally occur within the defined areas of the City's RGP 54 and other locations in Newport Harbor.

2.1.3 Sediment Suitability

In preparation for dredging in Lower Newport Bay, sediment sampling was conducted in 2018 and 2019 to determine the suitability of the sediments requiring removal during the Federal Channels maintenance dredging program. The study found that most of the sediments would be approved for open ocean disposal, although sediment from some areas would be unsuitable for nearshore or open ocean disposal. The DMMT's review of sediment chemistry results and effects-based testing (i.e., toxicity and bioaccumulation) determined sediments from sections of Main Channel 1 and 2; Main Channel 3, 4, and 5; the Bay Island Area; Newport Channel 3; and the Entrance Channel were determined suitable for open ocean disposal.

Due to elevated concentrations of polychlorinated biphenyls (PCBs) and/or mercury, the Turning Basin and portions of Main Channel 1 and 2 and Newport Channel 1 were deemed not suitable for open ocean disposal. These findings were presented in the Sampling and Analysis Program Report (Anchor QEA 2019a) and DMMT concurrence and meeting minutes (Anchor QEA 2019b). Figure 2-5 presents the results of DMMT coordination and identifies sediment that is suitable for open ocean disposal or requires an alternate disposal option.

[1] The new surface following dredging to authorized depth and overdepth

As part of the Lower Newport Bay Federal Channels sediment characterization process, and in coordination with the DMMT, the City committed to developing an SMP (Appendix D). The SMP is a planning document that builds on previous harbor-wide planning tools (e.g., the *Harbor Area Management Plan*; City 2010) to assist the City in managing sediment in Newport Harbor. Specifically, the SMP creates an inventory of all sediment in Newport Harbor that needs to be dredged, both within and outside the Federal Channels. The SMP identifies sediment management options depending on sediment characteristics, including developing alternate disposal locations and permitting requirements.

LEGEND:

- Suitable to -10 feet MLLW plus 2 feet of overdepth for unrestricted disposal at the LA-3 ODMDS. Grain size required prior to beach replenishment or nearshore placement to demonstrate suitability.
- Suitable to -7 feet MLLW plus 1 foot of overdepth for unrestricted disposal at the LA-3 ODMDS. Z-layer testing to confirm post-dredge surface contains mercury less than 1 ppm prior to dredging to demonstrate newly exposed surface is clean. Grain size required prior to beach replenishment or nearshore placement to demonstrate suitability.
- Area not included under RGP 54.
- Material proposed for disposal at LA-3 ODMDS must have chemical testing for mercury with agency concurrence to verify suitability prior to disposal. Z-Layer testing is required to confirm post-dredge surface contains mercury less than 1 ppm prior to dredging to demonstrate newly exposed surface is clean. Material proposed for beach replenishment or nearshore placement must also have grain size verification prior to placement.
- Material proposed for disposal at LA-3 ODMDS must have chemical testing for mercury and PCBs with agency concurrence to verify suitability prior to disposal. Z-layer testing is required to confirm post-dredge surface contains mercury less than 1 ppm and PCBs less than 100 ppb prior to dredging to demonstrate newly exposed surface is clean. Material proposed for beach replenishment or nearshore placement must also have grain size verification prior to placement.
- Suitable to -10 feet MLLW plus 2 feet of overdepth for unrestricted disposal at the LA-3 ODMDS. Material proposed for beach replenishment or nearshore placement must have grain size verification and chemical testing for DDTs with agency concurrence to verify suitability prior to placement. Z-layer testing is required to confirm post-dredge surface contains DDT concentrations less than 18.0 ppb*.

SOURCE: Aerial from Bing maps. Coastline extents from City of Newport Beach.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83.
VERTICAL DATUM: Mean Lower Low Water (MLLW).

NOTE:
Areas included in RGP 54 are generally between the bulkhead and pierhead lines with the shoreline/boundary demarcated by the various colors/hatched lines. The colored lines, whether solid or dashed, always follow the shoreline rather than following individual fingers or docks. ODMDS (Ocean Dredged Material Disposal Site) and ppm (parts per million).

*Represents the 95% Upper Confidence Limit for surface sediment concentrations within the RGP permit area.

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Figure 2-4
RGP 54 Boundaries

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Lower Newport Bay Confined Aquatic Disposal (CAD) Construction Project (PA2019-020)

2.1.4 Federal and City Responsibilities for Dredging and Sediment Management

USACE is responsible for ensuring NEPA compliance to support the Federal Channels maintenance dredging component of the proposed Project and will be preparing a supplement to its EA. As the lead federal agency—and as part of the Federal Channels maintenance dredging program—USACE assumes responsibility for coordinating with resource agencies such as NMFS and CDFW and for ensuring compliance with statutes such as the ESA and the MSA. USACE has also assumed the lead role in addressing cultural and historic resource issues, including requirements of Section 106 of the National Historic Properties Act. In addition, USACE will obtain a federal Consistency Determination from the CCC, which will satisfy requirements of the Coastal Zone Management Act, and a Clean Water Act Section 401 water quality certification from the Santa Ana RWQCB.

Identification, design, permitting, and construction of an alternate disposal location is the responsibility of the City as the local sponsor. Following completion of this DEIR public notice, the City will submit the following permit applications to the specified agencies:

- Coastal Development Permit: The CCC is the agency responsible for this permit.
- Standard Individual Permit: USACE will be the lead agency for the Rivers and Harbors Act Section 10 and Clean Water Act Section 404 permits as well as associated consultations for ESA and Essential Fish Habitat. In addition, a review under 33 United States Code Section 408 (Section 14 of the Rivers and Harbors Act of 1899, as amended) will be required for approval of any proposed activity that might interfere with, injure, or impair the use of a river or harbor improvement project. This approach furthers USACE's interest, expressed throughout the Rivers and Harbors Act of 1899, in protecting the navigability of United States waters by prohibiting the use or alteration of navigation or flood control works where contrary to the public interest or where doing so would impair those works' usefulness.
- Clean Water Act Section 401 Water Quality Certification: This certification is required by the Santa Ana RWQCB.
- Surface Lease Agreement: This agreement from the CSLC may be required.

2.2 Environmental Setting

2.2.1 Regional Setting

The proposed Project area is located in the City of Newport Beach, Orange County, California (Figure 2-1). The City is located at the western edge of Orange County, adjacent to the Pacific Ocean. It is a charter city with approximately 87,182 residents that is bordered by Costa Mesa to the northwest, Huntington Beach to the west, Irvine to the northeast, Laguna Beach to the south, and unincorporated portions of Orange County to the southeast.

2.2.2 Project Setting

The proposed Project will occur within the Lower Harbor and offshore waters (Figure 2-1). Upon entering the Lower Harbor from the Pacific Ocean, the Main Channel runs the 3-mile length of the Lower Harbor, down the inside of the Balboa Peninsula, and among the seven harbor islands that make up several residential communities and villages of the City. The Coast Highway Bridge serves as the unofficial boundary of the Lower Harbor and Upper Harbor (i.e., Upper Bay). The Lower Harbor is a small craft harbor offering a wide range of recreational boating activities ranging from single-person kayaks to larger sailing and motor vessels capable of transocean navigation. Local beachfront and harbor-front communities support water-use recreational services.

The proposed CAD facility location is shown in Figures 1-1 and 2-1. The location of the proposed non-federal maintenance dredging is shaded yellow in Figure 2-3.

2.3 California Environmental Quality Act Baseline

The CEQA Guidelines (Section 15125) require EIRs to include a description of the physical environmental conditions in the vicinity of the proposed Project as they exist at the time the NOP is published, or if no NOP is published, at the time the environmental analysis is commenced, from both a local and regional perspective. These environmental conditions are referred to as the "environmental setting." Further, the CEQA Guidelines (Section 15125(a)) state that "the environmental setting normally constitutes the baseline physical conditions by which a lead agency determines whether an impact is significant." The CEQA baseline is the set of conditions that prevailed at the time the NOP is circulated.

At the time of the NOP's publication on November 18, 2019, the proposed Project area was an active harbor with no dredging operations except small maintenance dredging projects under RGP 54, which represents the baseline conditions. The discussion of each resource area in Section 3 includes a description of the existing environmental setting used in this DEIR for purposes of determining the potentially significant adverse effects of the proposed Project, if any.

2.4 Project Need and Objectives

The fundamental underlying purpose of the proposed Project is to provide a safe, efficient, and effective dredged material management option that allows for navigation maintenance dredging to proceed while protecting the marine environment and recreational users of the Lower Harbor.

Additional project objectives are as follows:

- Identify a disposal location for dredged material deemed unsuitable for open ocean disposal that meets the following requirements:
  - Contains chemically impacted sediment safely and permanently

  - Is located within the southern California area and is available for disposal
  - Accommodates a small volume of dredged material from outside the Federal Channels
- Dispose of unsuitable dredged sediment in a manner that is safe to human and ecological health and minimizes secondary environmental impacts.
- Promote beneficial reuse through beach nourishment.
- Dredge limited areas outside the Federal Channels.

2.5 Proposed Project Construction

Material will be dredged from the Federal Channels to maintain authorized navigational depths. Material in portions of Main Channel North 1 and 2, Turning Basin, and Newport Channel 1 is unsuitable for open ocean disposal. Dredging would be accomplished primarily via mechanical dredge with disposal from a split-hull barge.

The CAD facility is being constructed to accommodate approximately 106,900 cy of unsuitable dredged material anticipated to be generated by the Federal Channels maintenance dredging program and an additional 50,000 cy resulting from maintenance dredging primarily of unsuitable material from outside the Federal Channels, for a total of 156,900 cy. Clean material excavated during construction of the CAD facility will be transported to, and disposed along, the nearshore ocean beaches or transported to LA-3 for open ocean disposal.

CAD facility construction will likely occur using mechanical equipment and bottom-dump barges (also called a dump scow) to excavate the depression and deposit the resulting material within the nearshore zone along the ocean beaches of Newport Beach. Following construction of the CAD facility, unsuitable sediment will be dredged using mechanical equipment and placed within the CAD facility using a bottom-dump barge. During the time that the CAD facility is open (i.e., during placement of the unsuitable material in the CAD facility), the City and its residents will have an initial opportunity to place material dredged from outside the Federal Channels into the CAD facility. This activity will be permitted through either the City's RGP 54 or through an Individual Permit depending on the scope of work.

Sediment within the CAD facility will then be covered with clean sediment dredged from the remainder of the Federal Channels as part of USACE's maintenance dredging program. This clean sediment will serve as an interim cover containment layer to isolate the unsuitable material placed as part of Federal Channels maintenance dredging.

Approximately 2 years following completion of construction of the CAD facility and placement of an interim cover containment layer, there will be a second opportunity during a 6-month period for the City and its residents to place material determined unsuitable for open ocean disposal in

the CAD facility. The combined total allowance for the initial and second opportunity will be 50,000 cy of unsuitable material. If there is remaining capacity (within this 50,000 cy allowance) at the end of the 6-month period, the City and its residents will be able to place material from the RGP 54 Plan Area determined suitable for open ocean disposal in the CAD facility. This opportunity will provide a more cost-effective and convenient disposal location within the Lower Harbor and will bolster the CAD facility's final cap layer.

At the end of the second 6-month placement period for the public and the City, the final cap layer will be placed in the CAD facility by the City to chemically isolate the underlying sediments from burrowing organisms and biota residing in the overlying water column. This clean sediment final cap layer has been designed to a thickness of 3 feet (or 33,600 cy) of additional sediment sourced by the City. This layer will likely consist of undredged suitable material within Newport Channel 3. Other sources of sediment to be considered include future dredging at the Entrance Channel, sediment dredged under the City's RGP 54 program, and maintenance dredging at the Santa Ana River as a contingency.[2]

The final elevation of the CAD facility infill will be restricted to an elevation that is at or below the water depths necessary for navigation within the Lower Harbor as shown in Figure 2-2.

2.5.1 Construction Equipment

The contractor will utilize diesel powered mechanical dredging equipment to dredge the CAD facility, and areas outside the Federal Channels. Mechanical dredges remove sediment using some form of bucket, such as a clamshell, to carry the dredged sediment up through the water column and to a barge for off-site transport. Mechanical dredges are used for removing loose to hard, compacted sediment and are a common method for removing chemically impacted sediment. Mechanical dredges can typically be operated more accurately when dredging to specific depths below the sediment surface, which is often required for chemically impacted sediment removal. Mechanical dredging also results in less water with the sediment, requiring less disposal or management.

The most common type of mechanical dredge is the clamshell dredge. It consists of a clamshell bucket operated from a crane or derrick mounted on a flatdeck barge. It is commonly used for removing sediment in channels of a similar size as Newport Harbor, as well as around docks and piers or within other restricted areas.

Dredged sediment will then be loaded onto diesel powered bottom-dump barges for transport to the disposal destination. During loading, the flatdeck barge will be anchored in place, and a

[2] If the City identifies additional sources for the final cap layer, material will require testing and confirmation that the sourced material meets the performance criteria of sediment tested and modelled as part of the BODR (Appendix C).

bottom-dump scow will typically be side-tied. On average, these barges have a maximum capacity of approximately 2,500 cy per load. (For example, transporting 50,000 cy of dredged sediment by barge will require approximately 20 round trips.) Once full, the bottom-dump barge will either transport dredged material unsuitable for open ocean disposal to the CAD facility or, if the sediment is suitable for open ocean disposal, to the nearshore or open ocean disposal site (LA-3). A barge tender or tugboat will be used for power and maneuvering.

Photographs 2-1 and 2-2 are examples of typical equipment that will likely be used for the Federal Channels dredging project and construction of the CAD facility. (Note: these photographs were taken in 2012 during the previous Federal Channels dredging project in Newport Harbor.)

Photograph 2-1
Mechanical Dredging with Crane Mounted on Flatdeck Barge

Note:
Photograph is from a 2012 dredge event in Newport Harbor. Similar equipment is expected to be used as part of the proposed Project.

Photograph 2-2
Dredged Sediment Placed in Bottom-Dump Barge (2012 Federal Channels Dredging)

Note:
Photograph is from a 2012 dredge event in Newport Harbor. Similar equipment is expected to be used as part of the proposed Project.

2.5.2 Construction Overview

To accommodate the required volumes of expected unsuitable material and sediment capping material, the estimated size of the CAD facility is approximately 590 feet by 590 feet at the assumed top of the CAD facility footprint and approximately 435 feet by 435 feet at the base footprint; it will require dredging of approximately 282,400 cy of sediment from the existing mudline to the overdredge limit (-46 feet MLLW). This area would accommodate the following:

- 106,900 cy of sediment generated during dredging of the Federal Channels
- 50,000 cy of sediment generated from the RGP 54 Plan Area and/or other areas outside the Federal Channels

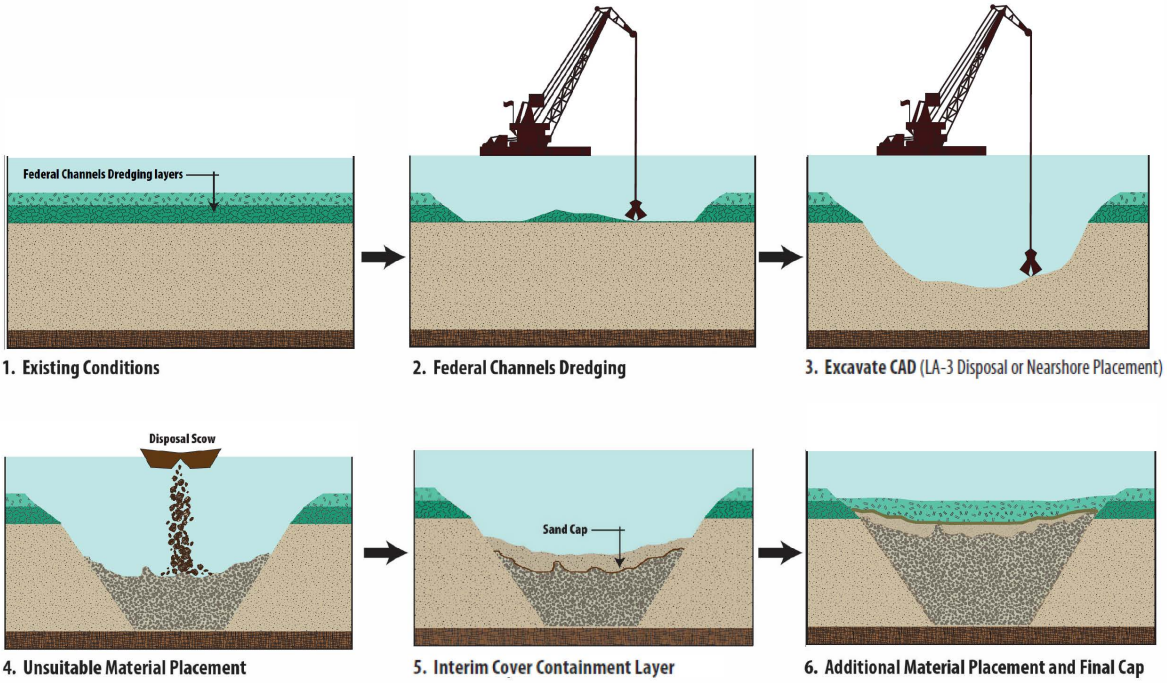
- 9,000 cy of sediment that will be dredged from the Federal Channels program to provide for the interim cover containment layer designed to a thickness of 1 foot
- 33,600 cy of sediment that will be sourced by the City to provide for the final cap layer designed to a thickness of 3 feet

The CAD facility's size and volume incorporates side slopes, final CAD facility elevation, and other engineering design considerations to safely accommodate the material and ensure the CAD facility's stability. Incorporation of these elements into the design results in a greater volume of material required to excavate the CAD facility (282,400 cy) as compared to the volume of material placed in the CAD facility (199,500 cy). Technical engineering details of the CAD facility and Federal Channels dredging are presented in Appendix C to the BODR.

2.5.2.1 Federal Channels and CAD Facility Dredging

The geology throughout most of Newport Harbor is such that there is typically fine-grained sediment in the upper layer, which comprises 3 to 5 feet overlying medium- to coarse-grained sand down to depths greater than 70 feet. As shown in Figure 2-5, the first step in construction is to dredge accumulated sediment in the CAD facility footprint. Material determined suitable for open ocean disposal from within the CAD facility footprint will be dredged to the authorized design depth of the Bay Island Area (-15 feet MLLW, plus 2 feet of allowable overdredge) using mechanical equipment and disposed of at LA-3 as part of the Federal Channels maintenance dredging program.

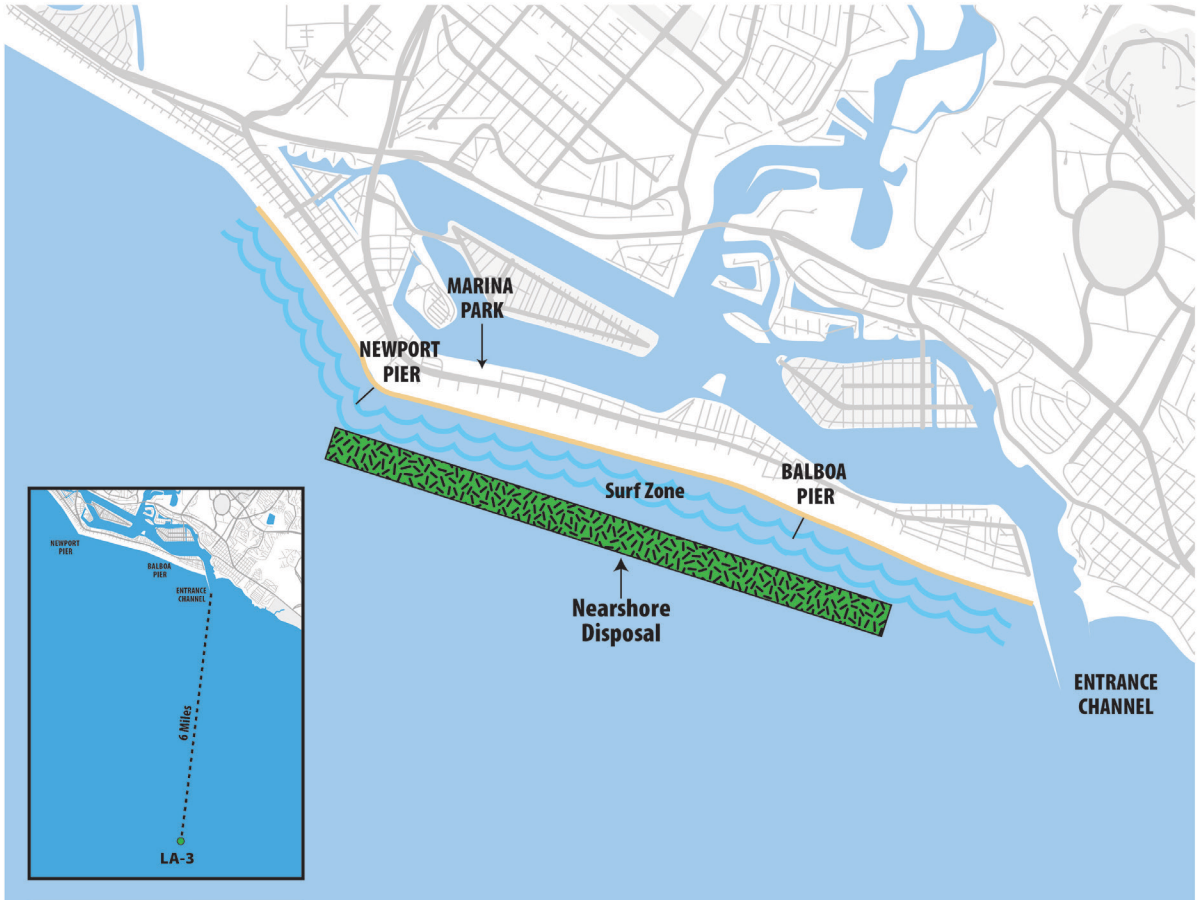
Figure 2-5
CAD Facility Construction Overview



The second step in construction involves excavating the CAD facility. This step includes dredging to a depth of -45 feet MLLW with 1 foot of allowable overdredge. Based on geotechnical data collected in and adjacent to the area of the proposed CAD facility, most of the material is coarse grained and will likely be disposed in the nearshore for ocean beach nourishment.

Finer-grained sediment will be transported to LA-3 for open ocean disposal, and sand material (greater than 80%) will be transported and disposed along nearshore ocean beaches, as presented in Figure 2-6. For sediment bound for nearshore disposal, tugboats will transport barges out through the Main Channel to the nearshore disposal zone. The bottom-dump scows will then release the material in the defined disposal area, which is typically in areas shallower than -30 feet MLLW.

Figure 2-6
Nearshore Beach Nourishment



2.5.2.2 Unsuitable Material Placement and Interim Cover Containment Layer Placement

Following dredging of the CAD facility, material determined unsuitable for open ocean disposal will be placed in the dredged depression. This includes sediment dredged by the USACE from the Main Channel 1 and 2, the Turning Basin, and Newport Channel 1

The material will be dredged from the Federal Channels maintenance dredging program using mechanical equipment and placed within the CAD facility by bottom-dump barge. Dredging will proceed in the following sequence to isolate the most chemically impacted sediments at the bottom of the CAD facility:

1. Sediments unsuitable for open ocean disposal from within the Turning Basin
2. Sediments unsuitable for open ocean disposal from within Main Channel 1 and 2
3. Sediment unsuitable for open ocean disposal within Newport Channel 1

No sediment dredged from outside Newport Harbor will be placed in the CAD facility.

During the time that the CAD facility is open (i.e., during placement of the unsuitable material in the CAD facility), the City and its residents will have an initial opportunity to place material dredged from outside the Federal Channels into the CAD facility; this will be permitted through either the City's RGP 54 or through an Individual Permit.

After sediments unsuitable for open ocean disposal have been placed within the CAD facility, a 1-foot-thick interim cover containment layer will be placed to provide temporary isolation of the underlying sediments from the sediment water interphase. It is anticipated that this cover material will be sourced from the Federal Channels (e.g., Newport Channel 3) as the maintenance dredging program continues. Approximately 9,900 cy of material will be required from the Federal Channels maintenance dredging program to provide the 1-foot-thick interim cover containment layer.

2.5.2.3 Additional Material Placement and Final Cap Layer

As previously stated, approximately 2 years following construction of the CAD facility and placement of an interim cover containment layer, there will be a second opportunity during a 6-month period for the City and its residents to place material determined unsuitable for open ocean disposal in the CAD facility. The combined total allowance for the initial and second opportunity will be 50,000 cy. If there is remaining capacity (within this 50,000 cy allowance) at the end of this 6-month period, the City and its residents will be able to place material from the RGP 54 Plan Area determined suitable for open ocean disposal in the CAD facility. This opportunity will provide a more cost-effective and convenient disposal location within the Lower Harbor and will bolster the CAD facility's final cap layer.

After the 6-month dredging window for public and City projects closes, the final cap layer will be placed to separate the underlying sediments from burrowing organisms and biota residing in the overlying water column. This final cap layer has been designed to a thickness of 3 feet, equating to approximately 33,600 cy of additional sediment that will be sourced by the City. Sourcing for this material will be coordinated between the City and agencies prior to construction but could include the following areas:

- Newport Channel 3
- Future dredging of the Entrance Channel
- Dredging projects that are permitted for open ocean disposal under the City's RGP 54 project or Individual Permit; this will also provide a more cost-effective and convenient disposal location within the Lower Harbor and contribute to the overall CAD facility cap layer
- Other maintenance dredging projects that have material suitable for open ocean disposal (e.g., Santa Ana Riverbed)

The final elevation of the CAD facility is designed to accommodate material to a final surface elevation of -22 feet MLLW. This is deeper than the currently authorized depth of -15 feet MLLW within the proposed CAD facility location. It is desirable to maintain the top elevation of the final cap layer at or below this elevation range to ensure the long-term viability of the CAD in the event the City desires to dredge this section of the Lower Harbor to a deeper depth.

2.5.3 Construction Schedule

The proposed Project is anticipated to take place over a 5-year duration. Construction of the overall project—including dredging of the Federal Channels is anticipated to begin in late 2021 and be completed by mid-2025, as depicted in Table 2-1.

Dredging will occur during normal construction hours, Monday through Friday generally between 7:00 a.m. and 6:30 p.m. and on Saturdays generally between 8:00 a.m. and 6:00 p.m., with no work on Sundays or federal holidays. Disposal activities will likely occur up to 24 hours per day, 7 days per week, to allow for the efficient use of dredging equipment during normal construction hours and to complete the proposed Project as quickly as possible.

As shown in Table 2-1, construction will not be continuous over the 2021 to 2025 period, and there will be several periods with no active construction. Construction equipment will be relocated during these periods. This conceptual schedule and construction sequence were developed based on current design knowledge, professional judgment, and experience from similar projects and may be modified.

Table 2-1
Anticipated Construction Schedule

Construction Phase	Construction Schedule		Total Working Days	Construction Equipment		
	Start Date	End Date		Equipment Type	Number of Equipment	Hours per Day
Phase 1: Lower Newport Bay Federal Channels Dredging (Suitable for Open Ocean Disposal) and Placement at LA-3						
Phase 1a: Mobilization (Larger Dredge Equipment)	11/15/2021	12/6/2021	15	Mobile Office	1	10
				Mechanical Dredge	1	2
				Crew/Work Boat	2	5
				Tugboat	1	2
				Split-Hull Barge	2	3
Phase 1b: Dredge Suitable Material in Federal Channels	12/7/2021	7/15/2022	157	Mobile Office	1	10
				Mechanical Dredge	1	10
				Crew/Work Boat	2	5
				Tugboat	1	8[a]
				Split-Hull Barge	2	3
Phase 2: CAD Facility Dredging and Placement in Nearshore Placement Area and LA-3						
Phase 2a: Excavate CAD	7/15/2022	10/3/2022	57	Mobile Office	1	10
				Mechanical Dredge	1	10
				Crew/Work Boat	2	5
				Tugboat	1	8[b,c]
				Split-Hull Barge	2	3
Phase 3: Federal Channels Dredging (Unsuitable for Open Ocean Disposal) and Placement at CAD Facility						
Phase 3a: Dredge Unsuitable Material and Place in CAD	10/4/2022	11/5/2022	24	Mobile Office	1	10
				Mechanical Dredge	1	10
				Crew/Work Boat	2	5
				Tugboat	1	5[d]
				Split-Hull Barge	2	3

Construction Phase	Construction Schedule		Total Working Days	Construction Equipment		
	Start Date	End Date		Equipment Type	Number of Equipment	Hours per Day
Phase 4: Newport Channel 3 Dredging and Placement in CAD Facility for Interim Cover Containment Layer						
Phase 4a: Dredge Newport Channel 3 for Interim Cover Containment Layer	11/5/2022	11/9/2022	2	Mobile Office	1	10
				Mechanical Dredge	1	10
				Crew/Work Boat	2	5
				Tugboat	1	5[d]
				Split-Hull Barge	2	3
Phase 5: Dredging Outside the Federal Channels and Placement in CAD Facility						
Phase 5a: Mobilization (Smaller Dredge Equipment)	11/11/2024	12/2/2024	15	Mechanical Dredge	1	2
				Crew/Work Boat	2	5
				Tugboat	1	5[d]
				Split-Hull Barge	2	3
Phase 5b: Dredging Window *(please note, dredging would not occur continuously during this window)*	12/3/2024	5/20/2025	25[e]	Mechanical Dredger	1	10
				Crew/Work Boat	2	5
				Tugboat	1	5[d]
				Split-Hull Barge	2	3
Phase 5c: Demobilization	5/21/2025	6/10/2025	15	Mechanical Dredge	1	2
				Crew/Work Boat	2	5
				Tugboat	1	2
				Split-Hull Barge	2	3

Construction Phase	Construction Schedule		Total Working Days	Construction Equipment		
	Start Date	End Date		Equipment Type	Number of Equipment	Hours per Day
Phase 6: Dredging Newport Channel 3 and Placement in CAD Facility for Final Containment Layer Cap						
Phase 6a: Mobilization (Smaller Dredge Equipment)	6/11/2024	7/1/2024	15	Mechanical Dredger	1	2
				Crew/Work Boat	2	5
				Tugboat	1	5[d]
				Split-Hull Barge	2	3
Phase 6b: Dredge Newport Channel 3 and Place in CAD for Final Cap	7/2/2024	7/25/2025	17	Mechanical Dredge	1	10
				Crew/Work Boat	2	5
				Tugboat	1	5[d]
				Split-Hull Barge	2	3
Phase 6c: Dredge Remaining Material in Newport Channel 3	7/25/2025	8/19/2025	18	Mechanical Dredge	1	10
				Crew/Work Boat	2	5
				Tugboat	1	5[d]
				Split-Hull Barge	2	3
Phase 6c: Demobilization	8/20/2025	9/9/2025	15	Mechanical Dredge	1	2
				Crew/Work Boat	2	5
				Tugboat	1	2
				Split-Hull Barge	2	2

Notes:
Construction is expected to take place 6 days per week for 10-hour days. No work will occur on Sundays or federal holidays.

a. It is expected that two round trips at approximately 3.5 hours each will occur for sediment disposal at LA-3. As such, a daily use for the tug is expected to be 8 hours.
b. It is expected that two round trips at approximately 2 hours each will occur for the nearshore placement area. As such, a conservative estimate of 5 hours has been applied.
c. Placement is expected at both the nearshore placement area and LA-3. To be conservative, daily use for the tugboat is expected to be 8 hours in accordance with requirements for disposal at LA-3.
d. It is expected that two round trips at approximately 2 hours each will occur at the CAD facility. As such, a daily use for the tugboat is expected to be 5 hours.
e. Total dredging is expected to take 25 working days to complete. The duration of this phase is based on a 6-month window for residents and public projects to place material within the CAD facility.

2.5.4 Best Management Practices

The City is committed to avoiding or minimizing environmental effects during dredging and disposal activities. The following BMPs will be required as a condition of the proposed Project and incorporated into the proposed Project plans and contract specifications as appropriate:

- Rules and methods set out by the CSTF LTMS BMP toolbox (CSTF 2005) during dredging activities shall be provided to the dredge contractor to satisfy federal and state water quality requirements.
- General construction BMPs, including removing floating debris, implementing a water quality monitoring plan, preventing barge overflow, adjusting dredge cycle time and bucket velocity as it is raised and lowered, modifying bucket size or type if necessary, modifying the operation of the dredging equipment to minimize resuspension of sediment, and washing the bucket to remove cohesive sediment, will be implemented if necessary.
- Prior to construction, the proposed Project area will be surveyed for the invasive alga *Caulerpa* (*Caulerpa taxifolia)* and eelgrass (*Zostera marina*) in compliance with federal and state protocols. (An eelgrass survey is provided in Appendix E.)
- Contractors will be required to have emergency spill response plans and employ general BMPs regarding vessel and equipment maintenance and fueling.

Section 3 includes a discussion of BMPs specific to resource areas.

2.5.5 Long-Term Monitoring

An Operations, Management, and Monitoring Plan (OMMP) for the CAD facility has been developed for implementation by the City (Appendix H to the BODR). The OMMP describes the management and monitoring objectives for the CAD facility, a communications plan covering the entire CAD facility construction and sediment disposal process, construction monitoring and post-disposal monitoring plans, contingency plans, annual monitoring plans, and long-term management plans for the CAD facility once it has been capped.

3 Environmental Impact Analysis

This section discusses the CEQA requirements and terminology used in the environmental impact analysis. The environmental resource analysis sections discuss the reasonably foreseeable and potentially significant adverse effects of the proposed Project on the specific environmental resource areas. As discussed in Sections 1.1 and 2.1. because the City's proposed Project is reliant on the Federal maintenance dredging program, the analysis in Section 3 considers the whole of the proposed Project, including federal maintenance dredging. To assist the reader in comparing information about the various environmental issues, Sections 3.1 through 3.12 each contain the following information for the specific resource area:

- **Environmental Setting:** The physical conditions at the time of release of the NOP or the beginning of preparation of the EIR, as explained in each specific resource chapter
- **Regulatory Setting:** The rules, regulations, and plans specific to the proposed Project and resource area
- **Methodology for Determining Impacts:** A description of the quantitative or qualitative methods used to analyze potential impacts, including specific thresholds of significance (the criteria against which the analysis results are compared)
- **Impacts of the Proposed Project:** Potential impacts are compared to the thresholds of significance to determine their level of significance
- **Mitigation Measures:** Mitigation measures of significant adverse impacts of the Project, as well as a plan to implement the mitigation measures, and findings of significance after the measures are implemented, are provided where significant impacts are identified

In accordance with Section 15064 of the CEQA Guidelines, the environmental impact analysis for each resource section (Sections 3.1 through 3.12) includes an evaluation of the reasonably foreseeable direct and indirect physical changes in the environment that may be caused by the proposed Project. Factors that may be affected by the proposed Project are evaluated using the criteria set forth in Appendix G of the CEQA Guidelines ("Environmental Checklist") as amended (December 2018). Pursuant to Section 15382 of the CEQA Guidelines, an impact is considered significant if it would result in the following:

> A substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

Short- and long-term impacts are also considered. Short-term impacts are of a limited duration, such as those that occur during a construction phase. Long-term impacts are those of a greater duration, such as those that would encompass the proposed Project duration and beyond.

As reflected in 14 CCR 15126, impacts resulting from the proposed Project on environmental resources can be included in one of the following categories:

- **No Impact:** No impact to the identified environmental resource would occur as a result of the proposed Project.
- **Less than Significant:** Some impacts to the environmental resource may result from the proposed Project; however, the impacts do not reach the threshold of significance.
- **Potentially Significant but Mitigation Measures are Available to Reduce Impacts to a Less-than-Significant Level:** Significant adverse impacts may occur; however, with appropriate mitigation, they can be reduced to a less-than-significant level.
- **Significant and Unavoidable Adverse Impacts:** The environmental effect reaches or exceeds the threshold of significance even after mitigation measures have been applied to minimize their severity, or no mitigation is available to reduce the impacts to a less-than-significant level.

As discussed in Section 1.4, the following resource areas are not analyzed in Section 3:

- **Agriculture and Forestry Resources:** Neither the proposed Project area nor the immediate surrounding areas currently support agricultural use or forestry resources.
- **Energy:** The proposed Project would not require any unusual or excessively inefficient construction equipment or practices compared to projects of similar type and size. Operation of the CAD facility would not require and direct sources of use.
- **Mineral Resources:** The proposed Project area does not include a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.
- **Population and Housing:** No new homes would be constructed as a result of the proposed Project, nor are there housing units in the proposed Project area.
- **Public Services:** The proposed Project area is adequately served by the City Fire Department and City Police Department. The proposed Project would not result in increased demand on any existing facilities or services, including fire protection, police, schools, or parks.
- **Transportation:** The Transportation Section of the IS focuses on land-based transportation systems. Maritime transportation is addressed in Section 3.11.
- **Utilities and Service Systems:** The proposed Project will not affect utilities and service systems because it consists of removal of unsuitable sediment from the proposed Project area for barge transport to the CAD facility and does not result in additional demands on existing utilities and service systems or create future demands on them.

- **Wildfire:** The proposed Project area is in the Lower Harbor with all work located within the aquatic zone, which is not considered as a risk of wildfire. Therefore, the proposed Project precludes the potential for wildfire impacts.

The potential cumulative impacts of the proposed Project, when considering past, present, and reasonably anticipated future projects that may cause related impacts, are also considered for each environmental resource area as summarized in Section 4. Irreversible environmental changes that would be caused by the proposed Project and growth-inducing impacts of the proposed Project are identified in Section 5. In Section 6, the alternatives are compared to the proposed Project and CEQA baseline and ranked relative to each other based on anticipated impacts for each resource area to determine the environmentally preferred alternative.

3.1 Aesthetics

Section 3.1 describes the existing aesthetics and visual resources in the proposed Project's surrounding area, assesses the impact of the proposed Project on these resources, and identifies the plans and policies of applicable planning documents while evaluating the proposed Project's consistency with those plans and policies. The study area for this resource topic is Lower Newport Bay (CAD facility and dredging sites) and the nearshore Pacific Ocean. This resource topic does not consider potential aesthetics impacts of the proposed Project at LA-3 nor beyond Lower Newport Bay and the nearshore Pacific Ocean (i.e., travels between Lower Newport Bay and LA-3), because LA-3 is an already permitted site.

3.1.1 Environmental Setting

3.1.1.1 Local Setting

The proposed Project would be located in the City of Newport Beach, Orange County, California. The City is at the western edge of Orange County, adjacent to the Pacific Ocean. It is a charter city with approximately 87,182 residents and is bordered by Costa Mesa to the northwest, Huntington Beach to the west, Irvine to the northeast, Laguna Beach to the south, and unincorporated portions of Orange County to the southeast.

Development in the City has been designed to capture views of the Pacific Ocean and Newport Harbor, capitalizing on the ridgelines and hillsides as vantage points. The Pacific Ocean provides the predominant visual setting for most of the City's scenic attributes. The bay and Newport Harbor areas also provide picturesque natural and nautical views associated with the ocean (City 2006a). A few streets and highways in the City also provide coastal view corridors to the ocean and bay. The City also contains "view parks," which are smaller passive parks designed to take advantage of a significant view (City 2006a). Coastal bluffs exist within the City and provide viewpoints of Newport Harbor. These bluffs are located along the shoreline of Corona del Mar, Shorecliffs, and Cameo Shores, as well as the Upper Bay, Semeniuk Slough, and the Banning Ranch Property (City 2006b).

The General Plan's Natural Resources Element (City 2006a, Figure NR3 "Coastal Views") and certified Local Coastal Program (LCP) identify State Route (SR)-73 (which crosses San Diego Creek adjacent to the proposed Project area) and Jamboree Road (from University Drive to SR-73) as Coastal View roads.

3.1.1.2 Project Setting

Upon entering Newport Harbor from the Pacific Ocean, the Main Channel runs the 3-mile length of the Lower Harbor, down the inside of the Balboa Peninsula, and among the seven harbor islands that make up several residential communities and villages of the City. The Coast Highway Bridge serves as the unofficial boundary of the Lower Harbor and Upper Harbor (i.e., Upper Bay). Lower Newport Bay

includes approximately 844 acres, which encompass the proposed Project, including the Federal Channels and the CAD facility, as well as the nearshore Pacific Ocean.

The Lower Harbor is a developed small craft harbor offering a wide range of recreational boating activities ranging from single-person kayaks to larger sailing and motor vessels capable of trans-ocean navigation. The nearshore Pacific Ocean supports various beach activities. Local beachfront and harbor-front communities support water-use recreational and commercial services, as well as residential areas. Oil wells are also part of the landscape and tanker ships are regularly seen near the Pacific Ocean coast due to the close proximity of the Port of Long Beach and Port of Los Angeles.

3.1.1.3 Study Area Setting and Viewshed

Existing conditions of the study area are depicted in Photographs 3-1 through 3-5. The proposed Project is within an area of Lower Newport Bay and the nearshore Pacific Ocean that offers views to people using the area for recreational activities such as boating, sailing, kayaking, surfing, and beach bathing. Harbor and coastal views are also provided from streets and highways, as well as from municipal beaches and parks and commercial venues. Besides the waters of the Lower Harbor, the surrounding land areas include residential and commercial developments. As shown in the photographs, the immediate surrounding land area is generally flat with areas of dense buildings.

The proposed CAD facility and dredging would be visible from several public vantage points, including the SR-1 Bridge (Photograph 3-1), beaches and parks (Photographs 3-2 and 3-4), and public spaces (Photograph 3-3). As shown in Photographs 3-1 through 3-4, the proposed Project is within the recreational harbor with a mixture of expansive open views, such as from the SR-1 Bridge depicted in Photograph 3-1, to views obstructed by boats and in-water structures, as depicted in Photographs 3-3 and 3-4. The CAD facility along with the various dredging locations are also visible from approximately 15 City-designated and recognized viewpoints and view parks, including Marina Park, Peninsula Park, and Balboa Island Park, and the Carroll Beek Community Center.

While most of the shoreline in Newport Beach is accessible, there is no public access from Harbor Island, Linda Isle, Collins Island, and Bay Island because these are private islands. Public views from Balboa Island, Newport Island, and Lido Isle, would also be limited because the islands are mostly flat, and there are private residences blocking public views of the Lower Harbor. On Lido Isle, the public view opportunities are limited to small parks and beaches, such as the Lido Isle Community Park located at the south portion of Via Waziers (Photograph 3-5).

There are public views from the ocean-facing beaches and the Balboa and Newport Piers. Views of boats and marine features are also important component of the landscape. The nearshore placement activities would occur approximately 1,000 feet offshore from the coastline and public beaches.

Photograph 3-1
Existing View from State Route 1 Bridge, Looking South

Photograph 3-2
Existing View from Public Beach at 10th Street, Looking Northeast

Photograph 3-3
Existing View from 9th Street-End, Looking North

Photograph 3-4
Existing View from Buena Vista Boulevard and Edgewater Avenue, Looking Northwest

Photograph 3-5
Existing View from Lido Isle Community Park (Via Waziers Street-End), Looking Southwest

Artificial light occurs within the proposed Project area during the evening and nighttime hours, originating from streetlights, illuminated signage, vehicle headlights, occupied boats, and other existing urban and marine point sources. Glare is primarily caused by the reflection of sunlight or artificial light from highly polished surfaces or reflective materials. As described in the General Plan (City 2006a), most of the City is urbanized; therefore, significant ambient light from urban uses already exists. Sources of light and glare in the proposed Project area also include reflective surfaces—lights from boats and aids to navigation, such as buoys, channel markers, or lighthouses; glass building facades; streetlights; and signs from commercial buildings that surround the proposed Project area.

3.1.2 Applicable Regulations

3.1.2.1 California's Scenic Highway Program

California's Scenic Highway Program was created by the State Legislature in 1963 with the purpose of protecting and enhancing the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. A list of California's scenic highways and a map showing their locations may be obtained from the California Department of Transportation's (Caltrans's) Scenic Highway Coordinators. There are no designated State Scenic Highways in the proposed Project area. However, Caltrans identifies SR-1 as eligible for State Scenic Highway designation. A State Scenic Highway changes from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a State Scenic Highway (City 2006b). The closest State Scenic Highway to the proposed Project is the portion of SR-91 from SR-55 to East Anaheim, officially designated on November 15, 1971. This roadway is located approximately 20 miles to the northeast of the proposed Project.

3.1.2.2 California Coastal Act

The California Coastal Act of 1976 (CCA; PRC 30000 et seq.) establishes policies guiding development and conservation along the California coast. Section 30001 of the CCA finds "that the permanent protection of the state's natural and scenic resources is a paramount concern to present and future residents of the state and nation." The scenic and visual qualities of coastal areas need to be considered and protected as resources of public importance (PRC 30251). Permitted development needs to be sited and designed to protect views to and along the Pacific Ocean and scenic coastal areas to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and where feasible, to restore and enhance visual quality in visually degraded areas.

3.1.2.3 City of Newport Beach General Plan

The City's General Plan (City 2006a) was adopted in July 2006 and approved in November 2006. The General Plan recognizes that the City is primarily a residential community with diverse coastal and upland neighborhoods. Because the City is almost fully developed, the General Plan focuses on conserving the existing pattern of land uses and establishes policies for their protection and long-term maintenance. The General Plan's Vision Statement includes preservation of public views of the ocean, harbor, and bay, and several goals and policies related to aesthetics and visual resources are applicable to the proposed Project.

The following policies included in the General Plan's Land Use (LU), Natural Resource (NR), and Harbor and Bay (HB) Element chapters may apply to the proposed Project:

- **LU 1.6 Public Views:** Protect and, where feasible, enhance significant scenic and visual resources that include open space, mountains, canyons, ridges, ocean, and harbor from public vantage points.
- **LU 6.19.9 Harbor and Bay Views and Access:** Require that buildings be located and sites designed to provide clear views of and access to the Newport Harbor and Bay from the Coast Highway and Newport Boulevard rights-of-way in accordance with the following principles, as appropriate:
    - Clustering of buildings to provide open view and access corridors to Newport Harbor
    - Modulation of building volume and masses
    - Variation of building heights inclusion of porticoes, arcades, windows, and other "see-through" elements in addition to the defined open corridor
    - Minimization of landscape, fencing, parked cars, and other nonstructural elements that block views and access to Newport Harbor
    - Prevention of the appearance of the public right-of-way being walled off from Newport Harbor
    - Inclusion of setbacks that in combination with setbacks on adjoining parcels cumulatively form functional view corridors
    - Encouragement of adjoining properties to combine their view corridors that achieve a larger cumulative corridor than would have been achieved independently
    - A site-specific analysis shall be conducted for new development to determine the appropriate size, configuration, and design of the view and access corridor that meets these objectives, which shall be subject to approval in the Development Plan review process
- **NR 20.3 Public Views:** Protect and enhance public view corridors from the following roadway segments (as shown in Figure NR3 of the General Plan)
    - Back Bay Drive
    - Balboa Island Bridge
    - Bayside Drive from Coast Highway to Linda Island Drive
    - Bayside Drive at Promontory Bay
    - Coast Highway/Santa Ana River Bridge
    - Coast Highway/Newport Boulevard Bridge and Interchange
    - Coast Highway from Newport Boulevard to Marino Drive
    - Coast Highway/Newport Bay Bridge
    - Coast Highway from Jamboree Road to Bayside Drive
    - Eastbluff Drive from Jamboree Road to Back Bay Drive
    - Irvine Avenue from Santiago Drive to University Drive

- Jamboree Road from Eastbluff Drive/University Drive to SR-73
- Jamboree Road in the vicinity of the Big Canyon Park
- Jamboree Road from Coast Highway to Bayside Drive
- Lido Island Bridge
- Newport Boulevard from Hospital Road/Westminster Avenue to Oceanfront Boardwalk at 25th Street Beach
- Newport Center Drive from Newport Center Drive E/W to Farallon Drive/Granville Drive
- Ocean Boulevard
- SR-73 from Bayview Way to University Drive
- Superior Avenue from Hospital Road to Coast Highway
- University Drive from Irvine Avenue to the Santa Ana-Delhi Channel

- **NR 23.1 Maintenance of Natural Topography:** Preserve cliffs, canyons, bluffs, significant rock outcroppings, and site buildings to minimize alteration of the site's natural topography and preserve the features as a visual resource.
- **HB 9.2 Protection of Beach Profile:** Permit and design bulkheads and groins to protect the character of the existing beach profiles and to restore eroded beach profiles found around Newport Harbor and island perimeters, and the safe navigation and berthing of vessels.
- **HB 9.3 Structures Impacting Visual Resources:** Limit structures bayward of the bulkhead line to piers, floats, groins, appurtenances related to marine activities, and public walkways.

3.1.2.4 City of Newport Beach Coastal Land Use Plan

The proposed Project is located within the coastal zone and, as discussed in Section 3.9 (Land Use and Planning) of this DEIR, is subject to the requirements of the CLUP (City 2019b), which was amended by the CCC in October 2019 and adopted in January 2019. Section 4.4 of the CLUP discusses scenic and visual resources policies, including coastal view protection. Where feasible, the scenic and visual qualities of the coastal zone—including public views to and along the ocean, bay, and harbor—are to be protected. The following CLUP (City 2019b) policies apply to the proposed Project:

- **4.4.1-1:** Protect and, where feasible, enhance the scenic and visual qualities of the coastal zone, including public views to and along the ocean, bay, and harbor and to coastal bluffs and other scenic coastal areas.

3.1.3 Environmental Impacts and Mitigation Measures

3.1.3.1 Baseline

At the time of publication of the EIR for the proposed Project, the project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters south of Newport Beach, is an active recreational harbor and public beach with no dredging operations except periodic and limited

RGP 54 maintenance dredging. Historically, however, periodic maintenance dredging to remove sediment that accumulates over time and impedes navigation has occurred in the proposed Project area. As described in Section 2.1.2, Lower Newport Bay was last dredged between May 2012 and January 2013, with similar equipment and barges that would be used during the proposed Project.

3.1.3.2 Thresholds of Significance

For purposes of this DEIR, the following thresholds, which are based on Appendix G of the CEQA Guidelines (Environmental Checklist), were used to determine whether the proposed Project would result in a potentially significant adverse impact on aesthetics if it would:

- **AES-1:** Have a substantial adverse effect on a scenic vista.
- **AES-2:** Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway.
- **AES-3:** In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. If the project is in an urbanized area, the project would conflict with applicable zoning and other regulations governing scenic quality.
- **AES-4:** Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

3.1.3.3 Methodology for Determining Impacts

The aesthetics analysis of this DEIR focuses on the potential loss of scenic resources or the introduction of contrasting features that could substantially degrade the visual character of the proposed Project area. The analysis also addresses the proposed Project's consistency with applicable zoning and other regulations and policies.

Aesthetic issues, such as a project's potential to affect public and private views, are properly considered under CEQA by lead agencies that have discretion to determine whether to classify an impact described in an EIR as "significant," depending on the nature of the area affected (CEQA Guidelines Section 15064[b]). In exercising its discretion, a lead agency must necessarily make a policy decision in distinguishing between substantial and insubstantial adverse environmental impacts based, in part, on the setting. Under CEQA, moreover, the question is whether a project will affect the environment of persons in general, not whether a project will affect particular persons. As discussed in Section 2.5, the contractor would use mechanical dredging equipment to dredge the CAD facility and to dredge both the Federal Channels and areas outside the Federal Channels. Dredged sediment would be loaded onto haul barges for transport to the disposal destination. During loading, the clamshell derrick barge would be secured by either spudding in place or through a triangular anchor system, and the dump scow would typically be side-tied to the derrick barge. Once full, the bottom-dump barge would transport the dredged material via tugboat. Photographs 2-1 and 2-2 are examples of typical equipment that would likely be used for dredging

projects and construction of the CAD facility. Construction of the overall project—including dredging of the Federal Channels—is anticipated to begin in 2021 and be completed by mid-2024, as depicted in Table 2-1. Dredging would occur during normal construction hours, Monday through Friday generally between 7:00 a.m. and 6:30 p.m. and on Saturday generally between 8:00 a.m. and 6:00 p.m., with no work on Sundays or federal holidays. Equipment would be in the Lower Harbor during active times of construction but would be demobilized and relocated during periods of inactivity.

Daytime view photograph-realistic perspectives of the equipment, which would be used to construct the proposed CAD facility at the proposed location, were developed using 3D modeling software (SketchUp) and representative photographs of design features (Photographs 3-1, 3-2, and 3-4). These input features were combined over existing base photographs using Adobe Photoshop and are shown in Figures 3-2, 3-3, and 3-4, along with their geographical locations (Figure 3-1). These figures are used to analyze the potential changes to viewsheds as a result of the proposed Project.

As such, this visual impact analysis is based on field observations, a review of site plans and aerial photographs, photographs of the proposed Project area, and computer simulations of the proposed Project. Analysis of the proposed Project's visual impacts is based on evaluation of the changes to the existing visual resources that would result from proposed Project implementation. In determining the extent and implications of the visual changes, consideration was given to the following:

- Existing visual qualities of the affected environment and specific changes in the visual character and qualities of the affected environment
- The visual context of the affected environment
- The extent to which the affected environment contains places or features that provide unique visual experiences or that have been designated in plans and policies for protection or special consideration
- The sensitivity of viewers, access of viewers, their activities, and the extent to which these activities are related to the aesthetic qualities affected by the proposed Project-related changes

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Figure 3-1
View Simulation Locations

Draft Environmental Impact Report
Lower Newport Bay Confined Aquatic Disposal (CAD) Construction Project (PA2019-020)

Figure 3-2
View Simulation from State Route 1 Bridge, Looking South

Figure 3-3
View Simulation of the CAD Construction from Public Beach at 10th Street, Looking Northeast

Figure 3-4
View Simulation of the CAD Facility Construction from Buena Vista Boulevard and Edgewater Avenue, Looking Northwest

3.1.3.4 Impact Analysis

3.1.3.4.1 AES-1: Except as provided in Public Resources Code Section 21099, would the project have a substantial adverse effect on a scenic vista?

As discussed in Section 3.1.1, views from and of Newport Harbor and public beaches are considered public scenic vistas, as identified in the CCA and the City's General Plan (City 2006a). The City has identified 55 designated and recognized viewpoints that provide coastal views as significant vistas in Figure NR3 of the General Plan. Approximately 15 public viewpoints of the 55 recognized viewpoints would provide views of the proposed Project in the Lower Harbor and the nearshore Pacific Ocean. These include coastal bluffs that provide expansive views of the Lower Harbor. The proposed Project would also be visible from view parks—including Marina Park, Peninsula Park, and Balboa Island Park—and the Carroll Beek Community Center. As for the nearshore Pacific Ocean, there are public views from the ocean-facing beaches, as well as Balboa Pier and Newport Pier. Public views also include those provided by boats and other marine recreational watercraft using the Lower Harbor for recreational and navigational purposes. In addition, views of boats and marine features are also an important component of the landscape. As shown in Photographs 3-1, 3-2, 3-3, 3-4, and 3-5, the Lower Harbor contains many boats, docks, and other marine features that allow for few wide-open views.

Views from the Public Beach at 10th Street (Photograph 3-2); streets-ends, such as 9th Street, (Photograph 3-3); and from a small path along Buena Vista Boulevard up to Edgewater Avenue (Photograph 3-4) are representative of public views of the proposed CAD facility. Public views from Balboa Island, Newport Island, and Lido Isle would be more limited because the islands are mostly flat, and there are private residences blocking public views of the Lower Harbor. On Lido Isle, the public view opportunities are limited to small parks and beaches, such as the Lido Isle Community Park, located at the south portion of Via Waziers street-end (Photograph 3-5). Although views exist, the Lower Harbor contains many boats, docks, and other marine features that allow for few wide-open views from a pedestrian perspective.

Dredging and nearshore beach replenishment would be visible from the various public viewpoints, as well as to people using the Lower Harbor for recreational activities such as boaters, sailors, stand-up paddleboarders, and kayakers. As described in Section 2.5.1, the contractor would use mechanical dredging equipment to construct the CAD facility to dredge the Federal Channels and areas outside the Federal Channels and to transport material to the nearshore placement area. While this equipment would be visible during Federal Channels and Lower Harbor dredging, the equipment would be moved regularly; therefore, any changes to views would be temporary. Likewise, the nearshore placement activities would occur approximately 1,000 feet offshore of the coastline and public beaches during two placement events, with each event taking 2 to 3 hours over 2 days. Initial

construction of the CAD facility is expected to take approximately 60 days with equipment in a fixed location.

Visual simulations were developed to illustrate the potential change in views during CAD facility construction. The visual simulations assumed typical measurements for the split-hull scow, barge, and tugboat, which are 189 feet by 45 feet, 150 feet by 54 feet, and 74 feet by 27 feet, respectively. The construction equipment would not occupy the full footprint of the CAD facility itself.

As demonstrated in Figures 3-1, 3-2, 3-3, and 3-4, the construction equipment used to construct the CAD facility would be visible from various locations within the Lower Harbor. Figure 3-1 illustrates the proposed view of the CAD facility construction from SR-1. As shown, the equipment would be minimally visible. Figure 3-2 shows the location of the CAD facility from a public beach, and Figure 3-3 shows the location of the CAD facility from Buena Vista Boulevard. As shown, the CAD facility equipment would be more prominent in these views.

While the CAD facility equipment would be visible from public viewsheds, impacts would only be temporary and limited to the area where construction is occurring. Similarly, during nourishment of the ocean beaches, these beaches may temporarily be affected by changes in sand color and turbidity. Nourishment of beaches is expected to last approximately 2 days. Once beach nourishment has occurred, it is expected that the visual landscape would not be changed in the long term.

Impact Determination: While the proposed Project includes construction activities that may be visible from a scenic viewpoint within the Lower Harbor and along the shoreline, the proposed Project would not have a substantial adverse effect on a scenic vista. The proposed Project would not result in permanent changes to the aesthetics and visual resources of the proposed Project area. For these reasons, adverse effects to scenic vistas would be less than significant.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.1.3.4.2 AES-2: Except as provided in Public Resources Code Section 21099, would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?

Scenic resources are the visible physical features of a landscape and historic structures that contribute to a unique and exemplary visual setting. The closest State Scenic Highway to the proposed Project is the portion of SR-91 from SR-55 to East Anaheim, officially designated on November 15, 1971. This roadway is located approximately 20 miles to the northeast of the proposed Project, and the proposed Project would not be visible from any portion of this highway. Although there are no officially designated State Scenic Highways in the City, SR-1 is identified as eligible for State Scenic Highway designation by Caltrans. Many natural features, such as the ocean

and bay, are visible from SR-1, with open coastal views that would be considered scenic resources. The City has identified roadway segments of SR-1 and approximately 60 viewpoints that provide coastal views as significant vistas. As shown on Photograph 2-1 and Figure 3-1, the CAD facility construction activities would also be visible in the far distance from SR-1 Bridge.

Impact Determination: While not visible from a designated highway, the proposed Project is visible from SR-1. However, dredging and CAD construction would not be located directly on a scenic highway, nor would it substantially damage trees, rock outcroppings or historic buildings given the nature of the Project; therefore, the proposed Project would not damage scenic resources visible from a state scenic highway. For these reasons, adverse effects to scenic resources, including the Lower Harbor itself, would be less than significant.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.1.3.4.3 AES-3: Except as provided in Public Resources Code Section 21099, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Following construction of the CAD facility and dredging activities, the surface water views of the proposed Project area would return to existing baseline conditions. However, the proposed Project includes construction activities that would be visible and could potentially temporarily alter the existing visual character or quality of public views of the area and its surroundings. As described in AES-1, the CAD facility and dredging activities would be visible in the far distance from the SR-1 Bridge and from the Peninsula, including from the Public Beach at 10th Street, street-ends, such as 9th Street, and from a small path along Buena Vista Boulevard up to Edgewater Avenue.

Impact Determination: As discussed in AES-1, visual impacts would be temporary and limited to the immediate area where the construction activity is occurring. As such, the impacts to visual character or quality of public views of the area and its surroundings would be temporary and, therefore, not a substantial adverse impact on the visual character of the area. The proposed Project is consistent with all applicable zoning and regulations discussed previously governing aesthetics and scenic quality for projects located in urbanized areas. Implementation of the proposed Project would ensure the maintenance of the existing visual character of the proposed Project area and its surroundings (Tidelands and Submerged Lands Land Designation and recreational harbor use). For the reasons explained above, the impacts would be less than significant.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.1.3.4.4 AES-4: Except as provided in Public Resources Code Section 21099, would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

The proposed Project would not create a new source of substantial light or glare that would adversely impact views in the area. Construction of the CAD and dredging activities would not use reflective material. Construction of the CAD and dredging activities would be limited to normal construction times as described in the project description (Monday through Friday, from 7:00 a.m. to 6:30 p.m.) and, as needed, Saturdays between 8:00 a.m. and 6:00 p.m. Disposal activities could occur up to 24 hours per day, 7 days per week, however, to allow for the efficient use of dredging equipment during normal construction hours and to complete the proposed Project as quickly as possible. Lights from nighttime equipment would be similar to existing nautical uses and barge equipment used in the past for safety purposes. In accordance with requirements for vessels 12 meters or more in length but less than 50 meters in length (CFR 33.83.22), the dump scow and tugboat used for disposal activities would have navigation lights that are visible between 2 and 5 miles and that are white or colored illumination. As described in Section 3.1.1, sources of light and glare in the proposed Project area also include reflective surfaces, and lights from boats and aids to navigation, such as buoys, channel markers, or lighthouses. The addition of two vessels (barge and tugboat) in the proposed Project area would not induce a significant change in nighttime lighting for the proposed Project and surrounding area. Therefore, even if disposal activities occurred throughout the night, there would be no anticipated substantial adverse change in nighttime lighting in the Project and immediately surrounding area, or any long-term or permanent additional operational lighting as part of the proposed Project.

Impact Determination: The proposed Project would create temporary sources of light during periods of construction but would not create a permanent new source of light in comparison to baseline conditions. For these reasons, adverse effects to daytime and nighttime views in the area are expected to be less than significant.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.2 Air Quality

This section describes existing air quality conditions in the proposed Project area and analyzes how the proposed Project may affect air quality. It also describes the applicable rules and regulations pertaining to air quality that govern the proposed Project. For the purposes of the air quality analysis, the study area is defined as the proposed construction sites (CAD facility, dredging sites, nearshore disposal site, and LA-3) and the surrounding area, including all of Lower Newport Bay. The closest sensitive receptor to the proposed Project is a residential area located approximately 500 feet to the east of the proposed CAD facility location. The closest residential receptor to any point of construction are residences located within 100 feet of dredging operations.

3.2.1 Environmental Setting

The proposed Project would occur within the South Coast Air Basin (SCAB). The SCAB consists of the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County. The air basin covers an area of approximately 6,000 square miles and is bounded on the west by the Pacific Ocean; on the north and east by the San Gabriel, San Bernardino, and San Jacinto mountains; and on the south by the San Diego County line. The SCAB is in a coastal plain and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific Ocean. The climate of the SCAB is classified as Mediterranean, characterized by warm, rainless summers and mild, wet winters. The major influence on the regional climate is the Eastern Pacific High (a strong persistent area of high atmospheric pressure over the Pacific Ocean), topography, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the Eastern Pacific High are a key factor in the weather changes in the area. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (SCAQMD 2005).

Air quality in the SCAB is impacted by several sources, including motor vehicle emissions, oil production and refining, and agriculture. Because of the air basin's unique physical characteristics, the potential for pollution is very high. Surrounding elevated terrain, in conjunction with temperature inversions, frequently restrict lateral and vertical dilution of pollutants. Ozone (O_3), the major component of the basin's summertime smog, is formed via chemical reactions between reactive organic gases (ROG) and nitrogen oxides (NO_X) in the presence of ultraviolet radiation or sunlight. Abundant sunshine and warm temperatures in summer are ideal conditions for the formation of photochemical oxidants, and photochemical pollution (i.e., O_3) becomes common. Tiny particles of solids or liquids (excluding pure water) that are suspended in the atmosphere are known as particulate matter (PM) and are classified according to their diameter in microns as either $PM_{2.5}$ (PM less than 2.5 microns in diameter) or PM_{10} (PM less than 10 microns in diameter). PM can be emitted

directly (primary PM, such as dust or soot), and can form in the atmosphere through photochemical reactions or gaseous precursors (secondary PM). Much of the Valley's ambient PM_{10} and $PM_{2.5}$ is secondary PM, formed in atmospheric reactions of NO_X. Due to the combined air pollution sources within the SCAB and meteorological and geographical effects that limit dispersion of air pollution, the SCAB can experience high air pollutant concentrations.

Air pollutants are defined as two general types: 1) criteria pollutants, representing pollutants for which the USEPA and the California Air Resources Board (ARB) have set health- and welfare-protective ambient air quality standards (National Ambient Air Quality Standards [NAAQS] and California Ambient Air Quality Standards [CAAQS]); and 2) toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations. TACs generally do not have ambient air quality standards.

3.2.1.1 Criteria Pollutants

USEPA and ARB classify an area as attainment, unclassified, or nonattainment depending on whether the monitored ambient air quality data show compliance, lack of data, or noncompliance with the ambient air quality standards, respectively. The NAAQS and CAAQS relevant to the proposed Project are provided in Table 3-1. Areas without monitoring data are considered unclassified and are generally treated as attainment areas.

Table 3-1
National and California Ambient Air Quality Standards

Pollutant	Averaging Period	California Standards	National Standards	Health Effects
O_3	1-hour	0.09 ppm	--	Breathing difficulties, lung tissue damage
	8-hour[b]	0.070 ppm	0.075 ppm	
PM_{10}	24-hour	50 µg/m^3	150 µg/m^3	Increased respiratory disease, lung damage, cancer, premature death
	Annual	20 µg/m^3	--	
$PM_{2.5}$	24-hour[c]	--	35 µg/m^3	Increased respiratory disease, lung damage, cancer, premature death
	Annual	12 µg/m^3	12 µg/m^3	
CO	1-hour	20 ppm	35 ppm	Chest pain in heart patients, headaches, reduced mental alertness
	8-hour	9.0 ppm	9 ppm	
NO_2	1-hour	0.18 ppm	0.100 ppm[a]	Lung irritation and damage
	Annual	0.030 ppm	0.053 ppm	
SO_2	1-hour	0.25 ppm	0.075 ppm[a]	Increases lung disease and breathing problems for asthmatics
	3-hour	--	0.5 ppm	
	24-hour	0.04 ppm	--	

Pollutant	Averaging Period	California Standards	National Standards	Health Effects
Lead	30-day	1.5 µg/m^3	--	Increased body burden and impairment of blood formation and nerve conduction
	Quarter	--	1.5 µg/m^3	
	3-month	--	0.15 µg/m^3	
Sulfates	24-hour	25 µg/m^3	--	Decrease in ventilator function, aggravation of asthmatic symptoms, aggravation of cardiopulmonary disease
Visibility-reducing particles	8-hour	In sufficient amount to give an extinction coefficient of >0.23 inverse kilometers (visual range to less than 10 miles with relative humidity less than 70%)	--	
Hydrogen sulfide	1-hour	0.03 ppm	--	Odor
Vinyl chloride	24-hour	0.01 ppm	--	Short-term exposure: central nervous system effects such as dizziness, drowsiness, and headaches Long-term exposure: liver damage, cancer

Notes:
Source: ARB 2020

a. The federal 1-hour NO_2 and SO_2 standards are based on the 3-year average of the 98th and 99th percentile of daily maximum values, respectively.
b. The federal 8-hour O_3 standard is based on the annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years.
c. The federal 24-hour $PM_{2.5}$ standard is based on the 3-year average of the 98th percentile of the daily values.

The criteria pollutants of primary concern assessed in this DEIR are O_3, PM_{10}, $PM_{2.5}$, carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). Lead, hydrogen sulfide, and vinyl chloride would not be generated by the proposed Project; therefore, these pollutants are not evaluated.

O_3 is a unique criteria pollutant because it is not directly emitted from proposed Project-related sources. Rather, O_3 is a secondary pollutant, formed from the precursor pollutants ROG and NO_X, which react to form O_3 in the presence of sunlight through a complex series of photochemical reactions. Thus, unlike inert pollutants, O_3 levels usually peak several hours after the precursors are emitted and many miles downwind of the source. Because of the complexity and uncertainty in predicting photochemical pollutant concentrations, O_3 impacts are indirectly addressed by comparing proposed Project-generated emissions of ROG and NO_X to daily emission thresholds set by the South Coast Air Quality Management District (SCAQMD).

In addition, ARB has established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride. Hydrogen sulfide and vinyl chloride are currently not monitored in the SCAB because they are not a regional air quality problem; instead, they are generally associated with localized emission sources. For example, vinyl chloride emissions have been associated primarily with sources such as landfills. Sulfate, visibility, hydrogen sulfide, and vinyl chloride are not pollutants of concern for the proposed Project and are not considered in the analysis. Table 3-2 summarizes the federal and state attainment status of criteria pollutants for the SCAB based on the NAAQS and CAAQS, respectively.

Table 3-2
South Coast Air Basin Attainment Status

Pollutant	Attainment Status	
	Federal	State
O_3 1-hour	Nonattainment	Nonattainment
O_3 8-hour	Nonattainment	Nonattainment
NO_2	Attainment (Maintenance)	Attainment
CO	Attainment (Maintenance)	Attainment
SO_2	Attainment	Not listed
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Nonattainment	Not listed

Note:
Source: SCAQMD 2018

The standards listed in Table 3-2 are health-based; therefore, exceedances of the air quality standards could have the significant health impacts indicated in Table 3-1. For example, if the state annual average $PM_{2.5}$ standard was met, approximately 1,000 premature deaths would be avoided annually (ARB 2017a).

3.2.1.2 Local Air Monitoring Levels

Table 3-3 shows the most recent 3 years of monitored values for those criteria pollutants currently monitored at the Mission Viejo Monitoring Station located at 26081 Via Pera, Mission Viejo, which is the closest station to the proposed Project. During this time, there were exceedances of the state and national 8-hour O_3 standard, the maximum PM_{10} and $PM_{2.5}$ 24-hour standard, and the NO_2 24-hour standard.

Table 3-3
Maximum Pollutant Concentrations Measured at the Mission Viejo Monitoring Station

Pollutant/Parameter	2015	2016	2017
O_3			
Maximum 1-hour/8-hour average concentration (ppm)	0.099/0.079	0.090/0.069	0.088/0.080
Number of days state/national 1-hour standard exceeded (ppm)	1	0	0
Number of days state/national 8-hour standard exceeded	1	0	1
PM_{10}			
Maximum 24-hour concentration (µg/m^3)	49.0	59.0	58.2
Number of days state/national 24-hour standard exceeded	0/0	0/0	0/0
$PM_{2.5}$			
Maximum 24-hour concentration (µg/m^3)	31.5	24.7	19.5
Number of days national 24-hour standard exceeded	0	0	0
NO_2			
Maximum 1-hour average concentration (ppm)	0.0524	0.0598	0.0593
Number of days state-standard exceeded	0	0	0
CO			
Maximum 1-hour/8-hour average concentration (ppm)	N/A	N/A	N/A
Number of days state/national 1-hour standard exceeded	N/A	N/A	N/A
Number of days state/national 8-hour standard exceeded	N/A	N/A	N/A

Notes:
N/A: not available
Costa Mesa Monitoring Station located at 2850 Mesa Verde Drive East, Costa Mesa, California 92626.
Mission Viejo Monitoring Station located at 26081 Via Pera, Mission Viejo, California 92691.
Sources: ARB 2020; USEPA 2019

3.2.1.3 Toxic Air Contaminants

TACs are airborne compounds that are known or suspected to cause adverse human health effects after long-term or short-term exposure. Cancer risk can result from long-term exposure, and non-cancer health effects can result from either chronic or acute exposure. Examples of TAC sources are diesel- and gasoline-powered internal combustion engines in mobile sources; industrial processes and stationary sources such as dry cleaners, gasoline stations, and paint and solvent operations; and stationary fossil fuel-burning combustion sources, such as power plants. Table 3-4 describes health effects of common TACs of concern. Of the pollutants listed in Table 3-4, diesel particulate matter (DPM) from construction and dredging equipment would be the primary TAC of concern because combustion of diesel results in DPM.

Table 3-4
Toxic Air Contaminant Health Effects

Pollutant	Health Effects
Benzene	Central nervous system depression, nausea, tremors, drowsiness, dizziness, headache, irritation of the eyes and respiratory tract Chronic exposure may reduce the production of both red and white blood cells resulting in aplastic anemia. Exposure to benzene may result in an increased risk of contracting cancer.
Chlorobenzene	Headaches, numbness, sleepiness, nausea, and vomiting
Diesel particulate matter	Respiratory damage and premature death, and may result in increased risk of contracting cancer
Ethyl benzene	Eye and throat irritation Exposure to high levels can result in vertigo and dizziness.
Ethylene glycol monobutyl ether	Eye, respiratory tract and skin irritation and burns Inhalation may cause headaches and hemolysis (red blood cell breakage).
Hexane	Short-term exposure affects the nervous system and can cause dizziness, nausea, headaches, and even unconsciousness. Chronic exposure can cause more severe damage to the nervous system.
Isopropyl alcohol	Skin rash, itching, dryness and redness, irritation of the nose and throat Repeated high exposure can cause headache, dizziness, confusion, loss of coordination, unconsciousness, and even death.
Methanol	Chronic exposure can cause visual problems and blindness, convulsions, coma, loss of consciousness, kidney failure, liver damage, low blood pressure, respiratory arrest, and damage to the central nervous system.
Naphthalene	May cause nausea, vomiting, diarrhea, blood in the urine, and a yellow color to the skin
Propylene glycol monomethyl ether	Can irritate the noise, throat, and lungs, causing coughing, wheezing, and/or shortness of breath, headaches, dizziness, lightheadedness, and passing out
Toluene	Irritation of the eyes and nose; weakness, exhaustion, confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; numbness or tingling of the skin; dermatitis; liver and kidney damage
Xylenes (mixed)	Depression of the central nervous system, with symptoms such as headache, dizziness, nausea, and vomiting

Note:
Source: USEPA Integrated Risk Information System (USEPA 2019)

3.2.1.4 Multiple Air Toxics Exposure Study

SCAQMD has developed the Multiple Air Toxics Exposure Study (MATES) based on the Office of Environmental Health Hazard Assessment's (OEHHA's) 2003 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003) to monitor and evaluate ambient concentrations of TACs and the potential health risks from air toxics in the SCAB. MATES IV (SCAQMD 2015) is the most recent update. MATES IV focuses on the carcinogenic risk from exposure to air toxics but does not estimate mortality or other health effects from particulate exposures.

MATES IV also includes measurements of ultrafine particle concentrations. The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics is approximately 418 in 1 million in the SCAB. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65%. Approximately 90% of the risk is attributed to mobile sources, and 10% is attributed to TACs from stationary sources such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, which accounted for approximately 68% of the air toxics risk.

3.2.2 Applicable Regulations

3.2.2.1 Federal

3.2.2.1.1 Clean Air Act

USEPA is responsible for setting and enforcing the NAAQS for O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead under the Clean Air Act (CAA). USEPA also establishes emission standards for on-road vehicles and off-road engines. The CAA forms the basis for national pollution control and delegates the enforcement of the federal standards to the states. In California, ARB and local air agencies have the shared responsibility for enforcing air pollution regulations, with the local agencies having primary responsibility for regulating stationary emission sources. In the SCAB, SCAQMD has this responsibility.

In federal nonattainment areas, the CAA requires preparation of a State Implementation Plan (SIP) detailing how the state will attain the NAAQS within mandated time frames. In response to this requirement, local air quality agencies, in collaboration with other agencies such as ARB, periodically prepare Air Quality Management Plans (AQMPs) designed to bring the area into attainment with federal requirements and to incorporate the latest technical planning information. The AQMP for each nonattainment area is then incorporated into the SIP, which is submitted by ARB to USEPA for approval. USEPA often approves portions and disapproves other portions of submitted SIPs.

3.2.2.1.2 Emission Standards for Non-Road Diesel Engines

USEPA has established a series of progressively cleaner emission standards for new non-road (off-road) diesel engines. Tier 1 standards were phased in from 1996 to 2000, Tier 2 standards were phased in from 2001 to 2006, Tier 3 standards were phased in from 2006 to 2008, and Tier 4 standards, which require add-on emission control equipment, were phased in from 2008 to 2015. For each tier, the phase-in schedule is driven by engine size. To enable sulfur-sensitive control technologies in Tier 4 engines, USEPA mandated reductions in the sulfur content of non-road diesel fuels to 15 parts per million (ppm; also known as Ultra Low Sulfur Diesel), effective 2010 (DieselNet 2016). The federal fuel standard is preempted by the California standard, which took

effect in 2006. These standards would apply primarily to construction equipment associated with the proposed Project.

3.2.2.2 State

3.2.2.2.1 California Clean Air Act

The California Clean Air Act (CCAA), adopted in 1988, requires nonattainment areas to achieve and maintain CAAQS and mandates that local air districts develop triennial plans for attaining CAAQS. ARB is responsible for establishing CAAQS, ensuring CCAA implementation, and regulating emissions from consumer products and motor vehicles. ARB established CAAQS for all pollutants for which USEPA has established NAAQS, as well as for sulfates, visibility, hydrogen sulfide, and vinyl chloride. CAAQS are generally more stringent than NAAQS.

3.2.2.2.2 California Diesel Fuel Regulation

ARB has set sulfur limitations for diesel fuel sold in California for use in on- and off-road motor vehicles and to fulfill ARB's Diesel Risk Reduction Plan (ARB 2000). Harbor craft and intrastate locomotives (switch locomotives) were originally excluded from the rule but were later included by a 2004 rule amendment. Under this rule, diesel fuel used in motor vehicles, except harbor craft and intrastate locomotives, has been limited to 500 ppm sulfur since 1993 and to 15 ppm sulfur since September 2006. Diesel fuel used in intrastate locomotives has been limited to 15 ppm sulfur since January 1, 2007.

3.2.2.2.3 California Air Resources Board In-Use Off-Road Diesel Vehicle Rule

In July 2007, ARB adopted a rule that requires owners of off-road mobile equipment powered by diesel engines 25 horsepower (hp) or larger to meet the fleet average or Best Available Control Technology requirements for NO_X and PM emissions by March 1 of each year. The rule is structured by fleet size: large, medium, and small. Medium fleets receive deferred compliance, and small fleets are exempt from NO_X requirements and receive deferred compliance. The regulation was adopted in April 2008 and amended in 2011, delaying the initial compliance date for all fleets by 4 years. This regulation applies primarily to equipment proposed to be used during facility closure activities such as decontamination, deconstruction, and cleanup.

3.2.2.2.4 California Air Resources Board Regulation to Reduce Emissions from Diesel Engines on Commercial Harbor Craft

In November 2007, ARB adopted a regulation to reduce DPM and NO_X emissions from new and in-use commercial harbor craft. Under ARB's definition, commercial harbor craft include tugboats, tow boats, ferries, excursion vessels, work boats, crew boats, and fishing vessels. The regulation implemented stringent emission limits on harbor craft auxiliary and propulsion engines. In 2010, ARB amended the regulation to add specific in-use requirements for barges, dredges, and crew/supply

vessels. Amendments of the regulation became effective on July 20, 2011. On January 19, 2017, the USEPA authorized the ARB (82 Federal Register [Fed. Reg.] 6500) to enforce the provisions of the amendments

3.2.2.2.5 Toxic Air Contaminant Regulations

California established the California TAC Program (AB 1807 and AB 2728) in 1983. This program sets provisions to implement the national program for control of hazardous air pollutants. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588), established in 1987, is designed to provide information to state and local agencies and to the public on the extent of airborne TAC emissions from stationary sources and the potential public health impact of those emissions. The Hot Spots Act required that the OEHHA develop health risk assessment (HRA) guidelines. The Hot Spots Act requires operators of certain stationary sources to inventory air toxic emissions from their operations and prepare an HRA, if directed by their local air district, to determine the potential health impacts of their air toxic emissions.

3.2.2.3 Regional

3.2.2.3.1 South Coast Air Quality Management District

SCAQMD is responsible for implementing federal and state regulations at the local level, permitting stationary sources of air pollution, and developing the local elements of the SIP. Emissions from indirect sources, such as automobile traffic associated with development projects, are addressed through air quality plans, which are each air quality district's contribution to the SIP. In addition to permitting and rule compliance, air quality management at the local level is also accomplished through development of regional significance thresholds, including mass daily thresholds.

This DEIR considers SCAQMD's thresholds, based on the CAAQS and NAAQS, and recommended guidance for preparation of air quality studies. These thresholds represent a regional approach to meeting CAAQS and NAAQS, recognizing SCAQMD's attainment status, emission sources, and regional geography. While SCAQMD is developing an Air Quality Analysis Guidance Handbook to replace the CEQA Air Quality Handbook approved by the SCAQMD Governing Board in 1993, recommended significance thresholds and the approach are available on the SCAQMD website (available at: https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook).

3.2.2.3.2 2016 Air Quality Management Plan

The 2016 AQMP (SCAQMD 2016), approved on March 3, 2017, includes the integrated strategies and measures needed to meet the NAAQS. SCAQMD's 2016 AQMP demonstrates attainment of the 1-hour and 8-hour O_3 NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards.

3.2.2.4 Local

3.2.2.4.1 City of Newport Beach General Plan

Air quality is addressed in the Natural Resources Element of the City's General Plan (City 2006a). The Goals and Policies chapter includes the following policies relevant to the proposed Project:

- **NR 8.1 Management of Construction Activities to Reduce Air Pollution:** Require developers to use and operate construction equipment, use building materials and paints, and control dust created by construction activities to minimize air pollutants.

3.2.3 Environmental Impacts and Mitigation Measures

3.2.3.1 Baseline

At the time of publication of the EIR for the proposed Project, the project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters south of Newport Beach, is an active recreational harbor and public beach with no dredging operations except periodic and limited maintenance dredging under RGP 54.

3.2.3.2 Thresholds of Significance

For purposes of this DEIR, the following thresholds, which are based on the Appendix G of the CEQA Guidelines (Environmental Checklist) and SCAQMD guidance (Table 3-5), were used to determine whether the proposed Project would result in potentially significant adverse air quality impacts. The proposed Project may have a significant impact on air quality if:

- **AQ-1:** The proposed Project's emissions would conflict with or obstruct implementation of the applicable air quality plan.
- **AQ-2:** The proposed Project's emissions would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- **AQ-3:** The proposed Project's emissions would expose sensitive receptors to substantial pollutant concentrations.
- **AQ-4:** The proposed Project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Table 3-5
South Coast Air Quality Management District Construction Mass Daily Thresholds

Pollutant	Threshold (pounds per day)
VOCs	75
CO	550
NO_X	100
SO_X	150
PM_{10}	150
$PM_{2.5}$	55

Note:
Source: SCAQMD 2019

3.2.3.3 Methodology for Determining Impacts

The anticipated construction schedule is detailed in Table 2-1 and summarized in Table 3-6.

Table 3-6
Proposed Construction Schedule

Construction Phase	Construction Schedule	
	Start Date	End Date
Phase 1: Lower Newport Bay Federal Channels Dredging (Suitable for Open Ocean Disposal) and Placement at LA-3		
Phase 1a: Mobilization (Larger Dredge Equipment)	11/15/2021	12/6/2021
Phase 1b: Dredge Suitable Material in Federal Channels	12/7/2021	7/15/2022
Phase 2: CAD Facility Dredging and Placement in Nearshore Placement Area or LA-3		
Phase 2a: Excavate CAD	7/15/2022	10/3/2022
Phase 3: Federal Channels Dredging (Unsuitable for Open Ocean Disposal) and Placement at CAD Facility		
Phase 3a: Dredge Unsuitable Material and Place in CAD	10/4/2022	11/5/2022
Phase 4: Newport Channel 3 Dredging and Placement in CAD Facility for Interim Cover Containment Layer		
Phase 4a: Dredge Newport Channel 3 for Interim Cover Containment Layer	11/5/2022	11/9/2022
Phase 5: Dredging Outside the Federal Channels and Placement in CAD Facility		
Phase 5a: Mobilization (Smaller Dredge Equipment)	11/11/2024	12/2/2024
Phase 5b: Dredging Window	12/3/2024	5/20/2025
Phase 5c: Demobilization	5/21/2025	6/10/2025
Phase 6: Dredging Newport Channel 3 and Placement in CAD Facility for Final Cap Layer		
Phase 6a: Mobilization (Smaller Dredge Equipment)	6/11/2024	7/1/2024
Phase 6c: Dredge Remaining Material in Newport Channel 3	7/25/2025	8/19/2025
Phase 6c: Demobilization	8/20/2025	9/9/2025

As shown in Table 3-6, Federal Channels dredging would begin in late 2021. Construction of the CAD facility would begin in mid-2022 (Phase 2); it would be followed by the placement of material (Phase 3) and interim cap placement (Phase 4) in late 2022. Approximately 2 years following construction of the CAD facility and placement of the interim cover containment layer cap, the City and its residents would have a second opportunity for a 6-month period to place additional material (Phase 5). It should be noted that dredging would not occur over the entire 6-month period. If there is remaining capacity during this 6-month period, the City and its residents would be able to place material from the RGP 54 Plan Area determined suitable for open ocean disposal in the CAD facility (Phase 6). To be conservative, all phases at maximum volumes were assumed in the air quality analysis.

Complete details, as well as modeling results related to the air quality analysis, are provided in Appendix F. A summary of assumptions related to the air quality analysis is provided as follows:

- Construction emissions would be generated by construction equipment, as detailed in Table 2-1. Construction of the proposed Project would consist of in-water work, with dredging performed using a barge mounted crane (derrick barge). Construction is anticipated to occur over 3 years, with work occurring at three locations: the CAD facility, dredging within the Lower Harbor, and the nearshore disposal location (beach renourishment).
- Larger dredge equipment is expected to have a dredge production of approximately 5,000 cy per day.
- Smaller dredge equipment is expected to have a dredge production of approximately 2,000 cy per day.
- Construction is expected to take place 6 days per week for 10-hour days. No work would occur on Sunday or major holidays (including Thanksgiving, Christmas Eve, and Christmas day).
- It is expected that two round trips at approximately 2 hours each will occur for nearshore placement area. As such, a conservative estimate of 5 hours has been applied.
- It is expected that two round trips at approximately 3.5 hours each will occur for sediment disposal. As such, daily use for the tugboat is expected to be 8 hours.
- Placement is expected at both the nearshore placement area and LA-3. To be conservative, daily use for the tugboat is expected to be 8 hours in accordance with requirements for disposal at LA-3.
- It is expected that two round trips at approximately 2 hours each will occur at the CAD facility. As such, daily use for the tugboat is expected to be 5 hours.
- Total dredging is expected to take 25 working days to complete. Duration of this phase is based on a 6-month window for residents and public projects to place material within the CAD facility.

Based on the construction schedule (Table 2-1), maximum daily and annual construction emissions were calculated by individual activity and total activity. Daily emissions for overlapping activities were summed for each calendar quarter. A full description of construction assumptions, including equipment horsepower ratings, can be found in Appendix F.

Emissions were calculated using industry accepted emission factors, and source activity (e.g., dredging volumes, vessel transit distance, and engine characteristics). Emission factors for harbor craft activity, and barge propulsion engines, are provided in Appendix F. Emission calculations for vessels and harbor craft are determined by multiplying engine activity by the emission factors.

3.2.3.4 Impact Analysis

3.2.3.4.1 AQ-1: Would the Project's emissions conflict with or obstruct implementation of the applicable air quality plan?

The SCAQMD 2016 AQMP focuses on attainment of the NAAQS for O_3 and PM through reductions in O_3 and the $PM_{2.5}$ precursor NO_X, as well as direct control of PM. The AQMP proposes emissions reduction measures to bring the SCAB into attainment with respect to the NAAQS. AQMP attainment strategies include mobile source control measures and clean fuel programs, which are enforced at the state and federal levels, for engine manufacturers and petroleum refineries and retailers. As a result, the proposed Project would be required to comply with the measures as they are developed. The proposed Project would not result in changes in the mobile source projections within the AQMP as it would not result in any additional vehicle trips or operational emissions. Compliance with AQMP, such as using clean fuels as available, would further ensure that proposed Project activities would not obstruct implementation of the AQMP.

Impact Determination: Because the proposed Project would not result in changes in the mobile source projections within the AQMP. Therefore, the proposed Project would not conflict with or obstruct implementation of the AQMP, the SIP, or the CAA. Impacts would be less than significant.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.2.3.4.2 AQ-2: Would the project's emissions result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

SCAQMD has developed quantitative criteria to evaluate the significance of project-related air emissions. Specifically, the City presumes that a cumulatively considerable net increase would occur if implementation of the proposed Project would result in emissions that exceed the SCAQMD-established thresholds provided in Table 3-7.

Construction. Table 3-7 shows that the proposed Project would generate construction emissions that exceed SCAQMD's NO_X thresholds. Table 3-7 includes the entire project, including components of the Federal Channels maintenance dredging program that would generate the material for the CAD facility. As detailed in Table 2-1, construction of the CAD facility would begin in 2022.

Table 3-7
Construction Emissions for Entire Project as Compared to SCAQMD Mass Daily Thresholds (Pounds per Day)

Project Equipment	CO	NO_X	VOCs	PM_{10}	$PM_{2.5}$	SO_X
2021						
Mechanical Dredge	16.1	38.0	3.1	0.9	0.9	0.1
Crew/Work Boat	3.1	4.6	0.3	0.2	0.2	<0.1
Tugboat	40.8	60.2	3.3	2.0	2.0	<0.1
Split-Hull Barge	6.6	9.7	0.5	0.3	0.3	<0.1
Total	66.6	**112.4**	7.2	3.3	3.3	0.1
SCAQMD Thresholds	550	100	75	150	55	150
Significant?	No	**Yes**	No	No	No	No
2022						
Mechanical Dredge	16.2	38.1	3.2	1.0	1.0	0.1
Crew/Work Boat	3.1	4.6	0.3	0.2	0.2	<0.1
Tugboat	40.8	60.2	3.3	2.2	2.0	0.1
Split-Hull Barge	6.6	9.7	0.5	0.4	0.3	<0.1
Total	66.7	**112.6**	7.4	3.7	3.4	0.1
SCAQMD Thresholds	550	100	75	150	55	150
Significant?	No	**Yes**	No	No	No	No
2024						
Mechanical Dredge	10.9	53.5	2.2	0.7	0.6	0.1
Crew/Work Boat	6.3	9.2	0.5	0.3	0.3	<0.1
Tugboat	51.0	53.9	3.5	2.8	2.5	0.1
Split-Hull Barge	13.1	19.4	1.1	0.7	0.6	<0.1
Total	81.2	**136.0**	7.2	4.5	4.0	0.1
SCAQMD Thresholds	550	100	75	150	55	150
Significant?	No	**Yes**	No	No	No	No
2025						
Mechanical Dredge	18.2	70.6	3.6	1.0	1.0	0.1
Crew/Work Boat	6.3	9.2	0.5	0.3	0.3	<0.1
Tugboat	51.0	53.9	3.5	2.5	2.5	0.1
Split-Hull Barge	13.1	19.4	1.1	0.6	0.6	<0.1

Project Equipment	CO	NO_X	VOCs	PM_{10}	$PM_{2.5}$	SO_X
Total	88.5	**153.1**	8.7	4.4	4.4	0.2
SCAQMD Thresholds	550	100	75	150	55	150
Significant?	No	**Yes**	No	No	No	No

Notes:
Emissions may not add precisely due to rounding.
Emissions were estimated using CalEEMod 2016.3.1.

Impact Determination: As shown in Table 3-7, construction emissions would be above SCAQMD NO_X significance thresholds for all years. Emissions would come primarily from the mechanical dredge and the tugboat. Therefore, NO_X emissions would be significant.

Mitigation Measures: As shown in Table 3-7, emissions would come primarily from the tugboat and the mechanical dredger. The following mitigation measure would be implemented to reduce NO_X emissions:

- **MM-AQ-1 Tugboats Used During Construction:** the tugboats used during construction must meet USEPA Tier 4 engine standards by 2024; if Tier 4 tugboats are not available in years 2021 and 2022, tugboats must meet Tier 3 compliant standards. If applicable Tier-compliant tugboats are not available, the City shall purchase Emission Reduction Credits from SCAQMD to offset the exceedance of NO_X emissions.

USEPA Tier 4 standards would reduce emissions of PM and NO_X by about 90%. Such emission reductions can be achieved using control technologies, including advanced exhaust gas after treatment on Tier 1, 2, and 3 engines and novel engine design. While Tier 4 tugboats exist, most of the Tier 4 compliant tugboats are currently used at commercial ports and may not be available for use in Newport Harbor (Similar to Tier 4 compliant tugboats, hybrid-electric tugboats have been developed and are being used at southern California ports. However, these tugboats are large ocean-going tugboats used to assist commercial vessels). Therefore, the mitigation allows for Tier 3 standards if no Tier 4 compliant tugboats are available during the first 2 years of construction. Use of Tier 3 engines in tugboats would reduce emissions below significance in Years 2021 and 2022. Tier 4 compliant tugboats are assumed to be more available by 2024, as more tugboats are retrofitted. Use of Tier 4 tugboats would also reduce emissions below significance. It should also be noted that the air analysis is conservative and assumes a longer period of dredging than would likely occur in 2024 and 2025. As noted, if applicable Tier-complaint tugboats are not available, the City would purchase Emission Reduction Credits from SCAQMD to offset NO_X exceedances. Under SCAQMD's Emission Reduction Credit Program, project applicants can purchase Emission Reduction Credits that have

been verified by the SCAQMD as being real[3] and verified in lieu of direct mitigation. All credits are generated by projects that lead to emission reductions within the SCAB.

This analysis also considered emission controls for the dredger, namely an electric dredger, which has been required for dredging projects at southern California ports. While an electric dredger could reduce emissions, electric dredge equipment would not be available or practical for use in the Lower Harbor. There are two types of electric dredgers: 1) large-scale electric dredgers required for use during Main Channel dredge events at some southern California ports; and 2) smaller remote-controlled electric dredgers used in shallow environments where support equipment may damage surrounding habitat or access is limited.

The large-scale electric dredge equipment used at major port facilities would need to be cabled to a source of electricity. The use of a cable would limit the dredge unit's maneuverability, would present a navigational hazard, and could increase the overall duration of construction due to the need to reposition the cable throughout the dredging event. In addition, the use of an electric dredge unit would require upland electric substations that are not currently available in Newport Harbor. This type of dredger can be used to dredge a large open space such as a main channel of a port for which substations already exist as part of port terminals.

Smaller-scale electric dredge auger equipment was also considered. While these dredgers are more maneuverable and may be remotely controlled, they also must be cabled to electricity. In addition, these dredgers are designed for small shallow dredging projects and thus are not appropriate for the nature and scale of the proposed Project.

Residual Impact: Less than significant.

3.2.3.4.3 AQ-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?

As identified in Table 3-1, all criteria pollutants are associated with some form of health risk (e.g., asthma, lower respiratory problems) at certain concentrations and accordingly, the NAAQS and CAAQS are set as health-based thresholds. For example, PM has been linked to premature death in people with pre-existing heart or lung disease as well as nonfatal heart attacks (USEPA 2019). Exposure to O_3 at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage airways, aggravate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease (USEPA 2019).

A significant impact would occur if a project would emit TACs that could cause a significant increase in health risks, including both carcinogenic and non-carcinogenic risks. Sources associated with the

[3] Credits must be "real" meaning the project has already occurred, and the emission reductions have occurred and have been verified through a third-party verification system.

proposed Project that are expected to have emissions significant enough to warrant consideration include mobile source emissions specifically from construction equipment and vessel maneuvering.

Impacts to sensitive receptors are evaluated in terms of exposure to TACs. Emissions from construction equipment primarily consist of DPM. DPM emitted by on- and off-road vehicles is considered the TAC of most concern from motor vehicles. More than 90% of DPM is less than 1 micron (µm) in diameter, and thus is a subset of particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). $PM_{2.5}$ comes from a variety of sources, but primarily from the burning of carbon-based fuels such as gasoline, diesel, and wood. Numerous scientific studies have linked exposure to airborne $PM_{2.5}$ to increased severity of asthma attacks, development of chronic bronchitis, decreased lung function in children, respiratory and cardiovascular hospitalizations, and even premature death in people with existing heart or lung disease (ARB 2019). Because DPM is a subset of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death, hospitalizations, and emergency department visits for exacerbated chronic heart and lung disease, including asthma, increased respiratory symptoms, and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies. Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly, who often have chronic health problems (ARB 2019).

SCAQMD currently does not require the evaluation of long-term excess cancer risk or chronic health impacts for a short-term project. Cancer risks from exposure to TACs accrue over many decades. OEHHA adopted guidance for the preparation of health risk assessments in March 2015, including cancer risk factor and noncancer chronic reference exposure level for DPM, but these factors are based on continuous exposure over a 30-year time frame. No short-term acute exposure levels have been developed for DPM.

Construction-related activities would result in short-term emissions of DPM from the exhaust of heavy-duty diesel equipment, namely the tugboat and mechanical dredger. DPM generated during construction would be temporary and would cease once construction is complete. While total construction would occur over the course of several years (see Anticipated Construction Schedule in Table 2-1), dredging would occur in discrete periods over the course of construction. It would not be continuous.

SCAQMD has determined that TAC impacts are localized in nature and that exposure declines by approximately 90% at 300 to 500 feet from the source of the emissions (SCAQMD 2005). The nearest sensitive receptor would be residential receptors to the CAD facility. These residential receptors would be approximately 500 feet from the CAD facility construction. While channel dredging could occur in closer proximity to residential receptors, dredging activities would be continuously moving and exposure would be limited. The CAD facility however would be constructed at a fixed point for a 5-month period. As shown in Table 3-7, during Phase 3 (2022), total $PM_{2.5}$ emissions would be

3.4 pounds per day at the source. Assuming a 90% reduction in total $PM_{2.5}$ emissions, pollutant concentrations would be reduced to less than 1 pound per day, with DPM rates expected to be lower. Thus, exposure from proposed Project construction would be significantly reduced at the nearest receptor location. While recreational receptors could be located in closer proximity than residents, these receptors would be restricted from the immediate proposed Project area and would be expected to travel around construction areas, reducing exposure.

Impact Determination: Because of the intermittent and short-term nature of active construction, construction of the proposed Project would not expose sensitive receptors to substantial pollutant concentrations. As shown in Table 3-7, the majority of the $PM_{2.5}$ emissions, of which DPM would be a component, would be generated from dredging of the CAD facility. The proposed Project would result in a less-than-significant cancer risk, chronic health hazard, and acute health hazard at the maximally affected individual receptors. Therefore, the proposed Project's health risk impacts would be less than significant.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.2.3.4.4 AQ-4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

During construction, diesel exhaust produced by off-road construction equipment could generate odors. However, several pieces of construction equipment would need to operate concurrently in a relatively small confined area to generate a constant plume of diesel exhaust that would cause objectionable odors for a substantial number of people. In addition, because odors dissipate, the source of the plume would need to be in close proximity to receptors. The nearest receptors would be residential receptors to the CAD facility. These residential receptors would be approximately 500 feet from the CAD facility construction. While channel dredging could occur in closer proximity to residential receptors, dredging activities would be continuously moving and exposure would be limited. Because construction would occur over a broad area and construction equipment would not all operate at the same time.

Impact Determination: Construction and operational odors would not affect a substantial number of people. Therefore, this impact is considered to be less than significant.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.3 Biological Resources

Section 3.3 describes the existing biological resource conditions in the study area and analyzes how the proposed Project may affect these resources. It also describes the applicable rules and regulations pertaining to biological resources. For the purposes of the biological resource analysis, the study area is defined as the proposed Project site, including the Lower Bay and offshore waters, as shown in Figure 2-5.

3.3.1 Environmental Setting

The proposed Project area is located within Lower Newport Bay and the nearshore placement area of the Pacific Ocean. Lower Newport Bay supports a busy recreational marine harbor that is regularly dredged for navigation and dock access. The nearshore placement area is adjacent to urban oceanfront beaches that also support a high level of recreational activities.

The Lower Bay study area is dominated by intertidal sandy shores and hardened shoreline structures, including bulkhead walls, concrete block riprap revetments, and recreational docks. There are also several small areas of intertidal beach. Unvegetated soft-bottom habitat has a predominantly sand and silt composition. Areas of eelgrass (*Z. marina* and *Z. pacifica*), a flowering, marine vascular plant, are also present in the bay.

Marine life in Lower Newport Bay in the vicinity of the proposed CAD facility consists of fine-grained and sandy benthic communities. The soft-bottom habitat is dominated by polychaetous annelids (segmented worms that live in aquatic habitats). Annelids are numerically dominant with crustaceans, mollusks, minor phyla, and echinoderms following in decreasing order of abundance. These benthic marine organisms are important food sources for fishes, crabs, and other marine organisms.

The nearshore disposal site starts just south of Balboa Pier and extends north to Newport Pier. The nearshore area consists of subtidal sites offshore of oceanfront beaches. The sandy upland beaches support some dune vegetation, but this is limited by urban development. The proposed nearshore placement area is within the San Pedro littoral cell, with sediment typically moving from northwest to southeast (USACE 2012a). However, the Newport submarine canyon, located approximately 30 meters south of Newport Pier, serves as a significant sediment sink for sediments moving along the shore from the Santa Ana River. Subtidal beach habitats are high-energy locations generally characterized by turbid waters and active sand movement as a result of ocean waves and currents. The intertidal and subtidal areas, where sand disposal could occur, have too much wave action and sand motion to permit aquatic vegetation to occur, except on rocky surfaces such as groins. Sediments in the subtidal areas at the nearshore disposal site support a variety of invertebrates such as sea pens, polychaete worms, crustaceans (amphipods, isopods, cumaceans, and ostracods), snails, sand dollars, and sea stars. The only fish characteristic of the sandy beach at the nearshore disposal site is the California grunion (*Leuresthes tenuis*), which is considered in the Special-Status Wildlife

Species section (Section 3.3.1.2.4). Common fishes of the nearshore zone include topsmelt, several species of surfperches, flatfish, rays, and sculpin. While the presumed presence of species was based on existing reports that assessed and evaluated biological conditions and effects within Lower Newport Bay, particularly from CRM (2009), the Newport Beach nearshore habitat is not anticipated to have changed since 2009. In 2015, side-scan and underwater surveys were conducted in western Newport Beach to update information from *Addendum IP 15-359 to the Supplemental Environmental Impact Statement/Environmental Impact Report 583 for the Phase II General Design Memorandum on the Santa Ana River Mainstem Project*, *Lower Santa Ana River* on nearshore resources at disposal areas (Chambers Group, Inc., and Moffatt & Nichol 2016). The surveys confirmed habitat types (mostly sandy bottom) and habitat conditions remained the same. Additionally, the nearshore community tends to include a similar set of species throughout mainland southern California because only a limited number of species are adapted to the harsh, open coast, sand bottom environment (USACE 2012a).

Sections 3.3.1.1 through 3.3.1.3 describe the existing habitat and biological resources in the study area.

3.3.1.1 Special Aquatic Sites

3.3.1.1.1 Wetlands and Jurisdictional Waters

The proposed Project will occur entirely within Newport Bay and nearshore placement areas of the Pacific Ocean, which are all considered jurisdictional waters by regulatory agencies. The shallow marine habitat within Newport Bay that overlaps with the proposed Project area falls under the jurisdiction of USACE pursuant to Section 10 of the Rivers and Harbors Act, RWQCB pursuant to Section 401 of the Clean Water Act (CWA), and the CLUP (City 2019b) pursuant to the CCA.

Wetlands in California's Coastal Zone are regulated under the CCA of 1976, which is administered by the CCC. Section 30121 of the CCA defines "wetlands" as "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens." Subsequently, the term "wetland" was further and more explicitly defined in 14 CCR 13577(b):

> … land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated soil

at some time during each year and their location within, or adjacent to, vegetated wetland or deepwater habitats.

On the basis of the aforementioned definitions, the CCC considers a wetland to be any area that is sufficiently wet for a long enough period of time to promote the formation of hydric soils or a predominance of hydrophytic vegetation. The CCC requires wetland identification and delineation to be based on the definition within its regulation. A one-parameter approach must be followed to identify and delineate the geographic extent of wetland boundaries. The parameter used can be either of the following: 1) conditions that promote the formation of hydric soils, which are generally demonstrated by field indicators of hydric soils; or 2) the presence of a predominance of hydrophytes. Based on the CCC regulations and guidance, none of the proposed Project area is considered jurisdictional wetlands for federal (USACE) purposes because the required wetlands characteristics are not present; specifically, neither hydric soils nor characteristic wetlands vegetation are present within the area potentially affected by the proposed Project.

3.3.1.1.2 Eelgrass

Eelgrass is both an important marine plant species and an important habitat when found in beds. Eelgrass is a highly productive species and is considered a "foundation" or habitat-forming species due to its nursery function for invertebrates and fishes. Eelgrass contributes to ecosystem functions at multiple levels as a primary and secondary producer, as a habitat structuring element, as a substrate for epiphytes and epifauna, and as a sediment stabilizer and nutrient cycling facilitator. Eelgrass provides important foraging areas and shelter to young fish and invertebrates, food for migratory waterfowl and sea turtles, and spawning surfaces for invertebrates and fishes such as the Pacific herring (*Clupea pallasii*). Eelgrass occurs in the temperate unconsolidated substrate of shallow coastal environments, enclosed bays, and estuaries.

The City conducts shallow-water eelgrass surveys every 2 years in Lower Newport Bay, and harbor-wide surveys—including the deepwater habitat—are conducted every 4 years. The most recent shallow-water survey was completed in 2018 (Appendix E; MTS 2018). The most recent harbor-wide survey was conducted in summer 2020, and the results are expected in late 2020 or early 2021. Figure 3-5 presents the results of recent deepwater (2012 and 2016) and shallow-water (2018) surveys.

Figure 3-5
City of Newport Beach Eelgrass Surveys 2012 to 2018

3.3.1.2 Special-Status Wildlife Species

A search of the California Natural Diversity Database (CNDDB) was conducted to identify recorded special-status species occurrences within the U.S. Geological Survey (USGS) Laguna Beach 7.5-minute quadrangle and surrounding quadrangles (Tustin and Laguna Beach; CDFW 2020a).

CNDDB identifies 69 special-status (threatened or endangered under the federal ESA or California Endangered Species Act [CESA], state species of special concern, or CDFW fully protected species) wildlife species within the study area, as identified through a search of the Newport Beach, Laguna Beach, and Tustin quadrangles (Appendix G). Potential species occurrence was determined based on habitat requirements and on-site conditions. The proposed Project site's highly developed condition precludes the presence of most special-status species, although several special-status bird and fish species may have a very low to low potential for occurrence in or around the proposed Project site.

Potential species include the California least tern (*Sterna antillarum browni*, federally endangered and state-threatened), western snowy plover (*Charadrius alexandrinus nivosus*, federally threatened and state-candidate), tidewater goby (*Eucyclogobius newberryi*, federally endangered and state-candidate), green sea turtle (*Chelonia mydas*, federally threatened Eastern Pacific distinct population segment), hawksbill turtle (*Eretmochelys imbricate*, federally endangered), California sea lion (*Zalophus californianus,* protected by the Marine Mammal Protection Act [MMPA]), and harbor seal (*Phoca vitulina,* MMPA-protected).

The land area surrounding the proposed Project site may also provide suitable nesting habitat for Migratory Bird Treaty Act (MBTA)-protected bird species. Other species potentially present in the project area were identified based on critical habitat and essential fish habitat (EFH) designations (50 CFR 226). Newport Bay is located within a general area designed as EFH by the Coastal Pelagic Species and Pacific Coast Groundfish Fishery Management Plans and Pacific Groundfish Habitat Areas of Particular Concern (eelgrass and estuarine habitat). Potentially present species are described in Sections 3.3.1.2.1 through 3.3.1.2.7.

3.3.1.2.1 California Least Tern

California least terns have historically nested and are presumed to still nest in colonies at several areas on the beaches adjacent to Newport Bay, and within Upper Bay. They use open sandy or gravelly shores with light-colored substrates, little vegetation, and nearby fishing waters for nesting. Least terns have nested at several locations around Newport Bay, including 18 breeding pairs observed in 2016 at Least Tern Island in the Upper Bay Ecological Reserve (Frost 2017). Migration from wintering areas to southern California coastal areas occurs in late spring and summer. They are present in small numbers from mid-April to mid-September. California least terns feed on small fishes directly under the water surface in coastal waters, primarily foraging within Upper Bay but occasionally entering Lower Newport Bay. Eelgrass beds are critical foraging habitat for California

least terns. Preferred nesting habitat includes open beaches free of vegetation such as lagoon entrances and sandy strips on the coast away from human encroachment.

3.3.1.2.2 Western Snowy Plover

Individuals in the Pacific Coast population of western snowy plovers are known to utilize habitat in the vicinity of Newport Bay for nesting. Critical habitat for the western snowy plover occurs along approximately 25 acres of beach along space the Balboa Peninsula. The site historically supported nesting, but the current potential for nesting is low. Successful nesting has not occurred since 2009, though there have been sightings of western snowy plover in the vicinity (Glenn Lukos Associates 2020).

The critical habitat extends from the mean tide line to the boardwalk, between B Street and G Street on East Balboa Boulevard (approximately 2,000 feet). Western snowy plovers usually forage in intertidal zones, feeding on invertebrates, marine worms, and insects. The nesting season is between March 1 and September 30, with most activity occurring in May. Plovers require barren to sparsely vegetated sand beaches for nesting.

3.3.1.2.3 Tidewater Goby

Tidewater gobies require coastal brackish waters in lagoons or bays where there is access to freshwater flow. Tidewater gobies may have historically occurred in the Upper Newport Bay but have been extirpated from much of their native southern California range due to habitat degradation and loss.

3.3.1.2.4 California Grunion

California grunion are found only in southern California and northern Mexico. California grunion are known to spawn on sandy beaches along the Pacific Coast from southern California to northern Baja California, including Newport Municipal Beach from Balboa Pier Beach to West Newport Park (CDFW 2020b). California grunion inhabit nearshore waters from the surf down to approximately 60 feet. Little is known about grunion foraging habits, but they are presumed to feed on very small organisms. Spawning generally occurs from March through August, with peak spawning in late March to early June. Limited wave action within the Lower Harbor does not facilitate beach access for grunion spawning or returning to the water after hatching. However, grunion use nearshore ocean beaches to spawn.

3.3.1.2.5 Sea Turtles

Sea turtles are large, long-lived marine animals that play an important role in the shaping and regulation of coastal marine communities. As large herbivores, sea turtles feed on seagrass and algae, and nesting populations can be found along the Pacific Coast of Mexico. The green turtle and hawksbill turtle occasionally visit the nearshore environment of Orange County, but they generally

do not utilize the local marine waters as a permanent breeding or foraging habitat. According to *The Orange County Register*, "sea turtles are now being found in the Port of Los Angeles, in the harbor at Marina Del Rey, in Alamitos Bay," and the warm discharge waters of the nearby power-generating facilities in "the San Gabriel River in Long Beach, and off of Carlsbad in San Diego County" (Ritchie 2019). While their occurrence within Newport Bay is expected to be rare, a few green sea turtles were spotted in Newport Harbor in 2017, where they may have utilized the eelgrass beds in Newport Bay as a source of nutrition (Ritchie 2019).

3.3.1.2.6 Marine Mammals

The only marine mammals expected in proposed CAD facility or dredging areas would be California sea lions and harbor seals. Sea lions and seals are expected to forage in the Lower Harbor and rest on the breakwater jetties and navigational buoys. Various dolphin species are known to enter Lower Newport Bay but are not expected to be present at the proposed CAD facility or dredging areas, as general activity and noise during dredging activities typically act as a deterrent for dolphins.

There are a variety of marine mammals that are likely to occur in the shallow waters at the nearshore disposal site and in the open water habitat at LA-3. While some are year-round residents, others are transients or are observed during seasonal migrations through the area. California sea lions and harbor seals often come into the nearshore zone, while common dolphins (*Delphinus delphis*), Pacific white-sided dolphins (*Lagenorhynchus obliquidens*), and gray whales (*Eshrichtius robustus*) occasionally visit the nearshore zone. LA-3 has the highest expected diversity of cetaceans (whales, dolphins, and porpoises) and pinnipeds (sea lions and seals). The common dolphin was the most abundant species observed in summer 2000, along with the Pacific white-sided dolphin and California sea lion (USACE/USEPA 2004). Other likely visitors in the vicinity of LA-3 include the gray whale, bottlenose dolphin (*Tursiops* spp.), Dall's porpoise (*Phocoenoides dalli*), pilot whale (*Globicephala* spp.), Risso's dolphin (*Grampus griseus*), and Pacific harbor seal.

3.3.1.3 Essential Fish Habitat

In accordance with the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSA), an assessment of the EFH has been conducted for the proposed Project. The proposed Project is located within an area designated as EFH for two Fishery Management Plans (FMPs)—the Coastal Pelagics Species Management Plan and the Pacific Groundfish Fishery Management Plan. Many of the more than 90 federally managed species under these FMPs are known to occur in the area and could be affected by the proposed Project. Four coastal pelagic species potentially occur in the waters offshore of Newport Beach, and four Pacific Coast groundfish species potentially occur within Newport Bay (Table 3-8). Although several other coastal pelagic and groundfish FMP species have been observed in Newport Bay, temporal data indicate that their presence in the proposed CAD facility or dredge areas is likely sporadic, and their numbers would be extremely low (CRM 2009).

Table 3-8
Fish Species with Essential Fish Habitat Present in Newport Bay

Scientific Name	Common Name	Occurrence
Coastal Pelagic Species		
Engraulis mordax	Northern anchovy	Present in Lower Newport Bay
Sardinops sagax	Pacific sardine	Rare in Lower Newport Bay
Trachurus symmetricus	Jack mackerel	None observed
Scomber japonicus	Pacific mackerel	Rare in Lower Newport Bay
Pacific Coast Groundfish		
Parophrys vetulus	English sole	Rare in Upper and Lower Newport Bay
Sebastes serranoides	Olive rockfish	Rare in Lower Newport Bay
Scorpaena guttata	California scorpionfish	Rare in Lower Newport Bay
Triakis semifasciata	Leopard shark	Rare in Upper Bay

Note:
Source: Allen (1976) as cited in CRM (2009)

The proposed Project is also located within the Pacific Coast Groundfish Habitat Areas of Particular Concern: Estuarine and Eelgrass Habitat. Estuaries tend to be shallow, protected, nutrient-rich, and biologically productive, providing important habitat for marine organisms, including groundfish (Pacific Fishery Management Council 2019). Eelgrass grows in quiet bays and harbors as well as open coast regions. It provides many biological and ecosystem services, including shelter for juvenile fishes, important foraging habitat for multiple species, shoreline stabilization, and water quality improvements.

3.3.2 Applicable Regulations

3.3.2.1 Federal

3.3.2.1.1 Clean Water Act

The CWA (33 United States Code [USC] 1344) provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. Activities that have the potential to discharge dredge or fill materials into waters of the United States are regulated under the CWA Section 404, as administered by USACE. The CWA Section 401 requires that a water quality certification or waiver be obtained from the governing RWQCB before issuance of Section 404 permits. The CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), which is the authority for the permit system administered by USEPA and state water quality regulatory agencies. Permits for discharges are officially called "NPDES permits."

3.3.2.1.2 Federal Endangered Species Act

Under the federal ESA, the Secretary of the Interior and the Secretary of Commerce have the joint authority to list a species as threatened or endangered (16 USC 1533[c]). Pursuant to the ESA requirements, an agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species may be present in the study area and determine whether the project may affect or "take" such species. "Take" is defined by the ESA (16 USC 1532[19]) to mean, "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct."

An incidental take of a listed species requires consultation with the U.S. Fish and Wildlife Service (USFWS) or NMFS to determine whether the project is likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3]).

3.3.2.1.3 Rivers and Harbors Appropriations Act

The Rivers and Harbors Appropriations Act regulates construction in navigable waters of the United States, including dredging, filling, and structures. Section 10 of this act requires permits from USACE for all structures, such as docks, jetties, and breakwalls, and activities (e.g., dredging) that could affect navigation.

3.3.2.1.4 Magnuson-Stevens Fishery Conservation and Management Act

The MSA is the primary law governing marine fisheries management in United States federal waters. Federal agencies are required to consult the National Oceanic and Atmospheric Administration (NOAA) Fisheries regarding activities that may affect EFH.

3.3.2.1.5 Migratory Bird Treaty Act

The MBTA of 1918 (16 USC 703–711) is the primary legislation in the United States to conserve migratory birds. It implements the United States' commitment to four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The MBTA prohibits the taking, killing, trading, or possessing of migratory birds. This includes disturbance that causes nest abandonment or loss of reproductive effort (e.g., killing or abandoning eggs or young).

3.3.2.1.6 Marine Mammal Protection Act

The MMPA of 1972 (16 USC 1361 et seq.) prohibits the taking (including harassment, disturbance, capture, and death) of any marine mammals and marine mammal products, except as set forth in the MMPA. Jurisdiction for the MMPA is shared by USFWS and NMFS.

3.3.2.1.7 Executive Order 13112 Invasive Species

Executive Order (EO) 13112, signed in 1999, requires federal agencies to identify actions that may affect the status of invasive species and, to the extent feasible, prevent the introduction of such species. Federal agencies are also required to control and monitor populations of invasive species, among other requirements. Under this EO, the National Invasive Species Council was established to prepare the National Invasive Species Management Plan, which is one of many tools used for managing invasive species such as *Caulerpa*.

3.3.2.2 State

3.3.2.2.1 California Endangered Species Act

Under the CESA, CDFW is responsible for maintaining a list of threatened, endangered, and candidate species (California Fish and Game Code [FGC] 2070). CDFW also designates "fully protected" or "protected" species as those that may not be taken or possessed. Species designated as fully protected or protected may or may not be listed as endangered or threatened. CDFW also tracks species of special concern which are animal species whose populations have diminished and may be considered for listing if declines continue. Pursuant to the requirements of the CESA, an agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the study area and determine whether the project would have a potentially significant impact on such species.

"Take" of a species, under the CESA, is defined as an activity that would directly or indirectly kill an individual of a species. The CESA definition of "take" does not include "harm" or "harass," as is included in ESA. As a result, the threshold for a take under the CESA may be higher than under the ESA because habitat modification is not necessarily considered take under the CESA. CDFW may issue incidental take permits when the following actions occur: adequate minimization measures are met, and issuance of the permit would not jeopardize the continued existence of a state-listed species. If the project applicant receives authorization to take federally listed species under the ESA, take authorization may also be sought as a Consistency Determination from CDFW under FGC 2080.1.

3.3.2.2.2 California Native Plant Protection Act

The California Native Plant Protection Act (FGC 1900–1913), Natural Communities Conservation Planning Act, and the CESA provide guidance on the preservation of plant resources. Vascular plants listed as rare or endangered by the California Native Plant Society (CNPS)—but may have no designated status or protection under federal or state endangered species legislation—are defined in the following ranks.

- **Rank 1A:** Plants presumed to be extirpated in California and either rare or extinct elsewhere
- **Rank 1B:** Plants rare, threatened, or endangered in California and elsewhere

- **Rank 2A:** Plants presumed to be extirpated in California, but more common elsewhere
- **Rank 2B:** Plants rare, threatened, or endangered in California, but more common elsewhere
- **Rank 3:** Plants about which more information is needed—a review list
- **Rank 4:** Plants of limited distribution—a watch list

In general, plants listed as CNPS Rank 1A, 1B, 2A, or 2B also meet the definition of FGC 1901, Chapter 10 of the Native Plant Protection Act, and FGC 2062 and 2067. The CNDDB identifies three special-status plant species (CNPS Rank 1 or 2 species) with historic ranges in the vicinity of the study area. However, suitable habitat or microhabitat conditions specific to these species does not exist within the proposed Project area.

3.3.2.2.3 California Fish and Game Code 3503, 3511, 3513, 4700, 5050, and 5515

Provisions of the MBTA are adopted through the FGC. Under FGC 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the FGC or related regulations. FGC 3513 prohibits take or possession of any designated migratory non-game bird or any part of such migratory non-game bird. The FGC offers no mechanism for obtaining an incidental take permit for the loss of non-game migratory birds.

The FGC prohibits the incidental or deliberate take of fully protected species. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research or the protection of livestock. Therefore, avoidance measures may be required to avoid a take (FGC 3511 for birds, 4700 for mammals, 5050 for reptiles and amphibians, and 5515 for fish).

3.3.2.2.4 California Coastal Act

The CCA (PRC Division 20) governs development and management of the coastal zone and is California's implementing act for the federal Coastal Zone Management Act. The CCA provides the basis for protection of land and marine resources within the California coastal zone, including wetlands, fisheries, and beaches. Those CCA sections relevant to the protection of natural resources include 30231 (maintenance of biological productivity and water quality), 30230 (protection of marine resources), and 30240 (protection of environmentally sensitive areas).

3.3.2.3 Local

3.3.2.3.1 City of Newport Beach Municipal Code

Under the City's Municipal Code, Title 17 (Harbor Code) provides limits on development within Newport Bay (Section 17.55.030), stating the following: "Dredging and dredged material disposal shall avoid significant disruption to marine and wildlife habitats and water circulation." Title 21 (Local Coastal Program Implementation Plan) includes protections for wetlands, deepwater areas, and other water areas (Section 21.30B.040), and it provides limits on uses for development that involve dredging and disposal in open coastal waters.

3.3.2.3.2 City of Newport Beach General Plan

The City approved its General Plan in November 2006 (City 2006a). The General Plan is currently being updated, and the City formed a steering committee to manage the update in January 2019. The General Plan is a state-required document that provides guidance to decision-makers. It includes a Conservation of Natural Resources Element, applicable to Biological Resources in the city limits. The following are applicable Natural Resources Element Goals and Policies:

- **NR 3.2 Water Pollution Prevention**: Promote pollution prevention and elimination methods that minimize the introduction of pollutants into natural waterbodies (Goal HB 8.2).
- **NR 4.1 Total Maximum Daily Loads**: Develop and implement the total maximum daily loads (TMDLs) established by the Santa Ana RWQCB and guided by the Newport Bay Watershed Executive Committee (WEC).
- **NR 14.2 Interagency Coordination for Federal Navigational Channels**: Maintain and enhance deepwater channels and ensure they remain navigable by boats (Goal HB 13).
- **NR 15.1 Dredging Projects**: Monitor dredging projects within the region to identify opportunities to reduce disposal costs and utilize dredge spoils for beach nourishment.
- **NR 15.2 Regional Sediment Management**: Participate in regional sediment management by maintaining records of the number of channelized streams, miles of channelization in streams, volumes of sediment extracted from stream channels and debris basins, and the grain size distribution of the extracted sediments.

3.3.2.4 City of Newport Beach Coastal Land Use Plan

The CLUP sets policies that govern coastal resource protection (City 2019b, Chapter 4). The City states several related policies in its CLUP, including the following from Section 4.1, Biological Resources (City 2019b):

- **4.1.2-1**. Maintain, enhance, and, where feasible, restore marine resources.
- **4.1.2-2.** Provide special protection to marine resource areas and species of special biological or economic significance.
- **4.1.2-3**. Require that uses of the marine environment be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.
- **4.1.2-4**. Continue to cooperate with the state and federal resource protection agencies and private organizations to protect marine resources.
- **4.1.2-5**. Continue to require *Caulerpa* protocol surveys as a condition of City approval of projects in the Newport Bay and immediately notify the Southern California *Caulerpa* Action Team (SCCAT) when found.
- **4.1.4-1**. Continue to protect eelgrass meadows for their important ecological function as a nursery and foraging habitat within the Newport Bay ecosystem.

- **4.1.4-4**. Provide for the protection of eelgrass meadows and mitigation of impacts to eelgrass meadows in a comprehensive harbor area management plan for Newport Bay.
- **4.1.4-5.** Where applicable require eelgrass and *Caulerpa taxifolia* surveys to be conducted as a condition of City approval for projects in Newport Bay in accordance with operative protocols of the Southern California Eelgrass Mitigation Policy and *Caulerpa taxifolia* Survey protocols.
- **4.2.3-1**. Permit the diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes in accordance with other applicable provisions of the LCP, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects and limited to the following:
    A. Construction or expansion of port/marine facilities.
    B. Construction or expansion of coastal-dependent industrial facilities, including commercial fishing facilities, and commercial ferry facilities.
    C. In open coastal waters, other than wetlands, including estuaries and streams, new or expanded boating facilities, including slips, access ramps, piers, marinas, recreational boating, launching ramps, and pleasure ferries, and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.
    D. Maintenance of existing and restoration of previously dredged depths in navigational channels, turning basins, vessel berthing, anchorage, and mooring areas, and boat launching ramps. The most recently updated U.S. Army Corps of Engineers maps shall be used to establish existing Newport Bay depths.
    E. Incidental public service purposes which temporarily impact the resources of the area, such as burying cables and pipes, inspection of piers, and maintenance of existing intake and outfall lines.
    F. Sand extraction for restoring beaches, except in environmentally sensitive areas.
    G. Restoration purposes.
    H. Nature study, aquaculture, or similar resource-dependent activities.
    I. In the Upper Newport Bay Marine Park, permit dredging, diking, or filling only for the purposes of wetland restoration, nature study, or to enhance the habitat values of environmentally sensitive areas.
- **4.2.3-4**. Require dredging and dredged material disposal to be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation.
- **4.2.3-8**. Continue to cooperate with the U.S. Army Corps of Engineers in their maintenance and delineation of federal navigational channels at Newport Harbor in the interest in providing navigation and safety.
- **4.2.4-2**. Monitor dredging projects within the region to identify opportunities to reduce disposal costs and utilize dredge spoils for beach nourishment.

- **4.2.4-3**. Dredged materials suitable for beneficial reuse shall be transported for such purposes to appropriate areas and placed in a manner that minimizes adverse effects on the environment.
- **4.2.5-1**. Avoid impacts to eelgrass (*Zostera marina*) to the greatest extent possible. Mitigate losses of eelgrass at a 1.2 to 1 mitigation ratio and in accordance with the Southern California Eelgrass Mitigation Policy. Encourage the restoration of eelgrass throughout Newport Harbor where feasible.

3.3.2.4.1 City of Newport Beach Harbor Area Management Plan

The *Harbor Area Management Plan* provides guidance to the City for balancing the environmental needs of Lower Newport Bay with maintenance and operation needs (City 2010). The plan encourages channel maintenance and berthing management through dredging and sediment management along with habitat protection and improvement focused on Upper Bay. In addition, the plan explicitly references dredging under RGP 54 and beach replenishment strategies.

3.3.3 Environmental Impacts and Mitigation Measures

3.3.3.1 Baseline

At the time of publication of the EIR for the proposed Project, the project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters south of the Newport Beach, is an active recreational harbor—supporting all classes of recreational vessels and charter vessels—and public beaches, with no dredging operations except periodic and limited RGP 54 maintenance dredging. Eelgrass habitat exists generally in the shallow waters along the shorelines within Lower Newport Bay and through the Entrance Channel, but there are no known eelgrass beds within the proposed Project area.

3.3.3.2 Thresholds

For purposes of this DEIR, the following thresholds, which are based on Appendix G of the CEQA Guidelines (Environmental Checklist), were used to determine whether the proposed Project would result in potentially significant adverse impacts on biological resources. The proposed Project would have ana potentially significant n impact on biological resources if:

- **BIO-1:** The proposed Project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- **BIO-2**: The proposed Project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or

regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

- **BIO-3**: The proposed Project would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means.
- **BIO-4**: The proposed Project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- **BIO-5**: The proposed Project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- **BIO-6**: The proposed Project would conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

3.3.3.3 Methodology for Determining Impacts

Potential impacts on biological resources were qualitatively evaluated based on the habitat preferences for various species known or presumed to be present in the proposed Project area, as well as the quantity and quality of existing habitat. Potential impacts were analyzed using recent USFWS and CDFW lists for special-status species with the potential to inhabit the study area, documented local observations, and professional expertise and judgment in evaluating how the proposed Project could affect interact with biological resources. Further, the analysis was based on existing reports that assessed and evaluated biological conditions and effects within Lower Newport Bay, particularly the CRM (2009) and the Final EIR prepared in support of the City of Newport Beach Marina Park Project (City 2009).

The proposed measurement indices used to evaluate impacts on biological resources include impacts on special-status species or habitats. The proposed Project would be considered to have a significant impact if it would be inconsistent with applicable regulations and policies protecting biological resources.

For some biological resources, such as local nesting populations of special-status birds, considerable variability can occur from year to year. Therefore, for the California least tern and western snowy plover, multiple years of available nesting and sighting data were used to evaluate potential impacts on these species from related to the proposed Project (Frost 2017; Glenn Lukos Associates 2020).

3.3.3.4 Impact Analysis

3.3.3.4.1 BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The proposed Project would be constructed within an active marine harbor supporting recreational activities that has previously been subject to dredging activities. The proposed Project area, nearshore disposal sites, and LA-3 do not support unique or rare habitats whose alteration would significantly impact sensitive species in the area.

Dredging and CAD construction have the potential to directly impact benthic flora and fauna, as well as lead to sediment plumes. Noise from construction activities also has the potential to indirectly affect water column species.

Nearshore placement has the potential to affect benthic and water column species. Waves and wave-related currents in the nearshore environment suspend and transport sediment along the shore as a natural process, creating an unstable environment of shifting sands. Because the nearshore is a dynamic and unstable environment, nearshore placement is not anticipated to significantly alter the environmental conditions for flora or fauna in the vicinity of the nearshore disposal.

The effects of construction activities related to dredging and construction of the CAD facility on specific special-status species directly or indirectly are described below.

Eelgrass Beds

As noted in Section 3.3.1.1.2, eelgrass is a highly productive species and serves as important habitat. Consistent with state and federal protocols, the City conducts shallow-water eelgrass surveys every 2 years and harbor-wide surveys every 4 years. The most recent shallow-water eelgrass survey was conducted in 2018, and the results of the survey (MTS 2018) are included as Appendix E. As described in this appendix, eelgrass is not present in or adjacent to the area proposed for the CAD facility or in the areas proposed for dredging. Impact BIO-2 addresses the impact to eelgrass habitat.

California Least Tern

The primary nesting areas for the California least tern are in the Upper Bay. No dredging or nearshore placement would occur within or adjacent to known California least tern nesting locations.

While the proposed Project would not directly support California least tern nesting, foraging birds may be present in the study area. The California least tern are present from mid-April to

mid-September. Foraging birds feed on small fish directly under the water surface in coastal waters, primarily foraging within the Upper Bay but occasionally entering Lower Newport Bay.

Dredging activities would cause increases in suspended sediments and turbidity, which would affect foraging species' ability to see food normally visible in the water. Noise and equipment operation could cause birds to avoid using the beach as a resting area. However, no direct mortality of California least tern or western snowy plover is reasonably foreseeable because of the lack of nesting habitat in the areas to be affected by the Project. During construction of the CAD facility, there would be a loss of benthic and water column habitat, which could reduce the amount of small fishes in the immediate area of construction. This loss would be temporary, as the CAD facility would eventually be filled and capped. Impacts to benthic communities and increased turbidity due to dredging activities are also temporary in nature. Because the areas to be dredged for construction of the CAD facility are a small portion of local habitat (approximately 8 acres), the loss of food for bird populations is judged adverse, but not significant.

Effects from sediment suspension and turbidity as a result of sediment placed within the nearshore marine environment would be temporary and minimal. Additionally, it is anticipated that only a small number of organisms would be affected, and those effects would be limited to minor impacts on foraging behavior for individuals.

Western Snowy Plover

No dredging would occur within or adjacent to western snowy plover critical habitat or known nesting locations. Nearshore placement would occur to the northwest of the western snowy plover critical habitat on Balboa Peninsula.

While the proposed Project site would not directly support western snowy plover nesting, foraging birds may be present in the study area. The western snowy plover is present from early March to late September. Foraging birds feed on small fish directly under the water surface in coastal waters, primarily foraging within the Upper Bay but occasionally entering Lower Newport Bay.

Dredging activities would cause increases in suspended sediments and turbidity, which would affect foraging species' ability to see food normally visible in the water. Noise and equipment operation could cause birds to avoid using the beach as a resting area. However, no direct mortality of western snowy plover is reasonably foreseeable because of the lack of nesting habitat in the areas to be affected by the proposed Project. During construction of the CAD facility, there would be a loss of benthic and water column habitat, which could reduce the amount of small fish in the immediate area of construction. This loss would be temporary, as the CAD facility would eventually be filled and capped. Impacts to benthic communities and increased turbidity due to dredging activities are also temporary in nature. Because the areas to be dredged for construction of the CAD facility are a small

portion of local habitat (approximately 8 acres), the loss of food for bird populations is judged adverse, but not significant.

Effects from sediment suspension and turbidity as a result of sediment placed within the nearshore marine environment would be temporary and minimal. Additionally, it is anticipated that only a small number of organisms would be affected, and those effects would be limited to minor impacts on foraging behavior for individuals.

Migratory Bird Treaty Act-Protected Birds

The MBTA-protected birds could roost or nest in trees within Newport Bay, although the developed nature of Lower Newport Bay and the public use of the shorelines and boardwalk likely precludes MBTA-protected birds from establishing ground nests in beach areas. Because the proposed Project area is entirely based on the water, within Newport Bay and the nearshore area, no direct mortality of any MBTA-protected birds would be expected. However, noise and construction equipment operation may cause behavioral impacts to birds, including temporary avoidance of foraging areas within Lower Newport Bay. The MBTA-prey species, like forage fish, would also avoid direct disturbance areas. Forage fish and birds would be expected to return after dredging activities cease.

California Grunion

As discussed in Section 3.3.1.2.4, California grunion leave the water at night to spawn on nearshore beaches at predicted times during the spring and summer months (March through August). Spawning occurs for four consecutive nights after the highest tide associated with each full or new moon (CDFW 2020b). These spawning events are protected, and any beach activity during spawning must be monitored.

As noted in Table 2-1, nearshore placement would occur over a 2-month period during the day hours sometime between July and October 2022. As noted above, spawning only occurs during night at a specific period and it is unlikely that nearshore placement would overlap with spawning. In addition, nearshore placement works by depositing sediment at a distance from the beach to allow the normal active sand movement process deliver material to the beach gradually. Nearshore placement would allow material to mix with other sediment in the littoral zone prior to being carried naturally onto the beach or downcoast, with little or no observable change onshore. Therefore, spawning is not anticipated to be affected by nearshore placement even if grunion are present at a beach adjacent to the nearshore disposal activities. Based on guidance provided from the City for the Marina Park Project, and consistent with other projects of similar magnitude and geography, nearshore ocean beach disposal locations do not require grunion monitoring prior to placement activities (CCC 2011; Love 2011; USACE 2012b; CDFW 2020b).

Sea Turtles and Marine Mammals

Green sea turtles, hawksbill turtles, California sea lions, and harbor seals in the vicinity of the proposed Project site and dredging area during the construction period could be affected by the noise of the dredging operation, and by contact with the dredging and disposal equipment during construction. Green sea turtles, hawksbill turtles, California sea lions, harbor seals, common dolphins, Pacific white-sided dolphins, and gray whales in the vicinity of the nearshore placement area during disposal operations would potentially be disturbed by the noise and activity of the disposal tugboat and split-hull barge and by the turbidity plume from disposed sediments.

The proposed Project site is currently an active recreational and commercial harbor subject to noise from ongoing operations, including the use of large vessels. Underwater noise levels will temporarily increase due to operation of dredging equipment within Newport Harbor and transport of the material to the nearshore disposal site. Clamshell dredges generate a repetitive sequence of sounds from winches, bucket impact with the substrate, closing and opening the bucket, and dumping the dredged material into the barge. However, noise attenuates with increasing distance from the source. As referenced in the Marina Park Draft EIR (City 2009), underwater noise from the clamshell dredging in Los Angeles Harbor averaged 150 to 162 decibels (dB) relative to 1 micropascal of pressure (re 1 µPa), which is less than the designated Level A Harassment threshold of 190 dB root mean square (re 1 µPa) for pinnipeds. Dredging and construction of the CAD facility would likely use a clamshell dredge and is anticipated to produce similar underwater noise (150 to 162 dB re 1 µPa). This is comparable to underwater noise levels of 160 to 180 dB produced by small boats and ships (MALSF 2009).

There is limited data on the effects of intense sounds on marine turtles, and thus it is difficult to predict the level of damage to hearing structures. However, the U.S. Navy did conduct a study on the range to the onset of temporary or permanent loss of hearing for sea turtles exposed to impact pile driving, which generates more intense underwater noise than dredging equipment. The study found that the range in which noise would affect sea turtles was short (between 6 and 65 feet). This finding was due to sea turtles' relatively high thresholds for auditory impacts compared to source levels of impact pile driving conducted during U.S. Navy training (Navy 2018). Based on prior observations of sea turtle reactions to sound, if a behavioral reaction were to occur, the responses could include increases in swim speed, change of position in the water column, or avoidance of the sound (Popper et al. 2014). There is no evidence to suggest that any behavioral response would persist beyond the sound exposure.

Startle reactions from sea lions or harbor seals that are in close proximity to barges or other equipment could occur as the result of start-up operations in the morning or from loud noises resulting from construction activities. These responses are temporary, however, and individuals in the vicinity are prone to habituation. Considering the source sound level, sound attenuation over

distance, and the typical noise generated from boats and land-based sources, such dredging noise levels would likely be within current noise levels.

One of the primary threats facing sea turtles is vessel strikes, and disposal vessel traffic could encounter turtles on the way to the nearshore disposal site. Marine mammals are generally agile and able to avoid injury by equipment, and other foraging area is available nearby in the bay. They would likely avoid the dredging operation, and although individuals may be curious, there is a low potential for harm to an individual or the population within the vicinity of Newport Bay, including the nearshore disposal site.

Breeding would not be affected because sea turtles, sea lions, and harbor seals do not breed in the Lower Harbor. Disposal operations at the nearshore disposal site are also not expected to affect breeding or nursing of any sea turtle or marine mammal species. Foraging may be temporarily affected in the vicinity of disposal operations due to a decrease in water clarity, and there may be a potential reduction in prey items. It is highly unlikely that project activities would affect sea turtle or pinniped foraging in the areas around the dredge or jetties given the existing environmental baseline and harbor use. Additionally, foraging sea turtles, seals, and sea lions are not expected to be affected by project activities given the amount of surrounding area available for foraging and the existing environmental baseline of almost constant human presence and recreational activity that already occurs in the area. Proposed Project activities, therefore, are not likely to result in "take" as defined in the MMPA. Further coordination and authorization under the MMPA are not required for the proposed Project.

Operations

As previously described, sediments from the Federal Channels were characterized in 2018 and 2019 to determine suitability for open ocean disposal or nearshore placement (Anchor QEA 2019a). Suitability determinations are made by measuring chemical concentrations and conducting biological tests. Most sediments were approved for open ocean disposal; however, select areas were determined to be unsuitable for nearshore or open ocean disposal due to their chemical concentrations and potential for ecological and human health risks unless confined from exposure to sensitive biota. These areas include the Turning Basin and portions of Main Channel North and Newport Channel due to elevated concentrations of mercury and/or PCBs. All concentrations were less than State of California Title 22 Total Threshold Limit Concentrations, and sediments are not considered a hazardous waste under state or federal regulatory standards. In addition, all effects-based testing, including toxicity and bioaccumulation, passed open ocean disposal requirements, as further discussed in Section 3.7.

Sedimentation has occurred in many areas of Lower Newport Bay, causing the Federal Channels to be shallower than the authorized design depths (-10 to -20 feet MLLW). By removing these

sediments from the navigation channels and other areas of the Lower Harbor where they could be resuspended by vessel activities, the proposed Project reduces long-term risks to the aquatic biota within the Lower Harbor. Chemicals in the environmental are typically only able to cause impacts when they are mobilized within the water column through resuspension or when they diffuse into the water from the upper layers of the sediment. The proposed Project would contain the sediments in the CAD facility, which would eliminate the risk of resuspension and therefore result in long-term benefits to the environment. The proposed Project would seek to relocate the impacted sediments into the CAD facility, which would eliminate the risk or resuspension and therefore result in long-term benefits to the environment.

Impact Determination: Proposed Project activities at the CAD facility and maintenance dredging sites would not result in a significant impact on any special-status species. The proposed Project areas are not an important foraging or breeding areas for special-status species, and few, if any, individuals of this species would be present. Noise impacts would be temporary and likely within ambient levels. Impacts from proposed Project activities would be less than significant because no loss of individuals or a substantial reduction of habitat for the California least tern, western snowy plover, sea turtles, marine mammals, or other special-status species would occur, nor would loss of any critical habitat for federally listed species occur.

Grunion spawning activities are not normally monitored during nearshore disposal operations as the material replenishes the beaches through the natural seasonal movement of sand onto the beach through wave action and does not affect grunion spawning (Smith 2014). However, if required by conditions of a permit, California grunion spawning activity would be evaluated during predicted run and egg incubation periods identified by the CDFW (2020b), and any impacts would be avoided or minimized by adhering to all conditions outlined in the Marina Park Project Grunion Monitoring Plan (Appendix H).

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.3.3.4.2 BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The proposed Project would be constructed within an active marine harbor supporting recreational activities. Construction activities have the potential to affect special natural communities as described below.

Eelgrass Beds

As noted in BIO-1, eelgrass the City conducts shallow-water eelgrass surveys every 2 years and harbor-wide surveys every 4 years. Eelgrass beds are not present in the area proposed for the CAD facility or in the areas proposed for dredging. While there are no known areas of eelgrass beds in or adjacent to the project site, consistent with the California Eelgrass Mitigation Policy (CEMP; NOAA 2014) a pre-construction eelgrass will be performed by the City in the proposed Project area 30 to 60 days prior to commencement of dredging and CAD construction activities. If eelgrass is located during the pre-construction survey, a post-construction survey will also be performed by the City within 30 days following completion of construction to evaluate any immediate effects to eelgrass habitat. If the post-construction survey indicates loss of eelgrass habitat within the proposed Project area, any impacts to eelgrass that have not previously been mitigated for will be mitigated in accordance with the CEMP (NOAA 2014).

Caulerpa

A substantial threat to the productive marine ecosystems in California is *Caulerpa*, a highly invasive green alga. This tropical species, which was introduced to natural systems through the aquarium trade, can be extremely harmful to marine ecosystems because it invades, out-competes, and eliminates native algae, seagrasses, kelp forests, and reef systems by forming a dense blanket of growth on mud, sand, or rock surfaces. It can grow in shallow coastal lagoons as well as in deeper waters and has a wide range of environmental tolerance. In order to detect existing infestations as well as avoid the spread of *Caulerpa* within other systems, NOAA has developed a survey and reporting protocol for California nearshore coastal and enclosed bays, estuaries, and harbors (NOAA 2008). No *Caulerpa* was found in the 2018 Newport Bay eelgrass survey (Appendix E). However, consistent with the *Caulerpa Control Protocol* (NOAA 2008), a pre-construction *Caulerpa* survey will be performed by the City in the proposed Project area 30 to 60 days prior to commencement of dredging and CAD construction activities. If *Caulerpa* is found, the City will notify NOAA and comply with any control requirements.

Essential Fish Habitat

As discussed in Section 3.3.1.3, four coastal pelagic species potentially occur in the waters offshore of Newport Beach, and four groundfish species also potentially occur within Newport Bay. Of these species, only the northern anchovy comprises a significant portion of fish that contribute moderate to heavy abundance to the nearshore fish community, with no recorded levels of abundance within Newport Bay. Although several other coastal pelagic and groundfish FMP species have been observed in Newport Bay, temporal data indicate that their presence in the CAD facility site or dredge areas is likely sporadic and their numbers would be extremely low (CRM 2009). Construction of the CAD facility, dredging, and disposal activities may result in short-term, temporary, and minor

increases in turbidity; underwater noise; benthic community disturbance; and water quality impacts in the immediate area.

Increased sediment suspension and turbidity can affect EFH fish species by disturbing respiration (clogging gills), reducing visibility and the ability to forage or avoid predators, and altering movement patterns (due to avoidance of turbid waters). Suspended sediments have been shown to affect fish behavior, including avoidance responses, territoriality, feeding, and homing behavior. Generally, bottom-dwelling fish species are the most tolerant of suspended solids, and filter feeders are the most sensitive. Motile organisms can generally avoid unsuitable conditions in the field.

Anticipated increases in sediment suspension and turbidity from maintenance dredging would have similar effects to aquatic wildlife and vegetation associated with estuarine habitats. A study on the effects of dredging on aquatic organisms found that, aside from natural systems requiring clear water such as coral reefs and some aquatic plant beds, most organisms were very resistant to the effects of suspended sediment, and dredging-induced turbidity is not a major ecological concern. However, increased turbidity and suspended sediment levels may limit light transmission, which could adversely affect growth and survival of aquatic vegetation, including eelgrass. To comply with the CWA Section 401 Water Quality Certification issued by the Santa Ana RWQCB for total suspended solids (TSS) in Lower Newport Bay, routine monitoring is conducted. In 2012, a special study was conducted in Lower Newport Bay during active dredging operations to determine how real-time parameters monitored in the field (turbidity and transmissivity) relate to the protective target TSS water quality standard of 15 milligrams per liter (mg/L; Anchor 2012). The results indicated that a TSS target of 15 mg/L would be represented by a transmissivity value of 38.4% and a turbidity value of 15.9 nephelometric turbidity units (NTU).

Underwater noise generated by proposed Project activities may also impact EFH species. The proposed Project site is currently an active recreational and commercial harbor subject to general noise from ongoing operations, including the use of large vessels. Underwater noise levels will temporarily increase due to operation of dredging equipment within Newport Harbor and transport of the material to the nearshore disposal site. Clamshell dredges generate a repetitive sequence of sounds from winches, bucket impact with the substrate, closing and opening the bucket, and dumping the dredged material into the barge. However, noise attenuates with increasing distance from the source. As referenced in the Marina Park Draft EIR (City 2009), underwater noise from the clamshell dredging in Los Angeles Harbor averaged 150 to 162 dB re 1 µPa, which is below the designated Level A Harassment threshold of 190 dB root mean square (re 1 µPa) for pinnipeds. Dredging and construction of the CAD facility would likely use a clamshell dredge, which is anticipated to produce similar underwater noise (150 to 162 dB re 1 µPa). This is comparable to underwater noise levels of 160 to 180 dB produced by small boats and ships (MALSF 2009). Underwater noise may temporarily affect fish behavior in the immediate project area during

construction until activities cease. Although data on effects of noise on fishes are limited, the data suggest that fishes would be more likely to be startled by sudden staccato noises than by steady noises of a hydraulic cutterhead dredge.

These responses are temporary, however, and individuals in the vicinity are prone to habituation. Considering the source sound level, sound attenuation over distance, and the typical noise generated from boats and land-based sources, such dredging noise levels would likely be within current noise levels.

Benthic habitat can provide important foraging areas for fish species, especially for species that forage in the benthos. Dredging may temporarily displace benthic habitat and infauna from the dredging footprint, making the benthic habitat and infauna unavailable for special-status species fish to forage. Following sediment-disturbing activities such as maintenance dredging, disturbed areas are usually recolonized quickly by benthic organisms (Newell et al. 1998). Bottom disturbance during maintenance dredging would similarly disturb the benthic community component of estuarine habitat. Benthic habitat in this area is expected to recolonize following temporary construction activities.

Dredging has the potential to result in accidental spills if improperly managed. Various materials used during construction could be introduced into the marine environment, including fuel oils, grease, or other petroleum products. Contaminants may be toxic to fish or cause altered oxygen diffusion rates and acute and chronic toxicity to aquatic organisms, thereby reducing growth and survival. Eelgrass and estuarine habitat may similarly be adversely affected by contaminants if introduced to the aquatic ecosystem.

Impact Determination: There are no known eelgrass beds or *Caulerpa* in the proposed Project area. Therefore, the proposed Project would have less-than-significant impacts on eelgrass or the spread of *Caulerpa* during dredging. Effects to Pacific Coast Groundfish FMP and Coastal Pelagic FMP species from sediment suspension and turbidity would be temporary and minimal, and the effects would be limited to the immediate project vicinity during construction. Noise is expected to temporarily impact fish behavior in the immediate project area during construction activities, but it is unlikely to result in significant ecological effects to EFH fish species given the steady nature of the noise and the background noise generated by vessel traffic.

Impacts to benthic habitat are expected to be temporary, limited to the dredging footprint and disposal areas, and unlikely to result in significant ecological effects to EFH fish species. Dredging is not expected to exceed temporary and minor impacts to Pacific Coast Groundfish FMP and Coastal Pelagic FMP species, eelgrass, or estuarine habitat from construction-related water and sediment quality impacts. Additionally, the number of organisms that would be affected would be small; none of the Pacific groundfish species would occur near the project site except as stray individuals, and the

only member of the Coastal Pelagics likely to be present in substantial numbers is northern anchovy, a widespread and abundant species. Because of the minor, temporary, and localized nature of the activities proposed, and the adherence to established special conditions, the proposed Project would have less-than-significant impacts on EFH and EFH species.

Mitigation Measures: While ere are no known eelgrass beds within the proposed Project area or *Caulerpa* in the Harbor, the following mitigation measures would be implemented during construction to reduce potential impacts:

- **MM-BIO-1 Pre- and Post-Construction Survey:** Consistent with the CEMP (NOAA 2014) and *Caulerpa Control Protocol* (NOAA 2008), a pre-construction eelgrass and *Caulerpa* survey shall be performed by the City in the proposed Project area 30 to 60 days prior to commencement of proposed construction activities in the Harbor.
    - If eelgrass is located during the pre-construction survey, a post-construction survey shall also be performed by the City within 30 days following completion of construction to evaluate any immediate effects to eelgrass habitat.
    - If *Caulerpa* is found, the City will immediately notify SCCAT, and construction shall not be conducted until such time as the infestation has been isolated and treated, or the risk of spread from the proposed construction is eliminated.
- **MM-BIO-2 Eelgrass Mitigation:** If a post-construction survey is required and indicates loss of eelgrass habitat within the proposed Project area, any impacts to eelgrass that have not previously been mitigated for will be mitigated in accordance with the CEMP (NOAA 2014). In-kind compensatory mitigation is the creation, restoration, or enhancement of habitat to mitigate for adverse impacts to the same type of habitat. Per the CEMP guidelines for southern California, for each square meter of vegetated eelgrass cover adversely impacted, 1.38 square meters of new habitat with suitable conditions to support eelgrass should be planted with a comparable bottom coverage and eelgrass density as impacted habitat (NOAA 2014). The 1.38:1 ratio assumes the following: 1) there is no eelgrass function at the mitigation site prior to mitigation efforts; 2) eelgrass function at the mitigation site is achieved within 3 years; 3) mitigation efforts are successful; and 4) there are no landscape differences (e.g., degree of urban influence, proximity to freshwater source) between the impact site and the mitigation site.

MM-BIO-1 and MM-BIO-2 would ensure that if eelgrass was identified through pre-construction surveys, no net loss would occur after completion of the proposed Project. If loss was indicated, mitigation would occur consistent with the CEMP. Therefore, impacts to eelgrass would be less than significant. MM-BIO-1 would ensure that the proposed Project would not lead to the spread of Caulerpa.

Residual Impact: Less than significant.

3.3.3.4.3 BIO-3: Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

There are no wetlands within or adjacent to the proposed Project footprint. The proposed Project area is entirely in marine areas.

Impact Determination: Because there are no wetlands in the proposed Project area, the proposed Project would result in no impact to state or federally protected wetlands.

Mitigation Measures: None required.

Residual Impact: No impact.

3.3.3.4.4 BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Although the proposed Project area is along the Pacific Flyway, an established air route of waterfowl and other birds migrating between wintering grounds in Central and South America and nesting grounds in Pacific Coast states and provinces of North America, the developed nature of Lower Newport Bay likely precludes migratory bird species from using the proposed Project area as a stopover during their migration.

As discussed in BIO-1, California grunion leave the water at night to spawn on beaches during the spring and summer months. Nearshore placement is not expected to overlap with spawning. In addition, sediment placed within the nearshore marine environment will be placed at a safe distance from the shoreline and with sufficient depth for a tugboat and bottom-dump scow to operate. Therefore, grunion spawning is not anticipated to be affected.

As discussed in BIO-2, eelgrass provides important foraging areas and shelter to young fish and invertebrates, food for migratory waterfowl and sea turtles, and spawning surfaces for invertebrates and fish such as the Pacific herring. There are no known eelgrass beds within the proposed Project area. However, consistent with the CEMP, pre- and post-construction surveys will be conducted. Any eelgrass determined to be lost as a result of maintenance dredging activities would be mitigated in accordance with the CEMP (NOAA 2014).

Impact Determination: Based on the analysis presented previously, the proposed Project would not result in significant impacts to movement of fish or wildlife species or wildlife corridors.

Mitigation Measures: MM-BIO-1 and MM-BIO-2 would ensure that any eelgrass was identified through pre-construction surveys, and if loss was indicated, mitigation would occur in accordance with the CEMP. Therefore, impacts would be less than significant.

Residual Impact: Less than significant.

3.3.3.4.5 BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The proposed Project would not conflict with any local policies, ordinances, or plans. The proposed Project is consistent with the City's Municipal Code and General Plan as described in Section 3.3.2.3 and will receive the required applicable local permits prior to implementation of the actions. In addition, the proposed Project is consistent with the City's CLUP (described in Section 3.3.2.4), as it maintains and provides special protection to marine resources, provides protection and mitigation of impacts to eelgrass meadows, and requires dredging and dredged material disposal to be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation.

Impact Determination: Based on the analysis presented previously, the proposed Project would result in no impact from conflicting with local policies or ordinances pertaining to biological resources.

Mitigation Measures: None required.

Residual Impact: No impact.

3.3.3.4.6 BIO-6: Would the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

The Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) for the Central and Coastal Subregion of Orange County (July 17, 1996) is the only conservation plan adopted that encompasses in the proposed Project area. The nearshore disposal site and LA-3 are not located in the NCCP/HCP or any other Habitat Conservation Plan. As discussed under BIO-1, some areas in Newport Bay may provide suitable nesting habitat for the California least tern, western snowy plover, or MBTA-protected bird species. However, the proposed Project would not disturb any areas suggested for protection in the NCCP/HCP.

Impact Determination: Based on the analysis presented previously, the proposed Project would not conflict with the provisions of an adopted HCP, NCCP, or other habitat conservation plan. This impact is considered less than significant.

Mitigation Measures: None required.

Residual Impact: No impact.

3.4 Cultural Resources

This section details the existing historical and archaeological resources within the project area; the variety of resources in the project area and surrounding vicinity; and the relevant federal, state, and local regulations and policies. The information presented in this section is largely based on historical maps and documents about the development of the project area.

Cultural resources are defined as archaeological sites, elements of the historic built environment (e.g., buildings, structures, bridges, or other built features), and places of traditional cultural importance that meet one of the following criteria (14 CCR 15064.5):

- Listed in or eligible for listing in the California Register of Historical Resources (CRHR)
- Listed in a local preservation register
- Identified as significant in a historical resource survey (unless the preponderance of evidence demonstrates that it is not historically or culturally significant)
- Determined to be significant by the CEQA lead agency, provided the determination is supported by substantial evidence considering the whole record

For the purposes of this analysis, the study area is defined as the proposed Project area (the area of proposed in-water dredging, construction of the CAD facility and placement of dredged clean material on local nearshore beaches or the open ocean).

3.4.1 Environmental Setting

The proposed Project is located in the Lower Harbor. Prior to historic land modifications, the region was characterized by tidal flats and channels with dry land in the general vicinity available only on small hills and natural levees. An 1892 U.S. Coast and Geodetic Survey chart shows the project vicinity as intertidal (Figure 3-6).

Figure 3-6
Project Vicinity on 1892 Chart

Source: U.S. Coast and Geodetic Survey

3.4.2 *Ethnographic Setting*

The proposed Project lies within a boundary area between the ethnographic territories of the Native American groups known as the Gabrieleño and the Juaneño. These names are derived from their association during the Spanish period, with Mission San Gabriel Archangel and Mission San Juan Capistrano, respectively.

Gabrieleño territory included the Los Angeles Basin, the coast of Aliso Creek in Orange County to the south to Topanga Canyon in the north, the four southern Channel Islands, and watersheds of the

Los Angeles, San Gabriel, and Santa Ana rivers. The territory of the Juaneño was bounded to the north by the Aliso Creek Watershed, where they shared a tribal boundary with the Gabrieleño. Their territory was bounded to the east by the crest of the Santa Ana Mountains, the south by San Onofre Creek, and the west by the Pacific Ocean (Kroeber 1976). Both tribes were organized in permanent villages located near rivers and the coast. Seasonal settlements were also established to harvest acorns and for hunting. Marine mammals, fish, and shellfish were also exploited on the coast and goods were traded between many regional tribes.

3.4.3 History of Newport Beach as Recreational Harbor

The community of Newport Beach was originally part of the Rancho San Joaquín, a 48,803-acre Mexican land grant encompassing Orange County.

In 1888, a wharf was built, followed 3 years later by a railway connection to Santa Ana. Shipping activity increased dramatically, and for 8 years, the Newport Harbor area was a commercial and shipping center. However, in 1899, the federal government allocated funds for major improvements to a new harbor at San Pedro, which would become southern California's major seaport. In the early 1900s, the area was connected to the City of Los Angeles by rail. Rapid transit "Red Cars" brought new visitors to the waterfront, and small hotels and beach cottages were developed that catered to the tourist industry, signaling the start of the area as a recreational area. Between 1934 and 1936, the federal government and the County Harbor District undertook work around the harbor. They dredged the Lower Bay, extended jetties, and created the present-day contour of Newport Harbor. During World War II, the harbor became a vital hub as naval ships were built and repaired in its coastal waters. Service men and women stationed at the Santa Ana Army Air Base came to Balboa to visit the entertainment hot spots. After the war, many of these service men and women returned to build their homes in Newport Beach and the surrounding area.

The Santa Ana freeway, built in the 1950s, triggered further growth. During this time, housing development began to spread north and eastward from the waterfront to the hills and mesa areas. The community's economic industry changed, as the fishing industry, once the backbone of Newport Beach's economy, gradually declined to be replaced with new businesses and commercial centers. Beginning in 1967 and through the 1970s and 1980s, the building of shopping centers such as Fashion Island, hotels, high-scale restaurants, offices, and many new homes led to the creation of the active employment, retail, and residential areas.

3.4.4 Applicable Regulations

3.4.4.1 State

3.4.4.1.1 California Environmental Quality Act

CEQA and the CEQA Guidelines include procedures for identifying, analyzing, and disclosing potentially significant adverse impacts of a project to historical and unique archaeological resources, including resources listed in or formally determined eligible for the National Register of Historic Places (NRHP), the CRHR, or local registers. CEQA requires the lead agency to consider the effects of a project on archaeological resources and determine whether any identified archaeological resource is a historical resource (i.e., if the archaeological resource meets the criteria for listing in the CRHR; CEQA Guidelines Sections 15064.5[a][1],[3] and 15064.5[c][1–2]). An archaeological resource that qualifies as a historical resource under CEQA generally qualifies for listing under Criterion 4 of the CRHR (CEQA Guidelines Section 15064.5[a][3][D]; NRHP Criterion D). An archaeological resource may qualify for listing under Criterion 4 when it can be demonstrated that the resource has the potential to significantly contribute to questions of scientific or historical importance. Archaeological resources that are not historical resources according to the aforementioned definitions may be "unique archaeological resources," as defined in PRC 21083.2, which generally provides that "non-unique archaeological resources" do not receive any protection under CEQA. If an archaeological resource is neither a unique archaeological resource nor a historical resource, the effects of a project on those resources are not considered significant under CEQA.

3.4.4.1.2 California Executive Order W-26-92

California EO W-26-92 affirms that all state agencies shall recognize, preserve, and maintain significant heritage resources of the state.

3.4.4.2 Local

3.4.4.2.1 City of Newport Beach Municipal Code

The City requires protection of archaeological and paleontological resources under Chapter 21.30.105 of the Municipal Code. This regulation applies to all Coastal Development Permit (CDP) applications that involve grading, or excavation, or other development activity that may impact such resources, and meets one of the following conditions:

- Located within 300 feet of an identified paleontological or archaeological site, where such resources are reasonably suspected to be present, or areas identified by or otherwise known to the City as having such resources
- Where evidence of potentially significant paleontological or archaeological resources is found in an IS conducted pursuant to CEQA

- Where the regulation applies, an Archaeological Research Plan and Monitoring and Mitigation Plan are required

3.4.5 Environmental Impacts and Mitigation Measures

3.4.5.1 Baseline

At the time of publication of the EIR for the proposed Project, the project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters south of Newport Beach, is an active recreational harbor and public beach with no dredging operations except periodic and limited RGP 54 maintenance dredging. There are no known historic or cultural resource sites in the proposed Project footprint.

3.4.5.2 Thresholds

For purposes of this DEIR, the following thresholds, which are based on Appendix G of the CEQA Guidelines (Environmental Checklist), were used to determine whether the proposed Project would result in impacts on cultural resources. The proposed Project would have an impact on cultural resources, if:

- **CHR-1:** The project would cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.
- **CHR-2:** The project would cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- **CHR-3:** The project would disturb any human remains, including those interred outside of dedicated cemeteries.

3.4.5.3 Methodology for Determining Impacts

The CEQA Guidelines define a substantial adverse change in the significance of a historical resource as a significant effect on the environment. A substantial adverse change to archaeological or historical resources is defined to include physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired (CEQA Guidelines Section 15064.5[b][1]). The significance of a historical resource is materially impaired when a project diminishes the characteristics that convey its historical significance and that justify its inclusion on a historic register. This is consistent with the criteria for determination of adverse effect in the National Historic Preservation Act Section 106 regulations and guidelines.

3.4.5.4 Impact Analysis

3.4.5.4.1 CHR-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

As discussed in Section 3.4.4, historical resources are defined as elements of the historic built environment (e.g., buildings, structures, bridges, or other built features). There are no structures in the proposed Project area, and the proposed Project does not include demolition or modification of any structure. Eleven properties in the City have been listed or designated eligible for listing on the NRHP or CRHR, or otherwise listed as historic or potentially historic in the California Historic Resources Information System (CHRIS) maintained by the Office of Historic Preservation. There are also seven properties in the Newport Beach Register of Historical Property (also known as the City Register; City 2006a). All identified properties are located outside the proposed Project area; therefore, there would be no impacts to historical resources.

Impact Determination: Because there are no historical resources in the proposed Project area, there would be no impacts to historical resources.

Mitigation Measures: None required.

Residual Impact: No impact.

3.4.5.4.2 CHR-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

There may be some potential for impacts to archaeological resources. Dredging activities began in the area in the early 1900s, and the major dredging and filling project that created Newport Harbor was completed in 1936. Various maintenance dredging operations have occurred since that time. The CAD facility would be dredged below previously authorized depths and would therefore encounter native sediment. Though this sediment would have been in an active intertidal area, there may be some remaining potential to encounter isolated archaeological artifacts that were dropped or redeposited in the intertidal at some point, though the potential is very low. The likelihood of encountering human remains is similarly very low as Federal Channels dredging would extend beyond the vertical limits of previous dredging, so native sediments may be encountered.

Impact Determination: Ground-disturbing activities to be undertaken as part of the proposed Project would occur only in water in previously dredged areas. Federal Channels dredging would extend beyond the vertical limits of previous dredging, so native sediments may be encountered. The native sediments that would be encountered have little potential to contain archaeological materials. However, in the unlikely event that such materials are present, disturbance during construction could constitute a potentially significant impact.

Mitigation Measures: While the proposed Project is not expected to encounter archaeological resources, in the unlikely event of such a discovery, the following mitigation measure would be implemented to reduce any impacts:

- **MM-CHR-1: Stop Work in the Area If Prehistoric or Historical Archaeological Resources Are Encountered**. In the event that any artifact, or an unusual amount of bone, shell, or non-native stone, is encountered during construction, work would be immediately stopped and relocated to another area. The contractor would stop dredging until a qualified archaeologist can be retained by the City to evaluate the find (36 CFR 800.11.1 and 14 CCR 15064.5[f]). Examples of such cultural materials might include ground stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; historic artifacts such as bottles or ceramics; or resource gathering items such as fish weir stakes. Native American tribes and the Office of Historic Preservation would be notified of the find. Native American tribes consulted on the proposed Project to date include the Gabrieleño Band of Mission Indians – Kizh Nation, and the Juaneño Band of Mission Indians Acjachemen Nation. If the resources are found to be significant, they would be avoided or mitigated.

Residual Impact: Adherence to MM-CHR-1 would ensure that any unanticipated find would be protected. Therefore, impacts are considered less than significant.

3.4.5.4.3 CHR-3: Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Impact Determination: As described under CHR-2, the proposed Project has minimal potential to encounter human remains. However, in the unlikely event that remains are present in previously undisturbed native sediments, they could potentially be disturbed during construction, which would constitute a potentially significant impact.

Mitigation Measures:

- **MM-CHR-1:** Stop Work in the Area If Prehistoric or Historical Archaeological Resources Are Encountered.

Residual Impact: Less than significant.

3.5 Geology/Soils

Section 3.5 describes the geology and soil conditions at the proposed Project area and analyzes how the proposed Project may affect those conditions. This section also describes applicable rules and regulations pertaining to geology and soil conditions, including, but not limited to, seismic hazards. For the purposes of the geology and soils analysis, the study area is defined as the proposed Project area, including the Lower Harbor and offshore waters for nearshore placement. Site bathymetry elevations across the proposed Project area range from approximately -10 feet MLLW to -20 feet MLLW.

The analysis in Section 3.5 is based on regional soil and seismic hazard information provided by federal, state, and local government agencies. It also utilizes information and data presented in the BODR prepared for the proposed Project (Appendix C).

3.5.1 Environmental Setting

3.5.1.1 Soils

As described in the BODR (Appendix C), the local geology of Lower Newport Bay consists of crystalline granular soils overlain by sequences of more recently deposited alluvial, fluvial, and marine sediments, which are the typical targeted materials for maintenance dredging activity. Many investigations of the subsurface conditions and soil types have been conducted over the past 15 years within and near the proposed CAD facility. In addition, extensive sediment sampling has been conducted throughout the Federal Channels, and grain size distribution analysis has been conducted at the locations where nearshore placement is proposed. Information for the proposed Project is provided in the BODR. Summaries of four reports utilized in the soils analysis are summarized in Sections 3.5.1.1.1 through 3.5.1.1.4.

3.5.1.1.1 2005 Bay Island Seawall Geotechnical Investigations

Bay Island is an artificial island southwest of the proposed CAD facility location. In 2005, a geotechnical investigation was conducted for the Bay Island Sea Wall and Bridge Rehabilitation Project (Diaz Yourman & Associates 2007). Borings were conducted at five locations around Bay Island and on each side of the bridge that connects Bay Island with Balboa Peninsula. Boring depths ranged from approximately 8 to 80 feet deep.

Information from this geotechnical investigation provides evidence on the subsurface characteristics of Lower Newport Bay in the general region of the proposed CAD facility location. Four of the borings (Bay Island Seawall Borings 01, 02, 03, and 05) are located less than 1,000 feet away from the center of the proposed CAD facility location.

Generally, the geotechnical investigation concluded that the soils around Bay Island consist of silty sands to poorly graded sands underlain by sandstone. No bedrock was encountered in any of the explorations, including areas adjacent to the planned dredging depth of the CAD facility (Appendix C).

3.5.1.1.2 2009 Geotechnical Investigation for CAD Feasibility Evaluation

In 2009, two borings were conducted, one in Newport Channel and another in the Main Channel, to understand the subsurface conditions as part of a CAD feasibility evaluation for the City (Anchor QEA 2009). Results indicated that the predominant soil type present was fine- to medium-grained sand between and below the likely range of depths that would be excavated for a CAD facility—a material type that would likely be well suited for nearshore placement.

3.5.1.1.3 Sediment Sampling in 2018 and 2019

As part of the 2018 and 2019 sediment suitability investigations for the Federal Channels, several sediment cores were collected with vibracoring equipment in the proposed CAD facility location to below the dredging depths planned for the Federal Channels. Three cores were collected in the footprint of the proposed CAD facility location, and six cores (three to the north and three to the south) were collected nearby. Core depths ranged from approximately -11 feet MLLW to -20 feet MLLW. Two distinct sediment types were apparent: an upper layer of soft silts and clays that were underlain by dense, fine sand. Field logs and grain size reports are included in the BODR (Appendix C).

3.5.1.1.4 Grain Analysis at Nearshore Receiver Site

The grain size of the Entrance Channel and proposed nearshore receiver site (Newport Pier to the West Newport Jetty) were similarly evaluated to determine compatibility. This evaluation indicated that sediments from the Entrance Channel are suitable for nearshore placement. Information on the grain size analysis is included as Appendix F to the BODR.

The BODR references adaptive management during construction, and long-term monitoring of cap stability and isolation of contaminants would include the following:

- Completing bathymetric surveys to monitor rates of erosion and deposition
- Coring for chemistry in bulk sediments and porewater

Baseline conditions determined following the first year of monitoring will be used to evaluate the timing, frequency, and duration of monitoring, as well as inform whether any further monitoring elements are warranted, based on the existing conditions of the proposed CAD facility and current technological developments.

If any changes in environmental conditions or design assumptions are found, then management actions will be considered for the CAD facility. Conditions that could affect the need for management actions include significant documented changes to sedimentation rates or to chemical concentrations in the final cap layer. Initial management actions would likely include increasing the level or frequency of monitoring. If necessary and warranted, more significant actions could be considered wherein the CAD facility cap design is augmented in one or more of the following ways:

- Adding more sediment to form a thicker cap
- Changing the cap material to a coarser, more erosion-resistant material type (coarse sand or gravel)
- Adding enhanced materials to the cap, such as less porous or chemically absorbent materials

3.5.1.2 Fault Rupture

Surface fault rupture is defined as slip on a fault plane that has spread to the Earth's surface and caused a rupture or disturbance. Fault rupture almost always follows pre-existing faults, which are zones of weakness (Anchor QEA 2020b). An active fault is defined by the Alquist-Priolo Act as a fault that shows evidence of movement during the past 11,000 years (PRC Division 2, Chapter 7.5).

Southern California contains several active faults, including the Newport-Inglewood Fault Zone, the Raymond Fault Zone, the Palos Verdes Fault Zone, the San Andreas Fault Zone, the Elsinore Fault Zone, and the San Jacinto Fault Zone (City 2006b; USGS 2020).

3.5.1.3 Ground Shaking and Induced Seismic Hazards

Ground shaking is the most widespread effect of earthquakes. The strength of ground shaking at a certain location depends primarily on the magnitude of the earthquake, the distance from the source, the paths the seismic waves travel through the Earth, the response characteristics of the rock or soils underlying a site, and topography. As to the level of damage, it depends on the size, shape, age, and engineering characteristics of the impacted buildings and structures (City 2009).

The estimated likelihood of a magnitude 6.7 or greater earthquake in the southern California region before 2034 (next 30 years starting from 2014) is 93% (USGS 2015). For individual major faults in proximity to the proposed Project area, forecasted probabilities include 19% for the Southern San Andreas Fault, 5% for the San Jacinto Fault, and 3.8% for the Elsinore Fault (25 miles from the City; the closest major earthquake fault to the proposed Project area). For all other faults mentioned in Section 3.5.1.2, including the Newport-Inglewood Fault Zone, forecasted probabilities are less than 1%.

3.5.1.4 Expansive Soils

Expansive soils are high in clay content and increase and decrease in volume upon wetting and drying, respectively. The change in volume exerts stress on buildings and other loads placed on these

soils. Expansive soils are common throughout California and can cause damage to foundations and slabs unless properly treated during construction. Grading, site preparations, and backfill operations associated with subsurface structures can often eliminate the potential for expansion (Anchor QEA 2020b).

3.5.1.5 Subsidence and Settlement

Subsidence involves a sudden sinking or gradual settling and compaction of soil and other surface material with little or no horizontal motion. Land surface subsidence can result from both natural and artificial phenomena, including tectonic deformation, consolidation, hydrocompaction, collapse of underground cavities, oxidation of organic-rich soils, rapid sedimentation, and the withdrawal of groundwater. Expansive soils and materials are more susceptible to subsidence, including estuarine sediments, organic detritus, or thick organic deposits. Settlement occurs when ground shaking reduces the amount of pressure existing between soil particles, resulting in a reduction of the volume of the soil. Areas are susceptible to differential settlement if they are underlain by compressible sediments, such as poorly engineered artificial fill. Differential settlement can damage structures, pipelines, and other subsurface entities. Earthquakes and seismic activity can accelerate and accentuate settlement (Anchor QEA 2020b).

3.5.1.6 Paleontology

The Bureau of Land Management developed a classification system based on the potential for the occurrence of significant paleontological resources in a geologic unit and the associated risk for impacts to the resource (BLM 2007, 2008). The system is summarized as follows. Any rock material that contains fossils has the potential to yield fossils that are unique or significant to science. However, paleontologists consider that geological formations having the potential to contain vertebrate fossils are more sensitive than those likely to contain only invertebrate fossils. Invertebrate fossils found in marine sediments are usually not considered by paleontologists to be unique resources, because the geological contexts in which they are encountered are widespread and fairly predictable. Invertebrate fossil species are usually abundant and well-preserved. In contrast, vertebrate fossils are much rarer than invertebrate fossils and are often poorly preserved. Therefore, when found in a complete state, vertebrate fossils are more likely to be a significant resource than are invertebrate fossils. Thus, geologic formations having the potential to contain vertebrate fossils are considered the most sensitive. Vertebrate fossil sites are usually found in non-marine upland deposits (BLM 2007). Alluvial deposits typically contain only invertebrate fossils (if any), and those are out of original depositional context (BLM 2007).

3.5.2 Applicable Regulations

3.5.2.1 State

3.5.2.1.1 Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. According to the act, buildings for human occupancy cannot be constructed in regulatory earthquake fault zones established and mapped around the surface traces of active faults. This typically includes areas within approximately 200 to 500 feet of major fault lines. The construction of habitable structures is not proposed as part of the proposed Project; therefore, the act would not apply to the proposed Project.

3.5.2.1.2 Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 was developed to reduce threats to public health and safety and to minimize property damage caused by earthquakes, including the effects of ground shaking, liquefaction, landslides, other ground failure, and other hazards. The act directs the California Geological Survey (CGS) to identify and map seismic hazard zones for the purpose of assisting cities, counties, and other local permitting agencies to regulate certain development projects in these zones. Before a development permit may be granted for a site in a seismic hazard zone, a geotechnical investigation of the site must be conducted, and appropriate mitigation measures must be incorporated into the project's design.

3.5.2.2 Local

3.5.2.2.1 City of Newport Beach General Plan

The General Plan includes goals and policies related to geology and soils that are applicable to the proposed Project (City 2006a). A summary of the relevant goals and policies stated in the adopted Safety Element Chapter of the General Plan are provided as follows.

- **S 3.3 Maintenance of Beach Width and Elevations**: Develop and implement a comprehensive beach replenishment program to assist in maintaining beach width and elevations. Analyze monitoring data to determine nourishment priorities and try to use nourishment as shore protection in lieu of more permanent hard shoreline armoring options. (Policy HB 13.5)
- **S 4.7 New Development**: Conduct further seismic studies for new development in areas where potentially active faults may occur.

3.5.2.2.2 City of Newport Beach Coastal Land Use Plan

The proposed Project is located within the coastal zone and, as discussed in Section 3.9 of the DEIR, (Land Use and Planning), is subject to the CLUP (City 2019b). Section 2.8 of the CLUP discusses

hazards and protective devices, including geologic and seismic hazards. Per the CLUP (City 2019b), for all projects, "the emphasis needs to be placed on siting and designing new development to avoid hazardous areas rather than relying on protective devices." Relevant policies stated in the adopted CLUP (2019b) are listed as follows:

- **2.8.1-1**: Review all applications for new development to determine potential threats from coastal and other hazards.
- **2.8.6-3**: Develop and implement a comprehensive beach replenishment program to assist in maintaining beach width and elevations. Analyze monitoring data to determine nourishment priorities, and try to use nourishment as shore protection, in lieu of more permanent hard shoreline armoring options.
- **2.8.6-5**: Permit revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other structures altering natural shoreline processes or retaining walls when required to serve coastal-dependent uses or to protect existing principal structures or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply, unless a waiver of future shoreline protection was required by a previous CDP.
- **2.8.6-6**: Design and site protective devices to minimize impacts to coastal resources, minimize alteration of natural shoreline processes, provide for coastal access, minimize visual impacts, and eliminate or mitigate adverse impacts on local shoreline sand supply.
- **2.8.7-3**: Require applications for new development, where applicable [i.e., in areas of known or potential geologic or seismic hazards], to include a geologic/soils/geotechnical study that identifies any geologic hazards affecting the proposed Project site, any necessary mitigation measures, and contains a statement that the proposed Project site is suitable for the proposed development and that the development will be safe from geologic hazard. Require such reports to be signed by a licensed Certified Engineering Geologist or Geotechnical Engineer and subject to review and approval by the City.

3.5.3 Environmental Impacts and Mitigation Measures

3.5.3.1 Baseline

At the time of publication of the EIR for the proposed Project, the project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters south of Newport Beach, is an active recreational harbor and public beach with no dredging operations except periodic and limited RGP 54 maintenance dredging.

3.5.3.2 Thresholds

For purposes of this DEIR, the following thresholds, which are based on Appendix G of the CEQA Guidelines (Environmental Checklist), were used to determine whether the proposed Project would

result in impacts related to geology and soils. The proposed Project would have an impact related to this topic if:

- **GEO-1:** The proposed Project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
    - Strong seismic ground shaking
    - Seismic-related ground failure, including liquefaction
    - Landslides
- **GEO-2:** The proposed Project would result in substantial soil erosion or the loss of topsoil.
- **GEO-3:** The proposed Project would be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- **GEO-4:** The proposed Project would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
- **GEO-5:** The proposed Project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
- **GEO-6:** The proposed Project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

3.5.3.3 Methodology for Determining Impacts

Impacts to or associated with geological conditions were qualitatively evaluated based on the potential for the alternatives to alter the geology of the proposed Project area temporarily or permanently. In addition, because geological hazards such as earthquakes happen independently of the proposed Project, the potential for damage to the CAD facility, dredging locations, and nearshore receiver site, or increased risk of injury due to geologic and seismic hazards were also qualitatively evaluated.

The measurement index for evaluating impacts associated with geology, soils, or seismicity is the risk to the public or the environment from such geologic processes. A project would be considered to have a major impact if it would result in substantial changes in risks to the public and the environment throughout the project area.

3.5.3.4 Impact Analysis

3.5.3.4.1 GEO-1: Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: 1) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; 2) strong seismic ground shaking; 3) seismic-related ground failure, including liquefaction; or 4) landslides?

The proposed CAD facility location, dredging locations, and nearshore receiver site are located within approximately 0.1 mile to 2.5 miles of the Newport-Inglewood Fault Zone but do not lie within the Alquist-Priolo Earthquake Fault Zone. No other active faults or fault zones are located within or immediately adjacent to the proposed Project; thus, fault rupture is not expected to have any direct impact on the CAD facility, dredging locations, or nearshore receiver site. As discussed in Section 3.5.1, an OMMP has been developed and includes periodic bathymetric surveys (Appendix H to the BODR). This same survey technique could be employed in the event of nearby fault ruptures to monitor the final cap layer.

CGS and USGS have not mapped any seismically induced liquefaction hazard zones at the proposed Project area or within the harbor (CGS 2020). If any layers of the CAD facility undergo liquefaction during an earthquake, intermixing of the layers may result.

For the dredging locations, the design includes 3H:1V (horizontal to vertical [H:V]) slopes throughout the Federal Channels. Sloughing of the slopes may occur during a ground shaking event, but such sloughing is not expected to have any impact to nearby structures or the Federal Channels for any mitigation measures to be required. The dredging locations are taking place within the Federal Channels to their original designed depths ranging between -15 to -20 feet MLLW.

Ground shaking is not expected to have an impact on material placed at the nearshore placement area. Material placement will be conducted in a manner to avoid mounding of material; over time, the material will create a natural angle of repose.

Impact Determination: Based on the analysis presented previously, the proposed Project would not result in the risk of loss, injury, or death due to a rupture of a fault, strong seismic ground shaking, or seismic-related ground failure, including liquefaction.

Mitigation Measures: None required.

Residual Impact: No impact.

3.5.3.4.2 GEO-2: Would the project result in substantial soil erosion or the loss of topsoil?

The proposed CAD facility, dredging locations, and nearshore receiver site are located underwater, and therefore natural soil erosion or the loss of topsoil would not occur within the proposed Project area.

While natural erosion would not occur, vessels travelling over the proposed CAD facility may produce propeller-generated currents (i.e., propeller wash) whose magnitude at the seabed depends on vessel characteristics and water depths. Vessels with larger operating power and propeller size, in combination with shallower water depths, would result in relatively larger forces upon the seabed. As a result, exposure to propeller wash may scour the CAD facility surface material, depending on the sediment properties, tide conditions, and vessel characteristics.

A propeller wash scour model was conducted during the design to estimate scour depths from propeller wash and evaluate impacts to the CAD facility's surface's physical stability and thickness, which is included as Appendix E to the BODR. Propeller wash scour analysis was conducted on the interim cover containment layer and final cap layer of the CAD facility. The analysis considered a range of vessels that may impact the final cap layer, including a tugboat, charter boat, 90-foot powerboat, and 135-foot powerboat. Based on results of the analysis, maximum scour depths of the final cap were estimated to range from 0.1 to 0.3 foot, which occur at water levels less than 0-foot MLLW. Water depths in the proposed CAD facility location will range between 22 to 27.4 feet, and the final cap thickness will be 3 feet. Because the final cap layer will be at a sufficient depth and thickness, vessel scour is not expected to affect the final cap layer. In addition, as mentioned in Section 3.5.3.4.1, a long-term monitoring plan has been developed and would be conducted after the construction of the CAD facility to monitor the final cap, which is included as Appendix H to the BODR.

As noted, if any changes in environmental conditions or design assumptions become apparent, then management actions would be considered for the CAD facility. Initial management actions would likely include increasing the level or frequency of monitoring. If indicated, the CAD facility cap design would be augmented in one or more of the following ways:

- Adding more sediment to form a thicker cap
- Changing the cap material to a coarser, more erosion-resistant material type (coarse sand or gravel)
- Adding enhanced materials to the cap, such as less porous or chemically absorbent materials
- Such measures would ensure the CAD facility cap is maintained as designed.

Impact Determination: Based on the analysis presented previously, the proposed Project would result in no substantial soil erosion or loss of topsoil. However, propeller wash has the potential to

scour the CAD facility surface material, depending on the sediment properties, tide conditions, and vessel characteristics. Impacts from vessels travelling over the interim cover containment layer are expected to be negligible. Water depths are deep enough that propeller wash velocities result in negligible scour depths, thus maintaining the physical stability of the layer. Impacts would be less than significant.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.5.3.4.3 GEO-3: Would the project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Because the proposed Project is located in a seismically active area, seismic activity has the potential to cause accelerations severe enough to cause liquefaction and induce lateral spreading or slope instability of the CAD facility.

The proposed Project is close to the active Newport-Inglewood Fault Zone. During the CEQA analysis for a project in close proximity to the proposed Project (i.e., Marina Park), the estimated Maximum Considered Earthquake peak ground acceleration adjusted for site class effects was determined to be 0.41 g, which is the ground acceleration rate based on probabilistic and deterministic seismic ground motion (City 2009).

Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. CGS and USGS have not mapped any seismically induced liquefaction hazard zones in the proposed Project area or within the Lower Harbor (CGS 2020). If any layers of the CAD facility undergo liquefaction during an earthquake, intermixing of the layers may result. As part of the monitoring plan for the CAD facility, periodic coring would be conducted to provide information both on the physical characteristics of the cap and underlying sediment (i.e., cap thickness, horizontal coverage, and extent of mixing between layers) and the chemical characteristics of the cap for comparison to baseline data collected immediately after cap construction. This same monitoring could be employed on the final cap layer if a significantly large earthquake were to occur. Intermixing of layers below the final cap layer is not expected to impact the long-term stability of the CAD facility.

The CAD facility would have limited exposed slopes after material placement that may be prone to lateral spreading or sloughing. Lateral spreading is a form of liquefaction that results in lateral ground movement during which cohesive soil layers may fracture, subside, rotate, or disintegrate

because of seismic activity. The soils at the exposed slope elevations consist of silt underlain by sand and may undergo some material sloughing during a ground shaking event. Exposed side slopes of the CAD facility are not expected to undergo lateral spreading due to the material consisting of consolidated cohesive marine sediments.

In the event that slope instability occurs along the slopes of the CAD facility due to ground shaking and causes material migration onto the cap, it is expected that the material sloughing onto the final cap layer would enhance the thickness and thus the effectiveness of the final cap because these sediments are not chemically impacted. As discussed in Section 3.5.1.2, bathymetric surveys would be used to monitor for changes to the final cap if a significantly large ground shaking event were to occur.

For the dredging locations, the design includes 3H:1V slopes throughout the Federal Channels. Sloughing of the slopes may occur during a ground shaking event, but this sloughing is not expected to have any impact to nearby structures or the navigation channel. The dredging locations are taking place within the Federal Channels to their original designed depths ranging between -15 to -20 feet MLLW. Lateral spreading is not expected to take place along the slopes of the Federal Channels dredging. Further, lateral spreading is not expected to have an impact on material placed at nearshore placement area. Material placement will be conducted in a manner to avoid mounding of material; over time, the material will create a natural angle of repose.

Ground shaking is not expected to have an impact on material placed at nearshore placement area. Material placement will be conducted in a manner to avoid mounding of material and over time the material will create a natural angle of repose.

Impact Determination: Based on the analysis presented previously, while not anticipated, the CAD facility could become unstable during construction in the case of a major earthquake, which constitutes a potentially significant impact.

Mitigation Measures:

- **MM-GEO-1: Periodic Monitoring of the CAD Facility**. An OMMP (Appendix H to the BODR) has been developed for the proposed Project to conduct periodic monitoring of the CAD facility, including bathymetric surveys and cap coring. In the event of a significant earthquake,[4] these techniques could be used to monitor the integrity of the CAD facility final cap layer. As noted, if any changes in environmental conditions or design assumptions become apparent, then management actions will be considered for the CAD facility. Initial management actions would likely include increasing the level or frequency of monitoring. If

[4] According to NOAA National Centers for Environmental Information, a significant earthquake "is classified as one that meets at least one of the following criteria: caused deaths, caused moderate damage (approximately $1 million or more), magnitude 7.5 or greater, Modified Mercalli Intensity (MMI) X or greater, or the earthquake generated a tsunami." (NOAA 2020).

indicated, the CAD facility cap design would be augmented in one or more of the following ways:

- Adding more sediment to form a thicker cap
- Changing the cap material to a coarser, more erosion-resistant material type (coarse sand or gravel)
- Adding enhanced materials to the cap, such as less porous or chemically absorbent materials

Adherence to MM-GEO-1 would ensure the CAD facility final containment layer cap is maintained as designed and impacts would be less than significant,

Residual Impact: Less than significant.

3.5.3.4.4 GEO-4: Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

The sediments within the project site are all below water and thus are not expected to undergo expansion. As such, the proposed Project site would not be affected by expansive soils and therefore would not create a substantial direct or indirect risk to life or property.

Impact Determination: Based on the analysis presented previously, the proposed Project would result in no impact to life or property from expansive soils.

Mitigation Measures: None required.

Residual Impact: No impact.

3.5.3.4.5 GEO-5: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Septic tanks or alternative wastewater disposal systems are not proposed with the proposed Project.

Impact Determination: Based on the analysis presented previously, the proposed Project would result in no impact related to septic tanks or alternative wastewater disposal systems.

Mitigation Measures: None required.

Residual Impact: No impact.

3.5.3.4.6 GEO-6: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The proposed Project is solely in water, and therefore the potential to contain vertebrate fossils is very low. The proposed Project is located in an already disturbed area. Dredging activities began in the area in the early 1900s, and the major dredging and filling project that created the harbor was completed in 1936. Various maintenance dredging operations have occurred since that time. The CAD facility would be dredged below previously authorized depth and therefore would encounter native sediment. Though this sediment would have been in an active intertidal area, there may be some remaining potential to encounter isolated invertebrate fossils that were dropped or redeposited in the intertidal at some point, though the potential is very low.

There are no known unique geological or paleontological resources in the proposed Project area. Ground disturbance would occur in already disturbed or previously developed areas. Because of its geomorphological history, the project area is not likely to contain any fossils other than invertebrate fossils that are in a redeposited context (see Section 3.4).

Impact Determination: Based on the analysis presented previously, the proposed Project would result in no impact related to unique paleontological or geologic resources.

Mitigation Measures: None required.

Residual Impact: No impact.

3.6 Greenhouse Gas Emissions

Section 3.6 describes the greenhouse gas (GHG) impacts of the proposed Project and analyzes how the proposed Project may affect global climate change. It also describes applicable rules and regulations pertaining to GHG emissions. Because GHG emissions are global and the state includes a comprehensive GHG reduction program required to be implemented at state, regional, and local levels, the study area is California.

3.6.1 Environmental Setting

Global climate change results from GHG emissions caused by several activities, including fossil fuel combustion, deforestation, and land use change. GHGs play a critical role in the Earth's radiation budget by trapping infrared radiation emitted from the Earth's surface, which otherwise escapes to space. The most prominent GHGs contributing to this process include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Certain refrigerants, including chlorofluorocarbons, hydrochlorofluorocarbons, and hydrofluorocarbons, also contribute to climate change. The greenhouse effect keeps the Earth's atmosphere near the surface warmer than it would be otherwise and allows for successful habitation by humans and other forms of life.

Global warming potential (GWP) is a measure of how much a given mass of GHG contributes to global climate change. A relative scale is used to compare the gas in question to CO_2 (whose GWP is defined as 1). In this analysis, CH_4 is assumed to have a GWP of 21 and N_2O 310. Refrigerants have GWPs ranging from 76 to 12,240. Consequently, using each pollutant's GWP, emissions of CO_2, CH_4, N_2O, chlorofluorocarbons, hydrochlorofluorocarbons, and hydrofluorocarbons can be converted into CO_2 equivalence, also denoted as CO_2e.

Fossil fuel combustion removes carbon stored underground and releases it into the atmosphere. Emissions of GHGs are responsible for the enhancement of the greenhouse effect and contribute to what is termed "global warming," a trend of unnatural warming of the Earth's natural climate. Increased concentrations of GHGs in the Earth's atmosphere increase the absorption of radiation and further warm the lower atmosphere. This process increases evaporation rates and temperatures near the surface. Climate change is a global problem, and GHGs are global pollutants, unlike criteria pollutants (such as O_3, CO, and PM) and TACs, which are pollutants of regional and local concern.

Global warming is the increase in average global temperatures of the Earth's surface and atmosphere. The natural balance of GHGs in the atmosphere regulates the Earth's temperature; without this natural greenhouse effect, the Earth's surface would be approximately 60°F cooler (USGCRP 2014).

Recent environmental changes linked to global warming include rising temperatures, shrinking glaciers, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges

(CCCC 2012; IPCC 2014; USGCRP 2014). In California, an assessment of climate change impacts predicts that temperatures will increase between 4.1°F to 8.6°F by 2100, based on low and high global GHG emission scenarios (CCCC 2012). Predictions of long-term negative environmental impacts in California include worsening of air quality problems; a reduction in municipal water supply from the Sierra snowpack; sea level rise; an increase in wildfires; damage to marine and terrestrial ecosystems; and an increase in the incidence of infectious diseases, asthma, and other human health problems (CCCC 2012).

3.6.2 Applicable Regulations

3.6.2.1 Federal

3.6.2.1.1 Greenhouse Gas Endangerment Finding (December 7, 2009)

In the 2007 *Massachusetts v. Environmental Protection Agency* case, the U.S. Supreme Court gave USEPA the authority to regulate GHGs as air pollutants under the CAA. The endangerment finding was published by USEPA on December 15, 2009 (74 Fed. Reg. 239).

3.6.2.1.2 Heavy-Duty Vehicle National Program

In September 2011, USEPA and the National Highway Traffic Safety Administration (NHTSA) developed a program designed to reduce fuel consumption (and GHG emissions by association) from medium- and heavy-duty vehicles. The program was directed at model year 2014 to 2018 vehicles and is projected to reduce GHG emissions by approximately 270 million metric tons.

3.6.2.1.3 Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards

In May 2010, USEPA and NHTSA developed a program designed to reduce fuel consumption (and GHG emissions by association) from light-duty vehicles. The program was directed at model year 2012 to 2016 vehicles and is projected to reduce GHG emissions by approximately 960 million metric tons. In October 2012, USEPA and NHTSA expanded the program to vehicle model years 2017 through 2025. Requirements of this program apply to light-duty vehicles, such as worker vehicles, used during proposed construction activities.

3.6.2.1.4 Renewable Fuel Standard

In 2005, USEPA's Renewable Fuel Standard established the first renewable fuel volume mandate in the United States. The original Renewable Fuel Standard program required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. The program was expanded in 2007 and currently requires that 36 billion gallons of renewable fuel be blended into gasoline by 2022. This program, although not directly relevant to proposed Project activities, serves to highlight the developing GHG regulatory framework.

3.6.2.2 State

3.6.2.2.1 California Executive Order S-3-05

EO S-3-05, signed by Governor Arnold Schwarzenegger on June 1, 2005, established the following GHG reduction targets for California: 1) by 2010, reduce GHG emissions to 2000 levels; 2) by 2020, reduce GHG emissions to 1990 levels; and 3) by 2050, reduce GHG emissions to 80% below 1990 levels. EO S-3-05 also called for the California Environmental Protection Agency (CalEPA) to prepare biennial reports on the following: 1) progress made towards achieving these goals; 2) impacts to California from global warming; and 3) mitigation and adaptation plans to combat these impacts. The most recent of these Climate Action Team reports was completed in December 2010 (CalEPA 2019).

3.6.2.2.2 Assembly Bill 32: California Global Warming Solutions Act of 2006, Scoping Plan (2008), Scoping Plan Update (2014), and Scoping Plan 2030 (2017)

The California Global Warming Solutions Act of 2006, widely known as AB 32, required ARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. ARB was directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a Scoping Plan for achieving GHG reductions in a technologically and economically feasible manner. AB 32 also required ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

On December 11, 2008, ARB adopted the AB 32 Scoping Plan, which set forth the framework for meeting the state's GHG reduction goal set by EO S-3-05. On October 20, 2011, ARB adopted the final cap-and-trade regulation. ARB also approved an adaptive management plan that monitors the progress of reductions and recommends corrective actions if progress is not as planned or there are unintended consequences in other environmental areas (e.g., concentration of local criteria pollutants).

In 2014, ARB adopted an update to the 2008 Scoping Plan, which builds upon the initial Scoping Plan with new strategies and recommendations. The 2008 Scoping Plan and 2014 Scoping Plan Update require that reductions in GHG emissions come from virtually all sectors of the economy and be accomplished from a combination of policies, regulations, market approaches, incentives, and voluntary efforts. These efforts target GHG emission reductions from cars and trucks, electricity production, fuels, and other sources.

The ARB prepared an update to the Scoping Plan designed to reduce GHG emissions 40% below 1990 inventory levels by 2030 (ARB 2017b).

3.6.2.2.3 California Senate Bill 97 and Amendments

Senate Bill (SB) 97, enacted in 2007, directed the Governor's OPR to develop CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions." In December 2009, the OPR adopted amendments to Appendix G of the CEQA Guidelines (Environmental Checklist), which created a new resource section for GHG emissions and indicated criteria that may be used to establish the significance of GHG emissions.

3.6.2.2.4 California's Renewables Portfolio Standard

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2, California's Renewables Portfolio Standard is an ambitious renewable energy standard. The Renewables Portfolio Standard requires that 33% of total retail sales of electricity be procured from eligible renewable sources by the end of 2020. Renewables Portfolio Standard requirements were conservatively excluded from emission calculations associated with electricity use.

3.6.2.2.5 State Standards Addressing Vehicle Emissions

AB 1493, enacted on July 22, 2002, required ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. ARB estimated that the regulation will reduce climate change emissions from light-duty passenger vehicle fleet by an estimated 18% in 2020 and by 27% in 2030.

3.6.2.2.6 Governor's Executive Order S-01-07 (January 2007) and Low Carbon Fuel Standards (approved April 2009, effective April 2010)

EO S-01-07 was enacted by Governor Schwarzenegger on January 18, 2007. The EO mandated that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020, and that a low carbon fuel standard for transportation fuels be established for California.

3.6.2.2.7 Senate Bill 350

This law established clean energy, clean air, and GHG reduction goals. The bill increases California's renewable electricity procurement goal from 33% by 2020 to 50% by 2030. In addition, SB 350 requires California to double statewide energy efficiency savings in electricity and natural gas end use by 2030.

3.6.2.3 Regional

3.6.2.3.1 South Coast Air Quality Management District

On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold for stationary projects where the SCAQMD is the lead agency. To date, the board has adopted a threshold of 10,000 metric tons per year (mty) of CO_2e emissions for

industrial stationary projects. The threshold has been a part of the SCAQMD Air Quality Thresholds since 2011 (SCAQMD 2011).

3.6.2.4 Local

3.6.2.4.1 City of Newport Beach General Plan

The City's General Plan does not include any specific measures pertaining to GHG emissions. However, the Natural Resources Element section of the General Plan provides direction regarding the conservation, development, and utilization of natural resources. This element addresses water supply (as a resource) and water quality (including bay and ocean quality and potable drinking water); air quality; terrestrial and marine biological resources; open space; mineral resources; visual resources; and energy. The Circulation Element includes policies to achieve reduced automobile travel.

3.6.2.4.2 City of Newport Energy Action Plan

The City recognizes the impact carbon emissions have on global climate change and is aiming to reduce its energy consumption and GHG to become a more sustainable community. The main goal of the Energy Action Plan (EAP) is to provide a roadmap for the City to reduce GHG through energy reductions in building and operations. The EAP identifies energy measures that have been implemented and are required.

The EAP outlines various measures on how the City's long-term vision can be achieved, including the following key goals:

- Meet and exceed AB 32 energy reduction goals.
- Be an example for energy efficiency and sustainability at City facilities.
- Continue interacting, educating, and informing the community about energy efficiency and GHG emissions.
- Explore the newest "green" technologies and methods to decrease future energy dependency.
- Explore renewable energy recourses (not limited to solar) and possible financing based on available grants rebates.
- Enhance energy efficiency and operations in existing buildings through systematic commissioning strategies or independent energy efficiency studies.
- Evaluate all the suggested energy efficiency action measures presented in the EAP, establish a priority for implementation, and determine possible funding sources.

3.6.3 Environmental Impacts and Mitigation Measures

3.6.3.1 Baseline

At the time of publication of the EIR for the proposed Project, the project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters south of Newport Beach, is an active

recreational harbor and public beach with no dredging operations except periodic and limited RGP 54 maintenance dredging. Therefore, there are no GHG emissions associated with proposed Project for baseline conditions.

3.6.3.2 Thresholds

For purposes of this DEIR, the following thresholds, which are based on Appendix G of the CEQA Guidelines (Environmental Checklist) and SCAQMD guidance, were used to determine if the proposed Project would result in significant GHG emissions. The proposed Project would have a significant GHG impact if:

- **GHG-1:** The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- **GHG-2:** The project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

3.6.3.3 Methodology for Determining Impacts

In determining the significance of a project's impacts, the lead agency may consider a project's consistency with the state's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is consistent with those plans, goals, or strategies. (CEQA Guidelines Section 15064.4[b][3])

In December 2018, the California Natural Resources Agency clarified several points regarding the method for determining GHG impacts in CEQA documents. Section 15064.4 of the CEQA Guidelines includes the following provisions:

- Lead agencies must analyze the GHG emissions of projects (CEQA Guidelines Section 15064.4[a]).
- The focus of the lead agency's analysis should be on the project's effect on climate change, rather than simply focusing on the quantity of emissions and how that quantity of emissions compares to statewide or global emissions (CEQA Guidelines Section 15064.4[b]).
- Lead agencies may rely on plans prepared pursuant to Section 15183.5 (Plans for the Reduction of Greenhouse Gases) in evaluating a project's GHG emissions (CEQA Guidelines Section 15064.4[b][3]).

Based on the aforementioned guidance, this analysis analyzes the GHG emissions that would be generated as a result of the proposed Project using available numeric thresholds. This analysis also addresses how potential emissions and project design would compare to state, regional, and local plans, as available, to address climate change.

GHG emissions would be generated from the construction equipment used to dredge the channel and construct the CAD facility. Complete details, as well as modeling results related to the GHG analysis, are provided in Appendix F. A summary of assumptions related to the GHG analysis is provided as follows:

- GHG emissions would be generated by construction equipment (Table 2-1). Construction of the proposed Project would consist of in-water work, with dredging performed using a barge mounted crane (derrick barge). Construction is anticipated to occur over 3 years, with work occurring at three locations: the CAD facility, dredging within the Lower Harbor, and the nearshore disposal location (beach renourishment).
- Construction is expected to take place 6 days per week for 10-hour days. No work would occur on Sundays or federal holidays (including Thanksgiving, Christmas Eve, and Christmas day).
- It is expected that two round trips at approximately 2 hours each will occur for nearshore placement areas. As such, a conservative estimate of 5 hours has been applied.
- It is expected that two round trips at approximately 3.5 hours each will occur for sediment disposal. As such, daily use for the tugboat is expected to be 8 hours.
- Placement is expected at both the nearshore placement area and LA-3. To be conservative, daily use for the tugboat is expected to be 8 hours in accordance with requirements for disposal at LA-3.
- It is expected that two round trips at approximately 2 hours each will occur at the CAD facility. As such, daily use for the tugboat is expected to be 5 hours.
- Total dredging is expected to take 25 working days to complete during Phase 5 (Table 2-1). Duration of this phase is based on a 6-month window for residents and public projects to place material within the CAD facility.

Based on the construction schedule (Table 2-1), annual GHG construction emissions were calculated by individual activity and total activity. Emissions were calculated using industry accepted emission factors and source activity (e.g., dredging volumes, vessel transit distance, and engine characteristics). Emission factors for harbor craft activity and barge propulsion engines are provided in Appendix F. Emission calculations for vessels and harbor craft are determined by multiplying engine activity by the emission factors.

3.6.3.4 Impact Analysis

3.6.3.4.1 GHG-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions associated with the proposed Project would come almost exclusively from direct engine emissions (Table 3-9). Table 2-1 provides the construction schedule and equipment used during construction. A full description of emission calculations is included in Appendix F.

Table 3-9
Proposed Project Construction and Operational Greenhouse Gas Emissions (metric tons per year)

Annual	CO_2	CH_4	N_2O	CO_2e
2021	119.5	0.001	0.006	119.5
2022	1,448.7	0.017	0.069	1,448.7
2024	119.5	0.001	0.006	119.5
2025	203	0.012	0.010	203

Notes:
Emissions may not add precisely due to rounding.
NA: not applicable

The proposed Project would result in 1,448.7 metric tons of GHG emissions during 2022, the maximum year of construction. The bulk of the proposed Project's GHG emissions would be from tugboats and mechanical dredge equipment.

Impact Determination: As shown in Table 3-9, construction would result in up to 1,448.7 mty during 2022. While GHG emissions associated with construction are temporary, because there is no applicable numerical threshold for construction, this level of emissions is considered significant.

- **Mitigation Measures:** As shown in Table 3-9, emissions would be generated throughout construction. The following mitigation measure would be implemented annually during years of construction to ensure no net increase in Greenhouse Gas Reduction Exchange (GHG Rx) and the SCAQMD. Proof of purchase of the off-site mitigation credits shall be retained by the City.

As discussed in Section 3.2, emissions controls for construction equipment were considered. MM-AQ-1 requires the use of Tier 4 tugboats. While Tier 4 standards do not address GHG directly, more efficient Tier 4 engines may use less fuel, which would also reduce GHG emissions. Therefore, depending on the specific construction equipment procured, emissions may be lower than reported. Consistent with this mitigation measure, emissions calculations will be updated, and the City will purchase credits to offset the resultant emissions. Offset credits would be procured from a broker certified by ARB to ensure credits are real, verified, additional, and permanent,

This analysis also considered emission controls for the dredger, namely an electric dredger, which has been required for dredging projects at southern California ports. While an electric dredger could reduce criteria air pollutant emissions, electric dredge equipment would result in GHG emissions from electricity production. In addition, electric dredgers may not be available or practical for use in the Lower Harbor as discussed in Section 3.2.3.4.2.

Residual Impact: With the inclusion of MM-GHG-1, impacts would be less than significant.

3.6.3.4.2 GHG-2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed previously, there are numerous statewide regulations and initiatives related to overall GHG reductions. Through AB 32 and as identified in Section 3.6.2, the state has promulgated specific laws aimed at GHG reductions, namely requirements to increase the availability and use of low carbon fuels that would be used in construction equipment and in barges. It is assumed that that construction equipment and barges would use low carbon fuels as required by applicable regulations.

The City does not include climate action planning in its General Plan, and the main goal of the EAP is to provide a roadmap for the City to reduce GHG through energy reductions in building and operations. The EAP focuses on reducing building efficiency and electricity but does not address construction itself. As an aquatic construction project, the project does not include any structures and therefore is not applicable to the EAP.

Impact Determination: Because the proposed Project complies with applicable plans, impacts are considered less than significant.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.7 Hazards and Hazardous Materials

Section 3.7 describes the known hazards and hazardous material conditions in the proposed Project area. The analysis in this section is based in part on information and data available from the California Department of Toxic Substances Control (DTSC) EnviroStor and the State Water Resources Control Board (SWRCB) GeoTracker database websites; regional emergency response plans; U.S. Department of Transportation (DOT) regulations; federal, state, and local regulations; fire hazard maps; and public records for schools and airfields. For the purposes of the hazards and hazardous materials analysis, the study area is defined as a 1,000-foot radius around the waters within Lower Newport Bay, as well as within the nearshore Pacific Ocean, as shown in Figure 2-5.

3.7.1 Environmental Setting

3.7.1.1 On-Site Hazardous Material

California defines hazardous materials as substances that are toxic, ignitable, or flammable, reactive, and/or corrosive. California also defines an extremely hazardous material as a substance that shows high acute or chronic toxicity, is carcinogenic (causes cancer), has bio-accumulative properties (accumulates in the body's tissues), is persistent in the environment, or is water-reactive (22 CCR; California Health and Safety Code [CHSC], Division 20, Chapter 6.5). While some of the dredged material is not suitable for ocean disposal, none of the dredged material meets the definition of a toxic or hazardous material.

As discussed in Section 2.1.1, dredge sediment is managed by the DMMT. Prior to disposal, sediment must be tested in accordance with the *Evaluation for Dredged Material Proposed for Ocean Disposal – Testing Manual* (USEPA/USACE 1991) to determine suitability for unconfined aquatic disposal. Testing for ocean disposal includes physical and chemical analysis and biological testing. For sediment chemistry, there are no specific thresholds for ocean disposal. Sediment chemistry results are compared to reference sediment and sediment quality guidelines to determine the potential significance of elevated contaminants of concern. Biological testing is performed to determine whether anthropogenic contaminants of concern are present at concentrations such that ocean disposal of dredged material would pose an unacceptable risk of toxicity or bioaccumulation to biota. Biological testing includes benthic and water column toxicity tests and bioaccumulation tests. Benthic toxicity tests are performed using two species, an amphipod and a polychaete, and test results are compared with reference results to determine potential impacts. Water column toxicity tests are performed using three species, a fish, a mysid shrimp, and a bivalve larvae, and results are compared with the control and if needed, a mixing model is used to determine potential water column impacts. Bioaccumulation tests are performed using two species, a clam and a polychaete, and results are compared with FDA action levels and reference results. If tissue concentrations are less that FDA action levels, but greater than the reference, a weight-of-evidence approach is used,

which includes a comparison to toxicity reference values. Based on results of each test and coordination with USEPA and other DMMT agencies, sediments are determined to be suitable or unsuitable for unconfined aquatic disposal.

In December 2017, the City initiated a sediment characterization study to determine the suitability of proposed dredged material from the Federal Channels for ocean disposal at LA-3. Sediment cores were collected at 48 stations within 11 dredge units and composite samples were submitted for physical and chemical analysis and biological testing. Additional sampling was conducted at 12 stations in Newport Channel in January 2019. Based on individual core chemistry and coordination with USEPA, two composite samples were submitted for physical and chemical analysis and biological testing.

Based on composite sample results, archives from individual cores were analyzed for mercury, PCBs, and/or DDTs to further delineate the extent of contamination. Testing for ocean disposal included physical, chemical, and biological analyses in accordance with guidelines specified in the *Evaluation for Dredged Material Proposed for Ocean Disposal – Testing Manual* (USEPA/USACE 1991). The evaluation for nearshore placement followed guidance provided in the *Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual: Inland Testing Manual* (USEPA/USACE 1998), the *Sand Compatibility Opportunistic Use Program* (Moffatt & Nichol 2006), and *Requirements for Sampling, Testing and Data Analysis of Dredged Material* (USACE 1989).

Testing found the following:

- Composite sediment chemistry and further chemical characterization of individual cores showed some areas with elevated mercury above the USEPA-recommended threshold of 1 mg/kg and PCBs above 100 µg/kg. These include Newport Channel 1 and areas within the Turning Basin and the Main Channel North.
- Results of SP testing indicate that no sediments were acutely toxic to benthic organisms and meet LCP requirements for ocean disposal.
- Results of SPP testing and Short-Term Fate (STFATE) modeling also suggest that sediments do not pose a toxicity risk to existing water column organisms after discharge and meet LCP requirements for ocean disposal.
- Tissue concentrations from the bioaccumulation tests showed levels less than established FDA action thresholds and concentrations that have been shown to cause toxicity to marine invertebrates.
- Benthic and water column bioassay testing indicated that sediments were not acutely toxic to aquatic life. Bioaccumulation testing indicated low bioaccumulation potential, with all concentrations less than FDA action levels and those that have been shown to cause toxicity to marine invertebrates.

3.7.2 Listed Hazardous Material Sites

The proposed Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Surrounding sites potentially containing hazardous materials were identified through a search of the DTSC EnviroStor (DTSC 2020) and the SWRCB GeoTracker (SWRCB 2020) database websites. Within a 1,000-foot radius of the proposed Project footprint, the EnviroStor database lists four cleanup sites, and the GeoTracker database identifies two cleanup sites with active, open, or unidentified statuses. These six sites are listed in Sections 3.7.2.1.1 through 3.7.2.1.6.

3.7.2.1.1 #1 Rhine Channel

The Rhine Channel includes portion of tidelands and submerged lands bordering upon and within the Rhine Channel in Newport Bay, located in Orange County. The Rhine Channel has served as the primary industrial area in Lower Newport Bay, with current and past businesses including boatyards, metal plating facilities, and a seafood cannery (Anchor Environmental 2006). Historical discharges of stormwater runoff and wastewater that started in the 1920s are the primary source of contamination. The Rhine Channel segment of Lower Newport Bay was listed as impaired for organics and metals on the 1998 CWA Section 303(d) List. In June 2002, USEPA established TMDLs for toxic pollutants (copper, lead, zinc, chromium, mercury, chlordane, dieldrin, PCBs, DDT, and selenium; USEPA 2002). In 2006, a feasibility study was conducted to develop and evaluate remediation alternatives with the goal of restoring beneficial uses to Rhine Channel (Anchor Environmental 2006).

In 2010, the Port of Long Beach began accepting material for its Middle Harbor Fill Site, which presented an opportunity for beneficial use of contaminated sediment from the region. In 2011, as part of the Rhine Channel Contaminated Sediment Cleanup Project, approximately 80,000 cy of contaminated sediment were dredged from the channel and beneficially reused at the port's fill site. The jointly coordinated project was a voluntary implementation effort by many agencies, including the City, RWQCB, CCC, and USACE (RWQCB 2012). Post-construction monitoring of the surface sediments showed a reduction in concentrations for all contaminants of concern, and it was estimated that approximately 80% of the surface area of the Rhine Channel had been remediated (Anchor QEA 2016). As part of the SMP (Appendix D), the City is evaluating the significance of the remaining impacted material to determine if additional cleanup actions are warranted to address residual contamination.

3.7.2.1.2 #2 Lido Cleaners

This site is located at 3424 Via Lido, Newport Beach, California 92663 and is bound by Central Avenue on the west and Via Oporto on the north and east. The site was identified through a search of the DTSC EnviroStor database website (DTSC 2020); however, limited data are available. The site

type is listed as evaluation, which indicates it is a suspected, but unconfirmed, contaminated site. No information is provided on potential contaminants of concern or media affected.

3.7.2.1.3 #3 U.S. Coast Guard Patrol Base

This site is in Newport Harbor. In 1942, the U.S. Coast Guard (USCG) patrol base was established under the command of the U.S. Navy (USACE 1999). The patrol base jointly occupied the 3.68-acre Orange County Harbor District facility. During World War II, the USCG patrolled the inlets and beaches in the vicinity of Newport Beach. In 1945, following World War II, the USCG ceased to be under the command of the Navy and remained at the site. In 1999, the site was determined to be eligible for the Defense Environmental Restoration Program as a Formerly Used Defense Site. No contaminants of concern are specified. As of July 2005, the site is non-active and needs evaluation.

3.7.2.1.4 #4 Hoag Memorial Hospital

This site is located at 1 Hoag Drive, Newport Beach, California 92663 and is bound by Hospital Road on the north and West Coast Highway on the south. The hospital, which opened in 1952, is approximately 5 acres. The hospital currently maintains 498 beds. The site was identified through a search of the DTSC EnviroStor database website (DTSC 2020); however, limited data are available. The site type is listed as tiered permit, which indicates a corrective action cleanup project on a hazardous waste facility that is eligible to treat or permitted to treat waste under the Tiered Permitting system. No contaminants of concern are specified. As of June 2015, no further action was needed, indicating that the site does not pose a threat to human health and the environment.

3.7.2.1.5 #5 Newport Plating

This 0.15-acre site is located at 2810 Villa Way, Newport Beach, California 92663 and is bound by Lafayette Avenue to the east, 29th Street to the south, and Villa Way to the west. Between the early 1950s and the late 1980s, the facility was used as a metals plating shop for brass, cadmium, copper, chrome, gold, nickel and silver plating, chrome and paint stripping, and steel passivating. Plating lines were reportedly located inside the central portion of the on-site building, while chrome stripping and alkali degreasing tanks and other process equipment were located on the concrete patio outside to the south of the building. Drums containing cyanide were reportedly located on the west side of the patio. In May 1987, a Cleanup and Abatement Order (CAO; No. 87-83) was issued; it required submittal of a proposal for determining the extent to which pollutants may have migrated from the site in the underlying soil and groundwater (Group Delta 2020). The site received a "No Further Action" determination for the groundwater by RWQCB on May 24, 2006. However, the underlying soil at the site has contamination with metals and cyanide. Due to soil contamination, no construction permit can be issued for the property. In July 2019, the property owners agreed to initiate site assessment and entered into a cost recovery agreement with RWQCB. A work plan for a site assessment has been submitted for RWQCB's review.

3.7.2.1.6 #6 Newport Gulf Station

This site is located at 1920 West Balboa Boulevard, Newport Beach, California 92663 and is bound by 20th Street to the west and 19th Street to the east. In 1966, the Newport Gulf Station was constructed at the site. In 1974, the service station ceased operations and the station building, dispensers, and underground storage tanks were removed. The site is currently occupied by a 7-Eleven and a beach recreational rental company.

In 2016, the Orange County Health Care Agency issued a Notice of Responsibility regarding an unauthorized release of gasoline from an underground storage tank at the site formerly occupied by the Newport Gulf Station (OCHCA 2016). In 2017, AECOM advanced three borings at the site and collected groundwater from each location (AECOM 2017). Elevated total petroleum hydrocarbons (TPH)-g, TPH-d, and naphthalene were measured in soil, and elevated TPH-g, TPH-d, benzene, ethylbenzene, and naphthalene were measured in groundwater. In 2019, Arcadis advanced seven soil borings, collected groundwater at each location, sampled four sub-slab vapor pins, and collected indoor and outdoor air samples (Arcadis 2020). Based on the results of this investigation, Arcadis concluded that no further investigation was required and requested site closure based on the Low-Threat Underground Storage Tank Case Closure Policy. In March 2020, the SWRCB reviewed the closure request and concluded that contaminants remaining at the site continue to pose a potential threat to human health and the environment (SWRCB 2020).

3.7.2.2 Emergency Plans

The City has an existing Emergency Operations Plan (EOP; Newport Beach Fire Department 2011) that provides guidance for the City's response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies in or affecting the City. Potential natural disaster emergencies at the site include (but are not limited to) earthquakes and tsunamis. The EOP also addresses other types of emergency situations, including hazardous materials spills. The EOP includes response protocols specific to hazards and hazardous materials.

3.7.2.3 Schools and Airports

There are no schools, airstrips, airports, or other sites potentially sensitive to hazards or hazardous materials within the proposed Project area. The nearest school is Newport Elementary School, located approximately 0.25 mile to the southeast of the proposed Project CAD facility and landward of the proposed nearshore placement site. The closest airport is the John Wayne Airport, located approximately 5 miles north of the Project CAD site.

3.7.2.4 Wildfire Hazards

The project site is not within any fire hazard severity zones (Cal Fire 2011). There are no wildlands within the project area, and wildland fires do not pose a risk to the project site.

3.7.3 Applicable Regulations

Applicable regulations to the proposed Project include federal, state, and local laws designed to regulate the management of hazardous materials. Key regulations are provided in Sections 3.7.2.1 through 3.7.2.3.

3.7.3.1 Federal

3.7.3.1.1 Hazardous Materials Transportation Uniform Safety Act of 1990

In 1990, Congress enacted the Hazardous Materials Transportation Uniform Safety Act (HMTUSA; Public Law [PL] 101-615, 1990) to clarify the maze of conflicting state, local, and federal regulations. Like the Hazardous Materials Transportation Act (HMTA; PL 93-933, 1975), the HMTUSA requires the Secretary of Transportation to promulgate regulations for the safe transport of hazardous material in intrastate, interstate, and foreign commerce. The Secretary of Transportation also retains authority to designate materials as hazardous when they pose unreasonable risks to health, safety, or property.

The statute includes provisions to encourage uniformity among different state and local highway routing regulations, to develop criteria for the issuance of federal permits to motor carriers of hazardous materials, and to regulate the transport of radioactive materials. The HMTA requires that carriers report accidental releases of hazardous materials (e.g., spills) to DOT at the earliest practical moment.

3.7.3.1.2 U.S. Department of Transportation Hazardous Materials Regulations (49 CFR 100–185)

The DOT Hazardous Materials Regulations cover all aspects of hazardous materials packaging, handling, and transportation. Under DOT regulations, a hazardous material is "a substance or material that the Secretary of Transportation has determined is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and has designated as hazardous under section 5103 of Federal hazardous materials transportation law" (49 CFR 171.8). As described in Section 3.7.1.1, the unsuitable material does not meet the requirements to be classified as hazardous.

3.7.3.1.3 Emergency Planning and Community Right-to-Know Act (42 USC 11001 et seq.)

Also known as Title III of the Superfund Amendments and Reauthorization Act, the Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission. These commissions were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning

Committee for each district. EPCRA provides requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals.

3.7.3.2 State

3.7.3.2.1 Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, Division 20, Chapter 6.95)

This state right-to-know law requires businesses to develop a Hazardous Material Management Plan (HMMP) or a business plan for hazardous materials emergencies if they handle more than 500 pounds, 55 gallons, or 200 cubic feet of hazardous materials. In addition, the business plan must include an inventory of all hazardous materials stored or handled at the facility greater than these thresholds. This law is designed to reduce the occurrence and severity of hazardous materials releases. The HMMP or business plan must be submitted to the Certified Unified Program Agency (CUPA), in this case, the Newport Beach Fire Department. The state has integrated the federal EPCRA reporting requirements into this law, and once a facility is in compliance with the local administering agency requirements, submittals to other agencies are not required.

3.7.3.2.2 California Health and Safety Code Chapter 13 (Standards Applicable to Transporters of Hazardous Waste; 22 CCR 66263.10–66263.50)

These regulations establish standards that apply to persons transporting hazardous waste within, into, out of, or through the state if the transportation requires a manifest under the CHSC (Section 25160). "Transporter" means a person engaged in the off-site transportation (or movement) of hazardous waste by air, rail, highway, or water. This hazardous waste regulation applies to carriers transporting hazardous waste when that waste is subject to the manifesting requirements of the CHSC (Chapter 12). In general, transporters of hazardous waste must comply with these requirements and statutory requirements in the CHSC (Division 20, Chapter 6.5, Articles 6 and 6.5), as well as the specific DOT requirements referenced throughout the transporter regulations.

3.7.3.2.3 Occupational Health and Safety, including 29 Code of Federal Regulations

The California Division of Occupational Safety and Health (Cal/OSHA) and the Federal Occupational Safety and Health Administration (OSHA) are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. Pursuant to the Occupational Safety and Health Act of 1970, OSHA has adopted numerous regulations pertaining to worker safety, contained in 29 CFR. These regulations set standards for safe workplaces and work practices, including standards relating to hazardous material handling. Cal/OSHA assumes primary responsibility for developing and enforcing state workplace safety regulations. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in 29 CFR. Cal/OSHA standards are generally more stringent than federal regulations.

Cal/OSHA regulations concerning the use of hazardous materials in the workplace, as detailed in 8 CCR, include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous waste sites. The hazard communication program requires that material safety data sheets (MSDSs) be available to employees and that employee information and training programs be documented.

3.7.3.3 Local Regulations

3.7.3.3.1 Unified Hazardous Waste and Hazardous Management Regulatory Program (SB 1082, 1993) and the Orange County Environmental Health Division

The Unified Hazardous Waste and Hazardous Management Regulatory Program (SB 1082, 1993) is a state and local effort to consolidate, coordinate, and make consistent existing programs regulating hazardous waste and hazardous materials management. CalEPA adopted implementing regulations for the Unified Program (27 CCR, Division 1, Subdivision 4, Chapter 1) in January 1996. The Unified Hazardous Waste and Hazardous Management Regulatory Program is implemented at the local level by CUPAs.

The Environmental Health Division is the CUPA for most cities in Orange County. The Environmental Health Division coordinates the regulation of hazardous materials and hazardous wastes in Orange County through the following programs:

- Hazardous Materials Disclosure
- Business Emergency Plan
- Hazardous Waste (HW)
- Underground Storage Tank (UST)
- Aboveground Petroleum Storage Tank (APST)
- California Accidental Release Prevention (CalARP)

In the City, the Fire Department is responsible for the administration of the Hazardous Materials Disclosure and Business Emergency Plan programs.

3.7.3.3.2 California Health and Safety Code Section 25500 and Newport Fire Department

The responsibilities of the City's Fire Department include effective planning for emergencies, including those related to hazardous material incidents. In the event of a hazardous material

incident, the Fire Department will act as the lead agency and will provide an Incident Commander, with support provided by the Police Department and the Public Works Department.

The Fire Department coordinates planning and response to emergencies, improves procedures for incident notification, and provides training and equipment to safety personnel. The Fire Department is required by CHSC Section 25500 to prepare an inventory and information system for the storage and location of hazardous materials in the City; oversee the preparation and collection of plans for those businesses that use hazardous substances; prepare area response plans that will incorporate inventory data, training for emergency responses, and evacuation plans; and present an inspection plan and data management plan to the state for approval. Response procedures for hazardous materials incidents are provided in EOP and detailed in the Newport Beach Fire Department Operations Plan B-4 and the Orange County/Cities Hazardous Material Emergency Response Plan.

3.7.3.3.3 County Harbor Patrol

The Orange County Sheriff's Department Harbor Patrol-Marine Operations Bureau (Harbor Patrol) manages the marine-based emergency and law enforcement services of Newport Harbor. The Harbor Patrol provides law enforcement, marine firefighting, and search and rescue services along the 48 miles of Orange County coastline and within the county's three major harbors at Newport Beach, Sunset-Huntington, and Dana Point.

3.7.4 Environmental Impacts and Mitigation Measures

3.7.4.1 Baseline

At the time of publication of the EIR for the proposed Project, the project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters south of Newport Beach, is an active recreational harbor and public beach with no dredging operations except periodic and limited RGP 54 maintenance dredging. The baseline conditions include areas of sediments that would be approved for open ocean disposal, while select areas would be unsuitable for nearshore or open ocean disposal. As discussed in Section 2, due to elevated concentrations of PCBs and/or mercury, the Turning Basin and portions of Main Channel 1 and 2 and Newport Channel 1 were deemed not suitable for open ocean disposal. Figure 2-5 presents the results of DMMT coordination and identifies sediment that is suitable for open ocean disposal or requires an alternate disposal option.

3.7.4.2 Thresholds

For purposes of this DEIR, the following thresholds, which are based on Appendix G of the CEQA Guidelines (Environmental Checklist), were used to determine if the proposed Project would result in impacts related to hazards and hazardous materials. The proposed Project would have an impact if:

- **HAZ-1:** The proposed Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

- **HAZ-2:** The proposed Project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- **HAZ-3:** The proposed Project would emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- **HAZ-4:** The proposed Project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
- **HAZ-5:** The proposed Project would be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard or excessive noise for people residing or working in the project area.
- **HAZ-6:** The proposed Project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- **HAZ-7:** The proposed Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

3.7.4.3 Methodology for Determining Impacts

Analysis of impacts pertaining to hazards and hazardous materials was based on existing hazardous material conditions recorded on and off site (as presented in Section 3.7.2); existing and planned emergency action plans; and siting relative to schools, residents, airports, or other sensitive receptors.

3.7.4.4 Impact Analysis

3.7.4.4.1 HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The proposed Project includes dredging, transport, and disposal of sediments. Dredged sediment will be loaded onto haul barges for transport to the disposal destination and then placed by bottom-dump barges. Clean material dredged during Federal Channels dredging or construction of the CAD facility would be transported to LA-3 for open ocean disposal or nearshore beaches for beneficial reuse. Material determined unsuitable for open ocean disposal will be transported to the CAD facility and placed into the excavation for subsequent capping.

As previously described in Sections 2.1 and 3.7.1, sediments from the Federal Channels were characterized in 2018 and 2019 to determine suitability for open ocean disposal or nearshore placement (Anchor QEA 2019a). Most sediments were approved for open ocean disposal; however,

select areas were determined to be unsuitable for nearshore or open ocean disposal. These include the Turning Basin and portions of Main Channel North and Newport Channel due to elevated concentrations of mercury and/or PCBs (Figure 2-5). All concentrations of mercury and PCBs were less than State of California Title 22 Total Threshold Limit Concentrations (which is 5,000 mg/kg for PCBs and 2,000 [as Hg] for mercury), and sediments are not considered a hazardous waste under state or federal regulatory standards. In addition, all effects-based testing, including toxicity and bioaccumulation, passed open ocean disposal requirements. However, because the sediment showed concentrations of mercury and PCBs above USEPAs thresholds for open ocean disposal, the material was deemed unsuitable.

The proposed Project will not involve transport, use, or disposal of hazardous materials, except for small amounts of fuel, lubricating fluids, and solvents servicing construction equipment. Storage, handling, and disposal of these materials would be regulated by DTSC, USEPA, OSHA, and the City's Fire Department. Accidental release of hazardous materials during construction and operation of disposal activities (e.g., fuel spill) could occur but are not reasonably foreseeable considering the potential liability for such releases and the dredging operator's adherence to BMPs and staff training. If, however, a major storm or other natural event were to occur, the potential for an accidental release could occur, which would create hazardous conditions for on-site construction workers or adversely affect water quality. Under this hypothetical scenario, the severity of the impact would depend on the amount of material spilled and site-specific conditions. Procedures required as a condition of project approval to minimize the potential for a release of hazardous materials include implementation of spill prevention plans, restrictions on refueling in sensitive areas, and the use of equipment that contains spills during normal usage or during refueling.

Impact Determination: Adherence with hazardous materials regulations and general construction BMPs would ensure that that the proposed Project would result in less-than-significant impacts to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.7.4.4.2 HAZ-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The proposed Project would create a CAD facility within Lower Newport Bay. Operation of the CAD facility would consist of permanent disposal of sediments that are unsuitable for open ocean disposal or nearshore placement, including sediment generated from the Federal Channels maintenance dredging program. Select areas determined to be unsuitable for open ocean disposal or nearshore placement include the Turning Basin and portions of Main Channel North and Newport

Channel (Figure 2-5). The CAD would be designed with additional capacity for disposal of sediments from outside the Federal Channels. Sediments that are unsuitable for open ocean disposal would be capped with clean sediment to isolate chemically impacted sediments. As described in the BODR, several technical studies were performed to determine the appropriate cap thickness to protect against chemical breakthrough or physical disturbance of the final cap layer due to propeller wash scour, anchor penetration, and bioturbation. Based on these studies and the proposed cap thickness, there would be minimal risk of release of chemically impacted materials from the CAD facility.

During dredging, there is the potential to encounter other chemically impacted sediments; however, dredging operations are not expected to result in the release of hazardous materials. As previously described, most sediments from the Federal Channels are suitable for open ocean disposal or nearshore placement. Sediments that are unsuitable for open ocean disposal or nearshore placement are not considered hazardous waste under state or federal regulatory standards.

As previously described in Section 3.7.3.4.1 (HAZ-1), accidental spills of oil, grease, or other petroleum products could occur during construction. During all construction activities, the contractor will implement a spill prevention plan to avoid accidental spills and to have the appropriate materials on site in order to respond to any gas, oil, or other leak or spill. All construction equipment (on land and over water) will be kept in proper operating condition, and any leak will be immediately repaired.

Impact Determination: Based on the analysis presented previously, the proposed Project would result in less-than-significant impacts to the public or the environment through reasonably foreseeable upset and accident conditions.

Mitigation Measures: None required.

Residual Impact: Less than significant.

3.7.4.4.3 HAZ-3: Would the project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The nearest school to the proposed Project CAD site is Newport Elementary School, located approximately 0.25 mile to the southeast. As previous described, the proposed Project involves the dredging and disposal of sediments. Sediments would be transported by haul barges to the final disposal destination. No sediments would be transported by trucks along routes in the vicinity of schools. Sediments are not considered a hazardous waste under state or federal regulatory standards. The proposed Project would not emit hazardous emissions or involve handling hazardous materials.

Impact Determination: Based on the analysis presented previously, the proposed Project would result in no impacts related to hazardous material emissions or handling in the vicinity of a school.

Mitigation Measures: None required.

Residual Impact: No impact.

3.7.4.4.4 HAZ-4: Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The proposed Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

Impact Determination: Because the proposed Project site is not included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5, no impacts associated with a hazardous materials site would occur.

Mitigation Measures: None required.

Residual Impact: No impact.

3.7.4.4.5 HAZ-5: Would the project be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport, and result in a safety hazard or excessive noise for people residing or working in the project area?

The proposed Project is not within an airport land use plan area nor within 2 miles of a public airport or public use airport. The nearest airport is the John Wayne Airport, located approximately 5 miles north of the Project CAD site.

Impact Determination: Because the proposed Project site is not within 2 miles of an airport, no impacts related to aviation, airports, or public use of airports would occur.

Mitigation Measures: None required.

Residual Impact: No impact.

3.7.4.4.6 HAZ-6: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The City has an existing EOP that provides guidance for the City's response to emergency situations (Newport Beach Fire Department 2011). The Emergency Operations Center (EOC) is responsible for directing, coordinating, and supporting the City's departments and other agencies in their emergency response activities. The EOC includes the Police Department and the Fire Department. The USCG is responsible for providing maritime accident response.

The proposed Project would not interfere with implementation of the EOP. Access to all roads would be maintained during construction. The project will comply with all applicable fire codes and emergency evacuation plans set forth by the Fire Department. Minimal construction equipment would be required, including a mechanical dredge (Photograph 2-1), bottom-dump barge (Photograph 2-2), and tugboats. This equipment would not result in obstructions or impede emergency vehicles or personnel. Water-based emergency response by Harbor Patrol would not be affected because no channel would be completely blocked. Existing emergency access to the project site would remain in place.

Impact Determination: The proposed Project would not interfere with implementation of or physically interfere with an emergency response plan or evacuation plan; therefore, no impact would occur.

Mitigation Measures: None required.

Residual Impact: No impact.

3.7.4.4.7 HAZ-7: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The project site is not located within any designated fire hazard severity zones, and the site is not susceptible to wildland fire hazards. As a marine-based project, construction of the proposed CAD facility would not expose individuals or structures to any wildland fire risks.

Impact Determination: As the proposed Project is not within any designated fire hazard severity zones and the site is not susceptible to wildland fire hazards, no impacts related to wildland fires would occur.

Mitigation Measures: None required.

Residual Impact: No impact.

3.8 Hydrology/Water Quality

Section 3.8 describes the known hydrology and water quality conditions in the project area and analyzes how the proposed Project may affect these conditions. This section also describes applicable rules and regulations pertaining to water quality resources that could affect the proposed Project. This analysis is based on publicly available data and recent and ongoing programs in Newport Bay pertaining to water quality. For the purposes of the hydrology and water quality analysis, the study area is defined as the project site, an area which encompasses Lower Newport Bay and immediate adjacent offshore waters.

3.8.1 Environmental Setting

3.8.1.1 Regional Setting

The City is located at the western edge of Orange County, adjacent to the Pacific Ocean. The City is bordered by Costa Mesa to the northwest, Huntington Beach to the west, Irvine to the northeast, Laguna Beach to the south, and unincorporated portions of Orange County to the southeast. The proposed Project will occur within the Lower Newport Bay, including Newport Harbor. The Harbor is a small craft harbor offering a wide range of recreational boating activities. Local beachfront and harbor-front communities support water-use recreational services.

Newport Harbor is within the boundaries of the Newport Bay Watershed and the Newport Coast Watershed. The Main Channel runs the 3-mile length of the Newport Harbor, down the inside of the Balboa Peninsula, and among the seven harbor islands that make up several residential communities and villages of Newport Beach. The Coast Highway Bridge serves as the unofficial boundary of the Lower Bay and Upper Bay. San Diego Creek is a main tributary to Newport Bay and drains the cities of Irvine, Laguna Woods, Lake Forest, Orange, Tustin, and Newport Beach. The creek flows west from its headwaters and empties into Newport Bay 1 mile west of the University of California Irvine campus. Portions of San Diego Creek were channelized in 1986 for flood protection. This channelization also increased sediment flow into Upper Bay (City 2006b).

3.8.1.2 Surface Water Quality

Water quality is often characterized by physical, chemical, or biological factors. These include temperature, turbidity, pH, dissolved oxygen, and salinity and can also be related to chemical constituents or biological presence such as algae and phytoplankton. In 2012, as part of the previous Federal Channels maintenance dredging program, a special study was conducted in Lower Newport Bay during active dredging operations to determine how real-time parameters monitored in the field (turbidity and transmissivity) related to the target TSS water quality standard of 15 mg/L that is protective of eelgrass beds (Anchor QEA 2012). The results of the study indicated that a TSS target of 15 mg/L would be represented by a transmissivity value of 38.4% and a turbidity value of 15.9 NTU. Based on the results of this special study, protective numeric water quality goals were developed for

Lower Newport Bay. These water quality goals were used for water quality monitoring compliance during the previous Federal Channels maintenance dredging program in accordance with the CWA Section 401 Water Quality Certification and are proposed for the proposed Project.

Newport Bay is designated as water quality-limited for four impairments in the federal CWA Section 303(d) List. Once a waterbody has been listed as impaired, a TMDL must be developed for the pollutant(s) responsible for impairment. A TMDL is the sum of the individual waste load allocation and natural background load for a specific pollutant that will not exceed the capacity of a waterbody to assimilate this pollutant. A TMDL identifies the maximum amount of a pollutant that may be discharged to a waterbody without exceeding water quality standards. Several TMDLs for the waters of Newport Bay were developed with regard to each pollutant responsible for impairment. The Santa Ana RWQCB and USEPA have developed TMDLs for sediments, nutrients, bacteria, and toxic pollutants (i.e., heavy metals and organics) in Newport Bay (RWQCB 1198a, 1998b, 1998c, and 1998d; USEPA 2002). Each TMDL identifies numeric and qualitative targets for water quality standards applicable to these pollutants and pollutant specific monitoring programs. Applicable standards are applied in a manner to protect and maintain beneficial uses of the waterbody. TMDLs for Newport Bay and San Diego Creek are further detailed in Sections 3.8.1.2.1 through 3.8.1.2.4.

3.8.1.2.1 Newport Bay/San Diego Creek Sediments TMDL

The Newport Bay/San Diego Creek Watershed Sediment TMDL was implemented in 1998 (RWQCB 1998a, 1998b). This TMDL identified a quantifiable target for the average annual sediment load to Newport Bay. The Sediment TMDL identified load allocations according to land use type for discharge of sediment to Newport Bay. Sediment control measures were adopted in part to maintain and protect marine aquatic habitat in the bay and the beneficial uses of the marine aquatic habitat. Numerical objectives for fecal coliform are established in the Santa Ana River Basin Water Quality Control Plan (Basin Plan).

3.8.1.2.2 Newport Bay/San Diego Creek Nutrients TMDL

The Newport Bay/San Diego Creek Nutrient TMDL was implemented in 1999 (RWQCB 1998c). Numeric targets of nutrient concentrations in Newport Bay are based on numeric and qualitative objectives established in the Santa Ana River Basin Plan. The Basin Plan objectives relative to nutrient discharges in bays and estuaries including the marine communities shall not be degraded as a result of nutrients in waste discharge and waste discharge should not contribute to excessive algal growth in receiving waters. The Nutrient TMDL for Newport Bay specified monitoring activities to observe nutrient load, concentration of total nitrogen and total phosphorus, and algal biomass in Newport Bay. The key TMDL targets were met and the associated regional monitoring program requirements were reduced in frequency in 2014.

3.8.1.2.3 Newport Bay Fecal Coliform Bacteria TMDL

The Newport Bay TMDL for Fecal Coliform Bacteria was implemented in 1998 (RWQCB 1998d). This TMDL was adopted to protect beneficial use (e.g., water-contact recreation) of Newport Bay. Fecal coliform bacteria are an indicator of contamination by bacteria or other pathogens. Discharges of fecal coliform can cause the Orange County Health Care Agency to close beaches and post notices to avoid water-contact activities, specifically in wet weather months. This TMDL was adopted with an implementation plan to ensure the TMDL is met and compliance with water quality standards is achieved.

3.8.1.2.4 Newport Bay Toxic Pollutants TMDL

The Newport Bay Toxic Pollutants TMDL was established in 2002 by USEPA (USEPA 2002). The impacts of greatest concern from toxic substances are chemical bioaccumulation through the food chain and chemical concentrations in water, sediment, or biota that could have adverse impacts on aquatic life or aquatic-dependent species. Individual pollutants specific to Lower Newport Bay and included in the San Diego Creek and Newport Bay Toxic Pollutants TMDL (USEPA 2002) have been grouped together and are identified in the TMDL as follows:

- Organophosphate pesticides
- Selenium
- Metals (copper, lead, zinc)
- Organochlorinated compounds

The Newport Bay Toxic Pollutants TMDL (USEPA 2002) identifies the general categories of pollutant sources. An implementation and monitoring plan for each toxic pollutant was added to this DEIR to ensure compliance with water quality objectives is achieved.

3.8.1.3 Tides and Circulation

Ocean tidal effects and stream discharges influence water movement and sediment distribution in Newport Bay. Tides in southern California are mixed, semidiurnal tides resulting in two unequal high tides and two unequal low tides per day. This results in a higher high water (HHW), a lower high water (LHW), a higher low water (HLW), and a lower low water (LLW). The highest range between HHW and LLW occurs during spring tides, when the moon, sun, and Earth are aligned and create a larger gravitational pull. An average tidal range at the Lower Harbor entrance is approximately 5 feet (USACE 2011). Circulation patterns are established by tidal currents. Water circulation patterns within Lower Newport Bay are maintained by tidal fluctuation and direction, winds, and local topography.

Waves within the Newport Bay are often driven by wind activity. Although these waves are usually small in size, they can be capable of resuspending bottom sediments in shallow water for transport within the bay especially in areas closer to the entrance harbor where waves can be larger (USACE 2000). Local wind-generated seas in Newport Bay most often come from the west and

southwest. Based on Newport Bay-wide bathymetric surveys, sedimentation has occurred throughout Lower Newport Bay, leading to areas of significant shoaling.

3.8.2 Applicable Regulations

3.8.2.1 Federal

3.8.2.1.1 Clean Water Act

The CWA is the principal statute governing water quality on a national level. The CWA sets water quality standards and regulates discharge of pollutants into the nation's waters. The statute employs a variety of regulatory and non-regulatory tools to reduce pollutant discharges into waterways. It mandates permits for wastewater and stormwater discharges, regulates publicly owned works that treat municipal and industrial wastewater, requires states to establish site-specific water quality standards for navigable bodies of water, and regulates other activities that affect water quality. USEPA has delegated responsibility for implementation of portions of the CWA in California, including water quality control planning and programs, to SWRCB and nine RWQCBs.

Important applicable sections of the CWA are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity that may result in a discharge to "waters of the United States" to obtain certification from the state that the discharge will comply with other provisions of the CWA. Certification is provided by RWQCB.
- Section 402 establishes the NPDES, a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permit program is administered by the RWQCB.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by USACE.

3.8.2.1.2 Rivers and Harbors Act

The Rivers and Harbors Act of 1899 prohibits discharge of refuse matter into navigable waters or tributaries of the United States without a permit. Permits are also required for any activities that excavate, fill, or alter the course, condition, or capacity of any port, harbor, channel, or other areas covered by the Rivers and Harbors Act of 1899. Many of these activities are additionally regulated by the CWA. In-water components of the proposed Project would obtain approval under the Rivers and Harbors Act through authorization from the USACE, likely via a Standard Individual Permit.

3.8.2.2 State

3.8.2.2.1 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act; Division 7 of the California Water Code) is the primary state regulation that addresses water quality standards. Under the act, the SWRCB has the ultimate authority over water rights and water quality policy. The Porter-Cologne Act also established nine RWQCBs to oversee water quality on a daily basis at the regional level. The state and regional boards regulate all pollutant or nuisance discharges that may affect either surface water or groundwater.

The study area is under the jurisdiction of the Santa Ana RWQCB. Under USEPA oversight, the SWRCB and Santa Ana RWQCB have the responsibility for establishing regulatory standards and objectives for water quality in the bay; developing TMDLs for impaired waterbodies; and issuing CWA NPDES permits. Approval for project activities subject to the Porter-Cologne Act (i.e., CAD facility construction, maintenance dredging, and disposal) would be obtained through the water quality certification/waste discharge permit requirements issued by the Santa Ana RWQCB.

3.8.2.2.2 California Fish and Game Code

FGC 5650 prohibits discharge of harmful materials to waters of the state. It is unlawful to deposit in, permit to pass into, or place where it can pass into California waters, any petroleum, acid, coal or oil tar, lampblack, aniline, asphalt, bitumen, or residuary product of petroleum; any carbonaceous material or substance; any refuse, liquid or solid, from a refinery, gas house, tannery, distillery, chemical works, mill, or factory of any kind; any sawdust, shavings, slabs, or edgings; any factory refuse, lime, or slag; any *cocculus indicus;*[5] or any substance or material deleterious to fish, plant, mammal, or bird life. FGC 5655 requires that parties responsible for polluting waters of the state pay for removal costs and environmental damages.

FGCs 1600–1607 require CDFW notification for any activity that could affect the bank or bed of any stream that has value to fish and wildlife. After notification, CDFW has the responsibility for preparation of a Streambed Alteration Agreement in consultation with the project proponent. CDFW does not currently employ a formal definition of watercourses under its jurisdiction. CDFW does have jurisdiction over alterations to any channel with a definable bank and bed that is capable of accommodating water flow. Wetlands need not be present to establish CDFW jurisdiction. CDFW jurisdiction generally extends to work conducted within the 100-year floodplain.

[5] *Cocculus indicus* is prohibited based on the practice of grinding up the roots of certain *Cocculus* plants (most commonly Yucca plants) and spreading them in the water to "stun" fish for collection.

3.8.2.2.3 Santa Ana River Basin Water Quality Control Plan

The Basin Plan serves as a basis for the Santa Ana RWQCB regulatory programs. It designates beneficial uses for surface and ground waters and establishes water objectives, which combine to form water quality standards under the CWA. The Basin Plan also includes an implementation plan to achieve and maintain these water quality standards. Beneficial uses for Lower Newport Bay listed in the Basin Plan include navigation, water-contact recreation, non-contact water recreation, commercial and sportfishing, wildlife habitat, rare species, spawning and development, marine habitat, and shellfish harvesting. Water quality objectives include both narrative and numeric objectives and are specified based on waterbody type, including ocean water, inland surface waters, enclosed bays and estuaries, and groundwater.

3.8.2.3 Local

3.8.2.3.1 City of Newport Beach General Plan

The City's General Plan (City 2006a), adopted on July 25, 2006, and approved on November 7, 2006, includes the following policies in the Harbors and Bays (HB) Element specific to flood hazards that would apply to the proposed Project:

- **HB 8.1:** Chemical Uses Impacting Water Quality. Support regulations limiting or banning the use insecticides, fertilizers, and other chemicals, which are shown to be detrimental to water quality.
- **HB 8.7:** Newport Beach Water Quality Ordinance. Update and enforce the Newport Beach Water Quality Ordinance.
- **HB 13.1:** Sediment Management within Newport Bay. Develop a comprehensive sediment management program that provides for safe navigation and improved water quality.
- **HB 13.2:** Cooperation with USACE. Cooperate with the USACE in their maintenance and delineation of federal navigational channels at Newport Harbor in the interest in providing navigation and safety.

3.8.3 Environmental Impacts and Mitigation Measures

3.8.3.1 Baseline

The proposed Project area encompasses Lower Newport Bay and the nearshore Pacific Ocean waters. Newport Harbor is an active recreational harbor and public beach with no ongoing dredging operations except periodic and limited RGP 54 maintenance dredging. Santa Ana RWQCB and USEPA have developed TMDLs for sediments, nutrients, bacteria, and toxic pollutants (i.e., heavy metals and organics) in Newport Bay. Bay waters met applicable standards in baseline conditions.

3.8.3.2 Thresholds

For purposes of this DEIR, the following thresholds, were used to determine if the proposed Project would result in impacts related to hydrology and water quality:

- **HYDRO-1:** The project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- **HYDRO-2:** The project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge, such that the project may impede sustainable groundwater management of the basin.
- **HYDRO-3:** The project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:
    - Result in substantial erosion or siltation on site or off site
    - Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site
    - Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
- **HYDRO-4:** The project would result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- **HYDRO-5:** The project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.8.3.3 Methodology for Determining Impacts

Impacts pertaining to water quality and hydrology were assessed through a combination of literature data (including applicable water quality criteria), results from past dredge projects in Newport Harbor, results from previous testing of Newport Harbor sediments, and scientific expertise of the preparers. Specific activities associated with the proposed Project that could have impacts on water quality are construction operations such as dredging, excavation, and placement of material. Impacts would be considered significant if any of the thresholds listed previously occur in association with construction or operation of the proposed Project.

Results from previous toxicity and bioaccumulation testing (Anchor QEA 2019a) of composite samples throughout Newport Bay and standard sediment testing protocols (USEPA/USACE 1991) were the basis for determining the suitability of material for open water disposal and potential for impacts to biota. Elutriate tests were compared to water quality standards to determine if pollutants released during placement could adversely affect water quality and biota.

The background studies and studies used in this analysis include the following:

- TMDL documents for Newport Bay developed by the Santa Ana RWQCB and USEPA
- BODR (Anchor QEA 2020a)
- Sampling and Analysis Program Report for Lower Newport Bay Federal Channels Dredging (Anchor QEA 2019a; Appendix B to the BODR)
- STFATE Model Scenarios for CAD Site Development at the Proposed Lower Newport Bay Federal Channels Site (Appendix G to the BODR)
- *Final Environmental Assessment for Lower Newport Bay Maintenance Dredging Project* (USACE 2011)
- City of Newport Beach General Plan 2006 Update EIR (City 2006b)

3.8.3.4 Impact Analysis

3.8.3.4.1 HYDRO-1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Water quality in Newport Bay would be temporarily impacted during construction operations (excavation, dredging, or material placement). Impacts may consist of increased turbidity in the water column, harmful increases in nutrients, and decreases in dissolved oxygen.

Dredging operations will follow Project-specific BMPs to reduce impacts to surrounding waters of Newport Bay. During dredging and disposal operations in the CAD facility, water quality monitoring would be conducted consistent with the special study protective water quality goals developed as part of the previous Federal Channels maintenance dredging program in Lower Newport Bay (Anchor QEA 2012). Numeric limits for physical and chemical characteristics must comply with the numeric receiving water limitations specified in Table 3-10. The receiving water limitations would be based on the proximity of eelgrass as determined by the City's most recent harbor-wide eelgrass survey—or as determined through the pre-construction eelgrass survey—at a distance of no more than 300 feet from the dredge footprint. Compliance with these numeric targets would be achieved if either transmissivity or turbidity is lower than the respective limit. As shown in Table 3-10, when dredging operations occur in closer proximity to eelgrass, more stringent receiving water limitations would be applied. Should monitoring show an exceedance of numeric receiving water limitations, BMPs would be implemented.

Table 3-10
Numeric Receiving Water Limitations

Parameter	Receiving Water Limitation	
	Eelgrass Present Within 300 Feet	Eelgrass Not Present Within 300 Feet
Transmissivity	38%	16%
Turbidity	16 NTU	47 NTU
pH	7 < pH < 8.6; < 0.2 change from ambient	
Dissolved Oxygen	>5 mg/L	

Material placement activities would be conducted during both nearshore placement of material for beach nourishment and when placing material in the CAD facility. Potential impacts to water quality during placement of sediment from the Federal Channels was evaluated using suspended particulate phase bioassay testing as part of the pre-dredge evaluation (Anchor QEA 2019a). Potential impacts to water quality during material placement within the CAD site were analyzed using the STFATE model. This is a module developed by USACE to predict transport of dredged material through the water column during placement and the resulting area and thickness of deposits on the seafloor (Anchor QEA 2020a). The model is also used to predict contaminant concentrations relative to applicable water quality criteria. The following five distinct scenarios were evaluated in the model to estimate the potential for sediment drift and loss of material during fill operations at the proposed CAD facility during various tidal currents and the potential for water quality exceedances:

1. The first scenario represented the layer of material consisting of sediment from areas within the Federal Channels determined unsuitable for open ocean disposal.
2. The second scenario represented the layer of material consisting of sediment from areas within the Federal Channels identified for use as either an interim containment layer or final cap layer.
3. The third scenario represented the layer of material consisting of sediment from within the boundaries of the RGP 54 Plan Area determined unsuitable for open ocean disposal.
4. The fourth scenario represented sediment from the Federal Channels identified as an alternative source for an interim containment layer or final cap layer (sediments associated with the Entrance Channel).
5. The fifth scenario represented material consisting of sediment from within Main Channel North 1 that was determined unsuitable for open ocean disposal and contained the greatest amount of fine-grained materials.

Based on the results of the STFATE model in Newport Bay (Appendix G to the BODR), there are no restrictions of placement activities during neap tides (i.e., first and third quarters of the moon). During spring tides, BMPs should be implemented to limit placement events during non-peak tidal current velocities (i.e., plus or minus 2 hours from slack tide) to limit the horizontal distribution of fill material.

Material placement during a non-peak ebbing tide would result in 10% to 21% of material possibly lost outside the proposed CAD facility boundary while material placement during a non-peak flood tide would only result in 6% to 9% of material possibly lost outside the proposed CAD facility boundary. The greatest amount of material lost outside the proposed CAD facility occurred during ebbing tides when placement of material suitable for use as an interim cover containment layer or final cap layer (Scenarios 2 and 4) was occurring. Because this material would be sequenced after placement of unsuitable material, any material from Scenarios 2 and 4 deposited beyond the boundaries of the proposed CAD facility would act as thin layer cover over any unsuitable material that may have been "lost" from the proposed CAD facility (Appendix G to the BODR).

The water quality standards for dissolved copper, dissolved mercury, and total PCBs were not violated in the model scenarios. The water quality standard for total DDx was exceeded during disposal events for all material types. However, predicted water quality concentrations after 4 hours of material placement from Scenarios 1, 2, 3, and 4 were equal to the existing background water quality concentration (0.00130 µg/L), and predicted water quality concentrations after 4 hours of material placement from Scenario 5 were only 0.0003 µg/L greater than background.

- Predicted water column concentrations for total DDx do not exceed the Lower Newport Bay organochlorine compounds TMDL acute water quality targets; however, they do exceed the TMDL's chronic water quality targets.
- The removal, placement, and containment of DDx-contaminated Lower Newport Bay sediments at the proposed CAD facility provides a greater benefit than any short-term water quality impacts.

Water quality monitoring following placement of materials from Scenarios 1 through 4 (listed previously) may have limited practicality because predicted total DDx concentrations are similar to typical method detection limits currently achieved by regional analytical laboratories. Predicted total DDx concentrations following placement of materials from Scenario 5 (listed previously) were greater than typical method detection limits. However, strategies to minimize the volume of material from Scenario 5, such as mixing with material from other dredge units, should be used to minimize water quality impairments.

Long-term water quality impacts were considered as part of the permanent cap design for the CAD facility. Various technical studies were conducted to ensure long-term isolation of chemically impacted sediments (Anchor QEA 2020a). These studies evaluated physical disturbances of the cap (i.e., propeller wash, anchoring), bioturbation, and chemical breakthrough. Chemical isolation modeling was conducted following USEPA and USACE guidance to simulate the transport of mercury, DDTs, and PCBs through the final cap layer (Palermo et al. 1998). Modeling indicated that within 100 years, porewater concentrations near the final cap layer's surface would not exceed porewater criteria (California Toxics Rule for porewater) and sorbed phase criteria (effects range

median). Based on results of these studies, a 3-foot-thick cap would be used to ensure underlying sediments remain isolated and there are no long-term impacts to water quality or benthic organisms. In addition, by removing these sediments from the Federal Channels and other areas of the Lower Harbor where they could be resuspended by vessel activities, the proposed Project reduces the potential for resuspension. The proposed Project would seek to relocate the impacted sediments into a deep hole (CAD facility), which would eliminate those potential risks to water quality thereby resulting a long-term benefit to the environment.

Impact Determination: The proposed Project has the potential to impact water quality temporarily during proposed construction and marine-based operations (i.e., dredging and material placement for nearshore disposal and at the CAD facility site). The long-term use of a CAD facility would not have any significant impact on water quality. The stability and placement of the final cap layer for the CAD facility was analyzed and modeled to ensure proper stability for construction and design thickness. Nearshore disposal of sediments for beneficial reuse by beach nourishment has the potential to impact water quality temporarily during disposal operations. While overly conservative, environmental monitoring will be performed during disposal events (i.e., nearshore disposal for beach nourishment and material placement at the CAD facility) to confirm compliance with water quality standards. Material placement within the CAD facility should be timed based on the tides to limit material loss outside the CAD facility as determined by STFATE model runs (Appendix G to the BODR) and detailed in the mitigation measures. These activities would constitute a potentially significant impact.

Mitigation Measures:

- **MM-HYDRO-1:** Conduct water quality monitoring during all construction activities. The project will obtain the required permits under the RWQCB and/or the USACE. Water quality monitoring will be implemented to comply with numeric receiving water limitations (Table 3-10) and other permit requirements during construction activities to minimize potential water quality impacts to Lower Newport Bay.
- **MM-HYDRO-2:** Implement Water Quality BMPs. Construction contractors shall use BMP water quality controls to ensure compliance with the water quality standards identified herein. Measures could include use of a silt curtain during dredging and/or material placement, a floating boom to be maintained around the proposed Project area, and daily inspection of construction equipment for leaks or malfunction. Storage or stockpiling of materials related to construction may be prohibited where such materials could enter the waters of Lower Newport Bay.
- **MM-HYDRO-3:** Material placement will take place outside tidal extremes. Material placement activities should be limited to neap and non-peak tides (i.e., plus or minus 2 hours from slack tide) to limit the horizontal distribution of fill material due to reduced current speeds, where

possible. In addition, placement activities should be conducted during a non-peak flood tide versus a non-peak ebb tide. These measures will limit the loss of fill material outside the CAD facility during placement operations.

Based on use of mitigation measures listed previously, impacts would be less than significant. Water quality monitoring during proposed construction activities would ensure compliance with water quality standards and minimize impacts to the surrounding water column and marine communities. Implementing specific BMPs would minimize impacts to surrounding waters during dredging, nearshore placement, and excavation of the CAD facility. Limiting material placement based on tidal activity would reduce impacts to surrounding water quality and marine communities by ensuring material is placed accurately. These mitigation measures would result in the aforementioned activities being less than significant with mitigation incorporated.

Residual Impact: Less than significant.

3.8.3.4.2 HYDRO-2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge, such that the project may impede sustainable groundwater management of the basin?

The area of the proposed CAD facility, dredging, and nearshore disposal was evaluated for its proximity within and/or above significant groundwater sources and aquifers. The interpretation of the hydrogeology of the area was based on previous studies conducted at sites around Newport Beach and regionally.

The main source of groundwater in Orange County is the Main Groundwater Basin, which covers approximately 350 square miles and lies primarily under the Lower Santa Ana River Watershed. However, near the coastal areas of Lower Newport Bay, most of the groundwater wells are in the surrounding area to the north and east of the City. The local groundwater regime in and around Lower Newport Bay does not have significant aquifers with the capability of producing more than a small amount to a domestic well or stock watering well (OC Watersheds 2018). Furthermore, the surrounding area of Orange County extracts groundwater from an aquifer that lies at depths up to 180 feet below the area, which is well below the depth of the proposed CAD facility.

The lack of groundwater production and use in the Lower Newport Bay area, and the relative depth of the aquifer in the region, suggest that the CAD facility would not affect groundwater resources. The lack of actively used aquifers and the relative depth of the Orange County main groundwater basin also suggest that negligible groundwater upwelling is expected in and through the CAD facility. Therefore, there will be no impacts on groundwater, including groundwater supply or recharge.

Impact Determination: The lack of groundwater production and use in the Lower Newport Bay area, and the relative depth of the aquifer in the region, suggest that CAD facility, dredging and disposal would not affect groundwater resources. The lack of actively used aquifers and the relative depth of the Orange County main groundwater basin also suggest that negligible groundwater upwelling is expected in and through the CAD facility. There would be no impact to groundwater supplies or recharge.

Mitigation Measures: None required.

Residual Impact: No impact.

3.8.3.4.3 HYDRO-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would: Result in substantial erosion or siltation on site or off site? Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site? Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? Impede or redirect flood flows?

The proposed Project would not alter the existing drainage pattern of the site in any way, including alteration of a stream or river or through the addition of impervious surfaces. Excavation of the CAD site, dredging, and material placement will all take place within Newport Bay and the nearshore coastal waters between Newport Pier and south of Balboa Pier, north of the Entrance Channel. The work is strictly marine-based and would have no impact on the drainage pattern of the area.

Impact Determination: There is no impact to the existing drainage in any way to the site or area of Newport Bay. All work is marine-based, and there is no impact on the upland region.

Mitigation Measures: None required.

Residual Impact: No impact.

3.8.3.4.4 HYDRO-4: Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

There are two categories of flood hazards in Newport Bay: flash flooding from small natural channels and more moderate, sustained flooding from the Santa Ana River and San Diego Creek (City 2006b). Lower Newport Bay is characterized by the Federal Emergency Management Agency (FEMA) with 100- and 500-year flood zones. Flood hazards would impact residential and commercial land zones developed within Lower Newport Bay but would not pose a risk to the proposed Project because

dredging is an in-water process and the CAD facility will be fully capped at completion of the proposed Project.

Newport Beach is within the tsunami inundation zone and susceptible to such events, although a very low probability exists. Newport Beach is generally protected from distant (Pacific Rim) tsunamis by offshore island chains such as the Channel Islands. Tsunamis may be generated in more local regions such as Alaska, southern California, or South America and would cause extensive damage to coastal communities. A seiche occurring in Newport Bay is also very low probability and would require very specific conditions to exist, including specific earthquake parameters (e.g., location and distance of epicenter, frequency of seismic waves) and the shape of the enclosed waterbody. There would be little to no impact on the proposed Project from tsunamis or a seiche zone because dredging would be done and the CAD facility would be fully capped at the completion of the proposed Project.

Impact Determination: The proposed Project activities, including dredging, excavation of the CAD facility, and material placement, would not be at risk from flood hazards, tsunamis, or seiche zones. These are low probability events that would have no effect on the proposed Project. Therefore, the proposed Project would have no impact related to flood hazards, tsunami, or seiche zones.

Mitigation Measures: None required.

Residual Impact: No impact.

3.8.3.4.5 HYDRO-5: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As described in Section 3.8.2.3.1, the City's General Plan includes water quality policies that apply to the proposed Project. Table 3-11 summarizes these policies and implementation actions for the proposed Project to ensure compliance with the General Plan.

Table 3-11
Policies and Implementation

Policy	Implementation
City of Newport Beach General Plan	
HB 8.1: Chemical Uses Impacting Water Quality. Support regulations limiting or banning the use insecticides, fertilizers, and other chemicals, which are shown to be detrimental to water quality. (NR 3.1)	The contractor will be required to implement a SPCC Plan, which will be approved by the City. The proposed Project will not involve the use of insecticides or fertilizers.
HB 8.7: Newport Beach Water Quality Ordinance. Update and enforce the Newport Beach Water Quality Ordinance. (NR 3.7)	The contractor will be required to comply with the City's Water Quality Ordinance.

Policy	Implementation
City of Newport Beach General Plan	
HB 13.1: Sediment Management within Newport Bay. Develop a comprehensive sediment management program that provides for safe navigation and improved water quality. (NR 13.1)	Federal Channels dredging and construction of a CAD facility for disposal of sediments unsuitable for open water disposal is part of a comprehensive approach to sediment management, resulting in minimized impacts to the environment, beneficial reuse of material for beach nourishment and clean capping material, and improved water quality by removal and capping of sediments that are unsuitable for open water disposal.
HB 13.2: Cooperation with U.S. Army Corps of Engineers. Cooperate with the U.S. Army Corps of Engineers in their maintenance and delineation of federal navigational channels at Newport Harbor in the interest in providing navigation and safety. (NR 13.2)	This project is being coordinated with the USACE to ensure comprehensive sediment management and cost efficiencies with the federal maintenance dredging of the Lower Newport Bay Federal Channels.
Coastal Land Use Plan	
4.3.1-1: Continue to develop and implement the TMDLs established by the Regional Board and guided by the Newport Bay WEC.	Removal of chemically impacted sediments from the Project Area is consistent with implementing and improving compliance with existing TMDLs for metals and other pollutants in the Newport Harbor.
4.3.1-8: Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.	The contractor will be required to implement a SPCC Plan that has been approved by the City and to maintain spill response equipment at the construction site.

The Basin Plan designates beneficial uses for surface and ground waters and establishes water objectives to ensure protection of these beneficial uses. As previously described, water quality monitoring will be conducted during construction activities (Section 3.8.3.4.1). If monitoring shows an exceedance of numeric receiving water limitations, BMPs would be implemented. Water quality monitoring and additional BMPs will be used to ensure compliance with Basin Plan water quality objectives; therefore, the proposed Project would not conflict with this plan.

As noted in the responses to HYDRO-1, the proposed Project is entirely marine-based and would have no effect on groundwater supplies, recharge, or drainage. Based on the lack of groundwater production and the relative depth of the aquifer in the region, the CAD facility would not affect groundwater resources. Proposed construction operations include excavation of the CAD facility, dredging, and placement of clean material in the nearshore. Therefore, these activities do not conflict with or obstruct any water quality control plan or groundwater management plans.

Impact Determination: The proposed Project would have no impact on the implementation of a water quality or groundwater management plan.

Mitigation Measures: None required.

Residual Impact: No impact.

3.9 Land Use and Planning

This section describes the existing land uses on site and in the proposed Project's surrounding area, assesses the impact of the proposed Project on these uses, and identifies the plans and policies of applicable planning documents and evaluates the proposed Project's consistency with those policies and whether any such inconsistencies could result in physical impacts on the environment. Applicable plans and regulations include the CCA and the City's CLUP and General Plan Land Use Element. The study area for this resource topic is defined as the "City of Newport Beach."

3.9.1 Environmental Setting

The proposed Project is located within Tidelands and Submerged Lands of Lower Newport Bay. The waters within Lower Newport Bay, as well as within the nearshore Pacific Ocean, are used for a wide range of recreational boating activities such as sport fishing, kayaking, diving, surfing, wind surfing, sailboat racing, and excursion and entertainment boat activities. Visitor-serving commercial and recreational uses and waterfront residences are also some of the main land uses located along the Lower Newport Bay.

Tidelands and submerged lands are subject to a Public Trust that, among other things, limits their use to navigation, fishing, commerce, public access, water-oriented recreation, open space, and environmental protection. The vast majority of tidelands and submerged lands in Newport Beach have been granted to the City or the County of Orange to administer in a manner consistent with the Public Trust limitations relative to use of the property and revenue derived from that use.

3.9.2 Regulatory Setting

3.9.2.1 California Coastal Act

The CCA of 1976 (PRC 30000 et seq.) was enacted to establish policies and guidelines that provide direction for the conservation and development of the California coastline. The CCA was passed in 1976 in order to implement the federal Coastal Zone Management Act and ultimately established the CCC as the coastal management and regulatory agency for the coastal zone (PRC 30103). The CCA established the CCC and created a state and local government partnership to ensure that public concerns regarding coastal development are addressed. The CCC is responsible for assisting in the preparation, review, and certification of LCPs. LCPs, which include a CLUP, are developed by local governments and governmental agencies for the portion of their jurisdictions that fall within the coastal zone. Following certification of the LCP and CLUP, regulatory responsibility is then delegated to the local jurisdiction for projects within the coastal zone, although the CCC retains jurisdiction generally from the bulkhead bayward.

The policies of the CCA constitute the statutory standards applied to planning and regulatory decisions made by the CCC and local governments, pursuant to the CCA. The CCC certified the City's

implementation plan in late 2017; however, the CCC retains jurisdiction in the City's tidelands and is the responsible permitting agency.

3.9.2.2 City of Newport Beach Coastal Land Use Plan

The City's CLUP (2019b) was prepared in accordance with the CCA, approved in 2005, and amended several times by the CCC. The most recent amendment was adopted in January 2019. This CLUP sets forth goals, objectives, and policies that govern the use of land and water in the coastal zone. The CLUP designates the proposed Project area as TS (Tidelands and Submerged Lands) (City 2019b, Table 2.1.1-1). This designation is intended to address the use, management, and protection of tidelands and submerged lands of Newport Bay and the Pacific Ocean immediately adjacent to the City. The category is generally not applied to historic tidelands and submerged lands that are presently filled or reclaimed.

3.9.2.3 City of Newport Beach General Plan

The City's General Plan (City 2006a) was adopted on July 25, 2006, and approved on November 7, 2006. The Plan provides both a comprehensive assessment of current land use and a forward-looking vision statement, which presents a description of the City that residents want Newport Beach to be in 2025. On January 8, 2019, the City Council conducted a study session to consider initiating a review and update of the General Plan. At the January 22, 2019, City Council meeting, the initiation and formation of a steering committee was approved, and an update meeting was held on September 25, 2019. While update planning is ongoing, the 2006 General Plan serves as the regulatory framework under which potential land use and planning impacts are assessed. Newport Harbor local land use planning is covered under the land use element in the 2006 General Plan.

The City's General Plan designates the proposed Project area for TS (Tidelands and Submerged Lands; City 2006a). This designation is intended to address the use, management, and protection of tidelands and submerged lands of Newport Bay and the Pacific Ocean immediately adjacent to Newport Beach. The designation is generally not applied to historic tidelands and submerged lands that are presently filled or reclaimed. The proposed Project site does not have a designation in Title 20 (Planning and Zoning) of the City's Municipal Code.

3.9.3 Environmental Impacts and Mitigation Measures

3.9.3.1 Baseline

At the time of publication of the EIR for the proposed Project, the project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters, is an active recreational harbor and public beach with no dredging operations except periodic and limited RGP 54 maintenance dredging.

3.9.3.2 Thresholds

For purposes of this DEIR, the following thresholds, which are based on Appendix G of the CEQA Guidelines (Environmental Checklist), were used to determine whether the proposed Project would result in impacts on land use and planning. The proposed Project would have an impact on land use and planning if:

- **LUP-1:** The project would physically divide an existing community.
- **LUP-2:** The project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.9.3.3 Methodology for Determining Impacts

The CEQA Guidelines define a substantial adverse effect on land use and planning as a significant effect on the environment. A substantial adverse effect on land use and planning is defined to include the division of an established community and/or the installation of physical barriers that would preclude travel throughout the project area. The analysis also addresses project consistency with applicable zoning and other regulations and policies.

3.9.3.4 Impact Analysis

3.9.3.4.1 LU-1: Would the project physically divide an established community?

The City supports both residential and commercial land uses. There are several residential islands in the project area, which are all connected to the mainland by bridges, and multiple channels leading to different areas of the Newport Harbor. The proposed Project is an in-water construction project that will involve dredging and construction of a CAD facility to better accommodate and support navigation in Newport Harbor. While construction will temporarily restrict boating access to some areas of Newport Harbor, no channel will be blocked to boat traffic.

As discussed in Section 3.9.1, the City's General Plan designates the proposed Project site for TS (Tidelands and Submerged Lands). The proposed Project would continue to conform to the project site land use, without resulting in any barriers that would preclude travel throughout the proposed Project area. The Anchorage area in the vicinity of the CAD facility would be relocated to the Turning Basin during construction of the CAD facility, but there would be no impact to navigation or mooring from the relocation of the anchorage to the Turning Basin. Therefore, the temporary relocation of the anchorage would not physically divide an established community.

Impact Determination: The proposed Project would not physically divide an established community. The proposed Project would temporarily require access to tidelands by personnel and equipment during construction activities but would not result in the construction or demolition of

any road, building, or other physical obstacle. No impact related to this issue would result from implementation of the proposed Project.

Mitigation Measures: None required.

Residual Impact: No impact.

3.9.3.4.2 LU-2: Would the project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The CCA and the City's LCP and General Plan set forth policies that guide land use planning efforts in the City. The following sections describe the policies and sections of the CCA, LCP, and General Plan that are relevant to the proposed Project and have the potential to cause an environmental impact if there was a conflict.

3.9.3.4.2.1 California Coastal Act

The proposed Project is located in the coastal zone, and the CCA is the state's regulatory authority governing land use in the coastal zone. Chapter 3 of the CCA identifies six coastal resources planning and management principles used to evaluate a proposed Project's consistency with the CCA. These principles include the following:

1. Providing for maximum public access to California's coast
2. Protecting water-oriented recreational activities
3. Maintaining, enhancing, and restoring California's marine environment
4. Protecting sensitive habitats and agricultural uses
5. Minimizing environmental and aesthetic impacts of new development
6. Locating coastal-dependent industrial facilities within existing sites whenever possible

The policies of the CCA constitute the statutory standards applied to planning and regulatory decisions made by the CCC and local governments, pursuant to the CCA. The CCC certified the City's implementation plan in 2017; however, the CCC retains jurisdiction in the City's tidelands and is the responsible permitting agency. Table 3-12 present the relevant sections of the CCA and the proposed Project's consistency. As shown, the proposed Project is consistent with the applicable goals and policies of the CCA.

Table 3-12
Consistency with the California Coastal Act of 1976

Policy	Project Consistency with Policy
Section 30211: Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.	**Consistent.** During construction, public and private access to the water in portions of the Project Area may be temporarily restricted during dredging. This restriction results from the need to maintain public safety during active construction by maintaining a perimeter around construction equipment, including periodic debris offloading in shoreline areas. However, public use of dry sand and rocky beaches to the first line of terrestrial vegetation will not be affected. The disruption is of short duration and will result in no permanent effects. Upon project completion there would be no alteration of public or private access as a result of this project, and access would remain the same as the pre-project conditions. Therefore, the proposed Project would not have any adverse impacts to public access to the shoreline and is consistent with Section 30211 of the CCA.
Section 30221: Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.	**Consistent.** As previously described, this project may temporarily and intermittently interfere with recreational use of small areas of Newport Harbor as well as waters of the Pacific Ocean. However, this disruption is of short duration and will result in no permanent effects. The Anchorage area in the vicinity of the CAD facility would be relocated to the Turning Basin during construction of the CAD facility, but there would be no impact to navigation or mooring from the relocation of the anchorage to the Turning Basin. Upland areas necessary to support coastal recreational will not be permanently modified. Upon project completion there would be no alteration of recreation as a result of this project and access would remain the same as the pre-project conditions. Therefore, the proposed Project would not have any adverse impacts on recreational use and is consistent with Section 30221 of the CCA.

Policy	Project Consistency with Policy
Section 30230 and 30231: Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of wastewater discharges and entrainment, controlling runoff, preventing depletion of groundwater supplies and substantial interference with surface water flow, encouraging wastewater reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.	**Consistent.** Removing unsuitable sediments from the Project Area will improve biological productivity and water and sediment quality, thus improving the conditions for marine organisms and human health. Water quality standards during dredging will be maintained by following an approved water quality monitoring plan, developed to comply with the terms and conditions of regulatory agency permits. The proposed Project would result in removal of unsuitable sediments from the Project Area in the least environmentally damaging practicable manner without damage to sensitive habitats or species and is consistent with Sections 30230 and 30231 of the CCA.
Section 30232: Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.	**Consistent.** The contractor will be required to provide a SPCC Plan to the City for approval and to maintain sufficient spill response materials in the Project Area to effectively contain any accidental spills that may occur.

Policy	Project Consistency with Policy
Section 30233: (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: (l) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities. (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps. (3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities. (4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines. (5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas. (6) Restoration purposes. (7) Nature study, aquaculture, or similar resource-dependent activities. (b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems. (c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary.	**Consistent.** The removal of sediments in the project area will restore these areas to previously dredged depths and, therefore, is consistent with 30233(a)(2). By removing unsuitable sediments from these areas, the proposed Project is also consistent with 30233(a)(6). The project creates the least impact to the environment by permanently sequestering the material from the marine environment and, therefore, is consistent with 30233(a)(6). No new buildings or structure will be created in the Project Area, and no additional marina or dock facilities will result from project implementation. The proposed Project is also consistent with 30233(b). The most recent sediment sampling effort (2018 and 2019) determined that most of dredged material is suitable for disposal at a permitted ocean location or can be used to re-nourish a beach and will be disposed accordingly. The CAD facility is proposed to manage unsuitable material only. Clean material suitable for beach nourishment generated from constructing the CAD facility will be transported to and disposed at an approved open ocean disposal site or along the nearshore ocean beaches. Additionally, as described in Section 3.8.3, water quality monitoring during proposed construction activities would ensure compliance with water quality standards and minimize impacts to the surrounding water column and marine communities. Implementing specific BMPs would minimize impacts to surrounding waters during dredging, nearshore placement, and excavation of the CAD facility. Limiting material placement based on tidal activity would reduce impacts to surrounding water quality and marine communities by ensuring material is placed accurately. Therefore, no significant disruption to marine and wildlife habitats and water circulation is anticipated. Therefore, the proposed Project is consistent with Section 30233 of the CCA.

Policy	Project Consistency with Policy
Section 30240: (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts, which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.	**Consistent.** Dredging that will occur adjacent to recreational beaches will be designed and executed so that the beaches will not be degraded. For example, adequate distance from the shoreline will be maintained to protect the beach from erosion and to ensure turbidity does not impact the quality of the area. Moreover, as described in Section 3.3.3, eelgrass beds are not present in the area proposed for the CAD facility. However, there may be eelgrass present in dredging areas. A pre-construction survey would be performed prior to the start of construction and immediately after construction is complete. Any net loss in eelgrass will be mitigated for pursuant to the CEMP. Therefore, the proposed Project is consistent with Section 30240 of the CCA.
Section 30251: The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.	**Consistent.** As discussed in the aesthetic section, while the proposed Project includes construction activities and dredging equipment that may be visible from scenic viewpoints within Newport Harbor and along the shoreline, which would result in temporary impacts to the visual landscape, the proposed Project will not result in permanent changes to the aesthetics and visual resources of the project area. Indeed, upon project completion, there would be no alteration of the visual characteristics, and views would remain the same as the existing conditions. No landside buildings or expanded in-water structures are included in the project. Therefore, the proposed Project is consistent with the character of the surrounding area and would not have any adverse impacts upon public views to and along the shoreline and is consistent with Section 30251 of the CCA.

3.9.3.4.2.2 City of Newport Beach Coastal Land Use Plan

The CLUP sets forth policies that serve to guide land use planning efforts in the City of Newport Beach. Determination of consistency with the relevant policies stated in the adopted CLUP is provided in Table 3-13. As demonstrated, the proposed Project is consistent with the applicable goals and policies of the CLUP.

Table 3-13
Consistency with Coastal Land Use Plan

Policy	Project Consistency with Policy
Policy 2.1.9-1: Land uses and new development in the coastal zone shall be consistent with the Coastal Land Use Plan Map and all applicable Local Coastal Program policies and regulations.	**Consistent.** This project will not result in changes to existing land uses and uses of the Newport Harbor and Pacific Ocean and is consistent with the Coastal Land Use Map.
Policy 2.5.2-1: Administer the use of tidelands and submerged lands in a manner consistent with the tidelands trust and all applicable laws, including Chapter 70 of the Statutes of 1927, the Beacon Bay Bill (Chapter 74, Statutes of 1978), SB 573 (Chapter 317, Statutes of 1997), AB 3139 (Chapter 728, Statutes of 1994), and Chapter 715, Statutes of 1984, and the Coastal Act.	**Consistent.** Dredging of the Project Area is consistent with the Public Trust. The land uses of tidelands and submerged lands are limited, among other land uses, to navigation, fishing, commerce, public access, water-oriented recreation, open space, and environmental protection. The proposed Project will improve navigation, ensuring ongoing commercial and recreation use of tidelands and submerged lands.
Policy 4.1.2-1: Maintain, enhance, and, where feasible, restore marine resources.	**Consistent.** Marine resources will be restored and enhanced by removing unsuitable sediments from the proposed Project Area.
Policy 4.1.2-3: Require that uses of the marine environment be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.	**Consistent.** The proposed dredging activities will not result in significant impacts to marine organisms and will promote long-term use of the proposed Project Area and improve the quality of the marine environment.

Policy	Project Consistency with Policy
Policy 4.2.3-1: Permit the diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes in accordance with other applicable provisions of the Local Coastal Program, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects.	**Consistent.** The City has determined that the dredging, construction of CAD facility, and various disposal locations based on the suitability of the material is the least environmentally damaging alternative for management of unsuitable sediments in the Newport Harbor. Removal and management of unsuitable sediments would encourage safe marine navigation, promote recreational maritime activities, and protect the marine environment from chemical contamination. As discussed, removal of unsuitable sediments is consistent with 30233(a)(6) of the CCA, and maintenance of authorized navigation depths is consistent with 30233(a)(2). Feasible mitigation measures have been incorporated into the project to reduce potential impacts to Air Quality, Biological Resources, Cultural Resources, Noise, and Hydrology and Water Quality. As a result, the proposed activities will enhance the ecological functions of the Newport Harbor and the Pacific Ocean (30233[c]).
Policy 4.2.4-3: Dredged materials suitable for beneficial reuse shall be transported for such purposes to appropriate areas and placed in a manner that minimizes adverse effects on the environment.	**Consistent.** Beach nourishment activities would be a beneficial reuse of dredged material suitable for open ocean disposal. By placing some of the sediments (from the CAD) in the nearshore Pacific Ocean waters, the beaches for public use would be replenished.
Policy 4.3.1-1: Continue to develop and implement the TMDLs established by the Regional Board and guided by the Newport Bay WEC.	**Consistent.** Removal of chemically impacted sediments from the Project Area is consistent with implementing and improving compliance with existing TMDLs for metals and other pollutants in the Newport Harbor.
Policy 4.3.1-8: Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.	**Consistent.** The contractor will be required to implement a SPCC Plan that has been approved by the City and to maintain spill response equipment at the construction site.
Policy 4.6-8: Coordinate with the California Department of Fish and Game, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and other resource management agencies, as applicable, in the review of development applications in order to ensure that impacts to ESHA and marine resources, including rare, threatened, or endangered species, are avoided or minimized such that ESHA is not significantly degraded, habitat values are not significantly disrupted, and the biological productivity and quality of coastal waters is preserved.	**Consistent.** Coordination with resource management agencies will occur as part of the permitting processes. Project design features (also referred to as BMPs) will ensure that no impacts to threatened, endangered, or sensitive species occur from project implementation.

3.9.3.4.2.3 City of Newport Beach General Plan

As discussed throughout this DEIR, the *City of Newport Beach General Plan* sets forth goals and policies by which potential land use and planning impacts are assessed. Determination of consistency with the relevant policies stated in the adopted General Plan, is provided in Table 3-14. As shown, the proposed Project is consistent with the applicable goals and policies of the General Plan.

Table 3-14
Consistency with Land Use Element, General Plan

Policy	Project Consistency with the Policy
LU 1.1 Unique Environment: Maintain and enhance the beneficial and unique character of the different neighborhoods, business districts, and harbor that together identify Newport Beach. Locate and design development to reflect Newport Beach's topography, architectural diversity, and view sheds.	**Consistent.** The waters within Lower Newport Bay, as well as within the nearshore Pacific Ocean, are used for a wide range of recreational boating activities such as sport fishing, kayaking, stand-up paddleboarding, sailboat racing, and excursion and entertainment boat activities. These uses would be maintained and enhanced with the proposed Project in the long term. Potential and temporary short-term impacts with construction may temporarily relocate recreational activities, but long-term management of unsuitable sediments and benefits to navigation would outweigh these potential temporary and short-term impacts associated with construction.
LU 1.3 Natural Resources: Protect the natural setting that contributes to the character and identify of Newport Beach and the sense of place it provides for its residents and visitors. Preserve open space resources, beaches, harbor, parks, bluffs, preserves, and estuaries as visual, recreational and habitat resources.	**Consistent.** The goal of the project is to manage unsuitable sediments. By conducing maintenance dredging and building the CAD facility, the proposed Project would contribute to preserving the charm, character, and identity of the City. Recreational, open space, visual, and habitat resources may be temporarily disturbed, but long-term management of sediments would benefit navigation and water quality, which would preserve the character of the Newport Harbor and safely manage materials unsuitable for ocean disposal.
LU 1.5 Economic Health: Encourage a local economy that provides adequate commercial, office, industrial, and marine-oriented opportunities that provide employment and revenue to support high-quality community services.	**Consistent.** The waters within Lower Newport Bay, as well as within the nearshore Pacific Ocean, are used for a wide range of commercial entertainment boat activities. By conducting maintenance dredging and improving navigation, these commercial uses would be protected in the long term. However, potential and temporary impacts with dredging, construction of the CAD facility, and disposal activities may temporarily disturb commercial and marine-oriented opportunities. Overall, the proposed Project would potentially improve economic health with dredging and improve navigational opportunities.

Policy	Project Consistency with the Policy
LU 1.6 Public Views: Protect and, where feasible, enhance significant scenic and visual resources that include open space, mountains, canyons, ridges, ocean, and harbor from public vantage points.	**Consistent.** Temporary, minor, adverse impacts to public views may result from the presence of equipment used in dredging, disposal, and beach nourishment or from short-term, localized turbidity. The proposed Project will not result in permanent changes to the aesthetics and visual resources of the project area.
LU 2.5 Harbor and Waterfront Uses: Preserve the uses of the Harbor and the waterfront that contribute to the charm and character of Newport Beach and provide needed support for recreational and commercial boaters, visitors, and residents, with appropriate regulations necessary to protect the interests of all users as well as adjoining residents.	**Consistent.** Removal of unsuitable sediments and placement into the CAD preserves the uses of the Newport Harbor, including navigation, which contributes to providing needed support for recreational and commercial boaters. Adjoining residents may be temporarily impacted by project construction, but overall, the purpose of the proposed Project would contribute to preserving the charm and character of the City.
LU 2.6 Visitor Serving Uses: Provide uses that serve visitors to Newport Beach's ocean, harbor, open spaces, and other recreational assets, while integrating them to protect neighborhoods and residents.	**Consistent.** The waters within Lower Newport Bay, as well as within the nearshore Pacific Ocean, are used for a wide range of recreational boating activities that serve visitors and residents of the City. These uses would be maintained and enhanced with the proposed Project in the long term. The Anchorage area in the vicinity of the CAD facility would be relocated to the Turning Basin during construction of the CAD facility, which could temporarily affect visitors and residents of the City desiring to anchor in the Anchorage area. However, visitors and residents of the City would still be able to anchor in the Turning Basin. Overall, there would be no permanent impact to navigation or mooring from the relocation of the anchorage to the Turning Basin.
LU 3.1 Neighborhoods, Districts, Corridors, and Open Spaces: Maintain the City's pattern of residential neighborhoods, business and employment districts, commercial centers, corridors, and harbor and ocean districts.	**Consistent.** The City's pattern of districts would not be impacted by the proposed Project. This project would occur in the Lower Harbor and ocean districts only and is intended to improve navigation and restore the Lower Harbor.
LU 3.6 Waterfront Access: Use public beaches for public recreational uses and prohibit uses on beaches that interfere with public access and enjoyment of coastal resources. Encourage the expansion and improvement of access to the waterfront and water-related uses that provide important links to waterfront uses such as beaches, launching facilities, public docks, and other similar public water area uses.	**Consistent.** Use of public beaches and public access would not be impacted by the proposed Project. By placing some of the material (from the CAD facility) in the nearshore Pacific Ocean waters, the beaches for public use would be replenished.

Policy	Project Consistency with the Policy
LU 3.7 Natural Resource or Hazardous Areas: Require that new development is located and designed to protect areas with high natural resource value and protect residents and visitors from threats to life or property.	**Consistent.** Removal of unsuitable sediments is consistent with 30233(a)(6) of the CCA, and maintenance of authorized navigation depths is consistent with 30233(a)(2). BMPs have been identified to minimize impacts and feasible mitigation measures have been incorporated into the project to reduce potential impacts. As a result, the proposed activities will avoid disruption to wildlife habitat (30233[b]) and enhance the ecological functions of Lower Newport Bay and the nearshore Pacific Ocean (30233[c]). Finally, removal and management of unsuitable sediments would encourage safe marine navigation, promote recreational maritime activities, and protect the marine environment from chemical contamination.

Impact Determination: Tables 3-12, 3-13, and 3-14 provide an analysis of the proposed Project's consistency with the applicable goals and policies. As demonstrated in the three tables, the proposed Project is consistent with the applicable goals and policies of the CCA, CLUP, and General Plan. No potential indirect or cumulative impacts to land use and planning have been identified. The proposed Project will not result in any direct impacts to land use and planning, and it will benefit the local area and the coastal zone by removing unsuitable sediments from the marine environment. The proposed Project does not conflict with any applicable habitat conservation plan or natural community conservation plan, as none of these protected areas exist in the Project Area.

Mitigation Measures: None required.

Residual Impact: No impact.

3.10 Noise

This section describes the existing noise and vibration environment of the proposed Project and surrounding area and analyzes how the proposed Project may affect them. This section also describes applicable rules and regulations pertaining to noise and vibration. For the purposes of the noise and vibration analysis, the study area is defined as the proposed Project area and the surrounding area.

3.10.1 Environmental Setting

Existing noise in the proposed Project area can be attributed to various stationary and mobile sources, including recreational boat traffic, on-road vehicles, and local and regional roadway traffic on nearby local roads and highway, landscaping activities (e.g., leaf blowing and lawn mowing), airline traffic, and commercial operations. Ambient noise levels range from 60 to 75 community noise equivalent level (CNEL) in the areas surrounding the proposed Project (City 2010).

3.10.1.1 Fundamentals of Sound

Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to the human ear. Noise is most simply defined as unwanted sound. Sound is measured in dB and accounts for variations such as frequency and amplitude using a relative scale adjusted to the human range for hearing (referred to as the A-weighted decibel [dBA]). More specifically, the dBA measures sound reflective of how the average human ear responds to sound; the range of human hearing typically ranges from 0 dBA (the threshold of hearing) to about 140 dBA (the threshold for pain).

A given noise may be more or less tolerable depending on the duration exposure, as well as the time of day that the noise occurs. CNEL measures the cumulative 24-hour noise exposure, considering not only the variation of the A-weighted noise level but also the duration and the time of day of the noise. Various state and local agencies have adopted CNEL as the measure of community noise, including the State Department of Aeronautics and the California Commission on Housing and Community Development.

3.10.1.1.1 Percentile-Exceeded Noise Level

The percentile-exceeded noise level, designated as L_n, describes the noise level that is met or exceeded by a fluctuating sound level n-percent of a stated time period. For example, the L_{50} is the sound level that is equaled or exceeded for 50% of the time period (equivalent to 30 minutes in an hour) and the L_{25} is the sound level that is equaled or exceeded for 25% of the time period (equivalent to 15 minutes in an hour).

3.10.1.2 Fundamentals of Groundborne Vibration

Groundborne vibration is an oscillatory motion that can be described in terms of displacement, velocity, or acceleration. Each of these measures can be further described in terms of frequency and amplitude. Displacement is the easiest descriptor to understand; it is simply the distance that a vibrating point moves from its static position (i.e., its resting position when the vibration is not present). The velocity describes the instantaneous speed of the movement, and acceleration is the instantaneous rate of change of the speed.

Although displacement is fundamentally easier to understand than velocity or acceleration, it is rarely used for describing groundborne vibration, because: 1) human response to groundborne vibration correlates more accurately with velocity or acceleration; 2) the effect on buildings and sensitive equipment is more accurately described using velocity or acceleration; and 3) most transducers used in the measurement of groundborne vibration actually measure either velocity or acceleration. For this study, velocity was the fundamental measure used to evaluate the effects of groundborne vibration.

Vibration consists of rapidly fluctuating motions with an average motion of zero. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak amplitude of the vibration velocity. The accepted unit for measuring PPV in the United States is inches per second.

3.10.2 Regulatory Setting

3.10.2.1 Federal

3.10.2.1.1 OSHA Occupational Noise Exposure Levels (29 CFR 1910.95)

OSHA has established acceptable occupational noise exposure levels (29 CFR 1910.95). These regulations state that employees shall not be exposed to occupational noise levels greater than 90 dB without adequate hearing protection. If occupational noise levels exceed 85 dB, the employer must establish a hearing conservation program as described in 29 CFR 1910.95(c–o). For occupational noise exposure levels greater than 90 dB, the daily period of noise exposure must be decreased from 8 hours, as described in 29 CFR 1910.95(b).

3.10.2.1.2 Noise Control Act of 1972 (42 USC 4901 et seq.)

The USEPA Office of Noise Abatement and Control was established to coordinate federal noise control activities and issued the Noise Control Act of 1972 (42 USC 4901 et seq.), establishing programs and guidelines to identify and address the effects of noise on public health and welfare and the environment. USEPA determined in 1981 that subjective issues such as noise would be better addressed at lower levels of government, and responsibilities for regulating noise control policies were transferred to state and local governments in 1982.

3.10.2.2 State

3.10.2.2.1 State of California General Plan Guidelines

The State of California General Plan Guidelines, published by the Governor's OPR, provides guidance for the acceptability of projects within areas that are exposed to specific noise levels. For areas zoned for industrial, manufacturing, utilities, and agricultural land uses, the normally acceptable level of community noise exposure is less than 75 CNEL with 70 to 80 CNEL considered conditionally acceptable (OPR 2003). The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

For the protection of fragile, historic, and residential structures from groundborne vibration, Caltrans recommends a threshold of 0.2 inch per second PPV for normal residential buildings and 0.08 inch per second PPV for old or historically significant structures (Caltrans 2004).

3.10.2.3 Local

3.10.2.3.1 City of Newport Beach Municipal Code

The City's Noise Regulations are provided in Chapters 10.26 and 10.28 of the City's Municipal Code. Chapter 10.26 of the Municipal Code provides exterior and interior noise standards and specific noise restrictions, exemptions, and variances for noise sources. Noise sources associated with construction, repair, remodeling, demolition, or grading of any real property are exempt from ambient noise levels and are instead be subject to the provisions of Chapter 10.28.

Per Chapter 10.28 of the Municipal Code (referred to as NBMC in the following italicized text), *no person shall, while engaged in construction, remodeling, digging, grading, demolition, painting, plastering or any other related building activity, operate any tool, equipment or machine in a manner which produces loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity, unless authorized to do so in accordance with subsection B as follows:*

B. The provisions of subsection (A) of this section shall not apply to the following:

7. *Work performed on any weekday, which is not a federal holiday, between the hours of 7:00 a.m. and 6:30 p.m.*
8. *Work performed on a Saturday, in any area of the City that is not designated as a high-density area, between the hours of 8:00 a.m. and 6:00 p.m. High-density areas are designated in Exhibit A of the NBMC and include all of Lower Newport Bay.*
9. *Emergency work performed pursuant to written authorization of the Community Development Director, or his or her designee.*

10. *Maintenance, repair or improvement of any public work or facility by public employees, by any person or persons acting pursuant to a public works contract, or by any person or persons performing such work or pursuant to the direction of, or on behalf of, any public agency; provided, however, this exception shall not apply to the City of Newport Beach, or its employees, contractors or agents, unless:*
    a. *The City Manager or department director determines that the maintenance, repair, or improvement is immediately necessary to maintain public services;*
    b. *The maintenance, repair or improvement is of a nature that cannot feasibly be conducted during normal business hours; or*
    c. *The City Council has approved project specifications, contract provisions, or an environmental document that specifically authorizes construction during hours of the day that would otherwise be prohibited pursuant to this section.*

3.10.3 Environmental Impacts and Mitigation Measures

3.10.3.1 Baseline

At the time of publication of the EIR for the proposed Project, the project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters, is an active recreational harbor and public beach with no dredging operations except the periodic and limited RGP 54 maintenance dredging. The ambient noise in the proposed Project area ranges from 65 to 73 dBA.

3.10.3.2 Thresholds

For purposes of this DEIR, the following thresholds, which are based on Appendix G of the CEQA Guidelines (Environmental Checklist), were used to determine if the proposed Project would result in impacts related to noise and vibration. The proposed Project would have an impact if:

- **NV-1:** The proposed Project would result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- **NV-2:** The proposed Project would result in generation of excessive groundborne vibration or groundborne noise levels.
- **NV-3:** The proposed Project would result in, for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would proposed Project expose people residing or working in the proposed Project area to excessive noise levels.

3.10.3.3 Methodology for Determining Impacts

The proposed Project was evaluated to determine if noise and vibration levels would exceed pertinent thresholds for residential and commercial structures and if an acoustical analysis was required.

Noise-sensitive land uses are generally considered to be uses in which noise exposure could result in health-related risks to individuals or places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to interior and exterior noise levels. Other land uses, such as parks, historic sites, cemeteries, and other recreation areas, are also considered sensitive to increases in exterior noise levels. Schools, places of worship, hotels, libraries, nursing homes, retirement residences, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. The nearest sensitive receptor includes a residential area approximately 500 feet to the east of the CAD facility and residential units along the dredging routes (within 100 feet). As discussed in Section 2.5, the contractor would likely utilize mechanical dredging equipment to dredge both the CAD facility and to dredge both the Federal Channels and areas outside the Federal Channels. The most common type of mechanical dredge is the clamshell dredge. It consists of a clamshell bucket operated from a crane or derrick mounted on a barge. It is commonly used for removing sediment in channels of a similar size as in Newport Harbor, as well as around docks and piers or within other restricted areas.

Construction is anticipated to begin 2021 and be completed by mid-2024, as depicted in Table 2-1. Dredging would occur during normal construction hours, Monday through Friday generally between 7:00 a.m. and 6:30 p.m. and on Saturday generally between 8:00 a.m. and 6:00 p.m., with no work on Sundays or federal holidays. Disposal activities will likely occur up to 24 hours per day, 7 days per week, to allow for the efficient use of dredging equipment during normal construction hours and to complete proposed Project as quickly as possible. Table 3-15 shows the noise levels of equipment at 50 feet from the source.

Table 3-15
Construction Equipment Typical Noise Levels

Equipment	Noise Level at 50 feet from Source (dBA)
Diesel Power Clamshell Dredge	85
Tugboat	87
Barge	87
Support Boat	87

Note:
Source: USACE 2000

3.10.3.4 Impact Analysis

3.10.3.4.1 NV-1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Underwater noise and the potential effect on marine species are addressed in Section 3.3.3 (Environmental Impacts and Mitigation Measures).

Construction activities typically require the use of numerous pieces of noise-generating equipment. These activities would temporarily increase ambient noise levels on an intermittent basis. Noise levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers.

Noise levels will temporarily increase due to the operation of heavy equipment associated with construction, including operation of dredging equipment within the Lower Newport Bay and transport of the material to nearshore disposal. However, the proposed Project area is currently an active recreational and commercial port subject to noise from ongoing operations, including the use of large vessels. In addition, construction noise attenuates with distance from the source. The closest sensitive receptor to the proposed Project, a residential area, is located approximately 500 feet from channel and maintenance dredging and approximately 650 feet from the CAD facility. Dredging in any one area would be limited to 1 to 3 days; however, CAD facility construction would take up to 6 months at a time.

Mobile sources typically attenuate at a rate of 3.0 to 4.5 dBA per doubling of distance, depending on the ground surface and obstructions between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, typically have an attenuation rate of 3.0 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, typically have an attenuation rate of 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate of 6.0 to 7.5 dBA per doubling of distance. Assuming a level of 87 dBA in line with the equipment listed in Table 3-15, and an attenuation rate of 4.5 dBA, noise levels would decrease to approximately 45 dBA at 500 feet, which would be lower than ambient noise levels.

As noted in Section 3.10.2.3, the City restricts "construction work performed on any weekday, which is not a federal holiday, between the hours of 7:00 a.m. and 6:30 p.m." As noted, dredging would occur generally between 7:00 a.m. and 6:30 p.m. Monday through Friday and on Saturday generally between 8:00 a.m. and 6:00 p.m., with no work on Sundays or federal holidays. Disposal activities will likely occur up to 24 hours per day, 7 days per week, to allow for the efficient use of dredging equipment during normal construction hours and to complete the project as quickly as possible.

Impact Determination: The proposed Project's construction noise levels would be within the existing range for ambient noise levels in the area, and therefore impacts would be less than significant.

Mitigation Measures: None required.

Residual Impact: No impact.

3.10.3.4.2 NV-2: Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction would occur only in the aquatic environment. No pile driving or other type of impact construction would occur. The use of dredging equipment and workboats would not cause vibrations in the marine environment or to land-based structures.

Impact Determination: Because there would be no construction-related vibration, there would be no impacts as a result of the proposed Project.

Mitigation Measures: None required.

Residual Impact: No impact.

3.10.3.4.3 NV-3: Would the project result in, for a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

There are no public airports located within 2 miles of the proposed Project area. The nearest public airport is John Wayne Airport, located nearly 5 miles east from the proposed Project. The proposed Project area is not located in the vicinity of a private airstrip.

Impact Determination: Due to the distance of the proposed Project from the nearest public airport or private airstrip, the proposed Project would not expose people residing or working in or adjacent to the project area to excessive noise levels. There would be no impact.

Mitigation Measures: None required.

Residual Impact: No impact.

3.11 Recreation

This section describes the existing recreational uses on site and in the proposed Project's surrounding area, assesses the impact of the proposed Project on these uses, and identifies the plans and policies of applicable planning documents and evaluates the proposed Project's consistency with those policies. The study area for this resource topic is defined as the waters within Lower Newport Bay, as well as within the nearshore Pacific Ocean.

3.11.1 Environmental Setting

3.11.1.1 Local Setting

Recreation is a major feature of Newport Harbor. Its parks, trails, and beaches serve residents and visitors year-round. In addition to providing recreational resources, the parks, trails, and beaches provide a multitude of benefits to the community, including open space, conservation of natural and significant resources, buffers between land uses, and preservation of scenic views. The City is divided into 12 service areas with a goal that each geographic area contains adequate parklands and recreational opportunities to serve that specific portion of the community (City 2006a). The proposed Project is located within service areas 1, 2, 5, and 6.

The City has developed an extensive system of access to the shoreline, including sandy beaches, via parks, street-ends, shoreline trails, walkways, public beaches, and boardwalks. Public beaches serve a number of local and regional functions. In some neighborhoods, beaches function as neighborhood or community parks. Easy accessibility, lack of entrance fees, and a lack of other available parks have contributed to this function. Public beaches may include active sports, snack bars, showers, drinking fountains, restrooms, walkways, docks, benches, shade trees, and parking areas. There are many recreational opportunities associated with these beaches and water, including, but not limited to, sunbathing, volleyball, swimming, walking, boating, diving, excursions, fishing, kayaking, stand-up paddleboarding, parasailing, rowing, sailing, surfing, and windsurfing.

3.11.1.2 Project Setting

The proposed dredging locations are all located within the Harbor (Figure 2-1), which geographically includes the Federal Channels (Figure 2-5), as well as RGP 54 area (Figure 2-4), and provide the recreational opportunities described in the previous paragraph. The proposed Project also includes the CAD location, which is located within the Anchorage area, east of Lido Isle, as shown in Figure 2-1. The Anchorage area serves as a location where vessels can lower anchors and moor. Use of the Anchorage area is limited to 72 hours, with possible extension of up to 48 hours. Boats cannot be left unattended in the evenings or during inclement weather (City 2020a).

The beaches along the nearshore Pacific Ocean, offer many recreational opportunities. A walking trail, or boardwalk, named Pier to Pier, extends over 1.74 miles and provides a beachfront walk, with high-

quality views of the ocean the entire length of the walk, along a paved path designated for pedestrians and bicycles. The trail attracts a large crowd, especially during summer (City 2020b). Newport Pier and Balboa Pier also offer recreational opportunities for pedestrians. The 800-foot Newport Pier is located at the end of Newport Boulevard (McFadden Place) in McFadden Square. The 950-foot Balboa Pier is located at the end of Main Street in Balboa Village (City 2006b). Many marine related activities, such as swimming, surfing, windsurfing, and sailing, occur in the nearshore Pacific Ocean. While the City contracts with companies to teach surfing lessons to residents and visitors north of the Newport Pier, surfing is still practiced south of the pier in the vicinity of the proposed Project's planned nearshore ocean beach nourishment area.

3.11.2 Applicable Regulations

3.11.2.1 State Regulations

The CCR establishes standards for healthfulness of ocean water-contact sports areas and beaches, stating that "no sewage, sludge, grease, or other physical evidence of sewage discharge shall be visible at any time on any public beaches or water-contact sports areas" (17 CCR 7957). Other than the CCR, the Quimby Act was established by the California Legislature in 1965 to provide parks for the growing communities in California, and the State Street and Highway Code assists in providing equestrian and hiking trails within the right-of-way of county roads, streets, and highways.

3.11.2.2 Local Regulations

3.11.2.2.1 City of Newport Beach General Plan

Local recreation in the City is covered under the Recreation Element in the 2006 General Plan. The primary purpose of the Recreation Element of the General Plan (Chapter 8) is to "ensure that the balance between the provision of sufficient parks and recreation facilities are appropriate for the residential and business population of Newport Beach." Specific recreational issues and policies contained in the Recreation Element include parks and recreation facilities, recreation programs, shared facilities, coastal recreation and support facilities, marine recreation, and public access. There are several relevant goals and policies stated in the adopted General Plan, including the following:

- **R 4.2 Compatible Recreation Activities:** Provide a variety of compatible recreational activities within a given location.
- **R 6.1 Protection of Recreational Opportunities:** Protect recreational opportunities along the coast and beaches from nonrecreational uses. Where feasible, expand and enhance recreational opportunities along the coast and beaches.
- **R 7.1 Public Coastal Access:** Protect public coastal access recreational opportunities through the provision of adequate support facilities and services.
- **R 8.1 Existing Facilities:** Utilize existing City marine recreational facilities, including piers, docks, bays, beaches, and educational and support facilities such as the intercollegiate

rowing facilities, marine ways and services, launching facilities, pump-out stations, parking facilities, restrooms, showers, drinking fountains, and concessions.

- **R 8.4 Marine Safety:** Provide for marine safety such as lifeguards, harbor patrol, police, traffic, and parking enforcement.
- **R 8.5 Support Facilities:** Protect and, where feasible, expand, and enhance:
  - Waste pump-out stations
  - Vessel launching facilities, including nonmotorized sailboat launch facilities in Lower Newport Bay
  - Low-cost public launching facilities
  - Marinas and dry boat storage facilities
  - Guest docks at public facilities, yacht clubs and at privately owned marinas, restaurants, and other appropriate locations
  - Facilities and services for visiting vessels
  - Facilities necessary to support vessels berthed or moored in the Lower Harbor, such as boat haul-out facilities
  - Existing Lower Harbor support uses serving the needs of existing waterfront users, recreational boaters, the boating community, and visiting vessels
- **R 8.6 Public Recreational Access:** Provide shore moorings and offshore moorings as an important source of low-cost public recreational access to the water and Lower Harbor.
- **R 8.7 Marine Recreational Programs:** Protect and enhance specific programs that utilize the Lower Harbor, bay, and ocean such as the City's sailing program and junior lifeguard program.
- **R 9.1 Provision of Public Coastal Access:** Provide adequate public access to the shoreline, beach, coastal parks, trails, and bay; acquire additional public access points to these areas; and provide parking, where possible.

3.11.2.2.2 City of Newport Beach Coastal Land Use Plan

Chapter 3 of the CLUP sets forth City policies that govern public access and recreation. There are several related policies stated in the CLUP, including the following:

- **3.2.1-1:** Protect, and where feasible, expand and enhance recreational opportunities in the coastal zone.
- **3.2.1-2**: Continue to provide opportunities for a wide range of recreational activities at City parks and beaches.
- **3.2.1-5:** Continue to allow recreational commercial uses in commercial areas adjacent to beaches and the bay.
- **3.2.2-1:** Continue to protect public coastal access recreational opportunities through the provision of adequate support facilities and services.

- **3.3.2-4:** Provide anchorages in designated areas, which minimize interference with navigation and where shore access and support facilities are available.
- **3.3.3-2:** Protect, and where feasible, expand and enhance existing harbor support uses serving the needs of existing waterfront uses, recreational boaters, the boating community, and visiting vessels.

3.11.3 Environmental Impacts and Mitigation Measures

3.11.3.1 Baseline

At the time of publication of the EIR for the proposed Project, the project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters, is an active recreational harbor and public beach with no dredging operations except periodic and limited RGP 54 maintenance dredging.

3.11.3.2 Thresholds

For purposes of this DEIR, the following thresholds, which are based on Appendix G of the CEQA Guidelines (Environmental Checklist), were used to determine whether the proposed Project would result in impacts on recreation. The proposed Project would have an impact on recreation if:

- **R-1:** The proposed Project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- **R-2:** The proposed Project would include recreational facilities or requires the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

3.11.3.3 Methodology for Determining Impacts

The CEQA Guidelines define a substantial adverse effect on recreation as a significant effect on the environment. A substantial adverse effect on recreation is defined to include the potential increase in use of existing neighborhood and regional parks or other recreational facilities either through population growth, which would increase the overall number of recreational facility users, or by closure of an existing recreational facility, which would displace recreational users to other similar parks or recreational facilities. In addition, an adverse recreational impact may occur if the project includes recreational facilities that require construction or expansion.

While maintenance dredging of the Federal Channels is dependent on federal funding, the exact dates when construction would occur are unknown. Construction of the overall proposed Project, including dredging of the Federal Channels, is anticipated to begin in 2021 and be completed by mid-2024, as depicted in Table 2-1. Dredging would occur during normal construction hours, generally between 7:00 a.m. and 6:30 p.m. Monday through Friday and on Saturday generally between 8:00 a.m. and 6:00 p.m., with no work on Sundays or federal holidays (Table 2-1).

As shown in Table 2-1, Federal Channels dredging (Phase 1) would begin in late 2021 and continue in 2022. Construction of the CAD facility would begin in mid-2022 (Phase 2) and last approximately 6 months, followed by the placement of material (Phase 3) and the interim cap placement (Phase 4), also in 2022.

Approximately 2 years following construction of the CAD facility and placement of an interim containment cap layer, residents and public projects would have the opportunity to place additional material for a 6-month dredging window (Phase 5). It should be noted that dredging would not occur over the entire 6-month period. If there is remaining capacity during this 6-month period, the City and its residents would be able to place material from the RGP 54 Plan Area (Figure 2-3) determined unsuitable for open ocean disposal or beach nourishment in the CAD facility (Phase 6).

A Navigation Study Memorandum, provided in Appendix I, was completed to support the proposed Project, and the navigation study results are used to inform this analysis (Anchor QEA 2020c). As part of the proposed Project, the Anchorage area in the vicinity of the CAD facility would be relocated to the Turning Basin during initial construction of the CAD facility. The Anchorage area serves as a location where vessels can anchor. Use of the Anchorage area is limited to 72 hours, with possible extension of up to 48 hours. Notice of this relocation would be managed by the Harbor Department, which would issue a Notice to Mariners via the USCG and post notices on the City's website.

3.11.3.4 Impact Analysis

3.11.3.4.1 R-1: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed Project is located within Newport Harbor, one of the largest recreational harbors in the United States. Following dredging, the proposed Project improvements would serve to better accommodate and facilitate navigation and maintain recreation recreational access. However, during harbor dredging and construction of the CAD facility, some areas used for recreation may not be available because construction equipment would be staged for up to 3 months at a time.

While the immediate proposed Project area does not contain park facilities, it does include a number of public spaces related to maritime-based recreational use, including swimming, boating, fishing, kayaking, stand-up paddleboarding, rowing, sailing, surfing, and windsurfing.

Municipal Beaches and Parks

The nearest park to the proposed Project area is San Remo Park, which is located on Lido Isle, 0.3 mile west of the proposed Project CAD facility. Marina Park, located on the Balboa Peninsula between 15th and 19th Street, is approximately 0.9 mile southwest of the proposed Project CAD facility. The closest public beach is located at 900 West Bay Avenue. Proposed Project activities would

occur at a safe distance from shore and would allow for continued use of the beaches and parks. Use of public beaches and public access would not be impacted by the proposed Project. By placing some of the material (from the CAD facility) in the nearshore Pacific Ocean, beaches for public use would be replenished. One of the objectives of the proposed Project is to promote beach nourishment for dredged material suitable for open ocean disposal. By accomplishing this objective, the proposed Project would promote beneficial reuse of sandy material and preservation of the public beaches located on the Balboa Peninsula.

Recreational Boating

Three yacht clubs are also located close to the proposed Project CAD facility: Newport Harbor Yacht Club, Lido Isle Yacht Club, and American Legion Yacht Club. All clubs provide multiple opportunities for social and competitive water recreational use, including fishing tournaments, raft-ups, boat parades, and adult and youth sailing classes and regattas. In addition to docks and shore facilities, the yacht clubs also provide in-Harbor mooring fields and stage in-harbor races. The Newport Harbor Yacht Club's mooring field will need to be temporarily relocated during the Federal Channels maintenance dredging program. The City would coordinate with the Newport Harbor Yacht Club ahead of dredging and would relocate the mooring tackle to another area (Turning Basin) of Newport Harbor during dredging.

During the initial construction of the CAD facility, dredge equipment would be staged within the Anchorage east of Lido Isle for a period of up to 12 months. The Anchorage area serves as a location where vessels can anchor. The Anchorage area would be unavailable during CAD facility construction. Because the Anchorage area is used by many boaters, the City would relocate it to the Turning Basin during construction of the CAD facility. A Notice to Mariners would be issued via the USCG, and notices would be posted on the City's website. There would be a temporary access inconvenience for boaters having to travel to the Turning Basin rather than travel to the Anchorage area. However, this impact would be limited to the 12 months of initial construction, placement of material and interim cap placement, and the 6-month period to place additional material. However, as discussed in the Navigation Study Memorandum (Appendix I), there would be no impact to navigation or mooring from the relocation of the anchorage to the Turning Basin. Therefore, impacts would be limited to a temporary 18-month access inconvenience.

The area immediately to the west of the Anchorage area in the Newport Channel is also used for sailboat racing as well as recreational sailing, boating, kayaking, and stand-up paddleboarding. These activities would be restricted from the immediate area surrounding the CAD facility during initial construction, placement of material, and the interim cap placement (12 months). Approximately 2 years following construction of the CAD facility and placement of an interim cap, the City and its residents would have a second opportunity for a 6-month period to place additional material (Phase 6). During this 6-month period, boating in the immediate area of the CAD facility would also

be restricted. While construction would be relatively short term because of the overlap with sailing calendars, there may be a short-term impact to such recreational uses during construction. The City would coordinate with the yacht clubs at Newport Harbor and sailing organizations, including the City's Park and Recreation Department. Depending on the construction time frame and duration, sailing classes and other recreational activities offered by these organizations may need to be temporarily relocated to other areas of Newport Harbor. If recreational classes were relocated to another City area, coordination with the City's Park and Recreation Department would be needed to ensure there would be no inconsistent uses of the areas. It is unlikely that the City would need to cancel recreational classes because of the presence of dredging equipment off the shoreline, although activities may be relocated.

Impact Determination: The waters within Lower Newport Bay, as well as within the nearshore Pacific Ocean, are used for a wide range of recreational boating activities such as sport fishing, kayaking, diving, wind surfing, sailboat racing, and excursion and entertainment boat activities. These uses would be maintained and enhanced with the proposed Project in the long term. The proposed Project would not result in growth that would increase the use of existing parks and recreational facilities or result in the physical deterioration of existing recreational facilities. While there would be short-term restrictions on some recreational activities in the immediate area, removal of unsuitable sediments and placement into the CAD facility preserves the existing uses of the Lower Harbor, including navigation, which contributes to providing needed support for recreational and commercial boaters. Most recreational activities could be sufficiently relocated to other appropriate areas within Lower Newport Harbor.

However, although temporary, interference with recreational sailing and regattas in Newport Harbor are anticipated during CAD facility construction, which could result in a potentially significant impact.

Mitigation Measures:

- **MM-REC-1 Coordinate with Sailing Centers:** The City would coordinate with the sailing organizations and yacht clubs to relocate recreational and mooring activities and minimize the disruption to marine recreational activities.

Residual Impact: Following implementation of MM-REC-1, impacts would be less than significant.

3.11.3.4.2 R-2: Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The intent of the project is to provide safe and effective dredged material disposal options that protects the marine environment to maintain safe maritime navigation. As discussed, potential and temporary short-term impacts of construction may temporarily disturb recreational activities, but

dredging and long-term management of unsuitable sediments would provide benefits to navigation, as well as protection of the marine environment.

Impact Determination: The project is not proposing recreational facilities or the construction or expansion of recreational facilities in such a way that could have an adverse physical effect on the environment. There would be no impact.

Mitigation Measures: None required.

Residual Impact: No impact.

3.12 Tribal Cultural Resources

This section details the potential for tribal cultural resources to be located within the study area and the relevant federal, state, and local regulations and policies. The information presented in this section is largely based on tribal consultation to date as described in Section 1.5.3, as well as information from the cultural resources evaluation in Section 3.3.

Tribal cultural resources are defined in PRC 21074 as follows:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for the CRHR or a local preservation register; or
- A resource determined by the lead agency to be significant pursuant, after considering the significance of the resource to a California Native American tribe.

For the purposes of this analysis, the study area is defined as the project site (the area of proposed in-water excavation of the CAD facility and placement of dredged clean material on local nearshore beaches or the open ocean).

3.12.1 Environmental Setting

The proposed Project area is in the traditional territory of the Tongva or Gabrieleño tribe, a Shoshonean community speaking an Uto-Aztecan language who once occupied much of southern California.

The City sent notification letters to the NAHC, the Gabrieleño Band of Mission Indians – Kizh Nation, and the Juaneño Band of Mission Indians Acjachemen Nation on November 13, 2019. The City received a response by letter from the NAHC describing the AB 52 process on November 18, 2019. The City received a response by email from the Juaneño Band of Mission Indians Acjachemen Nation on December 10, 2019. The email requested that archaeological and Native American monitors be present during ground-disturbing activities. However, because construction activities are limited to in-water work in an area with low archaeological potential, monitoring is not currently planned.

3.12.2 Applicable Regulations

3.12.2.1 State

3.12.2.1.1 Assembly Bill 52

AB 52, approved in 2014, establishes a formal role for California Native American tribes in the CEQA process and promotes the involvement of California Native American tribes in the decision-making process when it comes to identifying and developing mitigation for impacts to tribal cultural resources. Tribal cultural resources are defined by AB 52 in the PRC 5024.1 (c)(1)-(4) as either: 1) sites,

features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the CRHR, or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; or 2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1.

AB 52 requires, prior to the release for public review and comment of a negative declaration, MND, or EIR prepared for a project, that a lead agency begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if 1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe; and 2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation (PRC 21080.3.1(b)).

3.12.3 Environmental Impacts and Mitigation Measures

3.12.3.1 Baseline

At the time of publication of the NOP for the proposed Project, the proposed Project area was underwater in Newport Bay. No known tribal cultural resources have been identified.

3.12.3.2 Thresholds

For purposes of this DEIR, the following threshold, which is based on Appendix G of the CEQA Guidelines (Environmental Checklist), was used to determine whether the proposed Project would result in impacts on tribal cultural resources. The proposed Project would have an impact on tribal cultural resources, including tribal cultural resources, if:

- **TCR-1:** The project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 21074.

3.12.3.3 Methodology for Determining Impacts

The CEQA Guidelines define a substantial adverse change in the significance of a tribal cultural resource as a significant effect on the environment. A substantial adverse change to tribal cultural resources is defined to include physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource (its eligibility for the CRHR or local preservation registers) would be materially impaired (CEQA Guidelines Section 15064.5[b][1]).

3.12.3.4 Impact Analysis

3.12.3.4.1 TCR-1: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Native American tribes and the NAHC have been consulted per AB 52, as described in Section 1.5.3, and no tribal cultural resources have been identified. Previously unrecorded archaeological sites or human remains could be tribal cultural resources. As described in Section 3.4.3.4.2, dredging would extend into native sediments that have low potential for archaeological materials or human remains. However, because the proposed Project includes disturbance of native (i.e., non-fill) sediments, if archaeological materials remains are present in previously undisturbed native sediments, they could potentially be disturbed during construction. Because the Project would comply with existing law regarding the discovery of human remains—specifically, CHSC Section 7050.5 and PRC 5097.98—development of the proposed Project would have less than significant impacts on human remains.

Impact Determination: No impacts to tribal cultural resources are expected. If archaeological materials or human remains are encountered during construction, these could be considered tribal cultural resources. However, in the unlikely event that such materials are present, disturbance during construction could constitute a potentially significant impact.

Mitigation Measures: While the proposed Project is not expected to encounter tribal resources, in the unlikely event of such a discovery, the following mitigation measure would be implemented to reduce any impacts:

- **MM-CHR-1:** Stop Work in the Area If Prehistoric or Historical Archaeological Resources Are Encountered.

Residual Impact: With implementation of MM-CHR-1, there would be a less-than-significant impact on tribal cultural resources.

4 Cumulative Impacts

4.1 Requirements for Cumulative Impact Analysis

CEQA requires that EIRs analyze cumulative impacts. As defined in Section 15355 of the CEQA Guidelines, a cumulative impact consists of an impact that is created as a result of the combination of a project evaluated in an EIR together with other reasonably foreseeable projects causing related impacts in the vicinity of the proposed Project. CEQA Guidelines Section 15130 requires that an EIR discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." The following definition of cumulatively considerable is provided in CEQA Guidelines Section 15065(a)(3):

> "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

According to CEQA Guidelines Section 15130(b):

> [t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. Cumulative impact assessments are not required for impacts that do not result in part from a project evaluated in an EIR. Therefore, the cumulative impact analysis in this section focuses on whether the impacts of the proposed Project are cumulatively considerable within the context of impacts caused by other past, present, or future projects. The cumulative impact scenario considers other projects proposed within the area defined for each resource that have the potential to contribute to cumulatively considerable impacts.

According to CEQA Guidelines Section 15130(b):

> Factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic.

In preparing the cumulative impact analysis, related projects that have been or may be constructed in the geographic scope of the proposed Project were reviewed and evaluated. Using guidance provided in CEQA Guidelines Section 15130, past projects related to the development of Newport Harbor and present and future projects that have similar potential for impacts and are located in the same geographical area as the proposed Project were identified. Section 4.1.1 includes a discussion of past projects that have shaped Newport Harbor, and Table 4-1 presents a list of present and probable future projects considered for their related impacts. In consideration of these projects, cumulative impact analyses for each environmental issue potentially affected by the proposed Project are presented herein. For several resource areas, this cumulative impact analysis also included projected future growth as a factor.

4.1.1 Projects Considered Under Cumulative Analysis

Consistent with CEQA Guidelines, the cumulative impact scenario considers other projects proposed within the geographic scope defined for each resource that have the potential to contribute to cumulatively considerable impacts. Impacts were identified using the "list" methodology. Resource areas were analyzed using a list of closely related projects that have been or would be constructed in the cumulative geographic scope. The list of related projects is provided in Section 4.1.1.2.

4.1.1.1 Past History of Newport Harbor

This section describes the past projects that have contributed to the development of Newport Harbor and surrounding area as a recreational harbor supporting residential and recreational-centered commerce. Collectively, the projects contribute to the baseline conditions present in the proposed Project area, the Lower Harbor, and surrounding area, including air quality attainment status, water quality, and biological resources.

The community of Newport Beach was originally part of the Rancho San Joaquín, a Mexican land grant established in the early 1800s. During the 1800s, the land was sold to various landowners and eventually consolidated by James McFadden and James Irvine who named the bay "Newport" and developed it as a shipping hub. In 1888, James McFadden built a wharf and 3 years later completed a

railway connection to Santa Ana. Shipping activity increased dramatically and for the next 8 years, the McFadden Wharf area was a booming commercial and shipping center and a company town began to grow. However, in 1899, the federal government allocated funds for major improvements to a new harbor at San Pedro, which would become the Ports of Los Angeles and Long Beach. As the San Pedro Port complex developed, the McFadden Wharf and railroad was sold, which signaled the end of Newport as a commercial shipping center. In 1902, James McFadden sold his Newport town site and about half of the Peninsula to William S. Collins, who saw Newport Bay's resort and recreation potential. Collins took on Henry E. Huntington as a partner in the Newport Beach Company.

The Pacific Electric Railroad was established in Newport Beach in 1905, which connected the City of Los Angeles to Newport by rapid transit "Red Cars." City visitors traveled to the region's waterfront, and small hotels and beach cottages were developed to support tourism. On September 1, 1906, Newport Beach became the fifth city to incorporate in Orange County. Newport Heights and Corona del Mar were annexed in 1917. In the 1920s, the City and County began work to improve Newport Harbor entrance and create navigable channels in the bay. Between 1934 and 1936, the federal government and the County Harbor District undertook work around Newport Harbor. They dredged the Lower Bay, extended jetties, and created the present-day contour of Newport Harbor. In 1936, community members dedicated the City's main harbor.

During World War II, Newport Harbor became a vital hub as naval ships were built and repaired in its coastal waters. Servicemembers stationed at the Santa Ana Army Air Base came to Balboa to visit the entertainment hot spots. After the war, many service men and women and their families returned to build their homes in the City and the surrounding area.

The Santa Ana freeway, built in the 1950s, triggered further growth. During this time, housing development began to spread north and eastward from the waterfront to the hills and mesa areas. The community's economic industry changed, as the fishing industry, once the backbone of Newport Beach's economy, gradually declined and would be replaced with new businesses and commercial centers. Beginning in 1967 and through the 1970s and 1980s, the building of shopping centers, such as Fashion Island, hotels, high-scale restaurants, offices, and many new homes, led to the creation of the active employment, retail, and residential areas, which has continued to present day.

4.1.1.2 Present and Future Projects

As shown in Table 4-1, 31 present or reasonably foreseeable future related projects (approved or proposed) were identified within the general vicinity of the proposed Project that could contribute to cumulative impacts. These projects were selected because they are located in the City and have the potential to overlap in either geographic scope or construction period. Projects were also mapped and are provided in Figure 4-1. Projects on the list were analyzed to determine whether they may

have the potential to result in related impacts to those of the proposed Project (e.g., air quality impacts from the use of construction equipment, or water quality impacts related to dredging, or in-water work) when considered in conjunction with the proposed Project. The cumulative geographic scope differs by resource and sometimes for impacts within a resource; related projects may contribute to a cumulative risk in one resource area but not in another. Cumulative regions of influence are documented in Section 4.2.

Table 4-1
Related Present and Future Projects Considered in the Cumulative Impact Analysis

Reference No.	Project Name	Project Description	Project Location	Project Status
1	The Garden Restaurant (PA2019-006)	A CDP, conditional use permit, traffic study, and operator license for conversion of an existing retail building for a new 7,705-square-foot fine restaurant and 2,535-square-foot roof top outdoor dining terrace.	2902 West Coast Highway	Class 32 Exemption under preparation. No current application activity.
2	Newport Village (PA2017-253)	A CDP, major site development review, tentative tract map, traffic study, and EIR for the demolition of all structures on-site (with the exception of buildings at 2241 West Coast Highway and 2244 West Coast Highway) and the construction of 127,320 square feet of nonresidential uses (retail, vehicle/boat sales, office and food service), 108 apartment units,14 condominiums, and subterranean/surface parking garages with 835 parking spaces. The project includes a new public walkway along the waterfront.	2200-2244 West Coast Highway and 2001-22241 West Coast Highway Newport Village (former Ardell site)	Application submitted on December 4, 2017. Revised project plans submitted July 2020, deemed incomplete by Staff in September 2020. NOP and EIR Scoping meeting held in November 2019. Draft EIR under preparation.
3	Newport Crossings (PA2017-107)	A Site Development Review for the development of a mixed-use residential project consisting of 350 rental units, 7,500 sf of commercial use, and a 0.5-acre public park on a 5.7-acre property known as MacArthur Square. The application includes a request for density bonus and development incentive/waivers.	1701 Corinthian Way; 4251, 4253, and 4255 Martingale Way; 4200, 4220, and 4250 Scott Drive; and 1660 Dove Street	DEIR completed. Approved by Planning Commission on February 21, 2019. Plan check submitted November 2020.
4	Environmental Nature Center Preschool (PA2015-079)	Environmental Nature Center Preschool	745 Dover Drive	Building permits issued July 2, 2018. Construction completed in 2019.
5	Birch Newport Executive Center (PA2014-121)	The project includes the re-subdivision of four lots into three lots for commercial development and for condominium purposes, and the construction of two, 2-story medical office buildings totaling 64,000 sf in gross floor area and a 324-space surface parking lot.	20350 and 20360 Birch Street (Formerly 20352–20412 Birch St.)	Application and Addendum to MND approved by Planning Commission on February 19, 2015. Shell permits finalized in April 2017. Construction completed in 2017. 100% occupied June 2019.

Reference No.	Project Name	Project Description	Project Location	Project Status
6	Ebb Tide (PA2014-110)	The project includes a Tentative Tract Map application to subdivide a 4.7-acre site for 83 residential lots and a Site Development Review application for the construction of 83 single-unit residences, private streets, common open space, and landscaping. The Planned Community Development Plan is proposed to establish guidelines for development of the project site consistent with the General Plan. The Code Amendment is proposed to amend the Zoning Map to change the Zoning District from Multiple-Unit Residential (RM) to Planned Community (PC).	1560 Placentia Drive	Under construction. Initial 4 of 8 phases are complete; however, a construction defect has rendered the initial phases uninhabitable. The developer is correcting the issue.
7	Lido House Hotel at the former city hall complex (PA2013-217)	General Plan Amendment, Coastal Land Use Plan Amendment, and Zoning Amendment to change site from Public Facilities to Visitor-serving commercial and increase the allowable building height. Demolition of former city hall buildings and the construction of a 130-room upscale hotel. Fire Station #2 to remain at current location.	3300 Newport Boulevard and 475 32nd Street	Construction completed May 2018.
8	Lido Villas (DART) (PA2012-146)	Request for the demolition of an existing church and office building and legislative approvals for the development of 23 attached three-story townhome condominiums.	3303 and 3355 Via Lido Generally bounded by Via Lido, Via Oporto, and Via Malaga.	Project construction is complete and occupied as of November 2020.
9	Villas Fashion Island (Formerly San Joaquin Plaza Apartments) (PA2012-020)	Amendment to the North Newport Center Planned Community (NNCPC), which is the zoning document that establishes land uses, development standards, and procedures for development within seven sub-areas of the Newport Center Area of the City. Primarily the request involves increasing the residential development allocation within the NNCPC from 430 dwelling units to a total of 524 dwelling units (increase of 94 units) and allocating the units to the San Joaquin Plaza sub-area.	1101 San Joaquin Hills Road	The project was approved by the City Council on August 14, 2012. Construction completed late 2017.

Reference No.	Project Name	Project Description	Project Location	Project Status
10	Uptown Newport Mixed Use Development (PA2011-134)	Development of 1,244 residential units and 11,500 sf of commercial retail.	4311 and 4321 Jamboree Rd	EIR, Tentative Tract Map, Traffic Study, and AHIP were approved by City Council on February 26, 2013. Construction for Phase 1 development of 460 units is underway.
11	Plaza Corona del Mar (PA2010-061)	Development of 1,750 sf new office space and six (6) detached townhomes.	3900-3928 East Coast Highway	Building permits for residential portion issued March 17, 2017. Commercial portion issued February 1, 2018.
12	Old Newport GPA Project (PA2008-047)	Demolition of three existing buildings to construct a new 25,000-sf medical office building.	328, 332, and 340 Old Newport Boulevard	Under construction, completion anticipated end of 2019.
13	AERIE Project (PA2005-196)	Residential development including the following: (a) the demolition of the existing structures, the development of eight residential condominium units; and (c) the replacement, reconfiguration, and expansion of the existing gangway platform, pier walkway, and dock facilities on the site.	201–207 Carnation Avenue and 101 Bayside Pl; southwest of Bayside Drive between Bayside Pl and Carnation Avenue, Corona del Mar	Final EIR was certified and project approved by the City on July 14, 2009. A CDP has been approved by the Coastal Commission. Project is under construction with completion anticipated by December 2019.
14	Vue Newport (PA2001-210)	A mixed-use development consisting of 27 residential units and approximately 36,000 sf of retail and office uses.	2300 Newport Boulevard	Final EIR certified in February 2006. Construction is 100% completed.
15	4699 Jamboree Road and 5190 Campus Drive (PA2019-054)	General Plan Amendment to increase floor area by 21,529.6 sf.	4699 Jamboree Road and 5190 Campus Drive	Notice of Incomplete. Filing sent on April 10, 2019. No response as of May 14, 2019.
16	Plaza Corona del Mar (PA2010-061)	Development of 1,750 sf new office space and six (6) detached townhomes.	3900-3928 East Coast Highway	Building permits for residential portion issued March 17, 2017. Commercial portion issued February 1, 2018.

Reference No.	Project Name	Project Description	Project Location	Project Status
17	Mariner Square (PA2017-248)	Site Development Review, Tentative Tract Map, and Modification Permit to allow the demolition of an existing 114-unit residential apartment complex and redevelopment of the site with a new 92-unit residential condominium complex. The application includes a request to establish grade and allow the residential units facing Irvine Avenue to encroach 2 feet into the 20-foot front setback with portions of the upper levels for architectural relief and articulation.	1244 Irvine Avenue	Approved. In plan check for demolition and grading.
18	Harbor Pointe Senior Living (PA2015-210)	General Plan Amendment, Planned Community Text Amendment, Conditional Use Permit, and Major Site Development Review for a new approximately 85,000-square-foot convalescent and congregate care facility with 121 beds (about 101 care units). As proposed, the facility will be developed with one level of subterranean parking and four levels of living area. The project site is currently developed with a single-story restaurant and supporting surface parking area.	101 Bayview Place	Project approved by City Council on February 12, 2019
19	Back Bay Landing (PA2011-216)	Request for legislative approvals to accommodate the future redevelopment of a portion of the property with a mixed-use waterfront project. The Planned Community Development Plan would allow for the development of a new enclosed dry stack boat storage facility for 140 boats, 61,534 square feet of visitor-serving retail and recreational marine facilities, and up to 49 attached residential units.	300 E. Coast Highway Generally located at the northwesterly corner of east Coast Highway and Bayside Drive	Site Development Review and Coastal Development Permit anticipated to be filed late 2021.
20	Balboa Marina Expansion (PA2012-103) (PA2015-113)	City of Newport Beach Public Access and Transient Docks and Expansion of Balboa Marina 24 boat slips 14,252 sf restaurant 664 sf marina restroom.	201 E. Coast Highway	The CDP was approved by CCC in February 2017.
21	Newport Harbor Yacht Club (PA2012-091)	Demolition of the approximately 20,500-square-foot yacht club facility and construction of a new 23,163 square foot facility. The yacht club use will remain on the subject property.	720 West Bay Avenue, 800 West Bay Avenue, 711-721 West Bay Avenue, and 710-720 Balboa Boulevard	Construction completed December 2018.

Reference No.	Project Name	Project Description	Project Location	Project Status
22	Ullman Sail Lofts (PA2017-059)	A conditional use permit, minor site development review, tentative tract map, and CDP to demolish an existing 9,962-square-foot commercial building and construct a new mixed-use structure with 694 sf of retail floor area and one 2,347sf dwelling unit on Lot 17 and construct three residential dwelling units ranging from 2,484 sf to 2,515 sf over Lots 18 and 19.	410 and 412 29th Street	Planning Commission approved on July 20, 2019. Class 32 CEQA Exemption. Project is under construction with building permits issued September 1, 2020.
23	Big Canyon Coastal Habitat Restoration and Adaptation Plan-Phase 2A (PA2018-078)	A mitigated negative declaration for Phase 2A of habitat restoration at an 11.3-acre site located at the mouth of Big Canyon.	1900 Back Bay Drive	Final MND adopted on January 29, 2019. Project under way. Planning work and feasibility studies for Phase 2B/2C have begun.
24	Little Corona Infiltration (PA2015-096) (15X14)	Installation of a diversion and infiltration device on a public beach area.	Little Corona Beach	Final MND adopted on March 22, 2016. Project is on hold due to difficulties presented at Coastal Commission review.
25	Old Newport Boulevard/West Coast Highway Widening (15R19)	Widens the westbound side of West Coast Highway at Old Newport Boulevard to accommodate a third through lane, a right turn pocket and a bike lane. Realignment of Old Newport Boulevard maximizes the right turn pocket storage length and improves roadway geometrics.	Intersection of Old Newport Boulevard and West Coast Highway	Negative Declaration in preparation.
26	Arches Storm Drain Diversion (16 × 11)	Arches drain outlet is the endpoint for two large storm drains that collect and deliver runoff from neighboring areas to Newport Harbor. The west storm drain collects runoff from Hoag Hospital and areas upstream and the east storm drain runs along Old Newport Boulevard and into Costa Mesa upstream of 15th Street. A conceptual plan to divert dry weather flows from these two subwatersheds to the sanitary sewer system has been prepared.	Newport Boulevard north of Coast Highway	Project design and permitting anticipated in 2020.

Reference No.	Project Name	Project Description	Project Location	Project Status
27	Bayview Heights Drainage Treatment (15 × 11)	Restores a drainage reach subject to erosion and creates a wetland at the end of the reach to benefit environmental water quality.	Headlands area of Upper Bay downstream of Mesa Drive	City Council authorized project in May 2015. Agency permit applications were submitted March 2016. Construction completed in 2019.
28	Newport Bay Waterwheel	Removes significant quantities of trash and debris that are currently entering Upper Bay via San Diego Creek and improves water quality and protects marine animals from the physical and chemical hazards associated with trash.	Along San Diego Creek between the Jamboree Road Bridge and California SR-73 within the City of Newport Beach	Start of construction anticipated for 2021.
29	Santa Ana River Marsh Dredging Project	Restore channel depths to improve water circulation and tidal flushing needed to maintain the 92-acre salt marsh habitat.	Santa Ana River Marsh, Newport Beach	Dredging occurred in 2013.
30	USACE Dredging Project (2010)	Removal of 600,000 cy of sediment. Unsuitable sediment was placed at the Port of Long Beach's Middle Harbor Fill Site, and clean sediment was placed at LA-3.	Navigational Channels, Newport Harbor	Dredging completed in 2013.
31	USACE Entrance Channel Dredging Project	Planned removal of sediment in the Entrance Channel of the Harbor and disposal at LA-3 and beach nourishment	Entrance Channel, Newport Harbor	Pre-project planning.

Reference No.	Project Name
1	The Garden Restaurant (PA2019-006)
2	Newport Village (PA2017-253)
3	Newport Crossings (PA2017-107)
4	Environmental Nature Center Preschool (PA2015-079)
5	Birch Newport Executive Center (PA2014-121)
6	Ebb Tide (PA2014-110)
7	Lido House Hotel at the former city hall complex (PA2013-217)
8	Lido Villas (DART) (PA2012-146)
9	Villas Fashion Island (Formerly San Joaquin Plaza Apartments) (PA2012-020)
10	Uptown Newport Mixed Use Development (PA2011-134)
11	Plaza Corona del Mar (PA2010-061)
12	Old Newport GPA Project (PA2008-047)
13	AERIE Project (PA2005-196)
14	Vue Newport (PA2001-210)
15	4699 Jamboree Road and 5190 Campus Drive (PA2019-054)
16	Plaza Corona del Mar (PA2010-061)
17	Mariner Square (PA2017-248)
18	Harbor Pointe Senior Living (PA2015-210)
19	Back Bay Landing (PA2011-216)
20	Balboa Marina Expansion (PA2012-103) (PA2015-113)
21	Newport Harbor Yacht Club (PA2012-091)
22	Ullman Sail Lofts (PA2017-059)
23	Big Canyon Coastal Habitat Restoration and Adaptation Plan-Phase 2A (PA2018-078)
24	Little Corona Infiltration (PA2015-096) (15X14)
25	Old Newport Boulevard./West Coast Hwy Widening (15R19)
26	Arches Storm Drain Diversion (16X11)
27	Bayview Heights Drainage Treatment (15X11)
28	Newport Bay Waterwheel
29	Santa Ana River Marsh Dredging Project
30	USACE Dredging Project (last one)
31	USACE Dredging Project
32	Newport Harbor Dredging and Confined Aquatic Disposal Construction

SOURCE: Aerial provided by Bing Maps

LEGEND:

Project Area

0 4000
Feet

Publish Date: 2020/05/06 1:01 PM | User: bhurry
Filepath: K:\Projects\0243-City of Newport Beach\Federal Channel\0243-RP-019 BODR Cumulative Impact Analysis.dwg Figure 4-1

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Figure 4-1
Related Present and Future Projects Considered in the Cumulative Impact Analysis

Draft Environmental Impact Report
Lower Newport Bay Confined Aquatic Disposal (CAD) Construction Project (PA2019-020)

4.2 Analysis of Cumulative Impacts

The proposed Project, in conjunction with other past, present, and reasonably foreseeable future related projects, has the potential to result in significant cumulative impacts when its independent impacts and the impacts of related projects combine to create impacts greater than those of the proposed Project alone. The proposed Project would not contribute to cumulative impacts related to those environmental resource areas on which it would have no impact, including all issues associated with agricultural and forestry resources, energy, mineral resources, population and housing, public services, transportation, utilities and services, and wildfire. Rationale for this determination is summarized in Section 4.2.1. The cumulative impact evaluation subsequently presented in Section 4.2.2 is therefore focused on the same resources evaluated in Section 3: aesthetics, air quality, biological resources, cultural resources, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use noise, recreation, and tribal cultural resources.

4.2.1 Cumulative Impacts for Unaffected Environmental Resource Areas

4.2.1.1 Agricultural and Forestry Resources

The project site does not include any farmlands or forestry resources. Neither the proposed Project site nor the immediate surrounding areas currently support agricultural use or forestry resources. There are no timberland zoned properties within the City as of 2019 (City 2019a); the nearest forest areas are the Cleveland National Forest and the San Bernardino National Forest (National Forest 2019), which are more than 65 and 75 miles away, respectively. The project site is located in a waterway and is not zoned. Thus, it is not designated for agriculture or forestry resources. All property surrounding the proposed Project site has been developed for residential, commercial, special purpose, and mixed-use land uses. The proposed Project would have no impact on farmlands or forest lands, which precludes the proposed Project from cumulatively contributing to an impact on these resources.

4.2.1.2 Energy

The proposed Project would not require any unusual or excessive construction equipment or practices compared to projects of similar type and size. Construction and operations would comply with standard BMPs such as equipment idling restrictions and maintaining equipment according to manufacturers' specifications. The proposed Project would not waste or unnecessarily consume energy resources or conflict with renewable energy or energy efficiency plans. For these reasons, the proposed Project would result in no impacts on energy, which precludes the proposed Project from cumulatively contributing to an impact on this resource.

4.2.1.3 Mineral Resources

Mineral resources assess the proposed Project's potential to result in the loss of availability of a known mineral resource or result in the loss of availability of a locally important mineral resource recovery site. There are no mineral resources within the project site. Oil and gas seeps are common occurrences in many parts of Orange County, including in and around the proposed Project area. According to the California Department of Oil, Gas, and Geothermal Resources, two separate production and reserve areas exist within the proposed Project area: the Newport oil field and the West Newport oil field.

The proposed Project area is classified as MRZ-1—an area where available geologic information indicates there is little or no likelihood for presence of significant mineral resources (City 2006b). Adequate information indicates that no significant mineral deposits are present, or it is judged that little likelihood exists for their presence. The proposed Project site does not contain any known mineral resources, including any rock, sand, or gravel resources. Therefore, the proposed Project would have no impact related to mineral resources, which precludes the proposed Project from cumulatively contributing to an impact on this resource.

4.2.1.4 Population and Housing

Population and housing assess the proposed Project's effect on substantial unplanned population growth in the area or whether the proposed Project has the potential to displace a substantial number of existing people or housing units, necessitating the construction of replacement housing elsewhere. There are no housing units within the immediate project site as it is in the aquatic zone. Residential areas are located in the surrounding area, but no new homes, businesses, or road extensions would occur as part of the proposed Project. Therefore, the proposed Project would result in no impacts pertaining to population and housing, which precludes the proposed Project from cumulatively contributing to an impact on these resources.

4.2.1.5 Public Services

The proposed Project would not result in the need for additional public services or facilities, including fire or police protection, schools, or parks, beyond those currently available in the proposed Project area. The proposed Project area is adequately served by the City Fire Department, City Police Department, and Harbor Patrol. Any minor increases in demand would be accommodated by these existing service providers. The proposed Project would result in no impact to fire protection, police, schools, parks, or other public facilities, which precludes the proposed Project from cumulatively contributing to an impact on these resources.

4.2.1.6 Traffic and Transportation

The geographic scope for cumulative impacts on transportation and traffic includes existing transportation resources in the area surrounding the proposed Project site, consisting of roads and

highways. The proposed Project will take place almost entirely within the water. There will be approximately five truck trips during the entire construction period. Therefore, the proposed Project would result in no impacts related to traffic and transportation, which precludes the proposed Project from cumulatively contributing to an impact on this resource.

4.2.1.7 Utilities

The proposed Project would not include water or electrical connections. No other construction or expansion of any existing utility facilities would be required. The proposed Project would not result in increased water supply, wastewater treatment, or solid waste management demands. For these reasons, the proposed Project would result in no impacts related to utilities, which precludes the proposed Project from cumulatively contributing to an impact on this resource.

4.2.1.8 Wildfire

The project site is located in the Newport Harbor, which is not considered at a significant risk of wildfire. The proposed Project would not impair emergency response plans, require the installation of infrastructure that could exacerbate wildfire risk, or expose people to significant risks. Therefore, the proposed Project would result in no impacts related to wildfire, which precludes the proposed Project from cumulatively contributing to an impact on this resource.

4.2.2 Cumulative Impacts for Affected Environmental Resource Areas

4.2.2.1 Aesthetics

The geographic scope for the proposed Project area is defined as Lower Newport Bay and the nearshore Pacific Ocean. While the proposed Project includes construction activities that may be visible from scenic viewpoints within the Lower Harbor and along the shoreline, the proposed Project will not result in permanent changes to the aesthetics and visual resources of the proposed Project area. The proposed Project is consistent with all applicable zoning and regulations governing aesthetics and scenic quality and would not create a permanent source of light or glare. While the proposed Project would not result in permanent changes, the proposed Project has the potential to contribute to cumulative impacts during construction when considered in conjunction with other related projects.

4.2.2.1.1 Cumulative Impact Analysis

As discussed in Section 4.1, views from and of the Lower Harbor and public beaches are considered public scenic vistas, as identified in the CCA and the City's General Plan. The City has identified 55 designated and recognized viewpoints that provide coastal views as significant vistas (Figure NR3 of the General Plan; City 2006a). Approximately 15 public viewpoints out of the approximately 55 recognized viewpoints would provide views of the proposed Project in Lower Newport Bay and the nearshore Pacific Ocean. These include coastal bluffs that provide expansive views of the Lower

Harbor. Because the proposed Project would have the potential to impact views in the Lower Newport Bay area during construction, other projects within this same area were considered as part of the cumulative impact analysis. Aesthetics impacts from Projects 19, 20, 28, 30, and 31 (Table 4-1) were considered as part of the cumulative impact analysis. As shown in Table 4-1, only Project 28 would be active in the aquatic area concurrently with construction of the proposed Project. Project 28 is not expected to result in aesthetic impacts; therefore, the proposed Project would not contribute to cumulative impacts.

4.2.2.1.2 Conclusion

Based on the cumulative impact analysis in Section 4.2.2.1.1, it is concluded that the proposed Project and projects listed in Table 4-1 would not have cumulatively considerable impacts on aesthetic resources.

4.2.2.2 Air Quality

The geographic scope of the cumulative air quality analysis is the SCAB. The proposed Project would contribute air emissions from construction activities. As discussed in Section 3.2, the SCAB is a nonattainment area for 8-hour O_3 under the NAAQS. Under the CAAQS, the SCAB is presently in nonattainment for O_3, PM_{10}, and $PM_{2.5}$. Therefore, projects emitting O_3, PM_{10}, and $PM_{2.5}$, along with O_3 precursors such as NO_X, would contribute to nonattainment levels and subsequent adverse air quality effects. The proposed Project-specific air emissions exceed SCAQMD significance NO_X threshold prior to mitigation, and therefore the proposed Project has the potential to contribute to cumulative impacts when considered in conjunction with other related projects resulting in such emissions.

4.2.2.2.1 Cumulative Impact Analysis

Construction emissions are the source of impacts related to air quality. Each of the projects listed in Table 4-1 that would occur within the SCAB and include emissions from construction or operations that exceed SCAQMD thresholds, would potentially contribute to cumulative air quality impacts. Therefore, air quality impacts from all of the projects in Table 4-1 were considered in terms of their cumulative impacts. Projects listed in Table 4-1 have been or would be required to perform their own analyses of associated air quality impacts, including development of mitigation measures to address significant impacts, if necessary. Several construction projects would occur concurrently in the Lower Harbor area, and these include Back Bay Landing Project 19 and Balboa Marina Expansion Project 20. The construction impacts of the related projects would be cumulatively significant if their combined construction ambient pollutant concentrations would exceed the ambient concentration thresholds for construction. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of the other projects, cumulative air quality impacts are likely to exceed the thresholds NO_X because the entire SCAB is in nonattainment for 03 (NO_X is a precursor). Consequently, construction of the related projects would

result in a significant cumulative air quality impact for NO_X emissions. Because the proposed Project would not result in health risk impacts, it would not result in a cumulative health risk impact.

4.2.2.2.2 Conclusion

The proposed Project's emissions would exceed thresholds. Its implementation combined with other related past, present, or probable future projects, would result in substantial combined cumulative adverse effects related to air quality. Therefore, impacts would be considered cumulatively significant. This cumulative impact would primarily result from the combined O_3, (including O_3 precursors such as NO_X) and emissions from related projects, including Projects 20 and 21, combined with those of the proposed Project.

4.2.2.3 Biological Resources

The geographic scope of the cumulative biological resources analysis consists of the Lower Harbor and beach areas that may be affected by the proposed Project's construction. Past, present, and reasonably foreseeable future development that could contribute to significant cumulative impacts on marine habitat and organisms could be affected by activities in the water, such as dredging, CAD facility construction, and vessel traffic.

4.2.2.3.1 Cumulative Impact Analysis

Because the proposed Project would have the potential to impact biological resources within the Lower Harbor and beach areas, projects with construction or operations within this same area were considered as part of the cumulative impact analysis. Therefore, biological resource impacts from Projects 19, 20, 28, 30, and 31 were considered as part of the cumulative analysis. The Lower Harbor study area is dominated by intertidal sandy shores and hardened shoreline structures, including bulkhead walls, concrete block riprap revetments, and recreational docks. There are several small areas of intertidal beach in the Lower Harbor. The Lower Harbor is regularly dredged for navigation and for dock access. Unvegetated soft-bottom habitat has a predominantly sand/silt composition. Areas of eelgrass (*Z. marina* and *Z. pacifica*), a flowering, marine vascular plant, are also present. Eelgrass is considered a sensitive marine resource due to its nursery function for invertebrates and fishes. Project 31 results in impacts to eelgrass and is required to perform mitigation. As discussed in Section 3.3, the proposed Project is not expected to affect areas of eelgrass and, consistent with applicable protocols, will perform pre-construction surveys to ensure any unknown areas of eelgrass are identified and avoided and thereby would not contribute to cumulative impacts.

Marine life in Lower Newport Bay in the vicinity of the proposed CAD facility consists of fine-grained and sandy benthic communities. The soft-bottom habitat is dominated by polychaetous annelids (segmented worms that live in aquatic habitats). Annelids are numerically dominant with crustaceans, mollusks, minor phyla, and echinoderms following in decreasing order of abundance. These benthic marine organisms are important food sources for fish, crabs, and other marine organisms.

The nearshore disposal site starts south of Balboa Pier and extends north to Newport Pier, subtidal sites just offshore of oceanfront beaches. Subtidal beach habitats are high-energy locations generally characterized by turbid waters and active sand movement as a result of ocean waves and currents. The sandy beaches support some dune vegetation, but as the proposed Project would only affect the subtidal area, that vegetation is outside the proposed Project's area of potential influence. The intertidal and subtidal areas, where sand disposal could occur, have too much wave action and sand motion to permit aquatic vegetation to occur, except on rocky surfaces such as groins.

As discussed in Section 2.3, Lower Newport Bay has been routinely dredged. Project activities at the CAD and maintenance dredging sites would not adversely affect any special-status species. Because these areas are not important foraging or breeding areas for special-status species and few, if any, individuals of this species will be present, the proposed Project, along with other cumulative projects, would not affect special-status species. In-water noise impacts from construction on fish and marine species would be temporary and likely within ambient levels. As shown in Table 4-1, only Project 28 and Project 31 would be active in the aquatic area at the same time as the proposed Project. These projects are not expected to result in noise impacts, and therefore the proposed Project would not contribute to cumulative impacts.

4.2.2.3.2 Conclusion

Proposed Project activities at the CAD facility and maintenance dredging sites would not adversely affect any special-status species. These areas are not important foraging or breeding areas for special-status species, and few, if any, individuals of this species will be present. Noise impacts would be temporary and likely within ambient levels. Impacts from proposed Project activities would be less than significant because no loss of individuals or a substantial reduction of habitat for the California least tern, western snowy plover, sea turtles, marine mammals, or other special-status species would occur, nor would loss of any critical habitat for federally listed species occur. However, nearshore disposal of sediment would have the potential to affect California grunion spawning, which would constitute a potentially significant impact. Therefore, there would be no cumulative contribution on biological resources.

4.2.2.4 Cultural and Historic Resources

The geographic scope of the cumulative cultural and historic resources analysis consists of the project site and the immediate vicinity of Lower Newport Bay. Projects on land that have the potential to modify or demolish structures that are more than 50 years old have the potential to contribute to cumulative impacts on historic architectural resources. Projects that include dredging may disturb native fill and also may disturb, damage, or degrade listed, eligible, or otherwise unique or important archaeological resources.

4.2.2.4.1 Cumulative Impact Analysis

As discussed in Section 3.4, the immediate proposed Project area is in an area with an active recreational harbor and public beach that has no dredging operations, except periodic and limited RGP 54 maintenance dredging. There are no structures in the proposed Project area, and the proposed Project does not include demolition or modification of any structure. All identified historical properties are located outside the proposed Project area, and there would be no impacts to historical resources. Therefore, there would be no proposed Project impacts on historical resources, which precludes cumulative contributions.

The proposed Project includes dredging activities. If archaeological materials or human remains are present in previously undisturbed native sediments, they could potentially be disturbed during construction. Although much of the proposed Project area has been previously disturbed with various maintenance dredging operations, construction of the CAD facility—associated with present and future City projects, including Project 32 (a USACE dredging project)—would also include dredging into native soils and could also disturb archaeological resources or human remains.

The proposed Project requires implementing "Stop Work in the Area If Prehistoric or Historical Archaeological Resources Are Encountered" (MM-CHR-1). At a minimum, any construction associated with the projects listed in Table 4-1 that include dredging would also proceed in adherence with these guidelines, in addition to federal, state, and local regulations designed to address cultural resource impacts potentially arising from construction.

4.2.2.4.2 Conclusion

Based on these analyses, it is concluded that the proposed Project and projects listed in Table 4-1 would not have cumulatively considerable impacts on cultural and historic resources.

4.2.2.5 Geology and Soils

Because of the proposed Project's location in an urban harbor with a diverse mixture of manufactured islands, aquatic habitat, and sandy beaches in a seismically active region, the geographic scope of the cumulative geology and soils resources analysis is the proposed Project site and immediate surroundings. All projects listed in Table 4-1 would occur within the same geographic scope as the proposed Project. Because the proposed Project does not include any structures, it would not contribute any potential risks to structures or result in risk to loss, injury, or death. Seismic activity could cause accelerations severe enough to cause liquefaction and induce lateral spreading or slope instability, as is common for the region. Based on the analysis presented in Section 3.5.3.4, while not anticipated, the CAD facility could become unstable due to lateral spreading during construction in the case of a major earthquake, which constitutes a potentially significant impact. However, the inclusion of MM-GEO-1 would reduce the potential impacts to less than significant.

None of the projects listed in Table 4-1 would likely contribute to the risk of lateral spreading as the effect would be highly localized.

4.2.2.5.1 Conclusion

Based on these analyses, it is concluded that the proposed Project and projects listed in Table 4-1 would not have cumulatively considerable impacts related to geology and soils.

4.2.2.6 Greenhouse Gas Emissions

The geographic scope of the cumulative GHG emissions analysis in this DEIR is California, because the state has established target statewide GHG reductions (see Section 3.6).

4.2.2.6.1 Cumulative Impact Analysis

Global surface temperatures have trended higher over the past century, due to the generation of GHG emissions from human activities. Some observed changes include shrinking glaciers, thawing permafrost, and shifts in plant and animal ranges. Emissions of GHGs contributing to global climate change are attributable to human activities associated with manufacturing, utilities, energy extraction, transportation, agriculture, and residential uses. Therefore, the proposed Project, all past projects, and all present and future related projects in Table 4-1 that maintain or increase mass GHG emissions contribute to global climate change.

4.2.2.6.2 Conclusion

While the proposed Project's emissions would not exceed thresholds, each of the projects listed in Table 4-1 would occur within California, and due to the nature of GHGs, impacts from these projects would be additive. The projects listed in Table 4-1 would be required to perform their own analysis of associated GHG impacts, including development of mitigation measures to address these impacts if required.

Emissions would come largely from construction equipment (combustion). Mitigation measure MM-GHG-1 would be implemented as part of the proposed Project and would offset GHG emissions. In addition, the proposed Project as well as other reasonably foreseeable future projects, including those in Table 4-1, would be subject to future requirements imposed by ARB's 2017 Climate Change Scoping Plan Update (ARB 2017b). Therefore, impacts would be less than significant.

4.2.2.7 Hazards and Hazardous Materials

For the purposes of the hazards and hazardous materials analysis, the study area is defined as a 1,000-foot radius around the waters within Lower Newport Bay, as well as within the nearshore Pacific Ocean.

4.2.2.7.1 Cumulative Impact Assessment

The proposed Project includes dredging, transport, and disposal of sediments. Dredged sediment will be loaded onto haul barges for transport to the disposal destination and then placed by bottom-dump barges. Clean material dredged during Federal Channels maintenance dredging or construction of the CAD facility would be transported to LA-3 for open ocean disposal or to nearshore beaches for beneficial reuse. Material determined unsuitable for open ocean disposal will be transported to the CAD facility and placed into the excavation for subsequent capping.

As previously described, sediments from the Federal Channels were previously characterized in 2018 and 2019 to determine suitability for open ocean disposal or nearshore placement (Anchor QEA 2019a). Most sediments were approved for open ocean disposal; however, select areas were determined to be unsuitable for nearshore or open ocean disposal. These include the Turning Basin; portions of Main Channel North 1, 2, and 3; and Newport Channel 1 due to elevated concentrations of mercury and/or PCBs (Figure 2-5). All concentrations were less than State of California Title 22 Total Threshold Limit Concentrations, and sediments are not considered a hazardous waste under state or federal regulatory standards. In addition, all effects-based testing, including toxicity and bioaccumulation, passed open ocean disposal requirements.

Several of the projects listed in Table 4-1, particularly the projects in close proximity to the proposed Project involving dredging (including Projects 30 and 31), include the use, transport, and disposal of unsuitable materials. For these projects, potential impacts from hazardous materials on site would likely be localized, and any transport or disposal of unsuitable material would occur per federal, state, and local regulations. Because the likelihood of accidental upset during transport of materials is relatively low, cumulative effects are not anticipated.

4.2.2.7.2 Conclusion

Based on these analyses, it is concluded that the proposed Project and projects listed in Table 4-1 would not have cumulatively considerable impacts related to hazards and hazardous materials.

4.2.2.8 Hydrology and Water Quality

For the purposes of the hydrology and water quality analysis, the geographic study area is defined as the proposed Project site, an area which encompasses Lower Newport Bay as described in and immediately adjacent offshore waters.

4.2.2.8.1 Cumulative Impact Assessment

Because the proposed Project would have the potential to impact water quality within the Lower Harbor and beach areas, projects with construction or operations within this same area were considered as part of the cumulative impact analysis. Therefore, biological resource impacts from Projects 19, 20, 28, 30, and 31 were considered as part of the cumulative analysis. Water quality

monitoring during proposed construction activities will ensure compliance with water quality standards and minimize impacts to the surrounding water column and marine communities. Implementing specific BMPs will minimize impacts to surrounding waters during dredging, nearshore placement, and excavation of the CAD site. Limiting material placement based on tidal activity will reduce impacts to surrounding water quality and marine communities by ensuring material is placed accurately. Such water quality monitoring and BMPs would be employed by other in-water construction projects, especially those including dredging.

Long-term water quality impacts were considered as part of the permanent cap design for the CAD facility. Various technical studies were conducted to ensure long-term isolation of chemically impacted sediments (Anchor QEA 2020a). These studies evaluated physical disturbances of the cap (i.e., propeller wash, anchoring), bioturbation, and chemical breakthrough. Chemical isolation modeling was conducted following USEPA and USACE guidance to simulate the transport of mercury, DDTs, and PCBs through the final cap layer (Palermo et al. 1998). Modeling indicated that within 100 years, porewater concentrations near the cap surface would not exceed porewater criteria (California Toxics Rule for porewater) and sorbed phase criteria (effects range median). Based on results of these studies, a 3-foot-thick final cap layer will be used to ensure underlying sediments remain isolated, and there are no long-term impacts to water quality. Project 28 would help to reduce water quality impacts by cleaning trash from Lower Harbor waters, leading to a beneficial impact.

The lack of groundwater production and use in the Lower Newport Bay area, as well as the relative depth of the aquifer in the region, suggest that the CAD facility would not affect groundwater resources. The lack of actively used aquifers and the relative depth of the Orange County main groundwater basin also suggest that negligible groundwater upwelling is expected in and through the CAD facility. Therefore, the proposed Project would not contribute to cumulative impacts to groundwater.

4.2.2.8.2 Conclusion

For these reasons, the proposed Project would result in no impacts on hydrology and water quality, which precludes the proposed Project from cumulatively contributing to an impact on these resources.

4.2.2.9 Land Use and Planning

The geographic scope of the cumulative land use analysis is defined as the City of Newport Beach.

4.2.2.9.1 Cumulative Impact Analysis

The proposed Project site is zoned for TS (Tidelands and Submerged Lands) and would continue to conform to the project site land use without resulting in any barriers that would preclude travel

throughout the proposed Project area. The proposed Project is consistent with the applicable goals and policies of the CCA, CLUP, and General Plan. All projects in Table 4-1 have the potential to contribute to cumulative impacts as they would occur within the City and would be analyzed in compliance with the General Plan. No potential indirect or cumulative impacts to land use and planning have been identified. The proposed Project will not result in any direct impacts to land use and planning; it will benefit the local area and the coastal zone by removing unsuitable sediments from the marine environment. The proposed Project does not conflict with any applicable habitat conservation plan or natural community conservation plan, as none of these protected areas exist in the proposed Project area.

4.2.2.9.2 Conclusion

The proposed Project is consistent with all applicable and established zoning regulations and requirements and would have no impacts related to land use, which precludes the proposed Project from cumulatively contributing to an impact on this resource. For these reasons, the proposed Project would result in no impacts to land use and planning, which precludes the proposed Project from cumulatively contributing to an impact on these resources.

4.2.2.10 Noise

The geographic scope of the cumulative noise analysis includes the proposed Project site and surrounding area, as well as sensitive receptors that may be affected by construction equipment and proposed facility operation.

4.2.2.10.1 Cumulative Impact Assessment

The closest sensitive receptor to the proposed Project site, a residential area, is located approximately 500 feet to channel and maintenance dredging and approximately 650 feet from the proposed CAD facility site. Dredging in any one area would be limited to 1 to 3 days. The proposed CAD facility site construction would take up to 60 days within a 6-month period. However, at such distances, with attenuation and considering the ambient noise from boats and land-based sources, such noise levels would likely be within ambient noise levels. The proposed Project's construction noise levels would be within the existing range for ambient noise levels in the area, and construction would comply with standards set by Chapter 10.28 of the City's Municipal Code. Therefore, impacts would be less than significant.

Heavy equipment vibration from construction would not generate any new sources of vibration.

Construction noises from the projects listed in Table 4-1, including projects likely to have overlapping construction schedules and overlapping construction areas (Projects 30 and 31) with the proposed Project, could result in short-term cumulative noise impacts from construction activities. However, projects located more than 1,000 feet from the proposed Project site, and based on

standard noise attenuation properties, would likely affect different receptors than the proposed Project. In addition, numerous buildings and structures lie between the residential area and the construction, which would shield construction noise.

4.2.2.10.2 Conclusion

Given the distance to the nearest residential area and level of background noise, cumulative noise levels from construction would not likely affect area receptors and the proposed Project would not contribute to cumulative impacts. Based on these analyses, it is concluded that the proposed Project would not have cumulatively considerable impacts related to noise and vibration.

4.2.2.11 Recreation

The geographic scope of the cumulative recreation analysis consists of the proposed Project area, encompassing Lower Newport Bay and the nearshore Pacific Ocean waters. In-water projects, located in Lower Newport Bay and the Pacific Ocean and that have the potential to include construction or expansion of any recreational facilities, have the potential to contribute to cumulative impacts on recreation. Projects listed in Table 4-1 that would result in increased demand or other effects to recreational facilities may also cumulatively impact recreational opportunities in the Lower Harbor.

4.2.2.11.1 Cumulative Impact Analysis

As discussed in Section 3.11, the immediate project site is in an active recreational harbor used for a wide range of recreational boating activities such as sport fishing, kayaking, stand-up paddleboarding, sailboat racing, and excursion and entertainment boat activities. These uses would be maintained and enhanced with the proposed Project in the long term. Temporary interference with recreational opportunities associated with present and future City projects, including Project 19 (Back Bay Landing), Project 20 (Balboa Marina Expansion), and Project 31 (USACE Dredging Project), would also impact recreational opportunities during construction and/or dredging activities.

The proposed Project requires implementing "Coordinate with Sailing Centers" (MM-REC-1), which would bring the proposed Project's recreational impact to a less-than-significant level. At a minimum, any construction associated with the projects mentioned in the previous paragraph would proceed in adherence with federal, state, and local regulations designed to address recreational impacts potentially arising from construction and/or dredging activities. However, until such requirements are implemented and mandated, it is assumed that cumulative recreational impact would be significant and unavoidable.

Potential and temporary short-term impacts with construction may temporarily disturb recreational activities, but dredging and long-term management of unsuitable sediments would provide benefits to navigation, as well as protection of the marine environment. The proposed Project is not proposing recreational facilities or the construction or expansion of recreational facilities in such a

way that it may have an adverse physical effect on the environment. There would be no impact during CAD facility construction and dredging activities. Therefore, there would be no project impacts on expansion of recreational facilities, which precludes cumulative contributions.

4.2.2.11.2 Conclusion

The proposed Project's temporary interference with recreational opportunities combined with other related past, present, or probable future projects, particularly Projects 19, 20, and 31, would result in substantial combined cumulative adverse effects related to recreation. Therefore, impacts would be considered cumulatively significant.

5 Other Required Analyses

5.1 Unavoidable Significant Impacts

CEQA Guidelines Section 15126.2(b) requires an EIR to describe any significant impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less-than-significant level. Sections 3 and 4 of this DEIR describe the potential environmental impacts of the proposed Project and recommend mitigation measures to reduce impacts, where feasible. As presented in Sections 3.2 and 3.10, operation of the proposed Project would result in exceedances of Air Quality and Noise. These impacts are considered significant and unavoidable.

5.2 Significant Irreversible Environmental Changes

Pursuant to Section 15126 of the CEQA Guidelines, an EIR must consider any significant irreversible environmental changes that would be caused by the proposed Project should it be implemented. Section 15126.2(d) of the CEQA Guidelines states the following:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The proposed Project would require the use of non-renewable resources, such as fossil fuels. Resources that are committed irreversibly and irretrievably are those that would be used by a project on a long-term or permanent basis. Resources committed to the proposed Project include water, fossil fuels, and non-renewable construction materials. Fossil fuels and energy would be consumed during construction activities. Fossil fuels, in the form of diesel oil and gasoline, would be used to power construction equipment and vehicles. The use of these energy resources would be irretrievable and irreversible. Although the increase in the amount of materials and energy used would be limited and readily accommodated, these resources would nevertheless be unavailable for other uses.

5.3 Growth-Inducing Impacts

The CEQA Guidelines require an EIR to discuss the ways in which a proposed Project could foster economic or population growth, or the construction of additional housing or facilities, either directly

or indirectly, in the surrounding environment. This discussion includes an analysis of whether the proposed Project would remove obstacles to population growth or trigger the construction of new community services facilities that could cause significant environmental effects. Specifically, Section 15126.2(d) of the CEQA Guidelines states the following:

> Discuss the ways in which the proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

5.3.1 Direct Impacts

A project would directly induce growth if it would directly foster economic or population growth or the construction of new housing in the surrounding environment. The proposed Project is being completed to provide safe and effective dredged material disposal options that protects the marine environment to maintain safe maritime navigation, as outlined in Section 2.4. The proposed Project would not result in direct economic growth outside of that analyzed as part of the proposed Project description and subsequent impact analyses. The proposed Project would not result in an increase in population or in the construction of new housing.

5.3.2 Indirect Impacts

A project would indirectly induce growth if it would foster economic or population-expanding activities that would lead to further development by taxing existing facilities and eventually requiring the construction of new facilities. The proposed Project would not result in indirect economic growth outside of that analyzed as part of the proposed Project description and subsequent impact analyses. The proposed Project would neither cause expanding populations, nor tax existing facilities, nor require new facilities to be constructed.

6 Alternatives

CEQA requires that an EIR present a range of reasonable alternatives to the proposed Project. Accordingly, the proposed action and five alternatives that meet most of the proposed Project objectives (described in Section 2.4) are analyzed in Section 6.3. The five alternatives are as follows:

- Alternative 1: No Project Alternative/No Dredging
- Alternative 2: No CAD Construction Alternative
- Alternative 3: Reduced Dredging
- Alternative 4: Upland Trucking of Material
- Alternative 5: Alternative Location within Newport Harbor

The following alternatives were considered but eliminated from the analysis (discussed in Section 6.2):

- Use of an Electric Dredger
- Disposal of Material at Port Fill Site

CEQA requires that an EIR present a range of reasonable alternatives to the proposed Project. Alternatives were developed based on comments received during public scoping and City staff consideration.

6.1 Requirements to Analyze Alternatives

Section 15126.6 of the CEQA Guidelines specifically requires that an EIR present a range of reasonable alternatives to a proposed Project, or to the location of a project, that could feasibly attain most of the basic project objectives, but would avoid or substantially lessen any significant effects of a project. Pursuant to CEQA Guidelines Section 15126.6(e)(2), an EIR must also include an analysis of a No Project Alternative. The No Project Alternative analyzes what would be expected to occur if the proposed Project were not approved. CEQA Guidelines Section 15126.6 also requires an evaluation of the comparative merits of the alternatives. An EIR is not required to consider alternatives that are infeasible. Pursuant to CEQA Guidelines Section 15126.6 (f)(1):

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent).

Although these factors do not present a strict limit on the scope of reasonable alternatives to be considered, they help establish the context against which "the rule of reason" is measured when

determining an appropriate range of alternatives sufficient to establish and foster meaningful public participation and informed decision making.

6.2 Alternatives Considered but Dismissed for Further Analysis

Several alternatives were considered during preparation of this DEIR. This section presents the alternatives considered but eliminated from further discussion and includes the rationale eliminating these alternatives from further detailed analysis.

6.2.1 Use of an Electric Dredger

Several public comments were received during scoping that requested the DEIR to consider a using an electric dredger. This analysis also considered emission controls for dredge equipment, namely an electric dredger. While an electric dredger could reduce emissions, electric dredge equipment would not be available or practical for use in the Lower Harbor. There are two types of electric dredgers—the large-scale electric dredger required for use during main channel dredge events at some southern California ports, and smaller remote-controlled electric dredgers used in shallow environments where support equipment may damage surrounding habitat or access is limited.

The large-scale electric dredge equipment used at major port facilities would need to be cabled to a source of electricity, The use of a cable would limit the dredge unit's maneuverability, presents a navigational hazard, and could increase the overall duration of construction due to the need to reposition the cable throughout the dredging event. In addition, the use of an electric dredge unit would require upland electric substations, that are not currently available in Newport Harbor. Such a dredger can be used to dredge a large open space like a main channel of a port in which substations already exist as part of port terminals.

Smaller-scale electric dredge auger equipment was also considered. While these dredgers are more maneuverable and may be remotely controlled, they also need to be cabled to electricity. In addition, these dredgers are designed for small shallow dredging projects and thus are not appropriate for the nature and scale of the proposed Project. Use of an electric cable to power equipment operating in the actively navigated Lower Newport Bay is neither practical due to the electric cable, nor advisable because the cable could create a navigational and safety hazard.

6.2.2 Disposal of Material at Port Fill Site

Several public comments were received during scoping that requested the DEIR to consider a different disposal location. Under this scenario, the unsuitable material would be disposed at a port fill site, similar to the last dredging event in 2012 and 2013, when approximately 120,000 cy of unsuitable sediment was placed at the Port of Long Beach's Middle Harbor Fill Site. The remaining sediment was placed at LA-3. Disposal at the Middle Harbor Fill Site entailed mechanically dredging the sediments using a clamshell dredge and placing the material into a hopper barge for transport to

the fill site via tugboat. Once at the disposal site, the material would then be either placed in the fill by towing the barge inside the disposal area and opening it to drop the sediment or, in the case of an enclosed disposal area with a barrier dike, by re-handling the material over the top of the dike using a derrick barge and clamshell or hydraulic unloader. The material served a beneficial use by lessening or eliminating the need for the ports to harvest fill material from the adjacent harbor bottom, and the contaminants are completely isolated inside the fill material such that the potential for release is very minor.

The major disadvantage of using a port fill site as a management tool for contaminated sediment disposal is that these fill sites are rarely available, and when these sites are available, they are only able to receive sediment for a relatively short amount of time. Recently, port fill projects have been subject to highly contentious and unpredictable authorization processes and have been the subject of complex and lengthy lawsuits related to future operations at the affected facilities. It typically takes a port authority between 5 and 10 years (when including authorizations) from conceptual development to the start of construction for a fill site. This process is further complicated by the fact that many fill sites are actually part of much larger terminal development projects with numerous smaller components that are all dependent on each other. A delay in any one of the pieces causes a domino effect that can delay the overall project schedule. As such, successfully lining up the timing of an available fill site with the planned dredging effort proposed for disposal in the fill site is usually the most difficult challenge.

The Port of Long Beach Middle Harbor Fill Site was constructed and is no longer available to receive unsuitable material. Additionally, there are no other available fill site options for the City to use to manage unsuitable material. Therefore, this alternative disposal location is being dismissed from further analysis because there are no sites within the region currently being considered.

6.3 Alternatives Carried Forward for Analysis

Through the alternative process, the proposed Project and two other alternatives were found to meet most of the objectives. In addition, CEQA requires an EIR to consider the No Project Alternative.

The following four alternatives to the proposed Project were carried forward for impact analysis in this DEIR:

- Alternative 1: No Project Alternative (No Dredging)
- Alternative 2: No CAD Construction
- Alternative 3: Reduced Dredging
- Alternative 4: Upland Trucking of Material
- Alternative 5: Other CAD Facility Locations within Newport Harbor
  - Turning Basin
  - Main Channel 1
  - Newport Channel 1

The alternatives analysis only addresses resource areas for which the proposed Project could cause potentially significant environmental impacts. The following resource areas were found to have no impact in the IS (Appendix A) and thus are not considered in the analysis: Agricultural and Forestry Resources, Energy, Mineral Resources, Population and Housing, Public Services, Traffic and Transportation, Utilities, and Wildfire.

6.3.1 Alternative 1: No Project Alternative/No Dredging

The No Project Alternative analyzes what would be expected to occur if the proposed Project were not approved. Pursuant to CEQA Guidelines Section 15126.6(e)(2), the No Project Alternative must "discuss the existing conditions at the time the NOP is published, or if no NOP is published, at the time the environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

As discussed in Section 2, under the proposed Project, the City would construct a CAD facility where dredged sediment unsuitable for open ocean disposal or nearshore placement can be contained. Clean material suitable for beach nourishment generated from constructing the CAD facility will be transported and disposed at an approved open ocean disposal site or along the nearshore ocean beaches. The City is also proposing to allow maintenance dredging in sections of the Newport Harbor outside the Federal Channels to re-establish safe navigation. Maintenance dredging would generally occur within the defined areas of the City's RGP 54 and other locations in the Lower Harbor.

Under the No Project Alternative, dredging of unsuitable material within the Federal Channels or City-managed locations outside of the Federal Channels would not occur, and the CAD facility would not be constructed. As such, chemically impacted materials would remain in place in an unconfined manner. Navigation would continue to be impaired, and the Lower Harbor would continue to experience reduced tidal flushing due the shallower water depths. Not constructing the CAD facility would mean that beach nourishment would not occur, and as a result, coastal erosion could be exacerbated. Each of these effects are briefly discussed below.

As previously described, sediments from the Federal Channels were characterized in 2018 and 2019 to determine suitability for open ocean disposal or nearshore placement (Anchor QEA 2019a). Suitability determinations are made by measuring chemical concentrations and conducting biological tests. Most sediments were approved for open ocean disposal; however, select areas were determined to be unsuitable for nearshore or open ocean disposal due to their chemical concentrations and potential for ecological and human health risks unless confined from exposure to sensitive biota. These areas include the Turning Basin and portions of Main Channel North and Newport Channel due to elevated concentrations of mercury and/or PCBs. All concentrations were

less than State of California Title 22 Total Threshold Limit Concentrations, and sediments are not considered a hazardous waste under state or federal regulatory standards. In addition, all effects-based testing, including toxicity and bioaccumulation, passed open ocean disposal requirements.

By not removing these sediments and instead allowing them to remain within the Federal Channels and other areas of Lower Newport Bay where they could be resuspended by vessel activities, the No Project Alternative does not minimize potential risks to the aquatic biota or people that recreate within the Lower Harbor. Chemicals in the environment are typically only able to cause impacts when they are mobilized within the water column through resuspension or when they diffuse into the water from the upper layers of the sediment. The proposed Project would seek to relocate the impacted sediments into a deep hole (CAD facility), which would eliminate those potential risks for future exposures. One of the added benefits of constructing the CAD facility for material disposal is that the underlying sediments in the target location for the CAD facility contain clean, high-quality, beach sand, which can be used to nourish the adjacent ocean shoreline. This benefit would be eliminated under the No Project Alternative.

6.3.1.1 Aesthetics

The No Project Alternative would have no impact on aesthetics because there would be no construction of the CAD facility associated with the No Project Alternative. Federal dredging would still occur under the No Project Alternative, and dredging equipment would be present in the Lower Harbor, which may periodically and temporarily affect expansive views of the Lower Harbor. However, impacts would be less than significant.

6.3.1.2 Air Quality

The No Project Alternative would have no impact on air quality because there would be no construction associated with the No Project Alternative, and therefore no emission would be generated. Federal dredging would still occur under this alternative, and dredging equipment would continue to generate air emissions. However, total dredging would be less under the No Project Alternative, and impacts are expected to be less than significant.

6.3.1.3 Biological Resources

While the CAD facility would not be constructed, dredging would still occur as part of the Federal Channels maintenance dredging program under the No Project Alternative. The unsuitable material would remain in place, posing a potential risk to benthic species. However, as discussed in Section 3.7, all unsuitable material sediment concentrations were less than State of California Title 22 Total Threshold Limit Concentrations, and sediments are not considered a hazardous waste under state or federal regulatory standards. In addition, all effects-based testing, including toxicity and

bioaccumulation, passed open ocean disposal requirements. Therefore, impacts would be less than significant.

6.3.1.4 Cultural and Historic Resources

The No Project Alternative would have no impact on cultural and historic resources because there would be no construction associated with the No Project Alternative. Federal Channels maintenance dredging would still occur under No Project Alternative and would be expected to stop work if any artifact was encountered. Therefore, impacts would be less than significant.

6.3.1.5 Geology and Soils

The No Project Alternative would have no impact on geology and soils because there would be no construction of the CAD facility associated with the No Project Alternative.

6.3.1.6 Greenhouse Gas Emissions

The No Project Alternative would have no impact on GHG emissions because there would be no construction associated with the No Project Alternative, and therefore no emissions would be generated. Federal Channels maintenance dredging would still occur under the No Project Alternative, and dredging equipment would continue to generate GHG emissions. However total dredging would be less under the No Project Alternative, and impacts are expected to be less than significant.

6.3.1.7 Hazards and Hazardous Materials

The No Project Alternative would not include dredging of unsuitable materials or construction of the CAD facility. Federal Channels maintenance dredging would continue to occur, and there is the potential to encounter other chemically impacted sediments. However, dredging operations are not expected to result in the release of hazardous materials. As described in Section 3.11, most sediments from the Federal Channels are suitable for open ocean disposal or nearshore placement. By not removing remaining unsuitable sediments that would not be dredged via the Federal Channels maintenance dredging program and instead allowing them to remain within the Federal Channels and other areas of the Lower Harbor where they could be resuspended by vessel activities, the No Project Alternative does not minimize potential risks to the aquatic biota or people that recreate within the Lower Harbor.

Chemicals in the environmental are typically only able to cause impacts when they are mobilized within the water column through resuspension or when they diffuse into the water from the upper layers of the sediment. The proposed Project would seek to relocate the impacted sediments into a deep hole (CAD facility) which would eliminate those potential risks for future exposures. Under current conditions, sediments that are unsuitable for open ocean disposal or nearshore placement are not considered hazardous waste under state or federal regulatory standards. Currently, all

effects-based testing, including toxicity and bioaccumulation, passed open ocean disposal requirements; however, the risk remains for future exposure. The impact would be significant and unavoidable.

6.3.1.8 Hydrology and Water Quality

Under the No Project Alternative, unsuitable material in the City would not be managed and would remain in the environment. However total dredging would be less under the No Project Alternative, and impacts are expected to be less than significant.

6.3.1.9 Land Use and Planning

The No Project Alternative would have no impact on land use and planning because there would be no construction or siting a CAD facility in the Lower Harbor associated with the No Project Alternative.

6.3.1.10 Noise

The No Project Alternative would have no impact on noise and vibration because there would be no construction associated with the No Project Alternative. Federal dredging would continue to occur and would likely occur outside the hours provided for in the City's Municipal Code, and impacts would remain significant and unavoidable.

6.3.1.11 Recreation

The No Project Alternative would have no impact on recreation because there would be no construction of a CAD facility associated with the No Project Alternative. However, there would be beach nourishment under the proposed Project, and therefore beach-related recreational benefits would not be realized.

6.3.1.12 Tribal Cultural Resources

The No Project Alternative would have no impact on tribal cultural resources because there would be no construction associated with the No Project Alternative.

6.3.2 Alternative 2: No CAD Construction Alternative

Alternative 2 includes dredging of unsuitable material, but no CAD construction. Under the No CAD Construction Alternative, any dredged sediment deemed unsuitable for open ocean disposal would be dewatered and trucked to a permitted upland landfill facility. Because the CAD facility would not be constructed, clean material suitable for beach nourishment generated from constructing the CAD facility would not be transported and disposed at an approved open ocean disposal site or along the nearshore ocean beaches. The City would allow maintenance dredging in sections of the Lower Harbor outside the Federal Channels to re-establish safe navigation under this alternative.

For sediments that do not qualify for open ocean disposal, beneficial reuse or beach nourishment, other disposal scenarios must be considered. One frequently used alternative is to haul the sediment to an upland permitted landfill facility. Upland landfill disposal has been used for relatively small quantities of unsuitable dredged material within the region. Generally, this approach is not supported by the RWQCB because of concerns related to salinity and chloride leaching in the sediments affecting underlying groundwater reserves. As a result, marine dredging projects with large volumes of material utilizing upland landfills are typically not permitted to use public landfills (such as Prima Deshecha in South Orange County) and therefore are limited to out of county or private landfills (such as Otay Landfill in San Diego, California, or Azusa Landfill, in Azusa, California).

The concentration of contaminants in dredged material determines its waste type and therefore the class of landfill that can accept the material. In California, landfills are identified as Class I, II, or III:

- Class I landfills can accept materials that are classified by the State of California as hazardous wastes under 22 CCR.
- Class II landfills are similar in design to Class I landfills but accept only designated waste that has been determined to be below hazardous waste criteria concentrations.
- Class III landfills can accept material with relatively lower concentrations of contaminants, depending on the individual landfill design and location. Each Class III site operator must maintain a certification with the California State Integrated Waste Management Board that specifies that facility's waste acceptance criteria and testing requirements in accordance with applicable state and federal discharge regulations.

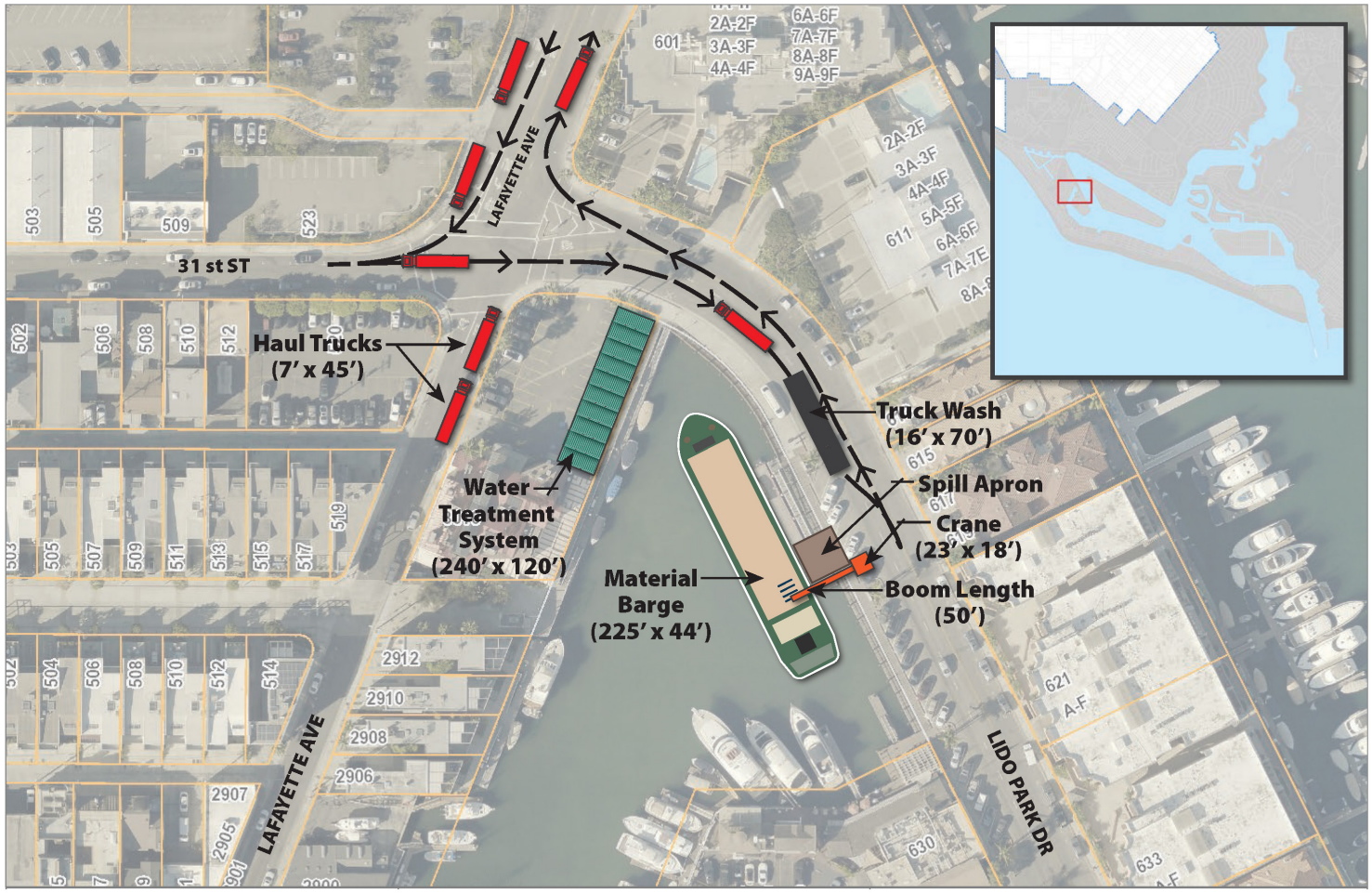
Sediments in the Lower Newport Bay Federal Channels that are not suitable for open ocean disposal meet the qualifications for disposal at a Class III landfill. Disposal to an upland Class III landfill includes several steps and requires extensive control measures and enough space for offloading and eventual transport. Sediment would be mechanically dredged using a clamshell bucket and placed into a hopper barge for storage to eventually be transported to the landfill. Once full, the barge would be relocated to an offloading area where the sediments would be removed using a shore-based excavator, an excavator mounted on a derrick barge, or a clamshell bucket and then placed into a dewatering area to remove most of the moisture prior to transport to a landfill. Alternatively, the sediment can remain in the barge where cement can be directly added to reduce moisture content. Dust and odor control measures should be utilized during the cement mixing and stabilization processes, depending on cement delivery method and organic content of sediments. Water collected from sediments would be pumped directly from the hopper barge or separate offloading area and temporarily stored in settling tanks or an enclosed vessel from the time when testing occurs to the time it is discharged into an approved sanitary sewer system. Once sufficiently dry (i.e., able to pass through a membrane similar to a "paint filter test"), the material can be loaded into haul trucks and transported to a suitable landfill.

There are significant space requirements for sediment dewatering, handling, and offloading. For projects that do not require a land-based material dewatering area and can be dewatered directly in hopper barges, minimum on-land space requirements are approximately 25,000 square feet (sf) to 30,000 sf. Projects requiring land-based sediment dewatering areas will require more space for sediment management and dewatering equipment. This information was collected from previous maintenance dredging and remediation projects in the San Diego Bay area.

Following dewatering and stabilization, material would need to be deposited in trucks and hauled to the upland disposal site. A typical dredge project may remove up to 3,000 cy per day. Assuming 12 cy per truck, which is typical, 250 round-trip truck trips (i.e., 500 daily one-way truck trips) would be needed to dispose of this amount. However, the reality of 250 truck trips for an offloading operation is not feasible or practical for this analysis. Based on recent projects in San Diego Bay where sediment was offloaded to trucks and transported to upland landfills, the average number of trucks was around 40 per day. During a 10-hour day, this assumes four trucks per hour and entails positioning the truck for offloading, transferring the dredged material from the material barge to the truck, having the truck go through the truck wash, then completing the necessary paperwork and waste manifests. The total duration for each truck is approximately 15 minutes. Assuming 40 trucks per day (12 cy per truck) and 106,900 cy of unsuitable material, 223 workdays (approximately 9 months) would be required to offload all the unsuitable material for upland disposal. This production rate is aggressive and will be influenced by other factors, including local traffic, particularly during the summer months; proximity to the upland landfill; road closures, if any; and other factors. A slower production rate would result in a prolonged construction schedule. Equipment used for material handling, dewatering, and offloading will also add additional truck trips for mobilization and demobilization.

Figure 6-1 presents a schematic of a hypothetical scenario at the terminus of the Rhine Channel (Rhine Channel Wharf) in Newport Harbor where an offloading location could be implemented. This is one of the only locations where bulk items and construction materials, such as dock sections and piles, are currently offloaded from the street to a flatdeck barge. Figure 6-1 also shows a material barge (to scale), a water treatment system, a truck wash, and a line of haul trucks. A fully loaded barge can draft up to 8 to 12 feet and would be limited by the existing bathymetry within the Rhine Channel, which varies considerably. Given the historical contamination within the Rhine Channel, maintenance dredging to achieve necessary depths would not be a viable option. In addition, dredging to achieve sufficient depths adjacent to the bulkhead at the terminus of the Rhine Channel would likely exceed the structural integrity at that location. Alternatively, a smaller barge can be utilized, requiring less draft, but this would extend the construction duration and further disrupt traffic restraints. In addition, to safely offload the sediment from the barge to haul trucks, the existing Rhine Channel public pier would likely need to be temporarily removed during construction.

Figure 6-1
Offloading Hypothetical Scenario



Haul trucks would need to offload sediment at an approved waste facility and then return to the site to receive the next load. Depending on the landfill location, the round-trip time can be extensive, further delaying the construction schedule. Street closures would likely need to be in place for the duration of the proposed Project, while construction hours would still need to be adhered. Air emissions may also be located closer to sensitive receptors during the upland construction elements and truck trips. The new trips (up to 40 a day) would not likely cause an impact to the regional transportation, but depending on routes in the City area, localized intersection impacts may occur.

The RWQCB would likely not issue a Waste Discharge Requirement for the landfill to handle the material at public landfills, and furthermore, most landfills in Orange County do not have the capacity to receive the quantities proposed for this proposed Project. Thus, the realistic option for upland landfill disposal would be to transport the material to a private hazardous waste facility located outside the county.

6.3.2.1 Aesthetics

Because dredging would remain the same as the proposed Project, dredging equipment would be present in the Lower Harbor and would have similar temporary and local impacts on aesthetics, as described in the proposed Project. No CAD construction would occur; thus, equipment would not be staged in the Lower Harbor for up to 6 months as would be done in the proposed Project. Material would not be placed on the nearshore beaches. However, under this alternative, there would be a dewatering area and truck staging areas in closer proximity to public areas, which could result in temporary aesthetic impacts for a longer time (up to 9 months) as compared to the proposed Project.

6.3.2.2 Air Quality

Because dredging would remain the same as the proposed Project, emissions associated with dredging under Alternative 2 would not change. Construction related to the CAD facility and disposal of suitable material in the nearshore environment would not occur, and therefore emissions associated with these activities would not occur. However, emissions from truck trips (40 per day, for 9 months) would likely result in significant impacts. Air emissions may also be located closer to sensitive receptors during the upland construction elements and truck trips. Dust and odor control measures would be utilized during the cement mixing and stabilization processes, if used, but would also be a potential impact to the surrounding lane use. While use of zero-emission trucks would reduce emissions, such trucks are not commercially available and could not be employed. Impacts would be significant and unavoidable.

6.3.2.3 Biological Resources

Because dredging would remain the same as the proposed Project, emissions associated with dredging under Alternative 2 would not change. Construction related to the CAD facility and disposal

of suitable material in the nearshore environment would not occur, and therefore impacts to grunion associated with these activities would not occur. Similar to the proposed Project, there would be less-than-significant impacts to biological resources associated with operations.

6.3.2.4 Cultural and Historic Resources

Because construction would continue to include dredging, potential impacts to cultural and historical resources from Alternative 2 would be similar to the proposed Project, and associated significance determinations would remain unchanged.

6.3.2.5 Geology and Soils

Dredging would remain the same as the proposed Project. However, because there would be no CAD facility construction, there would be no potential for lateral spreading, and impacts would be less than significant.

6.3.2.6 Greenhouse Gas Emissions

Because dredging would remain the same as the proposed Project, GHG emissions associated with dredging under Alternative 2 would not change. Construction related to the CAD facility and disposal of suitable material in the nearshore environment would not occur, and therefore emissions associated with these activities would not occur. However, GHG emissions from truck trips (40 per day, for 9 months) would likely result in significant impacts. While use of zero-emission trucks would reduce GHG emissions, such trucks are not commercially available and thus could not be employed. In addition, landfill disposal would result in GHG emissions related to increased CH_4 emissions from sediment organics content for landfill disposal. Impacts would be significant and unavoidable.

6.3.2.7 Hazards and Hazardous Materials

Construction would result in the need to dewater and generate up to 40 truck trips a day for 9 months. While not considered hazardous waste, unsuitable material has the potential to be released as dust during transfers, and in the case of an accident, material may be released into the upland area. Because truck routes would likely move through residential areas, risks of accidents could result in potential impacts. Therefore, potential impacts from accidental release of material from Alternative 2 would increase as compared to the proposed Project, and impacts would be significant.

6.3.2.8 Hydrology/Water Quality

Because construction would result in the need to dewater, wastewater would be generated under Alternative 2. While not considered hazardous waste, unsuitable material has the potential to spill during barge-to-truck transfers and, in the case of an accident, release material into the aquatic habitat area. Therefore, potential impacts to hydrology and water quality from Alternative 2 would increase as compared to the proposed Project, and impacts would be significant and unavoidable.

6.3.2.9 Land Use and Planning

Because construction and dredging activities would remain similar to the proposed Project, impacts related to land use and planning levels from construction would remain the same. Impacts would be similar to the proposed Project, and associated significance determinations would remain unchanged.

6.3.2.10 Noise

Because dredging schedules would remain the same as the proposed Project, noise levels from dredging activities would remain the same. However, noise from dewatering, truck-loading activities, and truck travel would be located closer to sensitive receptors for a longer period of time. Such impacts would likely be significant and unavoidable as shielding options would be limited.

6.3.2.11 Recreation

Because dredging would remain the same as the proposed Project, short-term impacts to recreation would remain the same. Impacts would therefore be the same as the proposed Project.

6.3.2.12 Tribal Cultural Resources

Because dredging would remain the same as the proposed Project, potential impacts to tribal cultural resources from Alternative 2 would be similar to the proposed Project. In addition, associated significance determinations would remain unchanged.

6.3.3 Alternatives 3 and 4: Reduced Project Alternatives

The Reduced Project Alternatives include full build-out of the project site but with reduced CAD facility capacity and a smaller dredge footprint. Under these alternatives, there could be two potential scenarios: either less dredging of unsuitable material would occur, or any dredged sediment deemed unsuitable for open ocean disposal that could not be placed into the smaller CAD facility would be trucked to permitted upland facilities. Because both scenarios were essentially analyzed in Alternative 1 (less dredging) and Alternative 2 (trucking material to upland disposal sites), impacts would be similar to the two previously analyzed alternatives, respectively.

Alternative 3: Reduced Dredging Under this scenario, less dredging would occur (likely in Newport Channel), and the CAD facility would be constructed but with a smaller footprint. Because the CAD facility would be smaller, less suitable material would be available for beach nourishment. All impacts that would occur as part of the proposed Project would likely occur under this reduced project scenario, except air and GHG emissions would likely be less because dredging and construction equipment use would be reduced. Under this scenario, however, there would be impacts to navigation in the areas where dredging would not occur.

Alternative 4: Upland Trucking of Material Under this scenario, the same amount of dredging would occur, and the CAD facility would be constructed but with a smaller footprint. It is assumed that approximately half of the material to be deposited in the CAD facility would instead be trucked to an upland disposal facility (similar to Alternative 2). The overall construction schedule would likely increase as the CAD facility would require a similar construction schedule and equipment list. A new construction element to dewater and transport a portion of the material by truck would be added. Under this scenario, all impacts that would occur as part of the proposed Project would likely occur, with several resource areas likely to have more impacts. Air and GHG emissions would increase because construction equipment uses and added emissions from truck trips would occur. Air emissions may also be located closer to sensitive receptors during upland construction elements and truck trips. Increased noise impacts may occur, and the staging area for dewatering and truck transfer may be located closer to residential and other sensitive receptors.

6.3.4 Alternative 5: Other Locations Within the Harbor for CAD Alternative

Alternative 5 includes an analysis of alternate locations in the Lower Harbor for the potential CAD facility. As noted previously, the Harbor Commissioners recommended siting the CAD facility next to or within locations where sediment was determined unsuitable and would require placement in the CAD facility. While the recommendation was integral to the siting process, other factors were evaluated, including the following:

- Analysis of geotechnical data to demonstrate compliance with current engineering standards and practices
- Suitability of material for beneficial reuse
- Feasibility to design and construct the CAD facility based on the volume of sediment to be managed in the CAD facility
- Logistics during construction
- Disruption to existing Lower Harbor moorings and anchorages
- Access for deeper water that allows the barges to be filled to their capacity
- Public outreach

The expected volume capacity of each alternate location is presumed to remain unchanged. Other factors, such as existing sediment conditions, constructability, disruption to existing moorings, and proximity to the source material, are distinguished between each location, as presented in this section. The following three alternate potential locations within Lower Newport Bay are being evaluated: Turning Basin, Newport Channel 1, and adjacent to Main Channel 1. Figure 6-2 shows a plan view of alternate locations in Newport Harbor being considered under this alternative.

In reviewing the alternate locations, factors such as availability of existing sediment data, review of historic bathymetric surveys to understand the rate of sedimentation since the Lower Harbor's initial

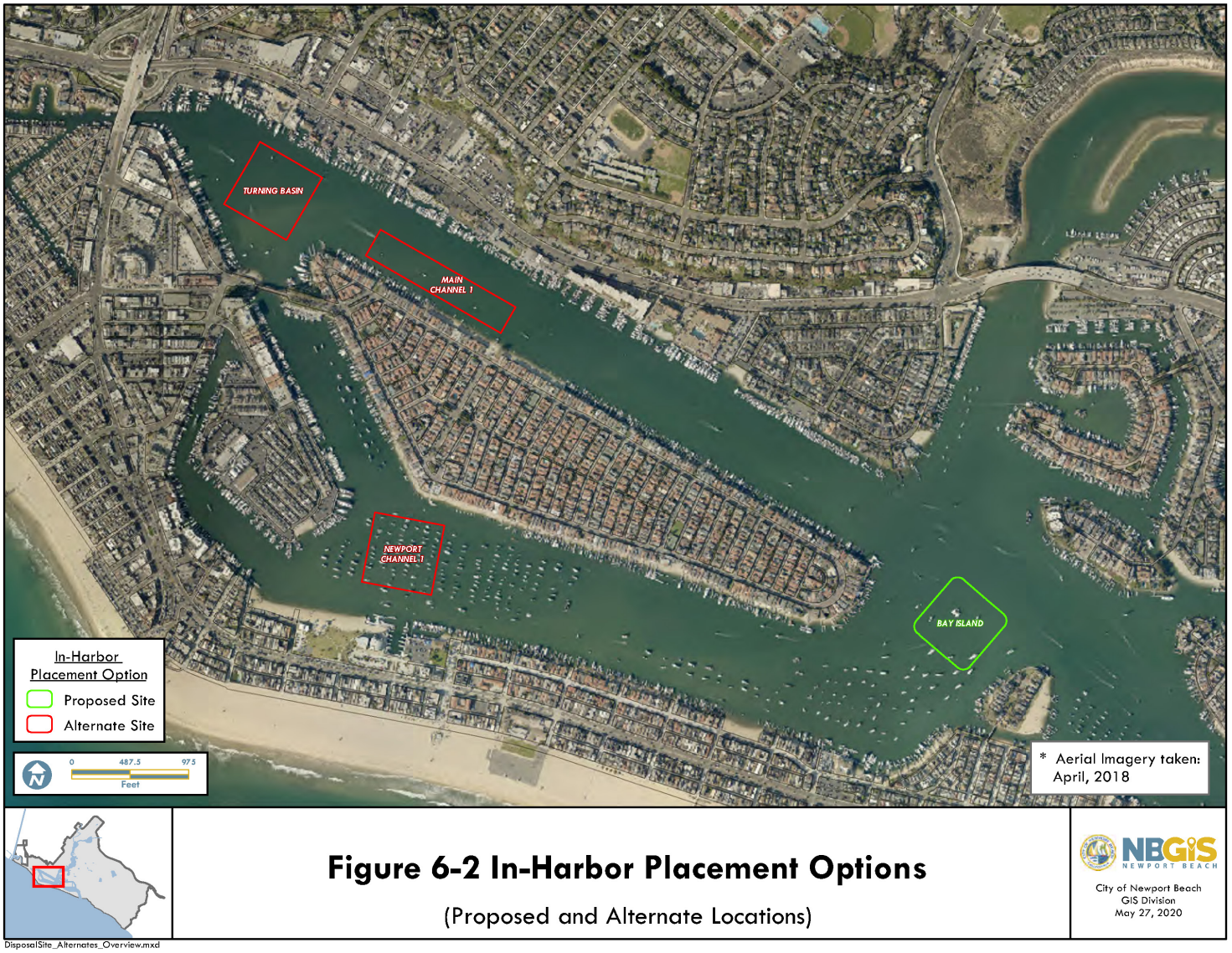
construction, and availability of existing geotechnical data were considered. If the alternate location is within an area where the existing sediment would likely be determined unsuitable, a dual-cell CAD concept would be required, wherein an initial temporary CAD cell is created to hold the veneer sediments, and a second CAD cell receives the remainder of the bay sediments. Once the second CAD facility is constructed, the veneer sediment from the initial CAD facility would then be excavated and placed in the second CAD cell, requiring double-handling of the material. Alternatively, both the initial and second CAD facilities could remain intact permanently. A brief explanation of each alternate location is presented in Sections 6.3.4.1 through 6.3.4.3. Table 6-1 present a comparison of the proposed alternative sites.

Table 6-1
Comparison of Proposed Alternative Sites

Site	Approximate Dimensions (feet)	Total Area (sf)	Advantages	Disadvantages
Turning Basin	600 × 600	360,000	• Close proximity to unsuitable material areas (Main Channel North 1 and 2, Turning Basin) • In area of commercial properties (less public housing in Turning Basin)	• Potential area of unsuitable material: would likely require disposing of unsuitable layer first or two CAD sites • Additional chemistry and geotechnical data would be required in central portion of Turning Basin • Authorized depths within Turning Basin deeper than other alternative sites: placement of material in the CAD facility would be suspended longer in the water column, potentially resulting in greater water quality impacts
Main Channel 1	250 × 1,300	325,000	• Outside the main Federal Channels • Close proximity to other unsuitable material areas (Main Channel North 1 and 2 and Turning Basin)	• Potential area of unsuitable material would likely require disposing of unsuitable layer first or two CAD sites • Additional chemistry and geotechnical data would be required • Slope stability may be required between the Main Channel (-20 feet MLLW) and top of CAD (-10 feet MLLW) • Narrower channel and adjacent to residential (Lido Isle) – potential temporary access restrictions to residential docks during construction

Site	Approximate Dimensions (feet)	Total Area (sf)	Advantages	Disadvantages
Newport Channel 1	590 × 590	348,100	• Close to unsuitable material in Newport Channel 1 • Close proximity to geotechnical sample	• Potential area of unsuitable material: would likely require disposing of unsuitable layer first or two CAD sites • Adjacent to residential (Lido Isle and peninsula) • Existing mooring area • Additional chemistry sampling required in this location

Figure 6-2
In-Harbor Placement Options



6.3.4.1 Turning Basin

Sediment sampling in support of the Federal Channels maintenance dredging program represented areas on the periphery of the Turning Basin where sediment had accumulated and therefore required dredging to achieve authorized design depths—no chemistry samples were collected in the central part of the Turning Basin. Existing elevations within this area are approximately -19 to -20 feet MLLW and at or near the authorized design depth. Based on the Federal Channels sediment characterization, sediment within the Turning Basin down to -22 feet MLLW (design depth plus overdepth) is not suitable for open ocean disposal. The post-dredge survey conducted in 1936 indicates elevations were initially as deep as -24.2 feet MLLW in some areas. Based on previous sampling data, it is anticipated that the upper layer of material (top 4 feet or so) would not be suitable for open ocean disposal and therefore would need to be managed through a dual-cell CAD facility concept.

6.3.4.2 Main Channel 1

The proposed location is adjacent to Main Channel 1. No chemistry samples were collected in this area. This area is already at a design depth of -10 feet MLLW; however, post-dredge surveys conducted in 1936 indicate elevations were initially as deep as -14.5 feet MLLW in some areas. It is expected that some contamination may exist to a depth of approximately 4 feet below the mudline, and a full Tier III evaluation would be required for open ocean disposal. The unsuitable material would likely need to be managed through the dual-cell CAD facility concept. For material below 4 feet, confirmatory chemistry sampling would be required to demonstrate native underlying material is clean. Review and approval of test results by the DMMT would be required for open ocean disposal.

6.3.4.3 Newport Channel 1

No chemistry samples were collected in this area. This area is already at design depth of -10 feet MLLW; however, post-dredge bathymetric surveys from 1936 indicate elevations were initially as deep as -14.6 feet MLLW in some areas. It is expected that some contamination may exist to a depth of approximately 4 feet below the mudline, and a full Tier III evaluation would be required for open ocean disposal. The unsuitable material would likely need to be managed through the dual-cell CAD facility concept. Similar to the Main Channel 1 alternate location, for material below 4 feet, confirmatory chemistry sampling would be required to demonstrate that the native underlying material is clean. Review and approval of test results by the DMMT would be required for open ocean disposal.

6.3.4.4 Environmental Analysis

Because the alternative locations would require chemistry sampling to define design depths and sizes of CAD facilities, a full alternatives analysis could not be completed. However, impacts to

resource areas are likely to be similar to the proposed Project. The scope of construction would be similar to the proposed Project, but the schedule would likely be extended with the dual-cell CAD facility concept. This would also likely require a larger or second CAD facility. As the alternative locations are closer to residential areas and public (mooring) areas, aesthetic and noise impacts have the potential to increase over the proposed Project.

Within the defined alternate CAD facility locations, the dual-CAD concept would require excavation of additional material to construct the second CAD to temporarily store the surficial sediment likely determined unsuitable. This added element would extend the construction schedule, resulting in increased noise, air and GHG emissions, and impacts to water quality. While technically feasible, the alternate CAD locations do not provide the open and relatively large area near the center of Lower Newport Bay (between Lido Isle, Bay Island, and Harbor Island) as compared to the proposed Project.

Additional factors that led to the selection of the proposed Project location for the CAD facility include its central location within Lower Newport Bay and proximity to the Main Channel. The central location reduces overall transit distances for dredged sediments and provides access for deeper water that allows the barges to be filled to their capacity. This in turn reduces construction duration, costs, and emissions from barge travel due to tugboat operations.

6.4 Comparison of Alternatives

Table 6-2 provides a summary comparison of the potential impacts after implementation of mitigation measures resulting from the proposed Project and the alternatives relative to the topics analyzed in this DEIR.

Table 6-2
Comparison of Potential Impacts from Proposed Project and Alternatives (with Incorporation of Mitigation)

Resource Area	Proposed Project	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Aesthetics	LTS	LTS	LTS	LTS	LTS	LTS
Air Quality	LTS	LTS-	SU	LTS-	LTS-	LTS-
Biological Resources	LTS	LTS	LTS	LTS	LTS	LTS
Cultural Resources	LTS	LTS	LTS	LTS	LTS	LTS
Geology/Soils	LTS	NI-	LTS	LTS	LTS	NI-
Greenhouse Gas Emissions	LTS	LTS	SU+	LTS	SU+	LTS
Hazards and Hazardous Materials	LTS	SU+	SU+	LTS	SU+	SU+
Hydrology/Water Quality	LTS	LTS	SU+	LTS	SU+	LTS
Land Use and Planning	LTS	NI-	LTS	LTS	LTS	NI-

Resource Area	Proposed Project	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Noise	LTS	LTS	LTS	LTS	LTS	LTS
Recreation	LTS	NI-	LTS	LTS	LTS	NI-
Tribal Cultural Resources	LTS	NI-	LTS	LTS	LTS	NI-

Notes:
+: Impacts would increase as compared to proposed Project
- : Impacts would be reduced as compared to proposed Project
LTS: Less-Than-Significant Impact
NI: No Impact
SU: Significant and Unavoidable

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8 List of Preparers

City of Newport Beach

Chris Miller
Makana Nova

Anchor QEA, LLC (Consultants)

Barbara Bundy, PhD, RPA
Lena DeSantis
Claire Dolphin
John Fox
Adam Gale
Michelle Havey
Geoff Hornek
Nick Kennedy
Chris Osuch
Michelle Lee Ratliff
Marine Vié
Michael Whelan, PE