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PORT of SAN DIEGO

BAE Systems Waterfront Improvement Project ▶ Draft Environmental Impact Report

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DRAFT ENVIRONMENTAL IMPACT REPORT BAE SYSTEMS WATERFRONT IMPROVEMENT PROJECT

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Acronyms and Abbreviations

µg/kg	micrograms per kilogram
µPa	microPascals
AB	Assembly Bill
ABM	Activity Based Model
ACM	asbestos-containing material
AIA	airport influence area
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMSL	above mean sea level
APE	area of project effect
AQIA	Air Quality Impact Analysis
AR4	IPCC Fourth Assessment Report
ARB	California Air Resources Board
ASTs	aboveground storage tanks
BAE Systems	BAE Systems San Diego Ship Repair Inc.
Basin Plan	Water Quality Control for the San Diego Basin
Bay	San Diego Bay
bgs	below ground surface
BMP	Best Management Practice
BNSF	Burlington-Northern Santa Fe
Board	Board of Port Commissioners
BTU	British thermal unit
C&D	Construction and Demolition
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFÉ	Corporate Average Fuel Economy Standards
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
CalEnviroScreen	California Communities Environmental Health Screening Tool
Caltrans	California Department of Transportation
CAO	Cleanup and Abatement Order
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CCA	California Coastal Act of 1976
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEC	California Energy Commission
CEMP	California Eelgrass Mitigation Policy

CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFLs	Compact Fluorescent Lights
CFR	Code of Federal Regulations
CGs	Cruisers
CH ₄	methane
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COCs	contaminants of concern
Tidelands	tidelands and submerged lands
CSLC	California State Lands Commission
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
cy	cubic yards
dB	decibel
dBA	A-weighted decibel
DDGs	Destroyers
DEH	Department of Environmental Health's
Disposal Plan	Soil and Groundwater Disposal Plan
District	San Diego Unified Port District
DMP	Dredging Management Program
DOT	Department of Transportation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ESA	federal Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FHWG	Fisheries Hydroacoustic Working Group
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GHG	greenhouse gas
gpd	gallons per day

GWP	global warming potential
HFCs	hydrofluorocarbons
HMD	Hazardous Materials Division
HMTS	Hazardous Material Technical Study
HPAHs	high-molecular weight polynuclear aromatic hydrocarbons
HPD	San Diego Harbor Police Department
HREA	Health Risk and Exposure Assessment
HU	hydrologic unit
Hz	Hertz
I-15	Interstate 15
I-5	Interstate 5
ICLEI	International Council for Local Environmental Initiatives
in/s	inches per second
INRMP	Integrated Natural Resources Management Plan
IPAC	Information, Planning, and Consultation System
IPCC	Intergovernmental Panel on Climate Change
IUD	Industrial User Discharge
JRMP	District's Jurisdictional Runoff Management Program
kg	kilograms
kWh	kilowatt hour
LBP	lead-based paint
LBP	lead-based paint
LCS	Littoral Combat Ship
LED	light-emitting diode
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent sound level
LHD/LHA	Amphibious Assault Ship
LID	low-impact development
L_{min}	minimum sound level
LOS	level of service
LPD-17	Amphibious Transport Docks
L_{peak}	peak pressure level
LQG	Large Quantity Generator
LSD-41/49	Dock Landing Ships
MBTA	Migratory Bird Treaty Act
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MICR	maximum incremental cancer risk
MJHMP	Multi-jurisdictional Hazard Mitigation Plan
MLLW	mean lower low water
MMPA	Marine Mammal Protection Act
mph	miles per hour
MROC	maintenance, repair, overhaul and conversion
MRZ	Mineral Resource Zone

MS4	Municipal Separate Storm Sewer System
MSFMCA	Magnuson-Stevens Fishery Management Conservation Act of 1976
MTCO ₂ e	metric tons of carbon dioxide equivalent
MTS	Metropolitan Transit System
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAS	Naval Air Station
NASSCO	National Steel and Shipbuilding Company
NAVAIDS	navigational aids
NCTD	North County Transit District
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO ₂	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRC	National Research Council
NTR	National Toxics Rule
O&M	operations and maintenance
O ₃	ozone
OA	Operation Area
OA EOP	Operational Area Emergency Operations Plan
ODMDS	Ocean Dredge Material Disposal Site
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OF	Open Space-Floodplain
OPC	Ocean Protection Council
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PAHs	polynuclear aromatic hydrocarbons
Pb	lead
PCBs	polychlorinated biphenyl
PDPs	priority development projects
PFCs	perfluorinated carbons
PM	particulate matter
PM ₁₀	particulate matter less than or equal to 10 microns in diameter
PM _{2.5}	particulate matter less than or equal to 2.5 microns in diameter
PMP	Port Master Plan
PMPA	Port Master Plan Amendment
PMPU	Port Master Plan Update
Port Act	San Diego Unified Port District Act

Porter-Cologne Act	Porter-Cologne Water Quality Control Act
ppb	parts per billion
PRC	Public Resources Code
PSB	Port Security Barrier
PTS	permanent threshold shifts
PUD	Public Utilities Department
Q/A	quality assurance
RAQS	Regional Air Quality Strategy
RCRA	Resource Conservation and Recovery Act of 1976
Regional Plan	San Diego Forward: The Regional Plan
rms	root mean squared
ROG	regional organic gases
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
Safety Plan	Site Worker Health and Safety Plan
Safety Program	Site-Specific Community Health and Safety Program
SAM	Site Assessment and Mitigation Program
SANDAG	San Diego Association of Governments
SAP	Sampling and Analysis Plan
SB	Senate Bill
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse and Planning Unit
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDFD	City of San Diego Fire-Rescue Department
SDG&E	San Diego Gas & Electric
SDIA	San Diego International Airport
SDMC	San Diego Marine Construction Company
SDPD	City of San Diego Police Department
SF ₆	sulfur hexafluoride
SIP	State Implementation Plan
SLC	State Lands Commission
SLTs	screening level thresholds
SO ₂	sulfur dioxide
SOPs	standard operating procedures
SPCC	Spill Prevention Control and Countermeasure
SVOCs	semi-volatile organic compounds
SWDS	Storm Water Diversion System
SWM	Southwest Marine, Inc.
SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Storm Water Quality Management Plan

SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TAMT	Tenth Avenue Marine Terminal
TAZs	Transportation Analysis Zones
TBT	tributyltin
TCRs	Tribal Cultural Resources
Tidelands	tide and submerged lands
TIS	Transportation Impact Study
TMDL	Total Maximum Daily Load
TS	threshold shifts
TSS	Threshold Siting Surface
TTS	temporary threshold shifts
TUOP	Tidelands Use and Occupancy Permit
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
VAP	Voluntary Assistance Program
VHFHSZ	Very High Fire Hazard Severity Zones
VMT	vehicle miles traveled
VOC	volatile organic compounds
WoS	waters of the state
WoUS	water of the United States
WQIP	Water Quality Improvement Plan
ZOI	Zones of Influence

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Introduction

This chapter provides a summary of the Draft Environmental Impact Report (EIR) prepared for the BAE Systems Waterfront Improvement Project (proposed project) in compliance with the California Environmental Quality Act (CEQA). The San Diego Unified Port District (District) is the CEQA Lead Agency for the EIR and, as such, has the primary responsibility for evaluating the environmental effects of the proposed project and considering whether to approve the proposed project in light of these effects.

As required by CEQA, this Draft EIR: (1) describes the proposed project, including its location, objectives, and features; (2) describes the existing conditions at the project site and nearby environs; (3) analyzes the direct, indirect, and cumulative adverse physical effects that would occur on existing conditions should the proposed project be implemented; (4) identifies feasible means of avoiding or substantially lessening the significant adverse effects of the proposed project; (5) provides a determination of significance for each impact after mitigation is incorporated; and (6) evaluates a reasonable range of feasible alternatives to the proposed project that would meet the basic project objectives and reduce a project-related significant impact.

This Executive Summary covers the following topics: (1) Project Description; (2) Areas of Controversy/Issues Raised by Agencies and the Public; and (3) Issues to Be Resolved, including significant environmental effects and the consideration of alternatives to the proposed project.

Project Description

Overview

BAE Systems San Diego Ship Repair, Inc. (BAE Systems), is a ship repair company in the San Diego area, serving primarily non-nuclear Navy vessels but also commercial customers. The proposed project evaluated in this Draft EIR is a maintenance, repair, and replacement project for waterfront infrastructure associated with mooring and operational facilities at the BAE Systems San Diego Ship Repair Yard. The proposed project includes the following.

- Replacing and realigning of the Pride of San Diego drydock access wharf and ramp, and several associated improvements.
- Replacing and realigning the Pier 3 wharf structure and other associated improvements.
- Replacing aged or inefficient facilities, including offices, the production building, the central tool room, and restrooms.
- Improving mooring infrastructure to safely moor vessels and accommodate newer and different classes of vessels to be moored and repaired on site.
- Upgrading electrical and potable water utility infrastructure.

The proposed project consists of the following 15 project elements that are designed to improve the efficiency and functionality of the existing BAE Systems San Diego Ship Repair Yard.

1. Pride of San Diego Drydock Dredging¹ and Moorage
2. Pride of San Diego Drydock Wharf Replacement and Realignment
3. Fender System Repair and Replacement
4. Pier 3 South Nearshore Dredging
5. Pier 3 Mooring Dolphin
6. Pier 3 North Lunchroom Wharf Replacement and Realignment
7. Quay Wall Modifications
8. Port Security Barrier Replacement
9. Small Boat Mooring Float Replacement
10. Central Tool Room Demolition and Reconstruction
11. New Production Building
12. Administrative Office Building
13. Pier 1 Restroom Renovation and/or Demolition
14. Main Electrical Utility Service Update
15. Sanitary Sewer and Potable Water Utility Services

The majority of the proposed work would take place within the District's jurisdiction (i.e., Project Elements 2, 3, 4, 6, 7 and, 9–15). Project Elements 1, 5, and 8 are within the District's leasing jurisdiction and the California Coastal Commission's (CCC) permitting jurisdiction, per Senate Bill (SB) 507 and the California Coastal Act. BAE Systems will apply directly to the CCC for authorization and entitlements for Project Elements 1, 5, and 8; however, this Draft EIR analyzes the entire proposed project, as required by CEQA.

Project Location

The project site, BAE Systems San Diego Ship Repair Yard, is located along the San Diego Bay, south of downtown San Diego, within the District's jurisdiction. BAE Systems currently leases 9.8 acres of land and 16.6 acres of water from the District. This lease is scheduled to expire in 2034. In addition, BAE Systems currently occupies a parcel pursuant to a now-expired 5-year Tidelands Use and Occupancy Permit (TUOP) from the District for an additional 2.0 acres of land and 4.0 acres of water.² As a result, BAE Systems leases approximately 11.8 acres of land area and approximately

¹ Dredging is defined as the removal of sediments and debris from the bottom of lakes, rivers, harbors, and other water bodies.

² The TUOP between the District and BAE Systems expired October 31, 2019. BAE is currently on a limited holdover tenancy pursuant to that expired TUOP. However, it is anticipated that the TUOP will be renewed. TUOP renewal would not authorize any new improvements or activities that could physically impact the environment. It would reaffirm BAE Systems' existing occupancy right and continue existing operations. Therefore, any TUOP renewal is considered a separate action previously analyzed under a separate CEQA document for the Pier 1 North Drydock,

20.6 acres of water area from the District. In addition to these leased and permitted areas, BAE Systems leases 3.5 acres of submerged land from the District. These submerged lands were originally leased from the California State Lands Commission (SLC). However, effective January 1, 2020, this area was transferred to the District's jurisdiction per SB 507, which granted and conveyed in trust to the District all right title, and interest in certain tidelands and submerged lands, as enumerated in SB 507. BAE Systems' lease with the SLC was transferred to the District. The total acreage occupied by BAE Systems (including the TUOP parcel) pursuant to agreements with the District is 35.9 acres and makes up the BAE Systems San Diego Ship Repair Yard (project site). The waterside facilities at the project site currently contain three working piers, five wet berths, and two floating drydocks. The landside facilities include administration offices, production shops, training areas, and related utilities and infrastructure.

The project site is situated adjacently southeast of the Tenth Avenue Marine Terminal, an omniterminal that handles refrigerated containers, dry bulk, liquid bulk, and general cargo. Its northeasterly boundary is generally bordered by East Belt Street; its southeasterly boundary borders the General Dynamics National Steel and Shipbuilding Company (NASSCO) facility; and its southwesterly boundary is in the San Diego Bay, parallel to the shore.

Central downtown San Diego is approximately 1.7 miles northwest, and the San Diego neighborhood of Barrio Logan is approximately 1,000 feet northeast of the project site. San Diego International Airport is approximately 3 miles to the northwest of the project site. Regional vehicle access to the project site is provided by Interstate (I)-5 to the northeast and I-15 to the east. Several freeway ramps are within 1 mile of the project site. The site is also within proximity of light-rail, with the closest trolley stop, Barrio Logan Station, approximately 1,500 feet to the north across East Harbor Drive, and Harborside Station approximately 0.5 mile to the southeast. Figure ES-1 shows the regional location and access to the project site, while Figure ES-2 provides the precise location and boundaries of the project site.

Associated Real Estate Agreements and Removal of Cooling Tunnels project, SCH #2014041071, and is not part of the proposed project.



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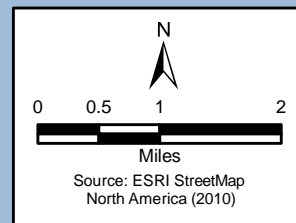
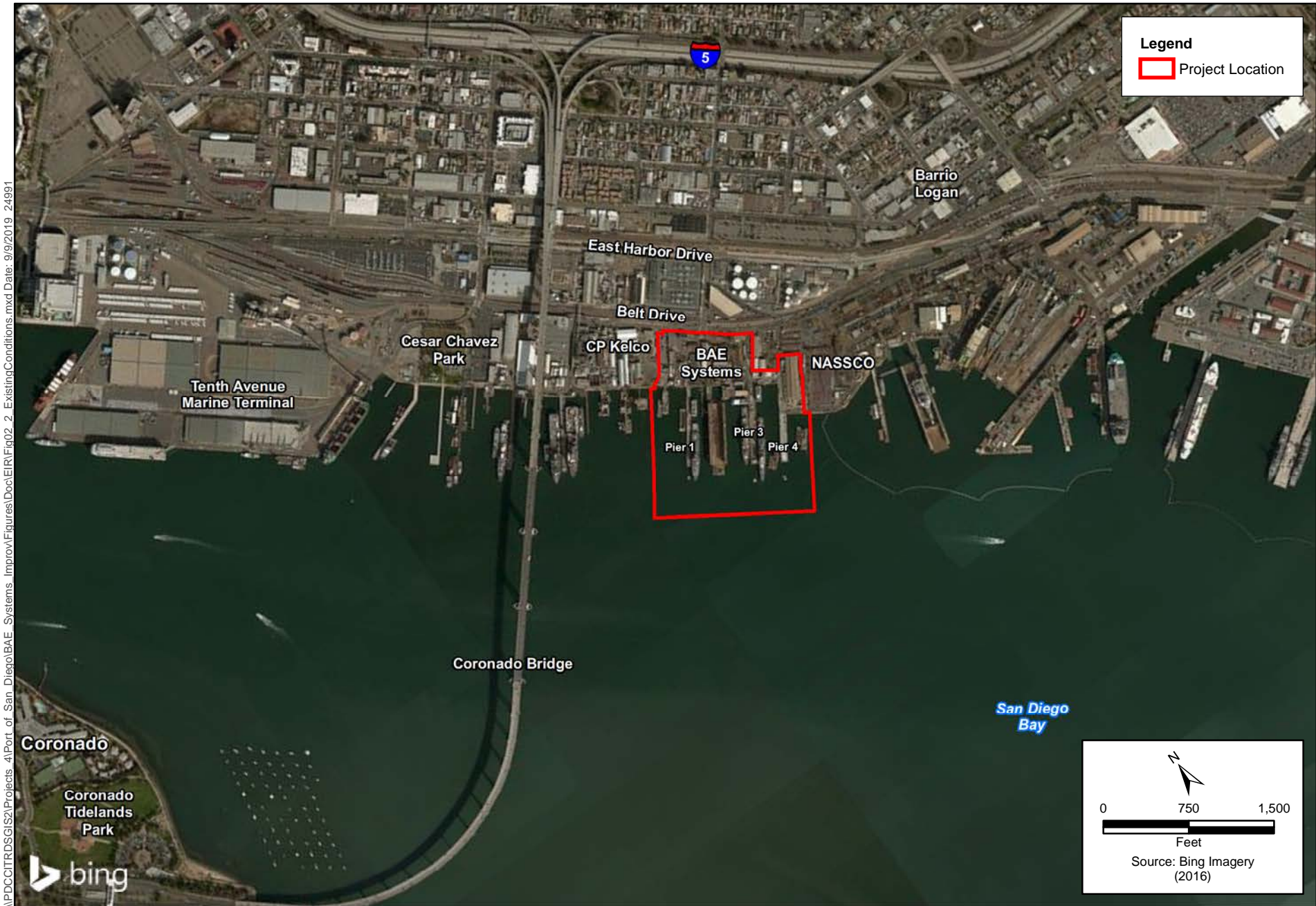


Figure ES-1
Regional Location
BAE Systems Waterfront Improvement Project



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Figure ES-2
Project Location Map
BAE Systems Waterfront Improvement Project

Project Objectives

To achieve the need and purpose of the proposed project, the following project objectives have been identified.

1. Construct and operate shipyard repair facilities that maximize the use of existing waterways, available shoreline, and existing land.
2. Modernize the BAE Systems San Diego Ship Repair Yard by providing improved facilities that meet the needs of the current and anticipated fleets of the military and commercial customers.
3. Enhance worker safety, customer security, and environmental protection programs through the integration of relevant project elements.
4. Invest in new shipyard infrastructure that will enhance the short- and long-term attractiveness and viability of San Diego Bay and the region to military and commercial ship operators for construction and repair, consistent with the Port Master Plan.³
5. Preserve jobs by maintaining the physical capacity and technical capability to support the Navy's presence as well as commercial maritime needs in San Diego.

Project Components

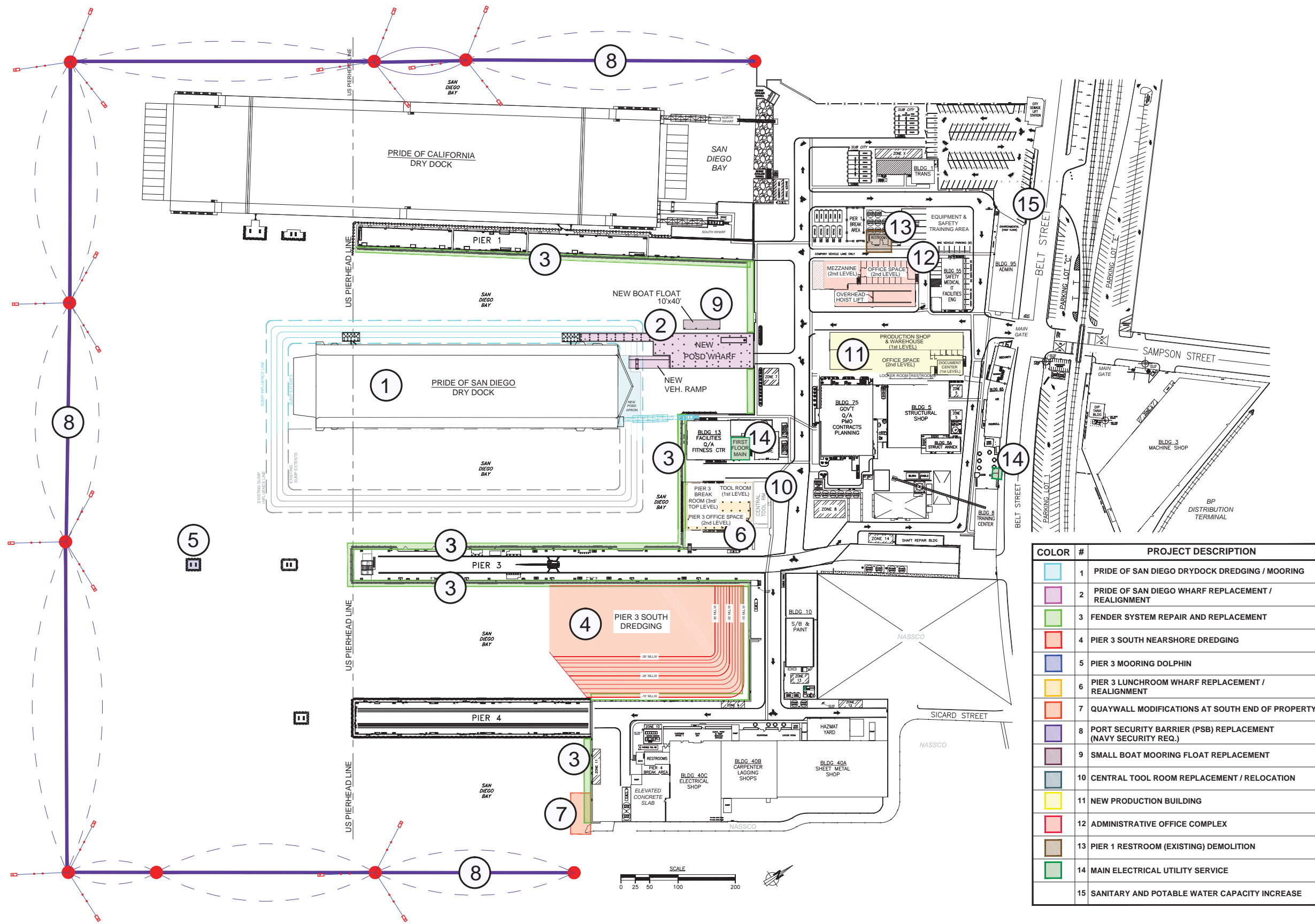
The proposed project consists of 15 distinct project elements that are designed to improve the efficiency and functionality of the existing BAE Systems San Diego Ship Repair Yard. Figure ES-3 provides an overall site plan for identifying the location of each project element by number. A detailed discussion of the proposed activities under each project element is provided below.

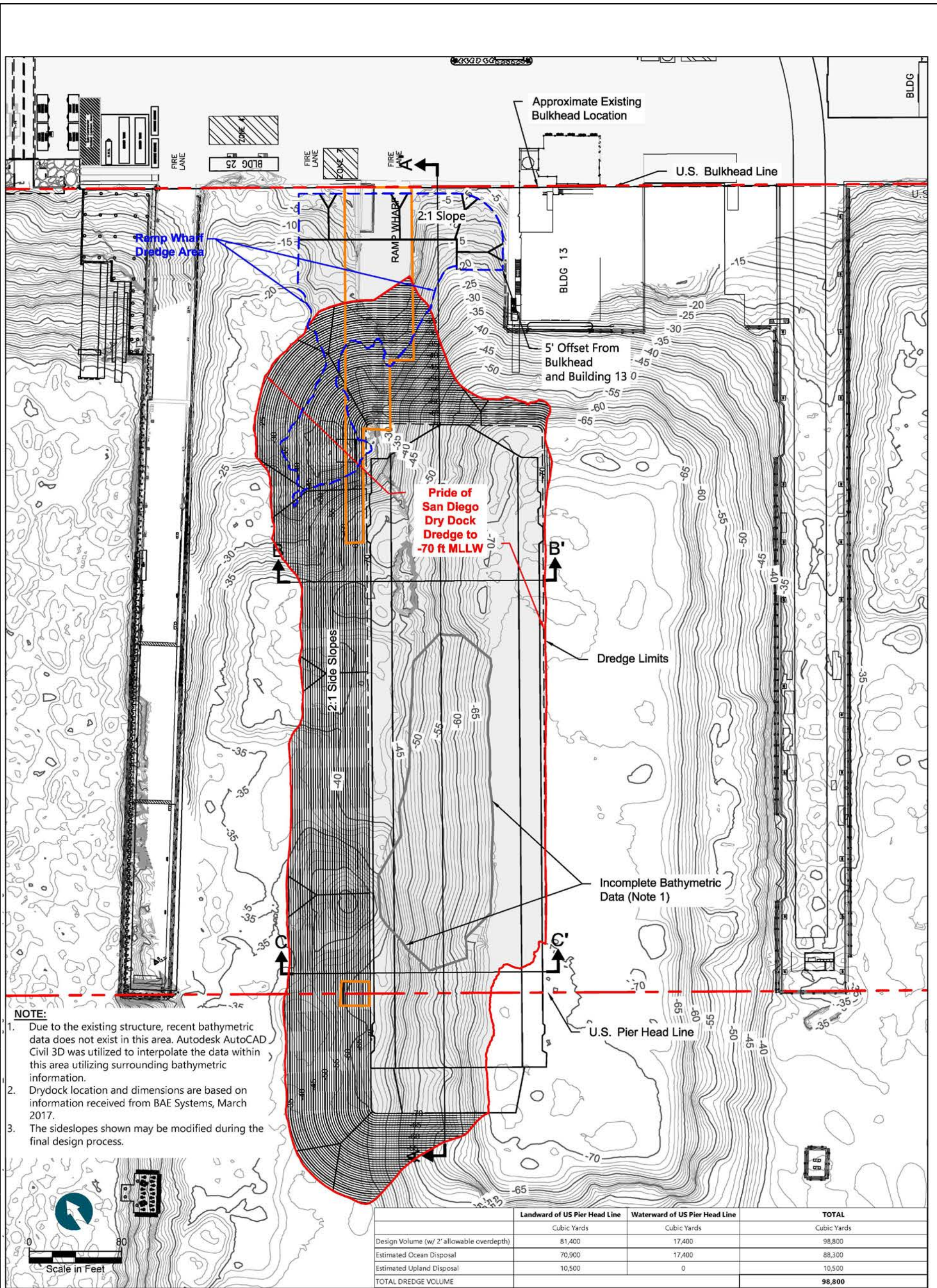
Pride of San Diego Drydock Dredging and Moorage Replacement (Project Element 1)

Project Element 1 includes dredging and associated replacement of mooring dolphins⁴ to hold the Pride of San Diego drydock in place. Figure ES-4 depicts its conceptual dredge design. Most of Project Element 1 is within the District's jurisdiction; however, the westernmost mooring dolphin and a portion of the required dredging area would be within both District jurisdiction (leasing) and CCC jurisdiction (permitting).

³ "Renovation and redevelopment of existing facilities will continue as industries respond to market demands and changes in the maritime industrial climate." San Diego Unified Port District, Port Master Plan (August 2017), page 79.

⁴ A *mooring dolphin* is defined as an in-water structure, typically made up of a cluster of piles that extends above the water surface to provide mooring points for vessels.





- NOTE:**
1. Due to the existing structure, recent bathymetric data does not exist in this area. Autodesk AutoCAD Civil 3D was utilized to interpolate the data within this area utilizing surrounding bathymetric information.
 2. Drydock location and dimensions are based on information received from BAE Systems, March 2017.
 3. The sideslopes shown may be modified during the final design process.

	Landward of US Pier Head Line	Waterward of US Pier Head Line	TOTAL
	Cubic Yards	Cubic Yards	Cubic Yards
Design Volume (w/ 2' allowable overdepth)	81,400	17,400	98,800
Estimated Ocean Disposal	70,900	17,400	88,300
Estimated Upland Disposal	10,500	0	10,500
TOTAL DREDGE VOLUME			98,800

SOURCE: Upland topography from Digital Mapping Inc., dated September 2009, and supplemented by Environmental Data Solutions survey dated April 13, 2013. Pre-dredge bathymetric data is from CLE Engineering survey dated February 12, 2017 supplemented with post-sand cover survey from San Diego Shipyards North project, completed January 2016.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83, U.S. Feet.
VERTICAL DATUM: Mean Lower Low Water (MLLW).

- LEGEND:**
- 25— Existing Contour
 - 30— Proposed Dredge Contour
 - — — Proposed Site Improvements
 - — — Ramp Wharf Dredge Limits
 - — — POSD Dry Dock Dredge Limits

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Figure ES-4
Project Element 1 Conceptual Dredge Design
BAE Waterfront Improvement Project

Because of conflicts with the original 1983 dredge sump⁵ design, the current configuration requires the drydock to be moved⁶ from its mooring to the west and south in order to submerge and dock or undock a vessel each time a vessel comes in for drydock servicing. When a wide-bodied vessel is positioned adjacent to Pier 3 North, the size of the vessel prevents the drydock from being moved into its submergence location. Dredging and relocation of the mooring dolphins would allow the drydock to submerge and lift vessels in place without the need for the drydock to be moved. This would improve operational efficiencies because wide-bodied vessels could be moored at Pier 3 North concurrently with drydocked vessels while under repair at the Pride of San Diego drydock. Accordingly, this would eliminate the need to run the diesel engines of two separate vessels concurrently during docking and undocking activities as well as the need for tugboats to move the drydock. In addition, Project Element 1 proposes to dredge sediment around the Pride of San Diego ramp wharf and eastern mooring dolphin. This would remove potentially contaminated sediment that was not accessible during the remedial dredging that occurred in 2015 under Regional Water Quality Control Board (RWQCB) mandated Cleanup and Abatement Order (CAO) No. R9-2012-0024. During remedial activities, sand, including gravelly sand, was placed in areas that were not accessible. Proposed replacement of the mooring dolphins may allow access to these areas; therefore, potentially contaminated gravelly sand, sand, and sediment may be removed during dredging.

In total, Project Element 1 proposes to dredge approximately 98,800 cubic yards (cy) of material. Figure ES-5 depicts the proposed conceptual dredge design to achieve compliance with the CAO, which includes both Project Elements 1 and 6. (Figure ES-6 depicts the conceptual dredge design for Project Element 6 only.) Based on preliminary assessments conducted by the project proponent, it was conservatively estimated that 20 percent of the dredge material for Project Element 1 would contain contaminated sediment, although additional analysis indicates the estimate may be closer to 11 percent.⁷ Therefore, the analysis contained within this EIR assumes approximately 80 to 89 percent of all dredged materials for Project Element 1 would be disposed of at an approved Ocean Dredge Material Disposal Site (i.e., U.S. Environmental Protection Agency [EPA] disposal site LA-5); the remaining 11 to 20 percent would be unsuitable for unconfined aquatic disposal, per U.S. Army Corps of Engineers (USACE) and EPA disposal criteria, and would be transported to an approved disposal facility capable of accepting contaminated sediments. It should be noted that, in the event that unconfined aquatic disposal is not suitable, only approximately 15,280 cy of the proposed 98,800 total cy of sediment would be dredged to comply with CAO No. R9-2012-0024.

⁵ A *sump* is defined as a pit or other type of hollow area that collects liquids.

⁶ Referred to as *translated*. *Translation* means to move the dock in a specific direction—north, south, east, or west.

⁷ Where applicable throughout this EIR, the more conservative estimate is used for CEQA analysis purposes. For example, Sections 4.1, *Air Quality and Health Risk*, and 4.3, *Greenhouse Gas Emissions and Energy*, conservatively analyzed both the high end of trucks (i.e., 20 percent upland disposal) and the high end of tug and scow trips (i.e., 89 percent ocean disposal) to quantify project emissions.

The following actions are proposed as part of Project Element 1:

- Shifting the Pride of San Diego drydock west by approximately 100 feet.
- Replacing two existing 17.5- by 21-foot mooring dolphins (368 square feet for each dolphin), including removing twenty-six 18-inch-square concrete piles and 85 cy of concrete caps and installing thirty-eight 24-inch octagonal precast concrete piles with 900 total square feet of surface area.
 - Demolition of the existing mooring dolphins, concrete piles, and concrete caps would generate approximately 1,005 cy of debris.
- Relocating the drydock sump, which would require dredging to -70 feet mean lower low water (MLLW). The following dredging specifics are proposed:
 - Dredging approximately 98,800 cy⁸ of material, including 2 feet of overdepth, consisting of:
 - 81,400 cy within District (leasing) jurisdiction.
 - 17,400 cy within CCC (permitting) jurisdiction.
 - Disposing of up to approximately 19,800 cy of dredged material (i.e., up to 20 percent of the total dredged material) at an approved upland disposal site, such as the Otay Landfill.
 - Disposing of up to approximately 87,900 cy of dredged material (i.e., up to 89 percent of the total dredged material) at the Ocean Dredge Material Disposal Site (i.e., EPA's San Diego disposal site LA-5).
 - Transporting up to 36 scows⁹ (2,500 cy capacity each) to the LA-5 disposal site.

Dredging operations, including equipment maintenance activities, shift changes, barge changes, and movement about the site would be conducted 24 hours per day, 7 days a week, for 100 days.

Pride of San Diego Drydock Wharf Replacement and Realignment (Project Element 2)

Once drydock dredging and moorage replacement have been completed (i.e., Project Element 1), wharf and ramp modifications would be needed. Specifically, Project Element 2 would extend the existing Pride of San Diego wharf to provide a material handling area adjacent to the northeastern portion of the drydock and encompass the eastern gripper¹⁰ mooring dolphin. An apron would be installed at the end of the drydock, while a new pedestrian access ramp and support platform would be installed on the south side of the drydock to minimize the number of in-water structures required to access and support the drydock at its proposed new location. The new replacement structure would be incorporated into the existing Pride of San Diego wharf ramp.

For the purposes of this analysis, complete demolition and construction activities are assumed, which would be the reasonably foreseeable worst-case scenario. The following actions are proposed as part of Project Element 2.

⁸ Volume based on pre-dredge bathymetric survey data from CLE Engineering, composite surveys dated February 2017 and January 2016, and conceptual dredging volumes provided by Anchor QEA, dated July 2019.

⁹ A scow is a low, flat barge-like vessel used to carry material.

¹⁰ A gripper is a mechanical feature of a mooring system, used for securing floating drydocks to a mooring dolphin.

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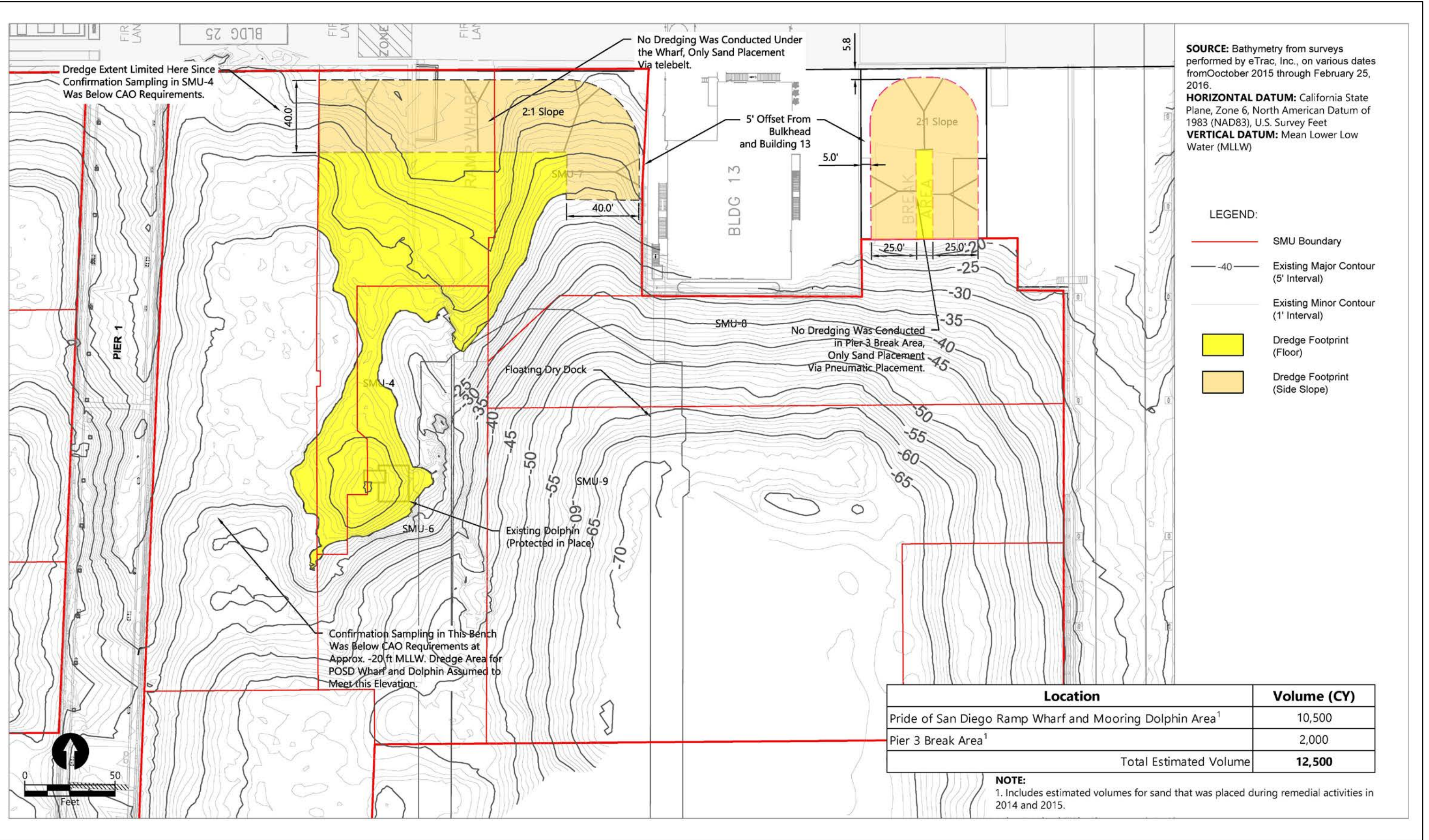
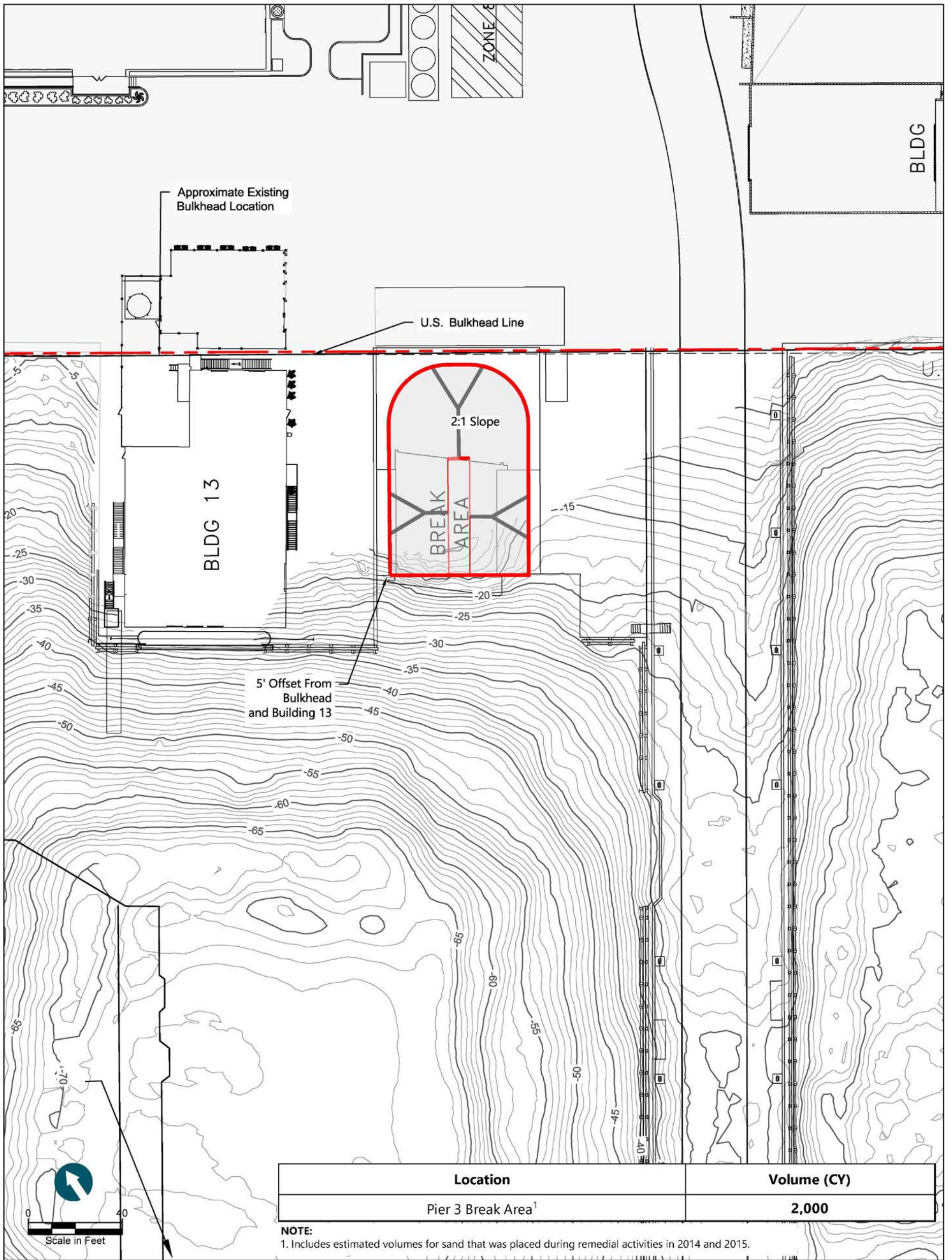


Figure ES-5
 Project Element 1 and Project Element 6 Conceptual CAO Dredge Areas
 BAE Waterfront Improvement Project



SOURCE: Upland topography from Digital Mapping Inc., dated September 2009, and supplemented by Environmental Data Solutions survey dated April 13, 2013. Pre-dredge bathymetric data is from CLE Engineering survey dated February 12, 2017 supplemented with post-sand cover survey from San Diego Shipyards North project, completed January 2016.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83, U.S. Feet.
VERTICAL DATUM: Mean Lower Low Water (MLLW).

LEGEND:
 — -25 — Existing Contour
 ————— Dredge Limit Boundary

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Figure ES-6
Project Element 6 Pier 3 Break Area Conceptual Dredge Design
BAE Waterfront Improvement Project

- Demolishing 5,540 square feet of existing wharf and twenty 18-inch piles, which would generate approximately 408 cy of debris.
- Installing 12,500 square feet of cast-in-place decking on 73 octagonal piles¹¹ and six concrete precast piles,¹² extending from the existing wharf structure to the northeastern portion of the Pride of San Diego drydock. New in-water structures (fixed) associated with the new wharf would be built to an increased elevation of +12 feet MLLW.
- Installing an apron¹³ at the end of the drydock and a new pedestrian access ramp and support platform on the south side for material handling adjacent to the drydock.

Fender System Repair and Replacement (Project Element 3)

The existing fender¹⁴ systems are experiencing natural deterioration due to age and routine damage from decades of use. New fenders are required where shoreline features have been reconstructed.

The following actions are proposed as part of Project Element 3.

- Removing and replacing in place the 503 existing 14-inch by 89-foot steel H-pile¹⁵ fenders. Removal of the existing fenders would generate approximately 269 cy of debris.
- Installing 122 new steel H-pile fenders, for a total of 625 fenders. The new fender locations are as follows:
 - Bulkhead installation at the south side of Pier 1, resulting from remediation and fill of the former marine railways in 2004.
 - Bulkhead replacement along the shoreline south of Pier 3 to the southern property line.
 - The west-facing perimeter of the proposed new marginal wharf area associated with Pier 3 North Lunchroom Wharf Replacement and Realignment (Project Element 6).

In addition, fenders are occasionally damaged when struck by vessels, in which case they need to be replaced quickly in order to provide safe moorage for vessels. Therefore, for analysis purposes, it is assumed that up to 39 steel H-pile fenders per year would be replaced over the life of the existing lease (until 2034).

Pier 3 South Nearshore Dredging (Project Element 4)

Dredged material has entered the Pier 3 berth sump; therefore, this project element proposes to dredge approximately 15,000 cy of material. Figure ES-7 depicts the conceptual dredge plan for Project Element 4. In addition, the Pier 3 sump requires modification for safe passage of tugboats while maneuvering large ships.

The following actions are proposed as part of Project Element 4.

¹¹ Octagonal piles are eight-sided concrete support structures.

¹² *Precast piles* are concrete piles that are formed in circular, square, rectangular, or octagonal shapes. Precast piles are manufactured in a casting yard before transport to the project site.

¹³ An *apron* is the space allotted for maneuvering a vehicle into alignment with the dock.

¹⁴ A *fender* is a piece of equipment that protects a pier, berth, jetty, or other vessel from a berthing vessel. Fenders are typically made of rubber, foam, or plastic in order to absorb energy from the berthing vessel.

¹⁵ A *steel H-pile* is an in-water support structure with a cross beam that forms an H-like shape.

- Dredging approximately 15,000 cy from the toes of the dredge sump to the limit line elevation of the new bulkhead (-17 feet MLLW). Dredging would extend to an operational depth of -35 feet MLLW plus 2 feet of overdepth dredging.
- Placing dredged material directly onto dredge scows, with no stockpiling of materials on the site; loading directly onto trucks from the scows; and disposing of materials. Dredged material is dewatered, treated, and disposed of in accordance with existing permit and landfill requirements.

Dredging operations, including equipment maintenance activities, shift changes, barge changes, and movement about the site would occur 24 hours per day, 7 days per week, for 69 days.

For Project Element 4, the extent of contamination within the sediment in this area is currently unknown. Therefore, there are two scenarios under consideration for disposal of dredged materials.

- The **50/50 Scenario** assumes that half of the total dredged material (7,500 cy) generated during Project Element 4 would be suitable for ocean disposal and half (7,500 cy) would require upland disposal. This scenario would result in approximately three scows to dispose of the material at the ocean disposal site, with each scow trip conveying 2,500 cy. The remaining half of the dredged material would be taken to upland locations using haul trucks with an estimated 15 cy capacity per truck.
- The **All-Truck Scenario** assumes that all dredged material (15,000 cy) would be disposed of at an upland location using haul trucks with an estimated 15 cy capacity per truck.

Pier 3 Mooring Dolphin (Project Element 5)

Installation of an additional mooring dolphin would be necessary to ensure safe vessel moorage, especially during extreme storm surge or other climatic conditions (e.g., wind and tide). The mooring dolphin would provide a fixed structure for securing the bow of large vessels and be designed consistent with existing mooring dolphins at the BAE Systems facility. The proposed new mooring dolphin would be entirely within CCC's jurisdiction.

The following actions are proposed as part of Project Element 5.

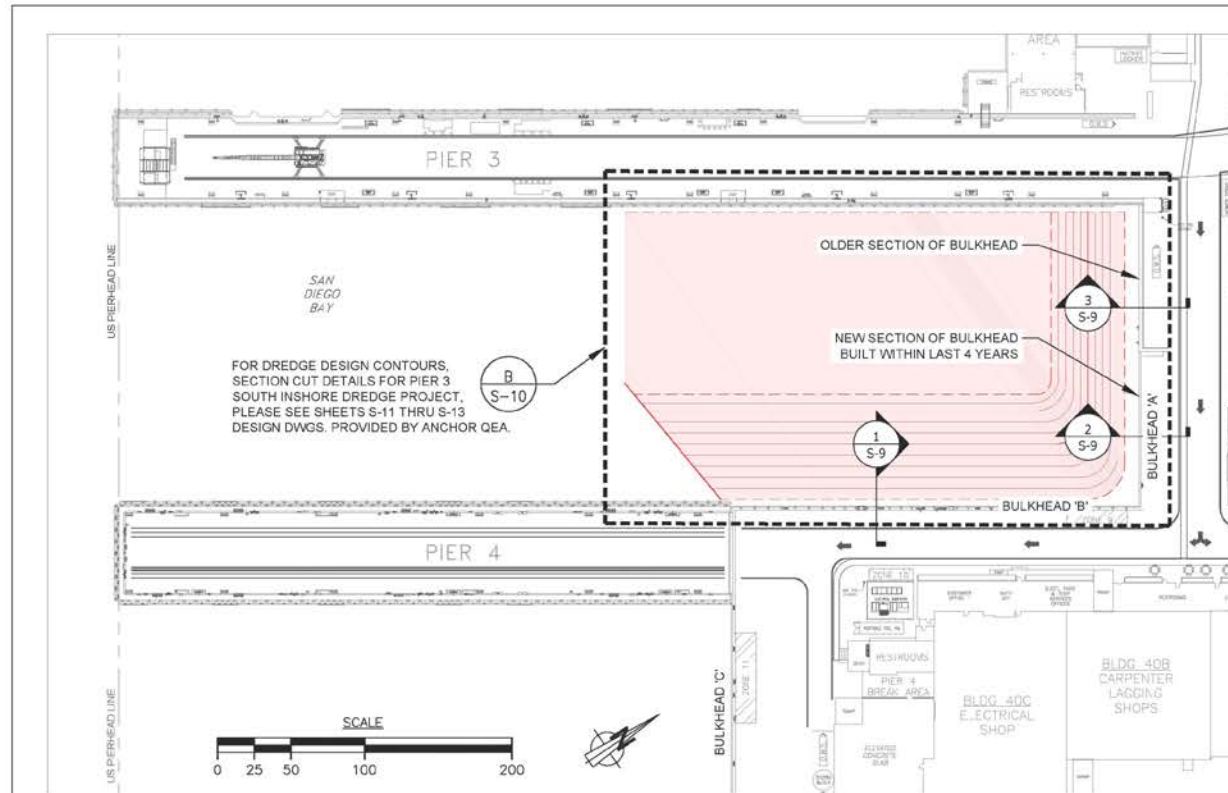
- Installing one 16- by 20-foot, 3-foot-thick mooring dolphin 970 feet offshore (i.e., 270 feet west of the U.S. Pierhead Line). The height of the new mooring dolphin would extend to +13 feet MLLW. The following components are proposed for the new mooring dolphin:
 - Eight 24-inch concrete octagonal piles.
 - Two 150-ton double bits.¹⁶
 - Sixteen steel H-pile fenders, 12 cylindrical fenders, whalers,¹⁷ and chocks¹⁸ around the perimeter of the proposed mooring dolphin.

¹⁶ A *double bitt* is a type of bollard with two metal protrusions, which are used to secure lines from vessels to a dock. (A *bollard* is a short, thick post on the deck of a ship, or a wharf, for securing lines from a ship.)

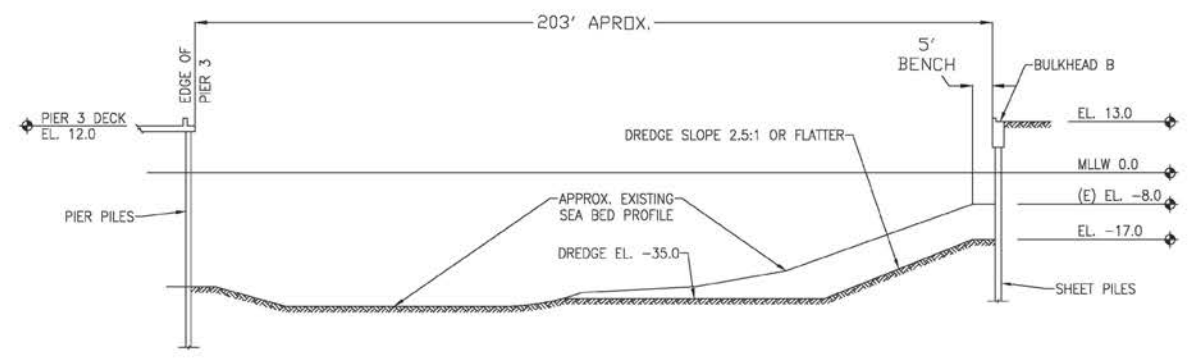
¹⁷ *Whalers* are the large wooden crossbars that support the bulkhead, which is part of the pier. (The *bulkhead*, as defined here, refers to a retaining wall along the waterfront.)

¹⁸ *Chocks* are metal fixtures that hold lines in position so that vessels can tie up to a bollard, bitt, etc.

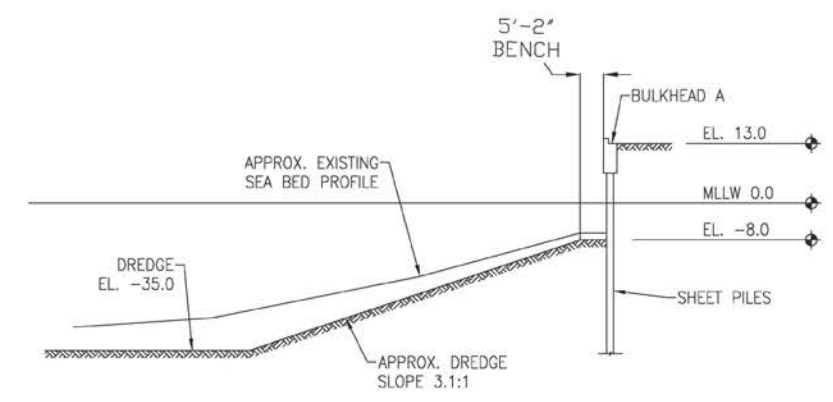
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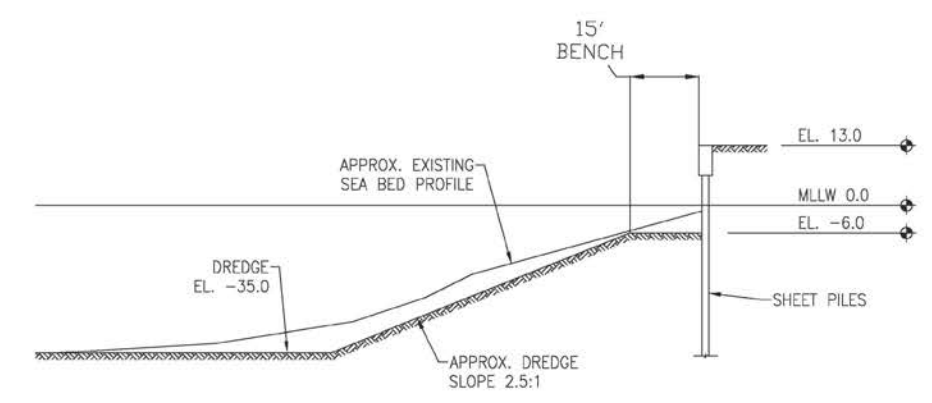
1
S-9 **PIER 3 SOUTH DREDGE BASIC PLAN OVERVIEW**



1
S-9 **BULKHEAD B SECTION CUT - DREDGE LIMITATION STUDY (ANALYSIS AND DESIGN PERFORMED BY TRITON ENGINEERS)**



2
S-9 **BULKHEAD A NEWER BULKHEAD SECTION CUT - DREDGE LIMITATION STUDY (ANALYSIS AND DESIGN PERFORMED BY TRITON ENGINEERS)**



3
S-9 **BULKHEAD A SECTION CUT - DREDGE LIMITATION STUDY (ANALYSIS AND DESIGN PERFORMED BY TRITON ENGINEERS)**

PIER 3 SO. DREDGE OVERVIEW & BULKHEAD LIMITATIONS			
DATE	BAE SYSTEMS INSPIRED WORK	PAGE #	SHEET #
5-12-2017		10 OF 27	S-9



Figure ES-7
Project Element 4 Conceptual Dredge Plan
BAE Waterfront Improvement Project

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Pier 3 North Lunchroom Wharf Replacement and Realignment (Project Element 6)

The Pier 3 wharf is a timber structure at the northern foot of Pier 3 that is aging and in need of replacement. The timber deck, which is supported by twenty-seven 12-inch-square precast concrete piles, was originally installed in the 1950s or 1960s but underwent significant modifications in 1985. The structure is currently used by employees during lunch breaks. In addition, an open area, which is currently surrounded by structures, would be covered. As part of the replacement, dredging may remove potentially contaminated sediment that was not accessible during the remedial dredging associated with CAO No. R9-2012-0024. An estimated 2,000 cy of potentially contaminated sediment would be dredged from this area (Anchor QEA 2019). Figure ES-5 depicts the conceptual dredge design to achieve compliance with CAO No. R9-2012-0024 and Figure ES-6 depicts the conceptual dredge design for Project Element 6.

The following actions are proposed as part of Project Element 6.

- Demolishing the existing overwater, 1,150-square-foot restroom structure; removing 2,915 square feet of wood decking; and removing 595 square feet of metal. Removal of these existing materials would generate approximately 77 cy of debris.
- Removing twenty-seven 12-inch concrete pilings and one H-pile.
- Installing forty-eight 24-inch octagonal pre-cast concrete pilings.
- Constructing a new overwater structure consisting of 8,800 square feet of cast-in-place decking (including a berm edge and stormwater collection system) to replace the existing overwater structure that would be demolished. The height of the new decking would extend to +13 feet MLLW.
- Dredging approximately 2,000 cy of material from beneath the Pier 3 break area and disposing of it at an approved upland disposal site, such as the Otay Landfill.

Quay Wall Modifications (Project Element 7)

A rock revetment slope is affecting vessel mooring and requires reinstallation. The following actions are proposed as part of Project Element 7.

- Dredging 300 cy of rock, which would be disposed of at a local recycling facility.
- Dredging 500 cy of sediment in the immediate vicinity of the submerged sheet pile structure, which would be disposed of at an approved upland disposal site, such as the Otay Landfill.
- Installing up to 50 linear feet of a submerged sheet pile structure.

Port Security Barrier Replacement (Project Element 8)

A Port Security Barrier (PSB) is maintained around the facility, as required by the U.S. Navy, for vessels within the BAE Systems facility. The PSB deters small craft from approaching Navy vessels while they are undergoing repair. The U.S. Navy has instituted newer, stricter requirements for the PSB system, resulting in the need to replace the existing PSB with a new design. The proposed new PSB would be partially within CCC jurisdiction.

The following actions are proposed as part of Project Element 8.

- Removing the existing 3,500-linear-foot floating boom and replacing it with a new 3,500-foot hard barrier. The new PSB includes the following components:
 - Ten 8- by 7.55-foot buoys secured by three anchors per buoy location.
 - 3,500 linear feet of hard barrier (PSB-T or PSB-V type) with navigational aid lights.
- Removing and disposing of the existing barrier, buoys, and anchors. Disposing of 3,500 linear feet, or approximately 120 cy, of debris, and recycling 13 tons of scrap steel and 19 cy of concrete.

Small Boat Mooring Float Replacement (Project Element 9)

The small-boat mooring float allows personnel and materials to be deployed for waterfront facility maintenance and inspection as well as other surveillance activities, including drills and exercises, conducted on site. In addition, as part of the enhanced site security requirements instituted by the U.S. Navy, BAE Systems is required to maintain on-water security, including security patrol vessels. The following actions are proposed as part of Project Element 9.

- Removing and replacing four piles that support the float.
- Replacing the existing 320-square-foot aged timber moorage float system (160 square feet for each float) with two 200-square-foot concrete floats. The new floats would include one 45-foot-long aluminum gangway, low-voltage electrical service, and potable water.
- Installing four 18-inch-round precast concrete piles.

Central Tool Room Demolition and Reconstruction (Project Element 10)

The existing central tool room is an aging structure at the foot of Pier 3, on the south side of the project site. The structure would be demolished, and a new tool room would be constructed on the proposed new wharf structure (as proposed as part of the Pier 3 North Lunchroom Wharf Replacement and Realignment [Project Element 6]).

The following actions are proposed as part of Project Element 10.

- Demolishing the existing 2,000-square-foot central tool room structure, which would generate approximately 16 cy of debris.
- Excavating approximately 150 cy of soil to a maximum depth of 2 feet for the new building foundation. The majority of the excavated soil material would be recompacted and used as the base for new asphalt.
- Constructing a three-story replacement structure that would provide an approximately 21,900-square-foot work space and a 7,300-square-foot building footprint. The height of the proposed new building would extend to +50 feet MLLW.
- Replacing the existing Pier 3 restroom facilities within the new central tool room or incorporating the existing Pier 3 restrooms into the new structure.
- Providing utilities and related infrastructure (e.g., potable water, sanitary sewer service, compressed air, natural gas, electrical, computer, communications) within the new tool room.

New Production Building (Project Element 11)

Project Element 11 would involve demolishing the existing production building and constructing a new production building near the existing Building 6/7 (see Figure ES-3). This proposed building would increase the efficiency of material assembly. The first floor of the new structure would be used for production and equipped with an overhead bridge crane. The second and third floors would contain engineering, production support, and administration functions.

The following actions are proposed as part of Project Element 11.

- Demolishing the existing 17,675-square-foot production building, which would generate approximately 698 cy of debris.
- Excavating approximately 2,600 cy of soil to a maximum depth of 4 feet for the new building foundation. The majority of the excavated material would be reused as backfill around foundations or for the concrete slab under the new production building. However, it is anticipated that approximately 400 cy of excavated soil material would not be suitable for reuse and therefore would be disposed of at an approved upland disposal site.
- Constructing a new three-story production building with a 48,379-square-foot work space and a 16,475-square-foot footprint, with a height of up to 50 feet.
- Installing an overhead bridge crane within the first floor of the new production building.

Administrative Office Building (Project Element 12)

The existing offices are trailers that BAE Systems rents/leases for customer use in support of ship repair contracts performed on the site. These facilities provide space for the government contracts, quality assurance, and program management personnel who have been assigned to these contracts. This project element includes construction of permanent administrative office spaces. The first floor would contain production spaces, a tool room, and a restroom. The second and third floors would contain office space and a break room. The new administrative office building would accommodate existing personnel, with the intention of reducing/eliminating the need for double and triple occupancies, which currently occur at several work stations in the production spaces throughout the project site.

The following actions are proposed as part of Project Element 12.

- Disassembling and removing four trailers, totaling approximately 8,016 square feet, which would generate approximately 150 cy of debris.
- Demolishing approximately 8,600 square feet of asphalt pavement and excavating for water and sewer service piping, footings/foundations, and general recompaction activities. It is anticipated that approximately 650 cy of soil material would be excavated to a maximum depth of 5 feet, and a maximum of 200 cy of material would be disposed of at an approved upland disposal site.
- Constructing a new three-story administrative office building with approximately 46,000 square feet of work space, a building footprint of 16,000 square feet, and a height of up to 55 feet.

Pier 1 Restroom Renovation and/or Demolition (Project Element 13)

The existing 506-square-foot restroom facility requires reconfiguration to increase capacity and improve functionality for employees, customers, and contractors. The restrooms would be

retrofitted with more water efficient fixtures, LED lighting, and other features to increase utility and efficiency.

As an alternative, upon completion of Project Element 12 (Administrative Office Building), which includes a restroom facility, the Pier 1 restroom may be demolished if it is determined that it is no longer needed. The demolition would generate approximately 51 cy of debris, and excavation would be limited to removal of the buried piping to the Pier 1 lift station. It is anticipated that approximately 40 cy of soil material would be excavated to a maximum depth of 5 feet, and 10 cy of material would be disposed of at an approved upland disposal site.

Main Electric Utility Service Update (Project Element 14)

Project Element 14 would reconfigure the electrical utility distribution system in Building 13. This would involve relocation of the San Diego Gas & Electric main in Building 13 to Building 65, alongside East Belt Street, adjacent to the shipyard's existing four-way switch. Relocation of this electrical main would increase overall site safety by allowing San Diego Gas & Electric technicians access to critical electrical components outside the secure property perimeter. In addition, this project element would also provide additional space in the Building 13 electrical room, allowing BAE Systems to reconfigure and/or modernize the electrical equipment as needed.

The following actions are proposed as part of Project Element 14.

- Replacing and upgrading electrical distribution equipment to ensure reliability and protect site infrastructure.
- Relocating the existing San Diego Gas & Electric main (i.e., meter) from Building 13 to Building 65. Existing electrical conduits within the project site would be reused to pull electrical cables to the relocated main in Building 65.

Sanitary Sewer and Potable Water Utility Services (Project Element 15)

The existing sanitary sewer and potable water service feeds have not been modified since the original installation in 1983. The hotel service requirements of current naval and commercial vessels necessitate improvements to sanitary sewer and potable water services. If implemented, this project element would include the replacement of existing sanitary and potable water feeds currently connected to existing utility services, which would require minor trenching. At this time, the exact locations and details of the specific sanitary and potable water feeds that would be replaced is unknown. Therefore, it is assumed that these improvements could occur throughout the project site.

Areas of Known Controversy/Issues Raised by Agencies and the Public

Section 15123 of the State CEQA Guidelines requires the summary of an EIR to include areas of controversy known to the Lead Agency, including issues raised by agencies and the public. The District posted a Notice of Preparation (NOP) with the County Clerk, in accordance with Section 15082 of the State CEQA Guidelines. The 30-day public review period for the NOP began on March 7, 2019 and ended on April 5, 2019. The NOP and notices of NOP availability were mailed to public agencies, organizations, and interested individuals to solicit their comments on the scope and

content of the environmental analysis. The District also held a public scoping meeting on March 25, 2019, at the District Administration Building at 3165 Pacific Highway, San Diego, CA 92101. The NOP is included as Appendix A of this EIR.

Nine comment letters were received during the NOP public review period. The primary issues raised were in regard to air quality; biological resources; cultural resources; greenhouse gas (GHG) emissions; hazards and hazardous materials; hydrology and water quality; noise and vibration; transportation, circulation, and parking; and utilities and service systems. A summary of all comments received is included in Table 1-2 of Chapter 1, *Introduction*, and all NOP comment letters are included in Appendix B of this EIR.

Issues to Be Resolved

Summary of Project Impacts

This Draft EIR examines the potential environmental effects of the proposed project, including information related to existing site conditions, analyses of the types and magnitude of individual and cumulative environmental impacts, and feasible mitigation measures that could reduce or avoid environmental impacts. In accordance with Appendix G of the State CEQA Guidelines, the potential environmental effects of the proposed project were analyzed for the following areas.

- Air Quality and Health Risk
- Biological Resources
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Sea-Level Rise
- Transportation, Circulation, and Parking

Table ES-1, presented at the end of this chapter, provides a summary of the environmental impacts that could result from the proposed project and feasible mitigation measures that would reduce or avoid the significant impacts. For each impact, Table ES-1 identifies the significance of the impact before mitigation, applicable mitigation measures, and the level of significance of the impact after the implementation of mitigation measures. Impacts on aesthetics, agriculture and forestry resources, cultural resources, geology and soils, mineral resources, population and housing, public services, recreation, tribal cultural resources, and utilities and service systems are considered to be “Effects Found Not to be Significant,” in accordance with Section 15128 of the State CEQA Guidelines. These issues are discussed further in Chapter 6, *Additional Consequences of Project Implementation*.

Summary of Project Alternatives

The following alternatives are analyzed in detail in Chapter 7, *Alternatives to the Proposed Project*. The primary purpose of the alternatives analysis is to consider and analyze a reasonable range of feasible alternatives in sufficient detail to foster informed decision-making and public participation in the environmental review process. The alternatives to the proposed project are summarized below.

Alternative 1 – No Project/No Build Alternative

The No Project/No Build Alternative is required by CEQA to discuss and analyze potential impacts that would occur if the proposed project was not implemented. Under the No Project/No Build Alternative, the site would operate as it currently does until the expiration of the current lease in 2034. The proposed project would not occur, and the existing site would retain the existing buildings and facilities without any upgrades to and/or reconstruction of these landside or waterside facilities. The existing configuration of the Pride of San Diego Drydock and associated dredge sump would continue to create operational inefficiencies, including the requirement for the drydock to be detached from its moorings and shifted to the west and south during docking and undocking of a vessel. The associated removal of potentially contaminated sediment during the proposed Pride of San Diego Drydock improvements would not occur under this alternative. Dredging of up to 117,080 cubic yards (cy) of dredged material, including potentially contaminated sediment that was previously inaccessible during 2015 remedial dredging activities, would not occur under this alternative, nor would replacement of deteriorated or damaged structures, such as the existing fender systems or Pier 3 North wharf, or security features required by the U.S. Navy, including the PSB or the small boat mooring float replacement. Similarly, no pile driving or other bottom disturbing activities would occur under this alternative. As a result, there would be no potential to disturb contaminated sediments during in-water construction activities; however, no removal of contaminated sediment would occur either. Therefore, this alternative would not achieve the same long-term benefits as the proposed project. While the replacement of the PSB would not occur under this alternative, it should be noted that the U.S. Navy could still require the replacement of the barrier to comply with its security requirements under a separate action, regardless of whether the No Project/No Build Alternative is adopted. Finally, the No Project/No Build Alternative would not involve landside improvements, including reconstruction of the tool room, production building, administrative office buildings, restrooms, or upgrades to the onsite utilities.

Alternative 2 – Reduced Project Alternative

Under Alternative 2, all project elements, except Project Element 1 (Pride of San Diego Drydock Dredging and Moorage Replacement), and Project Element 2 (Pride of San Diego Drydock Wharf Replacement and Realignment) would occur. Eliminating Project Elements 1 and 2 was assumed for this alternative because they represent significant construction components of the proposed project. Elimination of other project elements may also reduce associated construction emissions (whether or not included with the elimination of Project Elements 1 and 2). Therefore, eliminating Project Elements 1 and 2 is a representative “reduced project alternative” for purposes of the alternatives analysis. This alternative includes the following project elements:

- Project Element 3: Fender System Repair and Replacement
- Project Element 4: Pier 3 South Nearshore Dredging
- Project Element 5: Pier 3 Mooring Dolphin
- Project Element 6: Pier 3 North Lunchroom Wharf Replacement and Realignment
- Project Element 7: Quay Wall Modifications
- Project Element 8: Port Security Barrier Replacement
- Project Element 9: Small Boat Mooring Float Replacement
- Project Element 10: Central Tool Room Demolition and Reconstruction

- Project Element 11: New Production Building
- Project Element 12: Administrative Office Building
- Project Element 13: Pier 1 Restroom Renovation and/or Demolition
- Project Element 14: Main Electrical Utility Service Update
- Project Element 15: Sanitary Sewer and Potable Water Utility Services

The purpose of this alternative is to avoid or reduce the project-level and/or cumulative construction impacts associated with biological resources, greenhouse gas (GHG) emissions and energy, hazards and hazardous materials, and hydrology and water quality. Under this alternative, the Pride of San Diego Drydock would remain in its current location and would require the drydock to be moved from its mooring to the west and south in order to submerge and dock or undock a vessel each time a vessel comes in for drydock servicing and would continue to create constraints when wide-bodied vessels are moored at Pier 3 North. This would prevent wide-bodied vessels from being concurrently moored at Pier 3 North and would require the diesel engines of two separate vessels to run concurrently during docking and undocking activities, and would require tugboats to move the drydock. Dredging, and the associated transport of dredged material off site (upland and ocean disposal), would be substantially reduced under this alternative because the project would no longer include the dredging of 98,800 cy of material in order to accommodate the Pride of San Diego Drydock improvements. However, this alternative would involve the removal of the contaminated sediment around the Pride of San Diego ramp wharf and eastern mooring dolphin during implementation of Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment). Because Alternative 2 would still include implementation of other project elements that would allow servicing of newer and different classes of vessels (e.g., Project Elements 4 and 5), the potential ship mix at the site as well as the number of vessel crew and laborers onsite would be similar to the proposed project.

Environmentally Superior Alternative

Pursuant to CEQA, the EIR is required to identify the environmentally superior alternative. Although the No Project/No Build Alternative (Alternative 1) reduces the greatest number of impacts, CEQA requires that when the environmentally superior alternative is the No Project/No Build Alternative, another alternative should be identified. The Reduced Project Alternative (Alternative 2) reduces the second-largest number of impacts of the proposed project associated with biological resources, GHG emissions and energy, hazards and hazardous materials, and hydrology and water quality. Therefore, Alternative 2 is considered the environmentally superior alternative, and overall impacts on environmental resources would be reduced compared to the proposed project (see Table 7-3 in Chapter 7). However, the proposed project would also result in beneficial effects on the environment, including dredging to remove contaminated sediment from the project site, and efficiency improvements to the operations of the Pride of San Diego Drydock, which would reduce criteria pollutants emissions and GHG emissions over time. This alternative would not fully achieve most of the project objectives (see Table 7-4 in Chapter 7).

Table ES-1. Project Impacts and Mitigation Measures

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.1 Air Quality and Health Risk				
Project Impacts				
Conflict with an Applicable Air Quality Plan	Implementation of the proposed project would not conflict with an applicable air quality plan.	LS	No mitigation is required.	LS
Violate an Air Quality Standard	Implementation of the proposed project would not violate an air quality standard.	LS	No mitigation is required.	LS
Result in a Cumulatively Considerable Net Increase of a Criteria Pollutant	Implementation of the proposed project would not result in a cumulatively considerable net increase of criteria pollutants.	LS	No mitigation is required.	LS
Expose Sensitive Receptors to Substantial Pollutant Concentrations	Implementation of the proposed project would not expose receptors to substantial pollutant concentrations.	LS	No mitigation is required.	LS
Create Objectionable Odors	Implementation of the proposed project would not create objectionable odors affecting a substantial number of people.	LS	No mitigation is required.	LS
Cumulative Impacts				
The proposed project's incremental contribution to cumulative air quality and health risk impacts would not be cumulatively considerable.				

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.2 Biological Resources				
Project Impacts				
Substantial Adverse Effect on any Candidate, Sensitive, or Special-Status Species in Local or Regional Plans, Policies or Regulations	<p>Impact-BIO-1: Water Quality Impairment Impacts on California Least Tern and California Brown Pelican Foraging. Construction of the proposed project could lead to water quality impairment in San Diego Bay, which would inhibit foraging of both California least tern and California brown pelican by increasing turbidity and making it more difficult to identify prey species within the waterside portion of the project site. This impact would be potentially significant.</p>	PS	<p>MM-BIO-1: Implement Construction Measures to Eliminate Water Quality Impairment Impacts on California Least Tern and California Brown Pelican Foraging. Nesting birds are less stressed where foraging opportunities are available adjacent to nest locations. The following measures will enhance the birds’ available forage and increase the likelihood of successfully fledging chicks. The project proponent shall implement the following construction measures in accordance with regulations, including CWA Sections 401 and 404, Rivers and Harbors Act Section 10, the NPDES permit, and Stormwater Management and Discharge Control Ordinance:</p> <ul style="list-style-type: none"> • The contractor shall deploy a turbidity curtain around the pile driving areas to restrict the visible surface turbidity plume to the area of construction and pile driving. It shall consist of a hanging ballast-weighted curtain with a surface float line and shall extend from the surface into the water column without disturbing the bottom based on the lowest tide. The turbidity curtain shall meet the specifications for design, installation, use, performance, and/or modification outlined in the District’s <i>Best Management Practices and Environmental Standards for Overwater Structural Repair and Maintenance Activities for Existing Port Facilities Conducted by the San Diego Unified Port District</i> (District 2019). The goal of this measure is to minimize the area in which visibility of prey by terns and pelicans is obstructed. • The contractor shall follow all regulatory requirements to minimize reduction in water quality in San Diego Bay. Construction of the 	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>proposed project would include preparation and implementation of a Construction BMP Plan in accordance with the District’s JRMP, and compliance with appropriate regulatory permits, including the CWA Section 401 Water Quality Certification, CWA Section 404 permit, and Rivers and Harbors Act Section 10 permit. A full explanation of these requirements can be found in Section 4.5, <i>Hydrology and Water Quality</i>.</p>	
	<p>Impact-BIO-2: Potential Disturbance or Destruction of Nests Protected by the Migratory Bird Treaty Act and California Fish and Game Code. Demolition of structures and noise from construction activity could impede the use of bird nesting sites during the nesting season (February 15 through August 31). The destruction of an occupied nest or disturbance to nesting activity would be considered a significant impact in violation of the MBTA or California Fish and Game Code. Therefore, this impact would be potentially significant.</p>	PS	<p>MM-BIO-2: Avoid Nesting Season for Birds or Conduct Preconstruction Nesting Surveys. To ensure compliance with the MBTA and similar provisions under Sections 3503 and 3503.5 of the California Fish and Game Code, the project proponent shall conduct all construction activities between September 1 and February 14 (i.e., outside the nesting season) to the extent feasible. If construction activities are scheduled between February 15 and August 31, the project proponent shall implement the following during construction:</p> <ul style="list-style-type: none"> • The project proponent shall retain a qualified biologist (with knowledge of the species to be surveyed) who shall conduct a focused nesting bird survey within potential nesting habitat prior to the start of any construction activities. The survey shall be submitted to the District for review and approval of the survey and the buffer area, defined below, if any, prior to the commencement of construction on the project site. • The nesting bird survey area shall include the entire limits of disturbance plus a 500-foot buffer, to ensure indirect impacts would be avoided. The nesting surveys shall be conducted within 1 week prior to initiation of construction activities and shall consist of a thorough inspection of the project area 	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>by a qualified ornithologist(s). The survey shall occur between sunrise and 12:00 p.m., when birds are most active. If no active nests are detected during these surveys, only a brief letter report documenting the results shall be prepared and provided to the District. If there is a delay of more than 7 days between when the nesting bird survey is performed and construction activities begin, the qualified biologist shall resurvey to confirm that no new nests have been established.</p> <ul style="list-style-type: none"> If the survey confirms nesting within 500 feet of construction activities, a no-disturbance buffer shall be established around each nest site to avoid disturbance or destruction of the nest until after the nesting season or a qualified ornithologist determines that the nest is no longer active. The size and constraints of the no-disturbance buffer shall be determined by the qualified biologist at the time of discovery, but shall not be greater than 500 feet. 	
	<p>Impact-BIO-3: Potential Disruption of or Injury to Green Sea Turtles and Marine Mammals During Pile Driving Activities. Pile driving could generate underwater noise that has the potential to injure (Level A Harassment) or alter behavior (Level B Harassment) for marine mammals, as well as result in harassment take for green sea turtle. This impact would be potentially significant.</p>	PS	<p>MM-BIO-3: Implement a Marine Mammal and Green Sea Turtle Monitoring Program During Pile Driving Activities. Prior to construction activities involving in-water pile installation or vibratory pile removal, the project proponent shall prepare a marine mammal and green sea turtle monitoring program for implementation. This monitoring program shall be submitted to the District for approval 60 days prior to commencing construction involving in-water pile installation or vibratory pile removal and shall include the following requirements:</p> <ul style="list-style-type: none"> For a period of 15 minutes prior to the start of in-water construction, a qualified biologist, retained by the project proponent and approved by the District, shall monitor an impact radius around the active 	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>pile installation areas to ensure that special-status species are not present. The qualified biologist must meet the minimum requirements as defined by the NOAA’s <i>Guidance for Developing a Marine Mammal Monitoring Plan</i> (2017). The impact radius shall be established by determining the largest ZOI associated with in-water construction activities occurring that work day, as shown in Table 4.2-4.</p> <ul style="list-style-type: none"> • The construction contractor shall not start work if any observations of special-status species are made prior to starting pile installation. • In-water pile driving within the shipyard shall begin with soft starts in accordance with Section 4.5 of the District’s <i>Best Management Practices and Environmental Standards for Overwater Structural Repair and Maintenance Activities for Existing Port Facilities Conducted by the San Diego Unified Port District</i> (District 2019), gradually increasing the force of the pile driving. • Monitoring by a qualified biologist for marine mammals and green sea turtles within appropriate ZOIs shall be implemented during all pile installation activities by identifying when any special-status species are approaching or within the appropriate ZOI, and by coordinating with construction crews to halt pile driving until the species have left this area. 	
	<p>Impact-BIO-4: Loss of Open Water Habitat from Shipyard Operations. California least tern and other plunge diving fish predatory birds (e.g., pelicans) have the potential to utilize open water habitat within and adjacent to the project site for foraging opportunities. The increase</p>	PS	<p>MM-BIO-4: Implement Overwater Coverage Mitigation in Coordination with the Appropriate Resource Agencies and the District to Compensate for Loss of Open Water Habitat. The project proponent shall implement the following:</p> <ol style="list-style-type: none"> 1. As required by applicable law or regulation, the project proponent shall consult with the appropriate resource agencies regarding mitigation 	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>in overwater coverage resulting from the shipyard improvements is approximately 12,925 square feet, and would reduce the available open water habitat that is used for foraging by fish-eating avian species. This coverage also results in reduced primary productivity in the water column and the seafloor. This impact would be potentially significant.</p>		<p>of impacts associated with loss of beneficial uses from overwater coverage and loss of open water habitat function.</p> <p>2. Prior to the commencement of construction activities for Project Elements 2, 6, and/or 9, the project proponent shall implement one of the following mitigation options, or a combination thereof, that are listed below in order of preference of the District; however, selection of 2.A, 2.B, 2.C, and 2.D, or an equivalent combination thereof, as may be required through consultation with applicable resource agencies during permitting processes, would successfully reduce Impact-BIO-4 to a level below significance. The below options provide the minimum mitigation for overwater coverage impacts. One or more of the appropriate resource agencies may require additional or greater mitigation than specified in this mitigation measure. This in no way supersedes mitigation measures that may be required by state and federal agencies.</p> <p>A. Remove the equivalent amount of existing overwater coverage corresponding to the net increase in overwater coverage for Project Element 2 (6,960 square feet), Project Element 6 (5,885 square feet), and Project Element 9 (80 square feet) within San Diego Bay, which would replace the area affected by the proposed project at a 1:1 mitigation ratio, subject to the District’s review and approval. Should Project Elements 2, 6, and 9 all be implemented, a total of 12,925 square feet of existing overwater coverage shall be removed. If evidence is presented to the District that demonstrates that all or a portion of the required removal of overwater coverage is infeasible, the project proponent shall implement 2.B.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>B. Restore or create the equivalent amount of eelgrass habitat corresponding to the net increase in overwater coverage for Project Element 2 (6,960 square feet), Project Element 6 (5,885 square feet), and Project Element 9 (80 square feet) at a suitable location within San Diego Bay at a 1:1 ratio, which would offset the net increase in overwater coverage for these project elements, subject to the District’s review and approval. Should Project Elements 2, 6, and 9 all be implemented, a total of 12,925 square feet of eelgrass habitat shall be restored or created to offset the total net increase in overwater coverage. Prior to the commencement of construction activities for Project Elements 2, 6, and/or 9, the project proponent shall submit a mitigation plan for review and approval by the District. The mitigation plan at a minimum shall include a description of the transplant site, eelgrass mitigation requirements, eelgrass planting plan (e.g., transplant sites, donor sites, reference site), restoration methods (e.g., plant collection, transplant units, planting eelgrass units), timing of the restoration work, and a monitoring program (e.g., establishment of monitoring and mitigation success criteria). The project proponent shall secure all applicable permits and all applicable Real Estate agreements for the mitigation site prior to commencement of waterside construction. Additionally, the project proponent shall ensure that all fill materials proposed for discharge into San Diego Bay for the development of the mitigation site shall meet the requirements of the U.S. Army Corps of Engineers’ <i>Evaluation of</i></p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p><i>Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual (Inland Testing Manual)</i>. If evidence is presented to the District that demonstrates that restoration or creation of all or a portion of the required amount of eelgrass habitat specified above is infeasible, the project proponent shall implement 2.C.</p> <p>C. If a suitable in lieu fee program or mitigation bank within the Coastal Zone that is not yet available becomes available in the future, prior to construction of the proposed project, the project proponent shall purchase saltmarsh wetland or overwater coverage credits to offset the net increase in overwater coverage for Project Element 2 (6,960 square feet), Project Element 6 (5,885 square feet), and Project Element 9 (80 square feet), or 12,925 total square feet of overwater coverage should all of these project elements be implemented. If evidence is presented to the District that demonstrates that purchase of credits toward an in lieu fee program or mitigation bank is infeasible, the project proponent shall implement 2.D.</p> <p>D. Subject to the Board of Port Commissioners’ approval and findings, the project proponent may purchase credits from the District’s shading credit program established pursuant to Board Policy 735 at a fair market value equivalent to that of the proposed project’s final shading total (i.e., less any reductions achieved by design modifications to the satisfaction of the appropriate resource agencies).</p> <p>3. The project proponent shall secure all applicable permits for the mitigation of overwater coverage</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>prior to commencement of waterside construction. One or more of the appropriate resource agencies may require additional or greater mitigation than specified under options 2.A, 2.B, 2.C, and 2.D of this mitigation measure. This in no way supersedes mitigation measures that may be required by state and federal agencies.</p>	
<p>Substantial Adverse Effect on any Riparian Habitat or Other Sensitive Natural Community Identified in Local or Regional Plans, Policies, Regulations or by CDFW, NMFS, or USFWS</p>	<p>Impact-BIO-4, as described above.</p> <p>Impact-BIO-5: Potential Water Quality Impairment or Construction-Related Impacts on Eelgrass. Impacts on eelgrass within the project boundaries were previously mitigated offsite, and so project-related impacts on eelgrass within the project boundaries are less than significant. However, there are eelgrass beds immediately adjacent to the proposed Quay Wall Modifications (Project Element 7) at the south end of the property. Eelgrass beyond the BAE Systems leasehold was not part of the prior mitigation and could be impacted through increases in turbidity associated with bottom disturbance during dredging of riprap and sediment or during driving of sheet pile. Suspended sediments cause turbidity that reduces light penetration through the water. When suspended sediment resettle, they can settle directly on eelgrass. Both of these mechanisms reduce the plant’s ability to photosynthesize and therefore can lead to reductions in</p>	PS	<p>Implement MM-BIO-4, as described above.</p>	LS
		PS	<p>MM-BIO-5: Implement Eelgrass Protection Measures. Prior to commencing construction activities for Project Element 7 (Quay Wall Modifications), the project proponent shall implement the following measures to ensure protection of eelgrass beds located immediately south of the proposed Quay Wall Modifications.</p> <ul style="list-style-type: none"> • Perform a preconstruction eelgrass survey in accordance with the California Eelgrass Mitigation Policy. • Temporarily install a silt curtain to contain turbidity during dredging of rock, dredging of sediment, and installation of sheet pile during quay wall modifications. • Provide results of the preconstruction eelgrass survey during a contractor education meeting and instruct the contractor not to contact the bottom or stage vessels over eelgrass vegetated areas and instruct that the use of a silt curtain is necessary during quay wall modifications. • Perform a post-construction eelgrass survey in accordance with the California Eelgrass Mitigation Policy to validate protection of adjacent eelgrass beds following construction. In the event that unforeseen impacts to eelgrass occur, those impacts would be mitigated by increasing the amount of restoration or withdrawal of eelgrass mitigation 	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	bed density and cover. Moreover, if contractors anchor, spud, or stage vessels over the eelgrass beds adjacent to the project boundaries, impacts can occur through direct contact or shading.		bank credits as specified under MM-BIO-4 , subsection 2.B.	
Substantial Interference with the Movement of any Native Resident or Migratory Fish or Wildlife Species	Implementation of the proposed project would not substantially interfere with the movement of fish or other wildlife species. Moreover, it would not substantially impede the use of native wildlife nursery habitat.	LS	No mitigation is required.	LS
Conflict with any Applicable Local Policies or Ordinances	Implementation of the proposed project would not conflict any applicable local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance or with the provisions of an applicable adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.	LS	No mitigation is required.	LS
Cumulative Impacts				
The proposed project’s incremental contribution to cumulative biological resource impacts would not be cumulatively considerable.				
4.3 Greenhouse Gas Emissions and Energy				
Project Impacts				
Direct or Indirect Generation of Greenhouse Gas	Implementation of the proposed project would not result in the direct or indirect generation of greenhouse gas emissions that may have a	LS	No mitigation is required.	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Emissions That May Have a Significant Impact on the Environment	significant impact on the environment.			
Consistency with Plans, Policies, and Regulatory Programs	<p>Impact-GHG-1: Inconsistency with District Climate Action Plan and Partial Consistency with Applicable GHG Reduction Plans, Policies, and Regulatory Programs. Project construction and operations would partially comply with plans, policies, and regulatory programs outlined in applicable District CAP measures and applicable state reduction goals and plans, policies, or regulations (AB 32 Scoping Plan Measures for 2020, State Regulatory Programs Post-2020, Policies from the 2017 Scoping Plan and Other Applicable Statewide Measures) for the purpose of reducing the emissions of GHGs. Therefore, prior to mitigation, the impact related to consistency with relevant plans, policies, and programs would be potentially significant.</p>	PS	<p>MM-GHG-1: Implement Diesel Emissions Reduction Measures During Project Construction. The project proponent shall implement the following measures during project construction and, where specified below, submit reports to the District for its review and approval, evidencing compliance.</p> <ul style="list-style-type: none"> A. The project proponent shall limit all construction equipment and haul truck idling times by shutting down equipment when not in use and reducing the maximum idling time to less than 3 minutes. The project proponent shall install clear signage regarding the limitation on idling time at the delivery driveway and loading areas and submit quarterly reports of violators to the District. BAE System supervisors shall enforce this measure, and repeat violators shall be subject to penalties pursuant to the California Airborne Toxics Control Measure, 13 CCR 2485. The project proponent shall submit evidence of the use of diesel reduction measures to the District’s Development Services Department through annual reporting, with the first report due 1 year from the date of project completion. B. The project proponent shall verify that all construction equipment is maintained and properly tuned in accordance with manufacturers’ specifications. Prior to the commencement of construction activities, with respect to using diesel-powered vehicles or equipment, the project proponent shall verify that all vehicles and 	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>equipment has been checked by a mechanic experienced with such equipment and determined to be running in proper condition prior to admittance into the delivery driveway and loading areas. The project proponent shall submit a report by the mechanic experienced with such equipment of the condition of the construction and operations vehicles and equipment to the District’s Development Services Department prior to commencement of their use.</p>	
			<p>MM-GHG-2: Comply with San Diego Unified Port District Climate Action Plan Measures. As a condition of all discretionary actions and/or Coastal Development Permits, the project proponent shall be required to implement the following measures to be consistent with the Climate Action Plan:</p> <ul style="list-style-type: none"> A. Reduce indoor water consumption to 20 percent lower than baseline buildings (defined by Leadership in Energy and Environmental Design [LEED] as indoor water use after meeting Energy Policy Act of 1992 fixture performance requirements) through use of low-flow fixtures in all administrative and common-area bathrooms. B. Comply with AB 939 and the City of San Diego Recycling Ordinance. This shall be mandatory and include recycling at least 50 percent of solid waste; compliance with the City of San Diego Construction and Demolition Debris Deposit Ordinance shall be mandatory and include recycling at least 65 percent of all construction and demolition debris. This measure shall be applied during construction and operation of the proposed project. C. Use only fluorescent lights, light-emitting diodes (LEDs), compact fluorescent lights (CFLs), or the most energy-efficient lighting that meets required lighting standards and is commercially available. 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>This measure also requires replacement of existing lighting on the project site if not already highly energy efficient.</p> <p>D. Implement a Transportation Demand Management (TDM) Plan during construction that includes elements such as the promotion of ride sharing and carpooling, restricts PM peak-hour trips, and provides subsidized transit passes for construction workers to reduce worker trips and parking demand.</p> <p>E. Use recycled, regional, and rapidly renewable materials where appropriate during project construction.</p> <p>F. Install occupancy sensors for all vending machines in new buildings at the project site.</p> <p>G. Implement onsite renewable energy at new buildings, unless the system cannot be built in light of structural and operational constraints.</p> <p>H. Incorporate energy efficiency design features that exceed the most recent Title 24 California Building Energy Efficiency Standards. Measures that may be implemented include:</p> <ul style="list-style-type: none"> o High-performance glazing with a low solar heat gain coefficient value that reduces the amount of solar heat allowed into the building, without compromising natural illumination; o Increased insulation; o Cool roofs with an R value of 30 or better; o Sun shading devices, as appropriate; o High-efficiency heating, ventilating, and air-conditioning systems and controls; o Programmable thermostats; o Variable-frequency drives; and 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<ul style="list-style-type: none"> ○ High-efficiency indoor and outdoor lighting and control systems. Ensure all outdoor lighting is equipped with LED fixtures. <p>MM-GHG-3: Use Modern Vessels and Dredgers. Prior to commencing dredging during waterside construction, the project proponent shall ensure that tugboats, survey vessels, and dredgers for use during the duration of all dredging activities meet Tier 3 or better (cleaner) emission standards. If Tier 3 or better (cleaner) tugboats, survey vessels, and dredgers are not available within 200 miles of the BAE Systems leasehold for the duration of all dredging activities, the project proponent shall prioritize use of equipment that is maintained and properly tuned in accordance with manufacturers’ specifications. The project proponent shall document and submit evidence to the District’s Development Services Department prior to commencement of waterside construction activities that tugboats, survey vessels, and dredgers meeting Tier 3 or better standards are not available for use during the duration of all dredging activities. Regardless of the equipment used, the project proponent shall verify that all equipment has been checked by a mechanic experienced with such equipment and determined to be running in proper condition prior to admittance into the construction area. The project proponent shall submit a report prepared by the mechanic experienced with such equipment of the condition of the construction and operations vehicles and equipment to the District’s Development Services Department prior to commencement of their use.</p>	
Result in a Wasteful, Inefficient, or Unnecessary Consumption of	Implementation of the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy that could result in potentially significant	LS	No mitigation is required. However, mitigation measures MM-GHG-1 through MM-GHG-3 would further reduce the project’s energy demand and reduce fossil fuel use.	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Energy Resources, or Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency	environmental effects, nor would it conflict with state and local renewable energy and energy efficiency plans.			
Cumulative Impacts				
Consistency with Plans, Policies, and Regulatory Programs	<p>Impact-C-GHG-1: Inconsistency with District Climate Action Plan and Partial Consistency with Applicable GHG Reduction Plans, Policies, and Regulatory Programs.</p> <p>The proposed project would partially comply with plans, policies, and regulatory programs outlined in the District’s CAP, the Scoping Plan, and other plans, policies, and regulatory programs adopted by CARB for the purpose of reducing the emissions of GHGs.</p>	PS	Implement MM-GHG-1, MM-GHG-2, and MM-GHG-3 , as described above.	LS
4.4 Hazards and Hazardous Materials				
Project Impacts				
Release of Hazardous Materials into the Environment	<p>Impact-HAZ-1: Landside Potential to Encounter Hazardous Materials in Soil and/or Groundwater. Based on documentation compiled from database searches, hydrocarbon-impacted soils are present south of Pier 3 along the bulkhead, related to historic unauthorized releases. Construction and excavation in this area may encounter contaminated</p>	PS	<p>MM-HAZ-1: Implement a (Landside) Soil and Groundwater Management Program. The project proponent shall retain a licensed Professional Geologist, Professional Engineering Geologist, or Professional Engineer (licensed professional) with experience in contaminated site redevelopment and restoration to oversee the implementation of a <i>Soil and Groundwater Management Program</i>, which must be approved by the District. The Soil and Groundwater Management Program will be implemented prior to and throughout</p>	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>soils. The disturbance of contaminated soils could potentially result in a release of hazardous materials and exacerbate the existing hazardous conditions at the project site. Furthermore, historical information reviewed indicates the project site has a history of handling, disposal, and releases of hazardous materials that have affected soil and/or groundwater on site. In addition, adjacent offsite properties have involved handling, disposal, and releases of hazardous materials that could have migrated to the project site, potentially resulting in contaminated soil and/or groundwater. Therefore, undocumented contaminated soils and/or groundwater may be encountered during landside construction activities, which could potentially result in a release of hazardous materials and exacerbate the existing hazardous conditions at the project site. The potential to encounter prior documented or undocumented contaminants would be a significant impact.</p>		<p>the duration of landside construction activities for the proposed project. Each of the elements included in the Soil and Groundwater Management Program shall include the following elements, each of which have specific timing mechanisms as identified in the description of each element below:</p> <ul style="list-style-type: none"> A. <i>Site Contamination Characterization Report</i> B. <i>Soil and Groundwater Testing and Profiling Plan</i> C. <i>Soil and Groundwater Disposal Plan</i> D. <i>Site Worker Health and Safety Plan</i> E. <i>Site-Specific Community Health and Safety Program</i> F. <i>Monitoring and Reporting Program</i> G. <i>Project Closeout Report</i> <p>A. A <i>Site Contamination Characterization Report (Contamination Characterization Report)</i> shall be prepared which delineates the vertical and lateral extent and concentration of landside residual contamination in project site areas proposed for construction and/or ground disturbance, including, but not limited to, areas with unauthorized releases identified along the landward side of the southern bulkhead between Pier 3 and Pier 4. The Contamination Characterization Report shall be prepared prior to commencing landside construction consistent with the ASTM D5730-04 guidance, the DTSC <i>Preliminary Endangerment Assessment Guidance Manual</i>, and/or other similar guidance for industry standards. The Contamination Characterization Report shall include a compilation of data based on (1) historical records review and (2) investigative and historical assessment reports performed on the project site. If the licensed professional concludes, after the initial characterization based on past records and reports,</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>that either (1) there are data gaps, or (2) historical records do not accurately characterize potential site contamination, new soil and groundwater sampling to characterize the existing vertical and lateral extent and concentration of landside residual contamination must be completed. Any sampling and analysis conducted must be consistent with applicable regulations utilizing the methodologies outlined in ASTM Standard E1903, County of San Diego DEH <i>Site Assessment and Mitigation (SAM) Manual</i>, or some other well-accepted methodology for sampling and analysis leading to site characterization, as approved by the District. The project proponent also shall enroll in the Voluntary Assistance Program (VAP) with the County of San Diego Department of Environmental Health and shall submit the results of the Contamination Characterization Report to DEH staff for regulatory concurrence of results.</p> <p>B. A <i>Soil and Groundwater Testing and Profiling Plan (Testing and Profiling Plan)</i> shall be prepared for those soils and materials that are proposed to be disposed of during construction. The Testing and Profiling Plan shall be prepared after the Contamination Characterization Report and shall utilize the information in the Contamination Characterization Report and include protocols for independent testing of soils and materials identified for disposal for all potential contaminants of concern, including CA Title 22 metals, PAHs, volatile organic compounds, pesticides, PCBs, semi-volatile organic compounds, hydrocarbons, or any other potential contaminants. The Testing and Profiling Plan shall document compliance with CA Title 22 for proper identification and segregation of hazardous</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>and solid waste as needed for acceptance at a CA Title 22-compliant offsite disposal facility.</p> <p>C. <i>A Soil and Groundwater Disposal Plan (Disposal Plan)</i> shall be prepared following the Testing and Profiling Plan, which shall describe the process for excavating, stockpiling, dewatering, treating, and loading and hauling of soil and groundwater from the site. The Disposal Plan shall be prepared in accordance with the Testing and Profiling Plan and shall adhere to applicable regulatory requirements and standards, including CA Title 22 Division 4.5, and DOT Title 40 CFR Part 263, CAC Title 27, and ensure compliance with applicable regulations for the disturbance, handling of contaminated materials, prevention of cross contamination, spills, or releases, such as segregation into separate piles for waste profile analysis based on organic vapor, and visual and odor monitoring. All excavation activities shall be actively monitored for the potential presence of contaminated soils and for compliance with the Disposal Plan.</p> <p>D. <i>A Site Worker Health and Safety Plan (Safety Plan)</i> shall be prepared prior to initiation of construction to ensure compliance with 29 CFR Part 120, Hazardous Waste Operations and Emergency Response regulations for site workers at uncontrolled hazardous waste sites. The Safety Plan shall be prepared after, and shall be based on, the Contamination Characterization Report and the planned site construction activity to ensure that site workers potentially exposed to site contamination in soil and groundwater are trained, equipped, and monitored during site activity. The training, equipment, and monitoring activities described in the Safety Plan shall ensure that workers are not exposed to contaminants above personnel exposure</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>limits established by Table Z, 29 CFR Part 1910.1000. The Safety Plan shall be signed by and implemented under the oversight of a California State Certified Industrial Hygienist.</p> <p>E. A <i>Site-Specific Community Health and Safety Program (Safety Program)</i> shall be prepared prior to the District Development Services Department’s approval of the project’s landside working drawings, which addresses the chemical constituents of concern for the project site in order to minimize the exposure of chemical constituents during construction to the surrounding community. The Safety Program shall be prepared in accordance with the County of San Diego DEH’s <i>Site Assessment and Mitigation Manual</i> (2009) and EPA’s <i>SW-846 Manual</i> (1986). The Safety Program shall include detailed plans on environmental and personal air monitoring, dust control, and other appropriate construction means and methods to minimize the public’s exposure to the chemical constituents of concern. The Safety Program shall be reviewed, approved, and monitored for compliance by the District. Following District Environmental Protection Department approval, the project proponent shall implement the Safety Program throughout ground-disturbing construction activities and any other construction activity that may encounter or use chemicals of concern. The contractor shall utilize a Certified Industrial Hygienist with significant experience with chemicals of concern on the project site to actively monitor compliance with the Safety Program and ensure its proper implementation during project construction activities that use substances that may include chemicals of concern.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>F. <i>Monitoring and Reporting Program.</i> During and upon completion of landside construction, the project proponent shall prepare a Monitoring and Reporting Program and submit it to the District’s Development Services Department and the RWQCB for review and approval. The Monitoring and Reporting Program shall document implementation of the Soil and Groundwater Management Program. The Monitoring and Reporting Program shall include the project proponent’s submittal of monthly reports (during project elements that include active landside disturbance activities, starting with the first ground disturbance activities and ending at the completion of ground disturbance activities of a project element) to the District’s Development Services Department, signed and certified by the licensed Professional Geologist, Professional Engineering Geologist, or Professional Engineer, as applicable, documenting compliance with the provisions of the Soil and Groundwater Management Program and the overall Soil and Groundwater Management Program.</p> <p>G. <i>Project Closeout Report.</i> Within 30 days of completion of landside construction activities the project proponent shall prepare a Project Closeout Report and submit it to the District’s Development Services Department for review and approval. The Project Closeout Report shall summarize all disturbance, demolition, and construction activity at the site and document implementation of the Soil and Groundwater Management Program. The Project Closeout Report would also include the reports and closure documentation associated with the VAP case opened for the site, including the correspondence with the DEH and the closure letter.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>Impact-HAZ-2: Waterside Potential to Encounter Hazardous Materials in Sediment. Historical information, reports, and site assessments compiled from database searches indicate that it is reasonably foreseeable that contaminated sediments may be encountered during in-water construction activities including dredging and pile installation/removal associated with Project Element 1 (Pride of San Diego Drydock Dredging/Mooring), Project Element 2 (Pride of San Diego Wharf Replacement/Realignment), Project Element 3 (Fender System Repair and Replacement), Project Element 4 (Pier 3 South Nearshore Dredging), Project Element 5 (Pier 3 Mooring Dolphin), Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment), Project Element 7 (Quay Wall Modifications), Project Element 8 (Port Security Barrier Replacement), and Project Element 9 (Small Boat Mooring Float Replacement). As such, in-water construction activities that disturb the sediment would potentially result in a release of hazardous materials and create a potentially significant hazard to the environment, regardless of whether it occurs within the CAO area or not, by bringing and releasing subsurface sediment contaminants to the surface of the Bay floor or</p>	PS	<p>MM-HAZ-2: Implement a Dredging Management Program. The project proponent shall implement a Dredging Management Program (DMP) that complies with applicable permit requirements, including the Section 404 permit and the Section 401 water quality certification. The DMP shall be implemented prior to, during, and upon completion of dredging activities for the proposed project. The DMP shall contain the following elements, each of which have specific timing mechanisms as identified in the description of each element below:</p> <p>A. <i>Dredging Operations Plan.</i> Prior to commencement of dredging activities, the project proponent shall develop a Dredging Operations Plan that identifies the standard operating procedures (SOPs) that will be implemented during dredging activities. The Dredging Operations Plan shall be submitted to the District’s Development Services Department for review and approval prior to commencing dredging activities. The Dredging Operations Plan shall include step-by-step procedures to complete dredging operations safely, in an efficient manner, and to avoid releases of hazardous materials into the environment. The SOPs shall include guidance with respect to, among other things, the following:</p> <ul style="list-style-type: none"> • Proper operation of the dredge bucket; • Proper positioning of the barge vessel to minimize propeller wash; and • Placement and maintenance of double silt curtains. <p>In addition, the Dredging Operations Plan shall identify sediment control BMPs to be implemented during dredging activities. The project proponent, or their contractor, shall at a minimum, implement</p>	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	exacerbating the existing hazardous conditions by spreading contaminated sediment; impacts would be significant.		<p>the following BMPs for the safe handling of dredged material:</p> <ul style="list-style-type: none"> • Sediment Unloading. During dredging activities, the contractor shall reduce water column impacts by controlling the swing radius of the unloading equipment, using a spillage plate, and using a power wash unit to reduce impacts related to spillage from the excavator arm onto transport vehicles. • Filling Transport Vehicles. During dredging activities, the contractor shall ensure that truck volumes are limited to 90 percent based on visual observations, and that trucks shall be covered and secured per Caltrans regulations during transport to the disposal facility. • Sediment Loading. During dredging activities, the contractor shall ensure that trucks are loaded within a constructed loading zone to confine sediment spilled during the loading process. <p>B. <i>Contingency Plan.</i> Prior to commencement of dredging activities, the project proponent shall develop a Contingency Plan, which shall be implemented in the case of equipment or operational failures, such as, but not limited to, silt curtain damage, spillage of sediment resulting from overloading the material barge, contact with sediment on or around the materials barge during loading, equipment failure of bucket or shear pin during loading procedures, or material barge or tugboat collision with another vessel. The Contingency Plan shall be submitted to the District’s Development Services Department for review and approval prior to commencing dredging activities. The Contingency Plan shall contain step-by-step procedures for response to equipment or</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>operational failures and shall reduce the potential for the release of sediments to the water column.</p> <p>C. <i>Health and Safety Plan for Dredging Activities.</i> Prior to the commencement of dredging activities, the project proponent shall prepare a Health and Safety Plan for Dredging Activities (Health and Safety Plan) and submit the plan to the District’s Environmental Protection Department for review and approval. Following District approval, the project proponent shall implement the Health and Safety Plan for the duration of the dredging activity. The Health and Safety Plan shall be prepared in general accordance with Federal Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) and Title 8 California Code of Regulations (CCR) Section 5192. The Health and Safety Plan shall provide procedures for workers for safe operation, personal protection, and emergency response during dredging operations.</p> <p>D. <i>Communication Plan.</i> Prior to the initiation of dredging activities, the project proponent or their contractor shall prepare a Communication Plan and operation guidelines for communications between the U.S. Coast Guard and Harbor Police and all vessel operators to ensure the safe movement of project vessels from the dredge site to the unloading area. The Communication Plan shall be submitted to the District’s Development Services Department and Harbor Police for review and approval prior to commencing dredging activities. After the District’s approval, the contractor shall implement the Communication Plan throughout the duration of dredging activities.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>E. <i>Sediment Sampling and Remediation.</i> Following the completion of dredging, the project proponent must adhere to the following:</p> <ol style="list-style-type: none"> 1. If no in-water construction work that could potentially disturb sediment is proposed for a dredging area (a specific area that was subject to dredging within the project site), or if proposed in-water construction work proposed for the dredging area will not commence within 90 days after the completion of dredging, sediment sampling and testing shall be conducted to determine whether contaminated sediments may have been exposed by dredging activities. Any sampling shall be conducted in accordance with Investigative Order No. R9-2017-0083 (IO), utilizing the methods required by the IO. The sediment samples shall be tested for the presence of the COCs identified in the CAO R9-2012-0024. A report explaining the sampling methodology used and containing the results of any sampling shall be provided to the RWQCB for review and approval, and to the District for concurrence. If no subsequent in-water construction work is proposed within the dredging area, the project proponent must comply with mitigation measure MM-HAZ-5. The project proponent must also comply with mitigation measure MM-HAZ-3 prior to any in-water construction. 2. If in-water construction work that may potentially disturb sediment is proposed for a dredging area and will commence within 90 	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>days after the completion of dredging, the project proponent must implement a Sediment Management Program, including sampling, as required by mitigation measure MM-HAZ-3, and must comply with all other mitigation measures.</p> <p>MM-HAZ-3: Implement a (Waterside) Sediment Management Program. The project proponent shall retain a licensed Professional Engineer with substantial experience (i.e., more than 5 years) in marine sediment contamination, sediment sampling, and contamination remediation to oversee the implementation of a Sediment Management Program. The Sediment Management Program will be implemented prior to and throughout the duration of waterside construction activities for the proposed project. The Sediment Management Program shall include the following elements, each of which have specific timing mechanisms as identified in the description of each element below:</p> <ul style="list-style-type: none"> A. <i>Sampling Analysis Plan</i> B. <i>Marine Sediment Contamination Characterization Report</i> C. <i>Contaminated Sediment Management Plan</i> D. <i>In-Water Activity Specific Procedures</i> E. <i>Post-Construction Sampling and Analysis</i> <p>A. <i>Sampling and Analysis Plan (SAP).</i> Prior to in-water demolition or construction that may potentially disturb sediment, a licensed Professional Engineer shall (1) delineate the area of potential disturbance (Disturbance Area); (2) develop an SAP, which must be consistent with the sampling requirements of IO R9-2017-0083; and (3) perform sediment sampling.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>The SAP shall set forth the methodology to be used, the locations where sampling would occur, and analysis of the COCs so that it is consistent with the sampling requirements of IO R9-2017-0083, and proper decontamination and disposal procedures. The sediment samples shall be tested for the presence of the COCs identified in the CAO R9-2012-0024. The sampling area and sampling methodology shall identify sample locations determined to be appropriate, at the discretion of the District and RWQCB (or other applicable agencies), to adequately characterize any Disturbance Area associated with project elements. All sediment sampling and analysis must occur after dredging activity and prior to other sediment-disturbing construction activity and shall be performed in accordance with the requirements of the SAP. The SAP must be submitted to the RWQCB for review and approval, and to the District for concurrence.</p> <p>The results of all sediment sampling shall be documented in a report and submitted to the RWQCB for their review and approval prior to any marine-side sediment-disturbing activities.</p> <p>B. <i>Marine Sediment Contamination Characterization Report (Sediment Characterization Report)</i>. Prior to in-water construction (excluding dredging activities), the licensed Professional Engineer shall prepare a Sediment Characterization Report delineating the vertical and lateral extent and concentration of the project site’s potential COCs in areas where pile driving or removal and other sediment-disturbing activities are proposed as part of this project. The Sediment Characterization Report shall be developed taking into account the site assessment reports, final cleanup reports, and</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>post-remediation monitoring reports associated with the San Diego Shipyard Sediment Cleanup – North Shipyard, and sediment sampling performed per the SAP. The project proponent shall submit the Sediment Characterization Report to the RWQCB (and any other appropriate regulatory agencies) for approval as representative of sediment conditions in Disturbance Areas.</p> <p>C. <i>Contaminated Sediment Management Plan (Sediment Management Plan)</i>. If contaminated sediment is identified in the Sediment Characterization Report in any of the proposed project Disturbance Area, the project proponent shall prepare a Sediment Management Plan for the District’s and RWQCB’s approval. Once approved, the Sediment Management Plan shall be implemented by the project proponent and be subject to oversight by the appropriate overseeing regulatory agencies, including the District. The Sediment Management Plan shall describe in detail the methods to be employed to prevent waterside construction activity from adversely affecting or exposing the gravelly-sand or sand-covered contaminated sediment, or disturbing contaminated sediment, as identified in the Sediment Characterization Report, and the monitoring that will occur postconstruction.</p> <p>D. <i>In-Water Activity-Specific Procedures (Pile Installation or Removal)</i>. Pile installation or removal shall be conducted in a manner that implements applicable permit requirements, including the CWA Section 404 permit and CWA Section 401 Water Quality Certification. The following measures are required based on the type of pile installation, or removal, that occurs.</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>1. Impact Hammer Pile Driving.</p> <p>OR</p> <p>2. Internal Jetting.</p> <p>A. Internal jetting shall not be allowed unless the project proponent can demonstrate, to the District’s satisfaction, there are no feasible alternatives to the use of internal jetting.</p> <p>B. Turbidity curtains shall be installed in compliance with the District’s Best Management Practices and Environmental Standards for Overwater Structural Repair and Maintenance Activities for Existing Port Facilities Conducted by the San Diego Unified Port District (District 2019).</p> <p>OR</p> <p>3. Spudding. Spudding shall not be allowed unless the project proponent can demonstrate, to the District’s satisfaction, there are no feasible alternatives to the use of spudding. If no alternatives to spudding are feasible, when spuds are lifted during in-water construction, they shall be lifted slowly—at least a quarter of the speed that spuds are lifted during normal operation. Before the spud reaches the subsurface of the Bay floor during removal, the operator shall conduct spud extraction in 2-minute intervals (repeated 2-minute extraction followed by 2-minute pause) to reduce the disturbance of Bay sediment.</p> <p>E. <i>Post-Construction Sampling and Analysis.</i> At the conclusion of construction activities within a Disturbance Area, the project proponent shall conduct post-construction sediment sampling that</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>adequately characterizes potential contamination resulting from construction activities (and dredging activities if the in-water construction occurred within a dredging area) to determine if in-water construction or disturbance activities resulted in COCs in excess of the levels above the levels set forth in CAO R9-2012-0024. All sampling shall be conducted in accordance with IO No. R9-2017-0083, utilizing the methods required by the IO. The project proponent shall prepare, for submittal to and approval by the District and RWQCB, a Post-Construction Sampling Plan that shall outline the methodology to be used, the locations where sampling would occur, and the COCs to be analyzed consistent with CAO R9-2012-0024.</p> <p>MM-HAZ-4: Comply with Federal and State Permits. Prior to in-water construction, the project proponent shall obtain all federal and state permits required for in-water construction activities, provide evidence of such permits to the District, and demonstrate to the District compliance with all permit conditions during in-water construction.</p> <p>MM-HAZ-5: Implement Post-Dredging and/or Post-Waterside Construction Remediation. If, after the completion of any dredging activity for a dredging area or in-water construction work, consistent with the requirements of mitigation measures MM-HAZ-2 and MM-HAZ-3, site sampling shows that concentrations of COCs exceed those set forth in CAO R9-2012-0024 (or other levels as prescribed by the RWQCB), the project proponent shall propose remediation consistent with CAO R9-2012-0024 (or other levels as prescribed by the RWQCB), subject to approval by the RWQCB, and any other agencies with jurisdiction over the site contamination, and concurrence by the District. The project proponent’s remediation approaches may</p>	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			<p>include, but are not limited to, additional dredging, placement of sand cover, or Enhanced Monitored Natural Recovery sand containing active carbon. If remediation is required, the remediation shall be conducted with oversight from the appropriate local, state, or federal regulatory agency. In addition, documentation evidencing the remediation work and completion thereof shall be submitted to the District. The project proponent shall monitor the remediation for its effectiveness, consistent with the standards set forth by CAO R9-2012-0024 (or other levels as prescribed by the RWQCB), for a period consistent with guidance from the regulatory agency with jurisdiction. A monitoring report shall be submitted to the District and the RWQCB for their review on a monthly basis, or at a frequency determined appropriate by the relevant agency overseeing the remediation activities.</p> <p>If, after the completion of any dredging activity for a dredging area or in-water construction work within a Disturbance Area, consistent with the requirements of mitigation measures MM-HAZ-2 and MM-HAZ-3, concentrations of COCs in the area of potential contamination do not exceed those levels set forth in CAO R9-2012-0024 (or other levels as prescribed by the RWQCB), no further mitigation is required.</p>	
<p>Be Located on a Site that Is Included on a List of Hazardous Materials Sites Compiled Pursuant to Government</p>	<p>Impact-HAZ-1, as described above.</p>	<p>PS</p>	<p>Implement MM-HAZ-1, as described above.</p>	<p>LS</p>
	<p>Impact-HAZ-2, as described above.</p>	<p>PS</p>	<p>Implement MM-HAZ-2 through MM-HAZ-5, as described above.</p>	<p>LS</p>

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Code Section 65962.5				
Cumulative Impacts				
Release of Hazardous Materials into the Environment	Impact-C-HAZ-1: Cumulatively Considerable Contribution to Waterside Exposure of Hazardous Materials in Sediment. Due to the mobile nature of sediment in the Bay, and the extent of known and suspected historical contamination in the Bay, there is a potential that extensive in-water work proposed as part of the project would result in a cumulatively considerable contribution to the cumulative hazardous materials impacts when combined with past, present and reasonably foreseeable future projects.	PS	Implement MM-HAZ-2 through MM-HAZ-4 , as described above.	LS
4.5 Hydrology and Water Quality				
Project Impacts				
Violation of Water Quality Standards or Waste Discharge Requirements	Impact-HWQ-1: Degradation of Water Quality from Waterside Sediment Contamination. Historical information, reports, and site assessments compiled from database searches indicate that it is reasonably foreseeable that contaminated sediments may be encountered during in-water construction activities, including such activities as dredging and pile installation/removal associated with Project Element 1 (Pride of San Diego Drydock Dredging/Mooring), Project	PS	Implement MM-HAZ-2 through MM-HAZ-5 , as described above.	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	<p>Element 2 (Pride of San Diego Wharf Replacement/Realignment), Project Element 3 (Fender System Repair and Replacement), Project Element 4 (Pier 3 South Nearshore Dredging), Project Element 5 (Pier 3 Mooring Dolphin), Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment), Project Element 7 (Quay Wall Modifications), Project Element 8 (Port Security Barrier Replacement), and Project Element 9 (Small Boat Mooring Float Replacement). It should be noted that Project Element 3 could include the replacement of fenders without the need to also replace piles, in which case no sediment disturbance would occur. As such, in-water construction activities that disturb the sediment would potentially result in a release of contaminated sediment into the water column and substantially degrade water quality. Impacts would be significant.</p>			
	<p>Impact-HWQ-2: Removal of Creosote Piles Could Result in Resuspension of Sediments Contaminated with PAHs. Existing piles could contain creosote and removal of the piles could result in resuspension of sediments contaminated with PAHs. The chemicals from the existing piles could have leached into the adjacent sediments or leach into the water</p>	PS	<p>MM-HWQ-1: Remove and Dispose of Creosote Piles Properly. During pile extraction, if piles cannot be completely removed, they shall be cut at least 1 foot below the mud line. If treated piles are fully extracted or if they are cut below the mudline, the project proponent or contractor shall cap the holes or piles with appropriate material such as clean substrate (sand and/or gravel) or pile caps. Removed creosote-treated piles shall be disposed of in a manner that precludes their further use. The piles must be cut into manageable lengths (4-foot lengths are preferable) for transport and</p>	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
	column during removal. Impacts would be significant.		disposal in an approved upland location. Extracted piles and debris should be placed in a lined stockpile area or directly loaded into transport container or vehicle. Appropriate controls should be used to prevent runoff from leaving the stockpile and entering surface water or ground water.	
Alter the Existing Drainage Pattern of the Site or Area	Implementation of the proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would: (1) result in substantial erosion or siltation on or off site; (2) result in flooding on or off site; (3) create or contribute runoff water in exceedance of stormwater drainage capacity; or (4) impede or redirect flood flows.	LS	No mitigation is required.	LS
Release of Pollutants due to Project Inundation	Implementation of the proposed project would result in the release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zone.	LS	No mitigation is required.	LS
Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan	Impact-HWQ-1 , as described above.	PS	Implement MM-HAZ-2 through MM HAZ-5 , as described above.	LS
	Impact-HWQ-2 , as described above.	PS	Implement MM-HWQ-1 , as described above.	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Cumulative Impacts				
Violation of Water Quality Standards or Waste Discharge Requirements	Impact-C-HWQ-1: Cumulatively Considerable Contribution to Degradation of Water Quality from Waterside Sediment Contamination. The disturbance of potentially contaminated sediments that would become suspended in the water column, resulting in the release of hazardous pollutants and the degradation of water quality, would be considered a cumulatively considerable impact.	PS	Implement MM-HAZ-2 through MM HAZ-5 , as described above.	LS
	Impact-C-HWQ-2: Cumulatively Considerable Contribution to Water Quality Impacts from the Removal of Creosote Piles. The removal of creosote-treated piles may result in the resuspension of sediments that have been contaminated due to the leeching of creosote, which could result in a cumulatively considerable water quality impact when combined with past, present, and reasonably foreseeable future projects.	PS	Implement MM-HWQ-1 , as described above.	LS
4.6 Land Use and Planning				
Project Impact				
Cause a Significant Environmental Impact Due to Conflict with any Land Use Plan, Policy, or	Implementation of the proposed project would not result in 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.	LS	No mitigation is required.	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Regulation Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect				
Cumulative Impacts				
The proposed project’s incremental contribution to cumulative land use and planning impacts would not be cumulatively considerable.				
4.7 Noise and Vibration				
Project Impacts				
Generate Temporary or Permanent Increase in Noise Levels in Excess of Established Standards	Implementation of the proposed project would not result in the 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.	LS	No mitigation is required.	LS
Generate Excessive Groundborne Vibration or Groundborne Noise Levels	Implementation of the proposed project would not generate excessive groundborne vibration or groundborne noise levels.	LS	No mitigation is required.	LS
Exposure of People Residing or Working in the Project Area to Excessive Noise Levels from a Private Airstrip, Public	Implementation of the proposed project would not expose people residing or working in the project area to excessive noise levels from a private airstrip, public airport, or public use airport.	LS	No mitigation is required.	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Airport, or Public Use Airport				
Cumulative Impacts				
The proposed project’s incremental contribution to cumulative noise and vibration impacts would not be cumulatively considerable.				
4.8 Sea-Level Rise				
Project Impacts				
Exacerbate Existing or Projected Damage to the Environment due to Predicted Climate Change Effects, Particularly Sea Level Rise	Implementation of the proposed project would not exacerbate any existing and/or projected damage to the environment, including existing structures, sensitive resources, and human health, due to predicted climate change effects, particularly sea-level rise.	LS	No mitigation is required.	LS
Consistency with Applicable Sea Level Rise Policies of the CCC or Other Land Use Plans, Policies, or Regulations Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect from Sea Level Rise	Implementation of the proposed project would not be inconsistent with the applicable sea-level rise policies of the CCC or other land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect from sea-level rise.	LS	No mitigation is required.	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Cumulative Impacts				
The proposed project’s incremental contribution to cumulative sea-level rise impacts would not be cumulatively considerable.				
4.9 Transportation, Circulation, and Parking				
Project Impacts				
Conflict with a Program, Plan, Ordinance, or Policy Addressing the Circulation System	Implementation of the proposed project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	LS	No mitigation is required.	LS
Conflict or be Inconsistent with State CEQA Guidelines Section 15064.3, Subdivision (b)	Implementation of the proposed project would not conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b).	LS	No mitigation is required.	LS
Result in Inadequate Parking Supply	Implementation of the proposed project would not result in an inadequate parking supply.	LS	No mitigation is required.	LS
Cumulative Impacts				
The proposed project’s incremental contribution to cumulative transportation, circulation, and parking impacts would not be cumulatively considerable.				
Notes: NI = No Impact; LS = Less Than Significant; PS = Potentially Significant; SU = Significant and Unavoidable				

1.1 Project Overview

BAE Systems San Diego Ship Repair Inc. (BAE Systems), is proposing a maintenance, repair, and replacement project for waterfront infrastructure associated with mooring and operational facilities at its San Diego Ship Repair Yard (project site). BAE Systems currently leases 9.8 acres of land and 16.6 acres of water from the San Diego Unified Port District (District). This lease is scheduled to expire in 2034. In addition, BAE Systems currently occupies a parcel pursuant to a now-expired 5-year Tidelands Use and Occupancy Permit (TUOP) from the District for an additional 2.0 acres of land and 4.0 acres of water.¹ As a result, BAE Systems leases approximately 11.8 acres of land area and approximately 20.6 acres of water area from the District. In addition to these leased and permitted areas, BAE Systems leases 3.5 acres of submerged land from the District. These submerged lands were originally leased from the California State Lands Commission (SLC). However, effective January 1, 2020, this area was transferred to the District's jurisdiction per Senate Bill (SB) 507, which granted and conveyed in trust to the District all right, title, and interest in certain tidelands and submerged lands, as enumerated in SB 507. BAE Systems' lease with the SLC was transferred to the District. The total acreage occupied by BAE (including the TUOP parcel) pursuant to agreements with the District makes up the San Diego Ship Repair Yard (project site).

The project site consists of three working piers, five wet berths, and two floating drydocks, all of which are used to modernize, repair, and overhaul marine vessels. The smaller of the two drydocks, the Pride of San Diego, has been on the site since 1984. In 2017, the larger drydock, Pride of California, was commissioned to meet the growing needs of BAE Systems' customers.

BAE Systems, as the project proponent, is proposing a maintenance, repair, and replacement project for waterfront infrastructure associated with mooring and operational facilities at its San Diego Ship Repair Yard. The BAE Systems Waterfront Improvement Project (project or proposed project) includes 15 distinct project elements that are designed to improve efficiency and functionality of the existing BAE Systems facility by replacing aging structures, improving existing infrastructure, increasing space utilization, and increasing efficiency of operations.

1. Pride of San Diego Drydock Dredging² and Moorage
2. Pride of San Diego Drydock Wharf Replacement and Realignment
3. Fender System Repair and Replacement
4. Pier 3 South Nearshore Dredging

¹ The TUOP between the District and BAE Systems expired October 31, 2019. BAE Systems is currently on a limited holdover tenancy pursuant to that expired TUOP. However, it is anticipated that the TUOP will be renewed. TUOP renewal would not authorize any new improvements or activities that could physically impact the environment. It would reaffirm BAE Systems' existing occupancy right and continue existing operations. Therefore, any TUOP renewal is considered a separate action previously analyzed under a separate CEQA document for the Pier 1 North Drydock, Associated Real Estate Agreements and Removal of Cooling Tunnels project, SCH #2014041071, and is not part of the proposed project.

² Dredging is defined as the removal of sediments and debris from the bottom of lakes, rivers, harbors, and other water bodies.

5. Pier 3 Mooring Dolphin
6. Pier 3 North Lunchroom Wharf Replacement and Realignment
7. Quay Wall Modifications
8. Port Security Barrier Replacement
9. Small Boat Mooring Float Replacement
10. Central Tool Room Demolition and Reconstruction
11. New Production Building
12. Administrative Office Building
13. Pier 1 Restroom Renovation and/or Demolition
14. Main Electrical Utility Service Update
15. Sanitary Sewer and Potable Water Utility Services

The majority of the proposed work would take place within the District's jurisdiction (i.e., Project Elements 2, 3, 4, 6, 7, and 9–15). Project Elements 1, 5, and 8 are within the District's leasing jurisdiction and the California Coastal Commission's (CCC) permitting jurisdiction, per SB 507 and the California Coastal Act. BAE Systems will apply directly to the CCC for authorization and entitlements for Project Elements 1, 5, and 8.

In addition to the project overview provided above, this chapter briefly discusses (1) the purpose of the California Environmental Quality Act (CEQA) and this Draft Environmental Impact Report (Draft EIR), (2) the intended uses of this Draft EIR, (3) the scope and content of this Draft EIR, and (4) the organization of this Draft EIR.

1.2 Purpose of the California Environmental Quality Act and the Environmental Impact Report

This Draft EIR, which evaluates the environmental effects of the proposed project, has been prepared in compliance with CEQA (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.). This Draft EIR has also been prepared in compliance with the District's *Guidelines for Compliance with the California Environmental Quality Act* (Resolution 97-191).

CEQA was enacted by the California legislature in 1970. As noted under State CEQA Guidelines Section 15002, CEQA has four basic purposes:

1. Inform governmental decision-makers and the public about the potential significant environmental effects of proposed activities.
2. Identify the ways in which environmental damage can be avoided or significantly reduced.
3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

An EIR is an informational document, the purpose of which is to inform members of the public and agency decision-makers of the significant environmental effects of a proposed project, identify feasible ways to reduce the significant effects of the proposed project, and describe a reasonable range of feasible alternatives to the project that would reduce one or more significant effects and still meet the proposed project's objectives. In instances where significant impacts cannot be avoided or mitigated, the proposed project may nonetheless be carried out or approved if the approving agency finds that economic, legal, social, technological, or other benefits outweigh the unavoidable significant environmental impacts.

1.3 Intended Uses of the Environmental Impact Report

This section discusses the intended uses for this Draft EIR and includes (1) a list of agencies that would be expected to use this Draft EIR for decision-making and (2) a list of required permits and other approvals that would be required to implement the proposed project. Environmental review and consultation requirements under federal, state, or local laws, regulations, or policies that are in addition to CEQA are discussed in the applicable individual resource sections in Chapter 4, *Environmental Analysis*.

1.3.1 Agencies Expected to Use this Environmental Impact Report

The District is the CEQA lead agency, as defined under State CEQA Guidelines Sections 15050 and 15051, because it has principal responsibility for approving the proposed project. As the lead agency, the District also has primary responsibility for complying with CEQA. As such, the District has analyzed the environmental effects of the proposed project; the results of that analysis are presented in this Draft EIR. The Board of Port Commissioners (Board), in its role as the decision-making body of the District, is responsible for certifying the Final EIR and approving the Findings of Fact and Statement of Overriding Considerations, if required, pursuant to Sections 15090–15093 of the State CEQA Guidelines, prior to project approval. The Board is also responsible for authorization of issuance of a Coastal Development Permit (CDP). The CCC, as a CEQA responsible agency, would use the EIR in its decision to authorize a CDP for the portions of the project within its permitting jurisdiction.

The U.S. Army Corps of Engineers, as the federal agency with permitting oversight, would rely on information in the EIR in its decision to authorize an individual/nationwide Section 404 permit (for dredging of waters of the U.S.); Section 10, Rivers and Harbors Act Permit (for regulating construction, excavation, and deposition in navigable waters); Section 103, Marine Protection, Research, and Sanctuaries Act of 1972 (regulates dumping and transport for dumping of materials into waters of the U.S.); and 40 Code of Federal Regulations, Part 227, Criteria for the Evaluation of Permit Applications for Ocean Dumping of Materials (regulates dumping of materials into U.S. waters and evaluates the need for ocean disposal). The Regional Water Quality Control Board, as a CEQA responsible agency, would use the EIR in its decision to authorize Section 401 Certification and National Pollutant Discharge Elimination System (NPDES) Waste Discharge Requirements for dredging activities.

The City of San Diego (City) would consider the proposed project as it relates to the issuance of ministerial permits, such as building permits for the construction of structures, and grading permits.

As defined in State CEQA Guidelines Section 15386, the U.S. Environmental Protection Agency (EPA) is a federal agency with permitting oversight and authority. The EPA would use the information contained in the EIR in its decision to authorize an Ocean Dumping Permit. The California Department of Fish and Wildlife (as a CEQA trustee agency), would use the information contained in the EIR in their decisions to concur with the EPA's Ocean Dumping Permit.

Table 1-1 provides a summary list of the approvals and permits that would be required.

Table 1-1. List of Required Discretionary Actions

Discretionary Action	Agency
Federal Agencies	
Individual/Nationwide Section 404 Permit	U.S. Army Corps of Engineers
Section 10 Rivers and Harbors Act Permit	U.S. Army Corps of Engineers
Marine Protection, Research, and Sanctuaries Act of 1972, Section 103	U.S. Army Corps of Engineers
40 Code of Federal Regulations, Part 227	U.S. Army Corps of Engineers
Ocean Dumping Permit – Ocean Disposal	U.S. Environmental Protection Agency
Concurrence with Ocean Dumping Permit – Ocean Disposal	U.S. Coast Guard
Concurrence with Ocean Dumping Permit – Ocean Disposal	National Marine Fisheries Service
State Agencies	
Authorize 401 Certification	Regional Water Quality Control Board
Authorize NPDES Waste Discharge Requirements	Regional Water Quality Control Board
Authorize Coastal Development Permit	California Coastal Commission ¹
Concurrence with Ocean Dumping Permit – Ocean Disposal	California Department of Fish and Wildlife
Local Agencies	
Certification of Final EIR	District
Adoption of Mitigation Monitoring and Reporting Program	District
Adoption of Findings of Fact	District
Authorization for Issuance of a Non-Appealable Coastal Development Permit	District
Issuance of Ministerial Permits (e.g., grading, building, electrical)	City of San Diego

¹ A CDP from the CCC is required for proposed dredging and operation of project elements within the former SLC jurisdiction (now within the District's leasing jurisdiction) until the trust lands use plan is approved, consistent with SB 507.

1.4 Scope and Content of the Draft Environmental Impact Report

As the CEQA lead agency, the District is responsible for determining the scope and content of this Draft EIR, a process referred to as *scoping*. As part of the scoping process, the District considered the environmental resources present on the site and in the surrounding area and identified the probable environmental effects of the proposed project. On March 7, 2019, the District posted a Notice of Preparation (NOP) with the County Clerk, in accordance with Section 15082 of the State CEQA Guidelines. The 30-day public review period for the NOP began on March 7, 2019, and ended on April 5, 2019. The NOP and notices of NOP availability were mailed to public agencies, organizations, and interested individuals to solicit their comments on the scope and content of the environmental analysis. The District also held a public scoping meeting on March 25, 2019, at the District Administration Building at 3165 Pacific Highway, San Diego, CA 92101.

Comments received in response to the NOP were used to determine the scope of this Draft EIR. The comments are summarized in Table 1-2, below. Based on the District's preliminary evaluation of the probable effects of the proposed project and thorough review of the comments on the NOP, the Draft EIR analyzes effects associated with the following resources:

- Air Quality and Health Risk
- Biological Resources
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Sea-Level Rise
- Transportation, Circulation, and Parking

There are no agricultural, forestry, cultural, mineral, or tribal cultural resources on the site; therefore, the proposed project would not have an adverse effect on any of these resources. In addition, the proposed project would not have a significant adverse effect on aesthetics and visual resources, geology and soils, public services and recreation, or population and housing. Chapter 6, *Additional Consequences of Project Implementation*, includes a brief analysis of why impacts on these resources would not be significant, as discussed in the NOP (Appendix A).

1.4.1 Comments Received in Response to the Notice of Preparation

Several specific environmental issues were raised in the comments on the NOP. A summary of the comments is provided in Table 1-2, along with the title of the section where the comments are addressed in the Draft EIR. Only comments that pertain to the environmental scope of the Draft EIR are summarized. Copies of the NOP is included as Appendix A and all NOP comment letters are provided in Appendix B of this Draft EIR.

Table 1-2. Summary of NOP Comments Received

Commenter	Subject of Comment	Relevant Draft EIR Chapter/Section
State		
State of California, Governor's Office of Planning and Research, State Clearinghouse and Planning Unit (SCH), March 7, 2019	Provides SCH# 2019039040 and notes which state agencies received a copy of the NOP.	N/A
California Department of Fish and Wildlife (CDFW)	Bay habitats and species within these habitats should be analyzed for physical and behavioral impacts. Any potential temporary or permanent impacts should be considered for full impact avoidance as feasible.	Section 4.2, <i>Biological Resources</i>
	When feasible, use avoidance for marine habitat losses. If losses are unavoidable, they should be compensated through mitigation, monitoring, and reporting plans with mitigation sites managed in perpetuity.	Section 4.2, <i>Biological Resources</i>
	Proposed marine habitat losses or conversions should be fully analyzed for each alternative in the Draft EIR.	Section 4.2, <i>Biological Resources</i> ; Chapter 7, <i>Alternatives to the Proposed Project</i>
	Operational impacts from the proposed project should be fully analyzed individually and cumulatively in the Draft EIR.	Chapter 4, <i>Environmental Analysis</i> ; Chapter 5, <i>Cumulative Impacts</i>
	Underwater noise studies should be reviewed for construction/pile-driving noises. Feasible technologies to reduce noise impacts should be used during pile driving containments, especially if piles are driven during least tern bird-breeding season.	Section 4.2, <i>Biological Resources</i> ; Section 4.7, <i>Noise and Vibration</i>
	Consider avoidance and abatement mitigation measures to protect seabird forage fish and its habitat.	Section 4.2, <i>Biological Resources</i>
	Include the CDFW in any project coordination meeting or review of draft or final documents as it relates to biological resources, mitigation, monitoring, and reporting plans.	Section 4.2, <i>Biological Resources</i>
	Eelgrass compensation plans should be coordinated as early as possible with Loni Adams of the CDFW to determine if a Scientific Collectors Permit or a Letter of Authorization is required.	Section 4.2, <i>Biological Resources</i>
Native American Heritage Commission (NAHC)	Determine whether there are historical resources within the area of project effect (APE) and if the project will cause a substantial adverse change in the significance of a historical resource. Comply with Assembly Bill 52 and Senate Bill 18, as	Section 6.3.13, <i>Tribal Cultural Resources</i>

Commenter	Subject of Comment	Relevant Draft EIR Chapter/Section
	appropriate. Adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or, barring both, mitigation of project-related impacts on tribal cultural resources.	
California Department of Transportation (Caltrans), District 11	Prepare a traffic impact study that follows Caltrans standards and recommendations.	Section 4.9, <i>Transportation, Circulation, and Parking</i>
	Prepare a traffic control plan and submit to Caltrans District 11 at least 30 days prior to the start of any construction.	Section 4.9, <i>Transportation, Circulation, and Parking</i>
Regional		
San Diego Association of Governments (SANDAG), Katie Hentrich, Associated Regional Energy/Climate Planner, April 5, 2019	Consider transportation demand management (TDM) strategies, which could serve as mitigation measures.	Section 4.3, <i>Greenhouse Gas Emissions and Energy</i> ; Appendix C
	Consider partnering with the SANDAG TDM program, iCommute.	Section 4.3, <i>Greenhouse Gas Emissions and Energy</i> ; Appendix C
City of San Diego, Transportation and Stormwater Department (TSW)	Include a discussion of how the proposed work is in accordance with the San Diego Bay Watershed Management Area Water Quality Improvement Plan and the Regional Municipal Separate Storm Sewer System Permit.	Section 4.5, <i>Hydrology and Water Quality</i>
	Evaluate water quality impacts in the Draft EIR.	Section 4.5, <i>Hydrology and Water Quality</i>
	Include results of San Diego Regional Water Quality Control Board Investigative Order R9-2017-0083 as part of the water quality analysis in the Draft EIR.	Section 4.5, <i>Hydrology and Water Quality</i>
City of San Diego, Development Services Department (DSD)	The Draft EIR should follow the guidelines of the <i>City of San Diego Traffic Impact Study Manual</i> , July 1998, for all transportation facilities within the city of San Diego evaluated.	Section 4.9, <i>Transportation, Circulation, and Parking</i>
	The Draft EIR should follow the guidelines of the <i>City of San Diego Significance Determination Thresholds</i> , July 2016, for all transportation facilities within the city of San Diego evaluated.	Section 4.9, <i>Transportation, Circulation, and Parking</i>
	Include at least one alternative that would avoid unmitigated significant impacts on the City's transportation facilities.	Section 4.9, <i>Transportation, Circulation, and Parking</i>
	Evaluate potentially affected transportation facilities within the city of San Diego and provide mitigation for significant traffic impacts on the transportation facilities.	Section 4.9, <i>Transportation, Circulation, and Parking</i>

Commenter	Subject of Comment	Relevant Draft EIR Chapter/Section
	Analyze the separate phases of the project with approximate timelines for each phase.	Section 4.9, <i>Transportation, Circulation, and Parking</i>
	Evaluate opportunities for enhanced access to the site in the Draft EIR with use of alternative transportation (transit, bicycle, pedestrian, etc.)	Section 4.9, <i>Transportation, Circulation, and Parking</i>
	Analyze all anticipated construction traffic impacts, especially any additional impacts from potential off-site staging.	Section 4.9, <i>Transportation, Circulation, and Parking</i>
	Include a vehicle miles traveled analysis, pursuant to Senate Bill 743.	Section 4.9, <i>Transportation, Circulation, and Parking</i>
City of San Diego, Environmental Services Department (ESD)	Analyze solid waste impacts in the Draft EIR.	Section 6.3.14, <i>Utilities and Service Systems</i>
Organizations		
Environmental Health Coalition (EHC)	Conduct an air quality analysis to evaluate emissions associated with the larger vessels and tug boats. Assess the number of workers, hours per year equipment would be used, number of ship repair days, and total emissions from the shipyard.	Section 4.1, <i>Air Quality and Health Risk</i> ; Appendix C
	Evaluate emissions produced from the proposed dredging activities and transportation of materials to their disposal site, including upland locations not suitable for ocean disposal.	Section 4.1, <i>Air Quality and Health Risk</i> ; Appendix C
	Assess the project impacts in context of the existing air basin's non-attainment status for the federal ozone standard and non-attainment for the state standards for zone, particulate matter 10 micrometers or less in diameter (PM10), and particulate matter 25 micrometers or less in diameter (PM2.5)	Section 4.1, <i>Air Quality and Health Risk</i> ; Appendix C
	Assess the project's potential to exacerbate the health impacts on the adjacent community.	Section 4.1, <i>Air Quality and Health Risk</i> ; Appendix C
	Recommended mitigation for air quality impacts include: <ul style="list-style-type: none"> • Require use of electrified equipment in place of diesel equipment for all phases of construction and operation of the project. • Require electric or hybrid electric tugboats in place of diesel tugs. • Require solar on rooftops on-site. • Subsidize alternative transportation for workers. • Require compliance with Barrio Logan truck route. 	Section 4.1, <i>Air Quality and Health Risk</i> ; Appendix C

Commenter	Subject of Comment	Relevant Draft EIR Chapter/Section
	<ul style="list-style-type: none"> Require vessel speed reduction for all ships coming to or leaving BAE Systems facilities. 	
	Evaluate potential impacts on eelgrass and marine species.	Section 4.2, <i>Biological Resources</i> ; Appendices D-1 and D-2
	Evaluate potential impacts related to greenhouse gas and climate change	Section 4.3, <i>Greenhouse Gas Emissions and Energy</i> ; Appendix C
	Recommended mitigation for greenhouse gas emissions includes requiring initial and continued energy audits of project building facilities.	Section 4.3, <i>Greenhouse Gas Emissions and Energy</i> ; Appendix C
	The Draft EIR should analyze potential impacts on workers, both on-and off-site, from on-site hazardous materials as well as impacts on sensitive receptors in the project vicinity.	Section 4.4, <i>Hazards and Hazardous Materials</i>
	Include a quantitative assessment of noise.	Section 4.7, <i>Noise and Vibration</i>
	Evaluate cumulative noise impacts and include analysis of truck noise, train noise, and shipyard operation noise.	Section 4.7, <i>Noise and Vibration</i> ; Chapter 5, <i>Cumulative Impacts</i>
	Use residential noise standards as the thresholds of significance for noise impacts.	Section 4.7, <i>Noise and Vibration</i>
	Analyze parking impacts for both the construction and operation phases in the Draft EIR.	Section 4.9, <i>Transportation, Circulation, and Parking</i>
	Potential mitigation includes the following: <ul style="list-style-type: none"> Increase use of alternative transit through subsidized transit passes and increasing shuttles and vanpools Hire locally to reduce the need for BAE Systems workers to commute to the job site 	Section 4.3, <i>Greenhouse Gas Emissions and Energy</i> ; Section 4.9, <i>Transportation, Circulation, and Parking</i>

1.5 Organization of the Draft EIR

The content and format of this Draft EIR are designed to meet the requirements of CEQA and State CEQA Guidelines Article 9. Table 1-3 summarizes the organization and content of the Draft EIR.

Table 1-3. Document Organization and CEQA Requirements

Draft EIR Chapter	Contents
<i>Summary</i>	Includes a brief summary of the proposed project; identifies each significant effect, including proposed mitigation measures and alternatives to reduce or avoid the effect; identifies the areas of controversy known to the lead agency, including issues raised by agencies and the public; and summarizes the issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects (State CEQA Guidelines Section 15123).
Chapter 1 <i>Introduction</i>	Discusses the purpose of CEQA and this Draft EIR, the scope and content of this Draft EIR, the organization of this Draft EIR, and the intended uses for this Draft EIR (State CEQA Guidelines Section 15124(d)).
Chapter 2 <i>Environmental Setting</i>	Describes the overall existing physical conditions in the vicinity of the proposed project when the analysis was initiated. In addition, the specific existing setting/conditions for each resource area are described in the applicable resource sections in Chapter 4, <i>Environmental Analysis</i> (State CEQA Guidelines Section 15125).
Chapter 3 <i>Project Description</i>	Contains both a map of the precise location and boundaries of the proposed project and its location relative to the region, lists the proposed project's central objectives, underlying purpose, as well as project benefits, and provides a detailed description of the proposed project's characteristics (State CEQA Guidelines Section 15124(a), (b), and (c)).
Chapter 4 <i>Environmental Analysis</i>	Describes the existing physical conditions for each resource area, lists the applicable laws and regulations germane to the specific resource, describes the impact assessment methodology, lists the criteria for determining whether an impact is significant, identifies the direct and indirect significant impacts on the environment that would result from implementation of the proposed project, and lists feasible mitigation measures that would eliminate or reduce the identified significant impacts (State CEQA Guidelines Sections 15125–15126.4).
Chapter 5 <i>Cumulative Impacts</i>	Defines the cumulative study area for each resource; identifies past, present, and reasonably foreseeable future projects with related impacts within each study area; and evaluates the contribution of the proposed project to a cumulatively significant impact. This chapter also lists feasible mitigation measures that would eliminate or reduce the identified significant cumulative impacts (State CEQA Guidelines Section 15130).
Chapter 6 <i>Additional Consequences of Project Implementation</i>	Discusses the ways the proposed project could foster economic or population growth, either directly or indirectly, in the surrounding environment; describes the significant irreversible changes associated with the proposed project's implementation; and provides a brief discussion of the environmental resource impacts that were found to be not significant during preparation of this Draft EIR (State CEQA Guidelines Sections 15126.2(c) and (d), 15127, and 15128).

Draft EIR Chapter	Contents
Chapter 7 <i>Alternatives to the Proposed Project</i>	Describes a reasonable range of alternatives to the proposed project, including the No Project Alternative; compares and contrasts the significant environmental impacts of alternatives to the proposed project; and identifies the environmentally superior alternative (State CEQA Guidelines Section 15126.6).
Chapter 8 <i>List of Preparers and Agencies Consulted</i>	Lists the individuals and agencies involved in preparing this Draft EIR (State CEQA Guidelines Section 15129).
Chapter 9 <i>References</i>	Provides a comprehensive listing by chapter of all references cited in this Draft EIR (State CEQA Guidelines Section 15148).
Acronyms and Abbreviations	A list of acronyms and abbreviations is provided for the reader's reference immediately following the list of tables and figures in the Table of Contents.
Appendices	Present additional background information and technical detail for several of the resource areas.

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2.1 Introduction

This chapter provides a description of the overall physical environmental conditions in the vicinity of the proposed project, from both a local and regional perspective, as they existed at the time the Notice of Preparation was published on March 7, 2019.¹ Resource-specific existing conditions are provided within each individual resource section of Chapter 4, *Environmental Analysis*. The applicable resource sections of Chapter 4 also describe the project's consistency with applicable plans.²

2.2 Background Setting

2.2.1 District

The mission of the San Diego Unified Port District (District) is to protect, promote, and facilitate tidelands resources by providing economic vitality and community benefit through a balanced approach to maritime industry, tourism, water and land recreation, environmental stewardship, and public safety. The District was created with the San Diego Unified Port District Act (Port Act), adopted by the California State Legislature in 1962, as amended. The Port Act was enacted consistent with the Public Trust Doctrine and states that tidelands and submerged lands (collectively, Tidelands) are to be used only for statewide public purposes. To this end, the District is charged with management of the Tidelands and diverse waterfront uses along San Diego Bay (Bay) that promote commerce, navigation, fisheries, recreation, and conservation on the granted Tidelands. The majority of the project site is on land that is within the District's jurisdiction, and the District has regulatory duties and proprietary responsibilities over the site. The land has been leased from the District to BAE Systems, the project proponent, since 1979, under its original name, Southwest Marine, Inc. A portion of the project site was leased from the California State Lands Commission (SLC). However, effective January 1, 2020, this area was transferred to the District's jurisdiction per Senate Bill (SB) 507, which granted and conveyed in trust to the District all right, title, and interest in certain tidelands and submerged lands, as enumerated in SB 507. BAE Systems' lease with the SLC was transferred to the District.

¹ State CEQA Guidelines Section 15125 states that an EIR must include "a description of the physical environmental conditions in the vicinity of the project. This environmental setting will *normally* constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives" (emphasis added).

² For example, Section 4.2, *Air Quality and Health Risk*, contains a project consistency analysis with the applicable air quality plans.

2.2.2 BAE Systems

The project site, BAE Systems San Diego Ship Repair Yard, is currently a ship repair facility in the City of San Diego, on the San Diego Bay waterfront, south of the San Diego-Coronado Bay Bridge (State Route-75) and adjacently south of the Tenth Avenue Marine Terminal. BAE Systems has operated at the project site since 1979. Prior to BAE Systems' tenancy, the project site operated as a shipyard for marine ship construction and repair services, beginning in 1915. In that year, the San Diego Marine Construction Company (SDMC) leased tidelands at the foot of Sampson Street to establish this facility. The lease allowed SDMC to reclaim tidelands at this location by extracting fill material from the adjacent bay, but did allow for transporting fill to the site from elsewhere. By the end of the 1960s, the site was an approximately 50-year-old waterfront industrial complex, where SDMC continued to construct and repair ships. In 1972, SDMC sold its lease on the property to a subsidiary of Campbell Industries, and, in 1979, Southwest Marine, Inc. (SWM) acquired the property. SWM also acquired the ARCO (formerly Richfield Oil) marine fuel pier in 1982 and added the former National Pump & Injector Sales and Service leasehold to its facility in 1985. SWM changed its name to BAE Systems San Diego Ship Repair, Inc. in 2005 (Tetra Tech, Inc. 2016:9-10).

The waterside facilities at the project site currently contain three working piers, five wet berths, and two floating drydocks. The smaller of the two drydocks, "Pride of San Diego," has been in operation since 1984, and the larger drydock, "Pride of California," began operation in 2017. The landside facilities include administration offices, production shops, training areas, and related utilities and infrastructure. BAE Systems contracts work for United States Navy (U.S. Navy) vessels and, to a lesser extent, commercial vessels.

2.3 Existing Setting

2.3.1 Location

The proposed project is located along San Diego Bay, south of downtown San Diego, within the District's leasing jurisdiction, on a total of 35.9 acres. The project site consists of three separately leased areas. BAE Systems has a Master Lease with the District for 9.8 acres of land and 16.6 acres of water. This lease area contains the majority of the facilities onsite. The second area is composed of 2.0 acres of land and 4.0 acres of water that BAE Systems occupies pursuant to a now-expired Tidelands Use and Occupancy Permit (TUOP)³ and consists primarily of a parking lot on the landside portion and a drydock on the waterside portion of the project site. The third lease area is 3.5 acres of submerged land that was originally leased from the SLC but was transferred to the District by SB 507,⁴ which contains a portion of the Pride of California drydock.

The project site is adjacently southeast of the Tenth Avenue Marine Terminal, an omni-terminal that handles refrigerated containers, dry bulk, liquid bulk, and general cargo, and northwest of the General Dynamics National Steel and Shipbuilding Company (NASSCO) facility, which designs,

³ The TUOP between the District and BAE Systems expired October 31, 2019. BAE Systems is currently on a limited holdover tenancy pursuant to that expired TUOP.

⁴ Beginning on January 1, 2020, this area was transferred to the District's jurisdiction per SB 507, which granted and conveyed in trust to the District all right, title, and interest in certain tidelands and submerged lands, as enumerated in SB 507. BAE Systems' existing lease with the SLC was transferred to the District.

builds, and repairs ships for the U.S. Navy and commercial sector. Central downtown San Diego is approximately 1.7 miles northwest, and the San Diego neighborhood of Barrio Logan is approximately 1,000 feet northeast of the project site. San Diego International Airport is approximately 3 miles to the northwest of the project site. Regional vehicle access to the project site is provided by Interstate 5 (I-5) to the northeast and Interstate 15 (I-15) to the east. Several freeway ramps are within 1 mile of the project site. The site is also within proximity to light-rail, with the closest trolley stop, Barrio Logan Station, approximately 1,500 feet to the north, across East Harbor Drive, and Harborside Station, approximately 0.5 mile to the southeast. Figure 2-1 shows the regional location and access to the project site.

2.3.1.1 Project Boundaries

The project site is situated immediately south and southeast of the Tenth Avenue Marine Terminal. Its northeasterly boundary is generally consistent with East Belt Street; its southeasterly boundary borders the NASSCO shipyard facility; and its southwesterly boundary is in the San Diego Bay, parallel to the shore. The project site includes the three piers, five wet berths, and two floating drydocks on the waterside, and several structures on the landside containing production shops, offices, training areas, and associated utilities and infrastructure. Figure 2-2 provides the precise location and boundaries of the project site.

2.3.2 Existing Land and Water Use Designations

The project site occupies land and water that is under the jurisdiction of the District and within the City of San Diego. The District's Port Master Plan (PMP) governs the land and water uses on Tidelands that the State Legislature has granted to the District, as trustee, and for which the District has regulatory duties and proprietary responsibilities. The PMP establishes 10 planning districts covering approximately 5,500 acres of District jurisdiction. The project site is in the Tenth Avenue Marine Terminal Planning District (Planning District 4), and the vast majority of the project site lies within the Belt Street Industrial Subarea (Subarea 43). The planning district encompasses approximately 371 acres and is dominated by industrial uses. The landside portion of the project site is currently designated in the PMP for marine-related industrial uses, while the waterside portion of the site is designated for specialized berthing.

2.4 Surrounding Conditions

The project site is within and adjacent to the San Diego Bay in a highly industrialized area of the waterfront. Surrounding land and water use designations include marine-related industrial and industrial specialized berthing.



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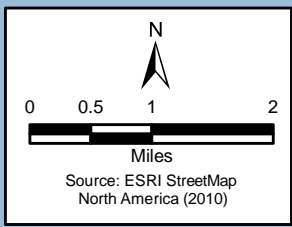
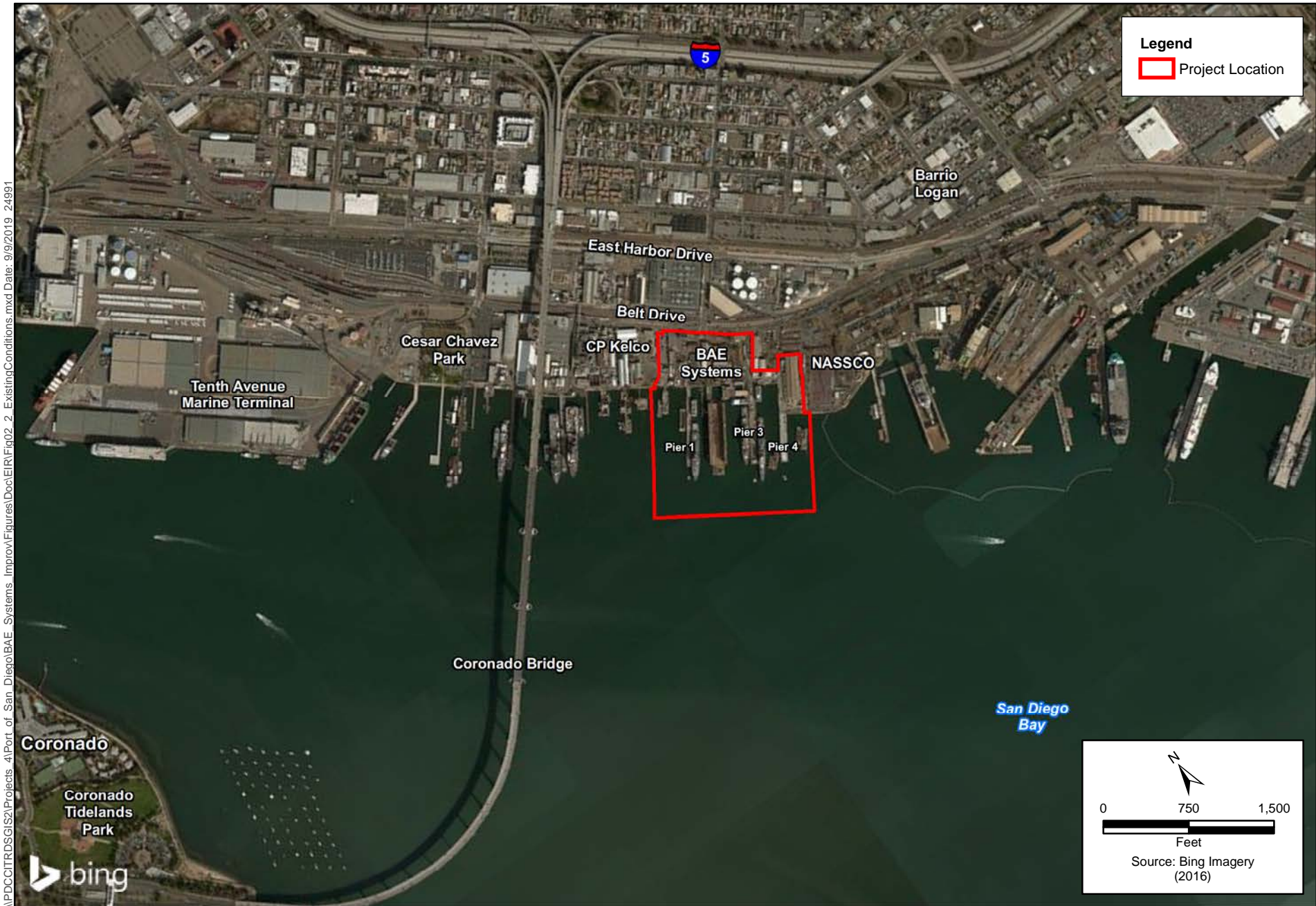


Figure 2-1
Regional Location
BAE Systems Waterfront Improvement Project



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Figure 2-2
Project Location Map
BAE Systems Waterfront Improvement Project

Land uses north of the project site, west of East Harbor Drive, primarily include ship engineering services, shipbuilding and repair facilities, and a hydrocolloid manufacturing plant. An electricity substation is located to the north. To the northwest, the San Diego-Coronado Bay Bridge crosses the Bay. Beyond the bridge are additional shipping land uses, including Pacific Tugboat Service, which has landside and waterside facilities, and a small waterfront park, Crosby Street Park. Uses to the northeast of the project site, across Belt Street, include the Chevron Distribution Terminal, characterized by large, white storage tanks, followed by East Harbor Drive, railroad right-of-way, and surface parking lots. Uses to the southeast include more shipbuilding and repair facilities, such as the General Dynamics NASSCO facility, which is bounded on the south by Chollas Creek. South of Chollas Creek is Naval Base San Diego. Open water of the San Diego Bay is west of the project site, with the City of Coronado farther west (approximately 1 mile across the Bay from the project site), as shown on Figure 2-2.

2.5 Existing Site Conditions

The 35.9-acre project site consists of landside and waterside areas. Topographically, the landside portion of the project site is relatively flat and slopes from northeast to southwest, toward the Bay. The landside surface elevation of the site ranges from approximately 15 feet above mean sea level (AMSL) at the northeastern boundary of the site to 4 feet AMSL at its western boundary.

The landside portion of the project site totals 11.8 acres and is composed of paved and developed areas. This portion of the project site consists of several buildings housing equipment, shops, warehouses, office space, and other services to support the activities that occur onsite. In addition to the buildings, several other structures that support the facility are located onsite. The landside portion includes the following elements: an electrical shop, a carpenter lagging shop, a sheet metal shop, a hazardous materials yard, a crane, a paint building, a ship repair building, a structural shop, a production shop and warehouse, an administration building, office space, a safety and medical facilities building, training building and an equipment and safety training area, restroom facilities, tool rooms, two breakrooms/areas, and several paved roadways. In addition, BAE Systems currently leases a minimum of 1,586 parking spaces with an option for 200 additional spaces for use by employees, customers, and visitors, totaling 1,786 parking spaces.

The waterside portion of the project site extends into the Bay and totals 24.1 acres. This portion includes three working piers (Piers 1 South, 3, and 4) to moor vessels for maintenance, repair, overhaul, and conversion (MROC) activities. These piers are designed to accommodate berthing for large, deep-draft U.S. Navy and commercial vessels and include a variety of crane and utility services. BAE Systems also currently operates two floating drydocks at the site.

Table 2-1 provides a list of the existing landside and waterside conditions on the project site, identified by the type of lease held by BAE Systems. Existing storm drains are discussed in Section 4.5, *Hydrology and Water Quality*.

Table 2-1. Existing Site Conditions

	Landside Acreage	Landside Conditions	Waterside Acreage	Waterside Conditions
Existing District Leasehold	9.8	Pier 1 break area; office buildings; storm water storage tanks; restrooms; equipment and safety training area; safety/medical/IT/facilities building (Building 55); administration (Building 95); human resources and payroll (Building 65); production shop and warehouse; government quality assurance (Q/A), program management office, contracts and planning (Building 75); structural shop (Building 5); structural shop annex (Building 5A); Q/A and fitness center facilities (Building 13); training center (Building 8); crane structure; sand blast and paint building (Building 10); electrical shop (Building 40C); carpenter lagging shops (Building 40B); sheet metal shop (Building 40A); Pier 4 breakroom; hazardous materials yard	16.6	Piers 1, 3, and 4; Pride of San Diego Drydock; south wharf; Pride of San Diego Wharf
Tidelands Use and Occupancy Permit (TUOP) ¹	2.0	Surface parking lot; ancillary building; Conex storage containers; SDG&E cooling tunnels	4.0	Pride of California Drydock; north wharf
Prior California State Lands Commission Lease	0	N/A	3.5	Western portion of the Pride of California Drydock
Total	11.8		24.1	

¹ As explained in Chapter 3, *Project Description*, the TUOP between the District and BAE Systems expired October 31, 2019.

2.6 Existing Operational Conditions

BAE Systems provides and maintains industrial facilities (e.g., production, shops, offices, and related utilities and infrastructure) that involve the MROC of larger naval and commercial vessels in support of its primary customer, the U.S. Navy.

BAE Systems currently contracts work for all classes of non-nuclear U.S. Navy vessels, including Cruisers (CGs), Destroyers (DDGs), Amphibious Transport Docks (LPD-17), Dock Landing Ships (LSD-41/49), Amphibious Assault Ship (LHD/LHA), and Littoral Combat Ship (LCS). The largest naval vessels that can currently berth at Pier 3 are Amphibious Transport Dock (LPD-17) vessels, which are 684 feet in length. BAE Systems will service larger vessels (e.g., LHD/LHA) at U.S. Naval Base San Diego or another local shipyard due to existing capacity constraints at Pier 3.

BAE Systems contracts include pier-side repair (wet berth), drydock repair (dry berth), or both. Most vessel contracts are accompanied by a berthing/messing barge (which provide a fully functioning galley, sleeping area, and office space) provided by the U.S. Navy for the ship's workforce while undergoing repairs at the site. The average number of ships moored and/or serviced at the BAE Systems facility (including both drydocked and berthed vessels) ranges from 7 to 9 vessels per year. As shown in Table 2-2, vessels berthed pier side at the facility range from 36 days to 342 days, with an average stay of 149 days. Vessels dry-berthed in either of the two floating drydocks at the facility range from 14 days to 278 days, with an average dry berth of 172 days.

Table 2-2. Vessels Serviced at BAE Systems Ship Repair Yard (2015–2018)

	Drydocked Vessels	Berthed Vessels
Average Ships Per Year	4	8
Minimum Number of Days	14	36
Maximum Number of Days	278	342
Average Number of Days	172	149

Due to the limitations of existing pier space to accommodate the varying mix of ships under contract and overlapping periods of production, there is empty pier space as a result of the overlap in contract start and end dates. Consequently, while the number of actual ship repair days is fewer than the number of calendar days, at times there is insufficient pier-side capacity to efficiently moor all the vessels under contract. In these instances, either the vessels' production dates may be adjusted, or the vessels will be worked on at other locations.

Depending on the specific mix of vessels being serviced at the BAE Systems facility, the number of personnel (crew and labor) on site varies due to several factors, including the type(s) of vessels being serviced, length of the repair contract, and type of work being done on the vessel. Table 2-3 compares three potential berthing scenarios that can currently occur at the site and provides the corresponding crew and labor sizes.

Table 2-3. Vessel Crew and Labor Comparison (LHD Berthed at Pier 3 South)

Scenario		Existing Vessel Crew and Labor Size				Subtotal	Total
		3S	3N	4S	4N		
1	Pier ¹	3S	3N	4S	4N	--	
	Ship Type ²	CG	DDG	DDG	CG	--	
	Crew	272	278	278	272	1,100	2,216
	Labor	279	279	279	279	1,116	
2	Pier ¹	3S	3N	4S	4N	--	
	Ship Type ²	LSD	LPD	DDG	CG	--	
	Crew	318	266	278	272	1,134	1,974
	Labor	141	141	279	279	840	
3	Pier ¹	3S	3N	4S	4N	--	
	Ship Type ²	LSD	DDG	LCS	CG	--	
	Crew	318	278	35	272	903	1,572
	Labor	141	124	125	279	669	

¹ 3S = Pier 3 South; 3N = Pier 3 North; 4S = Pier 4 South; 4N = Pier 4 North.

² CG = Cruisers; DDG = Destroyers; LCS = Littoral Combat Ships LHD = Amphibious Assault Ship; LSD = Dock Landing Ships; LPD = Amphibious Transport Docks.

3.1 Introduction

BAE Systems San Diego Ship Repair, Inc. (BAE Systems), is a ship repair company in the San Diego area, serving primarily non-nuclear Navy vessels but also commercial customers. BAE Systems currently leases 9.8 acres of land and 16.6 acres of water from the District. This lease is scheduled to expire in 2034. In addition, BAE Systems currently occupies a parcel pursuant to a now-expired 5-year Tidelands Use and Occupancy Permit (TUOP) from the District for an additional 2.0 acres of land and 4.0 acres of water.¹ As a result, BAE Systems leases approximately 11.8 acres of land area and approximately 20.6 acres of water area from the District. In addition to these leased and permitted areas, BAE Systems leases 3.5 acres of submerged land from the District. These submerged lands were originally leased from the California State Lands Commission (SLC). However, effective January 1, 2020, this area was transferred to the District's jurisdiction per Senate Bill (SB) 507, which granted and conveyed in trust to the District all right title, and interest in certain tidelands and submerged lands, as enumerated in SB 507. BAE Systems' lease with the SLC was transferred to the District. The total acreage occupied by BAE Systems (including the TUOP parcel) pursuant to agreements with the District makes up the BAE Systems San Diego Ship Repair Yard (project site).

The project site consists of three working piers, five wet berths, and two floating drydocks, all of which are used to modernize, repair, and overhaul various marine vessels. The smaller of the two drydocks, the *Pride of San Diego*, has been on site since 1984. In 2017, the larger drydock, *Pride of California*, was commissioned to meet the growing needs of BAE Systems' customers.

BAE Systems, as the project proponent, is proposing a maintenance, repair, and replacement project for waterfront infrastructure associated with mooring and operational facilities at its San Diego Ship Repair Yard. The BAE Systems Waterfront Improvement Project (project or proposed project) includes 15 distinct project elements, all of which are discussed in detail in this chapter under Section 3.4, *Project Description*. Briefly, the proposed project includes the following.

- Replacement and realignment of the *Pride of San Diego* drydock access wharf and ramp, along with several associated improvements.
- Replacement and realignment of the Pier 3 wharf structure, along with other associated improvements.
- Replacement of aging or inefficient facilities, including offices, the production building, the central tool room, and restrooms.

¹ The TUOP between the District and BAE Systems expired October 31, 2019. BAE Systems is currently on a limited holdover tenancy pursuant to that expired TUOP. However, it is anticipated that the TUOP will be renewed. TUOP renewal would not authorize any new improvements or activities that could physically impact the environment. It would reaffirm BAE Systems' existing occupancy right and continue existing operations. Therefore, any TUOP renewal is considered a separate action previously analyzed under a separate CEQA document for the Pier 1 North Drydock, Associated Real Estate Agreements and Removal of Cooling Tunnels project, SCH #2014041071, and is not part of the proposed project.

- Implement mooring infrastructure improvements to ensure safety and accommodate the newer and different classes of vessels to be moored and repaired on the site.
- Upgrades to electrical and potable water utility infrastructure.

This chapter describes the project need and purpose, objectives, and necessary approvals. The project description is also included. A detailed description of the site and existing conditions is provided in Chapter 2, *Environmental Setting*, which includes a location map (Figures 2-1 and 2-2).

3.2 Project Need and Purpose

The purpose of the proposed project is to maintain and improve facilities for the berthing needs of current and future Navy assets and other customers. As part of the U.S. Navy’s “Pivot West” strategy, it is anticipated that more Navy vessels will be home-ported in San Diego. As a result, BAE Systems requires the ability to flexibly locate various ships within the existing facility as well as ensure safe and efficient facility utilization for the moorage of vessels, including during extreme weather conditions.

The proposed project would replace aging structures, improve existing infrastructure, increase space utilization, and increase the efficiency of operations at the ship repair yard. Although these improvements would allow newer and different classes of vessels to be moored and repaired on the site, the proposed improvements are not expected to increase the number of vessels serviced because no new berthing space would be provided. Furthermore, the mooring of newer, larger vessels would reduce the number of other vessels that could be concurrently moored at the ship repair yard.

3.3 Project Objectives

To achieve the need and purpose of the proposed project, the following project objectives have been identified:

1. Construct and operate shipyard repair facilities that maximize the use of existing waterways, available shoreline, and existing land.
2. Modernize the BAE Systems San Diego Ship Repair Yard by providing improved facilities that meet the needs of the current and anticipated fleets of the military and commercial customers.
3. Enhance worker safety, customer security, and environmental protection programs through the integration of relevant project elements.
4. Invest in new shipyard infrastructure that will enhance the short- and long-term attractiveness and viability of San Diego Bay and the region to military and commercial ship operators for construction and repair, consistent with the Port Master Plan.²
5. Preserve jobs by maintaining the physical capacity and technical capability to support the Navy’s presence as well as commercial maritime needs in San Diego.

² “Renovation and redevelopment of existing facilities will continue as industries respond to market demands and changes in the maritime industrial climate.” San Diego Unified Port District, Port Master Plan (August 2017), page 79.

3.4 Project Description

The proposed project consists of the following 15 project elements that are designed to improve the efficiency and functionality of the existing BAE Systems San Diego Ship Repair Yard.

1. Pride of San Diego Drydock Dredging³ and Moorage
2. Pride of San Diego Drydock Wharf Replacement and Realignment
3. Fender System Repair and Replacement
4. Pier 3 South Nearshore Dredging
5. Pier 3 Mooring Dolphin
6. Pier 3 North Lunchroom Wharf Replacement and Realignment
7. Quay Wall Modifications
8. Port Security Barrier Replacement
9. Small Boat Mooring Float Replacement
10. Central Tool Room Demolition and Reconstruction
11. New Production Building
12. Administrative Office Building
13. Pier 1 Restroom Renovation and/or Demolition
14. Main Electrical Utility Service Update
15. Sanitary Sewer and Potable Water Utility Services

The majority of the proposed work would take place within the District's jurisdiction (i.e., Project Elements 2, 3, 4, 6, 7 and, 9–15). Project Elements 1, 5, and 8 are within the District's leasing jurisdiction and the California Coastal Commission's (CCC) permitting jurisdiction, per SB 507 and the California Coastal Act. BAE Systems will apply directly to the CCC for authorization and entitlements for Project Elements 1, 5, and 8; however, this Draft EIR analyzes the entire proposed project, as required by CEQA. Figure 3-1 provides an overall site plan for identifying the location of each project element by number. A detailed discussion of the proposed activities under each project element is provided below.

3.4.1 Pride of San Diego Drydock Dredging and Moorage Replacement (Project Element 1)

Project Element 1 includes dredging and associated replacement of mooring dolphins⁴ to hold the Pride of San Diego drydock in place. Figure 3-2 provides photos of the existing mooring dolphins proposed to be demolished for this project element, and Figure 3-3 depicts its conceptual dredge design. Most of Project Element 1 is within the District's jurisdiction; however, the westernmost

³ Dredging is defined as the removal of sediments and debris from the bottom of lakes, rivers, harbors, and other water bodies.

⁴ A *mooring dolphin* is defined as an in-water structure, typically made up of a cluster of piles that extends above the water surface to provide mooring points for vessels.

mooring dolphin and a portion of the required dredging area would be within both District jurisdiction (leasing) and CCC jurisdiction (permitting).

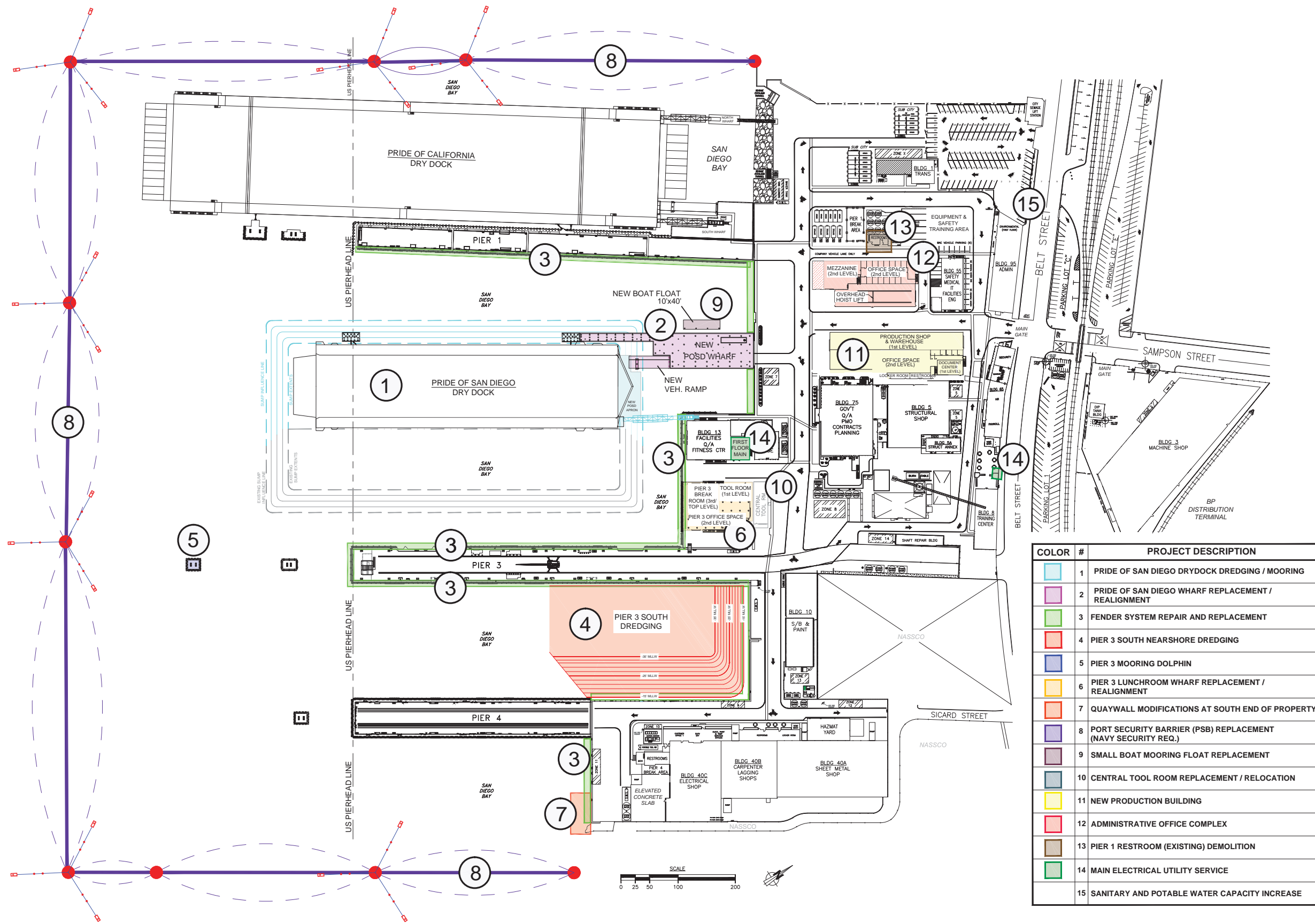
Because of conflicts with the original 1983 dredge sump⁵ design, the current configuration requires the drydock to be moved⁶ from its mooring to the west and south in order to submerge and dock or undock a vessel each time a vessel comes in for drydock servicing. When a wide-bodied vessel is positioned adjacent to Pier 3 North, the size of the vessel prevents the drydock from being moved into its submergence location. Dredging and relocation of the mooring dolphins would allow the drydock to submerge and lift vessels in place without the need for the drydock to be moved. This would improve operational efficiencies because wide-bodied vessels could be moored at Pier 3 North concurrently with drydocked vessels while under repair at the Pride of San Diego drydock. Accordingly, this would eliminate the need to run the diesel engines of two separate vessels concurrently during docking and undocking activities as well as the need for tugboats to move the drydock. In addition, Project Element 1 proposes to dredge sediment around the Pride of San Diego ramp wharf and eastern mooring dolphin. This would remove potentially contaminated sediment that was not accessible during the remedial dredging that occurred in 2015 under Regional Water Quality Control Board (RWQCB) mandated Cleanup and Abatement Order (CAO) No. R9-2012-0024. During remedial activities, sand, including gravelly sand, was placed in areas that were not accessible. Proposed replacement of the mooring dolphins may allow access to these areas; therefore, potentially contaminated gravelly sand, sand, and sediment may be removed during dredging.

In total, Project Element 1 proposes to dredge approximately 98,800 cubic yards (cy) of material. Figure 3-4 depicts the proposed conceptual dredge design to achieve compliance with the CAO, which includes both Project Elements 1 and 6. (Figure 3-5 depicts the conceptual dredge design for Project Element 6 only.) Based on preliminary assessments conducted by the project proponent, it was conservatively estimated that 20 percent of the dredge material for Project Element 1 would contain contaminated sediment, although additional analysis indicates the estimate may be closer to 11 percent.⁷

⁵ A *sump* is defined as a pit or other type of hollow area that collects liquids.

⁶ Referred to as *translated*. *Translation* means to move the dock in a specific direction—north, south, east, or west.

⁷ Where applicable throughout this EIR, the more conservative estimate is used for CEQA analysis purposes. For example, Sections 4.1, *Air Quality and Health Risk*, and 4.3, *Greenhouse Gas Emissions and Energy*, conservatively analyzed both the high end of trucks (i.e., 20 percent upland disposal) and the high end of tug and scow trips (i.e., 89 percent ocean disposal) to quantify project emissions.



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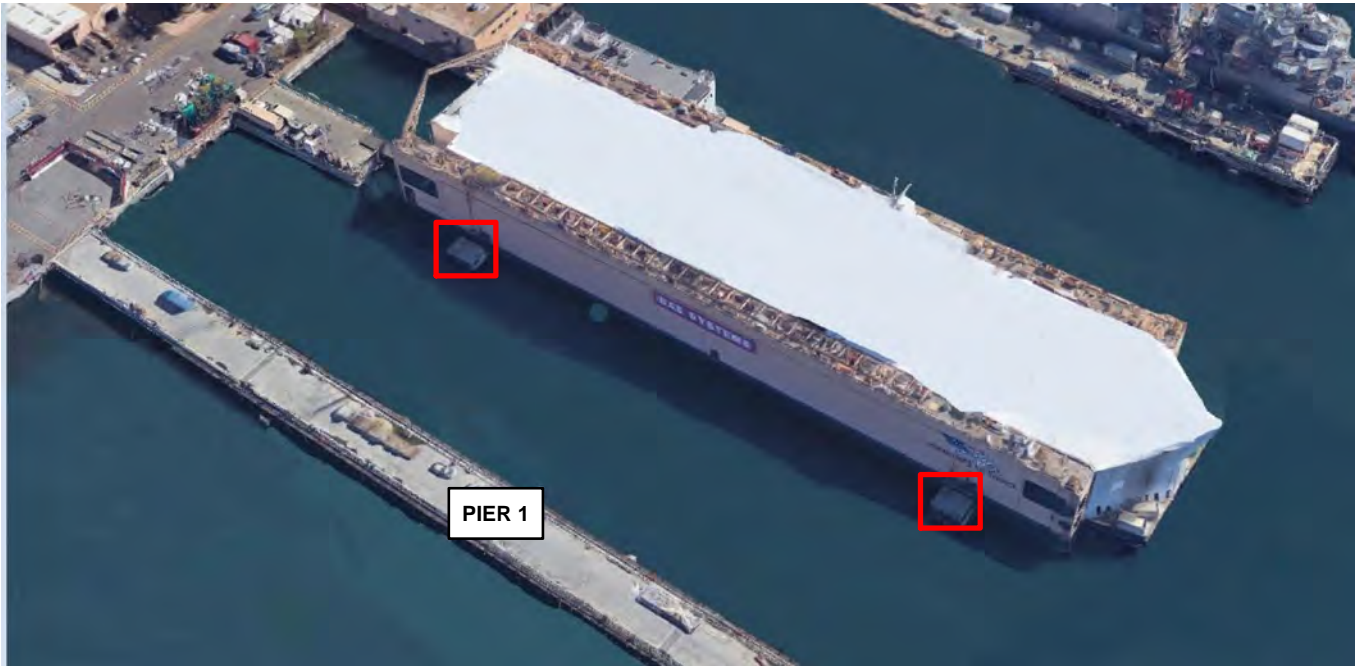
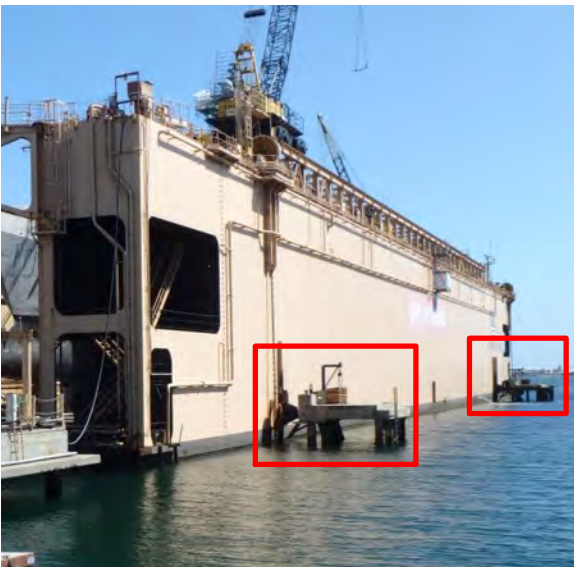


Photo of existing Pride of San Diego mooring dolphins to be demolished in-way-of new Pride of San Diego mooring dolphin construction.



Existing Pride of San Diego dolphins to be demolished for new dolphin construction



Existing Pride of San Diego dolphin to be demolished for new dolphin construction



Figure 3-2
Project Element 1: Pride of San Diego Dry Dock Dredging / Mooring
BAE Systems Waterfront Improvement Project

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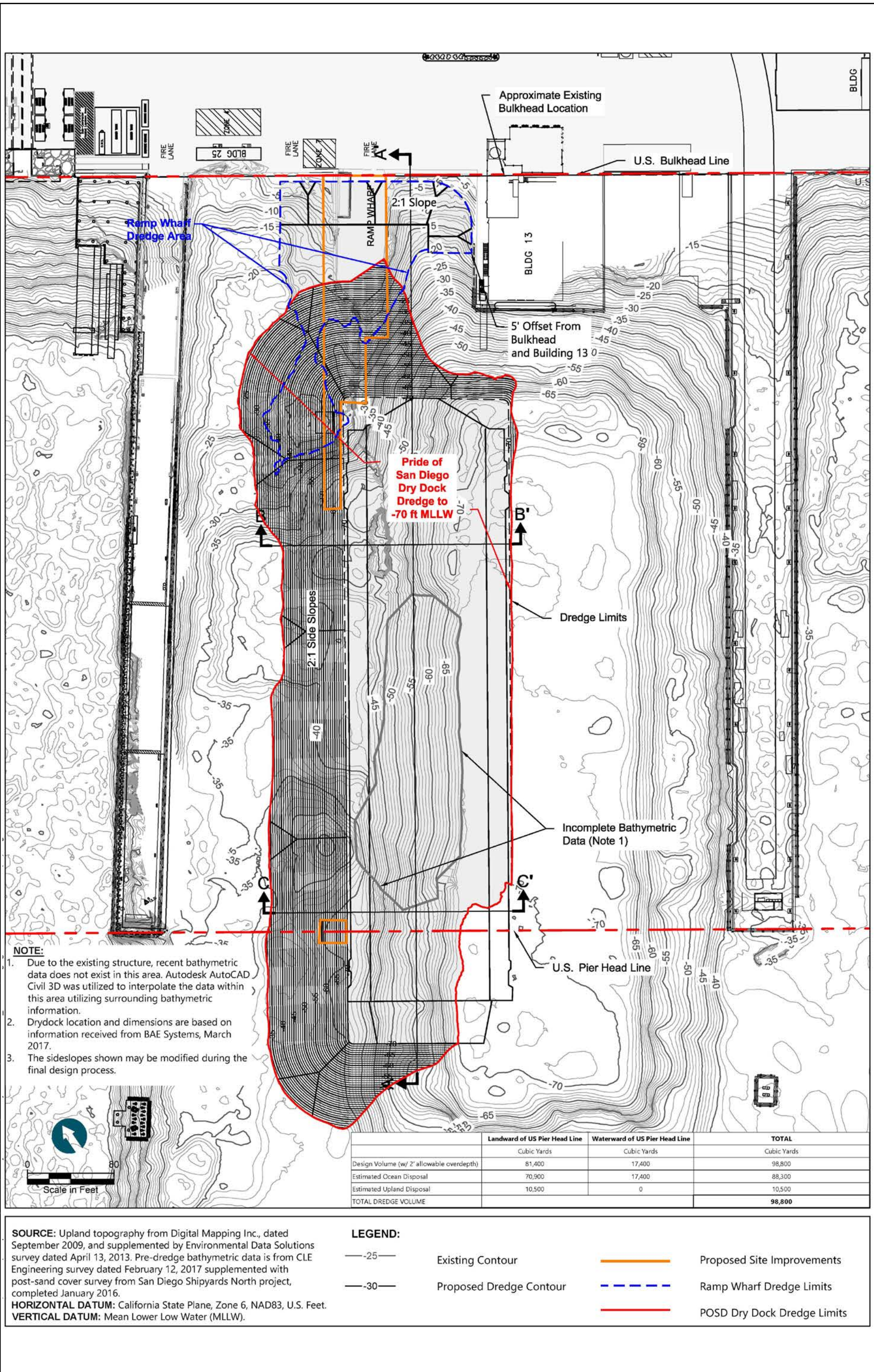
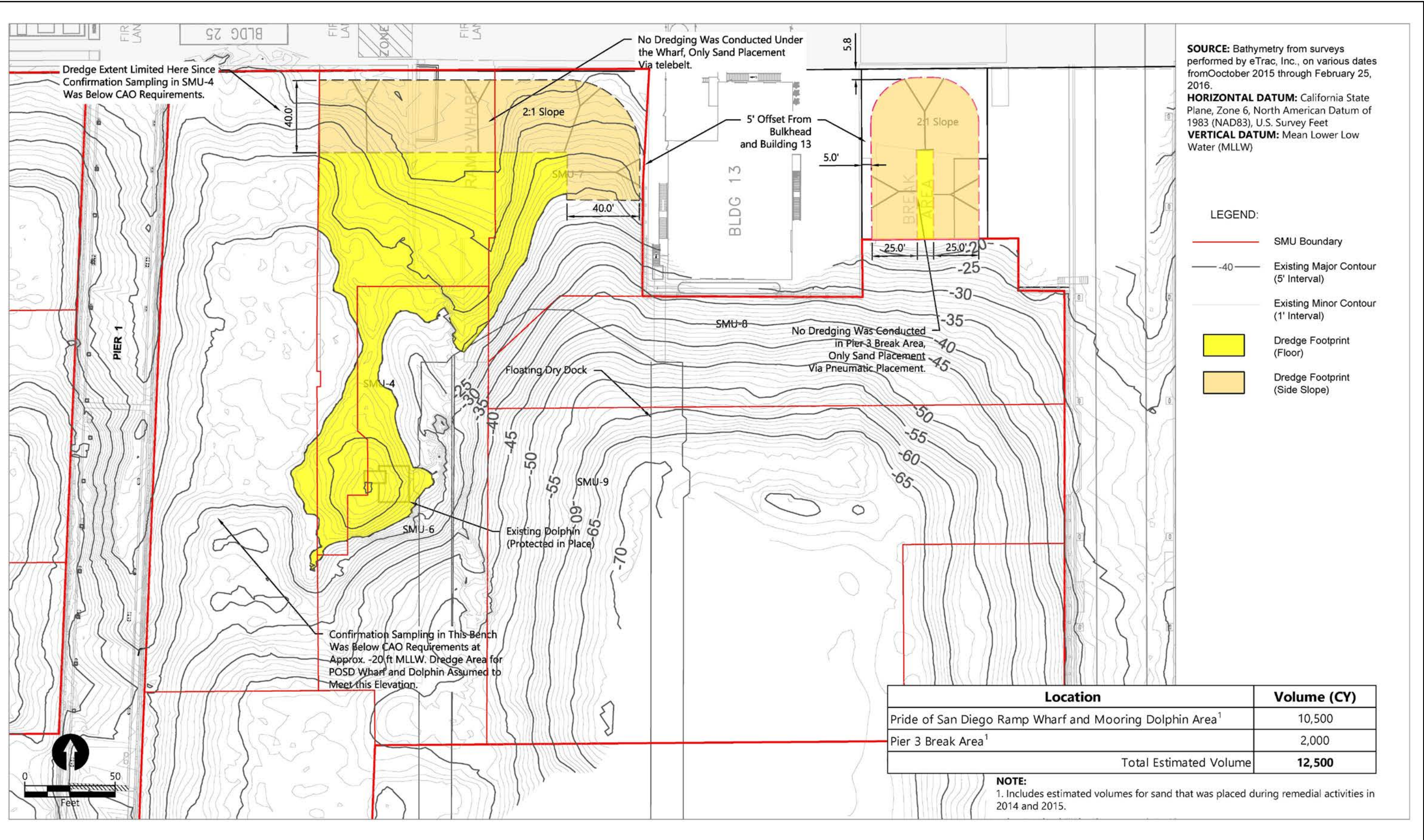


Figure 3-3
Project Element 1 Conceptual Dredge Design
BAE Waterfront Improvement Project



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SOURCE: Bathymetry from surveys performed by eTrac, Inc., on various dates from October 2015 through February 25, 2016.
HORIZONTAL DATUM: California State Plane, Zone 6, North American Datum of 1983 (NAD83), U.S. Survey Feet
VERTICAL DATUM: Mean Lower Low Water (MLLW)

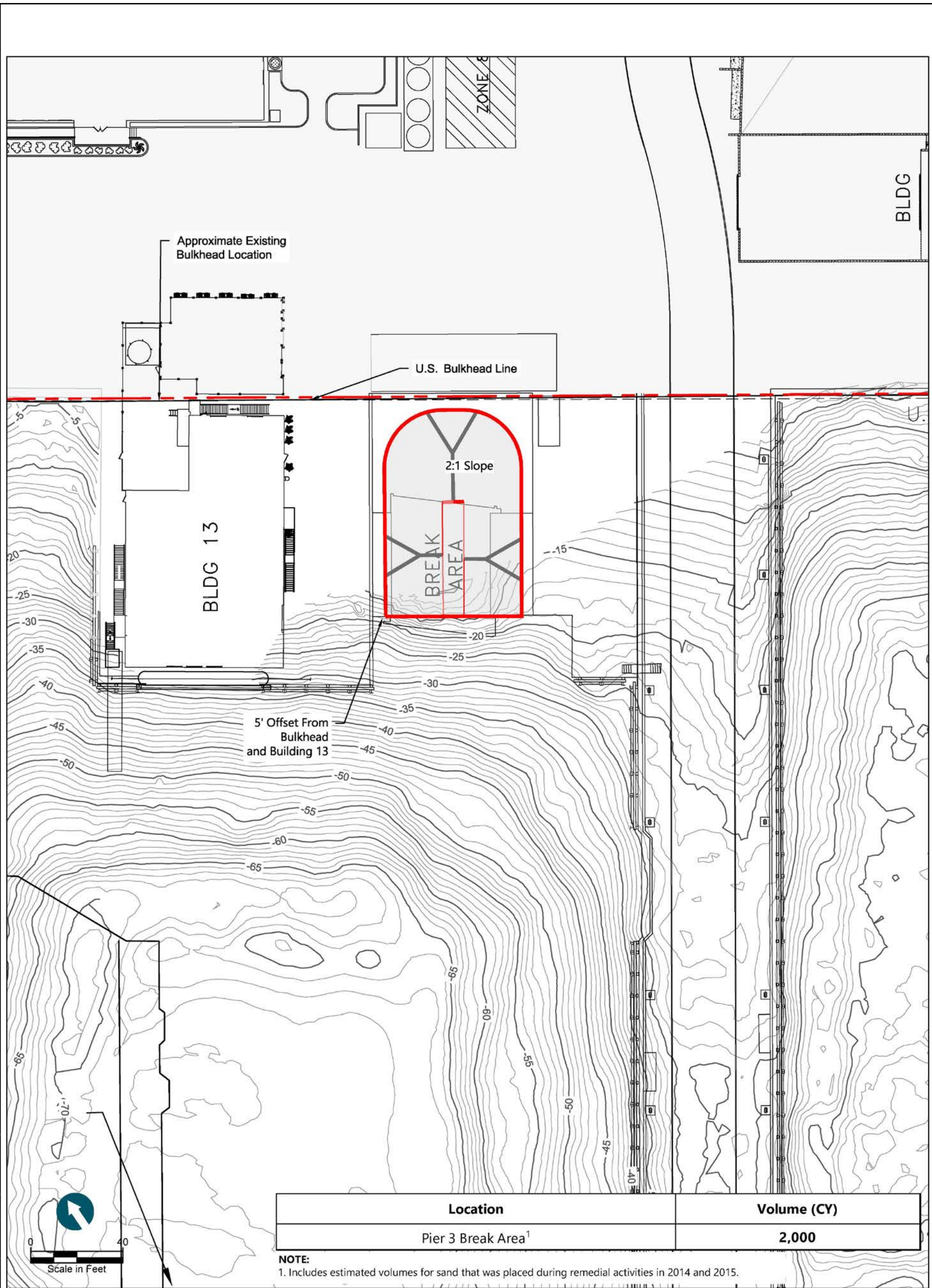
- LEGEND:**
- SMU Boundary
 - 40 Existing Major Contour (5' Interval)
 - Existing Minor Contour (1' Interval)
 - Dredge Footprint (Floor)
 - Dredge Footprint (Side Slope)

Location	Volume (CY)
Pride of San Diego Ramp Wharf and Mooring Dolphin Area ¹	10,500
Pier 3 Break Area ¹	2,000
Total Estimated Volume	12,500

NOTE:
 1. Includes estimated volumes for sand that was placed during remedial activities in 2014 and 2015.



Figure 3-4
Project Element 1 and Project Element 6 Conceptual CAO Dredge Areas
BAE Waterfront Improvement Project



SOURCE: Upland topography from Digital Mapping Inc., dated September 2009, and supplemented by Environmental Data Solutions survey dated April 13, 2013. Pre-dredge bathymetric data is from CLE Engineering survey dated February 12, 2017 supplemented with post-sand cover survey from San Diego Shipyards North project, completed January 2016.
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83, U.S. Feet.
VERTICAL DATUM: Mean Lower Low Water (MLLW).

LEGEND:

- -25 — Existing Contour
- — Dredge Limit Boundary

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Figure 3-5
Project Element 6 Pier 3 Break Area Conceptual Dredge Design
BAE Waterfront Improvement Project

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Therefore, the analysis contained within this EIR assumes approximately 80 to 89 percent of all dredged materials for Project Element 1 would be disposed of at an approved Ocean Dredge Material Disposal Site (i.e., U.S. Environmental Protection Agency [EPA] disposal site LA-5); the remaining 11 to 20 percent would be unsuitable for unconfined aquatic disposal, per U.S. Army Corps of Engineers (USACE) and EPA disposal criteria, and would be transported to an approved disposal facility capable of accepting contaminated sediments. It should be noted that, in the event that unconfined aquatic disposal is not suitable, only approximately 15,280 cy of the proposed 98,800 total cy of sediment would be dredged to comply with CAO No. R9-2012-0024.

The following actions are proposed as part of Project Element 1:

- Shifting the Pride of San Diego drydock west by approximately 100 feet.
- Replacing two existing 17.5- by 21-foot mooring dolphins (368 square feet for each dolphin), including removing twenty-six 18-inch-square concrete piles and 85 cy of concrete caps and installing thirty-eight 24-inch octagonal precast concrete piles with 900 total square feet of surface area.
 - Demolition of the existing mooring dolphins, concrete piles, and concrete caps would generate approximately 1,005 cy of debris.
- Relocating the drydock sump, which would require dredging to -70 feet mean lower low water (MLLW). The following dredging specifics are proposed:
 - Dredging approximately 98,800 cy⁸ of material, including 2 feet of overdepth, consisting of:
 - 81,400 cy within District (leasing) jurisdiction.
 - 17,400 cy within CCC (permitting) jurisdiction.
 - Disposing of up to approximately 19,800 cy of dredged material (i.e., up to 20 percent of the total dredged material) at an approved upland disposal site, such as the Otay Landfill.
 - Disposing of up to approximately 87,900 cy of dredged material (i.e., up to 89 percent of the total dredged material) at the Ocean Dredge Material Disposal Site (i.e., EPA's San Diego disposal site LA-5).
 - Transporting up to 36 scows⁹ (2,500 cy capacity each) to the LA-5 disposal site.

Dredging operations, including equipment maintenance activities, shift changes, barge changes, and movement about the site would be conducted 24 hours per day, 7 days a week, for 100 days.

3.4.2 Pride of San Diego Drydock Wharf Replacement and Realignment (Project Element 2)

Once drydock dredging and moorage replacement have been completed (i.e., Project Element 1), wharf and ramp modifications would be needed. Specifically, Project Element 2 would extend the existing Pride of San Diego wharf to provide a material handling area adjacent to the northeastern

⁸ Volume based on pre-dredge bathymetric survey data from CLE Engineering, composite surveys dated February 2017 and January 2016, and conceptual dredging volumes provided by Anchor QEA, dated July 2019.

⁹ A *scow* is a low, flat barge-like vessel used to carry material.

portion of the drydock and encompass the eastern gripper¹⁰ mooring dolphin. An apron would be installed at the end of the drydock, while a new pedestrian access ramp and support platform would be installed on the south side of the drydock to minimize the number of in-water structures required to access and support the drydock at its proposed new location. The new replacement structure would be incorporated into the existing Pride of San Diego wharf ramp. Figure 3-6 provides existing photos for this project element.

For the purposes of this analysis, complete demolition and construction activities are assumed, which would be the reasonably foreseeable worst-case scenario. The following actions are proposed as part of Project Element 2.

- Demolishing 5,540 square feet of existing wharf and twenty 18-inch piles, which would generate approximately 408 cy of debris.
- Installing 12,500 square feet of cast-in-place decking on 73 octagonal piles¹¹ and six concrete precast piles,¹² extending from the existing wharf structure to northeastern portion of the Pride of San Diego drydock. New in-water structures (fixed) associated with the new wharf would be built to an increased elevation of +12 feet MLLW.
- Installing an apron¹³ at the end of the drydock and a new pedestrian access ramp and support platform on the south side for material handling adjacent to the drydock.

3.4.3 Fender System Repair and Replacement (Project Element 3)

The existing fender¹⁴ systems are experiencing natural deterioration due to age and routine damage from decades of use. New fenders are required where shoreline features have been reconstructed.

The following actions are proposed as part of Project Element 3.

- Removing and replacing in place the 503 existing 14-inch by 89-foot steel H-pile¹⁵ fenders. Removal of the existing fenders would generate approximately 269 cy of debris.
- Installing 122 new steel H-pile fenders, for a total of 625 fenders. The new fender locations are as follows:
 - Bulkhead installation at the south side of Pier 1, resulting from remediation and fill of the former marine railways in 2004.
 - Bulkhead replacement along the shoreline south of Pier 3 to the southern property line.
 - The west-facing perimeter of the proposed new marginal wharf area associated with Pier 3 North Lunchroom Wharf Replacement and Realignment (Project Element 6).

¹⁰ A gripper is a mechanical feature of a mooring system, used for securing floating drydocks to a mooring dolphin.

¹¹ Octagonal piles are eight-sided concrete support structures.

¹² *Precast piles* are concrete piles that are formed in circular, square, rectangular, or octagonal shapes. Precast piles are manufactured in a casting yard before transport to the project site.

¹³ An *apron* is the space allotted for maneuvering a vehicle into alignment with the dock.

¹⁴ A *fender* is a piece of equipment that protects a pier, berth, jetty, or other vessel from a berthing vessel. Fenders are typically made of rubber, foam, or plastic in order to absorb energy from the berthing vessel.

¹⁵ A *steel H-pile* is an in-water support structure with a cross beam that forms an H-like shape.

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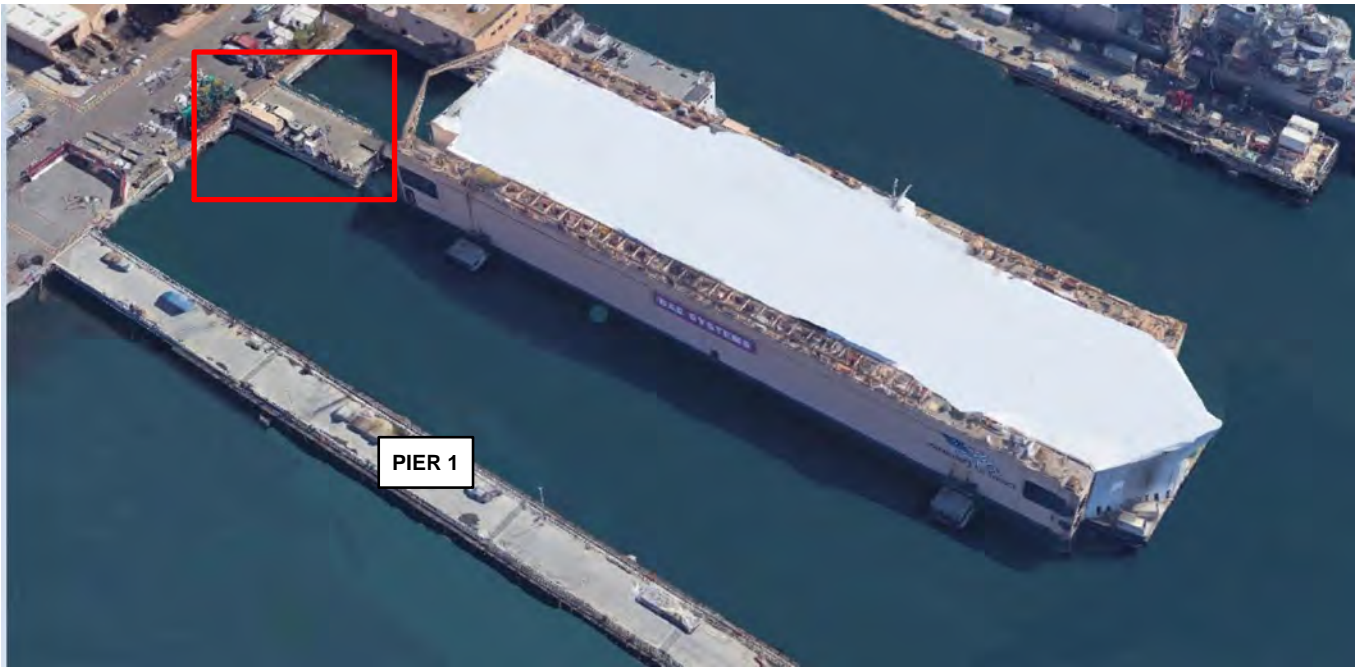
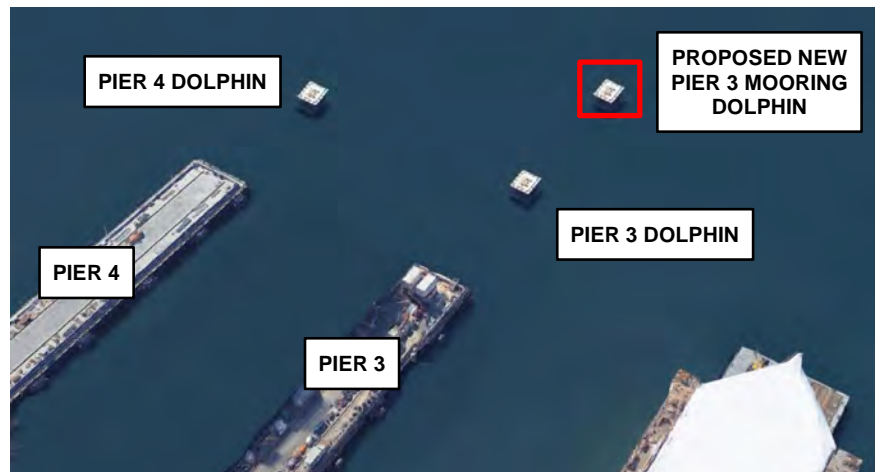


Photo of existing Pride of San Diego ramp wharf to be demolished in-way-of new extended wharf structure.



Approximate location of new pier 3 mooring dolphin



Existing pier 3 mooring dolphin; proposed new dolphin would consist of same design



Figure 3-6
Project Element 2: Pride of San Diego (POSD) Wharf Replacement / Realignment
and Project Element 5: Pier 3 Mooring Dolphin
BAE Systems Waterfront Improvement Project

In addition, fenders are occasionally damaged when struck by vessels, in which case they need to be replaced quickly in order to provide safe moorage for vessels. Therefore, for analysis purposes, it is assumed that up to 39 steel H-pile fenders per year would be replaced over the life of the existing lease (until 2034).

3.4.4 Pier 3 South Nearshore Dredging (Project Element 4)

Dredged material has entered the Pier 3 berth sump; therefore, this project element proposes to dredge approximately 15,000 cy of material. Figure 3-7 depicts the conceptual dredge plan for Project Element 4. In addition, the Pier 3 sump requires modification for safe passage of tugboats while maneuvering large ships.

The following actions are proposed as part of Project Element 4:

- Dredging approximately 15,000 cy from the toes of the dredge sump to the limit line elevation of the new bulkhead (-17 feet MLLW). Dredging would extend to an operational depth of -35 feet MLLW plus 2 feet of overdepth dredging.
- Placing dredged material directly onto dredge scows, with no stockpiling of materials on the site; loading directly onto trucks from the scows; and disposing of materials. Dredged material is dewatered, treated, and disposed of in accordance with existing permit and landfill requirements.

Dredging operations, including equipment maintenance activities, shift changes, barge changes, and movement about the site would occur 24 hours per day, 7 days per week, for 69 days.

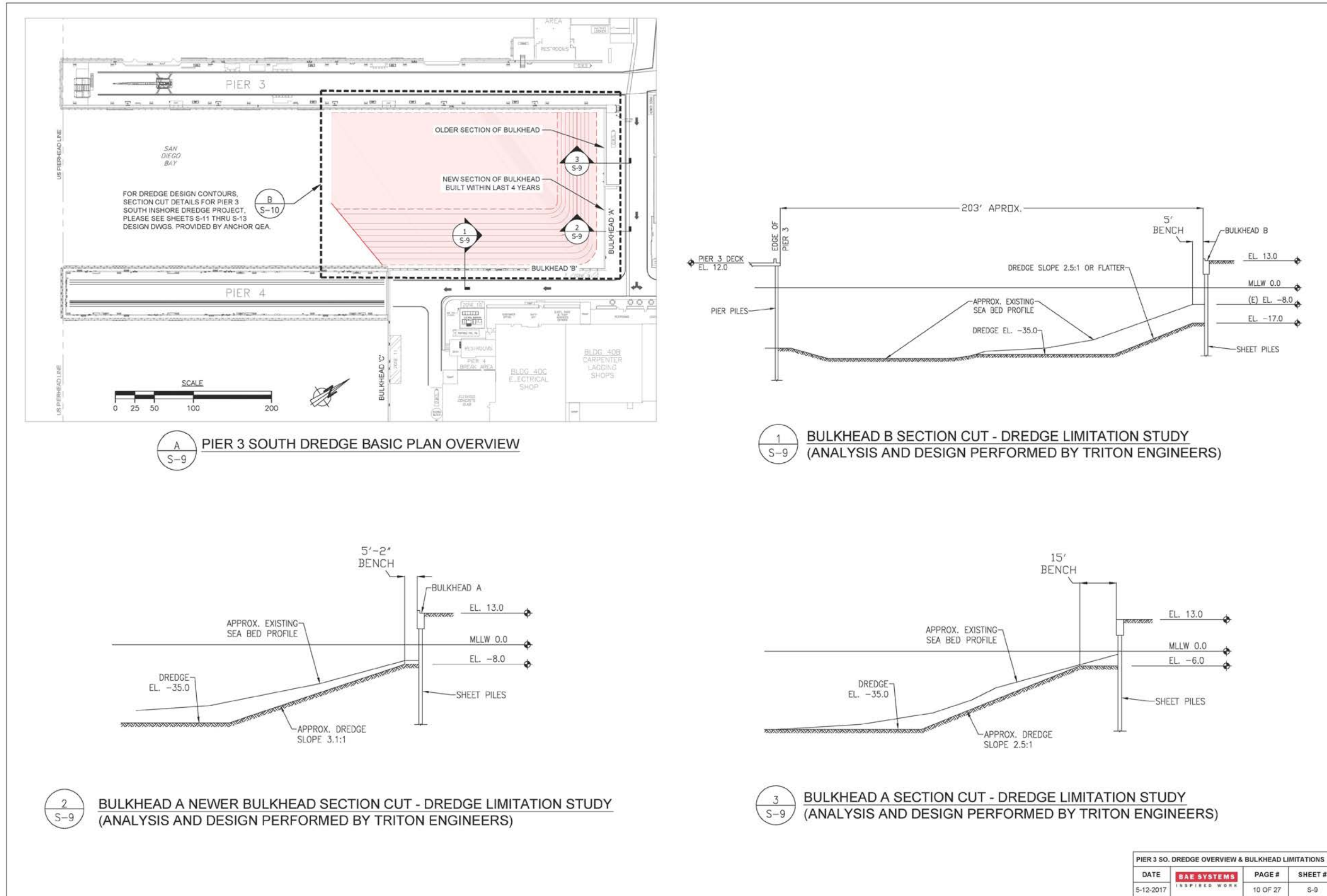
For Project Element 4, the extent of contamination within the sediment in this area is currently unknown. Therefore, there are two scenarios under consideration for disposal of dredged materials:

- The **50/50 Scenario** assumes that half of the total dredged material (7,500 cy) generated during Project Element 4 would be suitable for ocean disposal and half (7,500 cy) would require upland disposal. This scenario would result in approximately three scows to dispose of the material at the ocean disposal site, with each scow trip conveying 2,500 cy. The remaining half of the dredged material would be taken to upland locations using haul trucks with an estimated 15 cy capacity per truck.
- The **All-Truck Scenario** assumes that all dredged material (15,000 cy) would be disposed of at an upland location using haul trucks with an estimated 15 cy capacity per truck.

3.4.5 Pier 3 Mooring Dolphin (Project Element 5)

Installation of an additional mooring dolphin would be necessary to ensure safe vessel moorage, especially during extreme storm surge or other climatic conditions (e.g., wind and tide). The mooring dolphin would provide a fixed structure for securing the bow of large vessels and be designed consistent with existing mooring dolphins at the BAE Systems facility. The proposed new mooring dolphin would be entirely within CCC's jurisdiction. Figure 3-6 above provides existing and representative photos for this project element.

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PIER 3 SO. DREDGE OVERVIEW & BULKHEAD LIMITATIONS			
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Figure 3-7
Project Element 4 Conceptual Dredge Plan
BAE Waterfront Improvement Project

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The following actions are proposed as part of Project Element 5:

- Installing one 16- by 20-foot, 3-foot-thick mooring dolphin 970 feet offshore (i.e., 270 feet west of the U.S. Pierhead Line). The height of the new mooring dolphin would extend to +13 feet MLLW. The following components are proposed for the new mooring dolphin:
 - Eight 24-inch concrete octagonal piles.
 - Two 150-ton double bitts.¹⁶

Sixteen steel H-pile fenders, 12 cylindrical fenders, whalers,¹⁷ and chocks¹⁸ around the perimeter of the proposed mooring dolphin.

3.4.6 Pier 3 North Lunchroom Wharf Replacement and Realignment (Project Element 6)

The Pier 3 wharf is a timber structure at the northern foot of Pier 3 that is aging and in need of replacement. The timber deck, which is supported by twenty-seven 12-inch-square precast concrete piles, was originally installed in the 1950s or 1960s but underwent significant modifications in 1985. The structure is currently used by employees during lunch breaks. In addition, an open area, which is currently surrounded by structures, would be covered. As part of the replacement, dredging may remove potentially contaminated sediment that was not accessible during the remedial dredging associated with CAO No. R9-2012-0024. An estimated 2,000 cy of potentially contaminated sediment would be dredged from this area (Anchor QEA 2019). Figure 3-8 provides representative photos for this project element, Figure 3-4 depicts the conceptual dredge design to achieve compliance with CAO No. R9-2012-0024 and Figure 3-5 depicts the conceptual dredge design for Project Element 6.

The following actions are proposed as part of Project Element 6:

- Demolishing the existing overwater, 1,150-square-foot restroom structure; removing 2,915 square feet of wood decking; and removing 595 square feet of metal. Removal of these existing materials would generate approximately 77 cy of debris.
- Removing twenty-seven 12-inch concrete pilings and one H-pile.
- Installing forty-eight 24-inch octagonal pre-cast concrete pilings.
- Constructing a new overwater structure consisting of 8,800 square feet of cast-in-place decking (including a berm edge and stormwater collection system) to replace the existing overwater structure that would be demolished. The height of the new decking would extend to +13 feet MLLW.
- Dredging approximately 2,000 cy of material from beneath the Pier 3 break area and disposing of it at an approved upland disposal site, such as the Otay Landfill.

¹⁶ A *double bitt* is a type of bollard with two metal protrusions, which are used to secure lines from vessels to a dock. (A *bollard* is a short, thick post on the deck of a ship, or a wharf, for securing lines from a ship.)

¹⁷ *Whalers* are the large wooden crossbars that support the bulkhead, which is part of the pier. (The *bulkhead*, as defined here, refers to a retaining wall along the waterfront.)

¹⁸ *Chocks* are metal fixtures that hold lines in position so that vessels can tie up to a bollard, bitt, etc.

3.4.7 Quay Wall Modifications (Project Element 7)

A rock revetment slope is affecting vessel mooring and requires reinstallation. Figure 3-8 provides existing photos for this project element. The following actions are proposed as part of Project Element 7:

- Dredging 300 cy of rock, which would be disposed of at a local recycling facility.
- Dredging 500 cy of sediment in the immediate vicinity of the submerged sheet pile structure, which would be disposed of at an approved upland disposal site, such as the Otay Landfill.
- Installing up to 50 linear feet of a submerged sheet pile structure.

3.4.8 Port Security Barrier Replacement (Project Element 8)

A Port Security Barrier (PSB) is maintained around the facility, as required by the U.S. Navy, for vessels within the BAE Systems facility. The PSB deters small craft from approaching Navy vessels while they are undergoing repair. The U.S. Navy has instituted newer, stricter requirements for the PSB system, resulting in the need to replace the existing PSB with a new design. The proposed new PSB would be partially within CCC jurisdiction. Figure 3-9 provides existing and representative photos for this project element.

The following actions are proposed as part of Project Element 8:

- Removing the existing 3,500-linear-foot floating boom and replacing it with a new 3,500-foot hard barrier. The new PSB includes the following components:
 - Ten 8- by 7.55-foot buoys secured by three anchors per buoy location.
 - 3,500 linear feet of hard barrier (PSB-T or PSB-V type) with navigational aid lights.
- Removing and disposing of the existing barrier, buoys, and anchors. Disposing of 3,500 linear feet, or approximately 120 cy, of debris, and recycling 13 tons of scrap steel and 19 cy of concrete.

3.4.9 Small-Boat Mooring Float Replacement (Project Element 9)

The small-boat mooring float allows personnel and materials to be deployed for waterfront facility maintenance and inspection as well as other surveillance activities, including drills and exercises, conducted on site. In addition, as part of the enhanced site security requirements instituted by the U.S. Navy, BAE Systems is required to maintain on-water security, including security patrol vessels. Figure 3-10 provides existing photos for this project element. The following actions are proposed as part of Project Element 9:

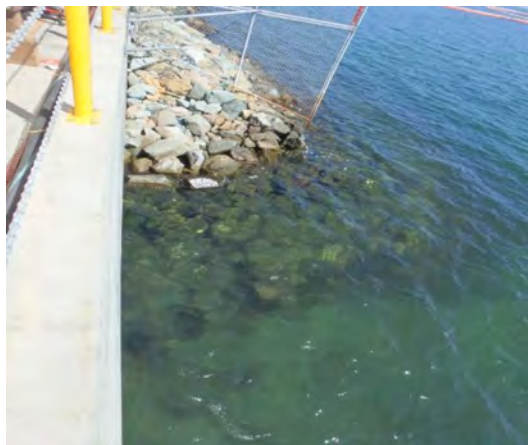
- Removing and replacing four piles that support the float.
- Replacing the existing 320-square-foot aged timber moorage float system (160 square feet for each float) with two 200-square-foot concrete floats. The new floats would include one 45-foot-long aluminum gangway, low-voltage electrical service, and potable water.
- Installing four 18-inch-round precast concrete piles.



Pier 3 break area and outline of proposed wharf structure



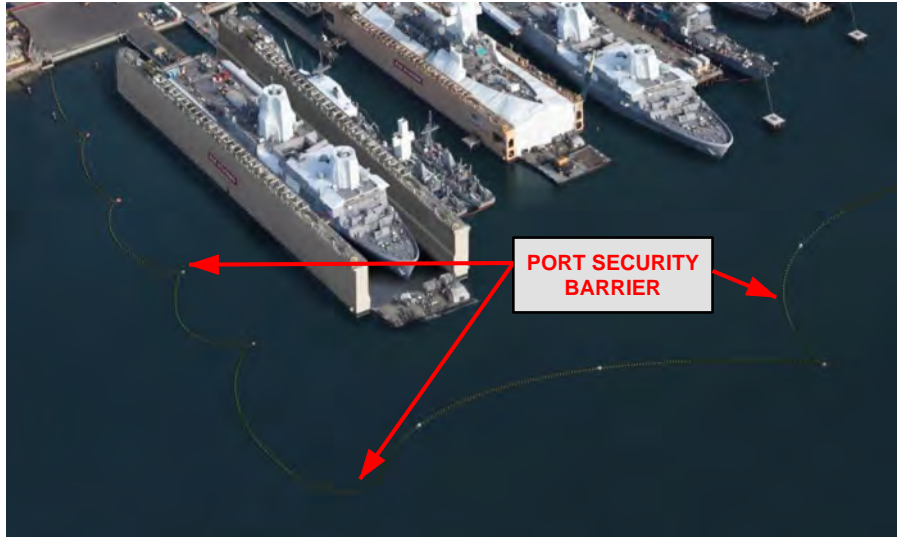
Pier 4 South Quaywall, looking towards south property line



Subsurface and sloped revetment to be removed



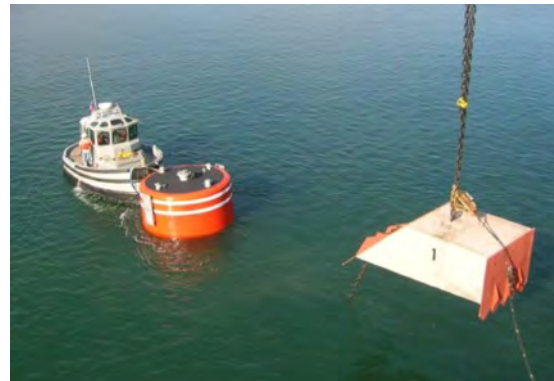
Figure 3-8
Project Element 6: Pier 3 Lunchroom Wharf Replacement / Realignment and
Project Element 7: Quaywall Modifications at South End of Property
BAE Systems Waterfront Improvement Project



Existing Port Security Barrier (PSB) perimeter around facility waterfront



Representative PSB Barrier (float sections spanning waterway)



Representative PSB buried conc. anchor block & mooring buoy



Figure 3-9
Project Element 8: Port Security Barrier (PSB) Replacement (Navy Security Req.)
BAE Systems Waterfront Improvement Project



Existing small craft float



Concrete float concept design mockup



Location of existing tool room to be demolished and incorporated into proposed wharf structure building.



Figure 3-10
Project Element 9: Small Boat Mooring Float Replacement and
Project Element 10: Central Tool Room Replacement / Relocation
BAE Systems Waterfront Improvement Project

3.4.10 Central Tool Room Demolition and Reconstruction (Project Element 10)

The existing central tool room is an aging structure at the foot of Pier 3, on the south side of the project site. The structure would be demolished, and a new tool room would be constructed on the proposed new wharf structure (as proposed as part of the Pier 3 North Lunchroom Wharf Replacement and Realignment [Project Element 6]). Figure 3-10 provides existing photos for this project element. The following actions are proposed as part of Project Element 10:

- Demolishing the existing 2,000-square-foot central tool room structure, which would generate approximately 16 cy of debris.
- Excavating approximately 150 cy of soil to a maximum depth of 2 feet for the new building foundation. The majority of the excavated soil material would be recompacted and used as the base for new asphalt.
- Constructing a three-story replacement structure that would provide an approximately 21,900-square-foot work space and a 7,300-square-foot building footprint. The height of the proposed new building would extend to +50 feet MLLW.
- Replacing the existing Pier 3 restroom facilities within the new central tool room or incorporating the existing Pier 3 restrooms into the new structure.
- Providing utilities and related infrastructure (e.g., potable water, sanitary sewer service, compressed air, natural gas, electrical, computer, communications) within the new tool room.

3.4.11 New Production Building (Project Element 11)

Project Element 11 would involve demolishing the existing production building and constructing a new production building near the existing Building 6/7 (see Figure 3-1). This proposed building would increase the efficiency of material assembly. The first floor of the new structure would be used for production and equipped with an overhead bridge crane. The second and third floors would contain engineering, production support, and administration functions. Figure 3-11 provides existing photos for this project element. The following actions are proposed as part of Project Element 11:

- Demolishing the existing 17,675-square-foot production building, which would generate approximately 698 cy of debris.
- Excavating approximately 2,600 cy of soil to a maximum depth of 4 feet for the new building foundation. The majority of the excavated material would be reused as backfill around foundations or for the concrete slab under the new production building. However, it is anticipated that approximately 400 cy of excavated soil material would not be suitable for reuse and therefore would be disposed of at an approved upland disposal site.
- Constructing a new three-story production building with a 48,379-square-foot work space and a 16,475-square-foot footprint, with a height of up to 50 feet.
- Installing an overhead bridge crane within the first floor of the new production building.

3.4.12 Administrative Office Building (Project Element 12)

The existing offices are trailers that BAE Systems rents/leases for customer use in support of ship repair contracts performed on the site. These facilities provide space for the government contracts, quality assurance, and program management personnel who have been assigned to these contracts. This project element includes construction of permanent administrative office spaces. The first floor would contain production spaces, a tool room, and restroom. The second and third floors would contain office space and a break room. The new administrative office building would accommodate existing personnel, with the intention of reducing/eliminating the need for double and triple occupancies, which currently occur at several work stations in the production spaces throughout the project site. Figure 3-12 provides existing photos for this project element.

The following actions are proposed as part of Project Element 12:

- Disassembling and removing four trailers, totaling approximately 8,016 square feet, which would generate approximately 150 cy of debris.
- Demolishing approximately 8,600 square feet of asphalt pavement and excavating for water and sewer service piping, footings/foundations, and general recompaction activities. It is anticipated that approximately 650 cy of soil material would be excavated to a maximum depth of 5 feet and a maximum of 200 cy of material would be disposed of at an approved upland disposal site.
- Constructing a new three-story administrative office building with approximately 46,000 square feet of work space, a building footprint of 16,000 square feet, and a height of up to 55 feet.

3.4.13 Pier 1 Restroom Renovation and/or Demolition (Project Element 13)

The existing 506-square-foot restroom facility requires reconfiguration to increase capacity and improve functionality for employees, customers, and contractors. The restrooms would be retrofitted with more water efficient fixtures, LED lighting, and other features to increase utility and efficiency.

As an alternative, upon completion of Project Element 12 (Administrative Office Building), which includes a restroom facility, the Pier 1 restroom may be demolished if it is determined that it is no longer needed. The demolition would generate approximately 51 cy of debris, and excavation would be limited to removal of the buried piping to the Pier 1 lift station. It is anticipated that approximately 40 cy of soil material would be excavated to a maximum depth of 5 feet, and 10 cy of material would be disposed of at an approved upland disposal site. Figure 3-12 provides existing photos for this project element.



Location of existing bldg 6 & 7 to be demolished in-way-of new production building in similar footprint



Bldg 6/7 (east) to be demolished in-way-of new prod. bldg.



Bldg 6/7 (west) to be demolished in-way-of new prod. bldg.

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Figure 3-11
Project Element 11: New Production Building
BAE Systems Waterfront Improvement Project



Existing modular offices footprint of new administrative office complex



Modular offices to be removed in-way-of administrative office construction



Existing pier 1 restroom to be demolished and incorporated into new admin complex



Figure 3-12
Project Element 12: Administrative Office Complex and
Project Element 13: Pier 1 Restroom (Existing) Demolition
BAE Systems Waterfront Improvement Project

3.4.14 Main Electric Utility Service Update (Project Element 14)

Project Element 14 would reconfigure the electrical utility distribution system in Building 13. This would involve relocation of the San Diego Gas & Electric main in Building 13 to Building 65, alongside East Belt Street, adjacent to the shipyard's existing four-way switch. Relocation of this electrical main would increase overall site safety by allowing San Diego Gas & Electric technicians access to critical electrical components outside the secure property perimeter. In addition, this project element would also provide additional space in the Building 13 electrical room, allowing BAE Systems to reconfigure and/or modernize the electrical equipment as needed. The following actions are proposed as part of Project Element 14:

- Replacing and upgrading electrical distribution equipment to ensure reliability and protect site infrastructure.
- Relocating the existing San Diego Gas & Electric main (i.e., meter) from Building 13 to Building 65. Existing electrical conduits within the project site would be reused to pull electrical cables to the relocated main in Building 65.

3.4.15 Sanitary Sewer and Potable Water Utility Services (Project Element 15)

The existing sanitary sewer and potable water service feeds have not been modified since the original installation in 1983. The hotel service requirements of current naval and commercial vessels necessitate improvements to sanitary sewer and potable water services. If implemented, this project element would include the replacement of existing sanitary and potable water feeds currently connected to existing utility services, which would require minor trenching. At this time, the exact locations and details of the specific sanitary and potable water feeds that would be replaced is unknown. Therefore, it is assumed that these improvements could occur throughout the project site.

3.5 Project Construction

3.5.1 Schedule

Construction of the various project elements is anticipated to begin in June 2021, with Project Element 3 (Fender Systems Repair and Replacement) and Project Element 4 (Pier 3 South Nearshore Dredging), and last through March 2026. Construction of each project element would not be performed in the order in which they are numbered in Figure 3-1. As shown in Table 3-1, construction of the various project elements would primarily occur sequentially, with little to no overlap between elements; however, construction of some elements may occur concurrently as indicated in Table 3-1. All construction activities would occur between 7:00 a.m. and 7:00 p.m. except for dredging activities, which would potentially occur 24 hours a day, 7 days a week for their duration. Table 3-1 lists the project elements in chronological order and provides the anticipated timing, duration, and construction crew size for each project element. Note that the anticipated construction schedule in Table 3-1 is approximate and is provided for analysis purposes, and the actual start and end dates may vary.

Table 3-1. Proposed Construction Schedule

#	Project Element	Anticipated Schedule	Approximate Duration (months)	Crew Size	Truck Trips
3 ¹	Fender System Repair and Replacement (Fender Repair and Replacement)	June 2021– July 2021	0.75	6	60
9	Small-Boat Mooring Float Replacement	July 2021– August 2021	1.00	5	7
2	Pride of San Diego Drydock Wharf Replacement and Realignment	September 2021– December 2021	4.00	13	256
1	Pride of San Diego Drydock Dredging and Moorage	September 2021– December 2021	3.25	12	1,380
7	Quay Wall Modifications	January 2022– February 2022	1.00	10	10
3 ¹	Fender System Repair and Replacement (Fender System New Construction)	February 2022– March 2022	1.50	6	60
8	Port Security Barrier Replacement	May 2022– July 2022	2.00	6	75
3 ¹	Fender System Repair and Replacement (Fender System Maintenance and Replacement)	July 2022– August 2022	1.50	6	60
6	Pier 3 Lunchroom Wharf Replacement and Realignment	September 2022– December 2022	3.50	7	289
14	Electric Utility Service Update	February 2023– May 2023	3.50	5	5
15	Sanitary Sewer and Potable Water Utility Services	June 2023– August 2023	3.00	3	5
4	Pier 3 South Nearshore Dredging <i>All Truck Scenario</i>	September 2023– November 2023	2.25	10	1,000
4	Pier 3 South Nearshore Dredging <i>50/50 Scenario</i>	September 2023– November 2023	2.25	10	500
5	Pier 3 Mooring Dolphin	November 2023– December 2023	1.50	5	24
11	New Production Building	January 2024– October 2024	9.25	16	258
12	Administrative Office Building	November 2024– August 2025	9.50	16	213
13	Pier 1 Restroom Renovation and/or Demolition	June 2025– July 2025	1.00	10	25
10	Central Tool Room Demolition and Reconstruction	September 2025– March 2026	7.00	13	22

Note: The project construction schedule has been structured to minimize in-water work during the California least tern nesting/foraging season, where feasible.

¹ This project element would occur over three separate subphases: fender system repair and replacement, new fender installation, and fender system maintenance and replacement.

3.5.2 Equipment

In-water construction activities require specific types of construction equipment, including a floating crane, used for driving concrete piles; deck barges for delivering or storing materials; and tugboats for moving equipment, the drydock, and vessels. Landside construction activities would require use of an 80-ton land-based mobile crane, trucks for the delivery of construction materials, forklifts for support, a drilling rig, an impact hammer, and a vibratory hammer. Trucks for pouring concrete could also be required. Generally, it is anticipated that the project would require the use of rebar, structural steel, concrete, electrical and mechanical systems, tools, and construction equipment.

The types of equipment listed in Table 3-2 would be required during the various stages of construction.

Table 3-2. Anticipated Construction Equipment

Project Elements	Construction Stage	Equipment ¹
1, 4, 6, and 7	Dredging	<ul style="list-style-type: none"> • A dredge crane on a barge (for Project Elements 1 and 4) • Scow/barge with an ocean-going tugboat (for Project Elements 1 and 4) • Dump trucks • Runoff control features and containment structures • Pusher tugboat and survey vessel • Tractor/loader/backhoe
1-3, 6, 10-13	Demolition of Existing Structures	<ul style="list-style-type: none"> • Crane • Forklift • Miscellaneous construction equipment, including, but not limited to, pump trucks, asphalt pavers, and compactors • Other material handling equipment, including, but not limited to, cranes, forklifts, front-end loaders, excavators, and Bobcat skid steers • Welders • Generator • Tractor/loader/backhoe • Tugboat
1-12, 14, and 15	Construction	<ul style="list-style-type: none"> • Crane • Forklifts • Miscellaneous construction equipment, including, but not limited to, pump trucks, asphalt pavers, and compactors • Other material handling equipment, including, but not limited to, cranes, forklifts, front-end loaders, excavators, and Bobcat skid steers • Welders • Generators

¹This is a comprehensive list of equipment that would be used for the project element; however, not every piece of equipment would be required for each element.

3.5.3 Demolition and Disposal

As shown in Table 3-3, eight of the project elements require demolition of existing structures and disposal of the subsequent debris. The construction waste generated from this demolition would be transported from the site and disposed of at an approved landfill. A minimum of 65 percent of the construction waste would be recycled in accordance with the City of San Diego Construction and Demolition Debris Ordinance. Similar to disposal of construction waste, contaminated dredged sediment generated by the proposed project would be designated for upland disposal and transported to an approved landfill. Table 3-3 delineates the amount of demolition material that would be generated by the eight project elements that require demolition.

Table 3-3. Landside Demolition Disposal

Project Element	Weight (tons)	Volume ¹ (cubic yards)
1 Pride of San Diego Drydock Dredging and Moorage Replacement	2,032	1,005
2 Pride of San Diego Drydock Wharf Replacement and Realignment	884	408
3 Fender System Repair and Replacement	1,352	269
6 Pier 3 North Lunchroom Wharf Replacement and Realignment	125	77
10 Central Tool Room Demolition and Reconstruction	101	16
11 New Production Building	838	698
12 Administrative Office Building	291	150
13 Pier 1 Restroom Renovation and/or Demolition	6	51
Total	5,629	2,674

¹ Scrap steel generated during demolition and construction would be handled through the BAE Systems facility scrap recycling program and, therefore, is not accounted for in the volume of demolition disposal.

Up to approximately 15,000 cy of dredged materials from the Pier 3 South Nearshore Dredging (Project Element 4) would be disposed of at an approved upland landfill, such as the Otay Landfill and/or Sycamore Landfill.¹⁹ The dredged materials would be placed in dredge scows; no stockpiling on the site is proposed. Dredged material is dewatered, treated, and disposed of in accordance with existing permit and landfill requirements.

Additionally, approximately 2,000 cy of material would be dredged beneath the Pier 3 break area as part of the Pier 3 North Lunchroom Wharf Replacement and Realignment (Project Element 6). The Quay Wall Modifications (Project Element 7) would also include dredging of 300 cy of rock, which would be disposed of at a local recycling facility, as well as 500 cy of sediment. The dredged sediment from both of these project elements would be disposed of at an approved upland disposal site.

Moreover, approximately 98,800 cy of material would be dredged as part of the Pride of San Diego Drydock Dredging and Moorage Replacement (Project Element 1). Dredged materials from this project element are planned for ocean disposal at the LA-5 disposal site if suitable for unconfined

¹⁹ As discussed under Section 3.4.4 above, the extent of unsuitable materials dredged under Project Element 4 is currently unknown. Therefore, there are two scenarios under consideration for disposal of dredged materials: the 50/50 Scenario and All Truck Scenario. The 50/50 Scenario assumes that half of the total dredged material (7,500 cy) generated would be suitable for ocean disposal and half (7,500 cy) would require disposal at an approved landfill.

aquatic ocean disposal. To determine the suitability of the dredged material for unconfined aquatic ocean disposal, BAE Systems would conduct a dredged material suitability study in consultation with the USACE and EPA as part of the Ocean Dumping Permit process. Any dredged material that is unsuitable for ocean disposal would be disposed of at an approved upland landfill (see discussion under Section 3.4.1).

As discussed in Section 3.4.1, in the event that unconfined aquatic disposal is not suitable, only approximately 15,280 cy of the proposed 98,800 total cy of sediment would be dredged to comply with CAO No. R9-2012-0024.

3.5.4 Construction Worker Parking

Construction equipment laydown and parking would be provided onsite adjacent to the construction zones for each project element. In the event of excess parking demand, BAE Systems has an existing agreement with the nearby Hilton San Diego Bayfront for additional overflow parking and a shuttle service to transport workers to the project site. All construction workers who cannot be accommodated onsite and/or would need to park offsite would be required to park at the Hilton San Diego Bayfront, and all construction personnel would receive parking passes for the duration of the construction period for that project element(s). Once parked at the Hilton San Diego Bayfront, construction personnel would be required to use vanpools to and from the project site.

3.5.5 Best Management Practices

3.5.5.1 Water Quality

Construction staging activities would occur within the project site. The proposed project is anticipated to include pavement resurfacing, grading, or soil disturbance greater than 100 square feet but less than 1 acre. In addition, the proposed project would include redevelopment of 5,000 square feet of impervious surfaces on an existing site with 10,000 square feet of impervious surfaces. Therefore, the proposed project is categorized as a Priority Development Project and subject to permanent best management practices (BMPs), per the District's *BMP Design Manual* and as required by the Municipal Stormwater Permit. A Stormwater Quality Management Plan for Priority Development Projects that identifies and supports the use of permanent structural BMPs, as appropriate, is also required. A Construction BMP Plan would also be developed as part of the proposed project, outlining the specific BMPs that would be implemented during construction. The Construction BMP Plan would be approved by the District prior to commencement of construction activities. Components of the plan include BMPs to eliminate or reduce pollutants in stormwater runoff and non-stormwater discharges from the project site during construction. The plan includes the following types of construction BMPs: erosion management, material pollution control, sediment control, soil stabilization, tracking control, wind erosion control, waste management, and spill prevention and control.

The BAE Systems San Diego Ship Repair Yard operates and maintains a Stormwater Diversion System (SWDS) to eliminate or reduce stormwater discharges to surrounding receiving waters (i.e., San Diego Bay). The relevant proposed project elements would incorporate existing BMPs, including the SWDS, or modify/develop project-specific BMPs, as appropriate. The SWDS consists of 36 catch basins and associated piping as well as secondary containment. The perimeter of the site is bermed, including the piers, overwater structures, and drydocks. The system is designed to capture the first inch of stormwater that falls on the facility, which is 100 percent impervious.

Collected stormwater is held in 11 tank systems (DS1 through DS11) and managed in accordance with the BAE Systems Industrial User Discharge Permit, issued by the City of San Diego Industrial Wastewater Control Program. Once it has been determined that the stormwater meets Industrial User Discharge Permit parameters, it is discharged into the on-site sewer. Additional system capacity would not be required.

Standard operating procedures (SOPs) and BMPs during in-water construction activities will be implemented. Practices and procedures may include the District's *Best Management Practices and Environmental Standards for Overwater Structural Repair and Maintenance Activities for Existing Port Facilities Conducted by the San Diego Unified Port District* (District 2019) as may be augmented by the RWQCB during the Clean Water Act Section 401 Water Quality Certification process and will adhere to construction parameters established in the CAO R9-2012-0024. These BMPs and SOPs are further discussed in Section 4.4, *Hazards and Hazardous Materials* and Section 4.5, *Hydrology and Water Quality* of this EIR. The BMPs and SOPs for pile installation or removal techniques may be modified dependent on technique employed (i.e. use of an impact hammer, and/or jetting, and/or spudding) which itself is dependent on conditions encountered.

3.5.6 Project Operation

Several of the project elements are infrastructure maintenance and modernization improvements and would not change existing operations at the project site. However, the dredging and mooring improvements under Project Element 1 (Pride of San Diego Drydock Dredging and Moorage Replacement), as well as Project Element 4 (Pier 3 South Nearshore Dredging) and Project Element 5 (Pier 3 Mooring Dolphin), would allow BAE Systems to improve operational efficiency and service newer and larger classes of vessels compared to existing conditions. Each of these operational changes are described in further detail below.

As discussed further in Section 3.4.1, the current configuration of the Pride of San Diego Drydock and sump requires the drydock to be moved from its mooring to the west and south in order to submerge and dock or undock a vessel each time a vessel comes in for drydock servicing. Implementation of Project Element 1 would improve operational efficiencies by allowing the drydock to submerge and lift vessels in place without the need for the drydock to be moved, thereby reducing the amount of time and effort needed to service vessels at drydock. This in-turn would allow wide-bodied vessels to be concurrently moored at Pier 3 North, eliminating the need to run the diesel engines of two separate vessels concurrently during docking and undocking activities as well as the need for tugboats to move the drydock.

The largest naval vessels that can currently berth at Pier 3 are Amphibious Transport Dock (LPD-17) vessels, which are 684 feet in length. Pier 3 is not designed for the wind, tide, and mooring loads, as well as overall length, to accommodate larger vessels, such as an Amphibious Assault Ship (LHD/LHA), which is 844 feet in length and has a 106-foot beam. The proposed improvements at Pier 3 (Project Elements 4 and 5) would include approximately 15,000 cy of nearshore dredging and the installation of an additional mooring dolphin. With the proposed improvements, the facility would be able to moor the larger Amphibious Assault Ships, as well as larger commercial ships, at the Pier 3 South berth; however, no change in the mooring capacity would occur at the Pier 3 North berth as the existing shoreline infrastructure creates an inadequate pier length for supporting larger vessels.

Because of the changes to mooring capacity at Pier 3 South, the number of vessel crew and laborers onsite could also change, depending on the specific ship mix at the site. For example, commercial vessels do not generally carry a large crew, while large naval vessels occasionally do. Crew size may also be dependent on the length of the repair contract and/or the type of work being done on the vessel. Table 3-4 provides the dimensions and crew sizes for vessels that are currently serviced or could be serviced in the future at the site.

Table 3-4. Vessel Dimensions and Crew Size Ranges

Ship Class ^{1,2}	Length (feet)	Width (feet)	Draft (feet)	Crew Size Range ⁴
Cruisers (CG)	567	55	34	272–340
Destroyers (DDG)	505	66	31	278–348
Dock Landing Ships (LSD-49)	610	84	21	318–397
Amphibious Transport Docks (LPD-17)	684	105	23	266–333
Littoral Combat Ships (LCS)	418	104	14	35–43
General-Purpose Amphibious Assault Ship (LHA)	844	106	26	847–1,059
Multi-Purpose Amphibious Assault Ship (LHD)	843	104	27	966–1,208
Dry Cargo/Ammunition Ships (T-AKE) ³	689	106	30	172
Fleet Replenishment Oilers (T-AO) ³	755	107	35	139
Expeditionary Fast Transport (T-EPF) ³	338	94	13	22

¹ All vessel classes, except littoral combat ships (LCS), use an existing mooring dolphin that is approximately 150 feet past the end of the pier (i.e., west of the U.S. Pierhead Line), which is approximately 850 feet from shore.

² Types of vessels that are currently serviced at the site include CG, DDG, LSD-49, LPD-17, LCS, T-AKE, T-AO, and T-EPF.

³ Military Sealift Command (MSC)/Commercial.

⁴ Workforce of Navy vessels typically reduced when coming into berth by approximately 20 percent while under repair. Vessels depicted with varying crew sizes reflect the range between reduced and full crew sizes.

The proposed improvements at Pier 3 South (Project Elements 4 and 5) would change the number and types of vessels that could be moored at the site when a large ship is moored on the south side of the pier. The specific ship mix that the facility could support is dependent on the size of the vessel moored and its effects on adjacent berths. Because of the increased width of the larger vessels (Navy or commercial) that could be moored at Pier 3 South, the mooring of vessels at Pier 4 North would be eliminated as there would no longer be enough width between Pier 3 South and Pier 4 North to accommodate both. However, the proposed improvements at Pier 3 South would not preclude two smaller ships from being concurrently serviced at Pier 3 South and Pier 4 North, consistent with existing operations at the site.

Figure 3-13 depicts one of the potential berthing configurations, based on the changes in ship mix that could occur with the proposed project (Scenario 2 in Table 3-5). However, the mooring of vessels at Pier 4 North could still occur when cruisers (CG) (567 feet long/55 feet wide) or destroyers (DDG) (505 feet long/66 feet wide) are moored at Pier 3 South (current state). In addition, when a larger Navy ship is moored at Pier 3 South, the attendant berthing barge would be required to moor at either Pier 3 North or Pier 4 South. As a result, the potential berthing capacity of the site would be reduced by two vessels. Using the most conservative crew assumptions (Amphibious Assault Ships [LHD] at Pier 3 South), Table 3-5 compares the three potential berthing scenarios and identifies which vessels can moor at Pier 4 South when an LHD is moored at Pier 3 South following project implementation.

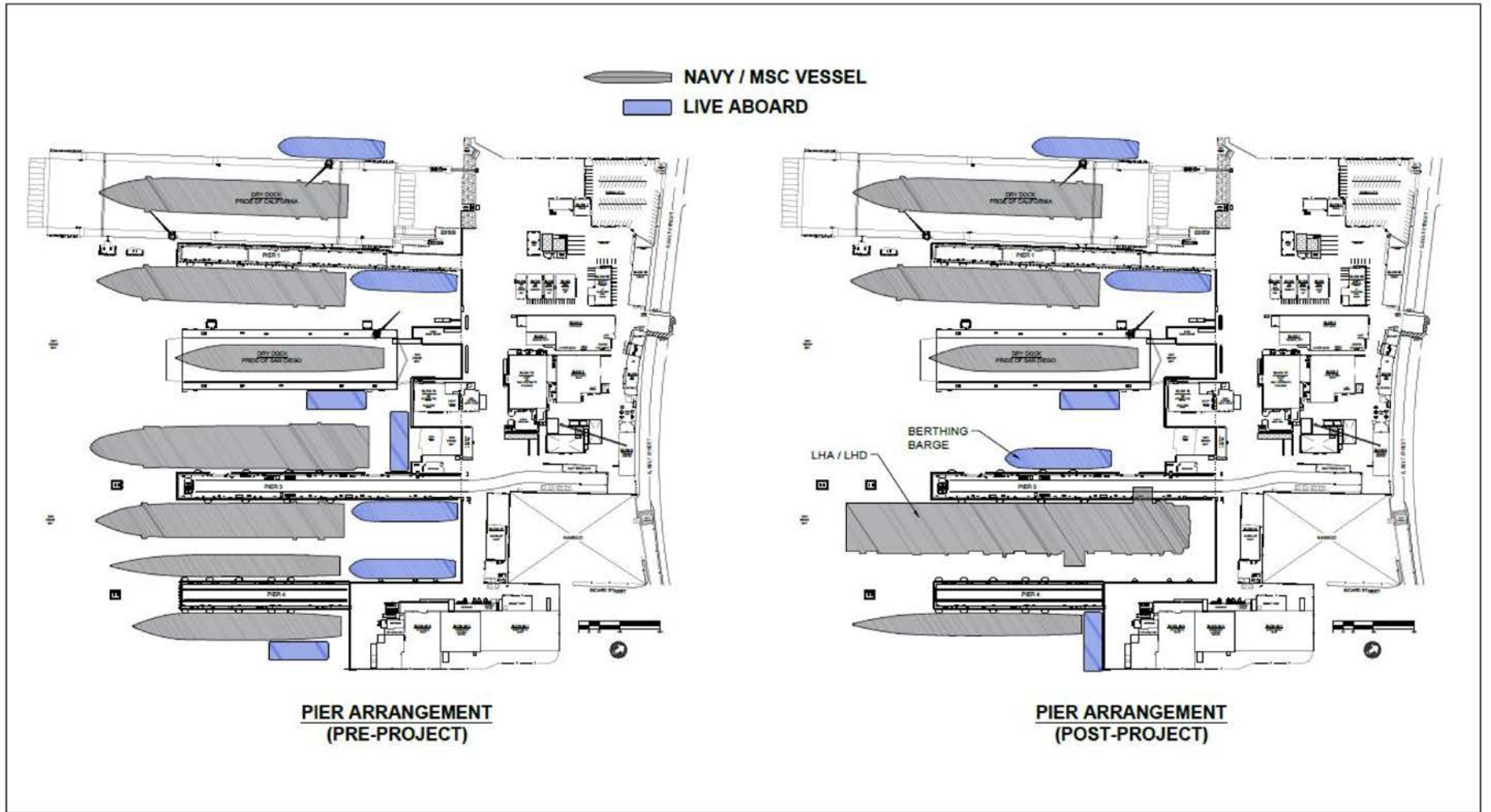


Figure 3-13
Existing and Potential Post-Project Berthing Configurations
BAE Systems Waterfront Improvement Project



Table 3-5. Vessel Crew and Labor Comparison Before and After Project (LHD Berthed at Pier 3 South)

Scenario	Existing Vessel Crew and Labor Size						Proposed Vessel Crew and Labor Size				Delta ³		
					Subtotal	Total						Subtotal	Total
1	Pier ¹	3S	3N	4S	4N			3S	3N	4S	4N		
	Ship Type ²	CG	DDG	DDG	CG			LHD	None	DDG	None		
	Crew	272	278	278	272	1,100	2,216	966	0	278	0	1,244	1,844
	Labor	279	279	279	279	1,116		321	0	279	0	600	
2	Pier ¹	3S	3N	4S	4N			3S	3N	4S	4N		
	Ship Type ²	LSD	LPD	DDG	CG			LHD	None	CG	None		
	Crew	318	266	278	272	1,134	1,974	966	0	272	0	1,238	1,838
	Labor	141	141	279	279	840		321	0	279	0	600	
3	Pier ¹	3S	3N	4S	4N			3S	3N	4S	4N		
	Ship Type ²	LSD	DDG	LCS	CG			LHD	None	LCS	None		
	Crew	318	278	35	272	903	1,572	966	0	35	0	1,001	1,447
	Labor	141	124	125	279	669		321	0	125	0	446	

¹ 3S = Pier 3 South; 3N = Pier 3 North; 4S = Pier 4 South; 4N = Pier 4 North.

² CG = Cruisers; DDG = Destroyers; LSD = Dock Landing Ships; LPD = Amphibious Transport Docks; LHD = Amphibious Assault Ship; LCS = Littoral Combat Ships.

³ Delta is the overall change in crew and labor size between existing and proposed project conditions for each scenario.

Another difference between existing and proposed conditions is the number of ship repair days per year. Under proposed conditions, when a larger ship is berthed at Pier 3 South, only the south side of Pier 3 would be used instead of both sides (north and south), as under current conditions, because the attendant berthing barge would be required to moor at either Pier 3 North or Pier 4 South. This would potentially limit the ability of vessels to be moored and serviced at Pier 3 North under these circumstances. However, this would occur only when an LHA/LHD is berthed at Pier 3 South. This would decrease overall operational efficiency (occupancy) at Pier 3 and therefore result in fewer days per year when Pier 3 would be active with ship maintenance and repair. The addition of the mooring dolphin at Pier 3 would support the berthing of an LHA/LHD and would not increase capacity for other classes of vessels or work at the site. With the limitations presented by the current Pier 3, such as ability to moor larger/longer vessels, BAE Systems is not able to use this pier for larger/longer ships.

Table 3-6 identifies the anticipated change in the annual average number and duration of ships moored and/or serviced at the BAE Systems facility. As shown in Table 3-6, there would be no change between the existing and projected number of vessels serviced as well as the number of days spent in the drydock. However, there would be a change in the number of vessels serviced at berth (i.e., at Piers 3 and 4). Specifically, there would be three fewer CG/DDG vessels annually under the proposed condition than under the existing condition (i.e., five vessels vs. two, respectively). This would be offset by the new capability to service LHA/LHD vessels, which would add one such vessel for approximately 220 days. Overall, the average number of days vessels are in service at berth under the proposed project condition would be nearly identical to the existing condition (i.e., 156 vs. 157, respectively).

Table 3-6. Projected Changes in Average Number and Duration of Vessels Moored/Serviced (Annual)

Ship Class	Drydocked				Berthed			
	Existing ¹		Proposed		Existing ¹		Proposed	
	Number	Duration (Days)	Number	Duration (Days)	Number	Duration (Days)	Number	Duration (Days)
CG/DDG	2	153	2	153	5	168	2	168
LPD/LSD	1	278	1	278	2	194	1	194
LCS	1	124	1	124	1	30	1	30
LHA/LHD	0	0	0	0	0	0	1	220
Total²	4	177	4	177	8	157	5	156

¹ Existing data for 2015 to 2018 (2018 actuals through August and projections for September to December 2018).

² The duration totals represent the average duration of each vessel moored/serviced at the site annually.

Vessels calling on the BAE Systems facility generally require “ship assist” tugboat services to move them in and out of the shipyard. Naval vessels would come to the BAE Systems San Diego Ship Repair Yard from either Naval Base San Diego (most common) or a commercial shipyard (least common). It should be noted that LHD/LHA vessels would not arrive from sea or depart to sea immediately prior to arrival/departure at the BAE Systems San Diego Ship Repair Yard. Rather, it is anticipated that this class of vessel would transit between BAE Systems and Naval Base San Diego on all occasions. Tugs are also required when transitioning a ship to or from a BAE Systems pier or into or out of drydock. Overall, tugboat activity would decrease on an annual basis compared to existing conditions due to the reduced number of vessels that would be serviced annually, as well as the

operational efficiencies gained at the Pride of San Diego Drydock, which would no longer require the drydock to be moved in order to submerge and dock or undock a vessel. A detailed discussion of the changes in tug activity resulting from the proposed project is provided in Section 4.1, *Air Quality and Health Risk*. In addition, BAE Systems provides temporary portable diesel engines on the ships to provide minimal power for lighting and other systems during transit in and out of the facility. Furthermore, portable fire pumps are usually provided for fire protection during the movement of vessels in and out of the shipyard.

3.6 Project Review and Approvals

The District is the lead agency under CEQA and responsible for permitting and carrying out the proposed project. In addition, several other federal, state, and local permits and approvals will be required for the proposed project. The permits and approvals listed below may be required to implement the proposed project.

3.6.1 Federal Agencies

U.S. Army Corps of Engineers

- Authorize individual/nationwide Section 404 Permit (Clean Water Act [CWA]; 33 U.S. Code [USC] Section 1341)
- Authorize Section 10, Rivers and Harbors Act Permit
- Enforce Marine Protection, Research, and Sanctuaries Act of 1972, Section 103
- Enforce 40 Code of Regulations, Part 227, Criteria for the Evaluation of Permit Applications for Ocean Dumping Materials

U.S. Environmental Protection Agency

- Authorize Ocean Dumping Permit

U.S. Coast Guard

- Obtain concurrence with Ocean Dumping Permit (EPA)

National Marine Fisheries Service and U.S. Fish and Wildlife Service

- Obtain concurrence with Ocean Dumping Permit (EPA)

3.6.2 State Agencies

State Water Resources Control Board, Regional Water Quality Control Board

- Authorize Section 401 Certification (CWA, 33 USC Section 1341, if the project requires a USACE 404 Permit) and Water Discharge Requirements for dredging

California Coastal Commission

- Authorize a non-appealable Coastal Development Permit for activities outside District's permitting jurisdiction for Project Elements 1, 5, and 8

California Department of Fish and Wildlife

- Obtain concurrence with the Ocean Dumping Permit (EPA)

3.6.3 Local Agencies**San Diego Unified Port District**

- Certification of the EIR
- Adoption of the Mitigation Monitoring and Reporting Program
- Adoption of the Findings of Fact
- Adoption of the Statement of Overriding Considerations, if applicable

Authorization for issuance of a non-appealable Coastal Development Permit City of San Diego

- Issuance of ministerial permits (e.g., grading, building, electrical)

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Introduction

In accordance with Sections 15128 and 15143 of the State CEQA Guidelines, Sections 4.1 through 4.9 of Chapter 4 of this Draft EIR contain a discussion of the potential significant environmental effects resulting from the proposed project, including information related to existing site conditions, criteria for determining the significance of potential environmental impacts, analyses of the type and magnitude of environmental impacts, and feasible mitigation measures that would reduce or avoid significant environmental impacts.

Potential Environmental Impacts

This chapter provides an analysis of the following environmental resource and issue areas.

- 4.1 *Air Quality and Health Risk*
- 4.2 *Biological Resources*
- 4.3 *Greenhouse Gas Emissions and Energy*
- 4.4 *Hazards and Hazardous Materials*
- 4.5 *Hydrology and Water Quality*
- 4.6 *Land Use and Planning*
- 4.7 *Noise and Vibration*
- 4.8 *Sea-Level Rise*
- 4.9 *Transportation, Circulation, and Parking*

The District determined during preparation of the Initial Study/Environmental Checklist (Appendix A) that the proposed project would have either a less-than-significant impact or no impact associated with the following resources: Aesthetics; Agriculture and Forestry Resources; Cultural Resources; Geology and Soils; Mineral Resources; Population and Housing; Public Services; Recreation; Tribal Cultural Resources; Utilities and Service Systems; and Wildfire. These issues are described in Section 6.3, *Effects Not Found to Be Significant*, of this Draft EIR.

Format of the Environmental Analysis

Each of the 9 environmental resource sections of this chapter includes the following subsections.

Overview

This subsection briefly describes the thresholds of significance considered in the particular resource section, identifies any reports which contain information presented in the environmental analysis, and summarizes the environmental effects of the proposed project and any necessary mitigation measures.

Existing Conditions

According to Section 15125 of the State CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of a project to provide the “baseline condition” against which project-related impacts are compared. Normally, the baseline condition is the physical conditions that exist when the NOP is published; however, a different baseline may be used in specific cases where it is deemed appropriate and supported by substantial evidence. The NOP was published on March 7, 2019. Unless indicated otherwise, the environmental setting described in each of the following sections will be that which existed at the time the NOP was published.

Applicable Laws and Regulations

This subsection provides a summary of regulations, plans, policies, and laws at the federal, state, and local levels that are relevant to the proposed project as they relate to the particular environmental resource area in discussion. Compliance with these applicable laws and regulations is mandatory unless noted otherwise within the analysis. Therefore, as it relates to the *Project Impact Analysis* below, compliance is assumed because it is required by law, as specified in a tenant lease, and mitigation generally would not be required when the proposed project’s compliance with an existing law or regulation would avoid or reduce a significant impact.

Project Impact Analysis

This subsection describes the methodology used for the analysis of the potential environmental impacts; identifies the criteria for determining the significance of potential impacts; discusses the facts, data, and other information that relates to potential environmental impacts; determines whether the environmental impacts would be significant; identifies feasible mitigation measures that may avoid or reduce the significant impacts; and states a conclusion as to whether the environmental impacts would be considered significant and unavoidable, less than significant with mitigation incorporated, or less than significant (see definitions below). Each topic analyzed is divided into specific issues, based on potential impacts, and addresses construction and operational impacts separately wherever relevant. The discussion of potential impacts is based on the applicable threshold of significance (see below) for each issue. Where potential impacts are significant, feasible mitigation measures are identified to minimize, rectify, reduce, eliminate, or compensate for significant impacts with the goal of reaching a less-than-significant impact determination.

Methodology

Each methodology subsection describes the means used to analyze potential impacts on a particular resource, discussing the steps followed and listing any studies relied on to determine significance.

Thresholds of Significance

Thresholds of significance are criteria used to assess whether potential environmental effects are significant. The significance criteria used in this analysis are primarily based on the recommendations provided in Appendix G of the State CEQA Guidelines. The thresholds of significance define the type, amount, and/or extent of impact that would be considered a significant adverse change in the environment. The thresholds of significance for some environmental topics, such as certain air quality and noise issues, are quantitative, while thresholds for other topics, such

as visual quality, are often qualitative. The thresholds of significance are intended to assist the reader in understanding how an impact is determined to be significant and are based on substantial evidence in the administrative record.

Project Impacts and Mitigation Measures

Impact Discussion

The analysis of environmental impacts considers both the construction and operation of the proposed project. As required by Section 15126.2(a) of the State CEQA Guidelines, direct, indirect, short-term, long-term, onsite, and/or offsite impacts are addressed, as appropriate, for the environmental issue being analyzed. This EIR utilizes the following terms to describe the level of significance of impacts identified during the course of the environmental analysis.

No Impact: This term is used when the project's construction and/or operation would have no adverse effect on a resource.

Less than Significant: This term is used to refer to impacts resulting from implementation of the proposed project that would not exceed the defined thresholds of significance, and potentially significant impacts that are reduced to a level that does not exceed the defined thresholds of significance after implementation of mitigation measures. In the latter case, the determination is commonly stated as "less than significant with mitigation incorporated."

Significant: This term is often used to refer to impacts resulting from implementation of the proposed project that exceed the defined thresholds of significance before identification of any mitigation measures. A "significant effect" is defined by Section 15382 of the State CEQA Guidelines as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, 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 [but] may be considered in determining whether the physical change is significant." For impacts that exceed a threshold of significance, mitigation measures that avoid or reduce the potential significant impact are identified, which may cause the impact to be reclassified as less than significant if it is sufficiently reduced, or the impact may remain significant, in which case it is referred to as a significant and unavoidable impact (or unavoidable significant impact).

Significant and Unavoidable: This term is used to refer to significant impacts resulting from implementation of the proposed project that cannot be eliminated or reduced to below a threshold of significance through implementation of feasible mitigation measures.

Mitigation Measures

Section 15126.4 of the State CEQA Guidelines requires an EIR to "describe feasible measures which could minimize significant adverse impacts." Mitigation includes avoiding an impact altogether, minimizing impacts, rectifying impacts, reducing or eliminating impacts over time, or compensating for impacts by replacing or providing substitute resources. The State CEQA Guidelines define feasibility as "capable of being accomplished in a successful manner within a reasonable period of time taking into account economic, legal, social, technological, or other considerations." This subsection lists the mitigation measures that could reduce the severity of impacts identified in the *Impact Discussion* subsection. Mitigation measures are the specific environmental requirements for

construction or operation of the proposed project that will be included in the Mitigation Monitoring and Reporting Program and adopted as conditions of approval of the proposed project.

4.1.1 Overview

This section describes the existing conditions and applicable laws and regulations for air quality and health risk. The section also discusses the proposed project's potential to increase air emissions in the region. Impacts on air quality are considered significant if the proposed project were to (1) conflict with or obstruct implementation of the applicable air quality plan, (2) result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard, (3) expose sensitive receptors to substantial pollutant concentrations, or (4) result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

This section relies on the emission modeling descriptions provided in the Air Quality and Greenhouse Gas (GHG) Technical Memorandum (Appendix C). As described in Section 4.1.4.3, *Project Impacts and Mitigation Measures*, the proposed project would not result in any significant impacts related to air quality and health risk. No mitigation measures are required.

4.1.2 Existing Conditions

4.1.2.1 Climate and Atmospheric Conditions

Regional

The proposed project is within the San Diego Air Basin (SDAB), which covers all of San Diego County. The SDAB is bordered by the Pacific Ocean to the west, the South Coast Air Basin (SCAB) to the north, the Salton Sea Air Basin to the east, and the U.S.–Mexico border to the south.

The climate of San Diego is classified as Mediterranean but is incredibly diverse because of the topography. The climate is dominated by the Pacific High pressure system that results in mild, dry summers and mild, wet winters. San Diego experiences an average of 201 days above 70°F and 9–13 inches of rainfall annually (mostly, November–March). El Niño and La Niña patterns have large effects on the annual rainfall received in San Diego (SDAPCD 2018a).

An El Niño is a warming of the surface waters of the eastern Pacific Ocean. It is a climate pattern that occurs across the tropical Pacific Ocean that is associated with drastic weather occurrences, including enhanced rainfall in Southern California. La Niña is a term for cooler than normal sea surface temperatures across the Eastern Pacific Ocean. San Diego receives less than normal rainfall during La Niña years (SDAPCD 2018a).

The Pacific High drives the prevailing winds in the SDAB. The winds tend to blow onshore in the daytime and offshore at night. In the summer, an inversion layer is created over the coastal areas and increases the ozone (O₃) levels. In the winter, San Diego often experiences a shallow inversion layer which tends to increase carbon monoxide and particulate matter (PM) less than or equal to

2.5 microns in diameter (PM_{2.5}) concentration levels due to the increased use of residential wood burning (SDAPCD 2018a).

In the fall months, the SDAB is often impacted by Santa Ana winds, which result from a high-pressure system over the Nevada-Utah region that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. These winds are powerful and incessant. They blow the air basin's pollutants out to sea. However, a weak Santa Ana can transport air pollution from the South Coast Air Basin and greatly increase the San Diego O₃ concentrations. A strong Santa Ana also primes the vegetation for firestorm conditions (SDAPCD 2018a).

Local

The weather station closest to the project site is the San Diego/Lindbergh Field Station, approximately 3 miles to the northwest. Given its proximity, historic climatic conditions at San Diego/Lindbergh Field over the period of record (1914–2012) are assumed to be representative of the prevailing climatic conditions. The annual average temperature at Lindbergh Field is 63°F, with an average winter temperature of 57°F and an average summer temperature of 69°F (WRCC 2012a). Total annual precipitation averages 10.13 inches. Precipitation occurs mostly during the winter and relatively infrequently during the summer (WRCC 2012b).

The project site is in the vicinity of two wind monitoring stations operated by the San Diego Air Pollution Control District (SDAPCD): Perkins Elementary School, approximately 0.6 mile north-northwest of the project site in the Barrio Logan community, and the San Diego/Lindbergh Field Station, approximately 3 miles northwest of the project site. Wind patterns at Perkins Elementary School indicate a prominence of westerly winds that average 4.27 miles per hour (1.91 meters per second), with calm winds present approximately 10.03 percent of the time. Wind monitoring data recorded at the San Diego/Lindbergh Field Station indicate a more west-northwest prominence, averaging 6.33 miles per hour (2.83 meters per second) with calm winds present approximately 0.84 percent of the time (Gould pers. comm.). A wind rose showing wind directions, speeds, and frequency in the project vicinity is shown in Appendix C.

4.1.2.2 Air Quality Conditions

Regional Attainment

The Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to designate areas within the country as either attainment or nonattainment for each criteria pollutant based on whether the National Ambient Air Quality Standards (NAAQS) have been achieved. Similarly, the California CAA requires the California Air Resources Board (CARB) to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the California Ambient Air Quality Standards (CAAQS) have been achieved. If a pollutant concentration is lower than the state or federal standard, the area is classified as being in attainment for that pollutant. If a pollutant violates the standard, the area is considered a nonattainment area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated unclassified. Under the California CAA, areas are designated as nonattainment for a pollutant if air quality data show that a state standard for the pollutant was violated at least once during the previous 3 calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment. The attainment status of San Diego County is summarized in Table 4.1-1.

Table 4.1-1. Federal and State Attainment Status for San Diego County

Criteria Pollutant	Federal Designation	State Designation
Ozone (O ₃) (8-hour)	Nonattainment – Moderate	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Respirable Particulate Matter (PM ₁₀)	Unclassifiable ¹	Nonattainment
Fine Particulate Matter (PM _{2.5})	Attainment	Nonattainment
Nitrogen Dioxide (NO ₂)	Attainment	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Lead (Pb)	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified
Visibility	(No federal standard)	Unclassified

Source: SDAPCD 2019a, EPA 2019d.

¹ At the time of designation, if the available data do not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

Local Criteria Pollutant Concentrations

SDAPCD maintains and operates a network of ambient air monitoring stations throughout the County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and NAAQS. The ambient monitoring station closest to the proposed project is the San Diego–Beardsley Street (Barrio Logan) station (CARB 80142), approximately 0.6 mile to the north-northwest. This station closed in November 2016. The SDAPCD relocated the site to Sherman Elementary School (approximately 1 mile north of the project site in the Sherman Heights neighborhood) and began operating the site in July 2019, but at the time of this analysis, there was not sufficient data to report here. Therefore, only monitoring data through 2016 from San Diego–Beardsley Street is included.

Concentrations of pollutants from the San Diego–Beardsley Street station over a 4-year period (2013–2016) of complete data are presented in Table 1 of Appendix C. Monitoring has shown the following pollutant concentrations trends: the 8-hour O₃ CAAQS was exceeded twice in 2014; 24-hour PM₁₀ CAAQS was exceeded once in 2013, 2015, and 2016, but did not exceed the NAAQS in those same years; and 24-hour PM less than or equal to 2.5 microns in diameter (PM_{2.5}) NAAQS was exceeded once each in 2013 and 2014. No violations of the carbon monoxide (CO) CAAQS or NAAQS or the nitrogen dioxide (NO₂) NAAQS were recorded. As discussed further below, the CAAQS and NAAQS define clean air and represent reasonable standards below which ambient air quality will not result in adverse health impacts. Existing violations of the O₃, PM₁₀, and PM_{2.5} ambient air quality standards indicate that certain individuals exposed to this pollutant may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

4.1.2.3 Pollutants of Concern

Criteria Pollutants

The federal and state governments have established NAAQS and CAAQS, respectively, for six criteria pollutants: O₃, CO, lead (Pb), NO₂, sulfur dioxide (SO₂), and PM, which consists of PM₁₀ and PM_{2.5}. Ozone is considered a regional pollutant because its precursors affect air quality on a regional scale.

Pollutants such as CO, NO₂, SO₂, and Pb are considered local pollutants that tend to accumulate in the air locally. PM is both a local and a regional pollutant. The primary criteria pollutants of concern generated by the project are O₃ precursors (regional organic gases [ROG] and nitrogen oxides [NO_x]), CO, and PM.¹

All criteria pollutants can have human health and environmental effects at certain concentrations. The ambient air quality standards for these pollutants (Table 4.1-5) are set to protect public health and the environment within an adequate margin of safety (CAA Section 109). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards.

Principal characteristics and possible health and environmental effects from exposure to the primary criteria pollutants generated by the project are discussed below.

- **Ozone**, a component of urban smog, is photochemical oxidant that is formed when ROG and NO_x (both by-products of the internal combustion engine) react with sunlight. ROG are compounds made up primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROG are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. The two major forms of NO_x are nitric oxide (NO) and NO₂. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO₂ is a reddish-brown irritating gas formed by the combination of NO and oxygen. In addition to serving as an integral participant in O₃ formation, NO_x also directly acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Ozone poses a higher risk to those who already suffer from respiratory diseases (e.g., asthma), children, older adults, and people who are active outdoors. Exposure to O₃ at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage the airways, aggregate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease. Studies show associations between short-term O₃ exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to O₃ may increase the risk of respiratory-related deaths (EPA 2019a). The concentration of O₃ at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion (ppb) of O₃ and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum O₃ concentration reaches 80 ppb (EPA 2019b).

In addition to human health effect, O₃ has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. Ozone can also act as

¹ As discussed, there are also ambient air quality standards for SO₂, Pb, sulfates, hydrogen sulfide, vinyl chloride, and visibility particulates. However, these pollutants are typically associated with large stationary sources (such as manufacturing), which are not included as part of the project.

a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

- **Carbon monoxide** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. In the study area, high CO levels are of greatest concern during the winter, when periods of light winds combine with the formation of ground-level temperature inversions from evening through early morning. These conditions trap pollutants near the ground, reducing the dispersion of vehicle emissions. Moreover, motor vehicles exhibit increased CO emission rates at low air temperatures. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation. Exposure to CO at concentrations above the CAAQS or NAAQS (see Table 4.1-5) can also cause fatigue, headaches, confusion, dizziness, and chest pain. Ambient CO has no ecological or environmental effects (CARB 2019a).
- **Particulate matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now regulated—inhalable coarse particles, or PM₁₀, and inhalable fine particles, or PM_{2.5}. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading. Additionally, secondary formation of PM, primarily in the form of fine particulate, occurs through the chemical transformation of precursors such as NO_x, SO₂, ammonia, and ROGs.

Particulate pollution can be transported over long distances and may adversely affect people, especially those who are naturally sensitive or susceptible to breathing problems. Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease. Other symptoms of exposure may include nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Exposure to concentrations of PM above the current ambient air quality standards may result in these health effects (California Air Resources Board 2019c). Similar to ozone, the elderly and those with preexisting heart and lung diseases are at greater risk to the harmful effects of PM exposure. Children are also at increased risk because they breathe faster than adults, and therefore inhale more air per pound of body weight and tend to spend more time outdoors. The CAAQS and NAAQS for PM are set to protect these sensitive populations and define the number of particles that can be present in outdoor air without threatening the health of infants, children, or the elderly (California Air Resources Board 2019c). The CAAQS and NAAQS for PM are shown in Table 4.1-5.

Depending on its composition, both PM₁₀ and PM_{2.5} can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (EPA 2019d).

- **Nitrogen dioxide** is formed by the combination of NO and oxygen through internal combustion. Long-term exposure to NO₂ can aggravate respiratory diseases, such as asthma, leading to increased hospital admissions (EPA 2019c). Controlled studies demonstrate effects (airway reactivity) among asthmatics at a short-term (less than 3 hours) exposure to 0.3 part per million NO₂. Effects among healthy individuals occurred at high levels of exposure (1.5 to 2 ppm) (McConnell et al. 2002). For reference, the 1-hour CAAQS for NO₂ is 0.18 ppm (see Table 4.1-5). In addition to human health effects, NO₂ can also reduce visibility and react with water, oxygen, and other chemicals to contribute to acid rain, which can harm sensitive ecosystems (EPA 2019c).

- **Sulfur dioxide** is a product of fuel combustion. The predominant source of SO₂ emissions within the County is mobile source fuel combustion, primarily aircraft, ocean going vessels, and on-road vehicles. In recent years emissions of SO₂ have been significantly reduced by the increasingly stringent controls placed on the sulfur content of fuels used in stationary sources and mobile sources. SO₂ is a precursor to fine PM formation in the form of sulfates, such as ammonium sulfate. Short-term exposure to SO₂ can aggravate the respiratory system, making breathing difficult. Controlled laboratory studies indicate that brief exposure (5 to 10 minutes) of exercising asthmatics to an average SO₂ level of 0.4 part per million can result in increases in air resistance. Healthy adults do not show any symptoms to SO₂ at levels as high 1 part per million (ppm), even after up to 3 hours of exposure. Based on the concentration needed to protect sensitive individuals (e.g., asthmatics), CARB and EPA have adopted the CAAQS and NAAQS for SO₂ (see Table 4.1-5) (SCAQMD 2017). In addition to public health impacts, SO₂ can also affect the environment by damaging foliage and decreasing plant growth (EPA 2019e).
- **Lead** is a soft metal that was previously added to gasoline and emitted to the environment through motor vehicle exhaust. Since lead was removed from gasoline, emissions have declined, and the primary source of emissions is now metal processing facilities and leaded aviation gasoline. Lead can also be resuspended into the air when contaminated soil or paints are disturbed. Lead emissions can be inhaled and ingested, leading to accumulation of lead particles in bone. Lead exposure can lead to cognitive function decrements, behavioral problems, kidney and heart disease, decreased immunity and red blood cell counts, and reproductive and developmental effects (CARB 2019b).

Health Effects of Criteria Pollutants

Criteria air pollutants are recognized to have a variety of health effects on humans. Research by CARB shows that exposure to high concentrations of air pollutants can trigger respiratory diseases—such as asthma, bronchitis, and other respiratory ailments—and cardiovascular diseases. A healthy person exposed to high concentrations of air pollutants may become nauseated or dizzy, may develop a headache or cough, or may experience eye irritation and/or a burning sensation in the chest. Ozone is a powerful irritant that attacks the respiratory system, leading to the damage of lung tissue. Inhaled particulate matter, NO₂, and SO₂ can directly irritate the respiratory tract, constrict airways, and interfere with the mucous lining of the airways. Exposure to CO, when absorbed into the bloodstream, can endanger the hemoglobin, the oxygen-carrying protein in blood, by reducing the amount of oxygen that reaches the heart, brain, and other body tissues. When air pollutant levels are high, children, the elderly, and people with respiratory problems are advised to remain indoors. Outdoor exercise also is discouraged because strenuous activity may cause shortness of breath and chest pains. A brief summary of the criteria pollutants and their effects on human health and the environment is provided in Table 4.1-2.

Table 4.1-2. Health Effects Summary of the Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with NO₂ in sunlight 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases • Irritation of eyes • Impairment of cardiopulmonary function • Plant leaf injury
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust • High temperature stationary combustion • Atmospheric reactions 	<ul style="list-style-type: none"> • Aggravation of respiratory illness • Reduced visibility • Reduced plant growth • Formation of acid rain
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon containing substances, such as motor exhaust • Natural events, such as decomposition of organic matter 	<ul style="list-style-type: none"> • Reduced tolerance for exercise • Impairment of mental function • Impairment of fetal development • Death at high levels of exposure • Aggravation of some heart diseases (angina)
Particulate Matter (PM _{2.5} and PM ₁₀)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels • Construction activities • Industrial processes • Atmospheric chemical reactions 	<ul style="list-style-type: none"> • Reduced lung function • Aggravation of the effects of gaseous pollutants • Aggravation of respiratory and cardio-respiratory diseases • Increased cough and chest discomfort • Soiling • Reduced visibility
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels • Smelting of sulfur-bearing metal ores • Industrial processes 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema) • Reduced lung function • Irritation of eyes • Reduced visibility • Plant injury • Deterioration of metals, textiles, leather, finishes, coatings, etc.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil 	<ul style="list-style-type: none"> • Impairment of blood function and nerve conduction • Behavioral and hearing problems in children

Source: SCAQMD 2007

Toxic Air Contaminants

TACs are pollutants that have no ambient standard but pose the potential to increase the risk of developing cancer or acute or chronic health risks. The most relevant TAC associated with the proposed project is diesel particulate matter (DPM). DPM was established as a TAC in 1998, while some of the chemicals in diesel exhaust, such as benzene and formaldehyde, had previously been identified as TACs and listed as carcinogens under either the state's Proposition 65 or federal Hazardous Air Pollutants program. The diesel emissions that are generated within the Barrio Logan

community and surrounding areas have been previously documented as posing potential hazard to residents and visitors (City of San Diego 2013).

For TACs like DPM that are known or suspected carcinogens, CARB has consistently found that there are no levels or thresholds below which exposure is risk-free. Therefore, no NAAQS or CAAQS exist for TACs. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to the brain and nervous system, and respiratory disorders.

4.1.2.4 Existing Emissions and Ambient Health Risks

Regional Health Risks

Between 1990 and 2007, CARB monitored outdoor concentrations for various TACs at two sites in the SDAB: Chula Vista and El Cajon. Based on this information, CARB estimated the overall ambient cancer risk from all pollutants in the SDAB at 607 chances per million, 420 chances per million of which were attributed to DPM (CARB 2009). Note that DPM is not directly monitored because an accepted measurement method does not currently exist, but CARB estimated concentrations based on monitored PM10 data and the results from several studies on chemical speciation of ambient data (e.g., ratio of DPM to monitored PM10).

More recently, the State released the California Communities Environmental Health Screening Tool (CalEnviroScreen), which provides a relative ranking of communities based on a selected group of environmental, health, demographic, and socioeconomic indicators. The resultant score is the relative pollution burden and vulnerabilities in one census tract compared to others; the score is not a measure of health risk. Each tract's score is then ranked relative to all areas in the state. Those areas with a high score and percentile have relatively high pollution burdens and population sensitivities; those areas with low score and percentile values have relatively lower pollution burdens and population sensitivities. Neighborhoods near the project site represent some of the highest rankings (e.g., worst air quality) in the state. The census tract northwest of the project site (6073005100), as well as the Barrio Logan community where the project is located (census tract 6073005000) and east/north of Interstate 5 (census tract 6073004900), are within the worst 95–100 percent in the state. Thirty-eight communities in the San Diego region have been identified as disadvantaged and will be the target of cap-and-trade investment to improve public health, quality of life, and economic opportunity (Cal/EPA 2018).

Note that while the results of CalEnviroScreen provide information on background pollution that allows the state to prioritize funding resources, the scoring results are not directly applicable to project-level or cumulative impact analyses required under CEQA. As such, the information provided by CalEnviroScreen cannot substitute for analyzing a specific project's cumulative impacts as required in a CEQA environmental review (Cal/EPA 2018). The information presented herein regarding CalEnviroScreen is for illustrative purposes only.

The area near the project site (collectively known in the Community Air Protection Program as the *Portside Environmental Justice Neighborhoods*)² includes several census tracts with high (poor) ratings as part of the CalEnviroScreen 3.0, including four census tracts that are in the 98th percentile in the state and another eight that are in the 85th percentile. Over 50,000 residents live in this area and are subject to pollution exposure (SDAPCD 2018a). The Portside Environmental Justice Neighborhoods, along with other areas selected for monitoring throughout the state, will see additional new actions through potential regulations, focused incentive investments, enforceable agreements, and engagement with local land use authorities to reduce emissions and exposure to air pollution.

Criteria Pollutant Inventory for the Project Site

BAE Systems is required by CARB to report criteria pollutant emissions from activities per the Air Toxics "Hot Spots" Program at least every 4 years (SDAPCD 2019b). A summary of criteria pollutant reporting for the previous two reporting timeframes is provided in Table 4.1-3. Activity at BAE Systems ship repair yard that generates emissions includes exhaust associated with equipment used within the BAE Systems leasehold (e.g., generators, loaders, forklifts) as well as process-related emissions from welding, painting, blasting, and any other activities related to ship repair. Overall, the Air Toxics "Hot Spots" Program has dramatically reduced emissions both locally and across the state, with the most significant reductions due to the use of "green" solvents and improved equipment controls of heavy metal emissions (SDAPCD 2019b).

Table 4.1-3. BAE Systems Criteria Pollutant Emissions Reporting (tons per year)

Year	ROG	NO _x	CO	PM10	PM2.5	SO _x
2017	12.2	2.9	1.0	1.1	0.8	<0.0
2016	12.2	2.9	1.0	1.1	0.8	<0.0
2015	12.2	2.9	1.0	1.1	0.8	<0.0
2014	12.2	2.9	1.0	1.1	0.8	<0.0
2013	21.7	7.3	1.8	2.3	1.3	<0.0
2012	21.7	7.3	1.8	2.3	1.3	<0.0
2011	21.7	7.3	1.8	2.3	1.3	<0.0
2010	21.7	7.3	1.8	2.3	1.3	<0.0

Source: CARB 2019c.

ROG = reactive organic gas; NO_x = nitrogen oxide; CO = carbon monoxide;
PM10 and PM2.5 = particulate matter less than or equal to 10 and 2.5 microns in diameter, respectively; SO_x = sulfur oxide

Toxic Air Contaminant Inventory for the Project Site

BAE Systems is required by CARB to report TACs per the Air Toxics "Hot Spots" Program at least every 4 years (SDAPCD 2019b). Processes at the BAE Systems site that generate TACs include blasting of coated and uncoated surfaces, welding, painting and solvent use, and fuel combustion. A summary of TACs for recent years is provided in Table 4.1-4. Similar to criteria pollutants discussed

² The Community of Portside Environmental Justice Neighborhoods includes Barrio Logan and portions of National City, Sherman Heights, and Logan Heights. This includes the following census tracts: 6073005000, 6073004900, 6073003902, 6073003601, 6073003901, 6073005100, 6073003603, 6073004000, 6073003502, 6073021900, 6073004700, and 6073011602.

above, the Air Toxics "Hot Spots" Program has dramatically reduced TAC emissions both locally and across the state, with the most significant reductions due to the use of "green" solvents and improved equipment controls of heavy metal emissions (SDAPCD 2019b).

Table 4.1-4. BAE Systems Toxic Air Contaminant Emissions Reporting (pounds per year)

Pollutant	2014-2017	2010-2013	Pollutant	2014-2017	2010-2013
1,2,4-Trimethylbenzene	1,294	3,155	Hexane	3	4
1,3-Butadiene	7	9	Lead	1	2
2,2,4-Trimethylpentane	--	1	Manganese	27	30
Acetaldehyde	26	32	Methyl ethyl ketone {2-Butanone}	97	2,555
Acrolein	1	1	Mercury	0	0
Aluminum	17	93	Methanol	66	13
Arsenic	0	0	Methyl isobutyl ketone (Hexone)	92	3,386
Barium	20	53	Naphthalene	1	1
Benzene	6	8	n-Butyl alcohol	4,785	8,487
Cadmium	3	2	Ammonia	1	0
Chlorobenzene	0	0	Nickel	13	23
Chlorobenzenes	--	0	PAHs, total	1	1
Chromium	14	20	Phenol	4	0
Cobalt	0	1	Phosphorus	0	0
Copper	289	2,090	Propylene	16	26
Chromium, hexavalent (& compounds)	1	0	Propyleneglycol	3	194
Dibutyl phthalate	4	--	Selenium	0	0
Diesel engine exhaust, particulate matter (Diesel PM)	187	701	Silica, crystalline (respirable)	86	38
Ethyl benzene	960	1,950	Silver	7	2
Ethylene glycol	--	2	Styrene	30	270
Formaldehyde	58	70	Toluene	4	121
Glycol ethers (and their acetates)	66	751	Xylenes (mixed)	1,175	3,380
Hydrochloric acid	6	8	Zinc	37	775

Source: CARB 2019c.

4.1.2.5 Sensitive Receptors

The impact of air pollutant emissions on sensitive members of the population is a special concern. Sensitive receptors are defined as locations where pollutant-sensitive members of the population may reside or where the presence of air pollutant emissions could adversely affect use of the land. CARB has identified the following people as the most likely to be affected by air pollution: children

younger than 14, the elderly older than 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as *sensitive receptors* (CARB 2005). Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder-care facilities, elementary schools, and parks. Most health studies indicate that health effects are strongest within 1,000 feet of emission sources (CARB 2005).

The project site is surrounded by various industrial uses (including other ship repair facilities) to the north, south, and east, with San Diego Bay to the west. The sensitive receptors closest to the project site include the Woodbury School of Architecture to the north, residences within the Barrio Logan neighborhood to the north, Cesar Chavez Park to the northwest, and Perkins Elementary and Monarch School to the northeast. Table 4.1-5 summarizes the distances of the closest sensitive receptors from the edge of the project boundary, the edge of waterside construction activities, and the center of the project site.

Table 4.1-5. Distance to Sensitive Receptors from the Project Site (feet)

Receptor	Edge of Project Boundary	Edge of Waterside Construction	Center of Project Site
Residences			
Main St and South Evans St	1,180	1,680	1,950
Sicard St and Newton Ave	1,430	1,920	2,070
South 26 th St and Boston Ave	1,280	1,820	2,150
Woodbury School of Architecture	1,050	1,550	1,690
Cesar Chavez Park	1,700	1,700	2,350
Perkins Elementary and Monarch School	2,550	2,800	3,400

4.1.3 Applicable Laws and Regulations

The air quality management agencies of direct importance to the proposed project are EPA, CARB, and SDAPCD. EPA has established federal air quality standards for which CARB and SDAPCD have primary implementation responsibility. CARB and SDAPCD are also responsible for ensuring that state air quality standards are met. The following describes regulations applicable to the proposed project. Additional regulations that are not as applicable to the project but are applicable to the District as a whole are provided in Appendix C.

4.1.3.1 Federal

Clean Air Act and National Ambient Air Quality Standards

The CAA was first enacted in 1963 and has been amended numerous times in subsequent years (1967, 1970, 1977, and 1990). The CAA establishes the NAAQS and specifies future dates for achieving compliance. The CAA also mandates that each state submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The plans must include pollution control measures that demonstrate how the standards will be met. Because the Port of

San Diego is within the SDAB, it is in an area designated as nonattainment for certain pollutants that are regulated under the CAA.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the CAA that would most substantially affect the development of the proposed project include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for criteria pollutants. Table 4.1-6 shows the NAAQS currently in effect for each criteria pollutant. The NAAQS were amended in July 1997 to include an 8-hour standard for O₃ and adopt a standard for PM_{2.5}. The 8-hour O₃ NAAQS was further amended in October 2015.

Table 4.1-6. Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS ¹	NAAQS ²
Ozone (O ₃)	1 hour	0.09 ppm ³	--
	8 hour	0.070 ppm	0.070 ppm
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9 ppm
Nitrogen Dioxide (NO ₂)	1 hour	0.18 ppm	100 ppb
	Annual Arithmetic Mean	0.030 ppm	53 ppb
Sulfur Dioxide (SO ₂)	1 hour	0.25 ppm	75 ppb
	24 hour	0.04 ppm	0.14 ppm
Respirable Particulate Matter (PM ₁₀)	24 hour	50 µg/m ³	150 µg/m ³
	Annual Arithmetic Mean	20 µg/m ³	--
Fine Particulate Matter (PM _{2.5})	24 hour	--	35 µg/m ³
	Annual Arithmetic Mean	12 µg/m ³	12.0 µg/m ³
Sulfates	24 hour	25 µg/m ³	--
Lead (Pb)	30 day average	1.5 µg/m ³	--
	Calendar quarter	--	1.5 µg/m ³
	Rolling 3-Month Average	--	0.15 µg/m ³
Hydrogen Sulfide	1 hour	0.03 ppm	--
Vinyl Chloride	24 hour	0.01 ppm	--

Source: CARB 2016.

¹ The California Ambient Air Quality Standards (CAAQS) for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, PM₁₀, and PM_{2.5} are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

² The National Ambient Air Quality Standards (NAAQS), other than O₃ and those based on annual averages, are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, is equal to or less than the standard.

ppm = parts per million by volume; ppb = parts per billion; µg/m³ = micrograms per cubic meter.

4.1.3.2 State

Clean Air Act

The California CAA, signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. The CAAQS incorporate additional standards for most of the criteria pollutants and set standards for other pollutants recognized by the state. In general, the California standards are more health protective than the corresponding NAAQS. California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Table 4.1-6 shows the CAAQS currently in effect for each criteria pollutant.

CARB and local air districts bear responsibility for achieving California's air quality standards, which are to be achieved through district-level air quality management plans that would be incorporated into the SIP. In California, EPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts. CARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

The California CAA substantially adds to the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA also emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. The California CAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures.

Toxic Air Contaminants Regulations

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Toxic Air Contaminant Identification and Control Act (AB 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. In August 1998, CARB identified particulate emissions from diesel-fueled engines as TACs. In September 2000, CARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. As an ongoing process, CARB reviews air contaminants and identifies those that are classified as TACs. CARB also continues to establish new programs and regulations for the control of TACs, including DPM, as appropriate. Among the programs and strategies CARB has developed to reduce diesel emissions for various sources, many are applicable to sources that are present at the Port, including off-road sources (cargo-handling equipment, locomotives, construction equipment), on-road trucks (drayage trucks), and marine vessels (harbor craft, OGVs, and shore power).

4.1.3.3 Regional

San Diego Unified Port District Plans and Programs

The Port Master Plan (PMP) is the governing land use document for physical development within the District; however, there are also other District programs that apply to air quality, and the District's Climate Action Plan has co-benefits to air quality. The District developed the Green Port Program to support the goals of the Green Port Policy, which was adopted in 2008. The Green Port Program supports resource conservation, waste reduction, and pollution prevention. The Clean Air Program provides a framework for the District's commitment to reducing air emissions, through which control measures have been implemented to reduce air emissions, building upon regulatory and voluntary efforts.

San Diego Air Pollution Control District Plans, Rules, and Regulations

Local air pollution control districts have the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations in San Diego County.

Regional Air Quality Strategy and State Implementation Plan

CARB, SDAPCD, and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego Regional Air Quality Strategy (RAQS) outlines SDAPCD's plans and control measures designed to attain and maintain the state standards, while San Diego's portions of the SIP are designed to attain and maintain federal standards. The RAQS was initially adopted in 1991 and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, and 2009, and most recently in December 2016. The RAQS does not currently address the state air quality standards for PM10 or PM2.5. SDAPCD has also developed the air basin's input to the SIP, which is required under the federal CAA for areas that are out of attainment of air quality standards. Both the RAQS and SIP demonstrate the effectiveness of CARB measures (mainly for mobile sources) and SDAPCD's plans and control measures (mainly for stationary and area-wide sources) for attaining the O₃ NAAQS. The SIP is also updated on a triennial basis. SDAPCD adopted its attainment plan and Reasonable Available Control Technology Demonstration for the 2008 8-hour O₃ NAAQS. In addition, the *Measures to Reduce Particulate Matter in San Diego County* report (SDAPCD 2005) proposes measures to reduce PM emissions and recommends measures for further detailed evaluation and, if appropriate, future rule development (or non-regulatory development, if applicable), adoption, and implementation in San Diego County, in order to attain PM CAAQS.

CARB recently adopted the *2016 State Strategy for the State Implementation Plan (2016 SIP Update)*. This strategy describes proposed state measures to achieve the reductions necessary from the mobile sector and consumer products to meet O₃ and PM2.5 NAAQS over the next 15 years. The 2016 SIP Update will incorporate regional SIPs (to be developed) as well as the Scoping Plan Update, California's Sustainable Freight Action Plan, and the Short-Lived Climate Pollutant Strategy, and implementation of Senate Bill 375. CARB notes that while existing programs have achieved tremendous success in reducing NO_x emissions, further reductions are required.

Air Toxics “Hot Spots” Program

The SDAPCD implements CARB’s Air Toxics “Hot Spots” Program locally. The program requires facilities emitting toxic substances to quantify emissions, identify impacted areas, notify individuals exposed to elevated risks, and then develop and implement strategies to reduce potential significant risks. SDAPCD produces an annual report, which summarizes the latest results regarding emission estimates, the results of local Health Risk Assessments (HRAs), and the current status of public notifications and risk reduction requirements. The latest report is for the year 2018 (SDAPCD 2019b). Approximately 3,000 facilities within the county are required to comply with the program, including BAE Systems.

SDAPCD Rules and Regulations

SDAPCD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. The proposed project may be subject to the following SDAPCD rules, and others, during construction.

- **Regulation 2, Rule 20.2—New Source Review Non-Major Stationary Sources:** establishes Air Quality Impact Analysis (AQIA) Trigger Levels, which set emission limits for non-major new or modified stationary sources.
- **Regulation 2, Rule 20.3—New Source Review Major Stationary Sources and Prevention of Significant Deterioration Stationary Sources:** establishes AQIA Trigger Levels, which set emission limits for major new or modified stationary sources or Prevention of Significant Deterioration stationary sources. Major sources are defined in Regulation 8 as sources that emit 100 tons per year of PM₁₀, SO_x, CO, and lead; and 50 tons per year of NO_x and volatile organic compounds (VOC) in federal O₃ nonattainment areas.
- **Rule 50—Visible Emissions:** establishes limits for the opacity of emissions within the SDAPCD. The proposed project is subject to Rule 50(d)(1) and (6) and should not exceed the visible emission limitation.
- **Rule 51—Nuisance:** prohibits emissions that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; endanger the comfort, repose, health, or safety of any such persons or the public; or cause injury or damage to business or property.
- **Rule 52—Particulate Matter:** establishes limits for the discharge of any particulate matter from nonstationary sources.
- **Rule 54—Dust and Fumes:** establishes limits for the amount of dust or fume discharged into the atmosphere in any 1 hour.
- **Rule 55—Fugitive Dust Control:** sets restrictions on visible fugitive dust from construction and demolition projects.
- **Rule 67—Architectural Coatings:** establishes limits to the VOC content for coatings applied within the SDAPCD.
- **Rule 67.7—Cutback and Emulsified Asphalts:** establishes general provisions and limits to the VOC content for asphalt materials applied within the SDAPCD.
- **Rule 69.2—Industrial and Commercial Boilers, Process Heaters and Steam Generators:** establishes emissions testing and standards for boilers with a heat input rating of 5 million British thermal units (BTU) per hour or more.

- **Regulation 8, Rules 1200–1210:** establishes rules and procedures governing new, relocated, or modified emission units that may increase emissions of one or more TAC. While the project is not necessarily subject to the requirements of this regulation, the risk assessment guidelines and procedures published as part of this regulation are used in the health risk assessment herein.

4.1.4 Project Impact Analysis

4.1.4.1 Methodology

Air quality impacts associated with construction and operation of the proposed project were assessed and quantified using industry standard and accepted software tools, techniques, and emission factors. A summary of the methodology is provided below. A full list of assumptions and emission calculations can be found in Appendix C. The methodology used to estimate air pollutant emissions discussed below is the same that was used to estimate GHG emissions, as described in Section 4.3, *Greenhouse Gas Emissions and Energy*.

Short-term Construction Emissions

Construction of the proposed project would generate emissions of ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} that could result in short-term impacts on ambient air quality in the study area. Emissions would originate from construction of landside and waterside components. Sources of emissions associated with landside activities include off-road equipment exhaust, employee and haul truck vehicle exhaust (on-road vehicles), architectural coatings, and earth movement. Landside construction emissions were estimated using a combination of emission factors and methodologies from the California Emissions Estimator Model (CalEEMod), version 2016.3.2, CARB's EMFAC2017 model, and EPA's AP-42 *Compilation of Air Pollutant Emission Factors* based on project-specific construction data (e.g., schedule, equipment types and numbers, and truck volumes) provided by the project proponent.

Construction of the waterside components would generate emissions from dredging and operation of scows, tugboats, and survey vessels to haul materials and move equipment around the project site. Emissions from dredging equipment and haul trucks were estimated using CalEEMod and EMFAC, respectively. Emissions from marine vessels were estimated using emission factors and assumptions from CARB's *Harborcraft Emission Inventory Methodology* (2010) and other sources, as described in Appendix C.

Dredging would occur for three project elements: Project Element 1 (Pride of San Diego Drydock Dredging and Moorage), Project Element 4 (Pier 3 Near Shore Dredging), and Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment).

There are two options for disposing of dredged materials associated with the proposed project. Materials that are contaminated would be disposed of at a landfill that is approved to handle contaminated sediment. These materials are stockpiled at the project site, subject to applicable regulations and control standards, as described in Section 4.5, *Hydrology and Water Quality*; loaded directly onto trucks from the dredge barge; and disposed of at the approved landfill. Materials that are not contaminated would be disposed of at the Ocean Dredge Material Disposal Site (i.e., EPA ocean disposal site LA-5).

For Project Element 1 (Pride of San Diego Drydock Dredging and Moorage Replacement), the total quantity of dredged materials is assumed to be approximately 98,800 cubic yards (CY). As discussed in Chapter 3, *Project Description*, it is anticipated that between 11 percent (10,900 CY) and 20 percent (19,800 CY) of the dredge material would be contaminated and would be transported via truck to an approved (upland) disposal facility capable of accepting contaminated sediment. It is anticipated that the remaining materials—between 80 percent (79,000 CY) and 89 percent (87,900 CY)—would meet U.S. Army Corps of Engineers and EPA disposal criteria and would be disposed of at the EPA’s LA-5 ocean disposal site via tug and scow. To ensure a conservative analysis, both the high end of trucks (assumed to be 1,350 total trucks based on a 15 CY truck capacity and 19,800 CY of material) and the high end of tug and scow trips (assumed to be 36 total scows based on a 2,500 CY scow capacity and 87,900 CY of material) were analyzed.

For Project Element 4 (Pier 3 South Nearshore Dredging), the quantity of dredged materials that is suitable for ocean disposal is currently unknown. As discussed in Chapter 3, there are two disposal scenarios for Project Element 4 construction:

1. The “50/50 Scenario” assumes half of all dredged material would be disposed at the LA-5 ocean disposal site using scows, and the remaining half would be disposed of at an approved landfill using haul trucks.
2. The “All Truck Scenario” assumes all dredged material would be disposed at an approved landfill using haul trucks.

Emissions from both scenarios were analyzed in this impact analysis.

For Project Element 6, all dredged material is assumed to be contaminated; thus, all materials would be disposed of at an approved upland location.

The amount of emissions generated on a daily and annual basis from landside and waterside construction would vary, depending on the intensity and types of activities occurring simultaneously, as well as the phasing and schedule. For purposes of analysis, landside construction is expected to occur 5 days per week and would last approximately 5 years starting in 2021. In-water construction activities required for the waterside components are expected to occur 5 days per week for all waterside components except for dredging operations, which would occur 7 days per week for the duration of those dredging phases. Refer to Appendix C for detailed information on the construction schedule, phasing, equipment and vehicles inventories, and modeling method.

Note that the anticipated construction schedule analyzed herein is approximate and is provided for analysis purposes, and the actual start and end dates may vary. While overall construction timing may vary and may occur later than assumed here, it is assumed the sequence of phases relative to other phases and activities would not change. If the schedule is delayed, then concurrent elements would still occur concurrently (i.e., phase overlaps would be the same, albeit at a later date).

Long-Term Operational Emissions

As discussed in Chapter 3, Section 3.5.6, *Project Operation*, several of the project elements are infrastructure maintenance and modernization improvements and would not change the nature of existing operations at the project site. The proposed project would not expand operations or result in additional employment or vehicle trips compared to existing conditions. However, the dredging and mooring improvements under Project Element 1 (Pride of San Diego Drydock Dredging and Moorage

Replacement), Project Element 4 (Pier 3 South Nearshore Dredging), and Project Element 5 (Pier 3 Mooring Dolphin) would allow BAE Systems to service newer and larger classes of vessels compared to existing conditions, which could result in some changes to activities associated with berthing and servicing vessels. The operational efficiencies of the proposed project would result in the following changes, which are analyzed herein.

1. As discussed in Chapter 3, Section 3.5.6, the proposed project would reduce the potential berthing capacity of the site by two vessels and reduce the number of vessels that could be serviced at berth annually by three vessels (see Table 3-6). Because tugs are required to transition a ship to or from a BAE Systems pier or in or out of drydock, the reduction in annual vessel calls would decrease tugboat activity, thereby reducing emissions.
2. The proposed improvements—specifically, the improvements associated with Project Element 1 (The Pride of San Diego Drydock Dredging and Moorage Replacement)—would lead to more efficient vessel movements. This would result in the drydock no longer needing to be moved in order to submerge and dock or undock a vessel. These improvements would ensure safe navigation even in extreme weather events. More tug power is currently required to transition vessels during these extreme weather events. These improvements would reduce that need, thereby reducing emissions.
3. When vessels berth or dock, their engines are off. Portable diesel engines and portable fire pumps (for fire protection) are placed on board the ships to supplement the vessel's power needs and to ensure safe movement within the berthing area. The reduction in annual vessel calls would decrease portable diesel engine and fire pump activity, thereby reducing emissions. Under existing conditions, there are two general tug scenarios, which vary depending on the size of vessel, weather, and availability of tugs for use.
4. Emissions from other sources not directly related to the change in calls, including energy and water consumption, motor vehicles trips, wastewater and waste generation, and ship repair processes, are also likely to decrease consistent with the decrease in number of vessels being serviced annually, the reduction in the number of tugs required, and the decrease in number of employees. However, given that the amount of decrease was not known at the time of analysis, these sources were analyzed qualitatively.

Table 4.1-7 summarizes the change in total tugboat power required on a per call and annual basis. Existing conditions include two separate tug scenarios to represent the range in tug power needed to handle typical and extreme weather events under the current layout. Under proposed project conditions, there is only one tug scenario, as proposed improvements would reduce the need for additional tug power during extreme weather events.

As shown in Table 4.1-7, the range in tug activity on a per-call basis is expected to increase from 12,000–13,500 horsepower per call (depending on the tug mix) to 14,500 horsepower per call after implementation of the proposed project. However, given the reduction in calls, total tug horsepower is expected to decrease from 96,000–108,000 to 72,500 horsepower annually. This will decrease emissions on an annual basis through the life of the project.

Similarly, as shown in Table 4.1-8, portable equipment activity on a per call basis is not expected to change, but given the reduction in calls, total equipment horsepower is expected to decrease on an annual basis. This will decrease emissions on an annual basis through the life of the project.

Table 4.1-7. Tug Activity by Scenario

Tug Scenario	Type	#	Activity per Call			Activity per Year		
			HP	Hours	Total HP	Calls	Total HP	
Existing	Scenario 1	Assist Tug	2	6,000	1	12,000 ¹	8	96,000 ²
	Scenario 2	Assist Tug	3	4,000	1	13,500 ¹	8	108,000 ²
		Pusher Tug	1	1,500	1		8	
Project	All Calls	Assist Tug	2	5,000	1	14,500	5	72,500
		Pusher Tug	3	1,500	1		5	

¹ Total tug power per call ranges from 12,000 to 13,500 horsepower, depending on the weather scenario and tug availability.

² Total tug power per year ranges from 96,000 to 108,000 horsepower, depending on the mix of weather scenarios and tug availability.

Note: all numbers are approximate.

HP = horsepower

Table 4.1-8. Equipment Activity by Scenario

Tug Scenario	Type	#	Activity per Call			Activity per Year		
			HP	Hours	Total HP	Calls	Total HP	
Existing	All Calls	Generator	2	550	5	7,250 ¹	8	58,000 ²
		Fire Pump	2	175	5		8	
Project	All Calls	Generator	2	550	5	7,250 ¹	5	36,250 ²
		Fire Pump	2	175	5		5	

¹ Total equipment power per call is the same under both existing weather scenarios as well as the project scenario.

² Total equipment power per year is based on the power per call and the number of annual calls.

Note: all numbers approximate.

HP = horsepower.

Mass daily emissions from tugs and equipment were estimated using a combination of emission methods and emission factors from published best available documentation. Emissions from portable diesel equipment (generators and fire pumps) activities are based on activity data from the project proponent assuming Tier 4 generators and Tier 3 fire pumps, which are in use under both existing and project conditions. Emissions from tugboat activities were estimated based on methodologies and guidance published by CARB for estimating emissions from commercial watercraft and activity information provided by the project proponent. A full list of assumptions and emission calculations for project operations can be found in Appendix C.

4.1.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining significance of impacts associated with air quality resulting from the proposed project. The determination of whether an air quality impact would be significant is based on the thresholds described below and the professional judgment of the District as Lead Agency and the recommendations of qualified personnel at ICF, all of which is based on the evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following.

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines further indicates the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the significance determinations. The thresholds used for determining significance of criteria pollutant emissions are presented in Table 4.1-9. These thresholds are based on criteria established by the SDAPCD and supported by additional evidence provided by the County of San Diego.

Neither the City of San Diego nor the District has developed CEQA thresholds of significance for air quality. The SDAPCD does not provide specific quantitative thresholds for determining the significance of air quality impacts under CEQA. However, the SDAPCD does specify AQIA trigger levels for new or modified stationary sources (SDAPCD Rules 20.2 and 20.3). If these incremental levels for stationary sources are exceeded, an AQIA must be performed for the source. Although these trigger levels do not generally apply to mobile sources or general land development projects, for comparative purposes these levels may be used to evaluate increases in emissions.

SDAPCD Rule 20.2, which outlines these significance trigger level thresholds, states that any project which results in an emissions increase equal to or greater than any of these levels, must:

demonstrate through an AQIA . . . that the project will not (A) cause a violation of a State or national ambient air quality standard anywhere that does not already exceed such standard, nor (B) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, nor (C) cause additional violations of a State ambient air quality standard anywhere the standard is already being exceeded, nor (D) prevent or interfere with the attainment or maintenance of any State or national ambient air quality standard.

For projects whose stationary-source emissions are below these criteria, no AQIA is typically required, and project level emissions are presumed to be less than significant. For CEQA purposes, these screening level thresholds (SLTs) can be used to demonstrate that a project's total emissions (e.g., stationary and fugitive emissions, as well as emissions from mobile sources) would not result in a significant impact on air quality.

SDAPCD Rules 20.2 and 20.3 do not have AQIA thresholds for emissions of VOC and PM_{2.5}. The County of San Diego notes that the use of the screening level for VOC specified by the South Coast Air Quality Management District (SCAQMD), which generally has stricter emissions thresholds than the SDAPCD, is recommended for evaluating projects in San Diego County. For PM_{2.5}, the EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005, which quantifies significant emissions as 10 tons per year, was identified by the County of San Diego as an appropriate screening threshold. If project emissions exceed these SLTs, specific modeling will be required for NO₂, SO₂, CO, and would require evidence that the project's ground-level concentrations, including appropriate background levels, do not exceed the NAAQS and CAAQS. For ozone precursors, PM₁₀ and PM_{2.5}, exceedances of the SLTs result in a significant impact because the SDAB is currently not in attainment for PM₁₀, PM_{2.5}, and ozone.

Table 4.1-9. Air Quality Thresholds

Air Contaminant	Emission Rate		
	(pounds per hour)	(pounds per day) ¹	(tons per year)
Respirable Particulate Matter (PM10)	--	100	15
Fine Particulate Matter (PM2.5) ²	--	55	10
Nitrogen Oxides (NO _x)	25	250	40
Lead (Pb) ³	--	3.2	0.6
Volatile Organic Compounds (VOC) ⁴	--	75	13.7 ⁵
Sulfur Oxides (SO _x)	25	250	40
Carbon Monoxide (CO)	100	550	100

Source: SDAPCD Regulation II, Rule 20.2; County of San Diego 2007.

¹ According to San Diego County, the daily thresholds are most appropriate when assessing impacts from standard construction and operational emissions. Therefore, daily thresholds are used to evaluate project significance, while hourly and annual thresholds are provided for informational purposes only.

² Based on EPA's "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005, and also SCAQMD's Air Quality Significance Thresholds (SCAQMD 2015). Rule 20.2 was amended in 2018 to include PM2.5 AQIA of 67 pounds per day. However, as the 55 pounds per day rate used by SCAQMD and recommended by the County of San Diego is lower (and more restrictive), 55 pounds per day is used here.

³ Lead and lead compounds. Lead emissions are typically associated with industrial large stationary sources, such as ore and metals processing, lead smelters, waste incinerators, and lead-acid battery manufacturing or recycling, which are not included as part of the project.

⁴ County SLTs for VOC were originally based on the threshold of significance for VOC from SCAQMD for the Coachella Valley. The terms VOC and ROG are used interchangeably, although VOC is used in this table because the City and County use the term VOC.

⁵ 13.7 tons per year threshold is based on 75 pounds per day multiplied by 365 days per year and divided by 2,000 pounds per ton.

Health-Based Thresholds for Project-Generated Pollutants of Human Health Concern

The thresholds presented in Table 4.1-9 consider existing air quality concentrations and attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is a cumulative problem, SDAPCD considers projects that generate criteria pollutant and O₃ precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality because the health-protective NAAQS or CAAQS would not be exceeded. Regional emissions generated by the proposed project could increase photochemical reactions and the formation of tropospheric O₃ and secondary PM, which, at certain concentrations, could lead to increased incidence of specific health consequences. Although these health effects are associated with O₃ and particulate pollution, the effects are a result of cumulative and regional emissions. As such, for a project with relatively small emissions contributions (i.e., emissions below the regional air district thresholds), that project's incremental contribution cannot be traced to specific health outcomes on a regional scale, and a quantitative correlation of project-generated regional criteria pollutant emissions to specific human health impacts is not technically feasible. Similarly, there are no publicly available models that can precisely correlate localized CO, PM, and SO₂ emissions to health consequences at specific locations. Refer to Appendix C for additional information.

Localized Project-Generated Criteria Pollutants (CO, DPM and Asbestos)

Localized pollutants generated by a project are deposited and potentially affect population near the emissions source. Because these pollutants dissipate with distance, emissions from individual projects can result in direct and material health impacts to adjacent sensitive receptors. Models and thresholds are readily available to quantify these potential health effects and evaluate their significance (CAPCOA 2009, OEHHA 2015, CARB 2000). Locally adopted thresholds and analysis procedures for the localized pollutants of concern associated with the proposed project (DPM,³ CO, and naturally occurring asbestos) are identified below.

Localized Carbon Monoxide Concentrations

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below state and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more (SCAQMD 1993). The following are applicable local emission concentration standards for CO.

- CAAQS and NAAQS 1-hour CO standards of 20 and 35 ppm, respectively
- CAAQS and NAAQS 8-hour CO standard of 9.0 and 9 ppm, respectively

As in most urban areas, high short-term concentrations of CO, known as *hotspots*, can occur in San Diego County. Hotspots typically occur in areas of high motor vehicle use, such as in parking lots, at congested intersections, and along highways. Because elevated CO concentrations typically occur at locations with high traffic volumes and congestion, elevated CO concentrations are often correlated with level of service (LOS) at intersections. LOS expresses the congestion level for an intersection and is designated by a letter from A to F, with LOS A representing the best operating conditions and LOS F the worst. Significant concentrations of CO sometimes occur (depending on temperature, wind speed, and other variables) at intersections where LOS is rated at D or worse. Projects that do not generate CO concentrations in excess of the health-based CAAQS would not contribute a significant level of CO such that localized air quality and human health would be substantially degraded.

Localized Diesel Particulate Matter Concentrations

DPM is a form of localized PM (see above for a detailed discussion) that is generated by diesel equipment and vehicle exhaust. DPM has been identified as a TAC by CARB and is particularly concerning because long-term exposure can lead to cancer, birth defects, and damage to the brain and nervous system. The County has adopted incremental cancer and hazard thresholds to evaluate receptor exposure to DPM emissions, which are adapted from SDAPCD Regulation XII, Rule 1200. Projects that would result in exposure to TACs resulting in a maximum incremental cancer risk

³ DPM is the primary TAC of concern for mobile sources—of all controlled TACs, emissions of DPM are estimated to be responsible for about 70 percent of the total ambient TAC risk (California Air Resources Board 2000). Given the risks associated with DPM, tools and factors for evaluating human health impacts from project-generated DPM have been developed and are readily available. Conversely, tools and techniques for assessing project-specific health outcomes as a result of exposure to other TAC (e.g., benzene) remain limited. These limitations impede the ability to evaluate and precisely quantify potential public health risks posed by TAC exposure.

(MICR) greater than 1 in 1 million without application of Toxics BACT,⁴ MICR greater than 10 in 1 million with application of Toxics BACT, or a chronic and acute non-cancer health hazard index greater than 1 would be deemed as having a potentially significant impact related to health risks from DPM exposure. Because various Toxics BACTs are in place at the Port—including CARB rules on vessels, shore power, and drayage trucks—the MICR of 10 in 1 million is utilized herein.

Asbestos-Containing Materials

There are no quantitative thresholds related to receptor exposure to asbestos. However, SDAPCD Rule 40 requires the demolition or renovation of asbestos-containing building materials to comply with the limitations of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations as listed in the Code of Federal Regulations.

Criteria for Cumulative Impacts

Potential cumulative air quality impacts would result when cumulative projects' pollutant emissions would combine to degrade air quality conditions to below acceptable levels. This could occur on a local level, such as through increases in vehicle emissions at congested intersections, or at sensitive receptor locations due to concurrent construction activities; at a regional level, such as the potential impact of multiple past, present, and reasonably foreseeable projects on O₃ within the SDAB; or globally, such as the potential impact of GHG emissions on global climate change.

Neither the District, nor the City of San Diego, nor SDAPCD has adopted quantitative thresholds to determine whether a project would make a cumulatively considerable contribution to air quality. The County of San Diego thresholds (see below) for cumulative air quality impacts are utilized for the analysis of the impacts of proposed project construction and operations related to emissions on air quality.

Cumulatively considerable net increases during the construction phase would typically happen if two or more projects near each other are simultaneously constructed. The following thresholds are used to determine the cumulatively considerable net increase in emissions during the construction phase.

- A project that has a significant direct impact on air quality with regard to emissions of PM₁₀, PM_{2.5}, NO_x, and/or ROG_s (i.e., an exceedance of threshold values indicated in Table 4.1-9) would also have a significant cumulatively considerable net increase.
- In the event that direct impacts from the proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other past, present, or reasonably foreseeable future projects within the proximity relevant to the pollutants of concern, are in excess of direct air quality impact thresholds.

The following thresholds are used to determine the cumulatively considerable net increase in emissions during the operation phase:

⁴ Best Available Control Technology (BACT) is the level of air contaminant emission control or reduction required by state law and District rules for new, modified, relocated, and replacement emission sources. Examples of Toxics BACT include diesel particulate filters, catalytic converters, and selective catalytic reduction technology.

- A project that does not conform to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of PM10, PM2.5, NO_x, and/or ROG_s (i.e., an exceedance of threshold values indicated in Table 4.1-9) would also have a significant cumulatively considerable net increase.
- Projects that cause road intersections to operate at or below LOS E for intersections with total (proposed project and surrounding project) peak-hour trips in excess of 3,000 trips and create a CO hotspot would create a cumulatively considerable net increase of CO.

4.1.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would not conflict with or obstruct implementation of an applicable air quality plan.

Impact Discussion

SDAPCD is required, pursuant to the NAAQS and CAAQS, to reduce emissions of criteria pollutants for which the County and air basin are in nonattainment (i.e., O₃, PM10, and PM2.5). The most recent SDAPCD air quality attainment plans are the 2016 RAQS and the 2016 O₃ attainment plan. The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O₃, while the 2016 O₃ attainment plan includes SDAPCD's plans and control measures for attaining the NAAQS for O₃. The RAQS and SIP project future emissions and determine the strategies necessary for the reduction of stationary source emissions through regulatory controls. The RAQS relies on the emission projections and control measures outlined in the SIP. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the region's cities and by the County of San Diego. The 2016 O₃ attainment plan represents SDAPCD's portion of the SIP. The SIP is a comprehensive plan of previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, State regulations, and federal controls that describes how each nonattainment area in the state will meet NAAQS, as described in Section 4.1.3.3, *Regional*.

The simplest test to assess project consistency is to determine if the project proposes development that is consistent with the growth anticipated by the relevant land use plans that were used in the formulation of the RAQS and SIP; if so, then the project would be consistent with the RAQS and SIP. Moreover, if the project is consistent with the overarching goals (i.e., to reduce emissions and attain NAAQS and CAAQS) and strategies (i.e., measures implemented to reduce emissions), then the project would be consistent with the RAQS and SIP.

The PMP is the governing land use document for physical development within the District. Projects that propose development consistent with growth anticipated by the current PMP are considered consistent with the RAQS and SIP. Moreover, if a project would propose development that is less dense than anticipated within the current PMP, the project would likewise be consistent with the RAQS and SIP because emissions would be less than estimated within the current PMP. If a project proposes development that is greater than that anticipated in the PMP and SANDAG's growth projections, the project would be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality because emissions would exceed those estimated for the existing land use plan (i.e., PMP). This situation would warrant further analysis to determine if a proposed project and surrounding projects would exceed the growth projections used in the RAQS for a specific subregional area.

As discussed in detail in Section 4.6, *Land Use and Planning*, the proposed project is within the PMP's Tenth Avenue Marine Terminal Planning District (Planning District 4) and most of the project site, lies within the Belt Street Industrial Subarea (Subarea 43). PMP land and water use designations within the project site include Marine Related Industrial and Specialized Berthing. The purpose of the proposed project is to maintain and improve facilities for the berthing needs of the current and future U.S. Naval assets and other customers. Construction and operation of the proposed project would not result in new berthing space or an increase in vessels serviced.

No changes in land uses would occur, and the proposed project would not result in land use designations that would be incompatible with existing onsite PMP land use designations. In addition, the project would be consistent with the District's Green Port and Clean Air Programs, which aim to reduce air pollution from operations at the Port and include various strategies that the District is employing to reduce criteria pollutant and GHG emissions from its largest sources. The proposed project would also comply with SDAPCD rules that have been implemented to reduce regional particulate matter and O₃ emissions—Rule 50 (Visible Emissions), Rule 51 (Nuisance), Rule 52 (Particulate Matter), Rule 54 (Dust and Fumes), Rule 55 (Fugitive Dust Control), and Rule 67 (Architectural Coatings)—and fugitive dust control measures during any demolition activities.

The proposed project would be consistent with current land use designations of the PMP and would not result in changes in land use or an increase in population. Therefore, the proposed project would be accounted for within SDAPCD's attainment forecasts and RAQS formulation. The project would not conflict with or obstruct the implementation of the applicable air quality plan. Therefore, the impact related to project implementation conflicting with obstructing implementation of an applicable air quality plan is considered less than significant, and no mitigation is required.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plans. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

Threshold 2: Implementation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

Impact Discussion

As a result of past and present projects, the SDAB is currently in nonattainment for O₃ under NAAQS and for O₃, PM₁₀, and PM_{2.5} under CAAQS, and will likely be further impeded by reasonably foreseeable future projects (see Chapter 5, *Cumulative Impacts*). Construction and operation of the proposed project have the potential to result in cumulatively considerable net increase of O₃

precursors (ROG and NO_x), PM10, and PM2.5. The construction- and operations-related air quality impacts are discussed below.

Construction Emissions

An estimate of emissions associated with project construction was calculated using the methods discussed above in Section 4.1.4.1, *Methodology*, and in Appendix C. Maximum daily emissions (pounds per day) during each year of construction of the proposed project are presented in Table 4.1-10. A breakdown of the maximum daily emissions for each year of construction is as follows:

- In 2021, maximum daily emissions are expected to occur when dredging for the Pride of San Diego drydock (Project Element 1) would overlap with Pride of San Diego drydock wharf construction work (Project Element 2). This peak overlap period would be brief (assumed to be 1 day) and would include Pride of San Diego in-water vessel activity (tugs, scow, and survey vessel) and haul trucks activity concurrent with Pride of San Diego wharf construction and truck activity (primarily deliveries). The peak day for all of construction occurs in the first year of construction (2021) but would be below thresholds.
- In 2022, maximum daily emissions are expected to occur when Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment) demolition, construction, and piling would overlap. This overlapping period would occur as the demolition portion is finishing and pile driving construction begins. This overlapping period would be less than 1 week.
- In 2023, maximum daily emissions are expected to occur during Pier 3 South Nearshore Dredging (Project Element 4). The peak overlap period would occur during concurrent dredging and truck hauling activities.
- In 2024, maximum daily emissions are expected to occur during Administrative Office Building construction and demolition (Project Element 12).
- In 2025, maximum daily emissions are expected to occur during Central Tool Room Demolition and Reconstruction activities (Project Element 10).

Table 4.1-10. Estimate of Peak Day Construction Emissions by Year (pounds per day)

Year	ROG	NO _x	CO	PM10	PM2.5	SO _x
2021	27	221	153	9	8	<1
2022	7	53	39	3	2	<1
2023	10	32	26	2	2	<1
2024	8	27	25	2	1	<1
2025	7	26	25	2	1	<1
Significance Threshold	75	250	550	100	55	250
Exceed Threshold?	No	No	No	No	No	No

Source: Appendix C.

Notes: emissions may not add up due to rounding.

As shown in Table 4.1-10, construction of the proposed project would result in emissions below applicable significance thresholds. Therefore, construction-related criteria pollutant emissions would not exceed significance thresholds for pollutants for which the region is nonattainment under the NAAQS or CAAQS. Note that the peak day for construction would occur in 2021, as identified in the above list.

As discussed above, while there are two separate disposal scenarios for Project Element 4, these would not affect the peak day for construction as that peak day does not include Project Element 4. The emissions shown in Table 4.1-10 are representative of worst-case conditions. The two separate disposal scenarios would differ in total emissions over the entire construction duration due to the difference in sediment hauling (between tug/scow and trucks). The 50-50 Scenario would result in slightly higher emissions for all emission types except PM10, PM2.5, and SO_x. This is due to the increased tug and scow activity in the 50-50 scenario compared to the All-Truck scenario. However, under either scenario, emissions would be below thresholds, and the difference between the two scenarios would be minor. A detailed summary of project emissions by year and subphase is provided in Appendix C. This impact is considered less than significant for construction, and no mitigation is required.

Operational Emissions

As discussed in Section 4.1.4.1, the proposed project would result in operational efficiencies that would change the vessel fleet that could be serviced at the site. This change could result in larger but fewer ships serviced on a daily and annual basis. These larger ships require more tugboat power to berth safely, but because there would be fewer calls, annual activity and emissions would likely decrease.

Direct changes resulting from the larger ships includes potential changes to tugboat and equipment activity. An estimate of existing and future daily emissions on both the daily and annual time scale is presented in Table 4.1-11. As shown, daily emissions (from a single call) during project operations are expected to increase, but this increase would be below significance thresholds.

Indirect changes to operations include changes in vessel surface area, labor, and total working days, which would all decrease as a result of the larger but more infrequent vessel calls relative to existing conditions. The reduction in total vessel surface area would likely reduce ship repair processes (e.g., abrasive blasting, application of marine coatings, and welding), which result in both criteria pollutant and TAC emissions. While on an individual basis the ships may be larger, the total surface area serviced over the year is likely to decrease as a result. More information on the change in vessel dimensions and surface area with the proposed project is provided in Appendix C.

As discussed in Chapter 3, vessels carry a crew, and the size of the crew varies by vessel size and type (e.g., commercial or naval). The project would not add any new permanent employees, and would reduce the amount of labor at the site, but may increase the crew size due to the larger vessels. However, there would be an overall net reduction of personnel (both labor and crew) compared to existing conditions (refer to Chapter 3 for more information). Because labor and crew directly and indirectly emit emissions associated with vehicle commuting as well as utility consumption and generation (energy, water, waste), reducing activity at the project site is likely to reduce emissions overall.

Moreover, as discussed in Appendix C, the project would decrease occupancy at Pier 3 South, resulting in fewer days per year that vessels are berthed. While the air quality changes associated with fewer occupancy days were not quantified, it is reasonable to assume that this would reduce emissions on an annual basis given that activity at the BAE Systems site is related to the presence of vessels.

Overall, the project would result in newer and larger ships that demand more power to berth, but once berthed, overall activity is expected to decrease. Emissions on the worst-case call day would be

below thresholds, and emissions are expected to decrease annually. Thus, the proposed project would not exceed significance thresholds for any criteria pollutants, including those for which the region is in nonattainment. Operational impacts would be less than significant, and no mitigation is required.

Table 4.1-11. Estimate of Operational Emissions (pounds per day)

Condition	Source	Total HP	ROG	NO _x	CO	PM10	PM2.5	SO _x
Existing (Scenario 1) ¹	Generators and Fire Pumps	7,250	<1	4	14	<1	<1	<1
	Tug Activity	12,000	7	59	54	1	1	<1
	Total	--	8	64	68	2	2	<1
Existing (Scenario 2) ¹	Generators and Fire Pumps	7,250	<1	4	14	<1	<1	<1
	Tug Activity	13,500	9	69	61	2	2	<1
	Total	--	9	74	75	2	2	<1
Project	Generators and Fire Pumps	7,250	<1	4	14	<1	<1	<1
	Tug Activity	14,500	9	77	66	2	2	<1
	Total	--	10	81	80	2	2	<1
Net Change with Project								
	Scenario 1	--	2	17	12	1	1	<1
	Scenario 2	--	1	7	5	<1	<1	<1
	Significance Threshold	--	75	250	550	100	55	250
	Exceed Significant Threshold?	--	No	No	No	No	No	No

Source: Appendix C.

¹ Scenario 1 is two larger tugs and Scenario 2 is three smaller tugs and one pusher tug, as shown in Table 4.1-7.

Notes: Totals may not add exactly due to rounding.

Cumulative Emissions

The cumulative projects identified by the District within 1,000 feet of the proposed project site that could contribute cumulative impacts on localized air quality conditions include the following: BAE Systems—Pier 1 North Drydock, Associated Real Estate Agreements and Removal of Cooling Tunnels Project (Cumulative Project #3), Shipyard Sediment Remediation Project (Cumulative Project #4), Mitsubishi Cement Corporation at Warehouse C (Cumulative Project #18), and HII San Diego Shipyard Inc. Marginal Wharf Repair and As-Needed Pile Replacement Project (Cumulative Project #23). Construction of one or more of these projects would potentially overlap with the construction of the proposed project. Construction related to the nearby Mitsubishi Cement Corporation project (Cumulative Project #18) and HII San Diego Shipyard Inc. Marginal Wharf Repair and As-Needed Pile Replacement Project (Cumulative Project #23) would potentially overlap with the construction of the proposed project, which is scheduled to occur between 2021 and 2025. A full list of the cumulative projects considered in this EIR is provided in Chapter 5, *Cumulative Impacts*.

As discussed above and shown in Tables 4.1-10 and 4.1-11, criteria pollutant emissions are expected to be below significance threshold levels for all nonattainment criteria pollutants and precursors during construction and operations of the proposed project. Construction emissions from all nearby

projects, including those listed above, would result in criteria pollutant emissions, but these projects would be subject to the same SDAPCD rules and regulations that reduce emissions from the proposed project, including fugitive dust control per Rule 55 and VOC limits in coatings per Rule 67. The proposed project would not result in a cumulatively considerable net increase of any nonattainment pollutants during construction or operation. In addition, during operations, the proposed project would conform to the RAQS and SIP and would not create a CO hotspot (see analysis under Threshold 3 below). As such, the proposed project is not expected to result in a cumulatively considerable net increase in a nonattainment pollutant. Overall, this impact is considered less than significant, and no mitigation is required.

Level of Significance Prior to Mitigation

Construction

Construction of the proposed project would not result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard. Impacts would be less than significant.

Operation

Operation of the proposed project would not result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard. Impacts would be less than significant.

Mitigation Measures

Construction

No mitigation is required.

Operation

No mitigation is required.

Level of Significance after Mitigation

Construction

Impacts would be less than significant.

Operation

Impacts would be less than significant.

Threshold 3: Implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations.**Impact Discussion****Diesel Particulate Matter**

DPM, which is classified as a carcinogenic TAC by CARB, is the primary exhaust pollutant of concern with regard to health risks to sensitive receptors. Diesel-powered construction equipment as well as heavy-duty truck movement and hauling both on and off site would emit DPM that could potentially expose nearby sensitive receptors to pollutant concentrations. For purposes of analysis, diesel PM10 exhaust emissions presented in this analysis are used as a surrogate for DPM, consistent with OEHHA guidance (2015). The closest sensitive land uses within the vicinity of the project site (relative to the project boundary) are the Woodbury School of Architecture, located 1,050 feet north; residences as close as 1,180 feet north; Cesar Chavez Park, located 1,700 feet northwest; and the Perkins Elementary and Monarch schools, located 2,550 feet north. See Table 4.1-5 for a summary of receptor distances from the project site.

Construction

Construction activities would be short term, occurring off and on over approximately 4.9 years (57 months), which is much shorter than the assumed 9-, 30-, or 70-year exposure period typically used to estimate lifetime cancer risks. Receptors that access the school, park, and residences would have limited exposure to diesel exhaust, with exposure limited to visitation that coincides with weekday construction activities. DPM emitted by these sources can remain airborne for several days. However, given the prevailing winds and meteorological conditions at the project site during daytime construction hours, pollutant emission concentrations would be expected to be well dispersed. Construction activities would be sporadic, transitory, and short term in nature; once construction activities end, so too would the source of emissions.

The vast majority of emissions would occur within and near the construction area. This includes all emissions from off-road equipment, a portion of truck activity, and all marine sources that are active in the dredging and construction area, including the dredger, push-knee tug, survey vessel, and a small portion of ocean-going tug activity. Activity away from the construction area includes all employee commuting, most of the truck travel, and marine sources associated with ocean disposal as the ocean-going tug pulls the scow away from the construction area.

Although a quantitative HRA was not performed for the proposed project, one was performed at the project site for the BAE Pier 1 North Drydock EIR (District 2015). The BAE Systems Pride of California Drydock is located directly northwest of the proposed project, within the same leasehold. Construction activities and sources of emissions for the BAE Drydock project were similar to those proposed here, and included demolition, dredging, and other activities that would result in combustion emissions from heavy-duty construction vehicles, barges, haul trucks, utility engines, and vehicles transporting construction employees. Construction activities would include similar emission-generating activities (landside and marine equipment types), in the same location, and in proximity to the same sensitive receptors as assumed in the Pier 1 North Drydock EIR. Thus, the results of the construction HRA for the Pier 1 North Drydock EIR are used as a proxy for determining risk associated with the proposed project.

The BAE Pier 1 North Drydock EIR assumed 1.5 pounds per day of DPM exhaust over an 18-month construction period assuming 22 working days per month, for a total of 0.297 ton (or 594 pounds) of DPM. The maximum risk was assumed to be at nearby residences, where the cancer risk was assumed to be 0.378 cases per million, which is far below the 10 per million threshold. For the proposed project, the average daily emission rate over the entire 57-month construction period is much lower than assumed in the BAE Pier 1 North Drydock EIR and equals 0.70 pound per day based on 0.613 ton (or 1,225 pounds) of DPM over 1,743 days for all sources, both within and away from the project area. Assuming health risk is proportional to total DPM emissions, scaling up the risk from the BAE Pier 1 North Drydock EIR to the proposed project would result in a risk value to 0.78 case per million, which is far below the 10 cases per million threshold. Thus, construction of the proposed project would not result in significant health risk at nearby sensitive receptor locations. Impacts would be less than significant, and no mitigation is required.

Operation

Once the proposed project is operational, TAC emissions would continue to result primarily from diesel-powered tugs and equipment, and industrial-type processes for ship repair such as abrasive blasting, application of marine coatings, and welding. As discussed above, ship repair processes are expected to decrease due to the decrease in vessel surface area and occupancy days at Pier 3 South. As shown in Table 4.1-11, diesel exhaust (in the form of PM10) would decrease annually relative to existing conditions due to the decrease in calls.

Emissions during construction would be short term and transitory and occur at distances (greater than 1,000 feet) not expected to expose sensitive receptor locations to substantial pollutant concentrations. Also, the predominant wind direction at the project site is west-northwest, which will potentially disperse pollutants away from the nearest residential and recreational receptors, both located northeasterly from the project site. The proposed project may also create a nuisance for nearby onsite visitors during hours of construction and operations, as diesel trucks could create occasional exposure to exhaust, but this would be minimal due to the transient nature of truck activity in the project vicinity. As such, impacts from the emission of TACs would be less than significant, and no mitigation is required.

Carbon Monoxide Hotspots

CO hotspot analyses address the implications of high short-term concentrations of CO, which typically occur at locations with high traffic volumes and congestion. For this reason, hotspots are often correlated with LOS at intersections. Due to the short-term and temporary nature of construction activities, CO emissions generated during construction of the proposed project are not anticipated to result in long-term CO hotspot impacts. Also, as mentioned previously, and discussed in further detail in Section 4.9, *Transportation, Circulation, and Parking*, subsection 4.9.2.1, operation of the proposed project is not expected to result in additional traffic. The decrease in labor at the project site would result in a decrease in overall worker trips, and therefore a decrease in traffic and congestion at roadways and intersections surrounding the project site. Consequently, the impact of traffic conditions from the proposed project on ambient CO levels is considered less than significant, and no mitigation is required.

Criteria Air Pollutants

High levels of criteria pollutants are associated with some form of health risk (e.g., asthma, asphyxiation). Adverse health effects associated with criteria pollutant emissions are highly

dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). Moreover, O₃ precursors (ROG and NO_x) affect air quality on a regional scale. Health effects related to O₃ are therefore the product of emissions generated by numerous sources throughout a region.

As part of the setting and updating of the NAAQS, EPA develops and considers quantitative characterizations of exposures and associated risks to human health or the environment associated, known as a Health Risk and Exposure Assessment (HREA), with recent air quality conditions and with air quality estimated to just meet the current or alternative standard(s) under consideration (EPA 2016). The HREA estimates population exposure to and resulting mortality and morbidity health risks associated with the full range of observed pollutant concentrations, as well as incremental changes in exposures and risks associated with ambient air quality adjusted to just meeting the existing NAAQS and just meeting potential alternative NAAQS under consideration (EPA 2014).

In terms of analyzing project-related emission, the air quality thresholds applied to the proposed project (see Table 4.1-9) are based on EPA's NSR program, which sets standards consistent with the NAAQS. However, existing models have limited sensitivity to small changes in criteria pollutant concentrations and, as such, translating project-generated criteria pollutants to specific health effects would not produce meaningful information, as project-related emissions are unlikely to show up in any regional model. In other words, increases in regional air pollution from project-generated VOC and NO_x would have no effect on specific human health outcomes that could be attributed to specific project emissions. Other criteria pollutant emissions, including CO, PM₁₀, and PM_{2.5}, generally affect air quality on a localized scale.

Health effects related to localized pollutants are the product of localized sources and emissions generated by numerous sources throughout a region. Certain air quality models, particularly dispersion models, could translate project-generated localized pollutants to specific localized health effects, such as nearby exposure to DPM, but these models have limited ability to translate project-generated pollutants to specific regional health effects.

As shown in Tables 4.1-10 and 4.1-11, construction and operation of the proposed project would result in emissions of criteria air pollutants that would be below significance thresholds. Because thresholds (see Table 4.1-9) serve as health-based thresholds, construction and operation of the proposed project would not result in adverse health effects associated with criteria pollutant emissions.

Moreover, construction and operation of the proposed project would not result in adverse health effects on the nearby populations associated with localized PM exhaust and CO, as implementation of the proposed project would result in emissions of localized pollutants (CO, PM₁₀, and PM_{2.5}) far below thresholds. Consequently, the health-related impacts of the proposed project's localized criteria air pollutant emissions are considered less than significant, and no mitigation is required.

Asbestos-Containing Materials

Demolition of existing structures results in fugitive dust and other particulates that may disperse to adjacent sensitive receptor locations. Asbestos-containing materials (ACMs) were commonly used as fireproofing and insulating agents prior the 1977, which is when the U.S. Consumer Product Safety Commission banned most ACM use due to their link to mesothelioma. However, buildings

constructed prior to 1977 that would be demolished by the project may have used ACM and could expose receptors to asbestos, which may become airborne with other particulates during demolition.

A discussion of asbestos-related impacts is presented in Section 4.4, *Hazards and Hazardous Materials*. As discussed therein, based on the age of the buildings and structures present onsite, there is a high likelihood that lead-based paint (LBP) and/or ACM are present on site. For example, buildings associated with the existing Production Shop have been present from as early as 1949. Given that the proposed project would involve demolition and redevelopment of the Production Shop (Project Element 11), there is potential for an accidental release of asbestos or lead during construction. However, any demolition or grading activities during construction would be required to comply with Title 8, Industrial Relations, of the California Code of Regulation, as discussed in Section 4.4. Compliance with the applicable regulations would ensure that impacts associated with removal and disposal of ACM and LBP would be less than significant, and no mitigation is required.

Level of Significance Prior to Mitigation

Construction

Construction of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

Operation

Operation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

Mitigation Measures

Construction

No mitigation is required.

Operation

No mitigation is required.

Level of Significance after Mitigation

Construction

Impacts would be less than significant.

Operation

Impacts would be less than significant.

Threshold 4: Implementation of the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Impact Discussion

Although other emission types, such as odors, rarely cause any physical harm, they can be unpleasant and affect certain members of the public. These effects include distress that may often generate citizen complaints to local governments and air districts. Any project with the potential to frequently expose the public to emissions, such as odors, would be deemed as having a significant impact.

According to CARB's *Air Quality and Land Use Handbook*, land uses associated with odor complaints typically include sewage treatment plants, landfills, recycling facilities, and manufacturing (CARB 2005). Odor impacts on residential areas and other sensitive receptors, such as hospitals, daycare centers, and schools, warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, work sites, and commercial areas.

Potential odor emitters during construction activities include diesel exhaust, asphalt paving, and architectural coatings. Construction-related activities near existing receptors would be temporary in nature, and construction activities would not result in nuisance odors that would violate SDAPCD Rule 51. Potential odor emitters during operations would include exhaust from vehicles, offroad equipment, and vessel activity. However, odor impacts would be limited to the circulation routes, parking areas, and areas immediately adjacent to terminal operations, and because activity as a whole (including labor, vessel calls, and overall tug activity) would decrease, odor impacts are not expected to exceed existing odor conditions. Odor-related impacts would be less than significant, and no mitigation is required.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not result in other emissions such as those leading to odors that would adversely affect a substantial number of people. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

4.2.1 Overview

This section describes the existing conditions and applicable laws and regulations for biological resources. The section also analyzes the proposed project’s potential to impact biological resources during construction and operation. Impacts on biological resources are considered significant if the proposed project would: (1) have a substantial adverse effect on candidate, sensitive, or special-status species; (2) have a substantial adverse effect on riparian habitat or other sensitive natural community; (3) result in substantial interference with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedance of the use of native wildlife nursery sites; or (4) conflict with applicable local policies or ordinances protecting biological resources or with the provisions of an applicable adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The analysis in this section is primarily based on the *Biological Technical Study and Essential Fish Habitat Assessment for the BAE Waterfront Infrastructure Maintenance, Repair, and Replacement Project* prepared by Merkel & Associates, Inc. (Merkel & Associates 2019), with additional information provided by the memorandum, *BAE Systems Construction – Airborne Noise Levels for Potential Impacts on Marine Mammals*, prepared by ICF noise analysts (ICF 2019). These two documents are included as Appendix D-1 and Appendix D-2 of this EIR, respectively. Additional analysis of terrestrial biology was conducted as a desktop review by ICF biologists and is incorporated directly into this EIR section, where applicable, and the full results of the desktop review are provided in Appendix D-3 of this EIR.

Table 4.2-1 summarizes significant impacts and mitigation measures discussed in detail in Section 4.2.4.4, *Project Impacts and Mitigation Measures*.

Table 4.2-1. Summary of Significant Biological Resources Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-BIO-1: Water Quality Impairment Impacts on California Least Tern and California Brown Pelican Foraging	MM-BIO-1: Implement Construction Measures to Eliminate Water Quality Impairment Impacts on California Least Tern and California Brown Pelican Foraging	Less than Significant	Implementation of construction measures in accordance with CWA Sections 401 and 404, Rivers and Harbors Act Section 10, the NPDES permit, and the Stormwater Management and Discharge Control Ordinance would avoid any impact on California least tern and California brown pelican from

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-BIO-2: Potential Disturbance or Destruction of Nests Protected by the Migratory Bird Treaty Act and California Fish and Game Code	MM-BIO-2: Avoid Nesting Season for Birds or Conduct Preconstruction Nesting Surveys	Less than Significant	increased turbidity associated with in-water construction activities. Avoidance of the nesting season or implementation of this measure during construction that occurs within the nesting season to ensure compliance with the MBTA and California Fish and Game Code would avoid any impacts on nesting birds.
Impact-BIO-3: Potential Disruption of or Injury to Green Sea Turtles and Marine Mammals During Pile Driving Activities	MM-BIO-3: Implement a Marine Mammal and Green Sea Turtle Monitoring Program During Pile Installation Activities	Less than Significant	Implementation of a marine mammal and green sea turtle monitoring program approved by the District would avoid any impact on marine mammals and green sea turtles.
Impact-BIO-4: Loss of Open Water Habitat from Shipyard Operations	MM-BIO-4: Implement Overwater Coverage Mitigation in Coordination with the Appropriate Resource Agencies and the District to Compensate for Loss of Open Water Habitat	Less than Significant	Mitigation would adequately compensate for loss of open water habitat from overwater coverage by requiring implementation of any combination of the following mitigation options at a 1:1 ratio for no net increase in overwater coverage per the CWA: removing overwater coverage in the San Diego Bay; restoring or creating eelgrass habitat at a suitable mitigation site of equivalent size and value within San Diego Bay; purchasing credits for a suitable in lieu fee program or mitigation bank; and/or purchasing credits from the District's shading credit program.

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-BIO-5: Potential Water Quality Impairment or Construction-Related Impacts on Eelgrass	MM-BIO-5: Implement Eelgrass Protection Measures	Less than Significant	Implementation of eelgrass protection measures such as requiring pre- and post-construction surveys in accordance with the CEMP; silt curtains; performing monitoring; contractor education; and, in the event eelgrass is impacted, requiring restoration, creation, or purchase of eelgrass mitigation bank credits would reduce potential impacts on adjacent eelgrass to less than significant.

4.2.2 Existing Conditions

4.2.2.1 Terrestrial Environment

The terrestrial environs associated with the landside component of the proposed project is completely urban/developed and is subject to marine-related industrial activity on a daily basis. This portion of the project site consists of paved areas, roadway, buildings, and piers. The project site contains very little vegetation, limited to small areas of landscaped vegetation species. As shown in Figure 4.2-1, the landside portion is devoid of any natural vegetation, sensitive vegetation communities, natural wildlife habitat, and jurisdictional waters and wetlands.

Legend

- Project Area
- Project Area 200-ft Buffer
- Existing Piers and Docks
- Eelgrass
- Eelgrass Areal Extent (0.5 m beyond vegetated cover)
- Eelgrass Spatial Distribution (5 m beyond vegetated cover)
- Rock Revetment
- Unvegetated Soft Bottom
- Urban/Developed
- 10-ft Contour Interval



Source: Merkel & Associates, Inc.



Figure 4.2-1
Habitat of Project Site
BAE Systems Waterfront Improvement Project

4.2.2.2 Marine Environment

The biological environs associated with the marine component of the proposed project currently includes habitats such as unvegetated soft bottom, vegetated soft bottom (including eelgrass beds), intertidal rip-rap, vertical bulkhead wall, pier piles, and open water. This combination of habitat types supports a wide array of marine life including marine mammals, green sea turtle (*Chelonia mydas*), fish, tunicates, crustaceans, and mollusks, all of which are common wildlife in San Diego Bay. In addition to providing habitat for a variety of marine species, there is also potential for foraging habitat in open water areas for avian species, including the federally and state-listed endangered California least tern (*Sterna antillarum brownii*) and the state-protected California brown pelican (*Pelecanus occidentalis californicus*). Eelgrass (*Zostera marina*) and open water habitats are designated as Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Management Conservation Act of 1976, as amended 1996 (Public Law 104-267) (MSFMCA). Eelgrass is further designated and protected as a Habitat Area of Particular Concern under the MSFMCA and the California Eelgrass Mitigation Policy through the National Marine Fisheries Service (NMFS) (NMFS 2014). A full description of each marine habitat type present within the waterside component of the proposed project can be found in Appendix D-1.

4.2.2.3 Candidate, Sensitive, and Special-Status Species

Special-status species are those plants or animals that have been officially listed, proposed for listing, or are candidates for listing as threatened or endangered under provisions of the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA), as well as any animal species listed as a species of special concern or fully protected by the state, and plants listed on the California Native Plant Society's (CNPS) Rare Plant Ranking System. Sensitive species also include species listed by local or regional jurisdictions. The following describes the candidate, sensitive, and special-status species with the potential to occur or that have been observed within the project area.

Plant Species

Terrestrial

The analysis for sensitive plant species was performed for this project by reviewing the California Natural Diversity Database (CNDDDB) and CNPS database, and requesting an official threatened and endangered species list from the U.S. Fish and Wildlife Service's (USFWS) Information, Planning, and Consultation System (IPAC). The CNDDDB record search for sensitive terrestrial plant species was conducted for the project site and a 1-mile radius (CDFW 2018). The CNPS sensitive plant species search was conducted for the U.S. Geological Survey's Point Loma, California 7.5-minute quadrangle map. Due to the varying topography occurring within the Point Loma quadrangle map, the search was further refined to only include species with habitat requirements within 0 and 20 feet elevation, which would exclude plants that may occur in habitats that vary greatly from the current and historical conditions at the project site. The USFWS list of threatened and endangered species was generated by creating a polygon for the proposed project area through the IPAC web application tool. This search criteria yields a total of 32 sensitive plant species. Upon review of these resources, it was determined that because the site is urban/developed and lacks any natural terrestrial habitat, no sensitive plant species are likely to occur at the project site. A full description of these species and their potential to occur within the project site are presented in Appendix D-3.

Marine

The waterside component of the project site contains a number of habitat types, including unvegetated soft bottom, vegetated soft bottom, intertidal rip-rap, vertical bulkhead wall, pier piles, and open water. Eelgrass (part of the vegetated soft-bottom habitat type) and open water are defined as EFH under the 1996 amendment to the MSFMCA (see Section 4.2.3, *Applicable Laws and Regulations*). Eelgrass beds were observed and documented as the predominant plant species occurring within the vegetated soft bottom habitat type. The eelgrass beds within the proposed project occur along a narrow shoreline margin between overwater pier and dock structures. Eelgrass beds also extend outside the proposed project boundary, along the shoreline margin that continues both north and south along either side of the BAE Systems leasehold (refer to Figure 4.2-1). Open water habitat consists of any area within the water column that lacks any structure or vegetation. Additional eelgrass beds occur to the northwest, outside of the project boundary.

Eelgrass is a marine plant that provides predation refuge and serves as an important food source for a diverse group of marine species. Eelgrass beds reduce wave and current action, thus reducing erosion by stabilizing sediment. Eelgrass beds improve water quality by trapping suspended particulates and also generate oxygen for the marine environment during daylight hours. Although eelgrass is not a threatened or endangered species, it is considered EFH habitat and a Habitat Area of Particular Concern under the MSFMCA, the federal legislation that protects waters and substrates necessary for fish spawning, breeding, feeding, or growth to maturity. Eelgrass beds are also considered special aquatic sites under the 404(b)(1) guidelines of the CWA (see Section 4.2.3, *Applicable Laws and Regulations*).

Wildlife Species

Terrestrial

A CNDDDB record search for special-status terrestrial wildlife species was conducted for the project site and a 1-mile radius (CDFW 2018). The USFWS list of threatened and endangered species was generated by creating a polygon for the project site through the IPAC web application tool. Thirteen special-status wildlife species have been recorded within 1 mile of the project site. A full description of these species and their potential to occur within the project site are presented in Appendix D-3.

Based on the database search and a review of existing site conditions, three sensitive terrestrial wildlife species have the potential to occur within or adjacent to the project site based on potential foraging opportunities. The landside portion of the project site contains suitable foraging habitat for American peregrine falcon (*Falco peregrines anatum*), and the adjacent open-water marine portion of the project area provides suitable foraging habitat for California least tern and California brown pelican. The project site has moderate potential for foraging for American peregrine falcon due to the open space available around the project site, and the site's proximity to the Coronado Bridge, which has potential to provide suitable nesting habitat. The landside portion of the project site does not contain any suitable foraging habitat for California least tern or California brown pelican because both birds feed almost exclusively on small fish species. Table 4.2-2 provides a full description of these species and their potential to occur within the project site.

The landside portion of the project site is subject to commercial human activities and routine landscape maintenance activities. The urban setting and frequent disturbances of the project area provide low-quality wildlife habitat for non-avian species. Existing ornamental trees found within

the project site provide suitable nesting habitat for a number of common bird species including, but not limited to, black-crowned night heron (*Nycticorax nycticorax*), house finch (*Haemorhous mexicanus*), snowy egret (*Egretta thula*), great blue heron (*Ardea herodias*), red-tailed hawk (*Buteo jamaicensis*), and American crow (*Corvus brachyrhynchos*).

Marine

Marine habitat types found within the project site are typical for bays and harbors in Southern California and, as such, contain species ubiquitous throughout San Diego Bay. Wildlife species observed include fish, polychaetes, anemones, mollusks, and crustaceans. A full explanation of species observed or with potential to occur at each habitat type is detailed in Appendix D-1.

The project site does not contain suitable habitat to continually support any protected, rare, threatened, or endangered marine species; however, a number of species have potential to occur within the project site on a transient basis. Green sea turtles (federally listed as threatened) are the only sensitive marine species with potential to occur on site. There is a population of resident Eastern Pacific green sea turtles most commonly observed in southern San Diego Bay. Green sea turtles can be observed elsewhere within the Bay and offshore; however, this is not a common occurrence, as this species preferentially occurs in southern San Diego Bay. There is very little habitat or foraging opportunities within the project site to attract green sea turtles, and any occurrence on site would be uncommon and transient in nature.

Harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus californianus*), common dolphin (*Delphinus* spp.), coastal bottlenose dolphin (*Tursiops truncatus*), and California gray whale (*Eschrichtius robustus*), all of which are protected under the Marine Mammal Protection Act (MMPA), have potential to occur within the waterside portion of the project site. California sea lion may forage opportunistically when in the Bay and is commonly observed in north San Diego Bay; they are most commonly observed in marina environments, either foraging or using docks and other structures as temporary haul-out sites. California sea lion is uncommon in central San Diego Bay but is occasionally observed. During 145 monitoring days 7 California sea lion observations were made at the BAE Systems facility in 2016 (refer to Appendix D-1). While California sea lion is relatively uncommon in central San Diego Bay, the documented observations of California sea lions during prior BAE Systems construction work means they are considered to have moderate potential to occur within the waterside portion of the project site. Harbor seal forages in north San Diego Bay with occurrence much lower than California sea lions. There were no harbor seal observations during the same monitoring noted above; hence, their potential to occur at the project site is considered low. Common dolphin and coastal bottlenose dolphin are occasionally observed transiting north and north-central San Diego Bay; however, these species are unlikely to occur within the project site as they are rarely observed within industrial areas, and occurrence in south central and south San Diego Bay is rare. Their potential for occurrence within the project site is considered to be low. California gray whale is a regular migrant observed in offshore waters. California gray whale are uncommon in nearshore waters and rarely seen in San Diego Bay; the potential for California gray whale to occur within the project site is very low (Appendix D-1).

Table 4.2-2. Potential for Sensitive Wildlife Species to Occur within the Project Site

Common Name (<i>Scientific Name</i>)	Sensitivity Code and Status	Habitat Preference/Requirements	Verified On Site (Yes/No)	Potential to Occur	Rationale
Reptiles					
Green sea turtle (<i>Chelonia mydas</i>)	FT	Typically occurs within southern San Diego Bay within or adjacent to the shallow eelgrass beds. Individuals may enter or leave San Diego Bay and can be found between San Diego and Mexico.	No	Low	Green sea turtles may periodically occur on site as they are found throughout San Diego Bay; however, the project area does not offer ideal habitat requirements for the species to preferentially visit for foraging opportunities.
Birds					
American peregrine falcon (<i>Falco peregrines anatum</i>)	FPS	Occurs along coast; breeds in woodland, forest, and coastal habitats. Riparian areas are important year-round habitats.	No	Breeding: None Foraging: Moderate	Site is urban/developed. Current site conditions lack suitable natural or artificial cliff-like ledges for nesting. Project location has potential for foraging only. Falcon preys upon bird species commonly associated with urban areas.
California brown pelican (<i>Pelecanus occidentalis californicus</i>)	FPS	Nesting typically occurs on islands on ground or within shrubs. No nesting occurs in San Diego Bay. Commonly observed foraging throughout San Diego Bay and near coastal areas for schooling fish species such as anchovy, sardine, and mackerel.	No	Breeding: None Foraging: Yes	Pelicans are commonly found throughout San Diego Bay. Foraging potential is high anywhere schooling fish species can be found. Birds also commonly associate with fishing boats as recreational fishermen discard bait.
California least tern (<i>Sterna antillarum browni</i>)	FE SE FPS	Shallow estuaries, lagoons, and long marine shores.	No	Breeding: None Foraging: Yes	Site is urban/developed. Species nests in open areas relatively free of human disturbance on sandy or gravelly substrate, which may exist on some rooftop areas. Foraging occurs over open water for small fish species. Foraging and resting potential along rip-rap within project area.

Common Name (<i>Scientific Name</i>)	Sensitivity Code and Status	Habitat Preference/Requirements	Verified On Site (Yes/No)	Potential to Occur	Rationale
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Source: CDFW 2018

Status:

Federal

FE – listed as endangered under the federal Endangered Species Act.

FT – listed as threatened under the federal Endangered Species Act.

State

SE - listed as endangered under the California Endangered Species Act.

ST – listed as threatened under the California Endangered Species Act.

FPS – fully protected species in California.

CSC – species of special concern in California.

4.2.3 Applicable Laws and Regulations

4.2.3.1 Federal

Rivers and Harbors Act (Section 10)

Pursuant to Section 10 of the Rivers and Harbors Act, the U.S. Army Corps of Engineers (USACE) is authorized to regulate any activity within or over any navigable water of the United States (WoUS). Rivers and Harbors Act Section 10 jurisdiction is defined as “those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use, to transport interstate or foreign commerce” (33 Code of Federal Regulations 322). The San Diego Bay portion of the project site is considered a traditional navigable water regulated under Section 10 of the Rivers and Harbors Act; therefore, construction activities proposed within the marine portion of the project site would require Section 10 compliance and coordination with USACE.

Endangered Species Act of 1973

Species listed as endangered and/or threatened by USFWS are protected under Section 9 of the federal ESA, which forbids any person to take an endangered or threatened species. *Take* is defined in Section 3 of the act as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The U.S. Supreme Court ruled in 1995 that the term *harm* includes destruction or modification of habitat. Sections 7 and 10 of the act may authorize *incidental take* for an otherwise lawful activity (a development project, for example) if it is determined that the activity would not jeopardize survival or recovery of the species. Section 7 applies to projects where a federally listed species is present and there is a federal nexus, such as a federal CWA Section 404 permit (e.g., impacts on WoUS) that is required. Section 10 applies when a federally listed species is present but no federal nexus is present. No federally listed species have been detected on the project site.

Magnuson-Stevens Fishery Management Conservation Act of 1976, as amended 1996 (Public Law 104-267)

Federal agencies must consult with NMFS on actions that may adversely affect EFH, which is defined as those “waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” NMFS encourages streamlining the consultation process using review procedures under the National Environmental Policy Act, Fish and Wildlife Coordination Act, the CWA, and/or the federal ESA provided that documents meet requirements for EFH assessments under Section 600.920(g). EFH assessments must include (1) a description of the proposed action, (2) an analysis of effects, including cumulative effects, (3) the federal agency’s views regarding the effects of the action on EFH, and (4) proposed mitigation, if applicable.

Marine Mammal Protection Act of 1972

The MMPA prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products

into the United States. Congress passed the MMPA based on the following findings and policies: (1) some marine mammal species or stocks may be in danger of extinction or depletion as a result of human activities, (2) these species or stocks must not be permitted to fall below their optimum sustainable population level (depleted), (3) measures should be taken to replenish these species or stocks, (4) there is inadequate knowledge of the ecology and population dynamics, and (5) marine mammals have proven to be resources of great international significance.

The MMPA was amended substantially in 1994 to provide for: (1) certain exceptions to the take prohibitions, such as for Alaska Native subsistence, and for permits and authorizations for scientific research; (2) a program to authorize and control the taking of marine mammals incidental to commercial fishing operations; (3) preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction; and (4) studies of pinniped-fishery interactions. NMFS and USFWS administer the MMPA. The proposed project must be analyzed to ensure that marine mammals protected under the MMPA would not be harassed or injured as a result of project activities in or adjacent to San Diego Bay. Any project activities that may result in Level A or B harassment, injury, or mortality would require consultation with NMFS and USFWS under the MMPA.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was enacted in 1918 to prohibit the killing or transport of native migratory birds, or any part, nest, or egg of any such bird, unless allowed by another regulation adopted in accordance with the MBTA. A list of migratory bird species that are protected by the MBTA is maintained by USFWS, which regulates most aspects of the taking, possession, transportation, sale, purchase, barter, exportation, and importation of migratory birds. Under the MBTA, *take* means to kill, directly harm, or destroy individuals, eggs, or nests or to otherwise cause failure of an ongoing nesting effort. Permits are available under the MBTA through USFWS, and authorization for potential take under the MBTA is addressed as part of the ESA Section 7 consultation process. The proposed project must be analyzed to ensure consistency with the MBTA, including avoidance of take of nesting birds, their eggs, or activities that may cause nest failure. This applies for both terrestrial and marine migratory species protected under the MBTA that may be directly or indirectly affected by the proposed project. Any potential take must be either permitted through consultation with USFWS or avoided and minimized through mitigation measures.

Clean Water Act

The Federal Water Pollution Control Act Amendments of 1972, commonly known as the CWA (33 United States Code 1251–1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The purpose of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Discharges into WoUS are regulated under CWA Section 404. WoUS include: (1) all navigable waters (including all waters subject to the ebb and flow of the tide); (2) all interstate waters and wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, or natural ponds; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above. Important applicable sections of the CWA are discussed below.

- **Section 303** requires states to develop water quality standards for inland surface and ocean waters and submit them to the U.S. Environmental Protection Agency for approval. Under

Section 303(d), the states are required to list waters that do not meet water quality standards and to develop action plans, called total maximum daily loads, to improve water quality.

- **Section 304** provides 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 WoUS to obtain certification from the state that the discharge will comply with other provisions of the CWA. Certification is provided by the respective Regional Water Quality Control Board (RWQCB). A Section 401 certification from the San Diego RWQCB would be required for the proposed project if a Section 404 permit and Rivers and Harbor Act (Section 10) permit are required.
- **Section 402** establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into WoUS. The NPDES program is administered by the RWQCB. Conformance with Section 402 is typically addressed in conjunction with water quality certification under Section 401. All construction activities must be consistent with Section 402 of the CWA and avoid significant water quality-related impacts. See Section 4.5, *Hydrology and Water Quality*, for an analysis related to the proposed project's impacts on water quality.
- **Section 404** provides for issuance of dredge/fill permits by USACE. Permits typically include conditions to minimize impacts on water quality. Common conditions include: (1) USACE review and approval of sediment quality analysis before dredging, (2) a detailed pre- and post-construction monitoring plan that includes disposal site monitoring, and (3) requiring compensation for loss of WoUS.

NMFS California Eelgrass Mitigation Policy

The NMFS is an office of the National Oceanic Atmospheric Administration and is responsible for the stewardship of the nation's ocean resources and their habitat. NMFS developed the California Eelgrass Mitigation Policy (CEMP) in order to establish and support a goal of protecting eelgrass and its habitat functions (NMFS 2014). The CEMP includes guidance on defining eelgrass habitat, surveying, mapping, assessing impacts, avoiding and minimizing impacts on eelgrass, and mitigation options. Avoidance and minimization measures included within the CEMP relate to turbidity, shading, circulation, and nutrient and sediment loading impacts. Mitigation options include comprehensive management plans, in-kind mitigation, mitigation banks and in-lieu-fee programs, and out-of-kind mitigation.

NMFS has provided this policy to other state and federal agencies, including the California Department of Fish and Wildlife (CDFW), as guidance for handling project-related impacts on eelgrass habitat.

4.2.3.2 State

California Coastal Act of 1976

The California Coastal Act of 1976 recognizes California ports, harbors, and coastline beaches as primary economic and coastal resources and as essential elements of the national maritime industry. Decisions to undertake specific development projects, where feasible, are to be based on consideration of alternative locations and designs in order to minimize any adverse environmental

impacts. The California Coastal Act is implemented by the Coastal Commission. The proposed project would require a non-appealable coastal development permit (which would be issued by the District) for activities within the coastal zone that occur within the immediate shoreline (i.e., tidelands, submerged lands, and public trust lands). The Coastal Commission would be required to approve components of the project outside of the District's PMP jurisdiction.

California Endangered Species Act

The CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that affect both a state- and federally listed species, compliance with the federal ESA will satisfy the CESA if CDFW determines that the federal incidental take authorization is consistent with the CESA under California Fish and Game Code Section 2080.1. For projects that would result in a take of a state-only listed species, the project proponent must apply for a take permit under Section 2081(b). No state-only listed species have been detected on the project site.

California Fish and Game Code

The Fish and Game Code establishes the Fish and Game Commission, as authorized by Article IV, Section 20, of the Constitution of the State of California. The Fish and Game Commission is responsible, under the provisions of Sections 200–221, for regulating the take of fish and game, not including the taking, processing, or use of fish, mollusks, crustaceans, kelp, or other aquatic plants for commercial purposes. However, the Fish and Game Commission does regulate aspects of commercial fishing, including fish reduction; shellfish cultivation; take of herring, lobster, sea urchins, and abalone; kelp leases; leases of state water bottoms for oyster allotments; aquaculture operations; and other activities. These resource protection responsibilities involve the setting of seasons, bag and size limits, and methods and areas of take, as well as prescribe the terms and conditions under which permits or licenses may be issued or revoked by CDFW. The Fish and Game Commission also oversees the establishment of wildlife areas and ecological reserves and regulates their use, as well as setting policy for CDFW.

Sections 3503, 3503.5, 3505, 3800, and 3801.6 of the Fish and Game Code protect all native birds, birds of prey, and all nongame birds, including their eggs and nests, that are not already listed as fully protected and that occur naturally within the state. Section 3503 specifically states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, and Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, falcons), including their nests or eggs.

CDFW is a lead state agency that manages native fish, wildlife, plant species, and natural communities for their ecological value and their benefits to people. CDFW oversees the management of marine species through several programs, some in coordination with NMFS and other agencies.

As discussed in Section 4.2.3.1, *Federal*, the CEMP is administered by NMFS and CDFW. The effects of the proposed project on any surrounding eelgrass beds and any compensatory mitigation would be addressed under the CEMP.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is the California equivalent of the federal CWA. It provides for statewide coordination of water quality regulations through the establishment of the State Water Resources Control Board and nine separate RWQCBs that oversee water quality on a day-to-day basis at the regional/local level. The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code Section 13260(a)), pursuant to provisions of the Porter-Cologne Act. Waters of the state (WoS) are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code Section 13050 (e)).

The RWQCB also regulates WoS under Section 401 of the CWA. A Water Quality Certification or a waiver must be obtained from the RWQCB if an action would potentially result in any impacts on jurisdictional WoS.

The proposed project must be analyzed to determine if it will result in any impacts on WoS, and any potential impacts would require an application for an RWQCB Water Quality Certification (or waiver), consultation with the RWQCB, and compensatory mitigation.

California Marine Invasive Species Act

The California Marine Invasive Species Act of 2003 renewed and expanded on the Ballast Water Management for Control of Nonindigenous Species Act of 1999 to address the threats posed by the introduction of nonindigenous species. The law charged the California State Lands Commission with oversight and administration of the state’s program to prevent or minimize the release of nonindigenous species from vessels that are 300 gross registered tons and above. To advance this goal, the commission’s Marine Invasive Species Program uses an inclusive, multi-faceted approach to develop sound, science-based policies in consultation with technical experts and stakeholders; track and analyze ballast water and vessel biofouling management practices of the California commercial fleet; enforce laws and regulations to prevent introductions; and facilitate outreach to promote information exchange among scientists, legislators, regulators, and other stakeholders.

Both the U.S. Coast Guard (Ballast Water Management) and U.S. Environmental Protection Agency (Vessel General Permit) regulate ballast water discharges, and both agencies currently require ballast water exchange for most vessels operating in U.S. waters. In addition, California requires ballast water exchange on coastwise voyages (e.g., between Los Angeles and Oakland). However, at present, the discharge standards in California are more stringent than federal regulations. In accordance with governing statutes and regulations, vessels have four options to comply with California’s performance standards: (1) retention of all ballast water on board, (2) use of potable water as an alternative ballast water management method, (3) discharge to a shore-based ballast water reception and treatment facility, and (4) treatment of all ballast prior to discharge by a shipboard ballast water treatment system. Performance standards for ballast water discharge are: (1) no detectable living organisms greater than 50 microns in minimum dimension; (2) fewer than 0.01 living organism per milliliter of organisms 10–50 microns in minimum dimension; and (3) multiple standards for bacteria and viruses. The performance standards for vessels with ballast water capacities of 1,500–5,000 metric tons were applied in 2016, while standards for vessels with capacities of fewer than 1,500 metric tons and greater than 5,000 metric tons will apply in 2018. The State Legislature delayed implementation of the performance standards in 2013 because the state lacks the scientific protocols and capacity to measure compliance (Scianni et al. 2013), and no

shipboard ballast water treatment systems are currently available to meet all of California's performance standards for the discharge of ballast water (SLC 2013).

4.2.3.3 Local

San Diego Unified Port District Port Master Plan

Through implementation of the Port Master Plan (PMP), the District maintains authority over tidelands and submerged lands conveyed in trust to the District by the California legislature. Any amendments to the PMP are first reviewed and adopted by the Board of Port Commissioners and then certified by the California Coastal Commission, thereby allowing the District to issue coastal development permits for projects within its jurisdiction. The PMP provides for protection of biological resources and states that the District will remain sensitive to the needs of, and will cooperate with, other communities and other agencies in Bay and tideland development.

San Diego Bay Integrated Natural Resources Management Plan

The District and the U.S. Navy jointly implement the Integrated Natural Resources Management Plan. This long-term strategy document provides direction and planning guidance for good stewardship of the natural resources within the Bay. The Integrated Natural Resources Management Plan includes objectives and policy recommendations to guide planning, management, conservation, restoration, and enhancement of the Bay ecosystem.

San Diego Unified Port District Code, Article 10

District Code, Article 10, the District Stormwater Management and Discharge Control Ordinance, prohibits the deposit or discharge of any chemicals or waste to the tidelands or San Diego Bay and makes it unlawful to discharge pollutants directly into non-stormwater or indirectly into the stormwater conveyance system. Article 10 also requires the implementation of best management practices (BMPs), stormwater plans, and other measures, as appropriate to control the discharge of pollution to tideland or receiving waters. Where enforcement is required to maintain compliance, the District will use its enforcement authority established by Article 10. The article enables the District, including District inspectors, to prohibit discharges and require BMPs so that discharges on tidelands do not cause or contribute to water quality problems. Article 10 establishes enforcement procedures to ensure that responsible dischargers are held accountable for their contributions and/or flows.

4.2.4 Project Impact Analysis

4.2.4.1 Methodology

A search of CDFW's CNDDDB, CNPS, and USFWS IPAC was conducted on October 10, 2018, to determine the potential for sensitive plant and wildlife species to occur within the vicinity of the project site, including terrestrial species. The search included the project site and a 1-mile buffer (CDFW 2018), the U.S. Geological Survey's Point Loma, California 7.5-minute quadrangle map (CNPS), and a polygon for the project site created using the USFWS IPAC web application tool.

A total of 32 sensitive plant species and 13 sensitive wildlife species were reviewed for their potential to occur within the project site.

On October 19 and 30, 2018, Merkel & Associates, Inc. (Merkel & Associates) conducted physical and biological surveys; Merkel & Associates also conducted extensive site investigations during preceding years associated with other projects at the BAE Systems Ship Repair Yard. Marine biological surveys were performed in a two-step process. Initially, biologists from Merkel & Associates performed a side-scan survey to identify and map all subtidal habitat types within the project area. Backscatter data collected through surveys was interpreted to assess the distribution of eelgrass beds. Following the side-scan survey, a scuba survey was performed throughout the project area to verify existing habitat, document species observed, and assess the potential for sensitive marine species to occur on site. Eelgrass beds were observed and documented as the predominant plant species occurring within the vegetated soft bottom habitat type. Subsequent plant and algae species observed while surveying all habitat types were identified to the highest level possible in the field. A full explanation of survey methods and results are provided in Appendix D-1.

The hydroacoustic impact analysis for fish and marine mammals was carried out as part of the *Biological Technical Study and EFHA* (Merkel & Associates 2019) conducted for the project. A full explanation of the hydroacoustic analysis methods and results is provided in the technical study, which is included as Appendix D-1 of this EIR.

The in-air acoustic impact analysis for marine mammals was provided in the technical memorandum *BAE Systems Construction – Airborne Noise Levels for Potential Impacts on Marine Mammals* (ICF 2019). A full explanation of the in-air analysis methods and results is provided in the technical memorandum, which is included as Appendix D-2 of this EIR.

4.2.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining the significance of biological resources impacts resulting from implementation of the proposed project. The determination of whether a biological resource impact would be significant is based on the professional judgment of the District as Lead Agency, all of which is based on the evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following.

1. 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 CDFW and USFWS.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW, NMFS, or USFWS.
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Result in substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedance of the use of native wildlife nursery sites.

5. Conflict with any applicable local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance or with the provisions of an applicable adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

As discussed in the Initial Study/Environmental Checklist Section IV (Appendix A), Threshold 3 is not included in the analysis below, as it was determined that the proposed project would result in no impact on state or federally protected wetlands because the project site consists of developed land as well as open water and does not contain federally protected wetlands as defined under Sections 401 and 404 of the CWA or state wetlands protected under the California Coastal Act. Those conclusions and the rationale that supports them are summarized in Chapter 6, *Additional Consequences of Project Implementation*. Therefore, only Thresholds 1, 2, 4, and 5 are discussed in the impact analysis that follows.

Supplemental Noise-Related Thresholds for Fish and Marine Mammals

A source of potential impacts on fish and marine mammals is hydroacoustic (underwater noise) effects during high-intensity in-water construction activities such as pile driving. In addition, some marine mammals may be affected by in-air (airborne) noise from the same construction activities while hauled-out. Various federal and state agencies have issued guidelines for assessing these potential impacts. Impacts are assessed using a variety of metrics including the peak pressure level (L_{peak}), the accumulated sound exposure level (Accumulated SEL [SEL_{cum}]), the root mean squared (rms) sound pressure level for hydroacoustic effects, and the rms sound pressure level for airborne noise. All cumulative noise levels refer to a 24-hour period. All of the noise level metrics are quantified using decibels (dB). However, the decibel scale used for underwater noise is not the same as that used for airborne noise. Underwater noise is quantified relative to a reference pressure of 1 micro Pascal (μPa), while airborne noise uses a reference pressure of 20 μPa . Additional explanation, definitions of technical terminology, and other supporting information are provided in Appendix D-1 and Appendix D-2, and can also be found in the following technical references:

- *Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish* (California Department of Transportation [Caltrans] 2015).
- *2018 Revision to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0), Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts* (NMFS 2018)

The following sections discuss the applicable criteria and guidelines from various agencies. The impact thresholds used in this EIR are summarized in Table 4.2-3.

Impact Criteria for Fish – Fisheries Hydroacoustic Working Group

The Fisheries Hydroacoustic Working Group (FHWG) is composed of representatives from the Federal Highway Administration (FHWA), National Oceanic and Atmospheric Administration (NOAA) Fisheries West Coast Region, USFWS, CDFW, Caltrans, Oregon Departments of Transportation, and Washington State Department of Transportation. In June 2008 FHWG reached an Agreement in Principle on interim criteria for injury to fish. The agreed upon criteria identify sound pressure levels of 206 dB-peak (peak pressure [L_{peak}]), 187 dB SEL_{cum} for fish larger than 2 grams, and 183 dB SEL_{cum} for fish less than 2 grams (FHWG 2008).

Underwater Thresholds for Marine Mammals – NMFS

The MMPA regulates the *take* of marine mammals, including take through exposure to sound. For the purposes of the project analysis, there are two levels of take that are relevant. Take with the potential for injury is considered Level A take. Exposure to high intensity sound or prolonged sound at lower intensity may result in auditory threshold shifts (TS) wherein animals suffer from noise-induced loss of hearing over a portion or all of the animal's auditory range. The effects may be temporary threshold shifts (TTS) or permanent threshold shifts (PTS). Level B take may result in behavioral disruption but not injury. NMFS has developed technical guidance on sound characteristics that are likely to cause injury in marine mammals. Multiple criteria have been used to assess auditory injury (Level A take) within the NMFS *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing* (NMFS 2018). For impulsive noise sources (such as impact pile driving) there are dual thresholds to address both peak (L_{peak}) and cumulative (SEL_{cum}) noise levels. For non-impulsive noise sources (such as vibratory pile driving), the thresholds consider only the cumulative (SEL_{cum}) noise level. Under the technical guidance, differences in auditory frequency ranges and hearing sensitivity between marine mammals have been used to define five different hearing groups: (1) low-frequency cetaceans (baleen whales), (2) mid-frequency cetaceans (toothed whales and dolphins), (3) high-frequency cetaceans (true porpoises, river dolphins, other), (4) phocid pinnipeds (true seals), and (5) otariid pinnipeds (sea lions and fur seals).

For the present project, four of the hearing group thresholds are relevant. The gray whale, which is expected to be very rare within the Bay, is considered a low-frequency cetacean, with PTS onset thresholds of 219 dB L_{peak} or 183 dB SEL_{cum} for impulsive noise and 199 dB SEL_{cum} for non-impulsive noise. The bottlenose dolphin, a mid-frequency cetacean, has PTS onset thresholds of 230 dB L_{peak} or 185 dB SEL_{cum} for impulsive noise and 198 dB SEL_{cum} for non-impulsive noise. Phocid pinnipeds, including harbor seal, have PTS onset thresholds of 218 dB L_{peak} or 185 dB SEL_{cum} for impulsive noise and 201 dB SEL_{cum} for non-impulsive noise. Otariid pinnipeds, including the California sea lion, have PTS onset thresholds of 232 dB L_{peak} or 203 dB SEL_{cum} for impulsive noise and 219 dB SEL_{cum} for non-impulsive noise (Table 4.2-3). Additional discussion of thresholds and calculations for the zones of influence within which thresholds are exceeded during construction is provided in Appendix D-1.

Underwater Thresholds for Green Sea Turtles – U.S. Navy and NOAA

Green sea turtles would not commonly occur near the project area; however, should they be present at any time, they would potentially be exposed to construction related hydroacoustic impact. NMFS has not established specific in-water acoustic thresholds for green sea turtles; however, the U.S. Department of the Navy, in coordination with NOAA, developed standards for assessment of sound impacts to turtles for purposes of the Hawaii-Southern California Training and Testing Final EIS/OEIS (U.S. Navy 2013). For sea turtles, the Navy established a threshold for injury from vibratory pile driving and impact driving at 190 dB_{rms}. In the Navy's review of the literature, the lowest sound level stimulus that resulted in a behavioral response was 166 dB_{rms}. However, the literature also indicated that turtles become habituated to repeated exposures to sound. Under such circumstances, noises even as high as 179 dB_{rms} were tolerated by turtles without behavioral response when exposure became regular. To provide a conservative assessment, a potential harassment take for green sea turtles is assumed to occur at a noise level of 166 dB_{rms}. For expedience during monitoring for the presence of turtles, an adaptive action trigger of 160 dB_{rms} is also applied to turtles to match the Level B take threshold considered for marine mammals.

Additional discussion of thresholds and calculations for the zones of influence within which thresholds are exceeded during construction is provided in Appendix D-1.

In-Air Acoustic Thresholds for Marine Mammals – NMFS

As described above for underwater thresholds, there are two levels of potential take for marine mammals: Level A take (injury) and Level B take (behavioral disruption). In-air acoustic impacts are only considered for marine mammals that would haul out of the water. Therefore, pinnipeds (seals and sea lions) are considered but cetaceans (whales, dolphins, and porpoises) are not. Current in-air acoustic thresholds provided by NMFS for marine mammals are 90 dB_{rms} for Level B take of harbor seals and 100 dB_{rms} for Level B take of non-harbor seal pinnipeds. It is noted that thresholds are currently only provided for Level B take (behavioral disruption) and that no threshold is currently established for Level A take (injury). Because injury is a more severe effect than behavioral disruption it follows that Level A take would occur at higher noise levels than those associated with Level B take. Therefore, although no specific threshold has been established for Level A take (injury) it can be concluded that avoidance of Level B take would also avoid Level A take. Additional discussion of thresholds and calculations for the zones of influence within which thresholds are exceeded during construction is provided in Appendix D-1.

Table 4.2-3. Hydroacoustics and In-Air Noise Thresholds for Marine Mammals, Fish, and Green Sea Turtles

Resource	Level of Effect	Impulsive Threshold Level	Non-Impulsive Threshold Level
Hydroacoustics Thresholds¹			
Marine Mammal	Gray whale – low-frequency cetacean (Level A – potential for injury) exposure	219 dB L _{peak} 183 dB SEL _{cum}	199 dB SEL _{cum}
	Bottlenose dolphin – mid-frequency cetacean (Level A – potential for injury) exposure	230 dB L _{peak} 185 dB SEL _{cum}	198 dB SEL _{cum}
	Harbor seal – phocid pinniped (Level A – potential for injury) exposure	218 dB L _{peak} 185 dB SEL _{cum}	201 dB SEL _{cum}
	California sea lion – otariid pinniped (Level A – potential for injury) exposure	232 dB L _{peak} 203 dB SEL _{cum}	219 dB SEL _{cum}
	All Marine Mammals (Level B – behavioral disruption) exposure	160 dB _{rms}	120 ² dB _{rms}
Green Sea Turtle	Adaptive action trigger for impulsive noise exposure	160 dB _{rms}	N/A
	Potential harassment take from exposure	166 dB _{rms}	N/A
	Injury from sound exposures	190 dB _{rms}	190 dB _{rms}
Fish	All fish – peak sound pressure level	206 dB L _{peak}	N/A
	Fish ≥ 2 grams – daily accumulated sound exposure	187 dB SEL _{cum}	N/A
	Fish < 2 grams – daily accumulated sound exposure	183 dB SEL _{cum}	N/A

In-Air Noise Thresholds ³		
Marine	Harbor seals (Level B – behavioral disruption) exposure	90 dB _{rms}
Mammal	Non-harbor seal pinnipeds (Level B – behavioral disruption) exposure	100 dB _{rms}

Source: Appendix D-2

¹ Decibels referenced to 1 micro Pascal (re: 1 μ Pa)

² The 120 dB threshold may be adjusted if background noise levels are at or above this level.

³ Decibels referenced to 20 micro Pascals (re: 20 μ Pa)

For dual thresholds (L_{peak} and SEL_{cum}) for marine mammal impulsive noise, the threshold resulting in the largest potential impact distance is used.

N/A = Not Applicable

4.2.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of 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 CDFW and USFWS.

Impact Discussion

Construction of the landside portion of the proposed project would require demolition for site preparation, construction cranes, and the use of standard construction equipment, such as earth-moving equipment, concrete trucks, forklifts, and pile drivers. Construction would temporarily disrupt the area due to an increase in noise levels, truck traffic, and ground-disturbing activities.

Construction of the waterside portion of the proposed project would include in-water operations such as pile driving, equipment storage, and barge operations. These activities would generate increased noise and ground-disturbing activities within the marine community. Temporary noise disturbances have the potential to affect marine mammals, green sea turtles, and foraging for California least tern and California brown pelican. In addition to noise impacts, the overwater coverage from equipment during construction would temporarily affect California least tern and California brown pelican by limiting available open water area for foraging. Completion of the waterside portion of the proposed project would result in additional overwater coverage, which would diminish potential open water foraging habitat for California least tern and California brown pelican. The increased overwater coverage would also create a shading impact on the local ecology by reducing available sunlight for primary production from phytoplankton and other nearby algal species; however, the shade generated from additional overwater coverage would not affect any sensitive wildlife or plant species.

California least tern and California brown pelican are both discussed under the terrestrial wildlife section below, and both species occupy a similar feeding guild and rely on the marine environment for foraging. Both species are also considered sensitive; however, California least tern is both federally and state-listed as endangered.

Construction

Terrestrial

Plant Species

As discussed in Section 4.2.2, *Existing Conditions*, the landside portion of the project site is completely developed, with existing vegetation limited to ornamental landscaping. Desktop analysis of CNDDDB, CNPS, and USFWS species lists indicate that there is potential for 32 sensitive plant species to occur within or adjacent to the project site. Upon review of these resources, it was determined that because the site is urban/developed and lacks any natural terrestrial habitat, no sensitive plant species are likely to occur at the project site. Therefore, construction of the proposed project would not affect any terrestrial candidate, sensitive, or special-status plant species, and no impact would occur.

Wildlife Species

As discussed in Section 4.2.2.3, *Candidate, Sensitive, and Special-Status Species*, and identified in Table 4.2-2, three sensitive terrestrial wildlife species have the potential to occur within or adjacent to the project site based on potential foraging opportunities: California least tern, California brown pelican, and American peregrine falcon. California least tern is both a federal- and state-listed endangered species under the ESA and CESA, respectively; California brown pelican is a state fully protected species under the CESA. Both have the potential to utilize open water habitat within and adjacent to the project site for foraging opportunities. American peregrine falcon is also a state fully protected species under the California Fish and Game Code and has the potential to use the urban areas surrounding the project site to hunt prey species. In addition to being protected species under the ESA and/or California statutes, all three species are also protected under the MBTA.

There is no nesting potential for sensitive avian wildlife species at the project site. California least terns nest in colonies on sandy substrate relatively free of vegetation such as beaches and dunes (USFWS 2006). These habitats do not occur at the project site. California brown pelican in southern California nest on offshore islands (Channel Islands and Coronado) (USFWS 1983). Peregrine falcon do not build physical nests and generally nest on cliff edges; however, they are known to also nest on building ledges in urban environments (Kaufman 2001). Given that peregrine falcon do not build nests, not all building ledges provide suitable nesting space. The project site does not provide cliff-like nesting areas associated with buildings, and therefore does not provide suitable nesting habitat for peregrine falcon. The only birds anticipated to nest at the project site include nonnative, human-introduced bird species such as house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), and Eurasian collared dove (*Streptopelia decaocto*), any nesting bird found on site would be protected under the MBTA and California Fish and Game Code.

Water Quality and Foraging Habitat. Stormwater runoff from land-based construction could indirectly affect foraging opportunities for California least tern and California brown pelican in the open water marine habitat on site and adjacent to the project site by increasing turbidity. Additionally, water quality impairment associated with in-water construction activities could also indirectly affect foraging opportunities for California least tern and California brown pelican within and adjacent to the project site. Activities such as dredging, pile driving, equipment replacement/installation, and tug boat maneuvering can create sediment-disturbing activities, which would in turn create elevated turbidity levels. Moreover, equipment required to perform these activities has potential to discharge pollutants while work is being performed, which can also

impair water quality. The impairment of water quality and its effects on foraging opportunities for California least tern and California brown pelican would be considered a potentially significant impact (**Impact-BIO-1**).

As discussed in Section 4.5, *Hydrology and Water Quality*, construction of the proposed project would be required to comply with the Municipal Stormwater Permit and the District's Jurisdictional Runoff Management Plan (JRMP), which identifies construction BMPs that would be implemented in order to prevent stormwater runoff, as well as implementation of appropriate regulatory permits, including the CWA Section 401 Water Quality Certification and CWA Section 404 and Rivers and Harbors Act Section 10 permits from the USACE. The District's JRMP requires preparation of a Construction BMP Plan. Construction BMPs, identified in the Construction BMP Plan, would be required to be implemented throughout the various construction phases in order to protect water quality. The Construction BMP Plan also specifies construction BMPs to ensure that water quality standards or waste discharge requirements are not violated. As it relates to turbidity, the Construction BMP Plan specifies BMPs to control erosion and sedimentation in disturbed areas at the project site, and BMPs selected to control non-stormwater pollution on the construction site. The District's JRMP also includes minimum BMPs for construction sites, many of which are intended to control erosion and sedimentation. A full list of the minimum required BMPs for construction sites is found in Table 4.5-5 in Section 4.5. The CWA Section 401 Water Quality Certification would require implementation of in-water construction BMPs, such as silt curtains, turbidity barriers, and trash booms that would deflect and contain sediment and floatable pollutants within a limited area.

In addition, mitigation measure **MM-BIO-1** requires the implementation of construction measures in accordance with regulations, including CWA Sections 401 and 404, Rivers and Harbors Act Section 10, the NPDES permit, and Stormwater Management and Discharge Control Ordinance, to eliminate water quality impairments that could affect California least tern and California brown pelican foraging opportunities. With implementation of **MM-BIO-1** and compliance with the aforementioned water quality regulations, potential impacts would be less than significant because in-water construction activities that could impair the water quality and thus affect foraging opportunities for California least tern and California brown pelican within and adjacent to the project site would be closely controlled, and BMPs implemented, that would ensure water quality is not reduced beyond applicable standards.

Construction Noise and Building Demolition. Although the project site does not contain any suitable nesting habitat for the American peregrine falcon, there is potential for this species to utilize the project site as foraging habitat. The American peregrine falcon and some of the prey species it typically pursues are well adapted to urban environments. Peregrine falcon and other avian predator specialists show a positive response to urban environments compared to other raptors due to the fact that their prey are relatively available in urban environments (Kettel et al. 2018). Given the peregrine falcon's foraging success in urban environments, combined with their predation on common urban avian species, it is anticipated that the falcon would only utilize the project site for foraging in the event that prey species are present. Given they are not anticipated to nest on site, any foraging in the area would be opportunistic and based on prey availability. If prey are not available at the project site, peregrine falcon could forage in other surrounding areas. Therefore, construction impacts on American peregrine falcon would be less than significant because construction and noise disturbances are very common in urban settings, peregrine are adaptable to follow their prey, nearby areas have foraging opportunities, and construction would be short-term and temporary.

A number of avian species such as the black-crowned night heron, snowy egret, osprey (*Pandion haliaetus*), and house finch, which are protected under the MBTA and California Fish and Game Code, have the potential to nest in the existing canary island palm trees or on the existing human-made structures found within the project site. The MBTA prohibits take of nearly all native birds. Under the MBTA, *take* means to kill, directly harm, or destroy individuals, eggs, or nests; or to otherwise cause failure of an ongoing nesting effort. Similar provisions within the Fish and Game Code protect all nesting native birds (Sections 3503 and 3503.5) and all non-game birds that occur naturally in the state (Section 3800). Because the MBTA regulates the destruction of an occupied nest, any disturbance or destruction of active nests occupied by avian species covered under the MBTA would be considered a significant impact and a violation of the MBTA and Sections 3503 or 3503.5 of the California Fish and Game Code. Proposed demolition of existing structures could result in significant direct impacts on active nests or indirect impacts could occur through construction noise, dust, or nighttime lighting. Therefore, a significant impact would potentially occur and mitigation is required (**Impact-BIO-2**). To address potential impacts on nesting birds, mitigation measure **MM-BIO-2** requires all construction activities to occur outside of the nesting season, if possible. However, if construction activities occur during the nesting season, **MM-BIO-2** requires implementation of measures such as pre-construction nesting bird surveys and the establishment of no-disturbance buffers should active nests be detected. Implementation of **MM-BIO-2** would reduce potential impacts on nesting birds from construction activities to less than significant.

Marine

Plant Species

Eelgrass, which is categorized as EFH and is further designated as a Habitat of Particular Concern, was identified within the waterside portion of the project site; however, impacts related to eelgrass are discussed in Threshold 2 below because it is considered a sensitive natural community. There were no other marine-based candidate, sensitive, or special-status plant species present within or adjacent to the project site during the marine biological surveys that could be impacted by the proposed project (Appendix D-1). Therefore, no impact on marine-based candidate, sensitive, or special-status plant species (i.e., non-eelgrass plant species) would occur.

Wildlife Species

Though the project site does not contain favorable habitat for protected marine wildlife species, the green sea turtle and California sea lion have potential to occur within the waterside portion of the project site on a transient basis. In addition, harbor seal, common dolphin and coastal bottlenose dolphin are found in San Diego Bay; however, as stated in Section 4.2.2.3, *Candidate, Sensitive, and Special-Status Species*, these species have a low potential to occur within the project area. Finally, California gray whale could occur in the project area, but that potential is very low. In the unlikely event these species are present during construction, pile installation activities (e.g., pile driving) could generate enough underwater noise to injure (Level A Harassment) or alter behavior (Level B Harassment) for marine mammals, and could also result in harassment take for green sea turtle.

In-water construction is proposed for the project and includes impact pile driving, vibratory pile driving, and vibratory extraction of existing piles. In addition, other potential methods of pile installation include jetting and/or spudding. This activity has the potential to cause hydroacoustic impacts on fish, green sea turtles, and marine mammals as well as airborne noise impacts on marine mammal species (pinnipeds) that may haul out in the vicinity of project construction. The specific

impact thresholds are summarized in Table 4.2-3. The technical analyses and noise level calculations for these potential impacts were conducted as part of the *Biological Technical Study and EFHA* (Merkel & Associates 2019) and the technical memorandum *BAE Systems Construction – Airborne Noise Levels for Potential Impacts on Marine Mammals* (ICF 2019) prepared for the proposed project. These documents are provided as Appendix D-1 and Appendix D-2, respectively. Based on the applicable thresholds and the calculated noise levels, Table 4.2-4 displays the distances from sound sources at which the impact threshold would be exceeded for different receptors. These are identified as Zones of Influence (ZOI), which vary by resource (species and/or category), pile type, and driving methods. Where noise levels at the sources are expected to be lower than the impact threshold, no impact is expected and the table reflects a value of lower (“LWR”). Where the nature of sound generated is not applicable to the threshold metric or no applicable threshold is established, the table reflects a value of NA.

Table 4.2-4. Noise Threshold Zones of Influence for Different Receptors

Pile Type	Nature of Impact (Behavioral or Injurious) ¹	Zones of Influence (ZOI), Distance in Feet								Potential In-Air Acoustic Impacts	
		Potential Hydroacoustic (In-Water) Impacts								Harbor Seals	Non-Harbor Seal Pinnipeds
		Gray Whale	Dolphin	Harbor Seal	California Sea Lion	Green Sea Turtle Harassment Take	Adaptive Action Trigger (sea turtles) ²	Fish (≥2 grams)	Fish (<2 grams)		
Impact Pile Driving											
18-inch Square Concrete Piles	Behavioral Disruption	83	83	83	83	33	83	NA	NA	355	112
24-inch Octagonal Concrete Piles	Potential Injury	113	4	61	5	LWR	LWR	LWR	LWR	NA	NA
14-inch H-Piling Steel Fender	Behavioral Disruption	519	519	519	519	207	519	NA	NA	355	112
	Potential Injury	709	26	380	28	LWR	LWR	384	604	NA	NA
Vibratory Pile Driving											
AZ-26 700 Steel Sheet Piling	Behavioral Disruption	2,071	2,071	2,071	2,071	LWR	NA	NA	NA	529	168
14-inch H-Piling Steel Fender	Potential Injury	69	6	42	3	LWR	NA	NA	NA	NA	NA
	Behavioral Disruption	283	283	283	283	LWR	NA	NA	NA	529	168
	Potential Injury	10	1	6	1	LWR	NA	NA	NA	NA	NA

Pile Type	Nature of Impact (Behavioral or Injurious) ¹	Zones of Influence (ZOI), Distance in Feet								Potential In-Air Acoustic Impacts	
		Potential Hydroacoustic (In-Water) Impacts								Harbor Seals	Non-Harbor Seal Pinnipeds
		Gray Whale	Dolphin	Harbor Seal	California Sea Lion	Green Sea Turtle Harassment Take	Adaptive Action Trigger (sea turtles) ²	Fish (≥2 grams)	Fish (<2 grams)		
Vibratory Pile Extraction											
18-inch Square Concrete Piles	Behavioral Disruption	83	83	83	83	33	83	NA	NA	529	168
24-inch Octagonal Concrete Piles	Potential Injury	113	4	61	5	LWR	LWR	LWR	LWR	NA	NA
14-inch H-Piling Steel Fender	Behavioral Disruption	283	283	283	283	LWR	NA	NA	NA	529	168
	Potential Injury	10	1	6	1	LWR	NA	NA	NA	NA	NA

Source: Appendix D-1 and Appendix D-2

¹ For marine mammals, behavioral disruption is defined as a Level B take and potential injury is defined as a Level A take.

² Adaptive action trigger refers to behavioral response of green sea turtles as described in Appendix D-1.

Note: All Zone of Influence distances are stated in feet from the noise source.

LWR = lower threshold; NA = no applicable threshold.

The results indicate that pile driving activities have the potential for Level A (injury) and Level B (behavioral disruptions) impacts on marine mammals, potential for harassment take of green sea turtle, and potential cumulative injury of fish, including managed species, if such species were to occur within the applicable ZOI. A full discussion of potential hydroacoustic impacts on marine resources associated with pile driving is included in Appendix D-1.

Potential impacts in the form of Level A and Level B take of marine mammals (both hydroacoustic and in-air acoustic) and harassment take of green sea turtles are considered significant biological resources impacts. As such, pile driving activities associated with the proposed project would generate a potentially significant noise impact on these marine species (**Impact-BIO-3**). Therefore, mitigation is required. To address potential impacts on these species, mitigation measure **MM-BIO-3** requires implementation of a marine mammal and green sea turtle monitoring program during in-water pile installation activities. Implementation of **MM-BIO-3** would reduce potential impacts on marine mammals and green sea turtles from pile installation activities to less than significant.

Impacts on fish are not considered significant because daily accumulated sound exposure levels would be expected to be behaviorally mitigated by fish moving away from sound sources or into acoustic shadows. This would allow fish to escape potential injury from sustained presence within impulsive noise environments. No singular peak acoustic event is expected to generate potential for

injury to fish and thus behavioral adaptation is possible under all circumstances. As a result, there would be no significant impact on fish, and no mitigation is required. In addition, mitigation measure **MM-BIO-3**, which is required to reduce potential impacts on marine mammals and green sea turtles (see **Impact-BIO-3** above), includes measures such as soft starts for in-water pile driving activities. The use of soft starts during pile driving activities would further reduce the potential for impacts on fish to occur.

Operation

Terrestrial

Plant Species

As mentioned under *Construction*, no sensitive plant species occur on the landside portion of the project site. Therefore, operation of the proposed project would not affect any terrestrial candidate, sensitive, or special-status plant species, and no impact would occur.

Wildlife Species

California least tern, California brown pelican, and American peregrine falcon potentially present within the project site are well adapted to life in an urban environment. Operation of shipyard repair facilities would not deter prey species from utilizing the project site because the area is currently urbanized. Potential impacts resulting from operation of the proposed project could include increasing the potential for (1) impairing water quality in the Bay, and (2) reducing the amount of open water, each of which is discussed in more detail below.

Water Quality and Open Water Habitat. Stormwater discharges associated with the operation of the proposed project have potential to impair open water habitat in San Diego Bay, which could affect foraging habitat for the terrestrial species that may currently utilize the project site. Over the operational life of the proposed project, stormwater runoff would be treated by permanent post-construction BMPs (discussed further in Section 4.5, *Hydrology and Water Quality*) required pursuant to District Code, Article 10 (Stormwater Management and Discharge Control Ordinance), the District's JRMP, and the Municipal Stormwater Permit. These post-construction BMPs include structural and nonstructural controls that detain, retain, or filter to prevent the release of pollutants to surface waters during the functional life of the proposed project, and also include pollution prevention training and education programs. District Code, Article 10 also specifically requires pollutant control BMPs for all priority development projects (PDPs), which includes the proposed project. As a PDP, the proposed project would be required to implement pollutant control BMPs, following the hierarchy described in the District's *BMP Design Manual* (retention, partial retention with biofiltration, biofiltration, or flow-through with participation in an Alternative Compliance Program). Additionally, a post-construction Stormwater Quality Management Plan must be prepared for all PDPs to identify the project-specific design BMPs and source control and pollutant control BMPs. These requirements are discussed further in Section 4.5. Consequently, stormwater runoff from the site would be controlled and treated prior to being discharged from the project site and entering the storm drain system. With the implementation of the required BMPs, open water habitat would not be impaired by operational stormwater discharges; thus, operation would not affect foraging habitat for these species.

Foraging and Open Water Habitat. Overwater structures have the potential to affect nearshore habitat through a number of mechanisms that result from altered light availability, increased human

interaction with the marine environment, and tidal current patterns. The potential impacts include reduced primary production, altered wave and tidal energy, increased substrate disturbances, and increased nutrient loading (Nightingale and Simenstad 2001). California least tern and other plunge diving fish predatory birds such as California brown pelican have the potential to utilize open water habitat within and adjacent to the project site for foraging opportunities. Project Element 1 (Pride of San Diego Drydock Dredging and Moorage), Project Element 2 (Pride of San Diego Drydock Wharf Replacement and Realignment), Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment), and Project Element 9 (Small Boat Mooring Float Replacement) each include the construction of new overwater structures that would replace existing overwater structures at the project site. The implementation of these project elements would permanently increase overwater coverage within the waterside portion of the project site during operations as some of the new replacement structures are larger than existing structure. The changes in overwater coverage associated with the proposed project are shown in Table 4.2-5.

Table 4.2-5. Overwater Coverage by Project Element

Project Element	Area of Structures Removed (square feet)	Area of New Structures (square feet)	Net Change (square feet)
1	-900	+900	0
2	-5,540	+12,500	+6,960
6	-2,915	+8,800	+5,885
9	-320	+400	+80
Total			+12,925

Source: Appendix D-1.

Note: Table only includes project elements that would result in changes in overwater coverage.

As shown in Table 4.2-5, the total net increase in overwater coverage resulting from Project Elements 2, 6, and 9 is approximately 12,925 square feet. The net increase in overwater coverage resulting from the proposed project would reduce the available open water habitat that is used for foraging by fish-eating avian species, resulting in a significant impact (**Impact-BIO-4**). To reduce potential impacts from overwater coverage, mitigation measure **MM-BIO-4** requires implementation of any combination of the following mitigation options at a 1:1 ratio for no net increase in overwater coverage per the CWA: removing overwater coverage in the San Diego Bay, restoring or creating eelgrass habitat at a suitable mitigation site of equivalent size and value within San Diego Bay, purchasing credits for a suitable in lieu fee program or mitigation bank, and/or purchasing credits from the District's shading credit program. Implementation of **MM-BIO-4** would reduce **Impact-BIO-4** to less-than-significant levels.

Although the proposed project includes the net increase of 242 piles, the installation of pilings to support docks and piers is not typically considered to be bay fill by the USACE (Appendix D-1). The project site is in central San Diego Bay in an area of low water velocity. Areas with low water velocities are less impacted by impediments placed in the field of flow. As a result, it is not anticipated that installation of additional piles would meaningfully alter water velocities, sedimentation rates, or circulation patterns in the Bay that could create turbidity and affect foraging opportunities. Additionally, after construction, the new piles would develop fouling communities that provide trophic support to fish species. Areas adjacent to the shipyard would still be accessible to birds foraging from the water surface. Reduction in open water habitat impacts associated with piles would be less than significant.

Marine

Plant Species

As mentioned under *Construction*, impacts related to eelgrass are discussed in Threshold 2 below because it is considered a sensitive natural community. There were no other marine-based candidate, sensitive, or special-status plant species present within or adjacent to the project site during the marine biological surveys that could be impacted by operation of the proposed project (Appendix D-1). Therefore, no operational impact on marine-based candidate, sensitive, or special-status plant species (i.e., non-eelgrass plant species) would occur.

Wildlife Species

The waterside operations of the proposed project would not result in impacts on sensitive marine wildlife species. While they would generate additional shade, thus leading to localized reduction in primary production from phytoplankton and algal species, there would be no direct impact on sensitive marine species from this component. The project site currently serves as a ship repair yard for naval and commercial vessels. The shipyard improvements would expand the types of vessels to be serviced in the area; however, the project would not change the current water use within the Bay, nor would it prevent or impede the species from entering the area. There would be no increase in vessel operations with the project. Therefore, operational impacts on marine wildlife species would be less than significant.

Level of Significance Prior to Mitigation

Implementation of the proposed project would have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW and USFWS. Potentially significant impact(s) include the following:

Impact-BIO-1: Water Quality Impairment Impacts on California Least Tern and California Brown Pelican Foraging. Construction of the proposed project could lead to water quality impairment in San Diego Bay, which would inhibit foraging of both California least tern and California brown pelican by increasing turbidity and making it more difficult to identify prey species within the waterside portion of the project site. This impact would be potentially significant.

Impact-BIO-2: Potential Disturbance or Destruction of Nests Protected by the Migratory Bird Treaty Act and California Fish and Game Code. Demolition of structures and noise from construction activity could impede the use of bird nesting sites during the nesting season (February 15 through August 31). The destruction of an occupied nest or disturbance to nesting activity would be considered a significant impact in violation of the MBTA or California Fish and Game Code. Therefore, this impact would be potentially significant.

Impact-BIO-3: Potential Disruption of or Injury to Green Sea Turtles and Marine Mammals During Pile Driving Activities. Pile driving could generate underwater noise that has the potential to injure (Level A Harassment) or alter behavior (Level B Harassment) for marine mammals, as well as result in harassment take for green sea turtle. This impact would be potentially significant.

Impact-BIO-4: Loss of Open Water Habitat from Shipyard Operations. California least tern and other plunge diving fish predatory birds (e.g., pelicans) have the potential to utilize open water habitat within and adjacent to the project site for foraging opportunities. The increase in overwater coverage resulting from the shipyard improvements is approximately 12,925 square feet, and would reduce the available open water habitat that is used for foraging by fish-eating avian species. This coverage also results in reduced primary productivity in the water column and the seafloor. This impact would be potentially significant.

Mitigation Measures

For **Impact-BIO-1:**

MM-BIO-1: Implement Construction Measures to Eliminate Water Quality Impairment Impacts on California Least Tern and California Brown Pelican Foraging. Nesting birds are less stressed where foraging opportunities are available adjacent to nest locations. The following measures will enhance the birds' available forage and increase the likelihood of successfully fledging chicks. The project proponent shall implement the following construction measures in accordance with regulations, including CWA Sections 401 and 404, Rivers and Harbors Act Section 10, the NPDES permit, and Stormwater Management and Discharge Control Ordinance:

- The contractor shall deploy a turbidity curtain around the pile driving areas to restrict the visible surface turbidity plume to the area of construction and pile driving. It shall consist of a hanging ballast-weighted curtain with a surface float line and shall extend from the surface into the water column without disturbing the bottom based on the lowest tide. The turbidity curtain shall meet the specifications for design, installation, use, performance, and/or modification outlined in the District's *Best Management Practices and Environmental Standards for Overwater Structural Repair and Maintenance Activities for Existing Port Facilities Conducted by the San Diego Unified Port District* (District 2019). The goal of this measure is to minimize the area in which visibility of prey by terns and pelicans is obstructed.
- The contractor shall follow all regulatory requirements to minimize reduction in water quality in San Diego Bay. Construction of the proposed project would include preparation and implementation of a Construction BMP Plan in accordance with the District's JRMP, and compliance with appropriate regulatory permits, including the CWA Section 401 Water Quality Certification, CWA Section 404 permit, and Rivers and Harbors Act Section 10 permit. A full explanation of these requirements can be found in Section 4.5, *Hydrology and Water Quality*.

For **Impact-BIO-2:**

MM-BIO-2: Avoid Nesting Season for Birds or Conduct Preconstruction Nesting Surveys. To ensure compliance with the MBTA and similar provisions under Sections 3503 and 3503.5 of the California Fish and Game Code, the project proponent shall conduct all construction activities between September 1 and February 14 (i.e., outside the nesting season) to the extent feasible. If construction activities are scheduled between February 15 and August 31, the project proponent shall implement the following during construction:

- The project proponent shall retain a qualified biologist (with knowledge of the species to be surveyed) who shall conduct a focused nesting bird survey within potential nesting habitat

prior to the start of any construction activities. The survey shall be submitted to the District for review and approval of the survey and the buffer area, defined below, if any, prior to the commencement of construction on the project site.

- The nesting bird survey area shall include the entire limits of disturbance plus a 500-foot buffer, to ensure indirect impacts would be avoided. The nesting surveys shall be conducted within 1 week prior to initiation of construction activities and shall consist of a thorough inspection of the project area by a qualified ornithologist(s). The survey shall occur between sunrise and 12:00 p.m., when birds are most active. If no active nests are detected during these surveys, only a brief letter report documenting the results shall be prepared and provided to the District. If there is a delay of more than 7 days between when the nesting bird survey is performed and construction activities begin, the qualified biologist shall resurvey to confirm that no new nests have been established.
- If the survey confirms nesting within 500 feet of construction activities, a no-disturbance buffer shall be established around each nest site to avoid disturbance or destruction of the nest until after the nesting season or a qualified ornithologist determines that the nest is no longer active. The size and constraints of the no-disturbance buffer shall be determined by the qualified biologist at the time of discovery, but shall not be greater than 500 feet.

For **Impact-BIO-3**:

MM-BIO-3: Implement a Marine Mammal and Green Sea Turtle Monitoring Program During Pile Installation Activities. Prior to construction activities involving in-water pile installation or vibratory pile removal, the project proponent shall prepare a marine mammal and green sea turtle monitoring program for implementation. This monitoring program shall be submitted to the District for approval 60 days prior to commencing construction involving in-water pile installation or vibratory pile removal and shall include the following requirements:

- For a period of 15 minutes prior to the start of in-water construction, a qualified biologist, retained by the project proponent and approved by the District, shall monitor an impact radius around the active pile installation areas to ensure that special-status species are not present. The qualified biologist must meet the minimum requirements as defined by the NOAA's *Guidance for Developing a Marine Mammal Monitoring Plan* (2017). The impact radius shall be established by determining the largest ZOI associated with in-water construction activities occurring that work day, as shown in Table 4.2-4.
- The construction contractor shall not start work if any observations of special-status species are made prior to starting pile installation.
- In-water pile driving within the shipyard shall begin with soft starts in accordance with Section 4.5 of the District's *Best Management Practices and Environmental Standards for Overwater Structural Repair and Maintenance Activities for Existing Port Facilities Conducted by the San Diego Unified Port District* (District 2019), gradually increasing the force of the pile driving.
- Monitoring by a qualified biologist for marine mammals and green sea turtles within appropriate ZOIs shall be implemented during all pile installation activities by identifying when any special-status species are approaching or within the appropriate ZOI, and by coordinating with construction crews to halt pile driving until the species have left this area.

For **Impact-BIO-4**:

MM-BIO-4: Implement Overwater Coverage Mitigation in Coordination with the Appropriate Resource Agencies and the District to Compensate for Loss of Open Water Habitat. The project proponent shall implement the following:

1. As required by applicable law or regulation, the project proponent shall consult with the appropriate resource agencies regarding mitigation of impacts associated with loss of beneficial uses from overwater coverage and loss of open water habitat function.
2. Prior to the commencement of construction activities for Project Elements 2, 6, and/or 9, the project proponent shall implement one of the following mitigation options, or a combination thereof, that are listed below in order of preference of the District; however, selection of 2.A, 2.B, 2.C, and 2.D, or an equivalent combination thereof, as may be required through consultation with applicable resource agencies during permitting processes, would successfully reduce **Impact-BIO-4** to a level below significance. The below options provide the minimum mitigation for overwater coverage impacts. One or more of the appropriate resource agencies may require additional or greater mitigation than specified in this mitigation measure. This in no way supersedes mitigation measures that may be required by state and federal agencies.
 - A. Remove the equivalent amount of existing overwater coverage corresponding to the net increase in overwater coverage for Project Element 2 (6,960 square feet), Project Element 6 (5,885 square feet), and Project Element 9 (80 square feet) within San Diego Bay, which would replace the area affected by the proposed project at a 1:1 mitigation ratio, subject to the District's review and approval. Should Project Elements 2, 6, and 9 all be implemented, a total of 12,925 square feet of existing overwater coverage shall be removed. If evidence is presented to the District that demonstrates that all or a portion of the required removal of overwater coverage is infeasible, the project proponent shall implement 2.B.
 - B. Restore or create the equivalent amount of eelgrass habitat corresponding to the net increase in overwater coverage for Project Element 2 (6,960 square feet), Project Element 6 (5,885 square feet), and Project Element 9 (80 square feet) at a suitable location within San Diego Bay at a 1:1 ratio, which would offset the net increase in overwater coverage for these project elements, subject to the District's review and approval. Should Project Elements 2, 6, and 9 all be implemented, a total of 12,925 square feet of eelgrass habitat shall be restored or created to offset the total net increase in overwater coverage. Prior to the commencement of construction activities for Project Elements 2, 6, and/or 9, the project proponent shall submit a mitigation plan for review and approval by the District. The mitigation plan at a minimum shall include a description of the transplant site, eelgrass mitigation requirements, eelgrass planting plan (e.g., transplant sites, donor sites, reference site), restoration methods (e.g., plant collection, transplant units, planting eelgrass units), timing of the restoration work, and a monitoring program (e.g., establishment of monitoring and mitigation success criteria). The project proponent shall secure all applicable permits and all applicable Real Estate agreements for the mitigation site prior to commencement of waterside construction. Additionally, the project proponent shall ensure that all fill materials proposed for discharge into San Diego Bay for the development of the mitigation site

shall meet the requirements of the U.S. Army Corps of Engineers' *Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual (Inland Testing Manual)*. If evidence is presented to the District that demonstrates that restoration or creation of all or a portion of the required amount of eelgrass habitat specified above is infeasible, the project proponent shall implement 2.C.

- C. If a suitable in lieu fee program or mitigation bank within the Coastal Zone that is not yet available becomes available in the future, prior to construction of the proposed project, the project proponent shall purchase saltmarsh wetland or overwater coverage credits to offset the net increase in overwater coverage for Project Element 2 (6,960 square feet), Project Element 6 (5,885 square feet), and Project Element 9 (80 square feet), or 12,925 total square feet of overwater coverage should all of these project elements be implemented. If evidence is presented to the District that demonstrates that purchase of credits toward an in lieu fee program or mitigation bank is infeasible, the project proponent shall implement 2.D.
 - D. Subject to the Board of Port Commissioners' approval and findings, the project proponent may purchase credits from the District's shading credit program established pursuant to Board Policy 735 at a fair market value equivalent to that of the proposed project's final shading total (i.e., less any reductions achieved by design modifications to the satisfaction of the appropriate resource agencies).
3. The project proponent shall secure all applicable permits for the mitigation of overwater coverage prior to commencement of waterside construction. One or more of the appropriate resource agencies may require additional or greater mitigation than specified under options 2.A, 2.B, 2.C, and 2.D of this mitigation measure. This in no way supersedes mitigation measures that may be required by state and federal agencies.

Level of Significance After Mitigation

Implementation of **MM-BIO-1** would reduce impacts associated with **Impact-BIO-1** to less than significant levels by requiring implementation of construction measures, such as silt curtains, which will facilitate continued underwater foraging, in accordance with regulations. **MM-BIO-2** would reduce **Impact-BIO-2** during construction activities to less-than-significant levels by avoiding the bird nesting season or through preconstruction surveys and the establishment of no-disturbance buffers should active nests be detected. Implementation of **MM-BIO-3** would reduce **Impact-BIO-3** to less-than-significant levels by identifying when the species are approaching or within the designated isopleth for Level B harassment, and halting in-water pile driving activities until the species has left the construction area.

Implementation of **MM-BIO-4** would reduce **Impact-BIO-4** to less-than-significant levels by requiring implementation of any combination of the following mitigation options at a 1:1 ratio for no net increase in overwater coverage per the CWA: removing overwater coverage in the San Diego Bay; restoring or creating eelgrass habitat at a suitable mitigation site of equivalent size and value within San Diego Bay; purchasing credits for a suitable in lieu fee program or mitigation bank; and/or purchasing credits from the District's shading credit program. Although **MM-BIO-4** would reduce **Impact-BIO-4** to less-than-significant levels, implementation of this mitigation measure would have the potential to result in secondary effects. The removal of overwater coverage could involve demolition of existing piers or other structures within San Diego Bay, which would potentially result in short-term water quality impacts if water quality protection measures were not

implemented. However, adherence to regulatory permit requirements associated with Rivers and Harbors Act Section 10 and CWA Sections 401 and 404 would ensure that implementation of this mitigation measure would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade existing water quality. Additionally, it is anticipated that criteria pollutant and greenhouse gas emissions generated by **MM-BIO-4** would be minimal and temporary, and would primarily be associated with construction activities, if any such activities are associated with the mitigation option implemented. Consequently, the overall secondary effects of implementing **MM-BIO-4** would be less than significant.

Threshold 2: Implementation of 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, regulations or by CDFW, NMFS, or USFWS.

Impact Discussion

Construction of the waterside components of the proposed project would include in-water activities such as pile driving, dredging, equipment storage, and barge operations, which would generate increased noise and water quality impacts within the marine community. The waterside operation would consist of a larger wharf and a larger small boat mooring float to service vessels, creating a potentially significant permanent overwater coverage impact as a result of the project. This impact on open water habitat availability was discussed under Threshold 1.

Waterside construction would create temporary overwater shading in the project site from construction equipment and some project elements have the potential to impair water quality through increased turbidity. Potential impacts from waterside project construction could include impacts on eelgrass due to dredging, elevated turbidity, and incidental disturbances from propeller wash and bottom contact. However, within the project boundaries, these impacts on eelgrass have already been identified and mitigated for through prior mitigation; outside the project boundaries, however, there is a potential for project construction to result in direct and indirect impacts on adjacent eelgrass beds outside of the project site. Detailed analysis related to project construction and operations is provided below.

Construction

Terrestrial

There are no sensitive terrestrial vegetation communities or riparian habitat within the landside component of the project site. Therefore, no construction-related impacts on sensitive terrestrial habitats would occur.

Marine

As discussed in Section 4.2.2, *Existing Conditions*, eelgrass habitat is present along the base of the riprap revetment and bulkhead wall to approximately -12 feet mean lower low water (MLLW). The proposed project would directly impact (via dredging) approximately 2,004 square feet of eelgrass habitat (Appendix D-1). However, this eelgrass located within the project site is regrowth following implementation of the recent San Diego Shipyard Sediment Remediation Project (SCH #2009111098), which resulted in impacts on this eelgrass within the project site from remediation

activities, including dredging and placement of sand or gravelly sand cover. The eelgrass removed as a result of the Shipyard Sediment Remediation Project, and thus the impact created by removal of eelgrass growth at that location, has already been identified and mitigated for through the establishment of an eelgrass mitigation site at the South Bay Eelgrass Mitigation Site (Appendix D-1). Because eelgrass impacts associated with removal of this eelgrass have already been mitigated through the establishment of eelgrass growth at the South Bay Eelgrass Mitigation Site, no new mitigation beyond that already provided at the South Bay Eelgrass Mitigation Site is required for this specific impact (loss of eelgrass), which has already been mitigated. Consequently, impacts on existing eelgrass within the project site as a result of dredging would be considered less than significant, and no mitigation would be required. For these same reasons, any indirect impacts on existing eelgrass within the project site from in-water construction activities, such as shading from construction equipment and increased turbidity, would be less than significant and therefore would not require mitigation.

Although direct and indirect impacts on existing eelgrass within the project site are considered less than significant, there are potential impacts on the eelgrass beds that are present outside of the project site to the south of the proposed Quay Wall Modifications (Project Element 7). The removal of riprap, dredging, and installation of sheet piles can have impacts on the eelgrass beds adjacent to the project's southern shoreline in three ways: direct physical disturbance from anchoring and staging of equipment, indirect impacts associated with shading from construction-related equipment, and indirect impacts associated with elevated turbidity levels from construction-related activities such as dredging, which impair water quality through increased turbidity from suspension of sediment (**Impact-BIO-5**). To reduce potential direct and indirect impacts on eelgrass adjacent to the project site, mitigation measure **MM-BIO-5** requires implementation of eelgrass protection measures during waterside construction activities, such as pre- and post-construction surveys in accordance with the CEMP and installation of turbidity curtains. Implementation of **MM-BIO-5** would reduce potential impacts on eelgrass outside of the project site to less than significant. As noted above, eelgrass within the project site does not require mitigation because it has been previously mitigated for through establishment of the South Bay Eelgrass Mitigation Site. Therefore, **MM-BIO-5** would not be required for any eelgrass that would be impacted within the project site.

The proposed project requires a CWA Section 401 Water Quality Certification and Section 404 permit to ensure that water quality objectives, including minimizing turbidity during construction, are met for San Diego Bay. A full discussion of the permit requirements and water quality objectives for the project is found in Section 4.5, *Hydrology and Water Quality*. Although temporary water quality impacts from suspended solids in the water column would be expected, impacts related to resuspension of sediments would be reduced to a less-than-significant level with compliance with the CWA Section 401 Water Quality Certification and Section 404 permit.

Operation

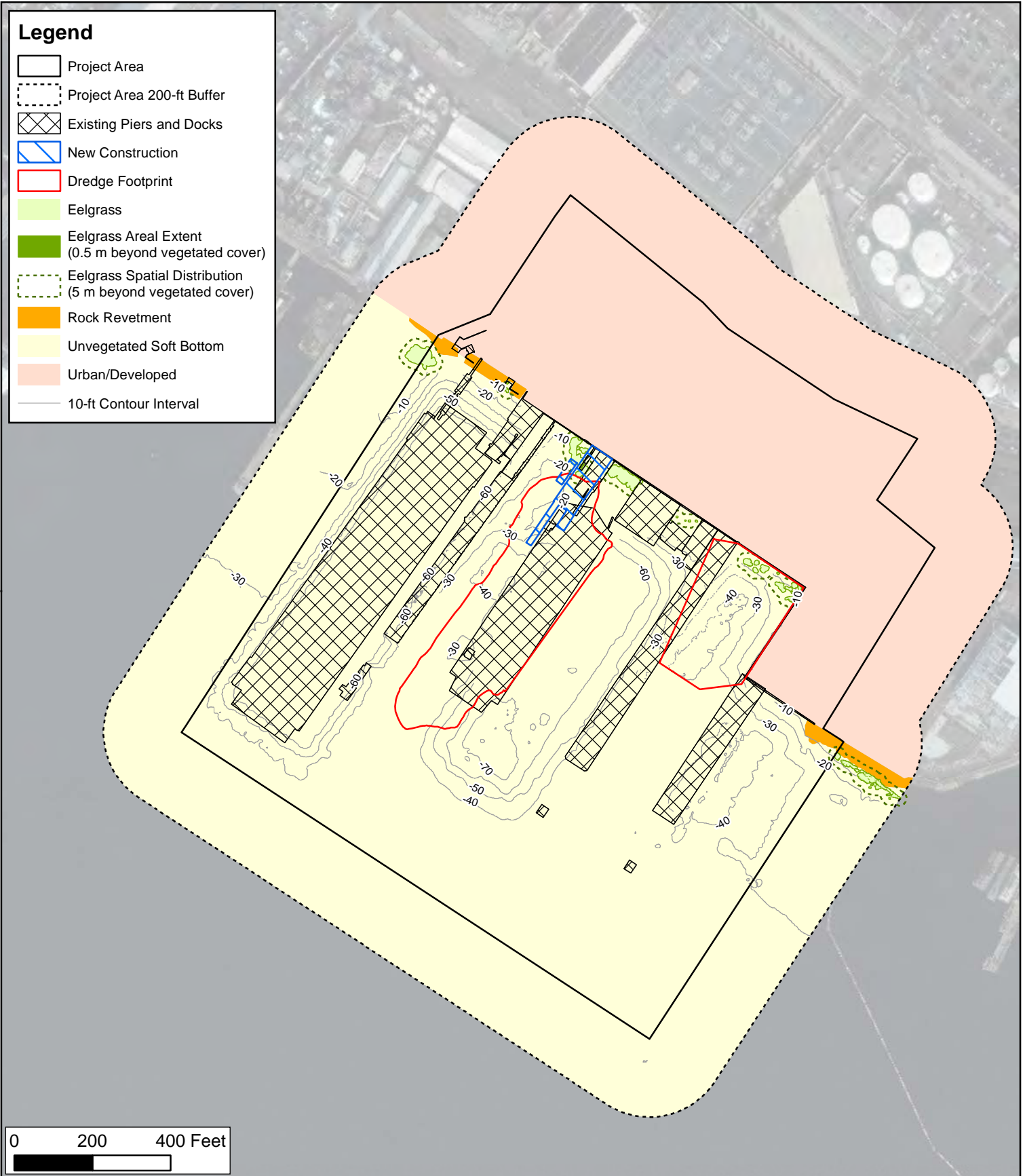
Terrestrial

There are no sensitive terrestrial vegetation communities or riparian habitat within the landside component of the project site. Therefore, no operation-related impacts on sensitive terrestrial habitats would occur.

Marine

Implementation of Project Elements 2, 6, and 9 would result in a net loss of open water habitat, through wharf expansions and a small boat mooring float. A net increase of 242 piles would also result from the proposed project. Net gain in vertical structural habitat type is a valuable replacement for the loss of unvegetated soft bottom habitat; however, as discussed in Threshold 1, a loss of open water habitat would affect foraging opportunities for California least tern and California brown pelican, and reduce primary productivity associated with phytoplankton and algae associated with the water column and seafloor (**Impact-BIO-4**). However, to reduce potential impacts on foraging opportunities from overwater coverage, mitigation measure **MM-BIO-4** requires implementation of any combination of the following mitigation options at a 1:1 ratio for no net increase in overwater coverage per the CWA: removing overwater coverage in the San Diego Bay, restoring or creating eelgrass habitat at a suitable mitigation site of equivalent size and value within San Diego Bay, purchasing credits for a suitable in lieu fee program or mitigation bank, and/or purchasing credits from the District's shading credit program. Implementation of **MM-BIO-4** would reduce **Impact-BIO-4** to less-than-significant levels.

The new piles associated with Project Elements 2, 6, and 9 would affect benthic infaunal invertebrates that live within the soft sediments. The invertebrates living within the sediments where piles are placed would be displaced as the soft bottom habitat itself would be displaced by the piles. The loss of unvegetated soft bottom habitat would be limited to the footprint of each pile; moreover, the piles would replace the benthic habitat with hard substrate and vertical structure for other organisms. These hard structures would be colonized by sessile invertebrates and algae. They would also attract fish and mobile invertebrates. Given that hard bottom structures are habitat for different organisms relative to soft bottom habitats, the structures would increase biological diversity overall at the piles and within the immediate area surrounding the piles (Merkel & Associates 2013). Thus, although there would be a loss of unvegetated soft bottom habitat, there would be a net gain in overall habitat and higher value habitat through the physical structure of the piles. Therefore, the overall loss of a small number of invertebrates is considered less than significant, particularly when considered with the anticipated increase in biodiversity.



Legend

- Project Area
- Project Area 200-ft Buffer
- Existing Piers and Docks
- New Construction
- Dredge Footprint
- Eelgrass
- Eelgrass Areal Extent (0.5 m beyond vegetated cover)
- Eelgrass Spatial Distribution (5 m beyond vegetated cover)
- Rock Revetment
- Unvegetated Soft Bottom
- Urban/Developed
- 10-ft Contour Interval

0 200 400 Feet

Source: Merkel & Associates, Inc.



Figure 4.2-2
Habitat Impact
BAE Systems Waterfront Improvement Project

Level of Significance Prior to Mitigation

Implementation of the proposed project would have a substantial adverse effect, either directly or through habitat modifications, on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW, NMFS, or USFWS. Potentially significant impacts include the following.

Impact-BIO-4, as discussed under Threshold 1 above.

Impact-BIO-5: Potential Water Quality Impairment or Construction-Related Impacts on Eelgrass. Impacts on eelgrass within the project boundaries were previously mitigated offsite, and so project-related impacts on eelgrass within the project boundaries are less than significant. However, there are eelgrass beds immediately adjacent to the proposed Quay Wall Modifications (Project Element 7) at the south end of the property. Eelgrass beyond the BAE Systems leasehold was not part of the prior mitigation and could be impacted through increases in turbidity associated with bottom disturbance during dredging of riprap and sediment or during driving of sheet pile. Suspended sediments cause turbidity that reduces light penetration through the water. When suspended sediment resettle, they can settle directly on eelgrass. Both of these mechanisms reduce the plant's ability to photosynthesize and therefore can lead to reductions in bed density and cover. Moreover, if contractors anchor, spud, or stage vessels over the eelgrass beds adjacent to the project boundaries, impacts can occur through direct contact or shading.

Mitigation Measures

For **Impact-BIO-4**:

Implement **MM-BIO-4**, as discussed under Threshold 1 above.

For **Impact-BIO-5**:

MM-BIO-5: Implement Eelgrass Protection Measures. Prior to commencing construction activities for Project Element 7 (Quay Wall Modifications), the project proponent shall implement the following measures to ensure protection of eelgrass beds located immediately south of the proposed Quay Wall Modifications.

- Perform a preconstruction eelgrass survey in accordance with the California Eelgrass Mitigation Policy.
- Temporarily install a silt curtain to contain turbidity during dredging of rock, dredging of sediment, and installation of sheet pile during quay wall modifications.
- Provide results of the preconstruction eelgrass survey during a contractor education meeting and instruct the contractor not to contact the bottom or stage vessels over eelgrass vegetated areas and instruct that the use of a silt curtain is necessary during quay wall modifications.
- Perform a post-construction eelgrass survey in accordance with the California Eelgrass Mitigation Policy to validate protection of adjacent eelgrass beds following construction. In the event that unforeseen impacts to eelgrass occur, those impacts would be mitigated by increasing the amount of restoration or withdrawal of eelgrass mitigation bank credits as specified under **MM-BIO-4**, subsection 2.B.

Level of Significance after Mitigation

Implementation of **MM-BIO-4** would reduce impacts on foraging opportunities for sensitive avian species and nearshore marine habitat (**Impact-BIO-4**) to less-than-significant levels by requiring implementation of any combination of the following mitigation options: removing overwater coverage in the San Diego Bay; creating or restoring eelgrass habitat at a suitable mitigation site of equivalent size and value within San Diego Bay; purchasing credits for a suitable in lieu fee program or mitigation bank; and/or purchasing credits from the District's shading credit program.

Implementation of **MM-BIO-5** would reduce **Impact-BIO-5** to less than significant by requiring pre- and post-construction eelgrass surveys in accordance with the CEMP, silt curtains to contain any construction-generated turbidity, educating contractors on the presence of nearby eelgrass so that direct contact can be avoided, performing monitoring to ensure that adjacent eelgrass is not impacted, and, in the event eelgrass is impacted, requiring restoration, creation, or purchase of eelgrass mitigation bank credits in accordance with **MM-BIO-4**.

Threshold 4: Implementation of the proposed project would not result in substantial interference with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impedance of the use of native wildlife nursery sites.

Impact Discussion

Native wildlife movement corridors have not been identified within the project site, and no substantial impediment to nursery sites or wildlife movement would occur with project construction and operation. Marine habitats used by wildlife have the potential to be affected, as discussed below.

Construction and Operation

Terrestrial

The landside portion of the project site is urban/developed and does not contain any natural wildlife habitat or vegetation communities. Onsite vegetation consists of landscaped ornamental species, which, while not protected, may host bird nests protected by the MBTA and California Fish and Game Code. No wildlife corridors have been identified on site. As such, construction and operation of the proposed project would not occur within an area that is critical to wildlife movement, nor would it impede wildlife access to areas adjacent to the project site. Impacts would be less than significant.

Marine

The waterside portion of the project site contains eelgrass as well as the potential for occurrence of protected marine wildlife species such as green sea turtles and several marine mammals. Eelgrass is also a nursery area for many commercially and recreationally important finfish and shellfish (Heck et al. 2003). While the proposed project has the potential to affect eelgrass, open water habitat, and special-status wildlife species (see Thresholds 1 and 2 above), the project site contains uses typical for San Diego Bay inner harbors, and the habitat types and species are all common throughout the Bay. As discussed in Threshold 2, impacts on open water habitat and adjacent eelgrass outside of the project site (**Impact-BIO-4** and **Impact-BIO-5**, respectively) would be mitigated to less than significant with implementation of **MM-BIO-4** and **MM-BIO-5**. Eelgrass within the project site does

not require mitigation because it has been previously mitigated for through establishment of the South Bay Eelgrass Mitigation Site, as noted under Threshold 2 (Appendix D-1).

The waterside area of the project site is currently used by naval and commercial vessels under maintenance or construction. As discussed in Threshold 2, Project Elements 2, 6, and 9 would provide additional hard substrate for organisms. These hard structures would be colonized by sessile invertebrates and algae. They would also attract fish and mobile invertebrates. Given that piles are habitat for different organisms relative to soft bottom habitats, the structures would increase biological diversity overall within the immediate area surrounding the piles. Therefore, construction and operation would not substantially interfere with the movement of any native resident or migratory fish or wildlife species. The project also would not interfere with established native resident or migratory wildlife corridors because none have been identified on site.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not substantially interfere with the movement of fish or other wildlife species. Moreover, it would not substantially impede the use of native wildlife nursery habitat. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

Threshold 5: Implementation of the proposed project would not conflict with any applicable local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance or with the provisions of an applicable adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Impact Discussion

The applicable local land use plans, policies, ordinances, or regulations of the District, adopted for the purpose of protecting biological resources, are the Port Master Plan, San Diego Unified Port District Code, and the District's Integrated Natural Resources Management Plan (INRMP). As discussed in Section 4.6, *Land Use and Planning*, the proposed project is consistent with both the Port Master Plan and the San Diego Unified Port District Code.

The District and the U.S. Navy Southwest Division maintain and implement the INRMP, which catalogues the plant and animal species around the Bay and identifies habitat types with the purpose of ensuring the long-term health, recovery, and protection of San Diego Bay's ecosystem in concert with economic, naval, recreational, navigational, and fisheries needs. The goal of the INRMP "is to provide direction for the good stewardship that natural resources require, while supporting the ability of the Navy and District to achieve their missions and continue functioning within San Diego Bay" (District 2013). Through the implementation of mitigation measures outlined in Thresholds 1 and 2, the landside and waterside components of the proposed project would not

conflict with the INRMP. Rather, the proposed project would avoid significant impacts on sensitive species, and protect and enhance sensitive habitats, such as eelgrass, which adheres to the objectives outlined in the INRMP.

There are no other local policies or ordinances protecting biological resources that apply to the proposed project. Therefore, the proposed project would not conflict with local policies or ordinances protecting biological resources, and no impact would occur.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not conflict with any applicable local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance or with the provisions of an applicable adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

Section 4.3

Greenhouse Gas Emissions and Energy

4.3.1 Overview

This section describes existing conditions and applicable laws and regulations pertaining to greenhouse gas (GHG) emissions and analyzes the proposed project’s consistency with the District’s Climate Action Plan (CAP) reduction targets as well as the regulatory programs outlined in the scoping plan and adopted by the California Air Resources Board (CARB) or other California agencies to reduce GHG emissions through the life of the project. It also considers whether the project would result in any wasteful, inefficient, or unnecessary consumption of energy or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. A discussion of whether the project would exacerbate any existing and/or projected damage to the environment, including existing structures and sensitive resources, due to predicted climate change effects, particularly sea-level rise, is provided in Section 4.8, *Sea-Level Rise*. This section relies on the emission modeling descriptions provided in the Air Quality and Greenhouse Gas Technical Memorandum (Appendix C).

Table 4.3-1 summarizes the significant impacts and mitigation measures discussed in this section.

Table 4.3-1. Summary of Significant Impacts and Mitigation Measures

Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact GHG-1: Inconsistency with District Climate Action Plan and Partial Consistency with Applicable GHG Reduction Plans, Policies, and Regulatory Programs	MM-GHG-1: Implement Diesel-Reduction Measures During Project Construction MM-GHG-2: Comply with San Diego Unified Port District Climate Action Plan Measures MM-GHG-3: Utilize Modern Vessels and Dredgers	Less than Significant	Mitigation would ensure consistency with the District’s Climate Action Plan as well as plans, policies, and regulatory programs outlined in the scoping plan and adopted by CARB.

4.3.2 Existing Conditions

This section provides a discussion of the existing understanding of global climate change and its related effects, the relationship between GHG emissions and current conditions, and the existing energy resources associated with the project area.

4.3.2.1 Greenhouse Gases

Global Climate Change

The phenomenon known as the *greenhouse effect* keeps the atmosphere near the Earth's surface warm enough for successful habitation by humans and other life forms. GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), perfluorinated carbons (PFCs), sulfur hexafluoride (SF₆), and hydrofluorocarbons (HFCs), in addition to water vapor. These six gases are also identified as GHGs in Section 15364.5 of the State CEQA Guidelines. Within this chapter, GHG emissions may be referred to as simply *emissions* or *pollutants of concern*.

Sunlight in the form of infrared, visible, and ultraviolet light passes through the atmosphere. Some of the sunlight striking the Earth is absorbed and converted to heat, which warms the surface. The surface emits infrared radiation to the atmosphere where some of it is absorbed by GHGs and re-emitted toward the surface. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thereby enhancing the greenhouse effect and amplifying the warming of the Earth (National Park Service 2019).

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution. Rising atmospheric concentrations of GHGs in excess of natural levels enhance the greenhouse effect, which contributes to global warming of the Earth's lower atmosphere. This warming induces large-scale changes in ocean circulation patterns, precipitation patterns, global ice cover, biological distributions, and other changes to the Earth's systems. This is collectively referred to as *climate change*.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs). Criteria air pollutants and TACs occur locally or regionally. Local concentrations respond to locally implemented control measures. However, the long atmospheric lifetimes of GHGs allow them to be transported great distances from sources and become well mixed, unlike criteria air pollutants, which typically exhibit strong concentration gradients away from point sources. GHGs and global climate change represent cumulative impacts; that is, GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change.

Principal Greenhouse Gases

The GHGs listed by the Intergovernmental Panel on Climate Change (IPCC) (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) (2014) are discussed in this section in order of abundance in the atmosphere. The principal characteristics of these pollutants are discussed below. California law and the State CEQA Guidelines contain similar definitions of GHGs (Health and Safety Code Section 38505(g); 14 California Code of Regulations [CCR] Section 15364.5). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources. Consequently, the primary GHGs of concern associated with the project are CO₂, CH₄, and N₂O. Note that PFCs are not discussed because those gases are generated primarily by manufacturing processes, which are not anticipated as part of the project.

- **CO₂** enters the atmosphere through the burning of fossil fuels (e.g., oil, natural gas, coal), solid waste, trees, and wood products; respiration; and chemical reactions (e.g., from the manufacture of cement). CO₂ is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

- **CH₄** is emitted during the production and transport of coal, natural gas, and oil. CH₄ is also emitted from livestock and agricultural operations as well as the decay of organic waste in municipal solid waste landfills.
- **N₂O** is emitted during agricultural and industrial activities as well as the combustion of fossil fuels and solid waste.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method for comparing GHG emissions is the global warming potential (GWP) methodology defined in the IPCC reference documents. IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO₂e), which compares the gas in question to that of the same mass of CO₂ (which has a GWP of 1 by definition). The GWP values used in this report are based on the IPCC Fourth Assessment Report (AR4) and the reporting guidelines, as defined in Table 4.3-2, from the United Nations Framework Convention on Climate Change (Myhre et al. 2013). The AR4 GWP values are consistent with those used in CARB's 2018 California GHG inventory, CARB's 2017 scoping plan, and the District's 2016 Maritime Air Emissions Inventory and CAP progress report (CARB 2018; CARB 2017; District 2018).

Table 4.3-2. Lifetimes, GWPs, and Abundances of Significant GHGs

Gas	GWP (100 years)	Lifetime (years) ¹	Atmospheric Abundance
CO ₂	1	50–200	400 ppm
CH ₄	25	9–15	1,834 ppb
N ₂ O	298	121	328 ppb

Sources: Myhre et al. 2013, Blasing 2016, IPCC 2007.

¹ Defined as the half-life of the gas.

ppm = parts per million; ppb = parts per billion.

Greenhouse Gas Inventories

A GHG inventory is a quantification of all GHG emissions and sinks¹ within a selected physical and/or economic boundary. GHG inventories can be performed on a large scale (e.g., for global and national entities) or on a small scale (e.g., for a particular building or person). Although many processes are difficult to evaluate, several agencies have developed tools to quantify emissions from certain sources.

Table 4.3-3 outlines the most recent global, national, statewide, and local GHG inventories to help contextualize the magnitude of potential project-related emissions.

¹A GHG sink is a process, activity, or mechanism that removes a GHG from the atmosphere.

Table 4.3-3. Global, National, State, and Local GHG Emissions Inventories

GHG Emissions Inventory	CO ₂ e (metric tons)
2010 IPCC Global	52,000,000,000
2018 EPA National	6,677,800,000
2017 CARB State	424,100,000
2014 Unincorporated County of San Diego	3,211,505
2018 City of San Diego	9,800,000
2016 Port of San Diego	507,823

Sources: IPCC 2014, EPA 2020, CARB 2019, County of San Diego 2018, City of San Diego 2019, District 2018.

A portion of the GHG emissions generated at the project site are included in the 2016 Port of San Diego GHG emissions inventory, shown in Table 4.3-3. Both landside and waterside activities generate GHG emissions. Landside sources include vehicle trips; building electricity, natural gas, and water consumption; and waste generation. Waterside sources include commercial and military vessel activity, along with the support provided by tugboats.

4.3.2.2 State and Regional Energy Resources and Use

California has a diverse portfolio of resources that produced 2,535.8 trillion British thermal units² (BTUs) of energy in 2017 (U.S. Energy Information Administration 2019).³ Excluding offshore areas, the state ranked third in the nation in crude oil production in 2016, producing the equivalent of 1,064.7 trillion BTUs of energy. The state also ranked first in the nation for energy production from renewable resources. Other energy sources in the state include natural gas (234.7 trillion BTUs), nuclear (197.8 trillion BTUs), and biofuels (30 trillion BTUs) (U.S. Energy Information Administration 2016).⁴

According to the U.S. Energy Information Administration, California consumed approximately 7,881 trillion BTUs of energy in 2017. Per capita energy consumption (i.e., total energy consumption divided by population) in California is among the lowest in the country, approximately 200 million BTUs in 2017, ranking California 48th among all states. Natural gas accounted for the majority of energy consumption (28 percent), followed by motor gasoline (22 percent), distillate and jet fuel (16 percent), interstate electricity (8 percent), and nuclear and hydroelectric power (7 percent), with the remaining 19 percent coming from a variety of other sources (U.S. Energy Information Administration 2019). The transportation sector consumed the highest quantity of energy in 2017 (40.3 percent), followed by the industrial and commercial sectors.

Per capita energy consumption, in general, is declining because of improvements in energy efficiency. However, despite this reduction in per capita energy use, California's total overall energy consumption (i.e., non-per capita energy consumption) is expected to increase over the next several decades because of population growth, growth in the number of jobs, and growth in vehicle miles

² One BTU is the amount of energy required to heat 1 pound of water by 1°F at sea level. BTU is a standard unit of energy that is used in the United States and is on the English system of units (foot-pound-second system).

³ Note that 2017 data are the most recent available.

⁴ No coal production occurs in California; however, imported coal made up approximately 6% of California's energy mix as of 2015. SDG&E, the energy provider for the San Diego region, does not have any coal in its energy mix as of 2015 (California Energy Commission 2016).

traveled (VMT). For example, electricity usage is anticipated to grow by 11 to 18 percent over the next decade (2020–2030) (California Energy Commission [CEC] 2018).

San Diego County is served by San Diego Gas and Electric (SDG&E), which provides energy services to more than 3.4 million customers (i.e., 1.4 million accounts) in the county and portions of southern Orange County. The utility has a diverse power production portfolio, composed of a variety of renewable and non-renewable sources. Energy production typically varies by season and by year. Regional electricity loads tend to be higher in the summer because the higher summer temperatures drive increased demand for air-conditioning. In contrast, natural gas loads are higher in the winter because the colder temperatures drive increased demand for natural gas heating.

In 2017 (most recent year for which California Renewables Portfolio Standard [RPS] data are available) more than 44 percent of the electricity SDG&E supplied was from renewable sources, compared to less than 1 percent in 2002 (CEC 2018a). Over the last 3 years, SDG&E customers have reduced their electricity use by more than 911 million kilowatt hours (kWh) and their gas usage by more than 1.8 million therms (Sempra Energy Company 2018).

4.3.3 Applicable Laws and Regulations

This section summarizes the federal, state, and local regulations related to GHG emissions, climate change, and energy resources that are applicable to the proposed project.

4.3.3.1 Federal

There is currently no overarching federal law related specifically to reductions in GHG emissions. Under the Obama administration, the U.S. Environmental Protection Agency (EPA) developed regulations under the Clean Air Act (CAA), pursuant to EPA's authority under the CAA.⁵ In addition, there were settlement agreements among EPA, several states, and nongovernmental organizations to address issues related to GHG emissions from electric generating units and refineries. EPA also issued an "endangerment finding" and a "cause or contribute finding" and adopted a mandatory reporting rule and the Clean Power Plan. Under the Clean Power Plan, EPA issued regulations to control CO₂ emissions from new and existing coal-fired power plants. However, on February 9, 2016, the Supreme Court issued a stay regarding these regulations, pending litigation. EPA Administrator Scott Pruitt signed a measure to repeal the Clean Power Plan in October 2017. Therefore, no federal regulations related specifically to GHG emissions have been factored into the proposed project's impact analysis.

The National Highway Traffic Safety Administration (NHTSA) sets the Corporate Average Fuel Economy (CAFE) standards to improve the average fuel economy and reduce GHG emissions generated by cars and light duty trucks. NHTSA and EPA have proposed to amend the current fuel efficiency standards for passenger cars and light trucks and establish new standards covering model years 2021 through 2026 by maintaining the current model year 2020 standards through 2026 (Safer Affordable Fuel-Efficient [SAFE] Vehicles Rule). California, 22 other states, the District of Columbia, and two cities filed suit against the proposed action on September 20, 2019 (*California et al. v. United States Department of Transportation et al.*, 1:19-cv-02826, U.S. District Court for the

⁵ In *Coalition for Responsible Regulation, Inc., et al. v. EPA*, the U.S. Court of Appeals upheld EPA's authority to regulate GHG emissions under the CAA.

District of Columbia). The lawsuit requests a “permanent injunction prohibiting Defendants from implementing or relying on the Preemption Regulation,” but does not stay its implementation during legal deliberations. Part 1 of the SAFE Vehicles Rule went into effect on November 26, 2019. Part 2 of the Rule was finalized on March 31, 2020.

4.3.3.2 State

California has adopted statewide legislation to address various aspects of climate change, provide GHG mitigation, and improve energy efficiency. Much of this establishes a broad framework for the state’s long-term GHG and energy reduction goals as well as the climate change adaptation program. Governors of California have also issued EOs related to the state’s evolving climate change policy. Summaries of the key policies, EOs, regulations, and state legislation relevant to the project are provided below in chronological order.

Executive Order S-03-05 (2005)

EO S-03-05 was designed to reduce California’s GHG emissions to (1) 2000 levels by 2010, (2) 1990 levels by 2020, and (3) 80 percent below 1990 levels by 2050.

Assembly Bill 32—California Global Warming Solutions Act (2006)

AB 32 codified the state’s GHG emissions target by requiring California’s global warming emissions to be reduced to 1990 levels by 2020. Since being adopted, the CARB, CEC, CPUC, and California Building Standards Commission have been developing regulations that will help the state meet the goals of AB 32 and EO S-03-05. The scoping plan for AB 32 identifies specific measures for reducing GHG emissions to 1990 levels by 2020 and requires CARB and other state agencies to develop and enforce regulations and other initiatives to reduce GHG emissions. The AB 32 scoping plan, first adopted in 2008, is the state’s roadmap for meeting AB 32’s reduction target. Specifically, the scoping plan articulates a key role for local governments by recommending that they establish GHG emissions reduction goals for both municipal operations and the community that are consistent with those of the state (i.e., approximately 15 percent below current levels) (CARB 2008).

California Energy Efficiency Standards for Non-Residential Buildings—Green Building Standards Code and Updates

California has adopted the Green Building Standards Code (CALGreen), which outlines aggressive energy efficiency standards for new residential and non-residential buildings that are updated every 3 years. The first standards were adopted in 1978. The most recent update was the 2019 Building Energy Efficiency Standards, which were adopted in May 2018 and took effect on January 1, 2020. Non-residential buildings will be 30 percent more energy efficient due to the update in HVAC, ventilation, and lighting standards. Future standards are expected to result in zero net energy for newly constructed commercial buildings (CEC 2018b).

Senate Bill 350 (2015)

SB 350 (De Leon, also known as the Clean Energy and Pollution Reduction Act of 2015) was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions call for the following by 2030: (1) achieving an RPS of 50 percent and (2) doubling the efficiency of existing buildings.

Senate Bill 32, California Global Warming Solutions Act of 2006: Emissions Limit, and Assembly Bill 197, State Air Resources Board, Greenhouse Gases, Regulations (2016)

SB 32 (Pavley) requires CARB to ensure that statewide GHG emissions will be reduced to at least 40 percent below the 1990 level by 2030, consistent with the target set forth in EO B-30-15. The bill specified that SB 32 shall become operative only if AB 197 (Garcia) is enacted and effective on or before January 1, 2017. AB 197 requires formation of the Joint Legislative Committee on Climate Change Policies; requires CARB to prioritize direct emissions reductions from stationary sources, mobile sources, and other sources and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit; requires CARB to prepare reports on sources of GHGs, criteria air pollutants, and toxic air contaminants; establishes 6-year terms for voting members of CARB; and adds two legislators as non-voting members of CARB. Both bills were signed by Governor Brown in September 2016.

CARB approved the 2017 Climate Change Scoping Plan Update in December 2017 to build on the programs set in place as part of the previous scoping plan, which was drafted to meet the 2020 reduction targets of AB 32. The 2017 scoping plan proposes meeting the 2030 goal by accelerating the focus on zero and near-zero technologies for moving freight; continuing investment in renewables; relying on greater use of low-carbon fuels, including hydrogen; implementing stronger efforts to reduce emissions of short-lived climate pollutants (e.g., CH₄, black carbon, fluorinated gases); overseeing further efforts to create walkable communities with expanded mass transit and other alternatives to traveling by car; continuing the cap-and-trade program; and ensuring that natural lands become carbon sinks to provide additional emissions reductions and flexibility in meeting the target. The 2017 scoping plan also recommends that local governments achieve community-wide efficiency through the use of targets that call for 6 metric tons of carbon dioxide equivalent (MTCO_{2e}) per capita by 2030 and 2 MTCO_{2e} per capita by 2050, targets that can be used in local climate action planning. These efficiency targets would replace the “15 percent below 2008 levels by 2020” approach recommended in the initial scoping plan.

Senate Bill 100 (2018)

SB 100 (De León, also known as the California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases) was approved by the California legislature and signed by Governor Brown in September 2018. The bill increases the RPS in 2030 from 50 to 60 percent and establishes an RPS goal of 100 percent by 2045.

Executive Order B-55-18 (2018)

EO B-55-18 was approved by the California legislature and signed by Governor Brown in September 2018. The order establishes a statewide goal that calls for achieving carbon neutrality by no later than 2045 as well as achieving and maintaining net negative emissions thereafter. Although this EO has not been codified in law, it directs CARB to ensure that future climate change scoping plans identify and recommend measures for achieving the carbon neutrality goal.

State CEQA Guidelines, Appendix F

Appendix F of the State CEQA Guidelines contains energy conservation measures that promote efficient use of energy for projects. To ensure that energy impacts are considered in project

decisions, CEQA requires EIRs to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing any inefficient, wasteful, and unnecessary consumption of energy.

The goal outlined in Appendix F of the State CEQA Guidelines is to conserve energy through wise and efficient use. The means for achieving this goal include the following:

- Decreasing overall per capita energy consumption,
- Decreasing reliance on natural gas and oil, and
- Increasing reliance on renewable energy sources.

4.3.3.3 Regional

The AB 32 scoping plan does not provide an explicit role for local air districts with respect to implementing AB 32, but it does state that CARB will work actively with air districts in coordinating emissions reporting, encouraging and coordinating GHG reductions, and providing technical assistance in quantifying reductions. The ability of air districts to control emissions (both criteria pollutants and GHGs) is provided primarily through permitting but also their role as CEQA lead or commenting agencies, the establishment of CEQA thresholds, and the development of analytical requirements for CEQA documents. To date, the San Diego Air Pollution Control District has not developed specific thresholds of significance with regard to addressing issues related to GHG emissions in CEQA documents.

4.3.3.4 Local

San Diego Unified Port District Plans and Programs

The District developed the Green Port Program to support the goals of the Green Port Policy, which was adopted in 2008. The Green Port Program was designed to achieve environmental sustainability goals at the Port, including those related to water, energy, air, waste management, sustainable development, and sustainable business practices. The District and SDG&E have also established a partnership to increase energy efficiency and reduce overall energy consumption. SDG&E currently allocates a portion of funds collected from utility customers to energy efficiency programs with local governments. The District uses some of those funds to develop energy efficiency education programs, track energy consumption, perform energy audits, and implement energy retrofits. The District's energy efficiency programs benefit employees, tenants, and the general public.

Climate Action Plan

As noted above in Section 4.3.3.2, CARB encourages local governments to adopt a reduction goal for emissions from municipal operations and move toward establishing similar goals for community emissions that parallel the state's commitment to reducing GHG emissions (CARB 2008). The District adopted a CAP in December 2013 that includes an inventory of existing (2006) and projected emissions in 2020, 2035, and 2050 and identifies the District's GHG reduction goals as well as measures to be implemented to support meeting the statewide reduction goals set forth in AB 32 (i.e., 1990 levels by 2020). Port-wide 1990 emissions were not quantified because of gaps in activity data; instead, a base year of 2006 was used to calculate the reductions needed at the Port

and reach 1990 levels by 2020. Consistent with AB 32 targets, a 10 percent reduction target (471.3 million MTCO_{2e} in 2006 and estimated 426.6 million MTCO_{2e} in 1990 statewide) was used as the Port-wide reduction target for 2020.⁶

Sources throughout the planning area that generate GHG emissions include tenant facilities (e.g., hotels, marinas, boatyards), maritime activities (e.g., the movement of goods and people associated with marine terminal operations), and Port operations (e.g., District-owned building energy consumption and fleet activity). The CAP's 2020 projections and reduction targets (1990 levels) for each activity are based on growth projections specific to each tenant and activity type. For example, the CAP assumes a 5 percent annual growth in lodging-related uses between 2006 and 2020. Therefore, the CAP and its reduction targets are specific to the District's geography, type, intensity of uses, and future projected conditions. Table 4.3-4 provides the CAP's 2006 baseline, projected future (2020) GHG emissions, projected future (2020) GHG emissions with implementation of state measures, and future GHG emissions targets (i.e., 1990 levels) for the Port as a whole. To achieve the requisite reductions, the CAP includes various reduction measures related to transportation and land use, alternative energy generation, energy conservation, waste reduction and recycling, and water conservation and recycling.

A critical aspect of having a CAP that fits the criteria within State CEQA Guidelines Section 15183.5 is having reduction targets that align with statewide goals. The CAP's reduction targets parallel the state's commitment to reducing GHG emissions in AB 32 but go even farther by identifying targets for a specific location, based on projected emissions specific to the Port's geographic location as well as specific activity types and their associated sources. Therefore, because the CAP targets align with statewide goals, the CAP is consistent with AB 32.

Table 4.3-4. GHG Emissions by Emission Sector Shown in the CAP (MTCO_{2e} per year)

Sector	2006 Existing	2020 Business as Usual	2020 with State Measures
Electricity	173,192	208,231	147,133
Natural Gas	135,516	152,803	152,534
On-Road Transportation	314,870	410,069	317,708
Off-Road Transportation	172,929	233,528	207,268
Water Use	13,166	14,630	10,406
Waste	16,757	20,439	20,439
Total Emissions	826,429	1,039,700	855,489
2020 Target	—	745,695	

Source: District 2013 (page 12).

Since the adoption of the CAP, more refined data and updated methodologies have become available to estimate GHG emissions. CARB guidance states that it is good practice to recalculate historic emissions when methods are changed or refined.⁷ Given this, a recalibration of the 2006 baseline

⁶ The CAP also includes projected emissions and some reduction policies to achieve the reduction target of 25 percent less than 2006 baseline levels by 2035 but does not yet quantify those reductions.

⁷ California Air Resources Board. 2019. *Current California Emission Inventory Data*. Available: <https://www.arb.ca.gov/cc/inventory/data/data.htm>.

was deemed vital to tracking progress toward 2020 goals. This 2006 recalibration was included in the Port's 2016 updated inventory, which was based on more locally specific and comprehensive datasets.

The 2016 inventory update provides emissions from the same sectors included in the CAP (i.e., electricity, natural gas, on- and off-road transportation, water use, waste). Table 4.3-5 provides a comparison of the recalibrated 2006 baseline and emissions generated during 2016. Total GHG emissions produced by all tenant, maritime, and Port activities in 2016 were estimated to be 507,823 MTCO_{2e}, which is 13 percent below the revised 2006 baseline (or 73,856 MTCO_{2e}). This decrease in emissions is due to several factors, including fewer calls from ocean-going vessels, reduced berthing durations, increased fuel economy for on-road vehicles, decreases in natural gas consumption, and a decrease in the SDG&E electricity emission factor. The 2016 inventory is approximately 1.5 percent of total countywide GHG emissions (relative to the most recent inventory [2012]).⁸

Table 4.3-5. Comparison of Recalibrated 2006 Baseline and Calendar Year 2016 Emissions (MTCO_{2e} per year)

Sector	Revised 2006	2016 Inventory
Electricity	117,526	101,381
Natural Gas	162,556	137,183
On-Road Transportation	136,619	124,957
Off-Road Transportation	132,571	113,812
Water Use	13,169	9,144
Waste	19,239	21,346
Total Emissions	581,680	507,823
2020 Target	523,512	
<i>Change from CAP 2006 Due to Recalibration</i>	<i>(244,749)</i>	N/A

Source: District 2018.

4.3.4 Project Impact Analysis

4.3.4.1 Methodology

GHG impacts associated with construction and operation of the proposed project were assessed and quantified, to the extent feasible, using industry standards and accepted software tools, techniques, and emissions factors. A summary regarding the methodology is provided below. A full list of assumptions and emissions calculations can be found in Appendix C. The methodology used to estimate GHG emissions is the same methodology that was used to estimate air pollutant emissions, as described in Section 4.1, *Air Quality and Health Risk*. In addition to the emissions sources discussed in Section 4.1, GHG emissions would also result from electricity, natural gas, water consumption, and waste generation.

⁸ San Diego County GHG emissions in 2012 were 34.67 million MTCO_{2e} (Energy Policy Initiatives Center 2015).

Construction

GHG Emissions

Construction of the proposed project would generate CO₂, CH₄, and N₂O, all of which are GHGs that that could contribute to climate change. Emissions would originate from construction of landside and waterside components. Sources of emissions associated with landside activities include exhaust from off-road equipment as well as exhaust from employees' vehicles and haul trucks (i.e., on-road vehicles). Landside construction emissions were estimated using a combination of emissions factors and methodologies from the California Emissions Estimator Model (CalEEMod), version 2016.3.2; CARB's EMFAC2017 model; and published methodologies from CARB and EPA. Emissions estimates were based on project-specific construction data (e.g. schedule, equipment types and numbers, and truck volumes) provided by the project proponent.

Construction of the waterside components would generate emissions from dredging, hauling materials to and from the project site, and operating scows, tugboats, and survey vessels. Emissions from dredging equipment and haul trucks were estimated using CalEEMod and EMFAC, respectively. Emissions from marine vessels were estimated using emissions factors and assumptions from CARB's *Harborcraft Emission Inventory Methodology* (2010) and other sources, as described in Appendix C.

Dredging would occur for three project elements: Project Element 1 (Pride of San Diego Drydock Dredging and Moorage), Project Element 4 (Pier 3 Near Shore Dredging), and Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment).

There are two options for disposing of dredged materials associated with the proposed project. Materials that are contaminated would be disposed of at a landfill that is approved to handle contaminated sediment. These materials are stockpiled at the project site, loaded directly onto trucks from the dredge barge, and disposed of at the approved landfill. Materials that are not contaminated would be disposed of at the Ocean Dredge Material Disposal Site (i.e., EPA ocean disposal site LA-5).

For Project Element 1, the total quantity of dredged materials is assumed to be approximately 98,800 cubic yards (cy). As discussed in Chapter 3, *Project Description*, it is anticipated that between 11 (10,900 cy) and 20 percent (19,800 cy) of the dredge material would be contaminated and would be transported via truck to an approved (upland) disposal facility capable of accepting contaminated sediment. It is anticipated that the remaining materials – between 80 percent (79,000 cy) and 89 percent (87,900 cy) – would meet U.S. Army Corps of Engineers (USACE) and EPA disposal criteria and would be disposed of at the EPA's LA-5 ocean disposal site via tug and scow. To ensure a conservative analysis, both the high end of trucks (assumed to be 1,350 total trucks based on a 15 cy truck capacity and 19,800 cy of material) and the high end of tug and scow trips (assumed to be 36 total scows based on a 2,500 cy scow capacity and 87,900 cy of material) were analyzed.

For Project Element 4, the quantity of dredged materials that is suitable for ocean disposal is currently unknown. As discussed in Chapter 3, there are two disposal scenarios for Project Element 4 construction which are included in this impact analysis:

1. The "50/50 Scenario" assumes half of all dredged material would be disposed at the LA-5 ocean disposal site using scows, and the remaining half would be disposed of at an approved landfill using haul trucks.

2. The “All Truck Scenario” assumes all dredged material would be disposed at an approved landfill using haul trucks.

For Project Element 6, all dredged material is assumed to be contaminated; thus, all materials would be disposed of at an approved upland location.

The amount of emissions generated on an annual basis from landside and waterside construction would vary, depending on the intensity and types of activities occurring simultaneously, as well as the phasing and schedule. For purposes of analysis, landside construction is expected to occur 5 days per week and would last approximately 5 years. In-water construction activities required for the waterside components are expected to occur 5 days per week for all waterside components except for dredging operations, which would occur 7 days per week for the duration of those dredging phases. Refer to Appendix C for detailed information on the construction schedule, phasing, equipment and vehicles inventories, and modeling method.

Note that the anticipated construction schedule analyzed herein is approximate and is provided for analysis purposes, and the actual start and end dates may vary. While overall construction timing may vary and may occur later than assumed here, it is assumed the sequence of phases relative to other phases and activities would not change. If the schedule is delayed, then concurrent elements would still occur concurrently (i.e., phase overlaps would be the same, albeit at a later date).

Consistent with established protocols and published guidance from other lead agencies and air districts, construction emissions are amortized over the expected operational life of the project and added to annual operational emissions. In this case, the operational life of the project is the duration of the BAE Systems’ lease, which is scheduled to expire in 2034 (14-year duration).

Energy Use

Implementation of the proposed project would result in energy use from construction of the landside and waterside components. Energy use associated with landside activities includes the operation of off-road equipment as well as employees’ vehicles and haul trucks. To haul materials and move equipment around the project site, construction of the waterside components would require energy for operation of the dredgers, scows, tugboats, and survey vessels.

Energy use during construction was estimated using a combination of emission methods and emissions factors from published best available documentation. Energy usage associated with fuel consumption was calculated by converting the GHG emissions estimated for the GHG analysis, using the rate of CO₂ emissions per gallon of combusted gasoline (8.78 kilograms/gallon) and diesel (10.21 kilograms/gallon) (Climate Registry 2018). The estimated fuel consumption was converted to BTUs, assuming an energy intensity of 113,927 BTUs per gallon of gasoline and 129,488 per gallon of diesel (Argonne National Laboratory 2015). A full list of assumptions and emissions and energy calculations for project construction can be found in Appendix C.

Operations

GHG Emissions

As discussed in Section 3.5.6, *Project Operation*, several of the project elements are infrastructure maintenance and modernization improvements and would not change the nature of existing operations at the project site. The proposed project would not expand operations or result in

additional employment or vehicle trips compared to existing conditions. However, the dredging and mooring improvements under Project Element 1 (Pride of San Diego Drydock Dredging and Moorage Replacement), Project Element 4 (Pier 3 South Nearshore Dredging), and Project Element 5 (Pier 3 Mooring Dolphin) would allow BAE Systems to service newer and larger classes of vessels compared to existing conditions, which could result in some changes to activities associated with berthing and servicing vessels. The operational efficiencies of the proposed project would result in the following changes, which are analyzed herein.

1. The proposed project would reduce the potential berthing capacity of the site by two vessels and reduce the number of vessels that could be serviced at berth annually by three vessels (see Table 3-6). Because tugs are required to transition a ship to or from a BAE Systems pier, or in or out of dry dock, the reduction in annual vessel calls would decrease tugboat activity, thereby reducing emissions. Under existing conditions, there are two general tug scenarios, which vary depending on the size of vessel, weather, and availability of tugs for use.
2. The proposed improvements – specifically, the improvements associated with Project Element 1 – would lead to more efficient vessel movements. This would result in the dry dock no longer needing to be moved in order to submerge and dock or undock a vessel. These improvements would ensure safe navigation even in extreme weather events. More tug power is currently required to transition vessels during these extreme weather events, which would be reduced with the proposed improvements, thereby reducing emissions.
3. When vessels berth or dock, their engines are off. Portable diesel engines and portable fire pumps (for power needs and fire protection) are placed on board the ships to supplement the vessel's power needs and ensure safe movement within the berthing area. The reduction in annual vessel calls would decrease portable diesel engine and fire pump activity, thereby reducing emissions.
4. Emissions from other indirect sources related to the reduction in vessel calls, including energy and water consumption, motor vehicles trips, and wastewater and waste generation, are also likely to decrease. However, given that the specific amount these sources would decrease was not known at the time of analysis, these sources were analyzed qualitatively, based on the anticipated change in the number of crew and labor at the site under proposed project conditions.

Table 4.1-7 of Section 4.1, *Air Quality and Health Risk*, summarizes the change in total tugboat power required on a per call and annual basis. Existing conditions include two separate tug scenarios to represent the range in tug power needed to handle typical and extreme weather events under the current layout. Under proposed project conditions, there is only one tug scenario, as proposed improvements would eliminate the need for additional tug power during extreme weather events.

As also shown in Table 4.1-7, the range in tug activity on a per-call basis is expected to increase from 12,000–13,500 horsepower per call (depending on the tug mix) to 14,500 horsepower per call after implementation of the proposed project because of the increased tug size required to berth larger vessels. However, given the reduction in calls, total tug horsepower is expected to decrease from 96,000–108,000 horsepower to 72,500 horsepower annually. This will decrease emissions on an annual basis through the life of the project.

Similarly, as shown in Table 4.1-8, portable equipment activity on a per call basis is not expected to change, but given the reduction in calls, total equipment horsepower is expected to decrease on an annual basis. This will decrease emissions on an annual basis through the life of the project.

Annual emissions from tugs and equipment were estimated using a combination of emission methods and emission factors from published best available documentation. Emissions from portable diesel equipment (generators and fire pumps) activities are based on activity data from the project proponent that assumes Tier 4 generators and Tier 3 fire pumps, which are in use under both existing and proposed project conditions. Emissions from tugboat activities were estimated based on methodologies and guidance published by CARB for estimating emissions from commercial watercraft and activity information provided by the project proponent. A full list of assumptions and emission calculations for project operations can be found in Appendix C.

Energy Use

Operation of the proposed project would require energy for both landside and waterside elements. Changes in energy use at the project site would result from the larger naval vessels, as well as commercial vessels, mooring at the Pier 3 South berth; changes in vessel size and the vessel mix at the site; ship maintenance and repair schedules; the total number of employees on-site; and portable generator and fire pump activity.

Operational energy use was estimated using the same emissions methods and emissions factors described for energy use during short-term construction. Fuel consumption during operation was calculated by converting the GHG emissions estimated for the GHG analysis, using the rate of CO₂ emissions per gallon of combusted gasoline and diesel. Fuel consumption was then converted to energy using industry-standard emissions factors for BTUs per gallon of gasoline and diesel. Energy use associated with area sources, such as natural gas consumption (for space and water heating), water consumption, wastewater and solid waste removal, and operational mobile sources, including vehicles belonging to employees who commute, were qualitatively considered using information about the overall change in personnel, as provided by the project proponent. A full list of assumptions and emissions and energy calculations for project operations can be found in Appendix C.

4.3.4.2 Thresholds of Significance

Greenhouse Gases

Based on guidance provided in Appendix G of the State CEQA Guidelines, the proposed project would result in a significant impact if it were to:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The State CEQA Guidelines do not indicate what level of GHG emissions would constitute a significant impact on the environment. Instead, they authorize the lead agency to consider thresholds of significance that were previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds was supported by substantial evidence (State CEQA Guidelines Sections 15064.4[a] and 15064.7[c]).

Several agencies in the state, including multiple air districts, have drafted and/or adopted various threshold approaches and guidelines for analyzing GHG emissions and climate change in CEQA

documents. However, none of these are binding and are only recommendations for consideration by CEQA lead agencies. A detailed summary of CEQA requirements, as well as the applicability of all available thresholds, is provided in Appendix C.

Threshold Approach

There are multiple potential thresholds and methodologies for evaluating project-level GHG emissions consistent with CEQA, depending on the circumstances of a given project. Although efforts at framing GHG significance issues have not yet coalesced into any widely accepted set of numerical significance thresholds across the state and within the region, a range of alternative approaches does exist. Common threshold approaches include (1) compliance with a qualified GHG reduction strategy, (2) performance-based reductions, (3) numeric “bright-line” criteria, (4) efficiency-based thresholds, and (5) compliance with regulatory programs. These thresholds and methodologies are discussed in detail in Appendix C.

The project, as a whole, includes two key components: construction would occur between the 2021 and 2025 timeframe, and operational changes would take effect after construction. Therefore, the entire analysis period is within the post-2020 timeframe. Based on the available threshold concepts recommended by air districts or other lead agencies and recent case law, the thresholds of significance that would be applied to the proposed project’s GHG emissions include the two following steps:

- **Comparison to a Relevant Bright-Line Criterion.** A numerical bright-line value, based solely on District-wide projects, does not yet exist. Moreover, no bright-line criterion has been formally adopted by an air district or other lead agencies for use in the San Diego region. Various bright-line numerical criteria have been drafted, proposed, or adopted throughout the state, and these vary by agency and purpose. Presently, the 900 MTCO_{2e} screening criteria presented in a California Air Pollution Control Officers Association (CAPCOA) white paper from 2008 is the lowest numerical criteria drafted, recommended, or adopted in the state and serves as a conservative screening criterion for determining which projects require further analysis and identification of project design features or potential mitigation measures with regard to GHG emissions (CAPCOA 2008).
- **Consistency with Statewide Regulatory Programs.** At the state level, CARB’s 2017 scoping plan outlines the framework and strategies the state will take to achieve its emissions reduction targets. The 2017 scoping plan update proposes meeting the 2030 goal by accelerating the focus on zero and near-zero technologies for moving freight; continuing investment in renewables; relying on greater use of low-carbon fuels, including hydrogen; implementing stronger efforts to reduce emissions of short-lived climate pollutants; overseeing further efforts to create walkable communities with expanded mass transit and other alternatives to traveling by car; continuing the cap-and-trade program; and ensuring that natural lands become carbon sinks to provide additional emissions reductions and flexibility in meeting the target (CARB 2017). In addition to CARB’s 2017 scoping plan, several CARB and statewide regulations address GHG emissions from other sources that are not fully covered by the scoping plan, such as off-road equipment. These regulations are addressed in detail in Section 4.3.3.2, *State*. For construction activities that occur after December 31, 2020, and operational activities that are anticipated to begin in 2025, GHG emission impacts will be evaluated through compliance with the regulatory programs outlined in the 2017 scoping plan and those adopted by CARB or other California agencies for the purpose of reducing GHG emissions.

Energy Consumption

The following significance criteria, which are based on the questions in Appendix G of the State CEQA Guidelines, provide the basis for determining the significance of energy impacts associated with the proposed project. The determination of whether an energy impact would be significant is based on the thresholds described below and the professional judgment of the District as lead agency and the recommendations of qualified personnel at ICF, all of which is based on the evidence in the administrative record.

Impacts would be considered significant if the proposed project were to result in any of the following.

1. Result in a potentially significant environmental impact due to the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation; or
2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

For this analysis, these two questions from Appendix G are combined under Threshold 3 in Section 4.3.4.3, below.

According to Section 15126.2(b) of the State CEQA Guidelines, if analysis of a project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption use of energy, or wasteful use of energy resources, the EIR must mitigate that energy use. Guidance is presented in State CEQA Guidelines Appendix F.

According to Appendix F of the State CEQA Guidelines, the goal of conserving energy implies the wise and efficient use of energy. The means for achieving this goal include:

1. Decreasing overall per capita energy consumption;
2. Decreasing reliance on fossil fuels such as coal, natural gas, and oil; and
3. Increasing reliance on renewable energy sources.

4.3.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Impact Discussion

As noted in Section 4.3.4.1, *Methodology*, GHG emissions would result from construction and operation of the proposed project, and thus there is the potential for significant impacts. GHG emissions associated with construction and operation are quantified (to the extent feasible) and presented herein.

Construction Emissions

Construction is broken up between emissions sources that operate on land, both within the project boundary and on public roadways, and emissions sources that operate completely within the water, both within and outside of the construction area. Landside GHG emissions during construction

would result from the use of off-road equipment as well as vehicles belonging to employees who commute and trucks that import and haul construction materials. Waterside GHG emissions during construction would result from the use of dredging equipment as well as tugboats, scows, and survey vessels.

Construction of the proposed project is expected to begin in 2021 and be completed by 2025. Table 4.3-6 summarizes the annual estimated GHG emissions from construction of the proposed project, amortized over the term of the lease, which is scheduled to expire in 2034 (14-year duration). As shown in Table 4.3-6, the year with the highest GHG emissions from project construction is expected to be year one of construction, when various elements and phases would occur concurrently during that year. Amortized emissions are added to operational emissions and compared to the 900 MTCO_{2e} bright-line criteria in Table 4.3-7.

Table 4.3-6. Estimate of Construction GHG Emissions by Year (MTCO_{2e})

Year	All Project Elements
2021	681
2022	224
2023	392
2024	309
2025	299
Total Emissions	1,905
Amortized Construction Emissions	136

Source: Appendix C.

Note: Totals may not add up exactly because of rounding.

Operational Emissions

As discussed in Section 4.3.4.1, the proposed project would result in operational efficiencies that would change the vessel fleet that could be serviced at the site. This change could result in larger but fewer ships serviced on a daily and annual basis. These larger ships require more tugboat power to berth safely, but because there would be fewer calls, annual activity and emissions would likely decrease.

Direct changes resulting from the larger ships include potential changes to tugboat and equipment activity. An estimate of existing and future emissions on an annual time scale associated with portable equipment and tugboat activity is presented in Table 4.3-7. As shown, proposed project operation would result in a decrease in GHG emissions on an annual basis compared to existing conditions. When combined with amortized construction emissions, however, there would be a slight overall increase in GHG emissions annually. This slight increase would still be significantly below the screening criterion of 900 MTCO_{2e}.

As discussed in Chapter 3, vessels carry a crew, and the size of the crew varies by vessel size and type (e.g., commercial or naval). The project would not add any new permanent employees and would reduce the amount of labor at the site depending on the type of vessel being serviced, but may increase the crew size due to the larger vessels. However, there would be an overall net reduction of personnel (both labor and crew) compared to existing conditions. Because labor and crew directly and indirectly produce emissions associated with vehicle commuting as well as utility consumption and generation (energy, water, waste), reducing activity at the project site is likely to reduce

emissions overall. However, to be conservative, the reduction in emissions from fewer vehicle trips and utility consumption is not assumed in Table 4.3-7.

Moreover, as discussed in Appendix C, the project would decrease occupancy at Pier 3 South when larger ships are at berth, resulting in fewer days per year that vessels are berthed. While the GHG emissions changes associated with fewer occupancy days were not quantified, it is reasonable to assume that this would reduce emissions on an annual basis given that activity at the BAE Systems facility is related to the presence of vessels.

Overall, the project would result in newer and larger ships that demand more power to berth, but once berthed, overall activity is expected to decrease. While combined construction and operation of the proposed project would result in a slight increase in annual GHG emissions, the project's contribution to existing GHG emissions levels over the life of the existing lease (2020–2034) would be relatively small. The increase in GHG emissions with implementation of the proposed project would be well below the screening level criteria. Over the long term, the state and District will move toward zero and near-zero technologies such as biodiesel, hybrid-electric, and liquefied natural gas technologies, as emission reduction plans (e.g., Scoping Plan, District CAP) are implemented, which would reduce emissions from project-related marine and off-road equipment uses. Each of these technologies would reduce GHG emissions but, in the case of biodiesel, might increase nitrogen oxides (NO_x). Therefore, as zero and near-zero technologies reduce emissions, project-related GHG emissions are expected to decline through the life of the project, and this impact would be considered less than significant. No mitigation is required.

Table 4.3-7. Estimate of Operational GHG Emissions

Condition	Source	Total HP	MTCO _{2e} per year
Existing (Scenario 1) ¹	Generators and Fire Pumps	58,000	25
	Tug Activity	96,000	24
	Total	--	49
Existing (Scenario 2) ¹	Generators and Fire Pumps	58,000	25
	Tug Activity	108,000	28
	Total	--	52
Project	Generators and Fire Pumps	36,250	15
	Tug Activity	72,500	19
	Operations Only	--	34
	<i>Amortized Construction Emissions</i>		<i>136</i>
	Total	--	170
Net Operational Change with Project			
	Scenario 1	--	-15
	Scenario 2	--	-18
Net Overall Project Change			
	Scenario 1	--	+121
	Scenario 2	--	+118
	Screening Level		900
	<i>Exceed Screening Level?</i>		<i>No</i>

Source: Appendix C.

¹ Scenario 1 is two larger tugs and Scenario 2 is three smaller tugs and one pusher tug (see Table 4.1-7).

Note: Totals may not add up exactly because of rounding. HP = horsepower; MTCO_{2e} = metric tons of carbon dioxide equivalent.

Level of Significance Prior to Mitigation

The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Threshold 2: Implementation of the proposed project would conflict with an applicable plan, policy or regulation, including the District CAP and regulatory programs outlined in the Scoping Plan and adopted by CARB or other California agencies for the purpose of reducing the emissions of greenhouse gases.

Impact Discussion

The determination of significance herein is based on consistency with both the District's CAP and the relevant statewide regulatory programs. A measure or program was determined to be relevant and applicable if it contained elements that, based on the proposed project details, were a reasonably foreseeable part of the proposed project. If the project is found to be consistent with these programs and measures, then the project is not expected to impede state and local efforts established for the purpose of reducing GHG emissions.

Consistency with District CAP

As discussed in Section 4.3.3.4, the District's CAP fits the criteria within State CEQA Guidelines Section 15183.5 because it contains GHG reduction targets, and measures and goals to reach those targets, that align with statewide (AB 32) goals for 2020. If project construction is consistent with the CAP, it would be consistent with statewide GHG reduction goals for 2020. While the District's 2013 CAP would not be appropriate for analysis of the project's operational GHG impacts because it would expire before operations begin in 2025, post-2020 construction and operations associated with the proposed project are also included in the CAP consistency analysis for the purposes of disclosure.

The District's CAP includes numerous measures to reduce GHG emissions from District operations, including both maritime and landside sources. Before mitigation, the proposed project, as described, would be inconsistent with the District's CAP because it would not implement all relevant measures from the CAP, which would be a significant impact (**Impact-GHG-1**). The proposed project would be required to include various diesel reduction measures (**MM-GHG-1**) and reduction strategies from the CAP as mitigation (**MM-GHG-2**) to ensure consistency with both the CAP and statewide emission reduction efforts. Therefore, after mitigation, proposed project GHG emissions would not alter the

current District trajectory toward meeting its GHG reduction targets outlined in the CAP and beginning the downward trajectory toward post-2020 targets.

As mentioned above, the District's current CAP implementation does not extend beyond 2021, which is before the proposed project is anticipated to complete construction and become fully operational (2025). The District intends to update the CAP with GHG emission reduction measures and methodologies that will comply with regulatory state programs designed to address state GHG emission reductions post-2020. Many of the measures in the existing CAP will continue to be implemented and result in emission benefits well beyond the 2020 timeframe. At the time of this analysis, however, there is no schedule to complete the update of the District's CAP.

Table 4.3-8 outlines project consistency with the applicable District CAP measures. With mitigation measures **MM-GHG-1** through **MM-GHG-3**, the project would implement strategies addressing resource consumption from construction, reduce emissions from construction-related mobile sources, encourage energy-efficient design measures for new buildings, reduce waste and increase recycling, and be consistent with the applicable District CAP measures.

Table 4.3-8. Consistency with Applicable District CAP Measures for 2020

No.	CAP Measure Description	Project Consistency Analysis
Transportation and Land Use		
TA2	Support and promote non-Port-owned vehicles and vessels to achieve the lowest emissions possible, using a mix of alternative fueled, electric, or hybrid technology.	Consistent (After Mitigation). The largest emission source from the proposed project would be the vessels and dredgers used during construction. MM-GHG-3 requires the project proponent to use modern tugs, survey vessels, and dredgers available in the region.
TA6	Develop and encourage use of shore power for tugs.	Consistent (After Mitigation). MM-GHG-3 requires the project proponent to prioritize the use of tugboats and other vessels that meet Tier 3 emission standards, and that is maintained and properly tuned in accordance with manufacturers' specifications.
TE1	Use technology and other strategies to reduce fuel consumption.	Consistent (After Mitigation). MM-GHG-1 requires all commercial vehicles used during project construction, including delivery and haul trucks, to limit idling time to 3 minutes. Use of the best available tugs and dredgers during construction, per MM-GHG-3 , will also reduce fuel consumption through use of modern, fuel-efficient equipment.
TE4	Promote best vehicle maintenance and operational best practices for harbor craft, including routine engine monitoring.	Consistent (After Mitigation). Implementation of MM-GHG-3 will ensure that tugboats used during construction will be obtained from contractors that promote best vehicle maintenance and operational best practices.

No.	CAP Measure Description	Project Consistency Analysis
TR1	Implement traffic and roadway management strategies to improve mobility and efficiency and reduce associated emissions on general roadways within Port tidelands.	Consistent. According to Section 4.9, <i>Transportation, Circulation, and Parking</i> , of this EIR, construction and operation of the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system. Additionally, MM-GHG-2 requires implementation of a Transportation Demand Management (TDM) Plan to minimize impacts on traffic operations during construction.
TR2	Implement traffic and roadway management strategies to improve mobility and efficiency and reduce associated emissions at maritime facilities.	Consistent. According to Section 4.9, <i>Transportation, Circulation, and Parking</i> , of this EIR, construction and operation of the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system.
TR3	Vehicle Idling: Enforce state idling laws for commercial vehicles, including delivery and construction vehicles.	Consistent (After Mitigation). MM-GHG-1 requires all commercial vehicles, including delivery trucks, to limit idling time to 3 minutes, which is beyond that required by state law.
TP1	Adopt a comprehensive parking policy to unbundle the true cost of providing parking.	Consistent (After Mitigation). In accordance with MM-GHG-2 , the project proponent will implement a TDM Plan that promotes ride-sharing, restricts PM peak-hour trips, and provides subsidized transit passes to construction workers to reduce the number of worker trips and parking demand.
TV1	Implement trip reduction programs, such as ride sharing, telecommuting and alternative work schedules, commute trip reduction marketing, and employer-sponsored vanpool/shuttle.	Consistent (After Mitigation). In accordance with MM-GHG-2 , the project proponent will implement a TDM Plan that promotes ride-sharing, restricts PM peak-hour trips, and provides subsidized transit pass to construction workers to reduce the number of worker trips and parking demand.
Energy Conservation and Efficiency		
EB1	Establish green building standards and/or policy for new construction.	Consistent (After Mitigation). In accordance with MM-GHG-2 , construction of new buildings will include energy-efficient design features such as cool roofs, high-efficiency heating and cooling systems, high-efficiency lighting, among others.
EB2	Establish green building standards and/or policy for existing buildings.	Consistent (After Mitigation). Refer to Measure EB1. The proposed project involves construction of two new buildings with energy-efficient design features, per MM-GHG-2 .

No.	CAP Measure Description	Project Consistency Analysis
EB3	Develop energy efficiency performance standards that achieve a greater reduction in energy use than otherwise required by state law.	Consistent (After Mitigation). MM-GHG-2 requires the project to incorporate energy efficiency design features that exceed 2019 Title 24 California Building Energy Efficiency Standards. Measures that may be implemented include high-performance glazing; increased insulation; a cool roof; high-efficiency heating, ventilating, and air-conditioning systems and controls; and others.
EB6	Replace light fixtures in non-Port facilities with lower-energy bulbs, such as fluorescents, LEDs, or CFLs.	Consistent (After Mitigation). MM-GHG-2 requires the project to install a high-efficiency lighting system that includes fluorescents, LEDs, and CFLs or the most energy-efficient lighting that is commercially available.
EH1	Adopt a Heat Island Reduction Plan that uses cool roofs, cool pavements, and strategically placed shade trees and actively inspect and enforce state requirements for cool roofs on non-residential re-roofing projects.	Consistent (After Mitigation). In accordance with MM-GHG-2 , the project will install high-performance glazing with a low solar heat gain coefficient value to reduce the amount of solar heat allowed into the building without compromising natural illumination. The proposed project will also include a “cool roof” with an R value of 30 or better; sun shading devices, as appropriate; light-colored paving at the rooftop public plaza and park area to minimize the heat island effect; and an integrated green roof.
EH2	Urban Forestry Management: Develop an Urban Forestry Program to consolidate policies and ordinances regarding tree planting, maintenance, and removal.	Consistent. According to Section 4.2, <i>Biological Resources</i> , the proposed project would not conflict with any policies or ordinances protecting biological resources, including tree preservation policies or ordinances.
EL1	Develop and implement performance standards for exterior lighting of commercial and industrial buildings and parking lots that include minimum and maximum lighting levels while providing a safe environment.	Consistent (After Mitigation). MM-GHG-2 requires the proposed project to install or replace, where necessary, lower-energy bulbs, which will reduce energy consumption at the project site.
EL3	Install occupancy sensors (Vending Misers) at soda machines.	Consistent (After Mitigation). MM-GHG-2 requires that occupancy sensors be installed for all vending machines in new buildings at the project site.
Water Conservation and Recycling		
WC1	Adopt a Water Conservation Strategy.	Consistent (After Mitigation). MM-GHG-2 requires the project to reduce indoor water consumption to a level 20% lower than baseline buildings. The measure also requires incorporation of indoor and outdoor water reduction measures into the design, including high-efficiency toilets, high-efficiency urinals, low-flow faucets, and low-flow showers (as applicable), and the use of recycled water for landscaping.

No.	CAP Measure Description	Project Consistency Analysis
Alternative Energy Generation		
EA1	Implement on-site renewable energy generation policy for 2020 (solar power, wind power, methane recovery, wave power, etc.)	Consistent (After Mitigation). The District has not yet developed an on-site renewable energy generation policy for 2020. However, MM-GHG-2 requires the project proponent to implement on-site renewable energy, unless the system cannot be built in light of structural and operational constraints.
EA4	Establish policies and programs that facilitate the siting of new renewable energy generation.	Consistent (After Mitigation). MM-GHG-2 requires the project proponent to implement on-site renewable energy, unless the system cannot be built in light of structural and operational constraints.
EA5	Remove Barriers: Identify and remove or reduce barriers to renewable energy production.	Consistent (After Mitigation). MM-GHG-2 requires the project proponent to implement on-site renewable energy, unless the system cannot be built in light of structural and operational constraints.
EA7	Promote co-generation (i.e., combined heat and power system).	Consistent (After Mitigation). Consistent with MM-GHG-2 , new buildings at the project site will have co-generation systems.
EA11	Implement a program to install technologies for generating energy from renewable sources, such as solar power, wind power, and/or wave power, on Port tidelands. Establish progressively more ambitious production goals for the years 2020, 2035 and 2050.	Consistent (After Mitigation). As discussed above, MM-GHG-2 requires the project proponent to implement on-site renewable energy, unless the system cannot be built in light of structural and operational constraints.
Waste Reduction and Recycling		
SW1	Increase the diversion of solid waste from landfill disposal.	Consistent (After Mitigation). MM-GHG-2 requires the project proponent to use recycled, regional, and rapidly renewable materials where appropriate. In addition, the measure requires compliance with AB 341 and AB 939 (i.e., recycling 75% of solid waste and 65% of all construction and demolition debris).
SW2	Adopt a Construction and Demolition Recycling Ordinance.	Consistent (After Mitigation). MM-GHG-2 requires the project to divert construction and demolition debris from disposal in landfills and incineration facilities by 65%. Construction will use recycled, regional, and rapidly renewable materials where appropriate.
SW3	Develop policy to reduce the generation of solid waste.	Consistent (After Mitigation). Consistent with MM-GHG-2 , the project proponent will require compliance with AB 939, which requires recycling 50% of solid waste and diverting 65% of all construction and demolition debris.

No.	CAP Measure Description	Project Consistency Analysis
Miscellaneous		
MP4	Require Port and encourage Port tenants to purchase goods and services that embody or create fewer GHG emissions.	Consistent (After Mitigation). Consistent with MM-GHG-2 , during construction, the project proponent will use recycled, regional, and rapidly renewable materials where appropriate.

Source: District 2013.

Consistency with Applicable AB 32 Scoping Measures for 2020

In addition to the District CAP, several other statewide measures are designed to reduce GHGs from emissions-generating activities to reach the state's 2020 reduction goals. Table 4.3-9 outlines the proposed project's consistency with applicable AB 32 Scoping Plan measures, pursuant to California's 2020 GHG reduction goals. The proposed project would be consistent with all applicable AB 32 scoping measures, pursuant to 2020 GHG emission reduction goals prior to mitigation, except for Scoping Plan measure RW-3-5 (environmentally preferable purchasing). Implementation of mitigation measure **MM-GHG-2** would ensure the proposed project would be consistent with RW-3-5.

Table 4.3-9. Consistency with Applicable AB 32 Scoping Plan Measures for 2020

No.	Measure Description	Project Consistency Analysis
T-1	Advanced Clean Cars	Consistent. State program that requires no action at the local or project level. Benefits to existing and future employee vehicle travel would be realized.
T-2	Low-Carbon Fuel Standard	Consistent. State program that requires no action at the local or project level. Benefits would be realized.
T-3	Regional Transportation-Related Greenhouse Gas Targets	Consistent. State program that requires no action at the local or project level. Benefits would be realized.
T-4	Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing	Consistent. State program that requires no action at the local or project level. Benefits to existing and future car and truck travel during construction would be realized.
T-6	Goods Movement Efficiency Measures 1. Commercial Harbor Craft Maintenance and Design Efficiency 2. Clean Ships	Consistent. State program that requires no action at the local or project level. Benefits to existing and future harbor craft activity during construction and operations would be realized.
T-7	Heavy-Duty Vehicle GHG Emission Reduction 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty Greenhouse Gas Standards for New Vehicles and Engines (Phase I)	Consistent. State and federal programs that require no action at the local or project level. Benefits to construction-related truck travel would be realized.
E-3	33% Renewable Portfolio Standard	Consistent. State program that requires no action at the local or project level. Benefits to existing and future electricity consumption would be realized.

No.	Measure Description	Project Consistency Analysis
W-1	Water Use Efficiency	Consistent. Water use during construction is expected to be minimal, related only to dust control. Once constructed, crew and labor water demands are likely to decrease. State program that requires no action at the local or project level. Benefits would be realized at the project level.
RW-3-5	Environmentally Preferable Purchasing	Consistent (After Mitigation). Compliance with MM-GHG-2 will ensure procurement of goods and services that have reduced impacts on human health and the environment compared to competing products serving the same purpose. MM-GHG-2 also addresses development of a waste reduction and recycling program, to be implemented during project construction.
H-4	Limit High Global Warming Potential Use in Consumer Products	Consistent. State program that requires no action at the local or project level.
H-5	1. Low Global Warming Potential Refrigerants for New Motor Vehicle Air-Conditioning Systems 2. Air-Conditioner Refrigerant Leak Test during Vehicle Smog Check	Consistent. State programs that require no action at the local or project level. Benefits would be realized independently.

Source: CARB 2008; CARB 2014.

Notes: T = Transportation Measures; E = Electricity Measures; W = Water Measures; H = High GWP Measures

Consistency with State Regulatory Programs Post-2020

CARB's 2017 Scoping Plan (for the 2030 target) builds on the programs set in place as part of the previous AB 32 Scoping Plan that was drafted to meet the 2020 reduction targets per AB 32. The 2017 Scoping Plan proposes meeting the 2030 goal by both accelerating the focus on several existing programs and incorporating new strategies and programs that go beyond existing measures and strategies. The project's consistency with the policies of the 2017 Scoping Plan (post-2020 State Regulatory Programs) is provided in Table 4.3-10. As shown, the proposed project would be consistent with all applicable policies in the 2017 Scoping Plan prior to mitigation because the applicable state programs do not require action at the project level. For example, the 2017 Scoping Plan incorporates SB 350, which extends the Renewable Portfolio Standard to a 50 percent target by 2030 while doubling the energy efficiency savings expected statewide. In addition, CARB expanded the low-carbon fuel standard, aiming to achieve an 18 percent reduction in the carbon intensity of transportation fuels. Furthermore, the Mobile-Source Strategy aims to support the transition to 1.5 million zero-emission vehicles (e.g., plug-in hybrid electric, battery-electric, hydrogen fuel cell) by 2025 and 4.2 million by 2030 while also ramping up GHG stringency for all light-duty vehicles. Each of these measures will be implemented over time, and benefits to project-related emissions sources will also be realized over time.

Table 4.3-10. Proposed Project Consistency with Applicable Policies from the 2017 Scoping Plan

Policy	Project Consistency Analysis
RPS 50% and Doubling of Energy Efficiency Requirements per SB 350	Consistent. State program that requires no action at the local or project level. Benefits to project-related electricity and water consumption would be realized.
Low-Carbon Fuel Standard	Consistent. State program that requires no action at the local or project level. Benefits to project-related employee travel, haul-truck travel, and harbor craft would be realized independently.
Mobile-Source Strategy (Cleaner Technology and Fuels) Scenario	Consistent. State program that requires no action at the local or project level. Benefits to project-related employee travel and haul-truck travel would be realized independently.

Source: CARB 2017.

The proposed project's consistency with other applicable CARB and statewide measures is discussed in Table 4.3-11. As shown, the proposed project would be consistent with applicable statewide measures prior to mitigation. In each case, the state program requires no action at the project level, and benefits to project-related emission sources will be realized over time.

Table 4.3-11. Proposed Project Consistency with Other Applicable Statewide Measures

Policy	Project Consistency Analysis
Pavley (AB 1493)	Consistent. State program that requires no action at the local or project level. Benefits to construction-related car travel would be realized.
100% Renewables Portfolio Standard	Consistent. Because this is a state program, this regulation requires no action at the local or project-level. Project-level benefits related to electricity consumption would be realized increasingly as operations approach 2045.
On-road Medium- and Heavy-Duty (Tractor-Trailer) GHG Regulation	Consistent. State and federal programs that require no action at the local or project level. Benefits to construction-related truck travel would be realized.
Airborne Toxic Control Measures and Emissions Standards	Consistent. State program that requires no action at the local or project level. Benefits to project-related off-road equipment use would be realized with implementation of newer emission-controlled engines.
Heavy-Duty Diesel Vehicle Idling Emissions Reduction Regulation	Consistent. State program that requires no action at the local or project level. Benefits to project-related on-road vehicle travel would be realized.
Commercial Harbor Craft Regulation	Consistent. State program that requires no action at the local or project level. Benefits to project-related tugboat use would be realized.
Title 24 Green Building Standards Code	Consistent. State program that requires no action at the local or project level. Benefits to the project would include reduction of waste during construction and operation as well as more efficient buildings.
Appliance Energy Efficiency Standards (Title 20)	Consistent. State program that requires no action at the local or project level. Benefits to the project would include use of more energy-efficient appliances in buildings at the project site.

Level of Significance Prior to Mitigation

Prior to mitigation, the proposed project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Potentially significant impact(s) include:

Impact-GHG-1: Inconsistency with District Climate Action Plan and Partial Consistency with Applicable GHG Reduction Plans, Policies, and Regulatory Programs. Project construction and operations would partially comply with plans, policies, and regulatory programs outlined in applicable District CAP measures and applicable state reduction goals and plans, policies, or regulations (AB 32 Scoping Plan Measures for 2020, State Regulatory Programs Post-2020, Policies from the 2017 Scoping Plan and Other Applicable Statewide Measures) for the purpose of reducing the emissions of GHGs. Therefore, prior to mitigation, the impact related to consistency with relevant plans, policies, and programs would be potentially significant.

Mitigation Measures

MM-GHG-1: Implement Diesel Emissions Reduction Measures During Project Construction. The project proponent shall implement the following measures during project construction and, where specified below, submit reports to the District for its review and approval, evidencing compliance.

- A. The project proponent shall limit all construction equipment and haul truck idling times by shutting down equipment when not in use and reducing the maximum idling time to less than 3 minutes. The project proponent shall install clear signage regarding the limitation on idling time at the delivery driveway and loading areas and submit quarterly reports of violators to the District. BAE System supervisors shall enforce this measure, and repeat violators shall be subject to penalties pursuant to the California Airborne Toxics Control Measure, 13 CCR 2485. The project proponent shall submit evidence of the use of diesel reduction measures to the District's Development Services Department through annual reporting, with the first report due 1 year from the date of project completion.
- B. The project proponent shall verify that all construction equipment is maintained and properly tuned in accordance with manufacturers' specifications. Prior to the commencement of construction activities, with respect to using diesel-powered vehicles or equipment, the project proponent shall verify that all vehicles and equipment has been checked by a mechanic experienced with such equipment and determined to be running in proper condition prior to admittance into the delivery driveway and loading areas. The project proponent shall submit a report by the mechanic experienced with such equipment of the condition of the construction and operations vehicles and equipment to the District's Development Services Department prior to commencement of their use.

MM-GHG-2: Comply with San Diego Unified Port District Climate Action Plan Measures. As a condition of all discretionary actions and/or Coastal Development Permits, the project proponent shall be required to implement the following measures to be consistent with the Climate Action Plan:

- A. Reduce indoor water consumption to 20 percent lower than baseline buildings (defined by Leadership in Energy and Environmental Design [LEED] as indoor water use after meeting Energy Policy Act of 1992 fixture performance requirements) through use of low-flow fixtures in all administrative and common-area bathrooms.

- B. Comply with AB 939 and the City of San Diego Recycling Ordinance. This shall be mandatory and include recycling at least 50 percent of solid waste; compliance with the City of San Diego Construction and Demolition Debris Deposit Ordinance shall be mandatory and include recycling at least 65 percent of all construction and demolition debris. This measure shall be applied during construction and operation of the proposed project.
- C. Use only fluorescent lights, light-emitting diodes (LEDs), compact fluorescent lights (CFLs), or the most energy-efficient lighting that meets required lighting standards and is commercially available. This measure also requires replacement of existing lighting on the project site if not already highly energy efficient.
- D. Implement a Transportation Demand Management (TDM) Plan during construction that includes elements such as the promotion of ride sharing and carpooling, restricts PM peak-hour trips, and provides subsidized transit passes for construction workers to reduce worker trips and parking demand.
- E. Use recycled, regional, and rapidly renewable materials where appropriate during project construction.
- F. Install occupancy sensors for all vending machines in new buildings at the project site.
- G. Implement onsite renewable energy at new buildings, unless the system cannot be built in light of structural and operational constraints.
- H. Incorporate energy efficiency design features that exceed the most recent Title 24 California Building Energy Efficiency Standards. Measures that may be implemented include:
 - High-performance glazing with a low solar heat gain coefficient value that reduces the amount of solar heat allowed into the building, without compromising natural illumination;
 - Increased insulation;
 - Cool roofs with an R value of 30 or better;
 - Sun shading devices, as appropriate;
 - High-efficiency heating, ventilating, and air-conditioning systems and controls;
 - Programmable thermostats;
 - Variable-frequency drives; and
 - High-efficiency indoor and outdoor lighting and control systems. Ensure all outdoor lighting is equipped with LED fixtures.

MM-GHG-3: Use Modern Vessels and Dredgers. Prior to commencing dredging during waterside construction, the project proponent shall ensure that tugboats, survey vessels, and dredgers for use during the duration of all dredging activities meet Tier 3 or better (cleaner) emission standards. If Tier 3 or better (cleaner) tugboats, survey vessels, and dredgers are not available within 200 miles of the BAE Systems leasehold for the duration of all dredging activities, the project proponent shall prioritize use of equipment that is maintained and properly tuned in accordance with manufacturers' specifications. The project proponent shall document and submit evidence to the District's Development Services Department prior to commencement of waterside construction activities that tugboats, survey vessels, and dredgers meeting Tier 3 or better standards are not available for use during the duration of all dredging

activities. Regardless of the equipment used, the project proponent shall verify that all equipment has been checked by a mechanic experienced with such equipment and determined to be running in proper condition prior to admittance into the construction area. The project proponent shall submit a report prepared by the mechanic experienced with such equipment of the condition of the construction and operations vehicles and equipment to the District's Development Services Department prior to commencement of their use.

Level of Significance after Mitigation

Implementation of mitigation measures **MM-GHG-1** through **MM-GHG-3** would reduce **Impact-GHG-1** by ensuring that the proposed project would be consistent with the District's CAP and other applicable statewide measures, pursuant to California's 2020 GHG emission reduction goals. Moreover, for the post-2020 period, the proposed project would be consistent with the applicable measures presented in the 2017 Scoping Plan. Given the project's low level of emissions and consistency with the District CAP, the 2017 Scoping Plan, and other strategies implemented by CARB through the life of the proposed project, impacts related to consistency with the District CAP and consistency with applicable state reduction goals and plans, policies, or regulations are deemed less than significant after mitigation.

Threshold 3: Implementation of the proposed project (a) would not result in a potentially significant environmental impact due to the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation and (b) would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Impact Discussion

Wasteful, Inefficient, or Unnecessary Consumption of Energy

CEQA requires a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Both construction and operation are addressed below.

Construction

Project construction would require energy in the form of diesel for operation of heavy-duty construction equipment and marine vessels as well as vehicles for material deliveries and debris hauling; gasoline would be required in construction workers' personal vehicles. As indicated in Table 4.3-12, project construction is estimated to require 23,726 million BTUs of energy over the construction period. This represents a small demand on local and regional fuel supplies and would be accommodated. Moreover, this demand for fuel would have no noticeable effect on peak or baseline demands for energy. Therefore, construction of the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy that could result in potentially significant environmental effects. Construction-related energy impacts would be less than significant, and no mitigation is required.

Table 4.3-12. Estimated Construction Energy Consumption

Source	Million BTUs Total
Diesel	
Truck Travel	3,581
Equipment	14,317
Vessels	4,753
<i>Total Diesel</i>	<i>22,652</i>
Gasoline	
Worker Commute	1,074
Total	23,726

Source: Appendix C.

Notes: Energy is provided in million BTUs for comparison purposes. Totals are shown for the All Truck Scenario (Project Element 4).

Totals may not add because of rounding

BTUs can be converted to gallons of gasoline and diesel using the following formulas: 113,927 BTU/1 gallon of gasoline; 129,488 BTU/1 gallon of diesel.

Operations

Several of the proposed project elements are infrastructure maintenance and modernization improvements and would not change existing operations at the project site. However, some elements would allow BAE Systems to improve operational efficiency, which would allow for servicing of newer and different classes of vessels, which would represent a change from existing conditions.

Sources at the project site that would involve the use of energy resources include off-road equipment operations, tugboats, employee commuting, periodic equipment and material deliveries, and utility-related consumption (e.g., electricity and natural gas in buildings, water consumption, wastewater, and solid waste generation). As shown in Table 4.3-13, the reduction in the number of annual vessels serviced under proposed project conditions would result in a decrease of approximately 228 million BTUs of diesel consumption compared to existing conditions due to the decrease in tugboat and off-road equipment activity. Moreover, as discussed in Chapter 3, and Section 4.9, *Transportation, Circulation, and Parking*, the proposed project would not add new permanent employees, and is expected to result in fewer total personnel (labor and crew) at the project site during times when fewer vessels are berthed. It is anticipated that with the net decrease in the crew and labor force and associated activity, proportional decreases in emission sources—such as natural gas, electricity, and water consumption; wastewater and solid waste generation; as well as operational mobile activity from employee commuting—would also occur. Therefore, the proposed project would result in a reduction in sources that consume energy in the form of diesel fuel in portable equipment and marine vessels and utility consumption.

The decrease in energy usage described above would be further augmented by implementation of statewide measures to reduce the carbon intensity and associated energy consumption of transportation fuels (i.e., low-carbon fuel) and the state's goal of zero-carbon electricity by 2045 (i.e., SB 100). New buildings constructed under the proposed project would be required to be designed in compliance with the building energy efficiency standards of the Title 24 building codes, which would further reduce energy demand compared to existing conditions. Therefore, the proposed project would reduce resource consumption by reducing annual activity and constructing

newer, energy efficient buildings in compliance with existing building codes. Thus, operation of the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy that could result in potentially significant environmental effects. Operational energy impacts would be less than significant, and no mitigation is required.

Table 4.3-13. Estimated Change in Operational Energy Consumption

Source	Million BTUs per Year
Existing	
Portable Equipment	309
Tugboats	346
<i>Total Existing</i>	<i>655</i>
Project	
Portable Equipment	193
Tugboats	234
<i>Total Project</i>	<i>427</i>
Net Change	-228

Source: Appendix C.

Notes: Energy is provided in million BTUs for comparison purposes.

Totals may not add because of rounding

BTUs can be converted to gallons of gasoline and diesel using the following formulas: 113,927 BTU/1 gallon of gasoline; 129,488 BTU/1 gallon of diesel.

Table 4.3-14 outlines the applicability and analysis of the potential energy impact considerations from Appendix F, *Energy Conservation*, of the State CEQA Guidelines.

Table 4.3-14. Proposed Project Comparison to State CEQA Guidelines Appendix F

Project Impact Considerations from Appendix F	Project Applicability and Analysis
Energy requirements and energy use efficiencies by amount and fuel type for each stage of the project	Applies. See Table 4.3-12, which breaks down energy use by the amount and fuel type associated with project construction. As indicated, construction of the proposed project would temporarily increase the use of fossil fuels, such as diesel fuel, compared to existing conditions, during the construction timeframe. However, fossil fuel consumption during project operations, particularly diesel, would decrease compared to existing conditions because of a reduction in the number of vessels that could be serviced on an annual basis.
Effects on local and regional energy supplies and the need for additional capacity	Applies. There would be no adverse effects on local or regional energy supplies. Nearly all project-related energy demands would be accommodated by existing infrastructure, without the need to expand capacity. Moreover, there would be a net reduction in labor and crew, which will reduce energy consumption, and new buildings will be built to existing building codes.

Project Impact Considerations from Appendix F	Project Applicability and Analysis
Effects of the project on peak- and base-period demands for electricity and other forms of energy	Applies. Energy load would vary over time, but the current supply and infrastructure would be able to accommodate the additional demand associated with project construction, without interruptions or issues for existing customers and without the need for new infrastructure. The project does not propose demand that would affect peak- and base-period demand.
Degree to which the project complies with existing energy standards	Applies. The proposed project would be fully compliant with all existing energy standards, including the Energy Policy Act and AB 2076. The project would include energy-efficient lighting within the project site and reduce the use of fossil fuels during operation by decreasing the number of vessels serviced on an annual basis.
Effects of the project on energy resources	Applies. The proposed project would not result in an adverse impact on energy resources. There are sufficient energy resources available to accommodate the additional energy demand during project construction. Once operational, it is anticipated that the project's energy demand would decrease compared to existing conditions.
Projected transportation energy use requirements and overall use of efficient transportation alternatives	Applies. Operation of the proposed project would not increase the need for fossil fuels or electricity compared to baseline conditions because the number of vessels that could be serviced would decrease, which would result in a corresponding decrease in crew size and labor at the site. As a result, fossil fuel consumption for tugboat activity and workers' commutes would also decrease. Therefore, the project would reduce the amount of fossil fuels needed compared to existing operations at the site.

In summary, the proposed project would assist with energy conservation goals because it would (1) decrease reliance on fossil fuels and (2) increase reliance on renewable energy sources from the electrical grid, which includes RPS targets of 50 percent renewable energy by 2030 and 100 percent carbon free by 2045. Overall, construction and operation of the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy that could result in potentially significant environmental effects. Impacts would be less than significant, and no mitigation is required.

Conflict with or Obstruct Renewable Energy or Energy Efficiency Plans

State and local renewable energy and energy efficiency plans that are applicable to the proposed project are discussed above in Section 4.3.3, *Applicable Laws and Regulations*. State plans, California Title 24 energy efficiency standards, EO B-16-12, SB 350, and SB 100 contain required standards related to energy efficiency and renewable energy development. The proposed project is required to comply with the plans and regulations, all of which are aimed at increasing energy efficiency and renewable energy development. Building energy efficiency is expected to increase as a result of compliance with Title 24 building codes, which are expected to move toward zero net energy for newly constructed buildings, with 100 percent of retail electricity sales to California end users and state agencies to be provided by zero-carbon resources under SB 350 and SB 100 regulations. Applicable local plans that address energy efficiency include SANDAG's RES and the District's Green Port Program, Green Port Policy, and CAP.

SANDAG's RES established long-term goals related to energy efficiency, renewable energy, distributed generation, and transportation fuel, among others. The strategies and goals found in the RES were used as guidance for development of the energy components of the 2050 RTP/SCS. Because the proposed project would not result in any changes in land use or include any components that would result in population growth, unplanned or otherwise, the project would be consistent with the 2050 RTP/SCS and the technical strategies to address energy efficiency from SANDAG's RES.

The District has implemented various renewable energy and energy efficiency actions through its Green Port Program. Many of these actions are implemented through the District's CAP, which focuses heavily on energy efficiency and renewable energy generation as key strategies to reducing GHG emissions. As such, the CAP serves as the plan that implements the District's energy goals and is therefore considered an energy efficiency plan relevant to the proposed project (District 2020). The CAP measures that address energy efficiency include use of low-flow fixtures, low-water plantings, energy-efficient lighting, use of recycled materials, implementation of a traffic demand management plan, installation of onsite renewable energy and co-generation systems (i.e., combined heat and power systems) in new buildings, and incorporation of energy efficiency design features that exceed Title 24 California Building Energy Efficiency Standards. Moreover, the District is currently installing a solar-powered microgrid at the Tenth Avenue Marine Terminal, and the District currently operates solar energy systems at four sites: Port Administration Building, Port Pavilion on Broadway Pier, B St. Cruise Ship Terminal, and the District's General Services Building. The District continues to pursue renewable energy projects elsewhere on the tidelands.

Overall, implementation of the proposed project is not expected to conflict with or obstruct the District's energy efficiency goals as outlined in the plans discussed above. As discussed further under Threshold 2, the proposed project would be required to implement mitigation measures **MM-GHG-1** through **MM-GHG-3** to ensure consistency with the CAP. While no mitigation is required to address energy impacts specifically, **MM-GHG-1** through **MM-GHG-3** would further reduce the proposed project's energy demand and would ensure efficient use of energy during construction and operation. The proposed project would not conflict with or obstruct state and local renewable energy and energy efficiency plans, and impacts would be less than significant.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy that could result in potentially significant environmental effects, nor would it conflict with state and local renewable energy and energy efficiency plans. Impacts would be less than significant.

Mitigation Measures

No mitigation is required, although mitigation measures **MM-GHG-1** through **MM-GHG-3** would further reduce the project's energy demand and reduce fossil fuel use.

Level of Significance after Mitigation

Impacts would be less than significant.

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Section 4.4

Hazards and Hazardous Materials

4.4.1 Overview

This section describes the existing conditions within the project area and applicable laws and regulations for hazards and hazardous materials. This section also provides an analysis of the proposed project’s potential to (1) 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, and (2) be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The analysis and conclusions regarding air pollutants and their associated health risk are discussed in Section 4.1, *Air Quality and Health Risk*, and water pollutants are discussed in Section 4.5, *Hydrology and Water Quality*, and not in this section. All other potential hazards and hazardous materials issues were analyzed in Section VIII of the Initial Study/Environmental Checklist (see Appendix A) and determined to have no impact or less-than-significant impacts. The analysis and conclusions regarding these issues are summarized in Chapter 6, Section 6.4, *Effects Not Found to Be Significant*.

Information on hazards and hazardous materials in this section is summarized from the following reports:

- *Hazardous Materials Technical Study; BAE Systems Waterfront Improvement Project; 2205 East Belt Street, San Diego, California* (Ninyo & Moore 2019) (Appendix E);
- *North Shipyard Remedial Action Plan Implementation Report, San Diego Shipyard Sediment Site – North Shipyard* (Cleanup and Abatement Order No. R9-2012-0024) (Anchor QEA 2016a); and
- *Final Cleanup and Abatement Completion Report, San Diego Shipyard Sediment Site* (Cleanup and Abatement Order No. R9-2012-0024) (Anchor QEA 2016b).

Table 4.4-1 summarizes the significant impacts and mitigation measures discussed in Section 4.4.4.3, *Project Impacts and Mitigation*.

Table 4.4-1. Summary of Significant Hazards and Hazardous Materials Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-HAZ-1: Landside Potential to Encounter Hazardous Materials in Soil and/or Groundwater	MM-HAZ-1: Implement a (Landside) Soil and Groundwater Management Program	Less Than Significant	Implementation of a (Landside) Soil and Groundwater Management Program that includes: A. Contamination Characterization Report; B. Soil and Groundwater Testing and Profiling Plan; C. Soil and Groundwater Disposal Plan; D. Site Worker Health and Safety Plan; E. Site-Specific Community Health and

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-HAZ-2: Waterside Potential to Encounter Hazardous Materials in Sediment	<p>MM-HAZ-2: Implement a Dredging Management Program</p> <p>MM-HAZ-3: Implement a (Waterside) Sediment Management Program</p> <p>MM-HAZ-4: Comply with Federal and State Permits</p> <p>MM-HAZ-5: Implement Post-Dredging and/or Post-Waterside Construction Remediation</p>	Less than significant	<p>Environmental Program; F. Monitoring and Reporting Program; and G. Project Closeout Report would reduce potential impacts associated with encountering hazardous materials in soil and/or groundwater to less than significant.</p> <p>A Dredging Management Program would be implemented prior to, during, and upon completion of dredging activities, and includes: A. Dredging Operations Plan; B. Contingency Plan; C. Health and Safety Plan for Dredging Activities; D. Communication Plan; and E. Sediment Sampling and Remediation.</p> <p>Implementation of the (Waterside) Sediment Management Program includes: A. Sampling Analysis Plan; B. Marine Sediment Contamination Characterization Report; C. Contaminated Sediment Management Plan; D. In-Water Activity Specific Procedures; and E. Post-Construction Sampling and Analysis.</p> <p>All federal and state permits required for in-water construction activities shall be obtained prior to in-water construction, and evidence of such permits shall be provided to the District.</p> <p>Implementation of the Post-Dredging and/or Post-Waterside Construction Remediation would ensure that if after in-water construction work concentrations of COCs exceed those set forth in CAO R9-2012-0024, the project proponent shall propose and conduct remediation subject to approval by the RWQCB and concurrence by the District.</p> <p>Implementation of these mitigation measures would reduce potential impacts associated with encountering hazardous materials in sediment to less than significant.</p>

4.4.2 Existing Conditions

The following section presents the historical and current activities at the project site, and the known extent of onsite contamination both as determined through past investigations and through a review of available records. This section also discusses the project site's proximity to schools and airports as well as the applicable emergency response plan.

4.4.2.1 Historical Activities

The project site has been developed for more than a century as a shipyard conducting the same, or similar, services as it does today. Much of the project site was originally part of the San Diego Bay with a few piers extending into the Bay, until the 1940s when the shoreline was extended into the Bay with filled land. The landside portion of the project site was occupied with buildings, warehouses, and wharfs since this time (Ninyo & Moore 2019). BAE Systems has occupied the project site since 1979.

The BAE Systems shipyard facility has included several structures over the years including concrete platforms, three floating drydocks, five piers, and two marine railways that enable ships to be launched or repaired with the assistance of cranes. One drydock was present on the project site until 2010. The smaller of the two remaining drydocks, "Pride of San Diego", has been in operation since 1984, and the larger drydock, "Pride of California", began operation in 2017 upon completion of the BAE Systems Pier 1 North Drydock project.

4.4.2.2 Current Site Conditions

The landside facilities currently consist of administrative offices, production shops, training areas, and related utilities and infrastructure. The northwestern landside portion of the project site is currently used as a parking and staging area, and consists of several pre-fabricated metal storage buildings and parking spaces. This parcel was previously used by San Diego Gas & Electric (SDG&E) for the storage of plant waste from the Silver Gate Power Plant, located approximately 180 feet northeast of the northern landside portion of the project site. The parcel has been consistently occupied and used by BAE Systems through various sub-tenancy agreements with SDG&E since approximately 1979. The primary right to occupy the parcel was officially transferred to BAE Systems through a Tidelands Use and Occupancy Permit (TUOP), effective between the District and BAE Systems on November 1, 2014.¹ Two former underground water tunnels for non-contact cooling water traverse the site from the power plant to the Bay.

4.4.2.3 Surrounding Land Uses and Activities

The surrounding vicinity is highly industrialized, primarily consisting of marine-related services, such as R.E. Staite Engineering, Inc., a marine construction contractor, and CP Kelco, a hydrocolloid manufacturer, both of which are immediately adjacent to the north of the project site. In addition, the Tenth Avenue Marine Terminal (TAMT), which handles refrigerated containers, dry bulk, liquid, bulk, and other cargo, is approximately 0.5 mile north of the project site beyond the San Diego-Coronado Bay Bridge, while General Dynamics NASSCO, a shipbuilding and repair facility, is located immediately adjacent to the south of the project site. Several railways, including the Burlington-

¹ BAE Systems' existing TUOP expired on October 31, 2019, and BAE is currently on holdover.

Northern Santa Fe (BNSF) rail line and the Metropolitan Transit System (MTS) trolley tracks, traverse the project area.

4.4.2.4 Existing Onsite Storage and Use of Hazardous Materials

The project site is classified under the Resource Conservation and Recovery Act (RCRA) as a Large Quantity Generator (LQG), which is a facility that generates, transports, stores, treats, and/or disposes of hazardous waste, as defined by RCRA, in amounts over 1,000 kilograms (kg) for hazardous waste or 1 kg for acutely hazardous waste per month (EPA 2019a). The project site generates waste categorized as ignitable waste, methyl ethyl ketone, and spent nonhalogenated solvents. Based on a Biennial Report from 2007 (last available report on the EPA Envirofacts database), the site generated 6.7 tons of waste that was shipped off site (EPA 2019b). The site is listed under several different names and EPA ID numbers (see Appendix E for environmental database listings).

4.4.2.5 Hazardous Materials Database Results

A review of applicable regulatory agency lists of known and potential hazardous waste sites, properties or facilities currently under investigation for potential environmental violations, and sites storing or using hazardous materials within 0.125 mile of the project site was conducted on December 14, 2018.² The project site, which was captured in 150 cases, was listed under various names, including, but not limited to: BAE Shipyard, Frazier Boiler Service, NASSCO, Lockheed Martin Global Training & Logistics, California Marine Cleaning, Southwest Marine, Chevron USA Inc., Bumble Bee Seafoods, Austal USA, Shipyard Sediment Site – North Shipyard, Corpro Companies Inc., and AMSEC LLC. Because of the large number of listings for the project site, the results were screened and additional information is provided for the listings that were considered a potential environmental concern. Figure 4.4-1 shows the location of known hazardous materials sites within the project site.³ Tables 4.4-2 and 4.4-3 list the onsite and offsite contamination sites, respectively.

An initial screening of offsite hazardous material sites was conducted and only those that met the screening criteria are presented in the tables below. The full list of sites within 0.25 mile of the project site are identified in Appendix E.

² EDR searches over 1,600 environmental databases, including hundreds of state, city, and tribal sources, for historical and current environmental records, aerial photographs, and maps. Some of the sources include the National Priority List site list; Comprehensive Environmental Response; Compensation and Liability Information System database; Resource Conservation and Recovery Act lists; Spills, Leaks, Investigations, and Cleanup cases; underground storage tank lists; and the California Hazardous Material Incident Report System.

³ The site locations identified on the map are approximate because the extent of contamination and/or the exact location of sites are not always available.

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AERIAL SOURCE: ESRI basemaps
HORIZONTAL DATUM: California State Plane, Zone 6, NAD83, U.S. Feet.

LEGEND:
— Remediation Boundary

Source: Final Cleanup and Abatement Completion Report" 2016. Anchor QEA.



Figure 4.4-1
CAO R9-2012-0024 Remediation Area
BAE Systems Waterfront Improvement Project

Onsite

As discussed above in Section 4.4.2.1, hazardous materials are currently stored and used on site during typical operational procedures. The Hazardous Materials Technical Study (HMTS) for the proposed project identified 150 listings, under several different names, that correspond to the location of the project site. Due to the large number of listings, Table 4.4-2 provides a description of the history and nature of the listings corresponding to the project site that are considered a potential environmental concern.

Offsite

Table 4.4-3 lists sites that are within 0.125 mile of the project site that were determined to represent a potential environmental concern to the project site based on the proximity and the nature of the database on which they are listed. The other sites that did not meet the screening criteria are included in Appendix E.

Table 4.4-2. Onsite Listings of Potential Concern

Number	Site Name	Address	Database Listings	Site Summary	Status
1.	BAE Systems	2205 East Belt Street	ERNS, CHMIRS	There were 55 listings on the ERNS database for this site, primarily for releases of fuels, oils, paints, bleach, and sand-blasting materials, or an unknown oily sheen, to the San Diego Bay. No listed releases to land. Three of the listings describe an oily sheen on the Bay from contaminated soil from construction projects on the landside. One of these listings specifically identified landside work on Pier 4 bulkhead. One of these listings identifies the oily sheen as from creosote piles. There were 42 listings on the CHMIRS database, most of which were duplicates from the ERNS listings. No landside releases were identified.	Various
2.	Southwest Marine Inc.	1427 W Sampson Street	San Diego Co. SAM	One listing associated with an unauthorized release case (H09689-003) was identified on the project site. An unauthorized release of petroleum was discovered in 2002 when installing an electric conduit along the bulkhead between Piers 3 and 4. Soil and groundwater investigations indicated an area of diesel-impacted soil, an area with gasoline-impacted soil, and a gasoline- and diesel-impacted groundwater plume on the project site.	Remedial investigation
3.	Southwest Marine Inc.	2205 E Belt Street and Foot of Sampson Street	LUST, CPS-SLIC	Two LUST listings were associated with one closed unauthorized release case (H09689-002) for the release of diesel fuel to soil. Reportedly, a former 10,000 gallon diesel UST was cleaned, filled, and closed in place, at which time contaminated soil was discovered at the location of a former fuel dispenser. It was estimated that less than 10 cubic yards of hydrocarbon impacted soil is present on site. Based on the industrial usage of the site it was determined the levels of contamination would not pose a threat to human health and the case was closed in 1998. The CPS-SLIC listing is associated with two cleanup program sites. The first is (H09689-001) under DEH jurisdiction, which is associated with dredged sediments along Pier 1 that were stockpiled, dewatered, and either disposed of or reused off site. The case was closed in 1993. The second listing is a	Case Closed

Number	Site Name	Address	Database Listings	Site Summary	Status
				duplicate listing of the San Diego Bay Shipyard Sediment Cleanup, described below.	
4.	BAE Systems San Diego Ship Repair	2205 East Belt Street	CPS-SLIC/FINDS, ENF	<p>The CPS-SLIC and FINDS listings are associated with the San Diego Shipyard Sediment Cleanup for the NASSCO and BAE Leaseholds. The portion of the cleanup site that is located on the project site is referred to as the North Shipyard Cleanup. Sediments with elevated levels of metals and other pollutants were removed and disposed of off site. Sediments that were not feasible to remove were covered with a sand/gravel cap. Cleanup activities were completed in 2016.</p> <p>The one ENF listing includes numerous violations and enforcement actions related to their National Pollutant Discharge Elimination System (NPDES) Permit from 1989 to 2015. Potential impacts to Bay sediments from storm water discharges are addressed on the CPS-SLIC/FINDS listing.</p>	Post-remedial monitoring and evaluation
5.	Lockheed Martin Missiles and Fire Control ISEAFS	2205 E Belt Street	ICIS, ECHO	The ICIS listing indicates the facility received 14 informal and formal enforcement actions associated with their NPDES permit. No more details were available. The ECHO listing was associated with reports of the facility in non-compliance with their NPDES Permit in 7 of the last 12 quarters. However, the listing indicates there were no quarters with a significant violation.	
6.	Pacific Ship (BAE Systems)	2205 East Belt Street	ICIS	The listing includes one formal enforcement action; however, additional details were not available.	

CHMIRS = California Hazardous Material Inventory Reporting System
 CPS-SLIC = Cleanup Program Sites-Spills, Leaks, Investigation and Cleanup
 ECHO = Enforcement & Compliance History Information
 ENF = Enforcement Action Listing
 ERNS = Emergency Response Notification System
 FINDS = Facility Index System/Facility Registry System
 ICIS = Integrated Compliance Information System
 LDS = Land Disposal Sites

LUST = Leaking Underground Storage Tank
 PAHs = polyaromatic hydrocarbons
 PCBs = polychlorinated biphenyls
 RWQCB = Regional Water Quality Control Board
 San Diego Co. SAM = Site Assessment and Mitigation
 TPH = total petroleum hydrocarbons
 WDS = Waste Disposal Sites
 Source: Appendix E

Table 4.4-3. Offsite Listings of Potential Concern

Number	Site	Address	Distance from the project	Database Listings	Site Summary	Status
1.	Harbor Boat and Tug/ISP Alginates/R.E. Staite Engineering/Kelco Division of Merck & Co., Inc./CP Kelco	2145 East Belt Street	Adjacently north-northwest	Envirostor, LUST, CPS-SLIC, AST, SWEEPS UST, HIST UST, SEMS Archive, RCRA – LQG, San Diego Co., SAM & HMD, UST, NY Manifest, EMI, Hist Cortese	The facility is listed associated with 10 closed unauthorized release cases (H02377-001 through -010), most of which are associated with releases of fuels and/or oils to soil. The case closure summary for H02377-009 identified 30 areas of concern where contaminants had been detected. The DEH concluded no further action for 26 of the areas of concern, and deferred investigation for 4 of the areas of concern due to existing uses prevented access. Chlorinated solvents were detected in groundwater on the site; however, the highest concentrations were in the north portion (upgradient side), and the facility does not have a history of significant use of chlorinated solvents, so the DEH concluded the solvents were likely released from an upgradient property.	Case Closed
2.	Silver Gate Power Plant	1348 Sampson Street	Adjacently north	HIST UST, CIWQS, FINDS, RCRA-LQG, LUST, SWEEPS UST, HIST CORTESE, CPS-SLIC, San Diego Co. HMD, SAM & LOP	These listings include one closed and one open unauthorized release case. The closed case was a fuel oil leak. A portion of the contaminated soil was removed and some was left in place. The case was closed in 1988. The open case was an unauthorized release case of gas and solvents to soil and surface water related to a UST that was closed in place in 2006. Contaminated soil identified during this closure was remediated during the closure of the power plant in 2007. 250 cubic yards of contaminated soil was left on site, and low levels of contaminants were detected in groundwater.	Open

Number	Site	Address	Distance from the project	Database Listings	Site Summary	Status
3.	RCO Terminal/Tesoro Logistics San Diego Terminal	2295 Harbor Drive	580 feet east-northeast	LUST, AST, UST, TRIS, RCRA-LQG, FINDS, ECHO, HIST AUTO, FUELS Program, SWEEPS UST, ICIS, US AIRS, FINDS, San Diego Co. SAM, HMMD, & LOP, CPS-SLIC, HIST UST, EMI, HAZNET, HIST CORTESE, NPDES, CIWQS	The site is associated with five unauthorized release cases that have been administratively combined into one. A letter from the RWQCB intends to close the open case with a status of no further action. Most recent reports available indicate groundwater monitoring well closest to the project site indicates low concentrations of benzene and methyl tertiary butyl ether (MTBE) were present and the flow direction of the groundwater plume is to the south.	Closure pending

AST = aboveground storage tank
 CHMIRS = California Hazardous Material Inventory Reporting System
 CIWQS = California Integrated Water Quality System
 CPS-SLIC = Cleanup Program Sites – Spills, Leaks, Investigation and Cleanup
 ECHO = Enforcement & Compliance History Information
 EMI = Emissions Inventory Data
 FINDS = EPA’s Facility Identification Systems
 FUELS Program = Listing of facilities registered under the Code of Federal Regulations Part 80.
 HAZNET = California Hazardous Waste Information System
 HIST = Hazardous Substance Storage Container
 HIST AUTO = Historical Auto Stations
 HIST CORTESE = Hazardous Waste & Substances Site List
 HMMD = Hazardous Material Management Division
 ICIS = Integrated Compliance Information System
 LDS = Land Disposal Sites
 LOP = Local Oversight Program
 LUST = Leaking Underground Storage Tank

NPDES = National Pollutant Discharge System
 NY Manifest = Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.
 PAH = polynuclear aromatic hydrocarbon
 PCBs = polychlorinated biphenyls
 RCRA-SQG = Resource Conservation and Recovery Act – Small Quantity Generator
 RCRA-LQG = Resource Conservation and Recovery Act – Large Quantity Generator
 SAM = Site Assessment and Mitigation
 SEMS Archive = Superfund Enterprise Management System Archive
 SLIC = Spills, Leaks, Investigations, and Cleanups
 SWEEPS UST = Statewide Environmental Evaluation and Planning System
 TPH = total petroleum hydrocarbons
 TRIS = Toxic Release Inventory System
 US AIRS = Aerometric Information Retrieval System
 UST = Underground Storage Tank
 Source: Appendix E

4.4.2.6 Historical Contamination

Several past site subsurface investigations and soil characterizations have occurred at different areas throughout the project site. The following reports were summarized in the HMTS prepared for the proposed project (Appendix E).

Available on the County of San Diego's Department of Environmental Health's (DEH) online records database, the *Additional Soil and Groundwater Investigation Southwest Marine* (EnecoTech Southwest, Inc. 2002) summarizes site assessment activities performed in the southern landside portion of the site between Buildings 10 and 40, in the vicinity of the hazardous materials storage area in 2002. This location also seems to correspond to the location of steel oil aboveground storage tanks (ASTs) near the bulkhead between Pier 3 and Pier 4, noted on the Sanborn maps dated 1956 through 1971 that were reviewed as part of the proposed project's HMTS, BAE Systems Waterfront Improvement Project (Appendix E). Petroleum hydrocarbons in the diesel range were detected in groundwater, and petroleum hydrocarbons in the gasoline range were detected in soil and groundwater. DEH opened an unauthorized release case associated with the findings (H09689-003), which was then referred to the San Diego Regional Water Quality Control Board (RWQCB). However, records of the case were not located on the RWQCB's online record database. Because a resolution of this unauthorized release case is not clear, it is likely subsurface contamination exists at this site.

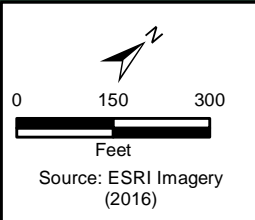
In addition, the document "Site Assessment Report, Landside Tidelands Lease Area, Silver Gate Power Plant" evaluated the former wastewater ponds from the Silver Gate Power Plant, located in the northern landside portion of the project site, which was formerly leased by SDG&E (ENV America Inc. 2004). Soil and groundwater samples were collected from two settling/evaporation ponds (Ponds A and B), and two oil/water separation ponds (Ponds C and D) were discovered after the field work had been completed. Petroleum hydrocarbons in gasoline, diesel, and heavy ranges were detected, as well as volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), chromium, and lead were detected in the soil. Petroleum hydrocarbons in the gasoline range and chlorinated hydrocarbons were detected in groundwater samples. Additional site assessment activities were performed at the historical wastewater ponds, as well as sediment from the cooling water tunnels located beneath the project site. Petroleum hydrocarbons, VOCs, polynuclear aromatic hydrocarbons (PAHs), PCBs, and metals were detected in soil samples. Petroleum hydrocarbon, VOCs, fluoranthene, and metals were detected in groundwater samples. Sediment samples contained petroleum hydrocarbons, benzene, PAHs, PCBs, and metals.

In 2012, a Cleanup and Abatement Order (CAO) R9-2012-0024, *San Diego Bay Shipyard Sediment Cleanup for the NASSCO and BAE Leaseholds* (San Diego Bay Shipyard Sediment Cleanup) was issued by the San Diego RWQCB for sediment contamination within the General Dynamics NASSCO and BAE Systems leaseholds. The contamination boundary of the CAO is collectively referred to as the Shipyard Sediment Site and is depicted on Figure 4.4-2. The Shipyard Sediment Site was divided into the North Shipyard (the property leased by BAE Systems) and the South Shipyard (the property leased by NASSCO). The CAO established cleanup levels for primary contaminants of concern (COCs) of copper (121 milligrams per kilogram [mg/kg]); mercury (0.57 mg/kg); high-molecular weight polycyclic aromatic hydrocarbons (HPAHs), which was defined as the sum of fluoranthene, perylene, benzo(a)anthracene, chrysene, benzo(a)pyrene, and dibenzo(a,h)anthracene (663 micrograms per kilogram [$\mu\text{g}/\text{kg}$]); PCBs (defined as 41 select congeners; 84 $\mu\text{g}/\text{kg}$); and tributyltin (TBT) (22 $\mu\text{g}/\text{kg}$). Cleanup levels for secondary COCs were established for arsenic (7.5 mg/kg), cadmium (0.33 mg/kg), lead (53 mg/kg), and zinc (192 mg/kg).

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San Diego Bay



Legend

Gravelly Sand Cover	Pier 3 Mooring Dolphin
Sand Cover	Pier 3 Lunchroom Wharf Replacement / Realignment
Approximate Limits of New Revetment	Quaywall Modifications at South End of Property
Fender System Repair and Replacement	Port Security Barrier Replacement (Navy Security Req.)
Port Security Barrier Replacement (Navy Security Req.)	Small Boat Mooring Float Replacement
Investigative Order R9-2017-0083	Central Tool Room Replacement / Relocation
Pride of San Diego Drydock Dredging / Mooring	New Production Building
Pride of San Diego Wharf Replacement / Realignment	Administrative Office Complex
Fender System Repair and Replacement	Pier 1 Restroom (Existing) Demolition
Pier 3 South Nearshore Dredging	Main Electrical Utility Service



**Figure 4.4-2
Project Elements
BAE Systems Waterfront Improvement Project**

The waterside portion of the project site lies within the North Shipyard boundary. The *North Shipyard Remedial Action Plan Implementation Report* (Anchor QEA 2016a) indicated that approximately 114,085 cubic yards (cy) of impacted sediments within the North Shipyard were removed and disposed off site. In total, approximately 142,745 cy of contaminated sediment were removed from both the North and South Shipyard cleanup boundaries. Impacted sediment that could not be removed due to risk of undermining slopes or existing structures was covered with a sand or gravelly sand cover. Remedial activities under the CAO were completed on April 15, 2016, and the site was moved into post-remedial monitoring to evaluate the effectiveness of the remedial action. Although the RWQCB concurred that the cleanup was performed to their satisfaction, it allowed for sediments with concentrations in excess of the cleanup levels to be left in-place and covered.

The CAO R9-2012-0024 stipulated post-remedial monitoring would be conducted 2 years (2018) and 5 years (2021) after the completion of the remediation to confirm remedial goals continue to be achieved. The Year 2 Post-Remedial Monitoring Progress Report was prepared in February 2019 (Anchor QEA 2019). The monitoring for the North Shipyard occurred from mid to late 2018. The remedial goals as stated in the 2012 CAO are:

1. Composite site-wide SWACs below the Trigger Concentrations identified for each COC in the CAO;
2. Sediment chemistry below SS-MEQ and 60 percent LAET thresholds;
3. Toxicity not significantly different from conditions at the reference stations described in Finding 17 and in the Technical Report for Cleanup and Abatement Order No. R9-2012-0024 for the Shipyard Sediment Site, San Diego Bay, San Diego, CA; and
4. The average of stations sampled shows bioaccumulation levels below the pre-remedial levels.

In 2017, the RWQCB issued Investigative Order No. R9-2017-0083 requesting further sediment chemistry investigation in the Bay to the north of BAE Systems leasehold (Geosyntec Consultants 2019). The investigation further delineated the extent and magnitude of pollutants discharged by SDG&E and BAE Systems (in the current leasehold of CP Kelco) to determine if additional cleanup and abatement activities are required to restore the Bay (RWQCB 2017). The northernmost end of the remedial dredging footprint for CAO R9-2012-0024 was limited to within the current BAE Systems leasehold, even though the sediment data upon which the CAO was based showed the impacted sediment extended beyond the leasehold boundary to the north. The full extent of the contamination was not fully delineated at the time of the North Shipyard remediation, which was completed in 2016. Surface and subsurface sediment samples were collected from the area of investigation in the offshore leasehold of CP Kelco, adjacent to the project site. Additionally, solid samples from catch basins were taken from within the BAE Systems leasehold as part of the Sampling and Analysis Report, which is part of the project site. The initial results of the sampling indicate elevated concentrations of PCBs, PAHs, and some metals are present in the Investigation Area.

4.4.2.7 Proximity to Schools

The project site is approximately 0.30 mile south of San Diego Continuing Education – Cesar E. Chavez Campus (1901 Main St, San Diego, CA 92113), and approximately 0.48 mile south of Perkins Elementary School (1770 Main Street, San Diego, CA 92113). Other schools nearby include Monarch School approximately 0.64 mile to the northwest, Marcy School approximately 0.50 mile to the

northeast, Burbank Elementary School 0.57 mile to the northeast, Memorial Preparatory For Scholars & Athletes approximately 0.63 mile northeast, King Chavez Academy of Excellence approximately 0.61 mile to the northeast, Logan K-8 School 0.78 mile to the northeast, Rodriguez Elementary School approximately 0.95 mile to the northeast, and Emerson-Bandini Elementary School approximately 1.37 miles to the east.

4.4.2.8 Proximity to Airports and Airstrips

The closest public airport is the San Diego International Airport (SDIA), which is approximately 3.00 miles northwest of the project site. Naval Air Station North Island is approximately 3.35 miles west of the project site, and Naval Outlying Field Imperial Beach is 8.44 miles to the south of the project site. The proposed project site is not within the SDIA Airport Safety Compatibility Zones; however, it is within the Airport Influence Area (AIA) Review Area 2 (San Diego County Regional Airport Authority 2014).

Airport Land Use Commission (ALUC) review is required for land use plans and regulations within Review Area 2 proposing increases in height limits and for land use projects that: (1) have received from the Federal Aviation Administration (FAA) a Notice of Presumed Hazard, a Determination of Hazard, or a Determination of No Hazard subject to conditions, limitations, or marking and lighting requirements; and/or (2) would create any of the following hazards (San Diego County Regional Airport Authority 2014).

- Glare
- Electromagnetic interference
- Thermal plumes
- Lighting
- Dust, water vapor, and smoke
- Bird attractants

The project site is also located within the FAA Code of Federal Regulations, Part 77 notification area for height criteria. Additionally, the FAA may also require notification for structures or objects that may cause signal reception interference with navigational aids (NAVAIDS). FAA regulations require notification of proposed construction or alteration of objects exceeding certain heights or that could potentially interfere with NAVAIDS by filing Form 7460-1 "Notice of Proposed Construction or Alteration" with the FAA. This requirement applies to all proposed objects including structures, antennas, trees, mobile objects, and temporary objects, such as construction cranes.

The San Diego County Regional Airport Authority, acting as the ALUC, is currently preparing the Airport Land Use Compatibility Plan (ALUCP) for Naval Air Station North Island; therefore, airport influence area and safety data are not currently available (San Diego County Regional Airport Authority 2019).

If required, local agencies must submit an application for consistency determination to the ALUC for its review prior to construction. The ALUC must respond to a local agency's request for consistency determination within 60 calendar days after the application is deemed complete by ALUC staff.

4.4.2.9 Emergency Response Plan

In the 1960s, the Unified San Diego County Emergency Services Organization was formed under a Joint Powers Agreement. The Unified Disaster Council is the governing body which prepares plans and policies for the County. The San Diego County Operational Area (OA) was formed to assist all of the cities and communities in the County in developing and implementing emergency plans and facilitating mutual aid agreements. The OA consists of the County and all jurisdictions within the

County. The County of San Diego Operational Area Emergency Operations Plan (OA EOP) was approved by the San Diego Board of Supervisors in September 2018. Each city within the County is encouraged to adopt the OA EOP. The OA EOP outlines a comprehensive emergency management system which would provide response to disaster situations such as natural disasters, technological incidents, terrorism, and nuclear-related incidents. It also describes responsibilities of the jurisdictions and agencies within the OA (County of San Diego 2018).

The City of San Diego also participates in the County Multi-jurisdictional Hazard Mitigation Plan (MJHMP), which facilitates cross-jurisdictional coordination for minimizing hazard risk and response to emergency events (County of San Diego 2017). The MJHMP was developed with the intent of enhancing public awareness and understanding of potential natural and manmade hazards, providing policies and decision-making tools, and ensuring compliance with state and federal regulations. The City of San Diego Fire-Rescue Department, Police Department, and the Emergency Operations Center (EOC) are the primary departments responsible for emergency response.

4.4.3 Applicable Laws and Regulations

4.4.3.1 Federal

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program, which is administered by the U.S. Environmental Protection Agency (EPA), to regulate the generation, transport, treatment, storage, and disposal of hazardous waste. Under RCRA regulations, hazardous wastes must be tracked from the time of generation to the point of disposal. The RCRA program also establishes standards for hazardous waste treatment, storage, and disposal units, which are intended to have hazardous wastes managed in a manner that minimizes present and future threats to the environment and human health. At a minimum, each generator of hazardous waste must register and obtain a hazardous waste activity identification number. If hazardous wastes are stored for more than 90 days or treated or disposed of at a facility, any treatment, storage, or disposal unit must be permitted under the RCRA. The RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the “cradle to grave” system of regulating hazardous materials.

Department of Transportation Hazardous Materials Regulations (49 CFR 100–185)

U.S. Department of Transportation (DOT) Hazardous Materials Regulations (Code of Federal Regulations [CFR] Title 49, Parts 100–185) cover all aspects of hazardous materials packaging, handling, and transportation. Parts 107 (Hazard Materials Program), 130 (Oil Spill Prevention and Response), 172 (Emergency Response), 173 (Packaging Requirements), 177 (Highway Transportation), 178 (Packaging Specifications), and 180 (Packaging Maintenance) would all apply to goods movement to and from the proposed project and/or surrounding uses.

Enforcement of these aforementioned DOT regulations is shared by each of the following administrations under delegations from the Secretary of the DOT.

- **Research and Special Programs Administration** is responsible for container manufacturers, reconditioners, and retesters and shares authority over shippers of hazardous materials.
- **Federal Highway Administration** enforces all regulations pertaining to motor carriers.
- **Federal Railroad Administration** enforces all regulations pertaining to rail carriers.
- **FAA** enforces all regulations pertaining to air carriers.
- **U.S. Coast Guard (USCG)** enforces all regulations pertaining to shipments by water.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted in 1980 to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. The corresponding regulation in 42 CFR 103 provides the general framework for response actions and managing hazardous waste.

Spill Prevention Control and Countermeasure Plans (40 CFR 112.7)

Spill Prevention Control and Countermeasure (SPCC) plans are required for facilities in which construction and removal operations involve oil in the vicinity of navigable waters or shorelines. SPCC plans ensure that facilities implement containment and other countermeasures that would prevent oil spills from reaching navigable waters. SPCC plans are regulations administered by EPA. Preparation of an SPCC Plan is required for projects that meet three criteria: (1) the facility must be non-transportation-related, or, for construction, the construction operations involve storing, using, transferring, or otherwise handling oil; (2) the project must have an aggregate aboveground storage capacity greater than 1,320 gallons or completely buried storage capacity greater than 42,000 gallons; and (3) there must be a reasonable expectation of a discharge into or upon navigable waters of the United States or adjoining shorelines. For construction projects, for criterion (1), 40 CFR 112 describes the requirements for implementing SPCC plans. The following three areas should clearly be addressed in a SPCC plan.

- Operating procedures that prevent oil spills;
- Control measures installed to prevent a spill from reaching navigable waters; and
- Countermeasures to contain, clean up, and mitigate the effects of an oil spill that reaches navigable waters.

United States Coast Guard 33 CFR and 46 CFR

USCG, through Title 33 (Navigation and Navigable Waters) and Title 46 (Shipping) of the CFR, is the federal agency responsible for vessel inspection, marine terminal operations safety, coordination of federal responses to marine emergencies, enforcement of marine pollution statutes, marine safety (such as navigation aids), and operation of the National Response Center for spill response, and is the lead agency for offshore spill response. USCG implemented a revised vessel-boarding program in 1994 designed to identify and eliminate substandard ships from U.S. waters. The program pursues this goal by systematically targeting the relative risk of vessels and increasing the boarding

frequency on high risk (potentially substandard) vessels. The relative risk of each vessel is determined through the use of a matrix that factors the flag of the vessel, owner, operator, classification society, vessel particulars, and violation history. Vessels are assigned a boarding priority from I to IV, with priority I vessels being the potentially highest risk and priority IV having relatively low risk.

Emergency Planning and Community Right-To-Know Act (42 U.S.C. 11001 et seq.)

The Emergency Planning and Community Right-to-Know Act was enacted by Congress as the national legislation on community safety in 1986, as Title III of the Superfund Amendments and Reauthorization Act. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. To implement this act, Congress required each state to appoint a State Emergency Response Commission. The State Emergency Response Commissions are required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee for each district. The act provides requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals.

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act establishes the framework for safe and healthful working conditions for working men and women by authorizing enforcement of the standards developed under the act. The act also provides for training, outreach, education, and assistance related to establishing a safe working environment. Regulations defining safe standards have been developed for general industry, construction, maritime, recordkeeping, and agriculture. A major component of the act is the requirement that employers implement the Occupational Safety and Health Act Hazard Communication Standard to provide information to employees about the existence and potential risks of exposures to hazardous substances in the workplace. As part of the Hazard Communication Standard, employers must:

- Obtain material safety data sheets from chemical manufacturers that identify the types and handling requirements of hazardous materials used in given areas;
- Make the material safety data sheets available to their employees;
- Label chemical containers in the workplace;
- Develop and maintain a written hazard communication program; and
- Develop and implement programs to train employees about hazardous materials.

Occupational Safety and Health Administration standards specific to hazardous materials are listed in 29 CFR 1910 Subpart H. Safety and health regulations pertaining to construction are listed in 29 CFR 1926 Subpart H.

Code of Federal Regulations Title 14, Part 77

The Code of Federal Regulations (CFR) Title 14, Part 77, "Safe, Efficient Use and Preservation of the Navigable Airspace," establishes a notification requirement for objects affecting navigable airspace. CFR Title 14 Part 77 establishes standards for determining the potential hazardous effect of the proposed project on air navigation and operating procedures, identifying mitigating measures to

enhance safe air navigation, and charting of new objects. Any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA:

- Any construction or alteration exceeding 200 feet above ground level.
- Any construction or alteration
 - Within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 feet.
 - Within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet.
 - Within 5,000 feet of a public use heliport which exceeds a 25:1 surface.
- Any highway, railroad or other traverse way whose prescribed adjusted height would exceed the above noted standards.
- When requested by the FAA.
- Any construction or alteration located on a public use airport or heliport regardless of height or location.

Proponents proposing any of these construction or alterations must submit FAA form 7460-1, “Notice of Proposed Construction or Alteration” so the FAA can review the proposed action and make the appropriate determination.

4.4.3.2 State

Cortese List

California Government Code 65962.5 (commonly referred to as the *Cortese List*) includes hazardous waste facilities and sites listed by the Department of Toxic Substances Control (DTSC), Department of Health Services lists of contaminated drinking water wells; sites listed by the State Water Resources Control Board (SWRCB) as having underground storage tank leaks or a discharge of hazardous wastes or materials into the water or groundwater; and lists from local regulatory agencies of sites with a known migration of hazardous waste/material.

California Health and Safety Code (Hazardous Waste Control Act)

DTSC, a department of the California Environmental Protection Agency (Cal/EPA), is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5, also known as the Hazardous Waste Control Act). Division 20, Chapter 6.5, of the California Health and Safety Code identifies hazardous waste control regulations pertaining to transportation, treatment, recycling, disposal, enforcement, and the permitting of hazardous waste. Division 20, Chapter 6.10, identifies regulations applicable to the cleanup of hazardous materials releases. Title 22, Division 4.5, contains environmental health standards for the management of hazardous waste, as well as standards for the identification of hazardous waste (Chapter 11), and standards that are applicable to transporters of hazardous waste (Chapter 13).

In addition, the Hazardous Waste Control Act requires a hazardous waste generator that stores or accumulates hazardous waste for periods greater than 90 days at an onsite facility or for periods greater than 144 hours at an offsite or transfer facility, which treats or transports hazardous waste, to obtain a permit to conduct such activities. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA for a cradle-to-grave waste management system in California. It also provides for the designation of California-only hazardous waste and development of standards that are equal to or, in some cases, more stringent than federal requirements, such as mandating source-reduction planning and regulating the number of types of waste and waste management activities that are not covered by federal law with the RCRA.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (California Health and Safety Code, Chapter 6.11, Sections 25404–25404.9)

This program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the environmental and emergency response programs and provides authority to the Certified Unified Program Agency (CUPA). The CUPA for San Diego County is the San Diego County Department of Environmental Health's Hazardous Materials Division (HMD), which has the responsibility and authority for implementing and enforcing the requirements listed in Chapter 6.5 (commencing with Section 25100), Chapter 6.67 (commencing with Section 25270), Chapter 6.7 (commencing with Section 25280), Chapter 6.95 (commencing with Section 25500), and Sections 25404.1 and 25404.2, including the following.

- **Aboveground Petroleum Storage Act Requirements for SPCC Plans.** Facilities with a single tank or cumulative aboveground storage capacities of 1,320 gallons or greater of petroleum-based liquid product (e.g., gasoline, diesel, lubricants) must develop an SPCC plan. An SPCC plan must be prepared in accordance with the oil pollution prevention guidelines in 40 CFR 112. This plan must describe the procedures, methods, and equipment needed at the facility to prevent discharges of petroleum from reaching navigable waters. A registered professional engineer must certify the SPCC plan, and a complete copy of the plan must be maintained on site.
- **California Accidental Release Prevention Program.** This program requires any business that handles more than threshold quantities of an extremely hazardous substance to develop a Risk Management Plan. The Risk Management Plan is implemented by the business to prevent or mitigate releases of regulated substances that could have offsite consequences through hazard identification, planning, source reduction, maintenance, training, and engineering controls.
- **Hazardous Materials Business Plan/Hazardous Materials Inventory Statements.** Hazardous Materials Business Plans contain basic information regarding the location, type, quantity, and health risks of hazardous materials and/or waste. Each business must prepare a Hazardous Material Business Plan if that business uses, handles, or stores a hazardous material and/or waste or an extremely hazardous material in quantities greater than or equal to the following:
 - 55 gallons for a liquid;
 - 500 pounds for a solid;
 - 200 cubic feet for any compressed gas; or

- Threshold planning quantities of an extremely hazardous substance.
- **Hazardous Waste Generator Program.** This program regulates businesses that generate any amount of a hazardous waste. Proper handling, recycling, treating, storing, and disposing of hazardous waste are key elements to this program.
- **Tiered Permitting Program.** This program regulates the onsite treatment of hazardous waste.
- **Underground Storage Tank Program.** This program regulates the construction, operation, repair, and removal of underground storage tanks that store hazardous materials and/or waste.

Environmental Health Standards for the Management of Hazardous Waste

These standards (California Code of Regulations, Title 22 [CA Title 22], Division 4.5, Section 66001 et seq.) establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the state Hazardous Waste Control Act and federal RCRA.

California Code of Regulations, Title 8—Industrial Relations

Title 8 of the California Code of Regulations, Section 1532.1 is a rule developed by the federal Occupational Safety and Health Administration in 1993 and adopted by the state of California. This rule is comparable to the federal standards described above. Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The federal Occupational Safety and Health Administration and the California Division of Occupational Safety and Health (Cal/OSHA) are responsible for ensuring worker safety in the workplace. Cal/OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. These standards would be applicable to both construction and operation of the proposed project. Title 8 includes regulations pertaining to hazard control (including administrative and engineering controls), hazardous chemical labeling and training requirements, hazardous exposure prevention, hazardous material management, and hazardous waste operations.

Title 8 also specifies requirements for the removal and disposal of asbestos-containing materials (ACMs). In addition to providing information regarding how to remove ACMs, specific regulations limit the time of exposure, regulate access to work areas, require demarcation of work areas, prohibit certain activities in the presence of ACM removal activities, require the use of respirators, require monitoring of work conditions, require appropriate ventilation, and require qualified persons for ACM removal.

Title 8 also covers the removal of lead-based paint (LBP). Specific regulations cover the demolition of structures that contain LBP, the process associated with its removal or encapsulation, remediation of lead contamination, the transportation/disposal/storage/containment of lead or materials containing lead, and maintenance operations associated with construction activities involving lead, such as LBP. Similar to ACM removal, LBP removal requires proper ventilation, respiratory protection, and qualified personnel.

California Labor Code (Division 5, Parts 1 and 7)

California Labor Code regulations ensure appropriate training regarding the use and handling of hazardous materials and the operation of equipment and machines that use, store, transport, or dispose of hazardous materials. Division 5, Part 1, Chapter 2.5, ensures that employees who handle

hazardous materials are appropriately trained and informed about the materials. Division 5, Part 7, ensures that employees who work with volatile flammable liquids are outfitted with appropriate safety gear and clothing.

State Water Resources Control Board Construction General Permit (2009-0009-DWQ)

Construction activities that disturb 1 acre or more of land must obtain coverage under the SWRCB Construction General Permit (Order 2009-0009-DWQ as amended by Order 2010-0014-DWQ, and Order 2012-006-DWQ). Under the terms of the permit, applicants must file a complete and accurate Notice of Intent and Permit Registration Documents with the SWRCB. Applicants must also demonstrate conformance with applicable construction Best Management Practices (BMPs) and prepare a construction Storm Water Pollution Prevention Plan containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site.

Porter-Cologne Water Quality Control Act (Water Code, Division 7)

The Porter-Cologne Water Quality Control Act (embodied in the California Water Code) of 1969 (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the state must adopt water quality policies, plans, and objectives that protect its waters for the use and enjoyment of the people. Under the California Water Code, the State of California is divided into nine regions governed by RWQCBs that, under the guidance and review of the SWRCB, implement and enforce provisions of the California Water Code and the CWA. The project site is in Region 9, the San Diego Region, and governed by the San Diego RWQCB (see also Section 4.5, *Hydrology and Water Quality*).

Chapter 5, *Enforcement and Implementation*, Section 13304 *Cleanup and Abatement*, of the California Water Code outlines the RWQCB or SWRCB's authority to order cleanup and abatement efforts to an entity that has discharged waste or has allowed the discharge of waste to waters of the state, or threatens to create a condition of pollution (California Water Code, Chapter 5, Section 13304). A cleanup and abatement order issued by the SWRCB or RWQCB may require the clean up of waste or abatement of the effects of waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. California Water Code Section 13267, *Investigations, inspections*, outlines the RWQCB's authority to issue an investigative order. The RWQCB, in establishing or reviewing any water quality control plan or waste discharge requirements, or in connection with any action related to a plan or discharge requirements, may investigate the quality of waters within the region. The RWQCB can require that responsible parties investigate the discharge or threatened discharge of toxic pollutants.

State Water Resources Control Board Resolution Number 92-49

SWRCB Resolution Number 92-49 – *Policies and Procedures for the Investigation and Cleanup and Abatement of Discharges Under Section 13304* was adopted by the SWRCB in 1992. The resolution contains policies and procedures for the RWQCBs to follow for the oversight and regulation of investigations and cleanup and abatement activities for all types of discharges as described in Section 13304 of the California Water Code (described above). Resolution No. 92-49 also provides the requirements of establishing and maintaining a site's containment zone.

State Water Resources Control Board Resolution Number No. 68-16

SWRCB Resolution Number 68-16 – *Statement of Policy Regarding Maintaining High Quality Water in California* (also known as the Antidegradation Policy) protects the quality of water bodies where the quality is higher than the established standards for the protection of beneficial uses. Any actions that adversely affect water quality in surface or ground water must “1) be consistent with maximum benefit to the people of the State; 2) not unreasonably affect present and anticipated beneficial use of the water; and, 3) not result in water quality less than that prescribed in water quality plans and policies” (California Water Boards ND).

4.4.3.3 Regional

San Diego County Code, Title 6, Division 8

San Diego County Code of Regulatory Ordinances under Title 6, Division 8, Chapters 8 through 11 establish the HMD as the local CUPA. The HMD is responsible for the protection of public health, safety, and the environment and inspects businesses or facilities that handle or store hazardous materials, generate hazardous waste, generate medical waste, and own or operate underground storage tanks. HMD also administers the California Accidental Release Prevention Program and the Aboveground Petroleum Storage Act Program, and provides specialized instruction to small businesses through its Pollution Prevention Specialist. HMD has the authority under state law to inspect facilities with hazardous materials or hazardous waste and, in cases where a facility is in non-compliance with the applicable state law or regulations, take enforcement action.

Projects are required to notify HMD regarding the use, handling, release (spills), storage, and/or disposal of hazardous materials and hazardous waste in accordance with existing state law and County ordinance. The notification is the initial step in the HMD permitting process, which requires businesses that handle or store hazardous materials, are part of the California Accidental Release Prevention Program, generate or treat hazardous wastes, generate or treat medical waste, store at least 1,320 gallons of aboveground petroleum, or own and/or operate underground storage tanks to obtain and maintain a Unified Program Facility Permit. The online notification must be done using the State of California Environmental Reporting System by the applicant/permittee requesting a permit and submitted within 30 days.

If a building permit is required, Section 65850.2 of the California Government Code prohibits building departments from issuing a final Certificate of Occupancy unless a business or facility that handles hazardous materials has submitted and met the requirements of a Hazardous Materials Business Plan. The Hazardous Materials Business Plan contains detailed information on the storage of hazardous materials at regulated facilities and serves to prevent or minimize damage to public health, safety, and the environment from a release or threatened release of a hazardous material. The Hazardous Materials Business Plan also provides emergency response personnel with adequate information to help them better prepare and respond to chemical-related incidents at regulated facilities.

Operational Area Emergency Operations Plan

The San Diego County OA was formed to help the County and its cities develop emergency plans, implement such plans, develop mutual aid capabilities between jurisdictions, and improve communications between jurisdictions and agencies. The San Diego County OA consists of the

County and all jurisdictions within the County. The OA EOP is for use by the County and all of the cities within the County to respond to major emergencies and disasters. It defines roles and responsibilities of all County departments and many city departments.

Cities within the County are encouraged to adopt the OA EOP, with modifications that would be applicable to each city. The plan is updated once every 4 years by the Office of Emergency Services and the Unified Disaster Council of the Unified San Diego County Emergency Services Organization.

Water Quality Control Plans

The preparation and adoption of water quality control plans (basin plans) is required by the California Water Code (Section 13240) as prescribed by the CWA. Section 303 of the CWA requires states to adopt water quality standards that “consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses.” According to Section 13050 of the California Water Code, basin plans consist of a designation or establishment of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives for the waters within a specified area. Because beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, basin plans are regulatory references for meeting the state and federal requirements for water quality control.

The Water Quality Control Plan for the San Diego Basin (Basin Plan) was adopted by the San Diego RWQCB in 2016 and designates the Beneficial Uses and Water Quality Objectives for water bodies under its jurisdiction (RWQCB 2016). See Section 4.5, *Hydrology and Water Quality*, for a detailed discussion of designated beneficial uses and objectives.

Cleanup and Abatement Order R9-2012-0024

In 2012, a Cleanup and Abatement Order (CAO) R9-2012-0024, *San Diego Bay Shipyard Sediment Cleanup for the NASSCO and BAE Leaseholds* (San Diego Bay Shipyard Sediment Cleanup) was issued by the San Diego RWQCB under the authority provided in Division 7 of the California Water Code, SWRCB plan and policies, and the Basin Plan. CAO R9-2012-0024 was issued for the cleanup of the contaminated sediment along the eastern shore of the Central San Diego Bay, from approximately Sampson Street Extension to the northwest and Chollas Creek to the southeast, and from the shoreline to the San Diego Bay main shipping channel to the west. The San Diego RWQCB named NASSCO, BAE Systems, the City of San Diego, Campbell Industries, Chevron, a Subsidiary of ChevronTexaco, BP as the Parent Company and successor to Atlantic Richfield, SDG&E, the U.S. Navy, and the District as responsible persons/dischargers. CAO R9-2012-0024 ordered the responsible dischargers to take all corrective actions necessary to remediate the contamination in compliance with the required stipulations laid out in the CAO.

4.4.3.4 Local

City of San Diego Solid Waste Local Enforcement Agency

The City’s Solid Waste Local Enforcement Agency is responsible for enforcing federal and state laws and regulations for the safe and proper handling of solid waste. State law (Public Resources Code) requires that every local jurisdiction designate a solid waste Local Enforcement Agency that is

certified by the Department of Resources Recycling and Recovery to enforce federal and state laws and regulations for the safe and proper handling of solid waste.

Any development plan proposing to handle, process, transport, store, or dispose of solid wastes including household trash and garbage, construction debris, commercial refuse, sludge, ash, discarded appliances and vehicles, manure, landscape clippings, and other discarded wastes shall contact the Local Enforcement Agency for determination of the need for a solid waste facility permit.

RWQCB Municipal Stormwater Permit (Order No. R9-2013-0001)

The Municipal Stormwater Permit (Order No. R9-2013-0001 as amended by Order Nos. R9-2015-001 and R9-2015-0100) is a National Pollutant Discharge Elimination System (NPDES) Permit issued that requires the owners and operators of Municipal Separate Storm Sewer Systems (MS4s) within the San Diego region to implement management programs to limit discharges of pollutants and non-stormwater discharges to and from their MS4 from all phases of development. The Municipal Stormwater Permit requires the District and other “copermittees” to develop watershed-based Water Quality Improvement Plans. The Municipal Stormwater Permit emphasizes watershed program planning and program outcomes. The intent of the permit is to enable each jurisdiction to focus its resources and efforts to:

- Reduce pollutants in stormwater discharges from its MS4;
- Effectively prohibit non-stormwater discharges to its MS4; and
- Achieve the interim and final Water Quality Improvement Plan numeric goals.

Temporary Groundwater Extractions Permit (Order No. R9-2007-0034)

Order No. R9-2007-0034 is intended to cover temporary discharges of groundwater extraction wastes to the Bay, and its tributaries under tidal influence, from groundwater extraction due to construction and other groundwater extraction activities. Dischargers must meet the applicable criteria listed in the permit to be subject to waste discharge requirements under this permit. Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of the permit. The discharge of groundwater extraction waste from any site cannot, separately or jointly with any other discharge, cause violations of certain water quality objectives in the Bay.

Jurisdictional Runoff Management Plan

Under Regional Water Quality Control Board Order No. R9-2013-0001, NPDES Permit No. CAS0109266, the 18 cities within San Diego County, along with the Port of San Diego, are required to prepare Jurisdictional Runoff Management Plans (JRMPs). Each jurisdictional plan must contain a component that addresses issues related to construction activities and a component that addresses issues related to existing development. As principal permittee, the County of San Diego prepares and submits an annual report on the unified JRMP that describes the progress of the programs and the strategies to reduce the discharge of pollutants of concern to the MS4 and receiving waters to the maximum extent practicable. Enforcement of the JRMP assists with preventing release of pollutants into the local storm drains and ultimately the San Diego Bay.

The District has developed a list of pollution prevention BMPs applicable to industrial and commercial facilities on District tidelands as required by the Municipal Stormwater Permit. Because

pollution prevention BMPs eliminate pollutants at their source, they are a preferred means of preventing discharge of priority pollutants into the receiving waters. The list of pollution prevention BMPs includes the following:

- Keep waste containers covered or lids closed (trash);
- Minimize outdoor storage (trash, metals);
- Capture, contain, and/or treat wash water (bacteria, metals); and
- Conduct employee training (bacteria, trash, metals).

In addition, the JRMP provides an extensive list of minimum BMPs for commercial and industrial facilities. Categories of BMPs include general operations and housekeeping, non-stormwater management, waste handling and recycling, outdoor material storage, outdoor drainage from indoor activity, outdoor parking, vehicles and equipment, education and training, overwater activity, and outdoor activity and operation.

BMP Design Manual

In June 2015 the District adopted a jurisdiction-specific local BMP Design Manual to address the requirement of the Municipal Stormwater Permit. This BMP Design Manual is applicable to projects carried out on District-managed tidelands. Pursuant to the Municipal Stormwater Permit, the District began implementing the BMP Design Manual on February 16, 2016, and updated it in January 2018. The District's BMP Design Manual identifies updated post-construction stormwater requirements for both tenant- and District-sponsored major maintenance or capital improvement projects as required by the Municipal Stormwater Permit.

The BMP Design Manual identifies BMP requirements for both standard projects and priority development projects (PDPs) as outlined in the permit. All new development and redevelopment projects are required to implement standard source control and site design BMPs to eliminate or reduce stormwater runoff pollutants. For PDPs, the BMP Design Manual also describes structural treatment controls that must be incorporated into the site design and, where applicable, addresses potential hydromodification impacts from changes in flow and sediment supply.

Project proponents must submit a Storm Water Quality Management Plan (SWQMP) accurately describing how the project will meet source control site design and pollutant control BMP requirements. District staff provide technical review of and approve SWQMP documents and drainage design plans to ensure that pollutant control BMP requirements are met. The SWQMP is evaluated for compliance with the Municipal Stormwater Permit and with design criteria outlined in the District's BMP Design Manual. Once the approval process is complete, the project is able to commence and routine inspections are conducted throughout the duration of the project construction.

San Diego Unified Port District, Article 10

The District's own Article 10, the Port Stormwater Management and Discharge Control Ordinance, prohibits the deposit or discharge of any chemicals or waste to the tidelands or San Diego Bay and makes it unlawful to discharge pollutants directly into non-stormwater or indirectly into the stormwater conveyance system.

4.4.4 Project Impact Analysis

4.4.4.1 Methodology

The following impact analysis evaluates the potential effects from hazards and hazardous materials associated with the proposed project. The reports listed above under Section 4.4.1, *Overview*, were used to evaluate potential impacts associated with hazards and hazardous materials. Based upon the existing conditions described above, the impact analysis assesses the direct and indirect impacts related to hazards and hazardous materials by determining whether the proposed project would trigger any of the thresholds listed below.

4.4.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining significance of impacts associated with hazards and hazardous materials resulting from the implementation of the proposed project. The determination of whether a hazards and/or hazardous materials impact would be significant is based on the thresholds described below and the professional judgment of the District as Lead Agency, all of which is based on the evidence in the administrative record.

Impacts are considered significant if the project would result in any of the following.

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. 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.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
4. 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, create a significant hazard to the public or the environment.
5. Be located within an airport land use plan or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and exacerbate a safety hazard or excessive noise for people residing or working within the vicinity of the project area.
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires

The analysis of whether the proposed project would have a significant impact related to hazards and hazardous materials under Thresholds 1, 3, 5, 6, and 7 is provided in Section VIII of the Initial Study/Environmental Checklist (Appendix A of this Draft EIR), which determined that the proposed project would not result in a significant impact related to these thresholds. Those conclusions and the rationale that supports them are summarized in Chapter 6, Section 6.4 *Effects Not Found to Be Significant*. Therefore, only Thresholds 2 and 4 are discussed in the impact analysis that follows.

4.4.4.3 Project Impacts and Mitigation Measures

Threshold 2: Implementation of 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.

Impact Discussion

Construction

Some existing structures and infrastructure would be demolished for both landside and waterside improvement projects. In total the proposed project would require approximately 3,440 cy of excavation associated with landside development, and approximately 116,600 cy of dredging in the Bay. Based on the historic industrial uses of the project site, it is possible ground-disturbing construction activities could encounter contaminated soil and/or groundwater throughout the entire project site, as well as contaminated sediment during in-water construction activities. There are several specific locations on the project site where proposed grading and/or construction is likely to encounter contaminated soil, groundwater, and/or sediments, which are explained further below.

Landside

The project site is located within a developed industrialized area dominated by marine industrial-related facilities. The database search conducted as part of the HMTS (Appendix E) contained several listings related to unauthorized release cases both onsite and on adjacent properties. As detailed in Section 4.4.2, *Existing Conditions*, an unauthorized hazardous release was encountered during the installation of an electric conduit at the southern bulkhead between Pier 3 and Pier 4 and was reported in 2002 (listing H09689-003). A subsurface investigation indicated diesel- and gasoline- impacted soil and groundwater were present at the site. The case status is listed as “remedial investigation” on the San Diego County Site Assessment and Mitigation Program (SAM) website. The County of San Diego referred the case to RWQCB in October 2002; however, information was not available on the GeoTracker database. Documentation indicating that the contamination was adequately assessed or remediated was not found during the record search. No construction or excavation work is proposed in the location between Pier 3 and Pier 4 that may encounter petroleum-impacted soil and groundwater. However, Project Element 3 (Fender System Repair and Replacement) would require bulkhead replacement along the shore south of Pier 3, during which contaminated soil and/or groundwater could be encountered.

In addition, a closed case related to unauthorized release (listing H09689-002) was identified in the southern portion of the project site. A former 10,000-gallon UST, located on the southern property boundary with General Dynamics NASSCO at the Sicard Street extension, was cleaned, filled with slurry, and closed in place. Piping and a fuel dispenser located along the bulkhead between Pier 3 and Pier 4 were also cleaned and closed. Diesel-impacted soil was discovered at the fuel dispenser, and soil and groundwater samples were taken. It was estimated that less than 10 cy of hydrocarbon impacted soil is present at depths of 5 to 13 feet below ground surface (bgs) in the vicinity of the former dispenser. Based on the industrial use of the property, it was determined the level of contaminants did not pose a threat to human health and the case was closed in May 1998. The

proposed project does not include landside ground-disturbing activities in the area of the former UST, piping, or fuel dispenser. On the water side, activities for Project Element 3 (Fender System Repair and Replacement) would occur along the bulkhead between Pier 3 and 4. While Project Element 3 is generally a waterside project element, replacement of the bulkhead may involve landside subsurface disturbance in the area of the fuel dispenser, and fuel-impacted soils may be encountered. Encountering contaminated soil and/or groundwater associated with case H09689-003 and case H09689-002 during construction of Project Element 3 could expose workers, the public, and/or the environment to hazardous materials.

The project site has historically consisted of industrial uses and has documented fuel storage tanks on the site in several locations throughout this history. Based on a review of historic records, a 6,000-gallon fuel oil storage tank was located on the southern end of the site, an oil storage wharf was located on the southern end of the bulkhead, and two steel oil tanks were located along the southern bulkhead at the Sicard Street extension (Appendix E). While grading or excavation activities are not proposed in these locations, the potential for historic contamination in the vicinity of these sites exists. In addition, the records reviewed indicated the northern portion of the former SDG&E leasehold contained soil and groundwater impacted by petroleum hydrocarbons, PCBs, VOCs, and metals as a result of the use of former wastewater storage ponds (see Figure 4.4-1). No subsurface excavation is proposed in this area (Appendix E). The closest ground-disturbing project element is Project Element 13 (Pier 1 Restroom Renovation and/or Demolition), which is located approximately 60 feet south of the SDG&E leasehold boundary. However, due to the current and historic industrial use of the site and the historic use and storage of hazardous materials throughout the site, there is a high likelihood that contaminated soil and/or groundwater may be encountered throughout the entire project site. Consequently, ground-disturbing construction activities have the potential to encounter prior known contaminated or undocumented contaminated soil and/or groundwater and release hazardous materials to the environment, which would be considered a significant impact (**Impact-HAZ-1**).

The database search conducted as part of the HMTS (Appendix E) also identified two properties adjacent to the project site that represent a potential environmental concern. The operations at the property adjacently northwest, currently occupied by R.E. Staite, have resulted in documented impacts on soil and groundwater from petroleum hydrocarbons (diesel and oil), PAHs, PCBs, VOCs, calcium chloride, formaldehyde, hydrochloric acid, ammonia, sulfuric acid, sodium hypochlorite, N,N-Dimethylformamide, methanol, and chlorinated solvents. Although regulatory agencies have closed the cases because the areas of concern were not accessible in some cases or conditions were deemed acceptable based on the current operations of the property in other cases, there is potential that the soil and/or groundwater adjacent to the project site has been impacted.

The database search also identified documentation indicating there is a chlorinated solvent groundwater plume in the general vicinity of the project site that has not been attributed to a particular source. The chlorinated solvent plume was detected at a property upgradient of the project site, suggesting the chlorinated solvent plume has likely migrated, and the groundwater at the project site may be impacted by these chemicals. Ground-disturbing construction activities may encounter contaminated soil and/or groundwater due to the documented cases adjacent to the project site, which would represent a significant impact (**Impact-HAZ-1**).

Based on the age of the buildings and structures present on site there is a high likelihood that LBP and/or ACM are present on site. Specifically, buildings corresponding to the existing Production Shop (Buildings 6 and 7), which are proposed for demolition and redevelopment associated with Project Element 11 (New Production Building), have been present on site from as early as 1949 (Appendix E). Any demolition or grading activities would be required to comply with Title 8, Industrial Relations, of the California Code of Regulations, which provides specific guidance and mandatory specifications related to the removal and disposal of ACM and LBP. As such, compliance with these regulations would ensure that removal of any ACM and/or LBP would be conducted in a safe manner, including proper disposal in an approved facility. Therefore, impacts associated with the removal and disposal of ACM and LBP would be less than significant.

Waterside

Numerous hazardous database listings for spills in the San Diego Bay were identified in the database search results for the project site. The listed spills included releases of oil, paints, fuels, bleach, etc. Some of these listings noted an “oily sheen” on the Bay potentially associated with contaminated soil on the landside and/or contamination released into the water from creosote treated wood piles. It is possible the sediment in the waterside portion of the project site is impacted as a result of these releases. Additionally, the project site is part of CAO R9-2012-0024. As detailed in Section 4.4.2, *Existing Conditions*, the San Diego Bay Shipyard Sediment Cleanup was divided into the North Shipyard, which was entirely within the BAE Systems occupancy, and the South Shipyard, which was the southern tenant’s area of responsibility. The CAO was issued by the San Diego RWQCB in response to the impacted sediments in the Bay from historical and current industrial operations along this area of the Bayfront for the following COCs: copper, mercury, HPAHs, total PCBs, and tributyltin. The cleanup process, which was concluded in 2016, included the removal of approximately 142,745 cubic yards of impacted sediments for both the North and South Shipyards, as well as the installation of sand or gravelly sand covers over contaminated sediments where removal was infeasible due to structural stability concerns. Sand or gravelly sand covers were used under the piers and along the bulkhead because dredging activities would threaten the stability of these in-water structures. Sand cover was used for relatively flat areas and under-pier areas, while gravelly sand was used for sloping areas. The gravelly sand and sand covers were put in place to protect sediments with concentrations of COCs above the CAO requirements that could not be removed from being released into the water column. The covers promote physical isolation and stabilization of contaminated sediments under over-water structures, and maintain structural stability on sloping areas.

Because some contaminated sediment was covered and left in place, sediment-disturbing activities including, but not limited to, dredging, pile removal and installation, and bulkhead replacement could encounter contaminated sediment and could result in the release of contaminants to the environment or the public by releasing them to the Bay. Dredging is proposed for four project elements: Project Element 1 (Pride of San Diego Drydock Dredging/Mooring Replacement), Project Element 4 (Pier 3 South Nearshore Dredging), Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment), and Project Element 7 (Quay Wall Modifications). Project Element 1 (Pride of San Diego Drydock Dredging/Mooring Replacement) proposes to dredge approximately 98,800 cy of material. This includes the sediment that was not dredged during the past remediation activities associated with the CAO R9-2012-0024 because its proximity to existing structures made dredging infeasible.

Up to approximately 87,900 cy of dredged materials from Project Element 1 are planned for ocean disposal at EPA's LA-5 disposal site, if the sediment is determined to be suitable for unconfined aquatic ocean disposal. To determine the suitability, BAE Systems would conduct a dredge material suitability study in consultation with the U.S. Army Corps of Engineers (USACE) and the EPA as required under the Ocean Dumping Permit process. Project Element 4 (Pier 3 South Nearshore Dredging) proposes to dredge 15,000 cy of sediment: two scenarios for the disposal of this material are proposed depending on the results of the dredge material suitability study, including a 50 percent landfill/50 percent ocean disposal scenario and 100 percent landfill disposal scenario. Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment) proposes to dredge 2,000 cy of contaminated sediment that was previously covered and left in place associated with the CAO R9-2012-0024. Project Element 7 (Quay Wall Modifications) would result in 500 cy of sediment to be disposed of at an approved upland disposal site, as well as 300 cy of rock that would be disposed of at a local recycling facility. These dredging activities would remove existing contaminated sediment that was covered and left in place, which would potentially avoid disturbing and releasing contaminated sediments from in-water construction activities (i.e. pile installation, wharf replacement, etc.). However, these dredging activities may also result in the disturbance of existing sand or gravelly sand covers such that underlying contaminated sediment is exposed to the environment.

In addition to the dredging associated with the project elements identified above, in-water work is also proposed as part of Project Element 2 (Pride of San Diego Drydock Wharf Replacement and Realignment), Project Element 3 (Fender System Repair and Replacement), Project Element 5 (Pier 3 Mooring Dolphin), Project Element 8 (Port Security Barrier Replacement), and Project Element 9 (Small Boat Mooring Float Replacement), all of which would potentially result in the disturbance of covered contaminated sediments. As part of these in-water construction activities, spudding, an anchoring technique used to hold barges in position, may be required. When spuds are removed, covered contaminated sediments may be disturbed. Likewise, jetting, a technique used for pile installation or removal, would potentially result in the disturbance of covered contaminated sediments. Even if sediment-disturbing activities are proposed outside of areas of known contamination previously covered by sand or gravelly sand cover, water currents and general vessel maneuvers within the BAE Systems ship repair yard may have disturbed the boundary of the sand covers and modified the areas of contamination. As such, in-water activities associated with the proposed project would potentially result in disturbance of sand cover or contaminated sediments. Because the full extent of sediment contamination within the BAE Systems leasehold is unknown at present, any sediment-disturbing construction activities would potentially resuspend contaminated sediments, resulting in a release of hazardous materials to the environment, which would be considered a significant impact (**Impact-HAZ-2**). For a discussion of potential water quality impacts associated with disturbing contaminated sediment, please see Section 4.5, *Hydrology and Water Quality*.

The San Diego RWQCB issued Investigative Order R9-2017-0083, *SDG&E and BAE Systems Northern Sediment Delineation Investigation* in August 2017 related to contaminated sediments north of the BAE Systems leasehold and TUOP parcels that have not been fully delineated. Sediment chemistry data on which the San Diego Bay Shipyard Sediment Cleanup CAO was based indicated waste discharges from the project site extended beyond the property boundary to the north; however, the extent and magnitude of contamination had not yet been delineated at the time the CAO R9-2012-0024 was issued. A *Sampling and Analysis Report for the Area of Investigation Under Investigative Order No. R9-2017-0083* was prepared on April 30, 2019 (Geosyntec Consultants 2019). The results

of the Sampling and Analysis Report indicate elevated concentrations of PCBs, PAHs, and some metals are present in the Investigation Area (Geosyntec Consultants 2019). The location of this Investigative Order is immediately north of the proposed project area; however, Project Element 8 (Port Security Barrier Replacement) could overlap with the boundary of the contaminated sediment delineation. The Port Security Barrier is generally a floating device; however, anchors are used to keep it in place. Therefore, the installation of the anchors for the Port Security Barrier may disturb potentially contaminated sediment, which would be considered a significant impact (**Impact-HAZ-2**).

Wooden components in the piers, wharfs, fender system, and bulkheads may have been treated with creosote, a product used to preserve wood before its carcinogenic properties were discovered. The proposed project would include removal and/or demolition of some creosote-treated wood. The handling, transportation, and disposal of creosote-treated wood is regulated by Division 20, Chapter 6.5, and Title 22, Division 4.5 of the California Health and Safety Code, as described in Section 4.7.3, *Applicable Laws and Regulations*. In addition, the Occupational Safety and Health Administration (OSHA) provides specific standards for maintaining safe and healthy working conditions pertaining to hazardous materials; listed in 29 CFR 1910 Subpart H. Compliance with these regulations would ensure the safe management and proper disposal of creosote-treated wood and that any related hazardous materials impacts would be less than significant. For a discussion of potential water quality impacts associated with creosote treated wood piles, please see Section 4.5, *Hydrology and Water Quality*.

Construction-Related Hazardous Materials

Typical construction-related hazardous materials would be used during landside and waterside construction, including gasoline, oil, and other vehicle- or vessel-related fluids, paints, and solvents. It is possible that any of these substances could be accidentally released during construction activities. However, as described in Section 4.7.3, *Applicable Laws and Regulations*, and in Section 4.5, *Hydrology and Water Quality*, the proposed project would comply with federal, state, and local regulations and would be required to obtain a Clean Water Act Section 10 permit and Section 401 Certification. Moreover, the proposed project would be required to comply with the Municipal Stormwater Permit and the District's JRMP, which identifies construction BMPs that would be implemented in order to prevent stormwater runoff. The District's JRMP requires preparation of a Construction BMP Plan. Construction BMPs, identified in the Construction BMP Plan, would be required to be implemented throughout the various construction phases. This would ensure that all construction-related hazardous materials are used, stored, and disposed of properly, which would minimize potential impacts related to an accidental hazardous materials release during construction activities. Therefore, impacts from the use of construction-related hazardous materials would be less than significant.

Operation

Operations at the BAE Systems San Diego Ship Repair Yard would remain similar to existing conditions but efficiency of operations would increase as a result of the proposed project. The proposed project would allow BAE Systems to service newer, larger ships at the ship repair yard by removing existing physical limitations and constraints at the site; however larger ships would occupy the facilities longer, which would result in fewer ships being serviced annually compared to existing conditions. The ship repair yard would continue to utilize hazardous materials as part of day-to-day operations; however, the use of hazardous materials is not anticipated to increase as

a result of the proposed project because of the annual decrease in the total number of ships being serviced at the site. Therefore, quantities of hazardous materials are not anticipated to substantially increase as a result of the proposed project. The project site has been listed as an LQG under the RCRA and would continue to comply with the regulations established by the EPA, the California Health & Safety Code Section 25505, and the local CUPA to ensure safe handling, use, and disposal of hazardous materials. Therefore, potential impacts associated with operations of the proposed project would be less than significant.

Level of Significance Prior to Mitigation

Implementation of 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. Potentially significant impact(s) include:

Impact-HAZ-1: Landside Potential to Encounter Hazardous Materials in Soil and/or Groundwater. Based on documentation compiled from database searches, hydrocarbon-impacted soils are present south of Pier 3 along the bulkhead, related to historic unauthorized releases. Construction and excavation in this area may encounter contaminated soils. The disturbance of contaminated soils could potentially result in a release of hazardous materials and exacerbate the existing hazardous conditions at the project site. Furthermore, historical information reviewed indicates the project site has a history of handling, disposal, and releases of hazardous materials that have affected soil and/or groundwater on site. In addition, adjacent offsite properties have involved handling, disposal, and releases of hazardous materials that could have migrated to the project site, potentially resulting in contaminated soil and/or groundwater. Therefore, undocumented contaminated soils and/or groundwater may be encountered during landside construction activities, which could potentially result in a release of hazardous materials and exacerbate the existing hazardous conditions at the project site. The potential to encounter prior documented or undocumented contaminants would be a significant impact.

Impact-HAZ-2: Waterside Potential to Encounter Hazardous Materials in Sediment. Historical information, reports, and site assessments compiled from database searches indicate that it is reasonably foreseeable that contaminated sediments may be encountered during in-water construction activities including dredging and pile installation/removal associated with Project Element 1 (Pride of San Diego Drydock Dredging/Mooring), Project Element 2 (Pride of San Diego Wharf Replacement/Realignment), Project Element 3 (Fender System Repair and Replacement), Project Element 4 (Pier 3 South Nearshore Dredging), Project Element 5 (Pier 3 Mooring Dolphin), Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment), Project Element 7 (Quay Wall Modifications), Project Element 8 (Port Security Barrier Replacement), and Project Element 9 (Small Boat Mooring Float Replacement). As such, in-water construction activities that disturb the sediment would potentially result in a release of hazardous materials and create a potentially significant hazard to the environment, regardless of whether it occurs within the CAO area or not, by bringing and releasing subsurface sediment contaminants to the surface of the Bay floor or exacerbating the existing hazardous conditions by spreading contaminated sediment; impacts would be significant.

Mitigation Measures

For **Impact-HAZ-1**:

MM-HAZ-1: Implement a (Landside) Soil and Groundwater Management Program. The project proponent shall retain a licensed Professional Geologist, Professional Engineering Geologist, or Professional Engineer (licensed professional) with experience in contaminated site redevelopment and restoration to oversee the implementation of a *Soil and Groundwater Management Program*, which must be approved by the District. The Soil and Groundwater Management Program will be implemented prior to and throughout the duration of landside construction activities for the proposed project. Each of the elements included in the Soil and Groundwater Management Program shall include the following elements, each of which have specific timing mechanisms as identified in the description of each element below:

- A. Site Contamination Characterization Report*
- B. Soil and Groundwater Testing and Profiling Plan*
- C. Soil and Groundwater Disposal Plan*
- D. Site Worker Health and Safety Plan*
- E. Site-Specific Community Health and Safety Program*
- F. Monitoring and Reporting Program*
- G. Project Closeout Report*

- A. A *Site Contamination Characterization Report (Contamination Characterization Report)* shall be prepared which delineates the vertical and lateral extent and concentration of landside residual contamination in project site areas proposed for construction and/or ground disturbance, including, but not limited to, areas with unauthorized releases identified along the landward side of the southern bulkhead between Pier 3 and Pier 4. The Contamination Characterization Report shall be prepared prior to commencing landside construction consistent with the ASTM D5730-04 guidance, the DTSC *Preliminary Endangerment Assessment Guidance Manual*, and/or other similar guidance for industry standards. The Contamination Characterization Report shall include a compilation of data based on (1) historical records review and (2) investigative and historical assessment reports performed on the project site. If the licensed professional concludes, after the initial characterization based on past records and reports, that either (1) there are data gaps, or (2) historical records do not accurately characterize potential site contamination, new soil and groundwater sampling to characterize the existing vertical and lateral extent and concentration of landside residual contamination must be completed. Any sampling and analysis conducted must be consistent with applicable regulations utilizing the methodologies outlined in ASTM Standard E1903, County of San Diego DEH *Site Assessment and Mitigation (SAM) Manual*, or some other well-accepted methodology for sampling and analysis leading to site characterization, as approved by the District. The project proponent also shall enroll in the Voluntary Assistance Program (VAP) with the County of San Diego Department of Environmental Health and shall submit the results of the Contamination Characterization Report to DEH staff for regulatory concurrence of results.

- B. *A Soil and Groundwater Testing and Profiling Plan (Testing and Profiling Plan)* shall be prepared for those soils and materials that are proposed to be disposed of during construction. The Testing and Profiling Plan shall be prepared after the Contamination Characterization Report and shall utilize the information in the Contamination Characterization Report and include protocols for independent testing of soils and materials identified for disposal for all potential contaminants of concern, including CA Title 22 metals, PAHs, volatile organic compounds, pesticides, PCBs, semi-volatile organic compounds, hydrocarbons, or any other potential contaminants. The Testing and Profiling Plan shall document compliance with CA Title 22 for proper identification and segregation of hazardous and solid waste as needed for acceptance at a CA Title 22-compliant offsite disposal facility.
- C. *A Soil and Groundwater Disposal Plan (Disposal Plan)* shall be prepared following the Testing and Profiling Plan, which shall describe the process for excavating, stockpiling, dewatering, treating, and loading and hauling of soil and groundwater from the site. The Disposal Plan shall be prepared in accordance with the Testing and Profiling Plan and shall adhere to applicable regulatory requirements and standards, including CA Title 22 Division 4.5, and DOT Title 40 CFR Part 263, CAC Title 27, and ensure compliance with applicable regulations for the disturbance, handling of contaminated materials, prevention of cross contamination, spills, or releases, such as segregation into separate piles for waste profile analysis based on organic vapor, and visual and odor monitoring. All excavation activities shall be actively monitored for the potential presence of contaminated soils and for compliance with the Disposal Plan.
- D. *A Site Worker Health and Safety Plan (Safety Plan)* shall be prepared prior to initiation of construction to ensure compliance with 29 CFR Part 120, Hazardous Waste Operations and Emergency Response regulations for site workers at uncontrolled hazardous waste sites. The Safety Plan shall be prepared after, and shall be based on, the Contamination Characterization Report and the planned site construction activity to ensure that site workers potentially exposed to site contamination in soil and groundwater are trained, equipped, and monitored during site activity. The training, equipment, and monitoring activities described in the Safety Plan shall ensure that workers are not exposed to contaminants above personnel exposure limits established by Table Z, 29 CFR Part 1910.1000. The Safety Plan shall be signed by and implemented under the oversight of a California State Certified Industrial Hygienist.
- E. *A Site-Specific Community Health and Safety Program (Safety Program)* shall be prepared prior to the District Development Services Department's approval of the project's landside working drawings, which addresses the chemical constituents of concern for the project site in order to minimize the exposure of chemical constituents during construction to the surrounding community. The Safety Program shall be prepared in accordance with the County of San Diego DEH's *Site Assessment and Mitigation Manual* (2009) and EPA's *SW-846 Manual* (1986). The Safety Program shall include detailed plans on environmental and personal air monitoring, dust control, and other appropriate construction means and methods to minimize the public's exposure to the chemical constituents of concern. The Safety Program shall be reviewed, approved, and monitored for compliance by the District. Following District Environmental Protection Department approval, the project proponent shall implement the Safety Program throughout ground-disturbing construction activities and any other construction activity that may encounter or use chemicals of concern. The

contractor shall utilize a Certified Industrial Hygienist with significant experience with chemicals of concern on the project site to actively monitor compliance with the Safety Program and ensure its proper implementation during project construction activities that use substances that may include chemicals of concern.

- F. *Monitoring and Reporting Program.* During and upon completion of landside construction, the project proponent shall prepare a Monitoring and Reporting Program and submit it to the District's Development Services Department and the RWQCB for review and approval. The Monitoring and Reporting Program shall document implementation of the Soil and Groundwater Management Program. The Monitoring and Reporting Program shall include the project proponent's submittal of monthly reports (during project elements that include active landside disturbance activities, starting with the first ground disturbance activities and ending at the completion of ground disturbance activities of a project element) to the District's Development Services Department, signed and certified by the licensed Professional Geologist, Professional Engineering Geologist, or Professional Engineer, as applicable, documenting compliance with the provisions of the Soil and Groundwater Management Program and the overall Soil and Groundwater Management Program.
- G. *Project Closeout Report.* Within 30 days of completion of landside construction activities the project proponent shall prepare a Project Closeout Report and submit it to the District's Development Services Department for review and approval. The Project Closeout Report shall summarize all disturbance, demolition, and construction activity at the site and document implementation of the Soil and Groundwater Management Program. The Project Closeout Report would also include the reports and closure documentation associated with the VAP case opened for the site, including the correspondence with the DEH and the closure letter.

For **Impact-HAZ-2:**

MM-HAZ-2: Implement a Dredging Management Program. The project proponent shall implement a Dredging Management Program (DMP) that complies with applicable permit requirements, including the Section 404 permit and the Section 401 water quality certification. The DMP shall be implemented prior to, during, and upon completion of dredging activities for the proposed project. The DMP shall contain the following elements, each of which have specific timing mechanisms as identified in the description of each element below:

- A. *Dredging Operations Plan.* Prior to commencement of dredging activities, the project proponent shall develop a Dredging Operations Plan that identifies the standard operating procedures (SOPs) that will be implemented during dredging activities. The Dredging Operations Plan shall be submitted to the District's Development Services Department for review and approval prior to commencing dredging activities. The Dredging Operations Plan shall include step-by-step procedures to complete dredging operations safely, in an efficient manner, and to avoid releases of hazardous materials into the environment. The SOPs shall include guidance with respect to, among other things, the following:
- Proper operation of the dredge bucket;
 - Proper positioning of the barge vessel to minimize propeller wash; and
 - Placement and maintenance of double silt curtains.

In addition, the Dredging Operations Plan shall identify sediment control BMPs to be implemented during dredging activities. The project proponent, or their contractor, shall at a minimum, implement the following BMPs for the safe handling of dredged material:

- **Sediment Unloading.** During dredging activities, the contractor shall reduce water column impacts by controlling the swing radius of the unloading equipment, using a spillage plate, and using a power wash unit to reduce impacts related to spillage from the excavator arm onto transport vehicles.
 - **Filling Transport Vehicles.** During dredging activities, the contractor shall ensure that truck volumes are limited to 90 percent based on visual observations, and that trucks shall be covered and secured per Caltrans regulations during transport to the disposal facility.
 - **Sediment Loading.** During dredging activities, the contractor shall ensure that trucks are loaded within a constructed loading zone to confine sediment spilled during the loading process.
- B. *Contingency Plan.* Prior to commencement of dredging activities, the project proponent shall develop a Contingency Plan, which shall be implemented in the case of equipment or operational failures, such as, but not limited to, silt curtain damage, spillage of sediment resulting from overloading the material barge, contact with sediment on or around the materials barge during loading, equipment failure of bucket or shear pin during loading procedures, or material barge or tugboat collision with another vessel. The Contingency Plan shall be submitted to the District's Development Services Department for review and approval prior to commencing dredging activities. The Contingency Plan shall contain step-by-step procedures for response to equipment or operational failures and shall reduce the potential for the release of sediments to the water column.
- C. *Health and Safety Plan for Dredging Activities.* Prior to the commencement of dredging activities, the project proponent shall prepare a Health and Safety Plan for Dredging Activities (Health and Safety Plan) and submit the plan to the District's Environmental Protection Department for review and approval. Following District approval, the project proponent shall implement the Health and Safety Plan for the duration of the dredging activity. The Health and Safety Plan shall be prepared in general accordance with Federal Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) and Title 8 California Code of Regulations (CCR) Section 5192. The Health and Safety Plan shall provide procedures for workers for safe operation, personal protection, and emergency response during dredging operations.
- D. *Communication Plan.* Prior to the initiation of dredging activities, the project proponent or their contractor shall prepare a Communication Plan and operation guidelines for communications between the U.S. Coast Guard and Harbor Police and all vessel operators to ensure the safe movement of project vessels from the dredge site to the unloading area. The Communication Plan shall be submitted to the District's Development Services Department and Harbor Police for review and approval prior to commencing dredging activities. After the District's approval, the contractor shall implement the Communication Plan throughout the duration of dredging activities.
- E. *Sediment Sampling and Remediation.* Following the completion of dredging, the project proponent must adhere to the following:

1. If no in-water construction work that could potentially disturb sediment is proposed for a dredging area (a specific area that was subject to dredging within the project site), or if proposed in-water construction work proposed for the dredging area will not commence within 90 days after the completion of dredging, sediment sampling and testing shall be conducted to determine whether contaminated sediments may have been exposed by dredging activities. Any sampling shall be conducted in accordance with Investigative Order No. R9-2017-0083 (IO), utilizing the methods required by the IO. The sediment samples shall be tested for the presence of the COCs identified in the CAO R9-2012-0024. A report explaining the sampling methodology used and containing the results of any sampling shall be provided to the RWQCB for review and approval, and to the District for concurrence. If no subsequent in-water construction work is proposed within the dredging area, the project proponent must comply with mitigation measure **MM-HAZ-5**. The project proponent must also comply with mitigation measure **MM-HAZ-3** prior to any in-water construction.
2. If in-water construction work that may potentially disturb sediment is proposed for a dredging area and will commence within 90 days after the completion of dredging, the project proponent must implement a Sediment Management Program, including sampling, as required by mitigation measure **MM-HAZ-3**, and must comply with all other mitigation measures.

MM-HAZ-3: Implement a (Waterside) Sediment Management Program. The project proponent shall retain a licensed Professional Engineer with substantial experience (i.e., more than 5 years) in marine sediment contamination, sediment sampling, and contamination remediation to oversee the implementation of a Sediment Management Program. The Sediment Management Program will be implemented prior to and throughout the duration of waterside construction activities for the proposed project. The Sediment Management Program shall include the following elements, each of which have specific timing mechanisms as identified in the description of each element below:

A. Sampling Analysis Plan

B. Marine Sediment Contamination Characterization Report

C. Contaminated Sediment Management Plan

D. In-Water Activity Specific Procedures

E. Post-Construction Sampling and Analysis

- A. *Sampling and Analysis Plan (SAP).* Prior to in-water demolition or construction that may potentially disturb sediment, a licensed Professional Engineer shall (1) delineate the area of potential disturbance (Disturbance Area); (2) develop an SAP, which must be consistent with the sampling requirements of IO R9-2017-0083; and (3) perform sediment sampling. The SAP shall set forth the methodology to be used, the locations where sampling would occur, and analysis of the COCs so that it is consistent with the sampling requirements of IO R9-2017-0083, and proper decontamination and disposal procedures. The sediment samples shall be tested for the presence of the COCs identified in the CAO R9-2012-0024. The sampling area and sampling methodology shall identify sample locations determined to be appropriate, at the discretion of the District and RWQCB (or other applicable agencies), to adequately characterize any Disturbance Area associated with project elements. All

sediment sampling and analysis must occur after dredging activity and prior to other sediment-disturbing construction activity and shall be performed in accordance with the requirements of the SAP. The SAP must be submitted to the RWQCB for review and approval, and to the District for concurrence.

The results of all sediment sampling shall be documented in a report and submitted to the RWQCB for their review and approval prior to any marine-side sediment-disturbing activities.

- B. *Marine Sediment Contamination Characterization Report (Sediment Characterization Report)*. Prior to in-water construction (excluding dredging activities), the licensed Professional Engineer shall prepare a Sediment Characterization Report delineating the vertical and lateral extent and concentration of the project site's potential COCs in areas where pile driving or removal and other sediment-disturbing activities are proposed as part of this project. The Sediment Characterization Report shall be developed taking into account the site assessment reports, final cleanup reports, and post-remediation monitoring reports associated with the San Diego Shipyard Sediment Cleanup – North Shipyard, and sediment sampling performed per the SAP. The project proponent shall submit the Sediment Characterization Report to the RWQCB (and any other appropriate regulatory agencies) for approval as representative of sediment conditions in Disturbance Areas.
- C. *Contaminated Sediment Management Plan (Sediment Management Plan)*. If contaminated sediment is identified in the Sediment Characterization Report in any of the proposed project Disturbance Area, the project proponent shall prepare a Sediment Management Plan for the District's and RWQCB's approval. Once approved, the Sediment Management Plan shall be implemented by the project proponent and be subject to oversight by the appropriate overseeing regulatory agencies, including the District. The Sediment Management Plan shall describe in detail the methods to be employed to prevent waterside construction activity from adversely affecting or exposing the gravelly-sand or sand-covered contaminated sediment, or disturbing contaminated sediment, as identified in the Sediment Characterization Report, and the monitoring that will occur postconstruction.
- D. *In-Water Activity-Specific Procedures (Pile Installation or Removal)*. Pile installation or removal shall be conducted in a manner that implements applicable permit requirements, including the CWA Section 404 permit and CWA Section 401 Water Quality Certification. The following measures are required based on the type of pile installation, or removal, that occurs.

1. **Impact Hammer Pile Driving.**

OR

2. **Internal Jetting.**

- A. Internal jetting shall not be allowed unless the project proponent can demonstrate, to the District's satisfaction, there are no feasible alternatives to the use of internal jetting.
- B. Turbidity curtains shall be installed in compliance with the District's Best Management Practices and Environmental Standards for Overwater Structural Repair and Maintenance Activities for Existing Port Facilities Conducted by the San Diego Unified Port District (District 2019).

OR

3. **Spudding.** Spudding shall not be allowed unless the project proponent can demonstrate, to the District's satisfaction, there are no feasible alternatives to the use of spudding. If no alternatives to spudding are feasible, when spuds are lifted during in-water construction, they shall be lifted slowly—at least a quarter of the speed that spuds are lifted during normal operation. Before the spud reaches the subsurface of the Bay floor during removal, the operator shall conduct spud extraction in 2-minute intervals (repeated 2-minute extraction followed by 2-minute pause) to reduce the disturbance of Bay sediment.
- E. *Post-Construction Sampling and Analysis.* At the conclusion of construction activities within a Disturbance Area, the project proponent shall conduct post-construction sediment sampling that adequately characterizes potential contamination resulting from construction activities (and dredging activities if the in-water construction occurred within a dredging area) to determine if in-water construction or disturbance activities resulted in COCs in excess of the levels above the levels set forth in CAO R9-2012-0024. All sampling shall be conducted in accordance with IO No. R9-2017-0083, utilizing the methods required by the IO. The project proponent shall prepare, for submittal to and approval by the District and RWQCB, a Post-Construction Sampling Plan that shall outline the methodology to be used, the locations where sampling would occur, and the COCs to be analyzed consistent with CAO R9-2012-0024.

MM-HAZ-4: Comply with Federal and State Permits. Prior to in-water construction, the project proponent shall obtain all federal and state permits required for in-water construction activities, provide evidence of such permits to the District, and demonstrate to the District compliance with all permit conditions during in-water construction.

MM-HAZ-5: Implement Post-Dredging and/or Post-Waterside Construction Remediation. If, after the completion of any dredging activity for a dredging area or in-water construction work, consistent with the requirements of mitigation measures **MM-HAZ-2** and **MM-HAZ-3**, site sampling shows that concentrations of COCs exceed those set forth in CAO R9-2012-0024 (or other levels as prescribed by the RWQCB), the project proponent shall propose remediation consistent with CAO R9-2012-0024 (or other levels as prescribed by the RWQCB), subject to approval by the RWQCB, and any other agencies with jurisdiction over the site contamination, and concurrence by the District. The project proponent's remediation approaches may include, but are not limited to, additional dredging, placement of sand cover, or Enhanced Monitored Natural Recovery sand containing active carbon. If remediation is required, the remediation shall be conducted with oversight from the appropriate local, state, or federal regulatory agency. In addition, documentation evidencing the remediation work and completion thereof shall be submitted to the District. The project proponent shall monitor the remediation for its effectiveness, consistent with the standards set forth by CAO R9-2012-0024 (or other levels as prescribed by the RWQCB), for a period consistent with guidance from the regulatory agency with jurisdiction. A monitoring report shall be submitted to the District and the RWQCB for their review on a monthly basis, or at a frequency determined appropriate by the relevant agency overseeing the remediation activities.

If, after the completion of any dredging activity for a dredging area or in-water construction work within a Disturbance Area, consistent with the requirements of mitigation measures **MM-HAZ-2** and **MM-HAZ-3**, concentrations of COCs in the area of potential contamination do

not exceed those levels set forth in CAO R9-2012-0024 (or other levels as prescribed by the RWQCB), no further mitigation is required.

Level of Significance After Mitigation

With implementation of **MM-HAZ-1**, **Impact-HAZ-1** would be reduced to less-than-significant levels because safeguards would be taken during landside construction to ensure upset and accident conditions do not occur, and effects in the event of an unanticipated upset condition would be minimized.

Implementation of mitigation measures **MM-HAZ-2** through **MM-HAZ-5** would minimize potential impacts associated with sediment contamination during in-water construction activities, including dredging and pile installation located within areas with contaminated sediment (**Impact-HAZ-2**). **MM-HAZ-2** requires the project proponent to implement a Dredging Management Program that must include the development of: (A) Dredging Operations Plan identifying the appropriate SOPs and sediment control BMPs to be implemented; (B) Contingency Plan to prepare for equipment or operational failures; (C) Health and Safety Plan for Dredging Activities; (D) Communication Plan; and (E) Sediment Sampling and Remediation, to assess the condition of sediment post-dredging and outline potential remediation approaches, as appropriate. All of the plans and reports included in the Dredging Management Program would be reviewed and approved by the District and/or the San Diego RWQCB. **MM-HAZ-3** requires the project proponent to implement a (Waterside) Sediment Management Program that must contain: (A) Sampling Analysis Plan (SAP); (B) Marine Sediment Contamination Characterization Report; (C) Contaminated Sediment Management Plan; (D) In-Water Activity Specific Procedures; and (E) Post-Construction Sampling and Analysis. **MM-HAZ-4** requires the project proponent to obtain all federal and state permits required for in-water construction activities and demonstrate to the District compliance with all permit conditions during in-water construction. **MM-HAZ-5** requires the project proponent to propose and conduct remediation of the site if, after in-water construction activities and dredging are complete, site sampling shows that concentrations of COCs exceed those set forth in CAO R9-2012-0024 (or other levels as prescribed by the RWQCB). With implementation of **MM-HAZ-2** through **MM-HAZ-5**, **Impact-HAZ-2** would be reduced to less than significant.

Threshold 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 would not create a significant hazard to the public or the environment.

Impact Discussion

As discussed in Section 4.7.3.2, the lists compiled pursuant to Government Code Section 65962.5 (or the Cortese list) include a variety of hazardous waste facilities, unauthorized releases, and cleanup sites. As shown in Table 4.7-2, the project site would be located on an unauthorized release site with an unknown status (H09689-003), on a contaminated sediment cleanup site (CAO R9-2012-0024), and on potentially contaminated soil and/or groundwater due to historic land uses and database listings. If not properly handled, these contaminated soils, groundwater, and sediments could result in a release of hazardous materials into the environment, exacerbating the existing hazardous condition at the project site during construction of the proposed project (**Impact-HAZ-1** and **Impact-HAZ-2**).

Level of Significance Prior to Mitigation

Implementation of the proposed project would occur on sites that are 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. Potentially significant impact(s) include:

Impact-HAZ-1 and **Impact-HAZ-2**, as discussed under Threshold 2 above.

Mitigation Measures

For **Impact-HAZ-1**:

Implement **MM-HAZ-1**, as described under Threshold 2 above.

For **Impact-HAZ-2**:

Implement **MM-HAZ-2** through **MM-HAZ-5**, as described under Threshold 2 above.

Level of Significance After Mitigation

With implementation of **MM-HAZ-1**, **Impact-HAZ-1** would be reduced to less-than-significant levels because safeguards would be taken during landside construction to ensure upset and accident conditions do not occur, and effects in the event of an unanticipated upset condition would be minimized.

Implementation of mitigation measures **MM-HAZ-2** through **MM-HAZ-5** would minimize potential impacts associated with sediment contamination during in-water construction activities including dredging and pile installation located within areas with contaminated sediments (**Impact-HAZ-2**). These mitigation measures would require implementation of a Dredging Management Program and Sediment Management Program, compliance with federal and state permits, and post-dredging and/or post-waterside construction remediation. With implementation of **MM-HAZ-2** through **MM-HAZ-5**, **Impact-HAZ-2** would be reduced to less than significant.

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4.5.1 Overview

This section describes the existing conditions and applicable laws and regulations for hydrology and water quality, followed by an analysis of the proposed project’s potential to: (1) violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality, (3) substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river or through the addition of impervious surfaces, (4) in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation, and (5) conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. All other hydrology and water quality issues were addressed in Section IX of the Initial Study/Environmental Checklist (Appendix A) and determined to be less than significant. The analysis and conclusions regarding these impacts are also summarized in Chapter 6, Section 6.4, *Effects Not Found to Be Significant*.

Table 4.5-1. Summary of Significant Hydrology and Water Quality Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-HWQ-1: Degradation of Water Quality from Waterside Sediment Contamination	Implement MM-HAZ-2 , MM-HAZ-3 , MM-HAZ-4 , and MM-HAZ-5 in Section 4.4, <i>Hazards and Hazardous Materials</i>	Less than Significant	Implementation of MM-HAZ-2 , MM-HAZ-3 , MM-HAZ-4 , and MM-HAZ-5 would ensure the project proponent characterizes the contaminated sediment on site, implements appropriate BMPs, manages contaminated sediment and dredge materials, remediates sediments if necessary, and complies with all federal and state permits; thereby reducing potential degradation of water quality due to contamination.
Impact-HWQ-2: Removal of Creosote Piles Could Result in Resuspension of Sediments Contaminated with PAHs	MM-HWQ-1: Remove and Dispose of Creosote Piles Properly	Less than Significant	MM-HWQ-1 would ensure that chemicals from the existing piles do not leach into the adjacent sediments or the water column.

4.5.2 Existing Conditions

This section describes the hydrology and water quality settings of the project site.

4.5.2.1 Surface Water Hydrology

The project site is within the jurisdiction of the San Diego Regional Water Quality Control Board (RWQCB). The San Diego Region is divided into 11 hydrologic units (HUs) for administrative purposes. Each of the HUs flow from elevated regions in the east to lagoons, estuaries, or bays in the west and feature similar water quality characteristics and issues. The proposed project is within the San Diego Bay Watershed, which is within the Pueblo San Diego HU. The Pueblo San Diego HU is the smallest in San Diego County and covers approximately 60 square miles of predominantly urban landscape in the cities of San Diego, La Mesa, Lemon Grove, and National City. Approximately 75 percent of the watershed is developed. The Pueblo San Diego HU contains three hydrologic areas: Point Loma (908.1), San Diego Mesa (908.2), and National City (908.3). The project site is in the San Diego Mesa hydrologic area. The San Diego Bay and Chollas Creek fall within the San Diego Mesa hydrologic area. The project site is adjacent to and within the San Diego Bay and northwest of Chollas Creek. Major water features in the Pueblo San Diego HU include Chollas Creek, Paleta Creek, and San Diego Bay (Project Clean Water 2018). Pueblo San Diego has no central stream system and instead consists primarily of a group of relatively small local creeks and pipe conveyances, many of which are concrete-lined and drain directly into San Diego Bay.

4.5.2.2 Surface Water Quality

San Diego Bay is the receiving water body for the project site. Water quality in San Diego Bay is influenced by processes and activities that take place within the Pueblo San Diego watershed. The creeks in the watershed are highly affected by urban runoff, such as contaminants from roadways, industry, and other urban sources. Major contaminants found in San Diego Bay include chlorinated hydrocarbons, toxic components of petroleum hydrocarbons, polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCBs), heavy metals, and organotins (organic compounds with one or more tin atoms) such as tributyltin. The most significant sources of pollutants affecting the beneficial uses of San Diego Bay are urban and agricultural runoff, resource extraction, septic systems, and marinas and boating activities (Project Clean Water 2018).

Tidal exchange in San Diego Bay controls the flushing of contaminants, salt and heat balance, and residence time of water. The ebb and flow of tides mix ocean and San Diego Bay waters. Tides produce currents, which induce changes in salinity, and alternately expose and wet portions of the shoreline. Tidal flushing and mixing are important for dispersing pollutants, maintaining water quality, and moderating water temperature that has been affected by exchange with the atmosphere or heating. Tidal flushing and currents affect water quality in north-central San Diego Bay. Water quality also is influenced locally by freshwater inflows.

Sediment Contamination

On March 14, 2012, a Cleanup and Abatement Order (CAO) R9-2012-0024, *San Diego Bay Shipyard Sediment Cleanup for the NASSCO and BAE Leaseholds* (San Diego Bay Shipyard Sediment Cleanup) was issued by the San Diego RWQCB for sediment contamination within the General Dynamics NASSCO and BAE Systems leaseholds (San Diego RWQCB 2012). The State Water Resources Control

Board's (SWRCB's) GeoTracker database includes numerous documents associated with CAO R9-2012-0024. An assortment of waste has been generated at these facilities including spent abrasive, paint, rust, petroleum products, marine growth, sanitary waste, and general refuse. The CAO was issued to order the cleanup of impacted sediments within the NASSCO and BAE Systems leaseholds, which was collectively referred to as the Shipyard Sediment Site. The Shipyard Sediment Site was divided into the North Shipyard (the property leased by BAE Systems) and the South Shipyard (the property leased by NASSCO). As such, the waterside portion of the project site is within the North Shipyard Cleanup boundary.

The CAO required cleanup of impacted sediments that contained contaminants of concern (COCs) above San Diego Bay background sediment levels. Cleanup levels were established for primary COCs of copper; mercury; high-molecular weight polynuclear aromatic hydrocarbons (HPAHs), which was defined as the sum of fluoranthene, perylene, benzo(a)anthracene, chrysene, benzo(a)pyrene, and dibenzo(a,h) anthracene; PCBs; and tributyltin. Cleanup levels for secondary COCs were established for arsenic, cadmium, and zinc. The remedial action for the Shipyard Sediment Site (both North and South Shipyards) consisted of mechanically removing approximately 142,745 cubic yards of material to remove contaminated sediment located at the site. Within the North Shipyard, approximately 114,085 cubic yards of impacted sediments were removed and disposed offsite. In addition, contaminated sediments that were unable to be dredged (in sloping and under-pier areas)—42,698 tons of cover material (including both sand cover and gravelly sand cover)—were placed in both shipyard sites (Anchor QEA 2016). Order R9-2013-0093 was issued on July 10, 2013 for the waterside portions of the site related to sediment remediation requirements of t CAO R9-2012-0024 (San Diego RWQCB 2013). Order R9-2013-0093 imposed requirements that regulate discharges of waste associated with dredging activities required by CAO R9-2012-0024 (SRWQCB 2013). Contaminated marine bay sediments adjacent to the BAE Systems and NASSCO shipyards in San Diego Bay was removed under Order R9-2013-0093 using environmental dredging techniques performed specifically for the removal of contaminated sediment while minimizing the spread of contaminants to the surrounding environment during dredging operations. The dredged sediment was off-loaded from haul barges to a landside staging area (sediment staging area or sediment management area), dewatered and solidified (onshore or on a barge), sampled for waste characterization, and transported by trucks to the appropriate landfill disposal facility. The cleanup was reported completed as of April 2016 and the site is currently under post-remediation monitoring to evaluate the effectiveness of the cleanup (Appendix E).

On August 4, 2017, the San Diego RWQCB issued Investigative Order R9-2017-0083 (RWQCB 2017). According to Investigative Order R9-2017-0083, the San Diego RWQCB required additional sediment data for the area of San Diego Bay north of and including a portion of the BAE Systems leasehold. The data are needed to delineate the extent and magnitude of pollutants discharged by San Diego Gas and Electric Company (SDG&E) and BAE Systems and to determine if additional cleanup and abatement activities are required to restore the beneficial uses of San Diego Bay. While Order R9-2013-0093 required dredging and removing contaminated Bay sediments to remediate the sediments for the primary COCs, the northernmost end of the remedial dredging footprint under CAO R9-2012-0024 was limited to within the current BAE Systems' site's northwestern boundary, even though the sediment data upon which the CAO was based showed that impacted sediments extended beyond the leasehold boundary to the north. Thus, the extent and magnitude of the contamination was not fully delineated at the time CAO R9-2012-0024 was issued.

As required under Investigative Order R9-2017-0083, a Sampling and Analyses Report was completed in April 2019 and evaluated sediment chemistry to understand the availability of selected

chemicals in surface sediment, characterize the nature and extent of sediment contamination, identify potential sources of chemicals to the sediment, and evaluate the fate and transport of sediment bound contamination. The Sampling and Analyses Report indicated elevated concentrations of PCBs, PAHs, and some metals are present in the Investigation Area.

Hazardous Material Structures in Water

The Hazardous Material Technical Study (HMTS) prepared for the proposed project (Appendix E) identifies the potential for wooden components in piers, wharfs, or bulkheads within the project site to have been treated with creosote. Creosote is a common wood preservative and contains toxic PAHs. The Emergency Response Notification System database listing from April 30, 2013, mentions an oily sheen present in the Bay, and identifies the potential source of the oily sheen as creosote piles. Oily sheen indicates transfer of creosote components directly to the marine environment. Organisms can be directly exposed to the PAH in the water column, from clinging to the wood, and from sediments.

Total Maximum Daily Loads

A Total Maximum Daily Load (TMDL) is a calculation of the total maximum amount of a pollutant that a water body can receive on a daily basis and still safely meet water quality standards. The SWRCB approved the 2014 and 2016 Integrated Report (Clean Water Act [CWA] Section 303(d) List / 305(b) Report) on October 3, 2017. On April 6, 2018, the United States Environmental Protection Agency (EPA) approved the California 303(d) List of Water Quality Limited Segments. As shown in Table 4.5-2, water bodies with 303(d)-listed impairments with potential to be affected by the proposed project include Chollas Creek, San Diego Bay, San Diego Bay shoreline between Sampson Street (adjacent to the project site) and 28th Street (directly south of the project site), and the San Diego Bay shoreline near Coronado Bridge (north of the project site) based on the 2014 and 2016 California Integrated Report (SWRCB 2016).

The entirety of San Diego Bay remains on the 303(d) list as impaired for PCBs in fish tissue as a result of historic uses, including from storm drains that drain the former bayside Teledyne Ryan Aeronautical Facility in Convair Lagoon, approximately 3 miles northwest of the project site. Although Teledyne Ryan Aeronautical Facility abated the effects of historic PCB discharges into Convair Lagoon, the Bay remains impaired (RWQCB 2013).

Table 4.5-2. 303(d)-Listed Impairments for Water Bodies and Adjacent Shorelines Within the Project Vicinity

Reach	303(d)-listed Impairments	Source	Expected Attainment Date
Chollas Creek	Benthic Community Effects	Unknown	2005
	Sediment Toxicity	Unknown	2010
San Diego Bay	PCBs	Unknown	Est. 2019
	PAHs	Unknown	Est. 2025
	Mercury	Atmospheric deposition, contaminated sediments, historic land management activities, urban runoff	Est. 2027
San Diego Bay Shoreline, near Coronado Bridge	Benthic Community Effects	Unknown	Est. 2019
	Sediment Toxicity	Unknown	Est. 2019
San Diego Bay Shoreline, between Sampson and 28 th Streets	Copper	Unknown	Est. 2015
	Mercury	Major Industrial Point Source	Est 2013
	PAHs	Unknown	Est 2013
	PCBs	Unknown	Est. 2013
	Zinc	Unknown	Est. 2013

Source: State Water Resources Control Board 2016

PCBs = polychlorinated biphenyls; PAHs= Polycyclic aromatic hydrocarbons; TMDL = Total Maximum Daily Load; est. = estimated

4.5.2.3 Drainage Patterns

The project site and surrounding area includes dense urban development and associated infrastructure (e.g., roads, sidewalks, gutters); therefore, the majority of the drainage area can be classified as highly impervious. The existing site development consists of an asphalt parking lot, concrete pathways and piers, several buildings, and a few minimally landscaped areas. The receiving water body for surface runoff from the project site is the San Diego Bay. A large portion of the existing site drains via overland sheet flow into the Bay or through an existing underground storm drain system. Based on a review of the City of San Diego's municipal separate storm sewer system (MS4) Inventory Map (City of San Diego 2015) and the District's MS4 Map (District 2018), the project site is underlain by both City and District (tenant-influenced) storm drain lines that discharge directly to the Bay. The project site contains a Storm Water Diversion System (SWDS), operated and maintained by BAE Systems to eliminate and/or reduce the volume of pollutants discharged to the San Diego Bay. This system consists of 36 catch basins (drains) and associated piping, as well as secondary containment from various hazardous materials areas. The diversion system is designed to capture at least the first 1.0 inch of stormwater that has fallen upon the facility. Rain gauges are utilized to determine when 1.0 inch of rainfall has been achieved. Collected stormwater is held in 11 tank systems (DS1 through DS11) and is managed in accordance with the

BAE Systems Industrial User Discharge (IUD) Permit, issued by the City of San Diego Industrial Wastewater Control Program. Once the stormwater has been determined to meet IUD permit parameters, it is discharged into the onsite sewer (District 2015).

4.5.2.4 Potential Flooding

Flood hazard areas on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) are identified as a Special Flood Hazard Area. As shown in FEMA FIRM No. 06073C1885G (Figure 4.5-1), the landside portion of the project site is outside the FEMA 100-year floodplain (FEMA 2012). However, the waterside portion of the project site is within Flood Zone AE, which is an area subject to flooding during the 100-year storm event (1 percent annual chance of flooding where base flood elevations and flood hazard factors are determined).

4.5.3 Applicable Laws and Regulations

This section provides an overview of the pertinent federal, state, and local laws and regulations governing hydrology and water quality for the proposed project.

4.5.3.1 Federal

Clean Water Act

The primary goals of the CWA are to restore and maintain the chemical, physical, and biological integrity of the nation's waters and to make all surface waters fishable and swimmable. EPA is the lead federal agency responsible for water quality management. The CWA of 1972 (33 United States Code [USC] 1251–1387) is the primary federal law that governs and authorizes water quality control activities by EPA as well as the states. The federal CWA of 1977 (33 USC 1251 et seq.), which amended the federal Water Pollution Control Act of 1972, established the basic structure for regulating discharges of pollutants into the waters of the United States (not including groundwater). Under the CWA, it is unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a National Pollutant Discharge Elimination System (NPDES) permit is obtained and implemented within compliance. In addition, the CWA requires the states to adopt water quality standards for receiving water bodies and to have those standards approved by EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality criteria necessary to support those uses.

The proposed project would be required to comply with the CWA, as discussed in the subsections below.

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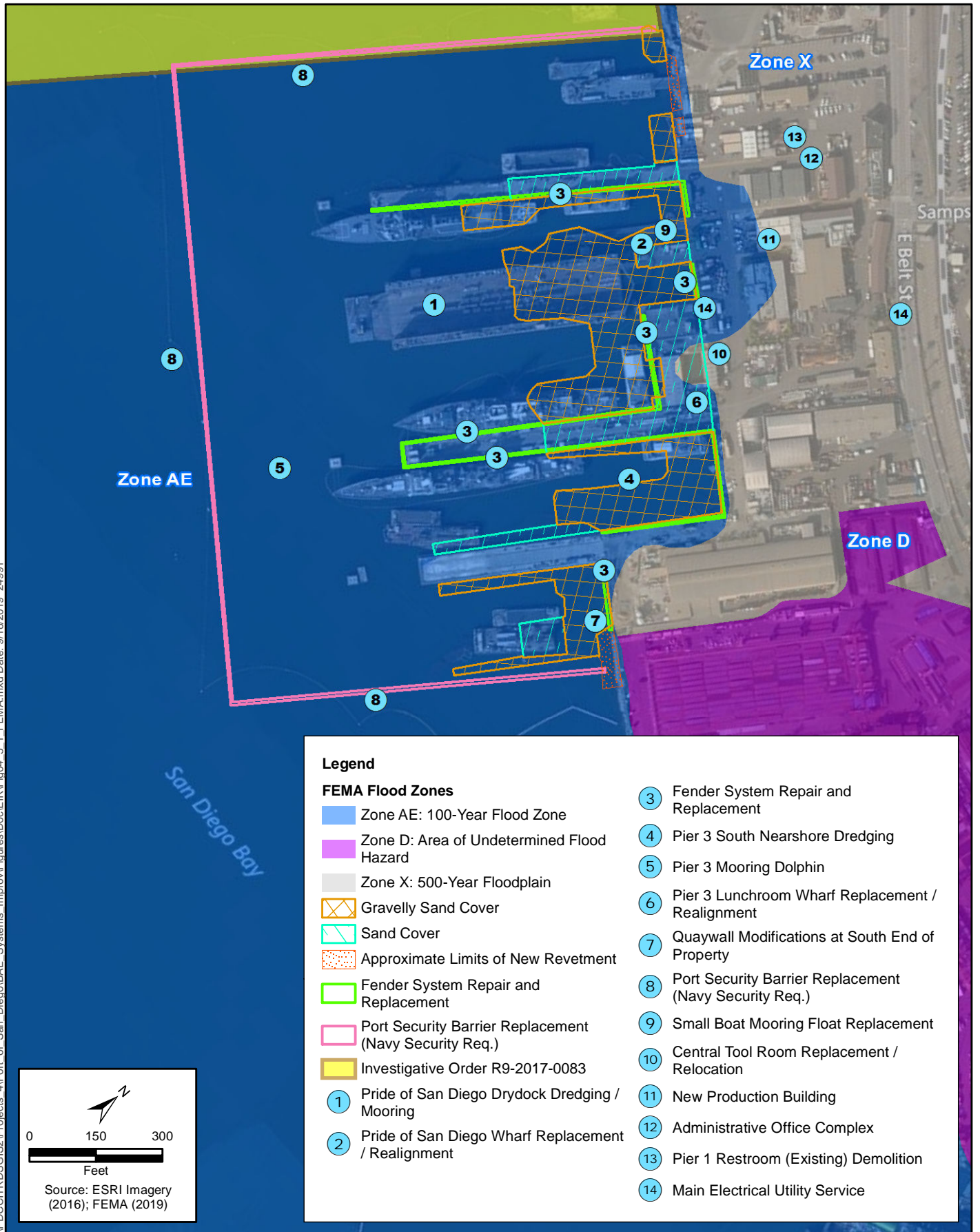


Figure 4.5-1
FEMA Flood Zones
BAE Systems Waterfront Improvement Project



Section 303: Impaired Water Bodies (303(d) list) and Total Maximum Daily Loads

Under Section 303(d) of the CWA, the SWRCB is required to develop a list of impaired water bodies that do not meet water quality standards (promulgated under the National Toxics Rule [NTR] or the California Toxics Rule [CTR]) after the minimum technology-based effluent limitations have been implemented for point sources. Lists are to be priority ranked for development of a TMDL. The California RWQCBs and EPA are responsible for establishing TMDL waste-load allocations and incorporating improved load allocations into water quality control plans, NPDES permits, and waste discharge requirements. Section 305(b) of the CWA requires that states assess the status of water quality conditions within the state in a report to be submitted every 2 years.

Both CWA requirements are being addressed by the SWRCB through the development of a 303(d)/305(b) Integrated Report, which will address both an update to the 303(d) list and a 305(b) assessment of statewide water quality. As noted in Section 4.5.2.2, *Surface Water Quality*, the SWRCB developed a statewide 2014 and 2016 California Integrated Report based upon the Integrated Reports from each of the nine RWQCBs. The 2014 and 2016 California Integrated Report was approved by the SWRCB on October 3, 2017, and EPA issued its final decision and approval on April 6, 2018.

All of the 303(d) listed impaired waters with potential to be affected by the proposed project would be evaluated as part of the project, and minimization measures would be implemented to protect waters from further water quality impairment.

Section 401: Water Quality Certification

Under Section 401 of the CWA, an applicant for a Section 404 permit to discharge dredged or fill material into waters of the United States must first obtain a certificate from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirement is delegated by the SWRCB to the nine RWQCBs. In addition, an applicant under Section 10 of the Rivers and Harbor Act must also obtain a Section 401 Water Quality Certification.

The proposed project would require a Section 401 Water Quality Certification from the SWRCB for project activities permitted under the CWA Section 404 Permit and Rivers and Harbor Act Section 10 Permit.

Section 402: National Pollutant Discharge Elimination System Permits

Section 402(p) of the CWA was amended in 1987 to require EPA to establish regulations for permitting of municipal and industrial (including active construction sites) stormwater discharges under the NPDES permit program. EPA published final regulations for industrial and municipal stormwater discharges on November 16, 1990. The NPDES program requires all industrial facilities and municipalities of a certain size that discharge pollutants into waters of the United States to obtain a permit. Stormwater discharges in California are commonly regulated through general and individual NPDES permits, which are adopted by the SWRCB or RWQCBs and are administered by the RWQCBs. EPA requires NPDES permits to be revised to incorporate waste-load allocations for TMDLs when the TMDLs are approved (40 Code of Federal Regulations [CFR] 122).

NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the

discharger, including industrial pretreatment, pollution prevention, self-monitoring, or other activities.

The proposed project would be required to comply with the local NPDES Permit, as described in the Local Regulations section (4.5.3.3) below under *RWQCB Municipal Stormwater Permit*.

Section 404: Permits for Dredged or Fill Material

Under Section 404, the U.S. Army Corps of Engineers (USACE) and EPA regulate the discharge of dredged and fill materials into the waters of the United States. These waters are primarily defined as navigable waterways or water features (including wetlands) that have a significant nexus to navigable waters. Project sponsors must obtain authorization from USACE for all discharges of dredged or fill materials into waters of the United States before proceeding with a proposed activity. Individual Section 404 permits may only be issued for a least environmentally damaging practicable alternative. Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general permit until the requirements of the National Environmental Policy Act of 1969, Endangered Species Act, Coastal Zone Management Act, and National Historic Preservation Act have been met. Additionally, no permit can be issued or verified until a water quality certification, or waiver of certification, has been issued pursuant to CWA Section 401.

The proposed project would be required to obtain and comply with a Section 404 Permit from USACE for dredging activities associated with Project Element 1 (Pride of San Diego Drydock Dredging and Moorage Replacement, Project Element 4 (Pier 3 South Nearshore Dredging), and Project Element 7 (Quay Wall Modifications) and for the discharge of clean sand cover into San Diego Bay.

Section 10, Rivers and Harbors Act of 1899

The Rivers and Harbors Act is a primary federal law regulating activities that may affect navigation on the nation's waterways. Section 10 of the Rivers and Harbors Act grants USACE control over obstructions to navigable waters of the United States and gives USACE exclusive authority to approve construction of smaller structures, such as wharves, booms, and bulkheads, as well as to approve dredging and filling operations.

The proposed project would require a Section 10 Permit from USACE for the following project elements that involve the addition of new and/or replacement structures in the water:

- Project Element 1 (Pride of San Diego Drydock Dredging and Moorage Replacement)
- Project Element 2 (Pride of San Diego Drydock Wharf Replacement and Realignment)
- Project Element 3 (Fender System Repair and Replacement)
- Project Element 4 (Pier 3 South Nearshore Dredging)
- Project Element 5 (Pier 3 Mooring Dolphin)
- Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment)
- Project Element 8 (Port Security Barrier Replacement)
- Project Element 9 (Small Boat Mooring Float Replacement)

Federal Emergency Management Agency

FEMA administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues FIRMs that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a 1-in-100 chance of occurring in any given year.

Additionally, FEMA has developed requirements and procedures for evaluating earthen levee systems and mapping the areas affected by those systems. Levee systems are evaluated for their ability to provide protection from 100-year flood events, and the results of this evaluation are documented in the FEMA Levee Inventory System. Levee systems must meet minimum freeboard standards and must be maintained according to an officially adopted maintenance plan. Other FEMA levee system evaluation criteria include structural design and interior drainage.

The waterside portion of the project site falls within FEMA FIRM No. 06073C1885G and would therefore be subject to FEMA regulations.

4.5.3.2 State

California Ocean Plan

The Water Quality Control Plan for Ocean Waters of California (California Ocean Plan) of the SWRCB implements standards for ensuring consistency between water quality control plans and policies (SWRCB 2019). In the adoption and amendment of water quality control plans, each plan provides for the attainment and maintenance of the water quality standards of downstream waters. To the extent there is a conflict between a provision of the California Ocean Plan and a provision of another statewide plan or policy, or a regional water quality control plan (Basin Plan), the more stringent provision applies except where pursuant to Chapter III.J of the California Ocean Plan.

The proposed project would be required to comply with the California Ocean Plan.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (embodied in the California Water Code) of 1969 (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State must adopt water quality policies, plans, and objectives that protect its waters for the use and enjoyment of the people. Under the California Water Code, the State of California is divided into nine regions governed by RWQCBs that, under the guidance and review of the SWRCB, implement and enforce provisions of the California Water Code and the CWA. The project site is in Region 9, the San Diego Region, and governed by the San Diego RWQCB.

The Porter-Cologne Act also requires waste dischargers to notify the RWQCBs of their activities through the filing of Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, or other approvals.

Section 13050 of the California Water Code defines what is considered pollution, contamination, or nuisance. Briefly defined, pollution means an alteration of water quality such that it unreasonably affects the beneficial uses of water. Contamination means an impairment of water quality to the degree that it creates a hazard to public health. Nuisance is defined as anything that is injurious to health, is offensive to the senses, or is an obstruction to property use, and which affects a considerable number of people.

Section 13304 *Cleanup and Abatement*, outlines the RWQCB or SWRCB's authority to order cleanup and abatement efforts to an entity that has discharged waste or has allowed the discharge of waste to waters of the state, or threatens to create a condition of pollution (Water Code Chapter 5, Section 13304). A cleanup and abatement order issued by the SWRCB or RWQCB may require the clean up of waste or abatement of the effects of waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts (CSWRCB 2019). Water Code Section 13267, *Investigations, inspections*, outlines the RWQCB's authority to issue an investigative order. The RWQCB, in establishing or reviewing any water quality control plan or waste discharge requirements, or in connection with any action related to a plan or discharge requirements, may investigate the quality of waters within the region. The RWQCB can require that responsible parties investigate the discharge or threatened discharge of toxic pollutants.

The proposed project would be required to comply with the Porter-Cologne Water Quality Control Act through compliance with the San Diego Region Basin Plan and NPDES Permit.

State Water Resources Control Board Resolution Number 92-49

SWRCB Resolution Number 92-49 – *Policies and Procedures for the Investigation and Cleanup and Abatement of Discharges Under Section 13304* was adopted by the SWRCB in 1992. The resolution contains policies and procedures for the RWQCBs to follow for the oversight and regulation of investigations and cleanup and abatement activities for all types of discharges as described in Section 13304 of the Water Code (described above). Resolution No. 92-49 also provides the requirements of establishing and maintaining a site's containment zone.

State Water Resources Control Board Resolution Number No. 68-16

SWRCB Resolution Number 68-16 – *Statement of Policy Regarding Maintaining High Quality Water in California* (also known as the Antidegradation Policy) protects the quality of water bodies where the quality is higher than the established standards for the protection of beneficial uses. Any actions that adversely affect water quality in surface or ground water must “ 1) be consistent with maximum benefit to the people of the State; 2) not unreasonably affect present and anticipated beneficial use of the water; and, 3) not result in water quality less than that prescribed in water quality plans and policies” (SWRCB 1968).

Water Quality Control Plan for Enclosed Bays and Estuaries

The Water Quality Control Plan for Enclosed Bays and Estuaries: Part 1 Sediment Quality Objectives (Enclosed Bays and Estuaries Plan) was adopted by the SWRCB in 2008, and was most recently amended on June 5, 2018, to include the *Sediment Quality Provisions*. The Enclosed Bays and Estuaries Plan Sediment Quality Provisions is intended to comply with the legislative directive of Water Code Section 13393, which requires the SWRCB to adopt sediment quality objectives. The

Enclosed Bays and Estuaries Plan Sediment Quality Provisions includes measures to protect sediment-dependent biota communities in enclosed bays and estuaries. The Sediment Quality Provisions include sediment quality objectives for the protection of aquatic life, human health, wildlife, and resident finfish.

SWRCB Construction General Permit (Order 2009-0009-DWQ)

Construction activities that disturb 1 acre or more of land must obtain coverage under the SWRCB Construction General Permit (Order 2009-0009-DWQ as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). Under the terms of the permit, applicants must file complete and accurate Notice of Intent and Permit Registration Documents with the SWRCB. Applicants must also demonstrate conformance with applicable construction best management practices (BMPs) and prepare a construction Storm Water Pollution Prevention Plan (SWPPP) containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. The proposed project would not be required to comply with the Construction General Permit because it would disturb less than 1 acre of land during construction.

4.5.3.3 Local

Water Quality Control Plan (Basin Plan)

The preparation and adoption of water quality control plans (Basin Plans) is required by the California Water Code (Section 13240) as prescribed by the CWA. Section 303 of the CWA requires states to adopt water quality standards that “consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses.” According to Section 13050 of the California Water Code, Basin Plans consist of a designation or establishment of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives for the waters within a specified area. Because beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, the Basin Plans are regulatory references for meeting the state and federal requirements for water quality control.

Beneficial Uses

The San Diego RWQCB has designated Beneficial Uses and Water Quality Objectives for water bodies under its jurisdiction (San Diego RWQCB 2016). They are defined as the uses of water necessary for the survival or well-being of humans, plants, and wildlife. These uses of water serve to promote the tangible and intangible economic, social, and environmental goals of mankind. Examples include drinking, swimming, industrial, and agricultural water supply, and the support of fresh and saline aquatic habitats (San Diego RWQCB 2016).

Because of the project site’s location, the receiving waters are limited to the Bay, the designated beneficial uses of which include the following.

- Industrial Service Supply (IND) includes use of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

- Navigable (NAV) includes uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.
- Contact Water Recreation (REC1) includes uses of water for recreational activities that involve body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or the use of natural hot springs.
- Non-contact Water Recreation (REC2) includes the uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
- Commercial and Sport Fishing (COMM) includes the uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.
- Preservation of Biological Habitats or Special Significance (BIOL) includes uses of water that support designated areas or habitats.
- Estuarine Habitat (EST) includes uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, or shorebirds).
- Wildlife Habitat (WILD) includes uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife, or wildlife water and food sources.
- Rare, Threatened, or Endangered Species (RARE) includes uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.
- Marine Habitat (MAR) includes uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).
- Migration of Aquatic Organisms (MIGR) includes uses of water that support habitats necessary for migration, acclimatization between fresh and salt water, or other temporary activities by aquatic organisms, such as anadromous fish.
- Spawning, Reproduction, and/or Early Development (SPWN) includes uses of water that support high-quality habitats suitable for reproduction, early development, and sustenance of marine fish and/or cold freshwater fish.
- Shellfish Harvesting (SHELL) includes uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sport purposes.

The designated beneficial uses of the Pueblo San Diego Hydrologic Unit include the following:

- Municipal and Domestic Supply (MUN) includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

Water Quality Objectives

The Basin Plan sets narrative and numerical water quality objectives that must be attained or maintained to protect beneficial uses and conform to the State’s degradation policy. The water quality objectives are the levels of water quality constituents that must be met to protect the beneficial uses (San Diego RWQCB 2016). Table 4.5-3 lists these water quality constituents that received narrative or numerical concentration objectives. Surface water and groundwater Quality Objectives for the Pueblo San Diego HU are shown in Table 4.5-4. A complete and detailed list of water quality objectives can be found in the Basin Plan. Each water quality constituent may result in varied objectives conditional on the beneficial use of the waters.

Table 4.5-3. Water Quality Constituents

Bacteria – Total coliform, Fecal Coliform, E. Coli, and Enterococci	pH
Biostimulatory Substances	Phenolic Compounds
Boron	Radioactivity
Chlorides	Secondary Drinking Water Standards ²
Color	Sediment
Dissolved Oxygen	Sodium
Floating Material	Sulfate
Fluoride	Suspended and Settleable Solids
Inorganic Chemicals ¹	Tastes and Odors
Iron	Temperature
Manganese	Total Dissolved Solids
Methylene Blue–Activated Substances	Toxicity
Nitrate	Toxic Pollutants ³
Oil and Grease	Trihalomethanes
Organic Chemicals	Turbidity
Pesticides	

Source: San Diego RWQCB 2016

¹ Waters designated for use as domestic or municipal supply (MUN) cannot contain concentrations of inorganic chemicals in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Table 64431-A of section 64431 (Inorganic Chemicals), which is incorporated by reference into the Basin Plan. Inorganic chemicals include aluminum, antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, nitrate, nitrate+nitrite, nitrite, selenium, and thallium.

² Water designated for use as domestic or MUN cannot contain concentrations of chemical constituents in excess of the maximum contaminant levels specified in Table 64449-A of section 64449 of Title 22 of the California Code of Regulations (Secondary Maximum Contaminant Levels, Consumer Acceptance Limits), which is incorporated by reference into the Basin Plan. Includes aluminum, color, copper, corrosivity, foaming agents, iron, manganese, methyl tert-butyl ether (MTBE), odor threshold, silver, thiobencarb, turbidity and zinc.

³ EPA promulgated a final rule prescribing water quality criteria for toxic pollutants in inland surface waters, enclosed bays, and estuaries in California on May 18, 2000 (The California Toxics Rule or “CTR” [40 CFR 131.38]). CTR criteria constitute applicable water quality criteria in California. In addition to the CTR, certain criteria for toxic pollutants in the National Toxics Rule [40 CFR 131.36] constitute applicable water quality criteria in California as well. The Shelter Island Yacht Basin portion of San Diego Bay is designated as an impaired water body for dissolved copper pursuant to Clean Water Act section 303(d). A Total Maximum Daily Load (TMDL) has been adopted to address this impairment.

Table 4.5-4. Surface- and Groundwater Quality Objectives

	Constituent (mg/L or as noted)												
	TDS	Cl	SO ₄	% N	N&P	Fe	Mn	MBAS	B	ODOR	Turb NTU	Color Units	F
Surface Water Quality Objectives													
Pueblo San Diego HU	--	--	--	--	--	--	--	--	--	None	20	20	-
Groundwater Quality Objectives													
Pueblo San Diego HU ¹	--	--	--	--	--	--	--	--	--	--	--	--	--

Source: San Diego RWQCB 2016.

¹ No significant amount of groundwater in this unit.

B = boron; Cl = chlorine; F = fluoride; Fe = iron; HU = hydrologic unit; MBAS = methylene blue activated substances; mg/L = milligrams per liter; Mn = manganese; N = nitrogen; N&P = nitrogen and phosphorus; SO₄ = sulfate; TDS = total dissolved solids; Turb NTU = turbidity (reported in nephelometric turbidity units).

The project site falls within the San Diego RWQCB's jurisdiction and would therefore be required to comply with the Basin Plan.

Municipal Stormwater Permit (Order R9-2013-0001 as amended by Orders R9-2015-001 and R9-2015-0100)

The Municipal Stormwater Permit (Order R9-2013-0001 as amended by Orders R9-2015-0001 and R9-2015-0100) is an NPDES permit issued that requires the owners and operators of MS4s within the San Diego Region to implement management programs to limit discharges of pollutants and non-stormwater discharges to and from their MS4 from all phases of development. The Municipal Stormwater Permit requires the District and other "copermittees" to develop watershed based Water Quality Improvement Plans (WQIPs). The Municipal Stormwater Permit emphasizes watershed program planning and program outcomes. The intent of the Permit is to enable each jurisdiction to focus its resources and efforts to:

- Reduce pollutants in stormwater discharges from its MS4,
- Effectively prohibit non-stormwater discharges to its MS4, and
- Achieve the interim and final WQIP numeric goals.

The proposed project would be required to comply with the Municipal Stormwater Permit requirements as well as any specific WQIP requirements and BMPs identified by the District to be implemented in compliance with the Municipal Stormwater Permit (as stated in the sections below).

San Diego Bay Watershed Quality Improvement Plan

The Municipal Stormwater Permit requires the development of the San Diego Bay WQIP. The purpose of the WQIP is to guide the District and other Phase I Municipalities' Jurisdictional Runoff Management Program (JRMP) toward improving water quality in MS4 discharges and receiving waters. In the WQIP, priorities and goals are established and each jurisdiction identified strategies to assist in attaining the goals. This approach establishes the foundation that the District uses to develop and implement its JRMP. The District implements the WQIP in collaboration with other local agencies that have jurisdiction within the San Diego Bay Watershed Management Area, which comprises three hydrologic units: Pueblo San Diego, Sweetwater River, and Otay River.

The proposed project would be required to follow any specific actions or BMPs set forth in the WQIP.

Jurisdictional Runoff Management Program

Under the Municipal Stormwater Permit (Order No R9-2013-0001), each jurisdiction is to prepare a JRMP. Each JRMP includes a component that addresses issues related to construction activities and a component that addresses issues related to existing development. Additionally, each copermitee prepares and submits an annual report that describes the implementation of programs and strategies to reduce the discharge of pollutants of concern to the MS4 and receiving waters to the maximum extent practicable.

The District's JRMP is an informational document that provides an overall account of the program to be conducted by the District during the 5-year life of the Municipal Stormwater Permit. The District's JRMP has been developed to meet the conditions of the Municipal Stormwater Permit and to assist the District in achieving the goals identified in the WQIP. Port-specific WQIP-based strategies have been incorporated into the JRMP. The JRMP's focus is on controlling stormwater discharges to the MS4, with the overall goal of achieving improvements in receiving water quality. The District has developed a list of BMPs that are applicable to all persons, activities, and operations taking place on District tidelands. The JRMP utilizes District-specific jurisdictional activities as well as watershed-based strategies. Enforcement of the JRMP helps to prevent stormwater pollutants from entering into the local storm drains and, ultimately, San Diego Bay.

As part of the District's JRMP, a *BMP Design Manual* was developed to provide guidelines for incorporating post-construction BMPs into new and priority redevelopment projects. The *BMP Design Manual* identifies the required source-control and site-design BMPs to eliminate or reduce pollutants in stormwater runoff. For priority development projects (PDPs), the *BMP Design Manual* also describes pollutant-control BMPs that must be incorporated into the site design and, where applicable, addresses potential hydromodification impacts from changes in flow and sediment supply. The *BMP Design Manual* is applicable for both tenant- and District-sponsored major maintenance or capital improvement projects, as required by the Municipal Stormwater Permit.

The District has developed a list of pollution prevention BMPs outlined in the JRMP that are applicable to industrial and commercial facilities on District tidelands as required by the Municipal Stormwater Permit. Because pollution prevention BMPs eliminate pollutants at their source, they are a preferred means of preventing discharge of priority pollutants into the receiving waters. The list of pollution prevention BMPs includes the following.

- Keep waste containers covered or lids closed (trash).
- Minimize outdoor storage (trash, metals).
- Capture, contain, and/or treat wash water (bacteria, metals).
- Conduct employee training (bacteria, trash, metals).

In addition, Table 7-4 of the JRMP provides an extensive list of minimum BMPs for commercial and industrial facilities. Categories of BMPs include general operations and housekeeping, non-stormwater management, waste handling and recycling, outdoor material storage, outdoor drainage from indoor activity, outdoor parking, vehicles and equipment, education and training, overwater activity, and outdoor activity and operation.

The proposed project would be required to follow all specific actions or BMPs set forth in the JRMP.

BMP Design Manual

In January 2018, the District adopted an updated jurisdiction-specific local *BMP Design Manual* to address the requirement of the Municipal Stormwater Permit. This *BMP Design Manual* is applicable to projects carried out on District-managed tidelands. Pursuant to the Municipal Stormwater Permit, the District began implementing the *BMP Design Manual* on February 16, 2016. The District's *BMP Design Manual* is consistent with the *Model BMP Design Manual* (District 2018) that was developed collectively with the other San Diego County jurisdictions. The District's *BMP Design Manual* identifies updated post-construction stormwater requirements for both tenant- and District-sponsored major maintenance or capital improvement projects, as required by the Municipal Stormwater Permit.

The *BMP Design Manual* identifies BMP requirements for both standard projects and PDPs as outlined in the permit. All new development and redevelopment projects are required to implement standard source control and site design BMPs to eliminate or reduce stormwater runoff pollutants. For PDPs, the *BMP Design Manual* also describes pollutant control BMPs that must be incorporated into the site design and, where applicable, addresses potential hydromodification impacts from changes in flow and sediment supply.

The hierarchy for implementing pollutant control BMPs on a PDP is as follows: the standard for stormwater pollutant control is retention of the 24-hour 85th percentile stormwater volume, defined as the event that has a precipitation total greater than or equal to 85 percent of all daily storm events larger than 0.01 inch over a given period of record in the project area (design capture volume). For situations where onsite retention of the design capture volume is technically not feasible, biofiltration must be provided to satisfy specific standards. For situations where biofiltration is technically not feasible, flow-through treatment BMPs must be implemented onsite and the developer must participate in an alternative compliance project.

Site design decisions may influence the ability of a PDP to meet applicable performance standards for pollutant control and hydromodification management BMPs. For example, the layout of the site drainage and reservation of areas for BMPs relative to areas of infiltrative soils may influence the feasibility of capturing and managing stormwater. Infiltration must be avoided in areas with the following.

- Physical and chemical characteristics (e.g., appropriate cation exchange capacity, organic content, clay content, and infiltration rate) that are not adequate for proper infiltration durations and treatment of runoff for the protection of groundwater beneficial uses.
- Groundwater contamination and/or soil pollution, if infiltration could contribute to the movement or dispersion of soil or groundwater contamination or adversely affect ongoing cleanup efforts, either onsite or down-gradient of the project.

If infiltration is under consideration for one of the above conditions, a site-specific analysis should be conducted to determine where infiltration-based BMPs can be used without adverse impacts.

The depth to seasonally high groundwater tables (normal high depth during the wet season) beneath the base of any infiltration BMP must be greater than 10 feet for infiltration BMPs to be allowed. The depth to groundwater requirement can be reduced from 10 feet at the discretion of the

approval agency if the underlying groundwater basin does not support beneficial uses and the groundwater quality is maintained at the proposed depth.

Concentration of stormwater pollutants in runoff is highly dependent on the land uses and activities present in the area tributary to an infiltration BMP and the receiving waters. Likewise, the potential for groundwater contamination due to the infiltration BMP is a function of pollutant abundance, concentration of pollutants in soluble forms, and the mobility of the pollutant in the subsurface soils. Therefore, infiltration BMPs must not be used for areas of industrial or light industrial activity unless source control BMPs to prevent exposure of high-threat activities are implemented, or runoff from such activities is first treated or filtered to remove pollutants prior to infiltration.

Project proponents must submit a Storm Water Quality Management Plan (SWQMP) accurately describing how the project will meet source control site design and pollutant control BMP requirements. District staff provide technical review of and approve SWQMP documents and drainage design plans to ensure that pollutant control BMP requirements are met. The SWQMP is evaluated for compliance with the Municipal Stormwater Permit and with design criteria outlined in the District's *BMP Design Manual*. Once the approval process is complete, the project is able to commence and routine inspections are conducted throughout the duration of project construction.

The proposed project is a PDP, and therefore a SWQMP, source control BMPs, and treatment control BMPs are required.

Source Control and Site Design Requirements

The Municipal Stormwater Permit directs the District to require the development of a SWQMP during the planning process for all development projects. Both standard and PDP projects must implement source control and site design requirements.

General requirements for the BMPs to be included in the SWQMP include the following.

1. Onsite BMPs must be located so as to remove pollutants from runoff prior to its discharge to any receiving waters, and as close to the source as possible.
2. Structural BMPs must not be constructed within waters of the United States.
3. Onsite BMPs must be designed and implemented with measures to avoid the creation of nuisance or pollution associated with vectors (e.g., mosquitos, rodents, flies).

Source control BMPs must be implemented at all development projects where applicable and feasible. Source control BMP requirements include the following.

1. Prevention of illicit discharges into the MS4.
2. Storm drain system stenciling or signage.
3. Protection of outdoor material storage areas from rainfall, run-on, runoff, and wind dispersal.
4. Protection of materials stored in outdoor work areas from rainfall, run-on, runoff, and wind dispersal.
5. Protection of trash storage areas from rainfall, run-on, runoff, and wind dispersal. and
6. Use of any additional BMPs determined to be necessary by the District to minimize pollutant generation at each project

Site Design BMPs must be implemented at all development projects where applicable and feasible. Site Design BMP requirements include the following.

1. Maintenance or restoration of natural storage reservoirs and drainage corridors (including topographic depressions, areas of permeable soils, natural swales, and ephemeral and intermittent streams)
2. Buffer zones for natural water bodies (where buffer zones are technically infeasible, project applicant is required to include other buffers such as trees, access restrictions, etc.)
3. Conservation of natural areas within the project footprint including existing trees, other vegetation, and soils
4. Construction of streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided public safety is not compromised
5. Minimization of the impervious footprint of the project
6. Minimization of soil compaction to landscaped areas
7. Disconnection of impervious surfaces through distributed pervious areas
8. Landscaped or other pervious areas designed and constructed to effectively receive and infiltrate, retain, and/or treat runoff from impervious areas, prior to discharging to the MS4
9. Small collection strategies located at, or as close as possible to, the source (i.e., the point where stormwater initially meets the ground) to minimize the transport of runoff and pollutants to the municipal and receiving waters
10. Use of permeable materials for projects with low traffic areas and appropriate soil conditions
11. Landscaping with native or drought-tolerant species
12. Harvesting and using precipitation

Stormwater Pollutant Control Requirements for PDPs

Redevelopment projects that create or replace 2,500 square feet of impervious surface adjacent to an environmentally sensitive waterbody (i.e., San Diego Bay) and/or fit into a specific use category as identified in the District's *BMP Design Manual* are categorized as PDPs. In addition to the site design and source control BMPs discussed above, PDPs are required to implement stormwater pollutant control BMPs to reduce the quantity of pollutants in stormwater discharges. Stormwater pollutant control BMPs are engineered facilities that are designed to retain (i.e., intercept, store, infiltrate, evaporate, and evapotranspire), biofilter, and/or provide flow-through treatment of stormwater runoff produced from a 24-hour, 85th percentile storm event (Design Capture Volume) on the project site. Section 4.5.2, Table 4-5 of the JRMP identifies the PDP categories, as defined by the Municipal Stormwater Permit and outlined in the District's *BMP Design Manual*.

The Municipal Stormwater Permit prioritizes the use of retention BMPs either as "harvest and use" or through infiltration. Full infiltration may be potentially determined to be infeasible due to high groundwater at the project site. When infiltration is infeasible, biofiltration must be considered and requires a BMP minimum footprint of 3 percent of the site area. If biofiltration is not feasible, then flow-through BMP plus participation in alternative compliance is the remaining option. Participation in alternative compliance requires construction of a BMP off site to treat an equivalent pollutant load.

Construction-Related Best Management Practices

The Municipal Stormwater Permit directs the District to require minimum BMPs at all construction and grading projects. The minimum BMPs are required to ensure a reduction of potential pollutants from the project site to the maximum extent practicable and to effectively prohibit non-stormwater discharges from construction sites to the MS4. These BMPs also ensure that all construction and grading activities are in compliance with applicable District ordinances and other environmental laws and are supportive of the WQIP goals.

The required minimum BMPs fall into several major categories as outlined in the Municipal Stormwater Permit, including project planning, good site management, non-stormwater management, erosion control, sediment control, run-on and runoff controls, and, where applicable, active/passive sediment treatment. The BMPs to be implemented at a particular project must be site specific, seasonally appropriate, and construction phase appropriate. Notwithstanding seasonal variation, projects occurring during the dry season will be required to plan for and must be able to address rain events that may occur.

The District's JRMP also includes minimum BMPs that support the WQIP priorities and integrate WQIP strategies PO-12 and PO-13.¹ Good Housekeeping BMPs prevent discharges of WQIP high-priority pollutants including metals, bacteria, and trash to the MS4. Additionally, pursuant to strategy PO-13, the District requires sites to cover construction material stockpiles that contain metals, such as treated timber during wet weather. Table 4.5-5 provides a list of the minimum BMPs for construction sites.

Table 4.5-5. Minimum BMPs for Construction Sites

BMP Category	BMP
Project Planning	Minimization of areas that are cleared and graded to only the portion of the site that is necessary for construction Develop and implement a SWPPP or Construction BMP Plan Contractor Training (formal training or District staff training)
Non-Stormwater Management	Water Conservation Practices (NS-1) Illicit Connection/Illegal Discharge Detection and Reporting (NS-6) Dewatering Operations (NS-2) Paving and Grinding Operations (NS-3) Potable Water/Irrigation (NS-7) Vehicle and Equipment Cleaning (NS-8) Vehicle and Equipment Fueling (NS-9) Vehicle and Equipment Maintenance (NS-10)
Good Housekeeping/ Waste Management	Cover construction material stockpiles such as treated lumber during wet weather (WQIP Strategy PO-13) Material delivery and storage (WM-1) Material Use (WM-2) Solid Waste Management (WM-5) Stockpile Management (WM-3) Spill Prevention and Control (WM-4) Hazardous Waste Management (WM-6)

BMP Category	BMP
	<p>Contaminated Soil Management (WM-7) Concrete Waste Management (WM-8)</p> <p>Sanitary/Septic Waste Management (WM-9) Construction Road Stabilization (TC-2) Stabilized Construction Entrances (TC-1) Entrance/Outlet Tire Wash (TC-3)</p>
Erosion Control ¹ (choose at least one or a combination based onsite conditions)	<p>Preservation of Existing Vegetation (EC-2) Minimization of Exposure Time of Disturbed Soil Areas Scheduling (EC-1)² Hydraulic Mulching (EC-3) Soil Binders – (EC-5) Straw Mulches (EC-6) Wood Mulching – (EC-8) Geotextiles and Mats (EC-7) Wind Erosion Control (WE-1) Soil Preparation/Roughening (EC-15) Preservation of Natural Hydrologic Features Where Feasible Permanent Revegetation or Landscaping as Early as Feasible</p>
Sediment Control (choose at least one or a combination based onsite conditions)	<p>Silt Fence (SE-1) Street Sweeping and Vacuuming (SE-7) Sand Bag Barrier (SE-8) Storm Drain Inlet Protection (SE-10) Sediment Trap (SE-3) Sediment Basin (SE-2) Check Dams (SE-4) Fiber Rolls (SE-5) Gravel Bag Berms (SE-6) Compost Socks and Berms (SE-13)</p>
Run-on and Runoff Control	Protect site perimeter to prevent run-on from entering the site and site runoff

Source: District 2018.

BMPs in **bold** target WQIP priority pollutants, including metals, trash, and bacteria.

¹ Erosion controls must be implemented in all inactive disturbed soil areas. An inactive disturbed soil area is where construction activities such as grading, clearing, excavation, or disturbances to ground are not occurring and those that have been active and are not scheduled to be re-disturbed for at least 14 days.

² Limitation of grading to a maximum disturbed area, determined by the District to be 5 acres during the rainy season and 17 acres during the non-rainy season, before either temporary or permanent erosion controls are implemented to prevent stormwater pollution (see Section 5.6.1 of the JRMP for additional information).

San Diego Unified Port District Code, Article 10

District Code, Article 10, the District Stormwater Management and Discharge Control Ordinance, prohibits the deposit or discharge of any chemicals or waste to the tidelands or San Diego Bay and makes it unlawful to discharge pollutants directly into non-stormwater or indirectly into the stormwater conveyance system. Article 10 also requires the implementation of BMPs, stormwater plans, and other measures, as appropriate to control the discharge of pollution to tideland or receiving waters. Where enforcement is required to maintain compliance, the District will use its enforcement authority established by Article 10. The article enables the District, including District

inspectors, to prohibit discharges and require BMPs so that discharges on tidelands do not cause or contribute to water quality problems. Article 10 establishes enforcement procedures to ensure that responsible dischargers are held accountable for their contributions and/or flows.

The proposed project would be required to comply with District Code, Article 10.

Order R9-2015-0034 (NPDES No. CA0109151) Waste Discharge Requirements BAE Systems San Diego Ship Repair Inc. Discharge to San Diego Bay

Under Order R9-2015-0034, BAE Systems is listed as a Discharger subject to waste discharge requirements for its San Diego Ship Repair Yard. The ship repair yard discharges wastewater to San Diego Bay, a water of the United States. Discharges from the ship repair yard to the San Diego Bay include dry dock ballast tank water, as well as drips and leaks of potable water, fire protection water, and steam condensate from hoses supplying these services to ships. The water supply for fire protection and dry dock ballast is the San Diego Bay.

Contact stormwater is generally not discharged to the San Diego Bay, but is collected onsite and then discharged to the wastewater treatment plant for disposal. However, discharges of stormwater may occur to the San Diego Bay when the holding capacity is exceeded or the stormwater collection system is not operating properly. Order R9-2015-0034 identifies effluent limitations, discharge specifications and receiving water limitations. The Discharger is required to maintain and implement an effective SWPPP designed to reduce or prevent the discharge of pollutants from industrial activities conducted in Industrial High Risk Areas to the technology-based standards of best available technology for toxic and non-conventional pollutants, and best control technology for conventional pollutants. Order R9-2015-0034 identifies Monitoring and Reporting Program Requirements that is provided to the San Diego RWQCB.

The proposed project would be required to comply with Order R9-2015-0034 Waste Discharge Requirements for discharges to the San Diego Bay.

San Diego Municipal Code Floodplain Ordinance (§131.0205 Purpose of the OF (Open Space--Floodplain) Zone

The purpose of the Open Space-Floodplain (OF) zone is to control development within floodplains to protect the public health, safety, and welfare and to minimize hazards due to flooding in areas identified by the FIRM on file with the City Engineer. The intent of the OF zone is to preserve the natural character of floodplains while permitting development that will not constitute a dangerous condition or an impediment to the flow of flood waters. The intent is also to minimize the expenditure of public money for costly flood control projects and to protect the functions and values of the floodplains relating to groundwater recharge, water quality, moderation of flood flows, wildlife movement, and habitat.

The proposed project would be required to comply with Section 131.0205 of the San Diego Municipal Code.

Temporary Groundwater Extractions Permit (Order R9-2015-0013; NPDES No. CAG919003)

Order R9-2015-0013 is intended to cover temporary discharges of groundwater extraction wastes to San Diego Bay, and its tributaries under tidal influence, from groundwater extraction due to

construction and other groundwater extraction activities. Dischargers must meet the applicable criteria listed in the permit to be subject to waste discharge requirements under this permit. Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of the permit. The discharge of groundwater extraction waste from any site must not, separately or jointly with any other discharge, cause violations of certain water quality objectives in San Diego Bay.

The proposed project would be required to comply with Order R9-2015-0013 requirements if dewatering is required during construction.

San Diego Harbor Safety Plan

The San Diego Harbor Safety Plan is designed to provide mariners using the waters of San Diego Bay an up-to-date guide to critical navigation issues that will enhance vessel safety, with the ultimate goal of pollution prevention and protection of the region's valuable resources. This plan has been developed by the San Diego Harbor Safety Committee as mandated in the California Oil Spill Prevention and Response Act of 1990 (Government Code Sections 8574.1 et seq.). The goals of the act are to improve the prevention, removal, abatement, response, containment, clean up, and mitigation of oil spills in the marine waters of California. The act and its implementing regulations (California Code of Regulations Title 14 Sections 800–802) created harbor safety committees for the major harbors of California to “plan for the safe navigation and operation of tankers, barges, and other vessels within each harbor” by preparing “a harbor safety plan, encompassing all vessel traffic within the harbor.”

The proposed project would be required to comply with California Code of Regulations Title 14 Sections 800–802 specified in the San Diego Harbor Safety Plan.

Cleanup and Abatement Order R9-2012-0024

In 2012, CAO R9-2012-0024, *San Diego Bay Shipyard Sediment Cleanup for the NASSCO and BAE Leaseholds* (San Diego Bay Shipyard Sediment Cleanup) was issued by the San Diego RWQCB under the authority provided in Division 7 of the Water Code, State Board plan and policies, and the Basin Plan. CAO R9-2012-0024 was issued for the cleanup of the contaminated sediment along the eastern shore of central San Diego Bay, from approximately Sampson Street Extension to the northwest and Chollas Creek to the southeast, and from the shoreline to the San Diego Bay main shipping channel to the west. The San Diego RWQCB named NASSCO, BAE Systems, the City of San Diego, Campbell Industries, Chevron, a Subsidiary of ChevronTexaco, BP as the Parent Company and successor to Atlantic Richfield, SDG&E, the U.S. Navy, and the District as responsible persons/dischargers. CAO R9-2012-0024 ordered the responsible dischargers to take all corrective actions necessary to remediate the contamination in compliance with the required stipulations laid out in the CAO.

4.5.4 Project Impact Analysis

4.5.4.1 Methodology

The impact analysis focuses on issues related to water quality, runoff, and flood hazards. Construction-related impacts were identified and evaluated based on the physical characteristics of the project site and the magnitude, intensity, location, and duration of construction activities for

both landside and waterside project elements. For the landside project elements, the surface water hydrology impact analysis considers changes in stormwater volumes and capacity, creation of new impervious surfaces, flood hazards, and implementation of MS4 Permit stormwater pollutant control requirements.

Impacts of the proposed project on surface water quality were analyzed using available information on potential existing sources of pollution and current water quality conditions in the project area for both landside and waterside project elements. These conditions were then compared to potential project-related sources of pollution during construction, such as sediments and other construction materials, and operation, such as operations and maintenance (O&M) activities, trash, and other pollutants generated from the landside project elements.

The proposed project was analyzed for potential impacts on beneficial uses and water quality objectives (i.e., pollutants of concern) of San Diego Bay receiving waters. Receiving and nearby waters with CWA Section 303(d) impaired water quality were identified, along with the impairment (pollutant/stressor), and an evaluation was performed of whether the impairment would have the potential to be further affected by the proposed project.

4.5.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining significance of hydrology and water quality impacts resulting from the proposed project. The determination of whether a hydrology and water quality impact would be significant is based on the thresholds described below and the professional judgment of the District as Lead Agency, all of which is based on the evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following.

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
3. 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 that would result in: (i) substantial erosion or siltation on or off site; or (ii) substantial increase in the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows.
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

As discussed in the Initial Study/Environmental Checklist Section XVI (Appendix A), Threshold 2 is not included in the analysis below, as it was determined that the proposed project would result in less-than-significant impacts related to decreasing groundwater supplies. Those conclusions and the rationale that supports them are summarized in Chapter 6, *Additional Consequences of Project Implementation*.

4.5.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Impact Discussion

Landside Construction

Construction activities associated with the proposed project such as pavement removal, demolition, grading and excavation, filling and compaction, and construction of above-ground facilities and buildings—including Project Element 6 (Pier 3 North Lunchroom Wharf Replacement), Project Element 10 (Central Tool Room Demolition and Reconstruction), Project Element 11 (New Production Building), Project Element 12 (Administrative Office Building), Project Element 13 (Pier 1 Restroom Renovation/Demolition), Project Element 14 (Main Electrical Utility Service Update), and Project Element 15 (Sanitary Sewer and Potable Water Utility Services)—could degrade water quality by increasing polluted stormwater runoff.

In case of heavy rain or wind conditions, when the project site is excavated or otherwise disturbed by construction activities, the potential for erosion and sediment transport from the project site, including onsite staging areas, could increase. Stormwater runoff (or wind) could carry the exposed or eroded sediments to the storm drain system or directly into the Bay. Erosion and sedimentation affect water quality through interference with photosynthesis, oxygen exchange, and the respiration, growth, and reproduction of aquatic species. Additionally, other pollutants, such as nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported in the receiving water body, which could contribute to degradation of water quality.

In addition to potential pollutant contributions from disturbed soil areas, the delivery, handling, and storage of construction materials and wastes, as well as the use of construction equipment, could introduce a risk for stormwater contamination that could affect water quality. Spills or leaks from heavy equipment and machinery can result in oil and grease contamination. Some hydrocarbon compound pollution associated with oil and grease can be toxic to aquatic organisms at low concentrations. Onsite staging areas or building sites can also be the source of pollution because of the use of paints, solvents, cleaning agents, and metals during construction. Materials from soil excavation could contain hazardous materials that may be exposed to stormwater. Larger pollutants, such as trash, debris, and organic matter, are also associated with construction activities. Furthermore, concrete used for structures, footings, and other paving materials could be potential sources of water quality pollution if any of these materials were spilled or deposited on unprotected surfaces. Other potential effects include health hazards and aquatic ecosystem damage associated with introduction of bacteria, viruses, and vectors if waste management is not adequately implemented. As such, landside construction activities could potentially violate water quality standards or waste discharge requirements.

The proposed project would be required to comply with the Municipal Stormwater Permit and the District's JRMP, which identifies construction BMPs that would be implemented in order to prevent stormwater runoff. The District's JRMP requires preparation of a Construction BMP Plan. Construction BMPs, identified in the Construction BMP Plan, would be required to be implemented

throughout the various construction phases in order to protect water quality and ensure that water quality standards or waste discharge requirements are not violated. At a minimum, BMPs would include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with stormwater. The Construction BMP Plan specifies BMPs to control erosion and sedimentation in disturbed areas at the project site, and BMPs selected to control non-storm water pollution on the construction site.

The BMPs specified in the Construction BMP Plan are designed to comply with the requirements of the District's JRMP and the Municipal Stormwater Permit and would be subject to review and approval by the District. Construction-related measures would include BMPs from the following categories, as listed in Table 4.5-5.

- Project Planning
- Non-Stormwater Management
- Good Housekeeping/Waste Management
- Erosion Control
- Sediment Control
- Run-on and Run-off Control

Aside from the above categories of BMPs, the District's JRMP also limits grading to a maximum disturbed area of 5 acres during the rainy season (October 1–April 30) and 17 acres during the non-rainy season to prevent discharges of sediment (District 2018a). The BMP measures that must be included in the Construction BMP Plan, which must meet the standards of the Municipal Stormwater Permit (and the District's JRMP), are routinely implemented at construction sites and are proven to be effective in reducing pollutant discharges from construction activities.

Implementation of the BMPs identified in the Construction BMP Plan during construction would minimize the potential for water quality objectives, standards, and wastewater discharge thresholds to be violated. With Construction BMP Plan implementation and compliance with the District's JRMP, Municipal Stormwater Permit, local grading ordinances, and other related regulatory requirements—which include grading limitations during certain times of the year and implementation of erosion control, sediment control, non-stormwater management, and waste management construction BMPs—impacts on water quality from construction would be less than significant, and no mitigation is required.

Waterside Construction

Construction of the in-water project elements could result in short-term water quality impacts from the disturbance of sediments within the project site. As is typical for projects that involve in-water construction, disruption of sediments could adversely affect water quality by temporarily resuspending sediments, thereby increasing turbidity. Further, suspended sediments in the water column can lower levels of dissolved oxygen, increase salinity, increase concentrations of suspended solids, and possibly release chemicals present in sediments into the water. The degree of turbidity resulting from the suspended sediments present would vary substantially with the quantity and duration of the construction activity and would also depend on the methods used, the quality of equipment, and the care of the operator. Higher turbidity is expected to be confined to the specific area of pile installation. Substantially depressed oxygen levels resulting from high turbidity (i.e., below 5 milligrams per liter [mg/L]) can cause respiratory stress to aquatic life, and levels below 3 mg/L can

cause mortality. The in-water project components would be constructed over a total period of 18 months; however, some in-water project elements would be constructed concurrently. Therefore, site-specific turbidity levels may be above ambient levels within a portion of the project site for an extended period. In-water BMPs, which are required to be implemented pursuant to the requirements of the CWA Section 401 Water Quality Certification and Section 404 permit obtained for the proposed project, as well as **MM-HAZ-2** through **MM-HAZ-4** required for hazardous materials impacts (see Section 4.4, *Hazards and Hazardous Materials*), may include BMPs such as double silt curtains or other source control BMPs would limit the spread of the turbidity plume outside the specific work area. With implementation of these BMPs, increased turbidity levels would be generally confined to within a few hundred yards of the activity or within the area of containment. After initial high turbidity levels within the specific work area, sediments would disperse, and background levels would be restored within hours of disturbance. In addition, tidal currents would slowly dissipate the oxygen-poor water and replenish ambient oxygen levels within one to several tidal exchanges. Therefore, suspended solids and depressed oxygen levels in the water column of the specific work area would only be expected to result in temporary effects on water quality, and impacts from turbidity would be less than significant.

During cleanup activities within the BAE Systems leasehold associated with CAO R9-2012-0024 under Order R9-2013-0093, sand or gravelly sand covers were placed under piers and along the bulkhead where analytical concentrations of COCs were detected above the CAO requirements because dredging activities in those areas would have threatened the stability of the in-water structures. As such, the contamination present in those sediments was not removed but was covered to prevent mixing of contaminants with the water column or clean sediment. Sand cover was used for relatively flat areas and under-pier areas, while gravelly sand was used for sloping areas. The covers promoted physical isolation and stabilization of contaminated sediments under over-water structures and maintaining structural stability on sloping areas. In addition, a gravelly sand cover was also placed over the remediated areas to ensure any residual sediments with contaminants were also isolated and stabilized. The primary COCs for the sediments in the project area are copper, mercury, HPAHs, PCBs, and tributyltin; the secondary constituents of concern are arsenic, cadmium, lead, and zinc. In-water construction activities such as dredging and pile driving could potentially disturb these areas.

Dredging is proposed for four project elements: Project Element 1 (Pride of San Diego Drydock Dredging/Mooring Replacement), Project Element 4 (Pier 3 South Nearshore Dredging), Project Element 6 (Pier 3 Lunchroom Wharf Replacement/Realignment), and Project Element 7 (Quay Wall Modifications). Project Element 1 proposes to dredge approximately 98,800 cubic yards of material. This includes the sediment that was not dredged during the past remediation activities associated with CAO R9-2012-0024 because its proximity to existing structures made dredging infeasible. Approximately 88,300 cubic yards of dredging materials from Project Element 1 are planned for ocean disposal at EPA's LA-5 disposal site, if the sediment is determined to be suitable for unconfined aquatic ocean disposal. To determine the suitability, BAE Systems would conduct a dredge material suitability study in consultation with USACE and EPA as required under the Ocean Dumping Permit process. Project Element 4 proposes to dredge 15,000 cubic yards of material: two scenarios for the disposal of this material are proposed depending on the results of the dredge material suitability study: a 50 percent landfill/50 percent ocean disposal scenario and a 100 percent landfill disposal scenario. Project Element 6 proposes to dredge 2,000 cubic yards of contaminated sediment that was previously covered and left in place associated with CAO R9-2012-0024. Project Element 7 would result in 500 cubic yards of sediment to be disposed of at a land-

based disposal site, as well as 300 cubic yards of rock that would be disposed of at a local recycling facility.

These dredging activities would remove existing contaminated sediment that was covered and left in place, which would potentially avoid disturbing and releasing contaminated sediments into the water column from future in-water construction activities (i.e., pile installation, wharf replacement, etc.). However, it is possible that dredging activities will expose contaminants into the water column, if not controlled correctly. In addition to the dredging associated with the project elements identified above, in-water work such as the removal of piles and other in-water structures, or the installation of piles, fender systems (if new and/or replacement H-piles are included), moorings, or other in-water structures, proposed as part of Project Element 2 (Pride of San Diego Drydock Wharf Replacement and Realignment), Project Element 3 (Fender System Repair and Replacement), and Project Element 9 (Small Boat Mooring Float Replacement) could disturb covered contaminated sediment. Under Project Element 3, it is assumed up to 39 steel H-pile fenders per year would be replaced over the life of the existing lease (through 2034). It should be noted that Project Element 3 could include the replacement of fenders without the need to also replace piles, in which case no sediment disturbance would occur. Furthermore, Project Element 8 (Port Security Barrier Replacement), located along BAE System's leasehold within the Bay, could potentially disturb a portion of the existing gravelly sand cover as well as other potentially contaminated sediments present associated with San Diego RWQCB Investigative Order R9-2017-0083 that have not been remediated or covered. The Port Security Barrier is generally a floating device; however, concrete anchored blocks with a mooring buoy are used to keep it in place. Replacement of the Port Security Barrier would involve removing and replacing the anchors, which could result in disturbing sediment and releasing it into the water column.

Given the known contamination in the project area, sediment-disturbing construction activities within the project area could degrade water quality by introducing contaminants into the water column that could degrade acceptable levels of habitat quality for organisms and degrade and/or impair the beneficial uses in San Diego Bay. The primary and secondary constituents of concern could be released when bed sediments are resuspended in the water column. Resuspended contaminants may dissolve and become available for uptake by biota. Re-deposition may occur near the dredge or construction areas, or, depending on the environmental conditions and controls, resuspended sediment may be transported to other nearby locations in the water body. Resuspension of contaminated sediments and release of COCs could impact water quality by increasing contaminant levels to levels toxic to aquatic receptors. As such, in-water construction of Project Elements 1 through 9 could result in disturbance of potentially contaminated sediments that would become suspended in the water column, resulting in the release of hazardous pollutants (**Impact-HWQ-1**).

In compliance with State regulations, the project proponent would obtain a CWA Section 401 Water Quality Certification for all project-related dredging activities. The RWQCB-issued Section 401 Water Quality Certification would specify methods for ensuring the protection of water quality during construction activities in the Bay, including water quality monitoring requirements in order to meet the Basin Plan water quality objectives; also, beneficial uses may require mitigation for impacts on waters of the United States, which would be enforced through the Section 401 Water Quality Certification process. In addition, the Section 401 Water Quality Certification would list specific conditions for the use of in-water construction BMPs to minimize the discharge of any materials from construction activities, control floating debris, and provide spill containment and cleanup equipment to control potential accidental spills in order to meet the Basin Plan water

quality objectives and beneficial uses. Anticipated measures required by San Diego RWQCB as part of the CWA Section 401 Water Quality Certification could include: use of automatic systems to monitor turbidity and constituents of concern; implementation of standard BMPs to minimize resuspension, spillage, and misplaced sediment during dredging operations, including use of double silt curtains to contain the resuspension of suspended sediments and prevent the dispersal of COCs outside the dredging and pile installation area; and water quality monitoring. The proposed project would also be required to obtain a CWA Section 404 permit and Rivers and Harbors Act Section 10 permit from USACE for dredging as well as the placement of piles, mooring dolphins, and any other structures in and over navigable waters. A Section 404 permit from USACE would be required prior to the discharge of dredged or fill materials into any waters of the United States. Section 10 of the Rivers and Harbors Act requires authorization from USACE for the construction of any structure in or over any navigable water of the United States prior to initiating in-water construction activities. Compliance with CWA Section 401 and 404, as well as Rivers and Harbors Act Section 10, would help reduce impacts on water quality associated with in-water construction activities. While the project proponent is required to comply with all regulatory requirements, they are further enforced through **MM-HAZ-4**, which requires the project proponent to obtain all federal and state permits required for in-water construction activities and demonstrate to the District compliance with all permit conditions during in-water construction.

In addition to these regulatory requirements, Section 4.4, *Hazards and Hazardous Materials*, identifies mitigation measures **MM-HAZ-2**, **MM-HAZ-3**, and **MM-HAZ-5** that are also applicable to the protection of water quality during in-water construction, the implementation of which would reduce water quality degradation from sediment disturbing activities. **MM-HAZ-2** requires the project proponent to implement a Dredging Management Program that will include the development of: (A) Dredging Operations Plan identifying the appropriate Standard Operating Procedures (SOPs) and sediment control BMPs to be implemented; (B) Contingency Plan to prepare for equipment or operational failures; (C) Health and Safety Plan for Dredging Activities; (D) Communication Plan; and (E) Sediment Sampling and Remediation, to assess the condition of sediment post-dredging and outline potential remediation approaches, as appropriate. All of the plans and reports included in the Dredging Management Program would be reviewed and approved by the District and/or the San Diego RWQCB. **MM-HAZ-3** requires the project proponent to implement a (Waterside) Sediment Management Program that shall contain: (A) Sampling Analysis Plan (SAP); (B) Marine Sediment Contamination Characterization Report; (C) Contaminated Sediment Management Plan; (D) In-Water Activity Specific Procedures; and (E) Post-Construction Sampling and Analysis. The Sediment Management Program will require post-construction sampling and analysis to determine if in-water construction or disturbance activities resulted in COCs in excess of the levels above the levels set forth in CAO R9-2012-0024 (the primary COCs copper, mercury, HPAHs, PCBs, and TBT, and the secondary COCs arsenic, cadmium, lead, and zinc). If concentrations of the COCs are determined to be above the parameters established by the CAO R9-2012-0024 (or other levels as prescribed by the RWQCB) after in-water construction activities are complete, as determined by **MM-HAZ-2** and **MM-HAZ-3**, mitigation measure **MM-HAZ-5** requires the project proponent to propose and conduct remediation of the site. As required by **MM-HAZ-5**, the proposed remediation approaches must be reviewed and approved by the RWQCB, and any other agencies with jurisdiction over the site contamination, in concurrence by the District. Compliance with regulatory requirements and implementation of these mitigation measures would reduce the proposed project's potential to degrade water quality from the introduction of contaminants into the water column and resuspend sediment that may be transported to other nearby locations in the water body.

Additionally, the Hazardous Material Technical Study (Appendix E) identified that there is the potential for wooden components in piers, wharfs, or bulkheads to have been treated with creosote. Creosote is a wood preservative and water-proofing agent for marine pilings used to preserve wooden structures from attack by fungi, marine borers, and insects. Chemical formulations of creosote have varied over the production years, but it is generally reported that PAHs and alkylated PAHs account for up to 90 percent of creosote mixtures. The degree of leaching is affected by salinity (greater in fresh water than in salt water), temperature (increases with increasing temperatures), flow, density of the wood, length of time since treatment of the wood (decreases with increasing age), and the surface area-to-volume ratio. Removal of creosote piles could result in resuspension of sediments contaminated with PAHs, which could result in a significant water quality impact (**Impact-HWQ-2**).

Methods of pile extraction vary for pile removal, and vibratory extraction is preferred over direct (vertical) pulling, cutting, and other methods. Piles that cannot be completely removed should be cut at least 1 foot below the mud line. If treated piles are fully extracted or if they are cut below the mudline, the project proponent must cap the holes or piles with appropriate material such as clean substrate (sand and/or gravel) or pile caps. This ensures that chemicals from the existing piles do not leach into the adjacent sediments or the water column. As required by mitigation measure **MM-HWQ-1**, removed creosote-treated piles must be disposed of in a manner that precludes their further use. Piles must be cut into manageable lengths (4-foot lengths are preferable) for transport and disposal in an approved upland location. Extracted piles and debris should be placed in a lined stockpile area or directly loaded into transport container or vehicle. Appropriate controls should be used to prevent runoff from leaving the stockpile and entering surface water or ground water.

Adherence to regulatory permit requirements associated with CWA Sections 401 and 404 and Rivers and Harbors Act Section 10, as well as implementation of **MM-HWQ-1** and **MM-HAZ-2** through **MM-HAZ-5** would ensure that project construction would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade existing water quality. These mitigation measures would reduce **Impact-HWQ-1** and **Impact-HWQ-2** to less-than-significant levels.

Landside Operation

The landside portion of the project site totals 11.7 acres and is composed of paved and developed areas. The proposed project would include the redevelopment of 5,000 square feet of impervious surface collectively, on an existing site of 10,000 square feet of impervious surfaces. Industrial uses generate pollutants that could impair water quality if not treated prior to discharge. Typical pollutants associated with industrial uses include, but are not limited, to suspended solids, pathogens, nutrients, pesticides, organic compounds, trash/debris, oxygen-demanding substances, and oil and grease. Typical pollutants associated with parking include heavy metals. However, a majority of the landside portion of the project site currently consists of impervious surfaces, and the proposed project would not result in additional pollutant input associated with increases in impervious surfaces.

District Code, Article 10 (Stormwater Management and Discharge Control Ordinance) and the JRMP include specific requirements for all development and redevelopment activities. Pursuant to the District's JRMP, post-construction BMPs are required for all projects falling under the Municipal Stormwater Permit. Post-construction BMPs are a subset of BMPs including structural and nonstructural controls that detain, retain, filter, or educate to prevent the release of pollutants to

surface waters during the functional life of developments. Article 10 also specifically requires pollutant control BMPs for all PDPs, which includes the proposed project. The proposed project is considered a PDP and would thus be required to implement pollutant control BMPs, following the hierarchy described in the District's *BMP Design Manual* (retention, partial retention with biofiltration, biofiltration, or flow-through with participation in an Alternative Compliance Program). Stormwater pollutant control BMPs are engineered facilities that are designed to retain (i.e., intercept, store, infiltrate, evaporate, and evapotranspire), biofilter, and/or provide flow-through treatment of stormwater runoff generated on the project site. Minimum BMPs consistent with the District's *BMP Design Manual* require the use of site design BMPs and source control and pollutant control BMPs. Additionally, a post-construction SWQMP must be prepared for all PDPs to identify the project-specific design BMPs and source control and pollutant control BMPs. These requirements are discussed under Section 4.5.3, *Applicable Laws and Regulations*, primarily under 4.5.3.4, *Local*.

The project proponent would prepare a project-specific SWQMP for approval by the District that identifies low-impact development (LID) features (site design and source control BMPs) and pollutant control BMPs to reduce the discharge of pollutants to the maximum extent practicable. The most significant water quality benefit of LID is removal of stormwater runoff from the storm drain system or receiving waters. The first flush of stormwater runoff during a rainfall event typically contains higher concentrations of pollutants than later rainfall. By directing this runoff through LID features and providing retention, infiltration into the various layers of the LID feature and/or the native soils below the LID, and evapotranspiration, the pollutants do not reach the receiving body of water. The proposed project would also include non-structural BMPs such as storm drain stenciling and signage, properly designed outdoor materials storage areas, properly designed trash storage areas, proof of ongoing BMP maintenance, and other items relevant to operations of the site. Implementation of site-specific LID features and pollutant control BMPs, in accordance with the JRMP, would filter potential pollutants from runoff prior to discharge into receiving waters.

Applicable site design BMPs and source control and pollutant control BMPs would be implemented in accordance with the District's JRMP and identified in the project-specific SWQMP, which would document that all permanent source control and site design BMPs have been considered for the project and implemented where feasible; document the planning process and the decisions that led to the selection of structural BMPs; provide the calculations for design of structural BMPs to demonstrate that applicable performance standards are met by the structural BMP design; identify O&M requirements of the selected structural BMPs; and identify the maintenance mechanism for long-term O&M of structural BMPs (District 2018b). The SWQMP must be provided with the first submittal of project drawings for review and approval by the District.

Therefore, with implementation of these requirements, operation of the landside portion of the proposed project would not violate any water quality standards or waste discharge requirements. Impacts would be less than significant; no mitigation measures are required.

Waterside Operation

Existing waterside operations include maintenance, repair, overhaul and conversion (MROC)-related activities. Working piers onsite are designed to accommodate berthing for large deep-draft Navy and commercial vessels and include a variety of crane and utility services. The proposed project would replace aging structures, improve existing infrastructure, increase space utilization, and increase efficiency of operations. Specifically, the dredging and mooring improvements at the

Pride of San Diego Drydock (Project Element 1), as well as the addition of a mooring dolphin at Pier 3 (Project Element 5) and associated dredging (Project Element 4), would allow BAE Systems to improve operational efficiency; however, no new berthing space would be provided, and no increase in the number of vessels serviced on an annual basis would occur under the proposed project. The Pier 3 improvements would allow for servicing of newer and different classes of vessels compared to existing conditions.

Under the proposed project, similar types of pollutants such as abrasive blast grit material, primer, paint, paint chips, solvents, oils, fuels, sludges, detergents, cleansers, hazardous substances, toxic pollutants, nonconventional pollutants, materials of petroleum origin, or other substances would be generated. However, the proposed project would be required to continue to comply with the existing discharge requirements under BAE System's existing Order R9-2015-0034 to reduce the discharge of pollutants to the maximum extent practicable. BAE Systems would be required to amend the existing operational SWPPP that covers the site's activities to account for the proposed improvements allowing for servicing of larger ships. As such, the proposed project would result in similar types of pollutants being generated onsite, and because larger boats could be serviced, this would potentially increase the amount of pollutants generated and discharged offsite. The operation SWPPP amendment would identify if additional BMPs would be needed to address the potential increase in pollutants generated by the proposed project. Additionally, the proposed project would continue to discharge collected stormwater held in 11 tank systems (DS1 through DS11) in accordance with the BAE Systems IUD Permit. As such, the discharge of pollutants is anticipated to be similar to existing conditions, and with the necessary operation SWPPP amendments, would meet discharge requirements of Order R9-2015-0034.

Fenders are occasionally damaged when impacted by vessels and need to be replaced quickly in order to continue to provide safe vessel moorage. In some instances, only the fenders are damaged and therefore would not require the replacement of any piles that could disturb sediment. However, in the event steel H-piles are damaged by vessels, they would need to be replaced and would disturb sediment. The replacement of damaged fenders or H-piles would occur under Project Element 3 (Fender System Repair and Replacement). The potential impacts of replacing steel H-piles associated with Project Element 3 are discussed and addressed above under *Waterside Construction* (see **Impact-HWQ-1**).

In addition, Project Element 8 (Port Security Barrier Replacement) would require maintenance of the weighted anchors that hold the system in place, such as removing and replacing the anchors for maintenance annually. Conducting these maintenance activities may temporarily disturb sediment at the location of the anchor. However, these operational activities of replacing anchors are consistent with ongoing maintenance and repair activities that currently occur at the project site. Standard operating procedures would ensure the slight disturbance of sediment would not result in the release of additional sediment to the water column.

The continued implementation of standard operating procedures currently used during operations and maintenance would ensure regular ongoing maintenance and replacement activities do not result in additional disturbance of sediment. Therefore, the proposed project's potential to impair water quality during operations would be less than significant.

Level of Significance Prior to Mitigation

Landside Construction and Operation

Construction and operation of the landside components of the proposed project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade existing water quality. Therefore, impacts would be less than significant.

Waterside Construction

Construction of the waterside components of the proposed project would potentially violate water quality standards or otherwise substantially degrade existing water quality. Potentially significant impact(s) include the following.

Impact-HWQ-1: Degradation of Water Quality from Waterside Sediment Contamination.

Historical information, reports, and site assessments compiled from database searches indicate that it is reasonably foreseeable that contaminated sediments may be encountered during in-water construction activities, including such activities as dredging and pile installation/removal associated with Project Element 1 (Pride of San Diego Drydock Dredging/Mooring), Project Element 2 (Pride of San Diego Wharf Replacement/Realignment), Project Element 3 (Fender System Repair and Replacement), Project Element 4 (Pier 3 South Nearshore Dredging), Project Element 5 (Pier 3 Mooring Dolphin), Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment), Project Element 7 (Quay Wall Modifications), Project Element 8 (Port Security Barrier Replacement), and Project Element 9 (Small Boat Mooring Float Replacement). It should be noted that Project Element 3 could include the replacement of fenders without the need to also replace piles, in which case no sediment disturbance would occur. As such, in-water construction activities that disturb the sediment would potentially result in a release of contaminated sediment into the water column and substantially degrade water quality. Impacts would be significant.

Impact-HWQ-2: Removal of Creosote Piles Could Result in Resuspension of Sediments Contaminated with PAHs. Existing piles could contain creosote and removal of the piles could result in resuspension of sediments contaminated with PAHs. The chemicals from the existing piles could have leached into the adjacent sediments or leach into the water column during removal. Impacts would be significant.

Waterside Operation

Operation of the waterside components of the proposed project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade existing water quality. Therefore, impacts would be less than significant.

Mitigation Measures

For **Impact-HWQ-1:**

Implement mitigation measures **MM-HAZ-2** through **MM-HAZ-5** as described in Section 4.4, *Hazards and Hazardous Materials*.

For **Impact-HWQ-2:**

MM-HWQ-1: Remove and Dispose of Creosote Piles Properly. During pile extraction, if piles cannot be completely removed, they shall be cut at least 1 foot below the mud line. If treated piles are fully extracted or if they are cut below the mudline, the project proponent or contractor shall cap the holes or piles with appropriate material such as clean substrate (sand and/or gravel) or pile caps. Removed creosote-treated piles shall be disposed of in a manner that precludes their further use. The piles must be cut into manageable lengths (4-foot lengths are preferable) for transport and disposal in an approved upland location. Extracted piles and debris should be placed in a lined stockpile area or directly loaded into transport container or vehicle. Appropriate controls should be used to prevent runoff from leaving the stockpile and entering surface water or ground water.

Level of Significance after Mitigation

With implementation of **MM-HAZ-2** through **MM-HAZ-5**, **Impact-HWQ-1** would be reduced to less-than-significant levels. **MM-HAZ-2** requires the project proponent to implement a Dredging Management Program that must include the development of: (A) Dredging Operations Plan identifying the appropriate SOPs and sediment control BMPs to be implemented; (B) Contingency Plan to prepare for equipment or operational failures; (C) Health and Safety Plan for Dredging Activities; (D) Communication Plan; and (E) Sediment Sampling and Remediation, to assess the condition of sediment post-dredging and outline potential remediation approaches, as appropriate. All of the plans and reports included in the Dredging Management Program must be reviewed and approved by the District and/or the San Diego RWQCB. **MM-HAZ-3** requires the project proponent to implement a (Waterside) Sediment Management Program that must contain: (A) Sampling Analysis Plan (SAP); (B) Marine Sediment Contamination Characterization Report; (C) Contaminated Sediment Management Plan; (D) In-Water Activity Specific Procedures; and (E) Post-Construction Sampling and Analysis. **MM-HAZ-4** requires the project proponent to obtain all federal and state permits required for in-water construction activities and demonstrate to the District compliance with all permit conditions during in-water construction. **MM-HAZ-5** requires the project proponent to propose and conduct remediation of the site if, after in-water construction activities and dredging are complete, site sampling shows that concentrations of COCs exceed those set forth in CAO R9-2012-0024 (or other levels as prescribed by the RWQCB).

In addition, implementation of **MM-HWQ-1** would reduce potential impacts from creosote leaching into the water (**Impact-HWQ-2**) to less than significant by requiring measures for the proper removal, stockpiling, and disposal of piles.

Threshold 3: Implementation of the proposed project would not substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:

i. Result in substantial erosion or siltation on- or off-site

ii. Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site, substantially affecting the existing environment

iii. 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

iv. Impede or redirect flood flows.

Impact Discussion

Anticipated pollutants of concern associated with construction of the proposed project include sediments, turbidity, metals, petroleum products, trash, concrete/asphalt, and sanitary wastes that could contribute to the degradation of water quality during construction activities.

The proposed project would include the redevelopment of 5,000 square feet of impervious surface collectively, on an existing site of 10,000 square feet of impervious surfaces. BAE Systems currently operates and maintains an SWDS to eliminate and/or reduce the volume of storm water pollutants discharged to San Diego Bay. This system consists of 36 catch basins (drains) and associated piping, as well as secondary containment. The system is designed to capture the first inch of stormwater that falls on the facility, which is 100 percent impervious. The proposed project would not result in an increase in impervious surfaces and would continue to discharge directly into San Diego Bay and to the SWDS, similar to existing conditions. Under the proposed project, similar types of pollutants including abrasive blast grit material, primer, paint, paint chips, solvents, oils, fuels, sludges, detergents, cleansers, hazardous substances, toxic pollutants, nonconventional pollutants, materials of petroleum origin, or other substances would be generated during project operations. However, the proposed project would be required to comply with the existing Order R9-2015-0034, which would regulate polluted runoff.

The proposed project is considered a PDP in accordance with the District's JRMP. As a PDP, the proposed project would be required to implement post-construction BMPs through the preparation and implementation of a project-specific SWQMP. The proposed project would implement site design, source control, and pollutant control BMPs consistent with the District's JRMP and *BMP Design Manual*, as described previously under Section 4.5.3.3, *Local*. The JRMP requires that PDP applicants proposing to meet the performance standards onsite implement all feasible onsite retention BMPs needed to meet the stormwater pollutant control BMP requirements prior to installing onsite biofiltration BMPs, and then install onsite flow-through treatment control BMPs. Retention BMPs are structural measures that provide retention (i.e., intercept, store, infiltrate, evaporate, and evapotranspire) of stormwater as part of the pollutant control strategy; examples

that may be considered onsite include infiltration BMPs and cisterns, bioretention BMPs, and biofiltration with partial retention BMPs (District 2015). Flow-through treatment control BMPs are structural measures that provide flow-through treatment as part of the pollutant control strategy; examples include vegetated swales and media filters (District 2015). The groundwater depth may limit infiltration capabilities onsite.

Site design and source control BMPs are the minimum management practices, control techniques, and design and engineering methods to be included in the planning design to reduce the discharge of pollutants from the development and are intended to avoid or minimize the water quality impacts by managing site hydrology, providing treatment features integrated within the site, and reducing or preventing the introduction of pollutants from specific sources. The preparation of a Construction BMP Plan would be required that would eliminate or reduce pollutants in stormwater runoff and non-stormwater discharges from the project site during construction. Additionally, a SWQMP would be prepared for the proposed project to identify BMPs to retain as much runoff as possible. Implementation of site design, source control, and pollutant control BMPs would not only result in a reduction in pollutants discharged from the project site but also in stormwater runoff generated by the project site. As part of Order R9-2015-0034, the project site is subject to an operational SWPPP designed to reduce or prevent the discharge of pollutants from industrial activities. The operational SWPPP would need to be amended to account for updated site facility conditions. As a result, the proposed project would not 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.

Development of the proposed project would include implementation of pollutant control BMPs that would remove pollutants to the maximum extent practicable prior to discharge into the Bay. Additionally, compliance with the JRMP, Construction BMP Plan, Order R9-2015-0034, operational SWPPP, and existing regulations would be required. Therefore, project impacts would be less than significant.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would 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. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

Threshold 4: In flood hazard, tsunami, or seiche zones, implementation of the proposed project would not risk release of pollutants due to project inundation.

Impact Discussion

As shown in FEMA FIRM No. 06073C1885G, some project elements located on the landside portion of the project site are within the FEMA 100-year floodplain, similar to existing conditions. Portions of landside Project Elements 6, 10, 11, and 14 would be located within a 100-year flood hazard area. The waterside portion of the project site is within Flood Zone AE, which is an area subject to flooding during the 100-year storm event (1 percent annual chance of flooding where base flood elevations and flood hazard factors are determined). The portion of the project site located in the Bay (i.e., waterside) would be within Flood Zone AE.

Construction

During construction activities associated with the proposed project, construction equipment would be mobile and could move to higher ground if needed. Thus, the temporary presence of the construction-related equipment would not represent a permanent change to the floodplain, and would not impede or redirect flood flows. Any open excavation associated with utilities or soil removal for foundation preparation may serve to capture stormwater and impede its flow if unprotected; however, BMPs would be in place to divert runoff away from the construction site and toward proper drainage locations. Therefore, because construction of the proposed project would not exacerbate the flooding potential of the project site or the effects of flooding on the existing environment, impacts during construction would be less than significant.

Operation

All structures proposed within Flood Zone AE must be designed to ensure that the floor elevation is raised at least 1 foot above the floodplain elevation and meets the structural requirements of FEMA to avoid any damage to persons or structures as a result of a 100-year flood. Approval of all permanent structure design plans by the District's Engineering Department and the City of San Diego's Engineering Section (of the Development Services Department) is a standard requirement to issue a grading and building permit. As this process is mandatory, no mitigation is needed. Moreover, flooding is typically a condition that occurs when the volume of water exceeds the capacity of the waterway channels or when tidal waters are pushed inland by coastal storms. As a result of the project location adjacent to San Diego Bay, the project site is unlikely to flood due to capacity of the waterway and is more vulnerable to tidal waters that are pushed inland by coastal storms. Potential impacts associated with the proposed project's potential to exacerbate flooding due to sea-level rise are discussed in Section 4.8, *Sea-Level Rise*, of this EIR.

Therefore, because operation of the proposed project would not exacerbate the flooding potential of the project site or the effects of flooding on the existing environment, impacts would be less than significant.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not place within a 100-year flood hazard area structures that would impede or redirect flood flows. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

Threshold 5: Implementation of the project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Impact Discussion

Construction

As discussed under Threshold 1, landside and waterside construction activities associated with the proposed project would be required to comply with the Municipal Stormwater Permit and the District's JRMP as well as applicable regulatory permits under CWA Sections 401 and 404 and Rivers and Harbors Act Section 10. These permits would require project construction activities to implement BMPs to reduce or prevent runoff pollution. As discussed under Threshold 1, the proposed project would include waterside improvements that could disturb potentially contaminated sediments (**Impact-HWQ-1**), which could be released back into the water column and spread the contaminants beyond their existing locations. In addition, the proposed project could remove creosote piles and release PAHs into the water column (**Impact-HWQ-2**). As such, the proposed project could result in a conflict with the water quality control plan (i.e., Basin Plan). However, as identified in Threshold 1, with mandatory adherence to regulatory permit requirements associated with CWA Sections 401 and 404 and Rivers and Harbors Act Section 10 (as further enforced through **MM-HAZ-4**), which would be required from the RWQCB and USACE, as well as mitigation measures **MM-HAZ-2**, **MM-HAZ-3**, and **MM-HAZ-5**, project construction would not conflict with or obstruct implementation of a water quality control plan. Impacts from these activities would be less than significant.

The proposed project may result in temporary groundwater impacts during construction. However, the proposed project would comply with dewatering requirements imposed by the San Diego RWQCB general waste discharge requirements for discharges from temporary groundwater extraction and similar waste discharges to surface waters (Order R9-2015-0013). To obtain coverage under this order, a discharger must submit a complete Notice of Intent application package to the San Diego RWQCB office at least 60 days before proposed commencement of the discharge. The project proponents would be required to maintain compliance with the effluent limitations applicable to the receiving water, as specified in Order R9-2015-0013 (refer to Table 5 of the order). For example, the permit has effluent limitations for settleable solids, total suspended solids, turbidity, pH, and a number of additional parameters. In addition, Order R9-2015-0013 identifies the monitoring and reporting program requirements. The purpose of the monitoring and reporting program is to determine and ensure compliance with effluent limitations and other requirements established in the order, assess treatment efficiency, characterize effluents, and characterize the receiving water and the effects of the discharge on the receiving water. The San Diego RWQCB may specify increased monitoring requirements as necessary to ensure that applicable water quality objectives are maintained in the receiving water. Any dewatering or construction-related non-

stormwater discharges would be controlled in compliance with the San Diego RWQCB permit for dewatering. The permit requires permittees to conduct monitoring of dewatering discharges and adhere to effluent and receiving water limitations contained within the permit so that water quality of surface waters is protected. As such, the proposed project is not anticipated to conflict with or obstruct implementation of a water quality control plan or a sustainable groundwater management plan.

Operation

As discussed under Threshold 1, several of the proposed project elements are infrastructure maintenance and modernization improvements that would not change the nature of existing operations at the project site, but rather would increase operational efficiencies. Although the proposed project would result in increased landside development compared to existing conditions, it would not substantially increase the amount of impervious surfaces at the site, which is currently developed entirely with impervious surfaces. As such, the proposed project would generally result in similar types of pollutants and other substances being generated on site compared to existing conditions. District Code, Article 10 (Stormwater Management and Discharge Control Ordinance) and the JRMP include specific requirements for all development and redevelopment activities. Minimum BMPs consistent with the District's *BMP Design Manual* require the use of site design BMPs and source control and pollutant control BMPs. Additionally, a post-construction SWQMP must be prepared for the proposed project to identify the project-specific design BMPs and source control and pollutant control BMPs. Implementation of site-specific LID features and pollutant control BMPs, in accordance with the JRMP, would filter potential pollutants from runoff prior to discharge into receiving waters.

Additionally, the proposed project would be required to continue to comply with the existing discharge requirements under BAE Systems' existing NPDES permit Order R9-2015-0034. BAE Systems would be required to amend the existing operational SWPPP that covers the site's activities to account for the proposed improvements allowing for servicing of larger ships. Therefore, compliance with these existing regulatory requirements would reduce the discharge of pollutants to the maximum extent practicable. Consequently, the proposed project would not conflict with or obstruct implementation of a water quality control plan, and impacts would be less than significant.

Level of Significance Prior to Mitigation

Construction

Construction of the proposed project would potentially conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Potentially significant impact(s) include the following.

Impact-HWQ-1 and Impact-HWQ-2, as discussed under Threshold 1 above.

Operation

Operation of the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Therefore, impacts would be less than significant.

Mitigation Measures

For **Impact-HWQ-1**:

Implement **MM-HAZ-2** through **MM-HAZ-5**, as described in Section 4.4, *Hazards and Hazardous Materials*.

For **Impact-HWQ-2**:

Implement **MM-HWQ-1**, as described under Threshold 1 above.

Level of Significance after Mitigation

Implementation of **MM-HAZ-2** through **MM-HAZ-5** would reduce potential impacts associated with sediment contamination during in-water construction activities (**Impact-HWQ-1**), including dredging and pile installation/removal located within areas with contaminated sediment, to less than significant. In addition, implementation of **MM-HWQ-1** would reduce potential impacts from creosote leeching into the water (**Impact-HWQ-2**) to less than significant by requiring measures for the proper removal, stockpiling, and disposal of piles. Therefore, **Impact-HWQ-1** and **Impact-HWQ-2** would be less than significant after mitigation.

4.6.1 Overview

Land use and planning considers the proposed project’s compatibility with surrounding land uses and its consistency with land use plans, policies, and laws that have regulatory jurisdiction over the project site. This section describes the existing land uses that could be adversely affected by the proposed project; outlines the applicable laws and regulations related to land use and planning; and analyzes the proposed project’s consistency with applicable plans and regulations, such as the California Coastal Act (CCA).

Impacts related to land use are considered significant if the proposed project would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. All other potential land use and planning issues were analyzed in Section X of the Initial Study/Environmental Checklist (see Appendix A) and determined to have no impact. The analysis and conclusions regarding these issues are summarized in Chapter 6, Section 6.4, *Effects Not Found to Be Significant*.

As discussed in Section 4.6.4, *Project Impact Analysis*, all impacts related to land use and planning would be less than significant.

4.6.2 Existing Conditions

The project site occupies land that is under the jurisdiction of the District in the City of San Diego. In total, the District has jurisdiction over approximately 5,500 acres of tide and submerged lands (Tidelands), or about 37 percent of the total Tidelands on the Bay. The Port Master Plan (PMP) is the governing land use plan in the District and dictates the land and water uses within the District. Land use designations in the PMP are composed of approximately 15 percent commercial, 24 percent industrial, 19 percent public recreation, 28 percent conservation, 12 percent public facility, and 3 percent military (District 2017).

The PMP establishes ten planning districts. The project site is within the PMP’s Tenth Avenue Marine Terminal Planning District (Planning District 4) and the vast majority of the project site lies within the Belt Street Industrial Subarea (Subarea 43) (see Figure 4.6-1).

4.6.2.1 Existing Port Master Plan Land and Water Use Designations

PMP land and water use designations within the project site include Marine Related Industrial and Specialized Berthing. The allowable uses for each are described below. Designated land and water uses within the project site are shown in Figure 2-2 of Chapter 2, *Environmental Setting*.

- Marine Related Industrial – Landside designation for sites within close proximity to water bodies due to functional dependencies on the industrial activity for direct access or for linkages to waterborne products, processes, raw materials, or large volumes of water. The primary users of marine-related industrial areas are dependent upon large ships, deep water, and specialized loading and unloading facilities, typically associated with shipbuilding and repair, processing plants, and marine terminal operations.
- Specialized Berthing – Waterside designation devoted to marine commercial and industrial uses including ship building and repair, water taxi, excursion and ferry craft, commercial fishing boat berthing as a priority use, cruise ship berthing, maritime museum exhibits and historic craft replicas, water intake and discharge, industrial and commercial launching, vessel loading and unloading, marine contractors, rigged vessels, barges, tugs/tow boats, breakwater, launch ramps and lifts, seawall margin wharves, and any other facility supporting the marine craft engaged in commercial and industrial uses.

In addition to the established land and water use designations, the PMP establishes conceptual plans for each subarea of the Precise Plan. As discussed under the Belt Street Industrial Subarea, the concept established by the PMP for the project site involves continued operation of the existing marine-related industries. Consideration should be given to expansion into the adjacent upland areas, should it be necessary. Renovation and redevelopment of existing facilities will continue as industries respond to market demands and changes in the maritime industrial climate.

4.6.2.2 Existing Community Characteristics

The existing characteristics of the project site and within the surrounding community are described in Chapter 2, *Environmental Setting*. For the reader's convenience, this section restates the existing site conditions provided in Chapter 2 as they apply to land use and planning.

Project Site

The project site consists of a combined total of approximately 35.9 acres, with approximately 11.8 acres of land area and 24.1 acres of water area (Table 4.6-1). The water area of the project site consists of three working piers (Piers 1, 3, and 4), five wet berths, and two floating dry docks, all of which are used to modernize, repair, and overhaul marine vessels, primarily non-nuclear Navy vessels as well as commercial customers. In addition, the land area of the project site contains numerous buildings housing administrative and office spaces; training centers; fitness facilities; restrooms; production space; shops for structural, electrical, carpentry, painting, and metal work; and warehouses. There are also several storage yards and storage tanks scattered throughout the project site. The project site does not support any native vegetation, but does include some trees and other ornamental plantings. Figure 2-2 in Chapter 2, *Environmental Setting*, presents an aerial photograph of the existing condition of the project site.

Table 4.6-1. Project Site Acreage

	Land	Water	Total
Existing District Leasehold	9.8	16.6	27
TUOP ¹	2.0	4.0	6.0
California State Lands Commission Lease ²	0	3.5	3.5
Total	11.8	24.1	35.9

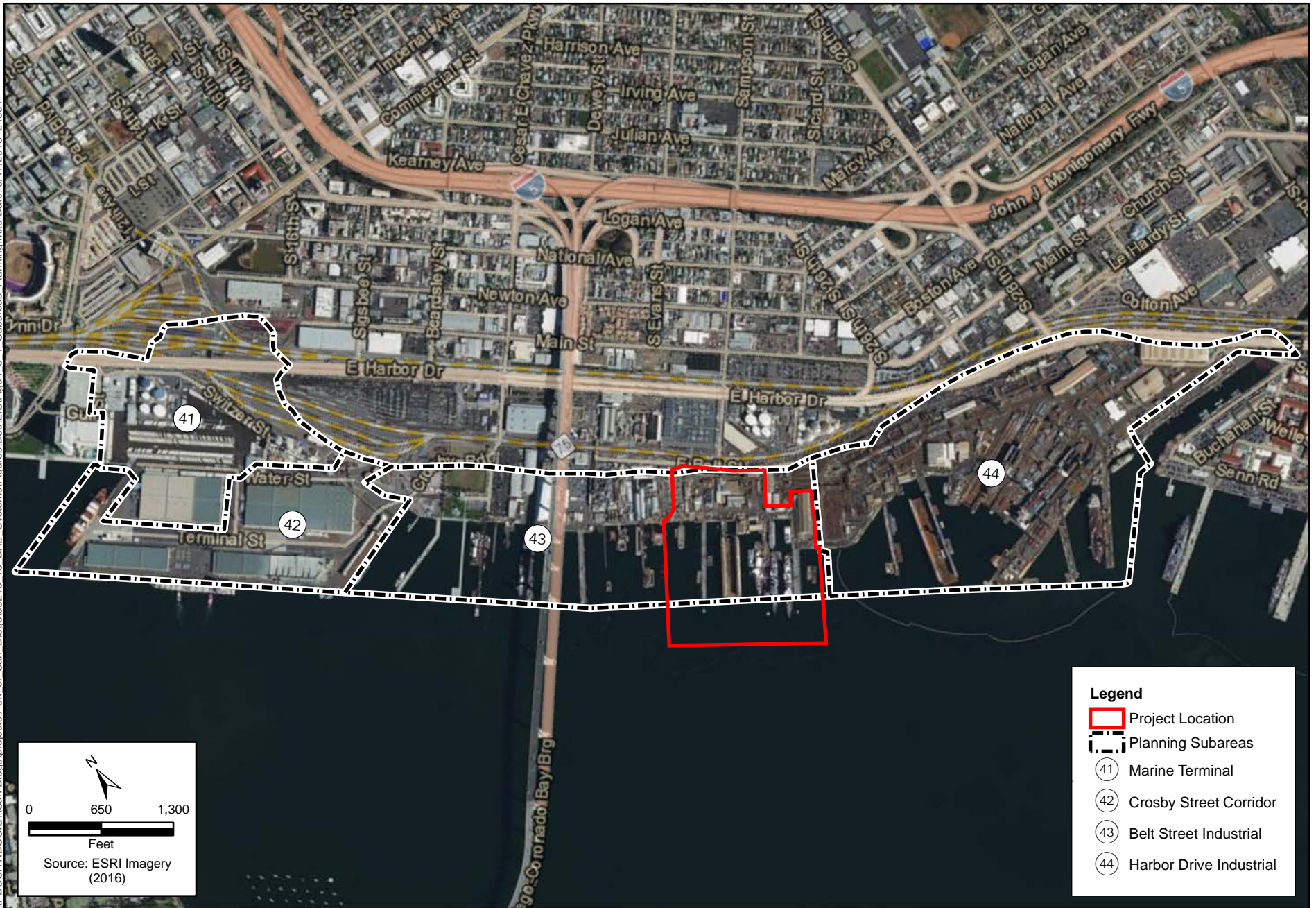
¹ As explained in Chapter 3, *Project Description*, the TUOP between the District and BAE Systems expired October 31, 2019. However, it is anticipated that the TUOP will be renewed on a short-term basis for continuation of existing uses.

² Under Senate Bill 507, which grants in trust to the District additional tidelands and submerged lands held by the state within San Diego Bay, the leasing authority for these 3.5 acres of water area was transferred into the District's jurisdiction as of January 1, 2020. However, the California Coastal Commission still retains permitting authority for this area.

Surrounding Community

The project site is within and adjacent to the San Diego Bay in a highly industrialized area of the waterfront located approximately 0.20 mile south of the San Diego-Coronado Bay Bridge. West of Harbor Drive, uses to the northwest of the project site include primarily ship engineering services, ship building and repair facilities, and a hydrocolloid manufacturing plant. An electricity substation is located to the northeast. Uses to the east of the project site, across Belt Street, include distribution facilities for oil companies, which are characterized by large, white storage tanks. Uses to the southeast comprise more ship building and repair facilities, such as the expansive General Dynamics NASSCO facility, which is bounded on the south by Chollas Creek. South of Chollas Creek is a naval facility. Open water of the San Diego Bay is west of the project site, with the City of Coronado farther west (approximately 1 mile across the Bay from the project site).

Uses east of Harbor Drive, between Harbor Drive and Interstate 5, become more diverse and transition from light industrial uses into a mix of residential (both multi- and single-family), commercial and institutional uses (churches and schools), as well as some interspersed light industrial.



Legend







-  Project Location
-  Planning Subareas
-  41 Marine Terminal
-  42 Crosby Street Corridor
-  43 Belt Street Industrial
-  44 Harbor Drive Industrial

Figure 4.6-1
Planning District 4: Tenth Avenue Marine Terminal Planning Subareas
BAE Systems Waterfront Improvement Project



4.6.3 Applicable Laws and Regulations

4.6.3.1 Federal

Coastal Zone Management Act of 1972

The U.S. Congress recognized the importance of meeting the challenge of continued growth in the coastal zone by passing the Coastal Zone Management Act in 1972. The act, administered by the National Oceanic and Atmospheric Administration (NOAA) Office of Ocean and Coastal Resource Management, provides for management of the nation's coastal resources and balances economic development with environmental conservation.

The Coastal Zone Management Act outlines two national programs. The National Coastal Zone Management Program includes 34 coastal programs that aim to balance competing land and water issues in the coastal zone. The National Estuarine Research Reserve System creates field laboratories that provide a greater understanding of estuaries and how humans affect them. The overall program objectives of the act are to “preserve, protect, develop, and, where possible, restore or enhance the resources of the nation's coastal zone.”

The Coastal Zone Management Act ensures that development projects in coastal areas are designed and sited in a manner that is consistent with coastal zone land uses, maximizes public health and safety, and ensures that biological resources (e.g., wetlands, estuaries, beaches, fish and wildlife and their habitat) within the coastal zone are protected. The enforceable policies of that document are found in Chapter 3 of the California Coastal Act of 1976 (as amended). The California Coastal Commission (CCC or Commission) enforces the Coastal Zone Management Act by certifying that a proposed project is consistent with the California Coastal Act.

40 Code of Federal Regulations, Part 227 – Criteria for the Evaluation of Permit Applications for Ocean Dumping Materials

40 CFR Part 227 establishes the criteria for issuing or denying a permit or to impose conditions on any permit issued for the disposal or dumping of dredged material. Basic criteria include that the proposed disposal will not degrade or endanger the marine environment or the marine ecosystem; will not result in unacceptable adverse effects on human health; will not result in persistent or permanent effects due to the dumping of the particular volumes or concentrations of the dredged material; or will not adversely affect the ocean for other uses.

4.6.3.2 State

California Public Trust Doctrine

The Public Trust Doctrine is a common law doctrine that provides that public lands and waters are held by the State or its delegated trustee (i.e., the California State Lands Commission [SLC]) for the benefit of all people. All tide and submerged lands, granted or ungranted, as well as navigable rivers, sloughs, etc., are impressed with the Public Trust. The Public Trust Doctrine, as overseen by the SLC, restricts the type of land uses allowed on public lands, including the District Tidelands. The Public Trust Doctrine limits the uses of sovereign lands to waterborne commerce, navigation, fisheries,

open space, water-oriented recreation, ecological habitat protection, or other recognized Public Trust purposes. The entire project site would be subject to the Public Trust Doctrine.

California Coastal Act

The CCA of 1976 (Public Resources Code, Section 30000 et seq.) was enacted by the Legislature as a comprehensive scheme to govern land use planning for the entire coastal zone of California. A combination of local land use planning procedures and enforcement to achieve maximum responsiveness to local conditions, accountability, and public accessibility are relied upon to ensure conformity with the provisions of the act (Section 30004 (a) and (b)). Chapter 8, Article 3 of the CCA requires ports, including the Port of San Diego, to develop a PMP by which to designate land and water uses and issue individual coastal development permits or exclusions within their jurisdictions. Individual PMPs require review and certification by the CCC for conformity with the CCA, including any amendments to the certified PMP. The CCC must certify a PMP or PMP Amendment (PMPA) if it finds that the PMP or PMPA meets the requirements of, and is in conformity with, the CCA. Chapter 8 (Section 30715) also specifies which projects within a port are subject to Chapter 3 policies of the CCA, *Coastal Resources Planning and Management Policies*. Chapter 3 of the CCA provides broad statewide policies for public access to the coast, recreation, marine environment, land resources, development, and sea-level rise (SLR). A list of applicable policies and an associated consistency review is provided below in Table 4.6-2.

San Diego Unified Port District Act

The San Diego Unified Port District Act (Port Act) (Appendix 1 of the California Harbor and Navigation Code) was adopted in 1962. Through the Port Act, the State of California delegated its authority to the District to manage and control certain tidelands and submerged waters. Specifically, the District was established for the development, operation, maintenance, control, regulation, and management of the tidelands and lands underlying the inland navigable waters of San Diego Bay. Under the Port Act, the District was granted broad police powers. The Port Act requires the District to exercise its land management authority and powers over (1) the tidelands and submerged lands granted to the District and (2) any other lands conveyed to the District by any city or the County of San Diego or acquired by the District. The Port Act grants the District exclusive police power over property and development subject to its jurisdiction. A PMP is also required by the Port Act, which must specify the land and water uses within the District's jurisdiction.

4.6.3.3 Local

San Diego Unified Port District Port Master Plan

The PMP is the governing land use document for physical development within areas granted in trust to the District. The PMP, as certified, provides the District permitting authority and the ability to issue coastal development permits.

The PMP is organized into four sections: (I) Introduction, (II) Planning Goals, (III) Master Plan Interpretation, and (IV) Precise Plans. Section II establishes planning goals and related policies that pertain to development and operation of lands within the District's jurisdiction. Section III provides additional land use objectives and criteria that apply to specific land use types, including commercial, industrial, recreation, conservation, military, and public facility uses. Section IV

identifies ten Planning Districts, each of which is guided by a Precise Plan that guides future development.

As discussed above, the project falls within the Belt Street Industrial Subarea of Planning District 4: Tenth Avenue Marine Terminal. The concept established by the PMP for the project site involves continued operation of the existing marine-related industries with consideration being given to expansion into the adjacent upland areas, as necessary. Renovation and redevelopment of existing facilities will continue as industries respond to market demands and changes in the maritime industrial climate. Table 4.6-2 lists the applicable policies and describes the proposed project's consistency with those policies.

San Diego Unified Port District Port Master Plan Update

The District is in the process of conducting a comprehensive update of the PMP (Port Master Plan Update or PMPU). While the details of the PMPU are still in the process of being developed, the District adopted on August 12, 2014, under Resolution 2014-167, the Vision Statement and Guiding Principles that will govern the specific goals, policies, and land use decisions identified in the PMPU. The project's consistency with the Guiding Principles is analyzed in Table 4.6-2.

San Diego Bay Integrated Natural Resources Management Plan

The San Diego Bay Integrated Natural Resources Management Plan is a long-term strategy sponsored by two of the major managers of San Diego Bay: the U.S. Navy and the District. Its intent is to provide direction for the good stewardship that natural resources require, while also supporting the ability of the Navy and District to meet their missions and continue functioning within the Bay. The core strategies of the plan are to: (1) manage and restore habitats, populations, and ecosystem processes; (2) plan and coordinate projects and activities so that they are compatible with natural resources; (3) improve information sharing, coordination, and dissemination; (4) conduct research and long-term monitoring that supports decision-making; and (5) put in place a Stakeholder's Committee and Focus Subcommittees for collaborative, ecosystem-based problem-solving in pursuit of the goal and objectives.

San Diego International Airport Land Use Compatibility Plan

The San Diego International Airport Land Use Compatibility Plan (ALUCP) was adopted on April 3, 2014, and amended on May 1, 2014, with the purpose of promoting compatibility between San Diego International Airport (SDIA) and surrounding land uses. Specifically, the intent of the ALUCP is to protect public health, safety, and welfare in areas around the airport and establishes policies and standards related to noise, safety, airspace protection, and overflight. The ALUCP defines an airport influence area (AIA), which is the boundary in which the ALUCP applies and is the "area in which current and projected future airport-related noise, safety, airspace protection, or overflight factors/layers may significantly affect land use or necessitate restrictions on land use."

The ALUCP establishes two zones within the AIA:

- Review Area 1: the combination of the 60 decibel community noise equivalent level noise contour, the outer boundary of all safety zones, and the Threshold Siting Surfaces (TSSs). A TSS is critical airspace that must be protected to allow for safe approaches to runways. Any objects penetrating the TSS would cause the runway threshold to be further displaced, reducing available landing distances.

- Review Area 2: the combination of the airspace protection and overflight boundaries beyond Review Area 1. Airspace protection and overflight policies and standards only apply within Review Area 2.

The project site falls within Review Area 2. ALUC review is required for land use plans and regulations within Review Area 2 proposing increases in height limits, and for land use projects that: (1) have received from the Federal Aviation Administration (FAA) a Notice of Presumed Hazard, a Determination of Hazard, or a Determination of No Hazard subject to conditions, limitations, or marking and lighting requirements; and/or (2) would create any of the following hazards: glare; electromagnetic interference; thermal plumes; lighting, dust, water vapor and smoke; and bird attractants (San Diego County Regional Airport Authority 2014).

Local agencies must submit an application for consistency determination to the ALUC for its review at least 45-60 days prior to construction (San Diego County Regional Airport Authority 2014). The ALUC must respond to a local agency's request for consistency determination within 60 calendar days after the application is deemed complete by ALUC staff. In accordance with FAA Part 77, the FAA would be notified at least 45 to 60 days prior to construction.

4.6.4 Project Impact Analysis

4.6.4.1 Methodology

The proposed project includes maintenance, repair, and replacement of waterfront infrastructure associated with mooring and operational facilities at the project site, including replacement and realignment of wharf structures, replacement of aged buildings, mooring infrastructure improvements, and utility upgrades. The following impact analysis evaluates the land use and planning impacts resulting from the proposed project. Based upon the existing conditions described under Section 4.6.2, the impact analysis qualitatively assesses the project-related impacts on the existing community and provides a project consistency analysis with the existing applicable plans, policies, and regulations. Merely being inconsistent with an existing plan, policy, or regulation would not necessarily be considered a significant impact under CEQA; rather, the inconsistency must result in a substantial adverse effect on the environment.

4.6.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining significance of impacts associated with land use and planning resulting from the proposed project. The determination of whether a land use and planning impact would be significant is based on the professional judgment of the District as Lead Agency and the recommendations of qualified personnel at ICF, all of which is based on the evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following.

1. Physically divide an established community.
2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal

program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

As discussed in the Initial Study/Notice of Preparation (IS/NOP) prepared for the proposed project (Appendix A), the proposed project would have no impacts related to the physical division of an established community because, as documented in the IS/NOP, all improvements occurring under the proposed project would occur entirely within BAE Systems' existing leasehold and would not expand into any adjacent parcels or communities. In addition, at the time the NOP was published, Appendix G included a third criterion under the land use and planning thresholds regarding whether the project would conflict with any applicable habitat conservation plan or natural community conservation plan (see Appendix A). Appendix G of the State CEQA Guidelines has since been revised to remove this criterion from the land use and planning checklist; however, this issue is analyzed under Threshold 5 in Section 4.2, *Biological Resources*. Therefore, only Threshold 2 is discussed below.

4.6.4.3 Project Impacts and Mitigation Measures

Threshold 2: Implementation of the proposed project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Impact Discussion

As discussed above, the PMP currently designates the landside and waterside areas of the project site for Marine-Related Industrial and Specialized Berthing uses, respectively. The proposed project would not involve any changes in land or water use designations. Existing land and water uses would continue to operate under the proposed project, and, as such, the proposed project would be consistent with the land and water use designations for the project site and would not require a PMP amendment. While the proposed project would not involve any changes to existing land or water uses, demolition activities and new construction within the landside and waterside areas of the project site have the potential to conflict with land use plans, policies, or regulations that were adopted for the purpose of avoiding or mitigating an environmental effect.

Table 4.6-2 lists all policies that are applicable to the proposed project, which includes policies from the CCA, the CCC's Sea Level Rise Policy Guidance, and the San Diego Bay Integrated Natural Resource Management Plan, and provides a comprehensive analysis of whether the project is consistent with these policies. Consistent with the Public Trust Doctrine, many PMP policies focus on the use of the tidelands for public benefit. As documented in Table 4.6-2, the proposed project would be consistent with these policies because the project would increase the operational efficiencies of the existing ship repair business and would ensure the economic and social benefits currently produced at the site in the form of jobs, revenue, and national defense. PMP policies and CCA policies also focus on the retention of water-adjacent properties for water-dependent uses and/or for public access and recreation and protection of water quality and biological resources. As noted in Table 4.6-2, the proposed project involves maintenance, repair, and reconstruction of facilities necessary to support the ship repair yard that currently operates at the project site, and would continue to operate under project conditions. As such, the project site is consistent with

policies of the PMP and CCA that aim to preserve waterfront parcels for water-dependent uses. In addition, CCA policies focus on limitations to dredging, pile driving, and water coverage in order to minimize associated environmental impacts, including adverse effects on biological resources. Several project elements would include these activities, including Project Elements 1 through 7 and Project Element 9, some of which fall under the CCC's permitting authority. As shown in Table 4.6-2, the proposed project would be consistent with these policies with the implementation of mitigation measures to ensure protection of biological resources and water quality.

Overall, with adherence to existing regulations, such as the District's Jurisdictional Runoff Management Program, and implementation of resource-specific mitigation measures identified throughout Chapter 4, the proposed project would maintain consistency with all applicable policies that have been adopted for the purposes of avoiding or mitigating environmental effects.

Regarding public access and recreation, because of the public safety and security concerns related to the heavy industrial operations associated with ship repair services, the project site is not an appropriate location to provide public access to the waterfront or water-related recreational facilities. Therefore, as discussed in Table 4.6-2, these policies are not applicable to the proposed project.

In addition, the proposed project is located within AIA Review Area 2 for SDIA. According to the ALUCP for SDIA, Review Area 2 is defined as the combination of the airspace protection and overflight boundaries beyond Review Area 1, and only the airspace protection and overflight policies and standards apply. However, overflight compatibility policies and standards only apply to residential projects, and therefore are not applicable to the proposed project (SDIA ALUCP, Section 1.6.1.4). The proposed project would not result in any land use changes that would be inconsistent with the SDIA ALUCP. The project site is also within the FAA notification boundary pursuant to Federal Aviation Regulations, Part 77. Project Elements 11, 12, and 13 include the replacement of existing one-story structures with new three-story structures. The proposed building heights for new structures would range between 50 and 55 feet. These proposed structures would be similar in height to other existing structures in the surrounding area. As a result, the proposed structures associated with Project Elements 11, 12, and 13 would not pose a hazard to air navigation, and the proposed project would be consistent with the ALUCP. Furthermore, in accordance with Federal Aviation Regulations, Part 77, the FAA would be notified at least 45 days prior to construction because of the proximity of the site to a navigation facility. The proposed project is required to obtain all necessary FAA determinations prior to construction, and comply with any conditions provided in the determination, if any.

Based on the above, impacts related to consistency with an applicable land use plan, policy, or regulation adopted for the purposes of avoiding or mitigating an environmental effect would be less than significant.

Level of Significance Prior to Mitigation

The proposed project would not conflict with applicable plans, policies or regulations adopted for the purposes of avoiding or mitigating an environmental effect. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

Table 4.6-2. Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
Port Master Plan – Section II	
<p>Goal I. Provide for the present use and enjoyment of the bay and tidelands in such a way as to maintain options and opportunities for future use and enjoyment.</p>	<p>Consistent. The proposed project would increase the efficiency and reliability of the facilities that support the existing water-dependent maritime industrial operations at the project site, which would ensure the continued use of the site for its designated uses.</p>
<p>Goal II. The Port District, as trustee for the people of the State of California, will administer the Tidelands so as to provide the greatest economic, social, and aesthetic benefits to present and future generations.</p>	<p>Consistent. The proposed project would result in more efficient operations at the project site, thus ensuring the economic and social benefits currently produced at the site in the form of jobs, revenue, and national defense. In addition, reconstruction or rehabilitation of the existing facilities would be required to comply with the current California Building Code (California Code of Regulations Title 24) and would result in more energy efficient structures, which would provide the social benefits associated with good environmental stewardship.</p>
<p>Goal III. The Port District will assume leadership and initiative in determining and regulating the use of the bay and tidelands.</p> <ul style="list-style-type: none"> • Encourage industry and employment generating activities which will enhance the diversity and stability of the economic base. • Encourage private enterprise to operate those necessary activities with both high and low margins of economic return. 	<p>Consistent. The proposed project would continue the ship repair uses that currently exist at the site, but would improve efficiency of operations for a company that provides diverse employment opportunities in the form of manufacturing/maintenance positions (mechanics, electricians, welders, etc.), engineering jobs, business and strategy planning positions as well as other office-related jobs such as accounting and finance opportunities, and many other specializations. Therefore, the project would encourage a private enterprise that provides employment generating activities.</p>
<p>Goal IV. The Port District, in recognition of the possibility that its actions may inadvertently tend to subsidize or enhance certain other activities, will emphasize the general welfare of statewide considerations over more local ones and public benefits over private ones.</p> <ul style="list-style-type: none"> • Develop the multiple purpose use of the tidelands for the benefit of all the people while giving due consideration to the facts and circumstances related to the development of tideland and port facilities. • Foster and encourage the development of commerce, navigation, fisheries, and recreation by the expenditure of public monies for the 	<p>Consistent. The proposed project would improve efficiency of the existing operations at the project site, which includes water-dependent maritime industrial uses and, as such, promotes the multi-purpose uses of the tidelands and Port facilities. While the project site does not allow public access, due to safety and security reasons, it does provide public benefit in the form of economic considerations (jobs, local revenue, etc.) and national defense (by providing ship repair services to the Navy). The project does not involve the use of public monies and would not involve an exclusory use of the tidelands (i.e., the project involves restrictions to the bayfront for the purposes of safety and security and not for the</p>

Goal, Policy, Objective	Proposed Project Consistency
<p>preservation of lands in their natural state, the reclamation of tidelands, the construction of facilities, and the promotion of its use.</p> <ul style="list-style-type: none"> Encourage non-exclusory uses on tidelands. 	<p>purposes of promoting private enjoyment of the waterfront over public enjoyment of the waterfront).</p>
<p>Goal V. The Port District will take particular interest in and exercise extra caution in those uses or modifications of the Bay and Tidelands, which constitute irreversible action of loss of control.</p> <ul style="list-style-type: none"> Bay fills, dredging and the granting of long-term leases will be taken only when substantial public benefit is derived. 	<p>Consistent. The proposed project would include dredging within the Bay in order to accommodate improvements to or improve operations of the Pride of San Diego Drydock, Pier 3, and the quay wall. Specifically, dredging would allow the dry dock to submerge in place without the need to de-moor and be tugged westward into deeper water in order to allow a ship to enter the dry dock. As noted above, BAE Systems provides many employment opportunities in the San Diego area. In addition, the proposed project, including the dredging requirements, would facilitate the U.S. Navy’s “Pivot West” strategy, which contributes to the nation’s defense. As such, although the project requires dredging, the project would result in substantial public benefit and would be consistent with this goal.</p>
<p>Goal VI. The Port District will integrate the tidelands into a functional regional transportation network.</p> <ul style="list-style-type: none"> Encouraging development of improved major rail, water and air systems linking the San Diego region with the rest of the nation. Improved automobile linkages, parking programs and facilities, so as to minimize the use of waterfront for parking purposes. Providing pedestrian linkages. Encouraging development of non-automobile linkage systems to bridge the gap between pedestrian and major mass systems. 	<p>Not applicable. The project involves improving the efficiency of ship repair operations at the project site and updating or reconstructing existing landside facilities, such as administrative offices and production buildings. The operational phase of the project would involve minimal changes to landside and waterside transportation networks at the site or within the surrounding area (i.e., the project would reduce the total number of vessel trips and the number of laborers at the project site) and does not involve adjustments to the availability of parking at the project site.</p>
<p>Goal VII. The Port District will remain sensitive to needs, and cooperate with adjacent communities and other appropriate governmental agencies in Bay and Tideland development.</p> <ul style="list-style-type: none"> The Port District will attempt to avoid disproportionate impact on adjacent jurisdictions both in benefits and any possible liabilities, which might accrue through bay and tideland activities. 	<p>Consistent. The District will coordinate with the City of San Diego and other agencies with jurisdiction over environmental resources within the project vicinity that would be affected by the proposed project as necessary to eliminate or reduce environmental impacts on those resources. As it relates to other resources (e.g., social and economic benefits), in making its decision whether to approve the proposed project, the Board of Port Commissioners will exercise its discretion so as to provide the greatest economic and social benefits to present and future generations.</p>

Goal, Policy, Objective	Proposed Project Consistency
<p>Goal VIII. The Port District will enhance and maintain the bay and tidelands as an attractive physical and biological entity.</p> <ul style="list-style-type: none"> • Each activity, development and construction should be designed to best facilitate its particular function, which function should be integrated with and related to the site and surroundings of that activity. • Views should be enhanced through view corridors, the preservation of panoramas, accentuation of vistas, and shielding of the incongruous and inconsistent. • Establish guidelines and standards facilitating the retention and development of an aesthetically pleasing tideland environment free of noxious odors, excessive noise, and hazards to the health and welfare of the people of California. • Establish and foster an artworks program to promote, enhance, and enliven the waterfront experience through the public and private placement of works of art. 	<p>Consistent. The project would involve improvements and upgrades to existing facilities in order to better facilitate the function of the site, which operates ship repair services for the U.S. Navy and commercial customers. This use is related to the surrounding uses, which include other maritime industrial uses as well as a U.S. Naval base. The project site is not designated nor appropriate for providing public views or as a location for the placement of works of art. In addition, the emission of noxious odors, production of excessive noise, and other hazards are regulated by existing laws and regulations to avoid effects on the health and welfare of the people of California.</p>
<p>Goal IX. The Port District will insure physical access to the bay except as necessary to provide for the safety and security, or to avoid interference with waterfront activities.</p> <ul style="list-style-type: none"> • Provide “windows to the water” at frequent and convenient locations around the entire periphery of the bay with public right-of-way, automobile parking and other appropriate facilities. • Provide access along the waterfront wherever possible with promenades and paths where appropriate, and elimination of unnecessary barricades which extend into the water. 	<p>Consistent. The proposed project would not involve public access to the waterfront or provide “windows to the water” because the project area is highly industrialized, and doing so would interfere with the safety and security of the public and users of the site.</p>
<p>Goal X. The quality of water in San Diego Bay will be maintained at such a level as will permit human water contact activities.</p> <ul style="list-style-type: none"> • Maintain a program of flotsam and debris cleanup. • Insure through lease agreements that Port District tenants do not contribute to water pollution. • Cooperate with the Regional Water Quality Control Board, the County Health Department, and other public agencies in a continual program of monitoring water quality and identifying the source of any pollutant. 	<p>Consistent. Construction activities associated with the proposed project would involve dredging, which could increase the opportunity for debris or pollutants to enter into the Bay. In addition, operational activities involve ship repair, which has the potential to release pollutants, including cleaning agents, solvents, paint, etc., into the Bay. In accordance with the District’s Jurisdictional Runoff Management Program and its accompanying <i>BMP Design Manual</i>, which require stormwater pollutant control best management practices, the project site currently operates, and would continue to operate under project conditions, a Storm Water Diversion System that eliminates or reduces stormwater discharges to receiving waters (the Bay). The District’s Jurisdictional Runoff</p>

Goal, Policy, Objective	Proposed Project Consistency
<ul style="list-style-type: none"> Adopt ordinances, and take other legal and remedial action to eliminate sources of pollution. 	<p>Management Plan also requires the preparation of a Construction BMP Plan, that specifies BMPs to control erosion, sedimentation, and non-stormwater pollution on the construction site. In addition, the District would require the tenants of the proposed project to comply with the District’s Harbor Safety Plan, which provides mariners with the District’s policies regarding pollution prevention and protection of the region’s resources. These measures would ensure that the water quality of the Bay would be protected during project construction and operation (see Section 4.5, <i>Hydrology and Water Quality</i>).</p>
<p>Goal XI. The Port will protect, preserve, and enhance natural resources, including natural plant and animal life in the Bay as a desirable amenity, an ecological necessity, and a valuable and usable resource.</p> <ul style="list-style-type: none"> Promote and advance public knowledge of natural resources through environmental educational materials. Identify existing and potential assets. Keep apprised of the growing body of knowledge on ecological balance and interrelationships. Encourage research, pilot programs, and development in aquaculture as long as it is consistent with this goal. Administer the natural resources so that impacts upon natural resource values remain compatible with the preservation requirements of the public trust. 	<p>Consistent. As detailed in Section 4.2, <i>Biological Resources</i>, the proposed project would be required to implement mitigation measures to protect California least tern and California brown pelican, implement a monitoring program during pile driving to avoid or protect green sea turtles and marine mammals, avoid nesting season for birds/conduct preconstruction surveys, and implement overwater coverage mitigation to compensate for loss of open water habitat. As a result, the proposed project would not inhibit the protection of any natural plant and animal life in the Bay.</p>
<p>Port Master Plan – Section III (Industrial Land Use Objectives and Criteria)</p>	
<p>Industrial activities on tidelands should:</p> <ul style="list-style-type: none"> Be located in convenient proximity to other industrial areas and to living areas from which there are interconnecting transit and thoroughfare routes. Provide, under single ownership, a variety of reasonably level, well-drained sites on land that is either vacant or on developed lands that can be phased out economically for redevelopment. 	<p>Consistent. The proposed project is within an existing industrial portion of the bayfront and has access to East Harbor Drive and I-5, which provide access to adjoining industrial areas and local and regional residential communities. In addition, the project site is within walking distance of bus and trolley routes.</p> <p>Not applicable. The project would not involve acquisition and consolidation of parcels for the purposes of redevelopment. While the project site consists of areas within two different jurisdictions (i.e., the District and California Coastal Commission), the project would maintain the existing boundaries of the BAE Systems leaseholds and would not involve expansion into or acquisition of adjacent parcels.</p>

Goal, Policy, Objective	Proposed Project Consistency
<ul style="list-style-type: none"> Provide sites that are economical to develop and adequate for main buildings, accessory storage, off-street loading, off-street parking, and buffer strips. 	<p>Consistent. The project would involve improvements to and reconstruction of the existing facilities within a site that is adequate in size to accommodate the ship repair services provided by BAE Systems, including main buildings, storage, off-street loading, and off-street parking requirements of the existing operations.</p>
<ul style="list-style-type: none"> Be designed to meet performance standards adequate to avoid nuisances, thereby insuring compatibility with surrounding uses. 	<p>Consistent. The project includes performance standards for water quality, noise, and air quality that would ensure the project avoids nuisances and compatibility with the surrounding uses.</p>
<ul style="list-style-type: none"> Be limited to industrial uses which have a definite need for the availability of utilities, direct access to railroads and major thoroughfares, and the proximity of either airport or water frontage. 	<p>Consistent. The project site is currently used for, and would continue to operate, ship repair services. As such, the project site accommodates a use that requires direct access to water frontage.</p>
<ul style="list-style-type: none"> Provide substantial benefits to both local economic needs and to the regional hinterland. 	<p>Consistent. The project contributes to the local economy by operating the ship repair division of a major multinational company, and thus provides jobs and revenue at the local and regional levels. In addition, as noted above, part of the purpose of the project is to improve the efficiency of operations at the project site in order to accommodate adjustments to the U.S. Navy’s plans, which contributes to the nation’s defense strategy, thus providing substantial benefits to local and regional economic needs.</p>
<p>Marine Related Industry Designation</p>	<p>Consistent. This designation stipulates uses that require proximity to water bodies. The project involves a ship building and repair service, which meets that requirement and is a permitted use under the Marine Related Industry designation.</p>

Port Master Plan Update Guiding Principles (Values and Standards)

<p>A. Achieve solidarity among partnering agencies and stakeholders. Establish a long-range vision and Master Plan with implementation strategies that represent the interest of all Californians, all five member jurisdictions, California State Lands Commission, and California Coastal Commission in a balanced, proactive, and deliberate way, which is essential to achieve long term success. As a trustee, the Port has an opportunity and an obligation to meet the needs of the public in the State of California, while protecting Tideland resources of San Diego Bay. The role of the Port goes beyond serving as an agent to manage existing assets and extends to a leadership function on behalf of all Californians both current and future.</p>	<p>Not applicable. This guiding principle specifically relates to the Port Master Plan Update, which the District is currently in the process of preparing, and provides overarching guidance for the approach to that plan.</p>
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Goal, Policy, Objective	Proposed Project Consistency
<p>B. Promote clean air, healthy communities, and environmental justice. Seek to achieve environmental justice which shall be defined as: working to reduce the cumulative health burdens on neighboring communities and ensure fair treatment of people of all races, cultures, and incomes in developing, adopting, implementing, and enforcing environmental laws, regulations, and policies.</p>	<p>Consistent. The proposed reconstruction or rehabilitation of the existing facilities would be required to comply with the current California Building Code of Regulations Title 24. In addition, the proposed project would implement mitigation to address the project’s environmental impacts. These measures would help promote clean air and healthy communities, and would not place disproportionately greater impacts on neighboring communities.</p>
<p>C. Ensure job creation, prudent economic policies, and financial sustainability. Balance economics, available resources and the public good. As the shepherd of public lands and water within the Tidelands, the Port shall require a strategy that outlines investment and costs that consider economic feasibility, long-term financial sustainability and viability for the Port District, broader State and community needs and impacts, while promoting public access, use, and enjoyment of the Bay. Utilize balanced and equitable investments in the tidelands and public realm in infrastructure improvements to create a value proposition for existing and future economic development, business attraction, growth, and public enjoyment of the Bay. Continue to increase revenues and support existing and future entrepreneurial opportunities in concert with Port operations such as, Cruise, Cargo, and Real Estate opportunities considering a progressive economic and business growth strategy.</p>	<p>Consistent. The proposed project would ensure the continued financial success of the existing ship repair services, which bring income and tax revenue to the District and the City. In making its decision whether to approve the proposed project, the Board of Port Commissioners will consider the economic, financial, and related policy concerns of this objective and will exercise its discretion based on available evidence.</p>
<p>D. Preserve the working Port as a dynamic and thriving element of the region’s economy and cultural history. The Port’s working waterfront serves an essential role in the region as an economic engine and a job generator. The Bay’s history as a commercial center and cultural exchange, facilitated by commerce, are historically important and are reflected in the modern industrial facilities located on the Bay’s working waterfront. Protecting the Bay as a shared waterway to promote commerce, navigation, fisheries, national defense, and recreation were foundational to the creation of the Port and will continue to underscore future investment in water-dependent industrial facilities.</p>	<p>Consistent. The project falls within the working waterfront areas of the Port and would continue to promote an existing water-dependent industrial facility that contributes to the local economy and national defense.</p>
<p>E. Incorporate state of the art sustainability practices. Consider the long-term impacts of sea level rise and climate change to both land and water resources. Implement principles of resiliency and seek to become a national leader in thought and implementation of these practices. Implement energy conservation and sustainability practices and reduce</p>	<p>Consistent. The project would be designed in accordance with the current California Building Code (California Code of Regulations Title 24) and, as such, would include more energy-efficient features than the existing buildings. In addition, potential impacts related to SLR, climate</p>

Goal, Policy, Objective	Proposed Project Consistency
<p>dependency on carbon-based energy. Promote the health and sustainability of natural resources, and the growth and proliferation of natural ecosystems. Create a sustainable fiscal budget and update it regularly.</p>	<p>change, and natural ecosystems have been considered in this EIR with mitigation implemented, where necessary.</p>
<p>Port Master Plan Update Guiding Principles (Planning Principles)</p>	
<p>1. Honor the water. Future decisions shall consider the health of the entire Bay eco-system as a single, multi-faceted entity. Create a water use plan comparable to a land use plan recognizing the value of land assets as a function of their adjacency to different types of water. Use this plan to maximize deep water and dredged resources, recreational opportunities, and natural resource protection. Encourage a variety of activities and entrepreneurial opportunities. Optimize infrastructure for water-dependent uses, organize water transportation routes, guide future decisions regarding infrastructure needs and upland uses adjacent to the Working Port, and integrate natural resources, climate change and water quality policies.</p>	<p>Consistent. The project promotes water-dependent industrial uses and would implement mitigation measures to ensure that project-related impacts on water quality and marine biological resources are less than significant.</p>
<p>2. Guarantee the public realm. Maximize Waterfront Access. The waters of San Diego Bay are the region’s precious and shared asset. The design of places along the waters’ edge should respond to multiple and different upland conditions and provide access to the public throughout the Bay in a manner that is meaningful and compatible with adjacent uses. These differences range from the full potential of the North Embarcadero as a major destination, to neighborhood places like Shelter Island and the Chula Vista Bayfront, to the working waterfront and the U.S. Navy, the U.S. Coast Guard, and to quiet natural edges along the Silver Strand, Grand Caribe Island and South Bay National Wildlife Refuge.</p>	<p>Not applicable. Due to safety and security reasons related to the ship repair services, including repair for Naval vessels, the project site is not an appropriate location to provide publicly accessible waterfront access.</p>
<p>3. Celebrate nature and ecology. Establish an Environmental Stewardship Strategy. Celebrate the whole Bay as an inter-related marine, estuarine, and bay ecosystem that is valued, managed, protected, and enhanced for its overall impact on biology, economic prosperity, public use, and enjoyment. Promote the careful integration of water, natural resources, open space, and buildings.</p>	<p>Consistent. The proposed project would upgrade and reconstruct existing ship repair facilities while protecting natural resources in the project area (see Section 4.2, <i>Biological Resources</i>).</p>
<p>4. Create a comprehensive open space plan. Establish a plan for a continuous network that connects existing and new waterfront parks, streets, and other open spaces. Integrate this network with the Bayshore Bikeway, existing waterfront streets, and any existing and future ferry</p>	<p>Not applicable. The proposed project does not involve the creation of a comprehensive open space plan. As noted above, due to safety and security reasons, the project site is not an appropriate location to provide publicly accessible open space or a waterfront park.</p>

Goal, Policy, Objective	Proposed Project Consistency
<p>routes. Consider planning, programming, maintenance, and enforcement of new parks and water access provisions when making decisions related to open space.</p>	
<p>5. Provide easy mobility on land and water. Develop a mobility plan that addresses both land and water transportation in a manner consistent with public health and clean air. Work with appropriate agencies to avoid redundant policies and facilities to create maximum efficiency. Protecting the Bay as a shared navigational waterway is fundamental to the Port and will continue to guide future investments in water transportation. Together, water and land-based transportation infrastructure will help meet the region’s mobility needs as part of a single, coordinated, transportation plan that reduces air pollution and promotes access to the Bay in order to facilitate the region’s commerce, navigation, fisheries, recreation, and environmental preservation needs. Water transportation should address a range from individual swimmers, kayakers, pleasure boaters, fishing vessels, commercial vessels, ferries, water taxis, cargo, cruise, and naval and public safety vessels. Land transport should address a range from pedestrians, bicyclists, shuttles, autos, buses, light rail, and passenger and freight rail.</p>	<p>Not applicable. The proposed project does not result in changes to landside operations that would result in an increase in transportation. The proposed project would include improvements that would make the existing ship repair operations more efficient, by reducing vessel movement in the water while being serviced at the ship repair yard, and, therefore, does not involve preparation of a mobility plan.</p>
<p>6. Streamline the approval process. Create certainty throughout the approval process by improving efficiency and reducing redundancy and time required for action. Create regulations that clearly define what can be achieved without an amendment process. Use the amendment process when hardship and other conditions apply when conformance cannot be achieved. A land use plan should clearly distinguish public land uses from private land use opportunities. Public land uses include streets, parks, waterfront access corridors, easements, and rights-of-way. Private land uses support leasable land opportunities, define acceptable uses, build-out capacities, development requirements, and required mitigation and environmental compliance policies. The project review and approval process should require conformance to the Master Plan. The project review process should fully coordinate with local, state and regional land and water approval agencies to minimize duplication and redundancy. The purpose of implementing a progressive Port Master</p>	<p>Not applicable. The project does not involve any changes to the District’s approval process.</p>

Goal, Policy, Objective	Proposed Project Consistency
<p>Plan is to clarify requirements that are flexible, agile, and adaptive to respond to changing economic conditions and needs overtime. Implement and adopt a Port Master Plan that is consistent with the Port Act, State Lands Commission requirements, and the California Coastal Act.</p>	
California Coastal Act	
<p>Section 30210. In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.</p>	<p>Not applicable. The project site and surrounding area are predominantly occupied by heavy industrial and military uses. Due to public safety and security concerns, the project site is not an appropriate location to provide publicly accessible waterfront access.</p>
<p>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.</p>	<p>Not applicable. The project site and surrounding area are predominantly occupied by heavy industrial and military uses. Due to public safety and security concerns, the project site is not an appropriate location to provide publicly accessible waterfront access.</p>
<p>Section 30212. (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, [or] (2) Adequate access exists nearby.</p>	<p>Consistent. The proposed project does not provide public access to the coast because it is inconsistent with public safety and military security needs. In addition, adequate access exists at Cesar Chavez Park, approximately 0.33 mile to the northwest, and at many points along the Embarcadero Promenade, beginning a little over 1 mile to the northwest of the project site. The proposed project would not inhibit public access to these areas.</p>
<p>Section 30212.5. Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area.</p>	<p>Not applicable. The proposed project would not increase the number of employees or laborers at the project site during operations. As such, the proposed project would not increase the demand for or supply of parking at the project site or in the surrounding area.</p>
<p>Section 30213. Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. The commission shall not: (1) require that overnight room rentals be fixed at an amount certain for any privately owned and operated hotel, motel, or other similar visitor-serving facility located on either public or private lands; or (2) establish or approve any method for the</p>	<p>Not applicable. The project site is not a feasible location for lower cost visitor or recreational facilities, and does not involve the construction of these facilities.</p>

Goal, Policy, Objective	Proposed Project Consistency
<p>identification of low or moderate income persons for the purpose of determining eligibility for overnight room rentals in any such facilities.</p>	<p>Not applicable. As noted above, due to safety and security concerns associated with the onsite ship repair services, the project site is not an appropriate location to provide public access to the waterfront.</p>
<p>Section 30214. (a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:</p> <ol style="list-style-type: none"> (1) Topographic and geologic site characteristics. (2) The capacity of the site to sustain use and at what level of intensity. (3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses. (4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter. 	<p>Not applicable. As noted above, due to safety and security concerns associated with the onsite ship repair services, the project site is not an appropriate location to provide public access to the waterfront.</p>
<p>Section 30220. Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.</p>	<p>Not applicable. Due to the industrialized nature of the project site and immediately surrounding area, the project site is not suitable for water-oriented recreational activities.</p>
<p>Section 30223. Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.</p>	<p>Not applicable. Due to the industrialized nature of the project site and immediately surrounding area, the project site is not suitable for water-oriented recreational activities.</p>
<p>Section 30224. Increased recreational boating use of coastal waters shall be encourage, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, providing harboring refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.</p>	<p>Not applicable. Due to the industrialized nature of the project site and immediately surrounding area, the project site is not suitable for water-oriented recreational activities.</p>
<p>Section 30230. Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significant. Uses of the marine environment shall be carried out in a manner that will sustain the</p>	<p>Consistent. The proposed project would involve construction activities, including dredging and pile driving, in an area potentially containing green sea turtles, eelgrass, and foraging areas for California least tern, California brown pelican, and other birds. However, mitigation measures</p>

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<p>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.</p>	<p>would be implemented to ensure that in-water work would not adversely affect the marine environment and these resources (see Section 4.2, <i>Biological Resources</i>).</p>
<p>Section 30231. 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 waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.</p>	<p>Consistent. The proposed project would not involve development adjacent to natural streams or riparian habitat. The proposed project would involve development adjacent to and within coastal waters and would include BMPs and low-impact design measures to prevent runoff from the project site from adversely affecting the water quality of the Bay (see Section 4.5, <i>Hydrology and Water Quality</i>). The BAE Systems San Diego Ship Repair Yard currently operates a Storm Water Diversion System to eliminate or reduce stormwater discharge from the site into the Bay. This system would continue to operate under project conditions. In addition, while the proposed project would involve development within areas that have the potential to disturb green sea turtles and marine mammals as well as foraging for California least tern and California brown pelicans, mitigation measures have been identified to ensure that in-water activities would not adversely affect the marine environment (see Section 4.2, <i>Biological Resources</i>).</p>
<p>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.</p>	<p>Consistent. Construction activities associated with the proposed project could involve some use of hazardous materials (e.g., petroleum products). As discussed in Section 4.4, <i>Hazards and Hazardous Materials</i>, the Resource Conservation and Recovery Act, Hazardous and Solid Waste Act, California Code of Regulations 22 and 26, and the California Hazardous Waste Control Law would govern proper containment, spill control, and disposal of hazardous waste generated during demolition and construction. Implementing inventory accountability, spill prevention controls, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential hazardous materials releases during demolition and construction.</p>
<p>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:</p>	<p>Consistent. The proposed project would require dredging (a total of approximately 115,880 cubic feet of rock and sediment) and pile-driving in order to maintain existing berths and improve operational efficiency related to the existing dry docks within areas that have been previously dredged. Dredged material that is suitable for ocean disposal would be disposed of at the EPA’s Ocean Dredge Material Disposal Site (ODMDS) LA-5 location, which is a dredged material disposal site selected to</p>

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<p>(1) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.</p>	<p>minimize the risk of adverse impacts of the disposed material on human health and the marine environment. Remaining dredged material would be disposed of at a USACE or EPA-approved upland site, such as the Otay Landfill (amount and location of dredge disposal is detailed in Chapter 3, <i>Project Description</i>). In addition, additional mitigation measures have been identified to minimize the adverse environmental effects related to the dredging and pile-driving activities of the proposed project, including MM-BIO-1: Implement Construction Measures to Eliminate Water Quality Impairment Impacts on California Least Tern and California Brown Pelican Foraging, and MM-BIO-3: Implement a Marine Mammal and Green Sea Turtle Monitoring Program During Pile Driving Activities.</p>
<p>(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.</p>	<p>Consistent. Mitigation measures have been identified to ensure that dredging activities associated with the proposed project would avoid significant disruption to marine and wildlife habitats (see Section 4.2, <i>Biological Resources</i>).</p>
<p>(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. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California," shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.</p> <p>For the purposes of this section, "commercial fishing facilities in Bodega Bay" means that not less than 80 percent of all boating facilities proposed to be developed or improved, where the improvement would create additional berths in Bodega Bay, shall be designed and used for commercial fishing activities.</p>	<p>Consistent. While the proposed project would involve construction activities within already developed parts of the Bay, it is not located within south San Diego Bay, which the District defines as the area generally south of the National City Bayfront. The project would not involve development in Bodega Bay or within a wetland or estuary.</p>
<p>(d) Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients that would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone,</p>	<p>Not applicable. The proposed project does not involve development on a watercourse and would not be required to implement erosion control or flood control facilities on a watercourse.</p>

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<p>whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for these purposes are the method of placement, time of year of placement, and sensitivity of the placement area.</p>	
<p>Section 30234. Facilities serving the commercial fishing and recreational boating industries shall be protected, and where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.</p>	<p>Consistent. There are no commercial fishing operations in the project vicinity, and the proposed project would not affect these operations. In addition, the proposed project would not reduce space for recreational boating or commercial fishing operations.</p>
<p>Section 30234.5. The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.</p>	<p>Not applicable. The project site currently does not support commercial or recreational fishing activities, and the project would not involve the addition of commercial or recreational fishing facilities to the project site. In addition, there are no commercial fishing operations in the project vicinity, and the proposed project would have no effect on commercial or recreational fishing operations located elsewhere in the San Diego Bay.</p>
<p>Section 30235. Revetments breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fishkills should be phased out or upgraded where feasible.</p>	<p>Consistent. The proposed project would involve modification and reinstallation of the existing rock revetment slope design wall in order to properly moor vessels. This project component would require dredging approximately 300 cubic yards of rock and 500 cubic yards of sediment as well as the installation of a 50-foot sheet pile structure in the location of the existing wall. These improvements would support a coastal-dependent use and would not affect or alter an existing natural shoreline. In addition, neither the existing nor proposed marine structures at the project site cause water stagnation that contribute to pollution or fishkills.</p>
<p>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</p>	<p>Consistent. As discussed in Section 4.2, <i>Biological Resources</i>, the project would involve in-water work within areas containing, or close to, eelgrass and open water habitats. Impacts resulting from the removal of eelgrass has already been mitigated for at the South Bay Mitigation Site for the recent Shipyard Sediment Abatement Project. Additional</p>

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<p>prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.</p>	<p>mitigation measures have been identified to reduce any impacts the proposed project may have on open water habitat and indirect impacts on eelgrass, and the project would not degrade environmentally sensitive habitat areas.</p>
<p>Section 30244. Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.</p>	<p>Consistent. As discussed in Sections V, <i>Cultural Resources</i>, of the IS/NOP (Appendix A of this EIR), the project would result in no impact or less than significant impacts on archaeological and/or paleontological resources.</p>
<p>Section 30250. (a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.</p>	<p>Consistent. The proposed project would not involve the construction of a new industrial development, but would involve improvements to an existing industrial use that is adjacent and contiguous to an existing urbanized and developed area. The proposed project is also consistent with the existing developments and land uses, as discussed above. The project site is adequately served by existing public services (see Section XIV, <i>Public Services</i>, of the IS/NOP in Appendix A). The proposed project would not involve the division of land.</p>
<p>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. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.</p>	<p>Consistent. As discussed in Section I, <i>Aesthetics</i>, of the IS/NOP (Appendix A), the proposed project would result in less-than-significant impacts on the scenic and visual qualities of the site and surrounding area.</p>
<p>Section 30252. The location and amount of new development should maintain and enhance public access to the coast by</p> <ol style="list-style-type: none"> (1) facilitating the provision or extension of transit service (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads (3) providing non-automobile circulation within the development 	<p>Not applicable. The proposed project would not involve new development and, due to public safety and security concerns, does not involve public access to the coast.</p>

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<p>(4) providing adequate parking facilities or providing substitute means of serving the development with public transportation</p> <p>(5) assuring the potential for public transit for high intensity uses such as high-rise office buildings</p> <p>(6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.</p>	<p>Consistent. The proposed project involves the maintenance, repair, and replacement of existing waterfront infrastructure and landside facilities at an existing ship repair yard and would not involve new development. Also, the proposed project would not increase risks to life and property due to geologic, flood, or fire hazards (see Section IV, <i>Geology and Soils</i>, from the IS/NOP [Appendix A] and Section 4.4, <i>Hazards and Hazardous Materials</i>, and Section 4.5, <i>Hydrology and Water Quality</i>, of this EIR).</p>
<p>Section 30253. New development shall do all of the following:</p> <p>(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.</p>	<p>Consistent. The project site is located along a human-made shoreline and is not located along a bluff or cliff; no natural landforms would be altered by the proposed project.</p>
<p>(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.</p>	<p>Consistent. As analyzed in Section 4.1, <i>Air Quality and Health Risk</i>, the project would be consistent with the regional air quality strategy and the state implementation plan.</p>
<p>(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.</p>	<p>Consistent. The proposed project would include reconstruction of several landside buildings, which as required by the current California Building Code (California Code of Regulations Title 24) would include a number of energy-efficient features. As noted above, the proposed project would not involve any increase in operational capacity and would not result in any impacts related to vehicle miles traveled (see Section 4.9, <i>Transportation, Circulation, and Parking</i>).</p>
<p>(d) Minimize energy consumption and vehicle miles traveled.</p>	

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<p>Section 30255. Coastal-developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.</p>	<p>Consistent. The proposed project would include maintenance, repair, and replacement of facilities that support the existing ship repair yard, which provides vessel repair services for naval and commercial customers. As such, the proposed project involves a coastal dependent use. Furthermore, the project would not involve development in a wetland.</p>
<p>Section 30703. The California commercial fishing industry is important to the State of California; therefore, ports shall not eliminate or reduce existing commercial fishing harbor space, unless the demand for commercial fishing facilities no longer exists or adequate alternative space has been provided. Proposed recreational boating facilities within port areas shall, to the extent it is feasible to do so, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.</p>	<p>Consistent. The proposed project would not result in the loss or elimination of commercial fishing harbor space and would not interfere with any existing commercial fishing operations.</p>
<p>Section 30705. (a) Water areas may be diked, filled, or dredged when consistent with a certified port master plan only for the following: (2) New or expanded facilities or waterfront land for port-related facilities. (3) New or expanded commercial fishing facilities or recreational boating facilities. (d) For water areas to be diked, filled, or dredged, the commission shall balance and consider socioeconomic and environmental factors.</p>	<p>Consistent. The proposed project would require dredging for a port-related facility. The proposed project would not result in any land or water use changes, and no elements of the project would require an amendment to the PMP. In making its decision whether to approve the proposed project, the Board of Port Commissioners will consider the economic, financial, and related policy concerns of this objective and will exercise its discretion based on available evidence.</p>
<p>Section 30706. In addition to the other provisions of this chapter, the policies contained in this section shall govern filling seaward of the mean high tide line within the jurisdiction of ports: (a) The water area to be filled shall be the minimum necessary to achieve the purpose of the fill. (b) The nature, location, and extent of any fill, including the disposal of dredge spoils within an area designated for fill, shall minimize harmful effects to coastal resources, such as water quality, fish or wildlife resources, recreational resources, or sand transport systems, and shall minimize reductions of the volume, surface area, or circulation of water. (c) The fill is constructed in accordance with sound safety standards which will afford reasonable protection to persons and property against</p>	<p>Consistent. The proposed project would involve the placement of dredged materials within the EPA’s ODMDS LA-5 dredge disposal site, which is identified by the EPA as a location that minimizes the potentially adverse impacts of disposed material on human health and the marine environment. Therefore, this site meets the requirements of this policy. In addition, BMPs and mitigation measures will be implemented to ensure the proposed project does not adversely affect open water habitat function, water quality, wildlife resources, or water circulation (see Sections 4.2, <i>Biological Resources</i>, and 4.5, <i>Hydrology and Water Quality</i>).</p>

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<p>the hazards of unstable geologic or soil conditions or of flood or storm waters.</p> <p>(d) The fill is consistent with navigational safety.</p>	<p>Consistent. As documented throughout this EIR, the proposed project would minimize substantial adverse environmental impacts to the extent feasible.</p>
<p>Section 30708. All port-related developments shall be located, designed, and constructed so as to:</p> <p>(a) Minimize substantial adverse environmental impacts.</p> <p>(b) Minimize potential traffic conflicts between vessels.</p>	<p>Consistent. The proposed project would include maintenance, repair, and replacement of existing facilities at a ship repair yard in order to improve the efficiency of operations, but would not result in an increase in operations at the site. As such, the project would result in a temporary and minor increase in vessel traffic during construction activities (for disposal of dredged materials and for pile driving barges or delivery of some construction materials), but would not increase waterside vessel traffic during operations. This minor temporary increase in vessels would not add a substantial number of new users to the San Diego Bay. In addition, boaters traveling to and from the project site would stay within the navigational channels designated by the District and would adhere to the provisions of the Harbor Safety Plan.</p>
<p>(c) Give the highest priority to the use of existing land space within harbors for port purposes, including, but not limited to, navigational facilities, shipping industries, and necessary support and access facilities.</p>	<p>Consistent. The proposed project would involve improvements to a service that supports District purposes, including naval and commercial shipping uses.</p>
<p>(d) Provide for other beneficial uses consistent with the public trust, including, but not limited to, recreation and wildlife habitat uses, to the extent feasible.</p>	<p>Not applicable. The proposed project involves maintenance, repair, and replacement of facilities necessary to the ship repair services provided at the project site and is not appropriate for recreation or wildlife habitat uses.</p>
<p>California Coastal Commission Sea Level Rise Policy Guidance</p>	
<p>Establish the sea level rise range for the proposed project.</p>	<p>Consistent. The end of the lease in 2034, or 14 years, was established for the SLR range and reflects the average of SLR projections for 2030 and 2040 provided in the CCC’s guidance. Projections for 2050 and 2100 were also used to provide a view of coastal flood exposure should the lease be extended. Low and high SLR projections for 2034, 2050, and 2100 were derived from CCC projections and used for this analysis (see Section 4.8, <i>Sea Level Rise</i>). Additionally, a comparison of landside</p>

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Determine how sea level rise impacts may constrain the project site.	<p>elevation and the minimum waterside elevation to SLR and storm surge projections for the 2034, 2050, and 2100 timeframes was analyzed.</p> <p>Consistent. Geologic stability and erosion are not relevant because the project site is already protected by structural elements (e.g., riprap, bulkheads). Flooding and inundation were assessed by comparing the lowest landside and waterside elevations, which would be the sheet piling for the quay wall (Project Element 7) and the new Pride of San Diego wharf and associated ramp (Project Element 2), respectively, to sea-level rise projections. Storm surge was assessed by comparing the lowest landside and waterside elevations to a 100-year storm surge elevation on top of the sea-level rise projections. Wave run-up was not assessed because the project site is protected by San Diego Bay, and there is insufficient fetch for the development of wind-driven waves.</p>
Determine how the project may impact coastal resources over time, considering sea level rise.	<p>Not applicable. The project would not affect coastal resources over time. Furthermore, the project site would not be affected by mean SLR during the useful design life. Therefore, coastal resources will not be affected by regular inundation during the analysis period. The site may be affected by storm surge during the years of its useful life; however, inundation during storm surges would occur with or without the proposed project. Consequently, the proposed project would not exacerbate the potential for inundation during storm surges.</p>
Identify project alternatives to both avoid resource impacts and minimize risks to the project.	<p>Consistent. Implementation of the project would not exacerbate any existing and/or projected damage to the environment, including existing structures and sensitive resources, due to projected SLR. Mitigation is not required.</p>
Finalize project design and submit permit application.	<p>Consistent. These items will be completed after the CEQA process is complete, as is standard.</p>
San Diego Integrated Natural Resources Management Plan	
<p>Objective 4.3.1 Retain sufficient deep subtidal habitat to support safe navigation, good water quality, and physical and biological functioning in balance with the need for other habitat types in the bay.</p>	<p>Consistent. The proposed project would not interfere with deep tidal habitat, and the District would require BAE Systems to comply with the District’s Harbor Safety Plan, which provides mariners with the District’s policies regarding pollution prevention and protection of the region’s</p>

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<p>Objective 4.4.1 Minimize the harmful ecological, economic, and human health impact of aquatic invasive species in San Diego Bay.</p>	<p>resources. In addition, the project site already contains a Storm Water Diversion System to eliminate or reduce stormwater discharge into the Bay in order to protect water quality (see Section 4.5, <i>Hydrology and Water Quality</i>).</p> <p>Consistent. BAE Systems is required to comply with the District’s Harbor Safety Plan, which outlines ballast discharge regulations for vessels arriving from outside the Pacific Coast Region in order to minimize the introduction of harmful invasive species into the region’s waters.</p>
<p>Objective 4.4.4 Maintain, enhance, and restore habitats on San Diego Bay aimed at providing for the health of resident and migratory populations of birds that rely on the bay to complete their life cycle. Foster broader public knowledge and appreciation of the functional, aesthetic, recreational, and economic value of the bird resources of the bay.</p>	<p>Consistent. Consistent with the Migratory Bird Treaty Act, the proposed project includes mitigation that requires avoiding construction activities during the nesting season for birds or conducting preconstruction nesting surveys (see Section 4.2, <i>Biological Resources</i>).</p>
<p>Objective 4.4.5 Maintain a healthy balance of marine mammal species inhabiting or visiting San Diego Bay.</p>	<p>Consistent. The proposed project would not result in any significant impacts on marine mammals. Mitigation measures will be required to ensure protection of marine mammals during waterside construction, including dredging, pile driving, etc. In addition, operational activities associated with the proposed project would result in less-than-significant impacts on marine mammals (see Section 4.2, <i>Biological Resources</i>).</p>
<p>Objective 5.2.2 Manage the maintenance of boats and ships in San Diego Bay in a manner that achieves significantly improved water and sediment quality, healthier marine organisms, and economic good sense.</p>	<p>Consistent. The proposed project includes improvements to the water- and landside facilities of the existing ship repair yard. Construction and operational activities have the potential to affect water quality. However, as required by the District’s JRMP and its accompanying <i>BMP Design Manual</i>, BMPs would be implemented to minimize water quality impacts from these activities (see Section 4.5, <i>Hydrology and Water Quality</i>).</p>

4.7.1 Overview

This section describes the existing conditions and applicable laws and regulations governing project-related noise and vibration. The section also discusses the proposed project's potential to increase noise and vibration in the project vicinity during construction and operation. The analysis in this section is based on the *BAE Systems Waterfront Improvement Project – Environmental Noise Report* prepared by ICF noise analysts, which is provided in Appendix F. Impacts related to noise and vibration were considered significant if the proposed project would (1) generate 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; (2) generate excessive groundborne vibration or groundborne noise levels; or (3) for a project in 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, exacerbate the existing exposure of people residing or working in the project area to excessive noise levels.

This section focuses on potential impacts on surrounding people and properties; potential effects of noise on wildlife are addressed in Section 4.3, *Biological Resources*. As discussed in Section 4.7.6, *Project Impact Analysis*, all impacts related to noise and vibration would be less than significant.

4.7.2 Noise Fundamentals

This section provides an overview of key concepts and acoustical terms used in the analysis of environmental and community noise. More detailed information is provided in the referenced Environmental Noise Report (Appendix F). Noise is commonly defined as sound that is unwanted or that is objectionable because it is disturbing or annoying. Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receptor, and the propagation path between the two. The loudness of the noise source and the obstructions or atmospheric factors, which affect the propagation path to the receptor, determine the sound level and the characteristics of the noise perceived by the receptor.

4.7.2.1 Frequency, Amplitude, and Decibels

Continuous sound can be described by *frequency* (pitch) and *amplitude* (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz, or thousands of Hz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

The amplitude of pressure waves generated by a sound source determines the loudness of that source. The amplitude of a sound is typically described in terms of the *sound pressure level*, which refers to the root-mean-square pressure of a sound wave and is measured in units called micropascals (μPa). Sound pressure levels for different kinds of noise environments can range from less than 100 to more than 100,000,000 μPa . Because of this large range of values, sound is rarely expressed in terms of μPa . Instead, a logarithmic scale is used to describe the sound pressure level (also referred to simply as the sound level) in terms of decibels, abbreviated dB.

Because decibels represent noise levels on a logarithmic scale, sound pressure levels cannot be added, subtracted, or averaged through ordinary arithmetic. On the dB scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, their combined sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one bulldozer produces a sound pressure level of 80 dB, two bulldozers would not produce a combined sound level of 160 dB. Rather, they would combine to produce 83 dB. The cumulative sound level of any number of sources can be determined using decibel addition. The same decibel addition is used for A-weighted decibels, described below. Similarly, the arithmetic mean (average) of a series of noise levels does not accurately represent the overall average noise level. Instead, the values must be averaged using a linear scale before converting the result back into a logarithmic (dB) noise level. This method is typically referred to as calculating the “energy average” of the noise levels.

4.7.2.2 Perception of Noise and A-Weighting

The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound, and the loudness or human response is determined by characteristics of the human ear. Human hearing is limited in the range of audible frequencies as well as in the way it perceives the sound pressure level in that range. In general, people are most sensitive to the frequency range of 1,000 to 8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels in various frequency bands are adjusted (or “weighted”), depending on human sensitivity to those frequencies. The resulting sound pressure level is expressed in A-weighted decibels, abbreviated dBA. The A-weighting scale approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments regarding the relative loudness or annoyance of a sound, their judgments correlate well with the A-weighted sound levels of those sounds. Table 4.7-1 describes typical A-weighted sound levels for various noise sources.

Table 4.7-1. Typical Noise Levels in the Environment

Common Outdoor Noise Source	Sound Level (dBA)	Common Indoor Noise Source
	— 110 —	Rock band
Jet flying at 1,000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher in next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: California Department of Transportation 2013.

dBA = A-weighted decibels.

4.7.2.3 Noise Descriptors

Because sound levels can vary markedly over a short period of time, various descriptors or noise “metrics” have been developed to quantify environmental and community noise. These metrics generally describe either the average character of the noise or the statistical behavior of the variations in the noise level. The metrics used in this report are described below.

Equivalent Sound Level (L_{eq}) is the most common metric used to describe short-term average noise levels. The L_{eq} describes the average acoustical energy content of noise for an identified period of time, commonly 1 hour.

Maximum Sound Level (L_{max}) refers to the maximum sound level that occurs during the noise measurement period. More specifically, L_{max} describes the root-mean-square sound level that corresponds to the loudest 1-second interval that occurs during the measurement. (The minimum sound level [L_{min}] is the corresponding metric that describes the minimum level during the noise measurement period.)

Community Noise Equivalent Level (CNEL) is a measure of the 24-hour average A-weighted noise level, which is also time-weighted to “penalize” noise that occurs during the evening and nighttime hours when noise is generally recognized to be more disturbing (because people are trying to rest, relax, and sleep during these times). Therefore, 5 dBA is added to the L_{eq} during the evening hours of 7:00 p.m. to 10:00 p.m.,¹ and 10 dBA is added to the L_{eq} during the nighttime hours of 10:00 p.m. to 7:00 a.m.² The energy average is then taken for the whole 24-hour day.

4.7.2.4 Sound Propagation

When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise is reduced with distance depends on a number of important factors. The primary factors of interest for environmental noise include geometric spreading, ground absorption, atmospheric effects, and shielding (by natural or human-made features).

4.7.2.5 Human Response to Noise

Noise-sensitive receptors (also called “receivers”) are locations where people reside or where the presence of unwanted sound may adversely affect the use of the land (see Section 4.7.2.5, *Noise-sensitive Land Uses*, below). The effects of noise on people can be divided into the following three categories:

- Subjective effects of annoyance, nuisance, or dissatisfaction;
- Interference with activities such as speech, sleep, learning, or working; and
- Physiological effects such as startling and hearing loss.

In most cases, effects from sounds typically found in the natural environment are limited to the first two categories, creating an annoyance or interfering with activities. Physiological effects and hearing loss would be more commonly associated with human-made noise, such as in an industrial or an occupational setting. No completely satisfactory method exists to measure the subjective effects of sound or the corresponding reactions of annoyance and dissatisfaction. This lack of a common standard arises primarily from the wide variation in individual thresholds of annoyance and habituation to sound. Therefore, an important way of determining a person’s subjective reaction to a new sound is by comparing it to the existing baseline or “ambient” environment to which that person has adapted. Studies have shown that, under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of 1 dBA. In the normal environment, the healthy human ear can detect changes of about 2 dBA; however, it is widely accepted that a doubling of sound energy, which results in a change of 3 dBA in the normal environment, is considered just noticeable to most people. A change of 5 dBA is readily perceptible, and a change of 10 dBA is perceived as being twice as loud. Accordingly, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) resulting in a 3 dBA increase in sound is generally barely detectable.

¹ A 5 dB noise increase is generally considered to be a readily perceptible change in the noise level for a listener.

² A 10 dB noise increase is generally perceived as a doubling of the noise level for a listener.

4.7.2.6 Noise-Sensitive Land Uses

Noise-sensitive land uses typically include, but are not necessarily limited to, residential uses, hospitals, nursing facilities, intermediate care facilities, child educational facilities, libraries, museums, and child care facilities (City of San Diego 2015). Based on their transient residential nature, hotels are considered to be noise-sensitive only during the evening and nighttime hours of 7:00 p.m. to 7:00 a.m. Parks, which are closed during nighttime hours, are considered to be noise sensitive only during their typical operational hours of 6:00 a.m. to 10:30 p.m. Schools, museums, and other institutional uses are also considered to be noise sensitive only during their standard hours of operation.

Another type of noise-sensitive receptor that can be affected by in-water construction (such as the proposed pile-driving activities) is aquatic wildlife. Underwater noise levels from pile driving were analyzed to assess potential impacts on fish and marine mammals. Additional discussion and the results of these analyses are provided in Section 4.3, *Biological Resources*.

4.7.3 Fundamentals of Environmental Vibration

This section provides an overview of key concepts and terms used in the analysis of environmental groundborne vibration. More detailed information is provided in the referenced Environmental Noise Report (Appendix F). Groundborne vibration is a small, rapidly fluctuating motion transmitted through the ground. The effects of groundborne vibrations are typically limited to nuisance or annoyance for people; however, at extreme vibration levels, damage to buildings may also occur.

In contrast to airborne sound, groundborne vibration is not a phenomenon that most people experience every day. The ambient groundborne vibration level in residential areas is usually much lower than the threshold of human perception (FTA 2018). Most perceptible indoor vibration is caused by sources within buildings, such as mechanical equipment while in operation, people moving, or doors slamming. Typical outdoor sources of perceptible groundborne vibration are heavy construction activity (such as blasting, pile driving, or earthmoving), steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible, even in locations close to major roads. The strength of groundborne vibration from typical environmental sources diminishes (or attenuates) fairly rapidly over distance.

For the prediction of groundborne vibration, the fundamental model consists of a vibration source, a receptor, and the propagation path between the two. The power of the vibration source and the characteristics and geology of the intervening ground, which affect the propagation path to the receptor, determine the groundborne vibration level and the characteristics of the vibration perceived by the receptor.

4.7.3.1 Frequency and Amplitude

The frequency of a vibrating object describes how rapidly it is oscillating. The unit of measurement for the frequency of vibration is Hz (the same as used in the measurement of noise), which describes the number of cycles per second.

The amplitude of vibration can be measured in terms of displacement, velocity, or acceleration. Displacement describes the distance that a particle moves from its resting (or equilibrium) position as it oscillates and can be measured in inches. The amplitude of vibration velocity (the speed of the

movement) can be measured in inches per second (in/s). The amplitude of vibration acceleration (the rate of change of the speed) can be measured in inches per second per second (in/s²).

4.7.3.2 Vibration Descriptors

As noted above, there are various ways to quantify groundborne vibration, based on its fundamental characteristics. Because vibration can vary markedly over a short period of time, various descriptors have been developed to quantify vibration. The descriptor used in this report is peak particle velocity (PPV), as described below.

Peak Particle Velocity is defined as the maximum instantaneous positive or negative peak amplitude of the vibration velocity. The unit of measurement for PPV is inches per second. Unlike many quantities used in the study of environmental acoustics, PPV is typically presented using linear values; it does not employ a dB scale. Because it is related to the stresses that are experienced by buildings, PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage (both the Federal Transit Administration [FTA] and California Department of Transportation [Caltrans] recommend using PPV for this purpose). It is also used in many instances to evaluate the human response to groundborne vibration (Caltrans guidelines recommend using PPV for this purpose).

4.7.3.3 Vibration Propagation

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations reduce much more rapidly than low frequencies. Low frequencies tend to dominate the spectrum at large distances from the source. The propagation of groundborne vibration is also influenced by geological factors such as soil conditions, depth to bedrock, soil strata, frost conditions, and water conditions.

4.7.3.4 Effects of Groundborne Vibration

Vibration can result in effects that range from annoyance to structural damage. Annoyance or disturbance for people may occur at vibration levels that are substantially below those that would pose a risk of damage to buildings. Each of these effects is discussed below.

Potential Building Damage

When groundborne vibration encounters a building, vibrational energy is transmitted to the structure, causing it to vibrate. If the vibration levels are high enough, building damage may occur. Depending on the type of building and the vibration levels, this damage could range from cosmetic architectural damage (e.g., cracked plaster, stucco, or tile) to more severe structural damage (e.g., cracked slabs, foundations, columns, beams, or wells). Buildings can typically withstand higher levels of vibration from transient sources than from continuous or frequent intermittent sources. Transient sources are those that create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. Older and more fragile buildings, which may include important historical buildings, are of particular concern. Modern commercial and industrial buildings can generally withstand much higher vibration levels before damage becomes a problem.

Human Disturbance or Annoyance

Groundborne vibration can be annoying for people and cause serious concern for nearby neighbors of vibration sources, even when vibration is well below levels that could cause physical damage to structures. Groundborne vibration is almost exclusively a concern inside buildings and rarely perceived as a problem outdoors where the motion may be discernible but there is less adverse reaction without the effects associated with the shaking of a building.

When groundborne vibration waves encounter a building, vibrational energy is transmitted to the structure, causing building surfaces (walls, floors, and ceilings) to vibrate. This movement may be felt directly by building occupants. It may also generate a low-frequency rumbling noise as sound waves are radiated by the vibrating surfaces. At higher frequencies, building vibration can cause other audible effects, such as the rattling of windows, building fixtures, or items on shelves or hanging on walls. These audible effects due to groundborne vibration are referred to as *groundborne noise*. Any perceptible effect (vibration or groundborne noise) can lead to annoyance. The degree to which a person is annoyed depends on the activity they are participating in at the time of disturbance. For example, someone sleeping or reading will be more sensitive than someone who is engaged in any type of physical activity.

4.7.3.5 Vibration-Sensitive Land Uses

Because building damage would be considered a permanent negative effect at any building, regardless of land use, any type of building would typically be considered sensitive to vibration damage impacts.

Land uses that would be considered sensitive to human annoyance caused by vibration are generally the same as those that would be sensitive to noise and typically include residential uses, hospitals, nursing facilities, intermediate care facilities, child educational facilities, libraries, museums, and child care facilities. It is noted, however, that vibration effects are typically considered only inside occupied buildings and not at outside areas such as residential yards or open spaces. Based on their transient residential nature, hotels are considered to be sensitive to human annoyance effects from vibration only during the evening and nighttime hours of 7:00 p.m. to 7:00 a.m. Schools, museums, and other institutional uses are considered to be sensitive to human annoyance effects from vibration only during their standard hours of operation.

4.7.4 Existing Conditions

The study area considered in the analysis is quite large, extending from Coronado to the west to Barrio Logan to the east. As such, the existing noise environment and the dominant noise sources vary considerably. Existing noise levels are affected by contributions from a wide range of sources, including the following:

- Transportation sources, such as highway traffic, aircraft (civilian and military), watercraft (recreational, commercial, and military), and rail operations (passenger, freight, and trolley).
- Industrial activities, including ship building and repair, cargo handling and other marine terminal activity, and manufacturing operations.
- Local pedestrian traffic and park users.

- Typical neighborhood noise sources, such as barking dogs and landscaping activity.

All of the land uses immediately adjacent to the project site are industrial or commercial and would not be considered noise sensitive. The closest existing noise-sensitive receivers are more than 1,000 feet away. These include hotels and Coronado Tidelands Park to the west, on Coronado Island; Cesar Chavez Park to the northwest; Perkins Elementary School to the north; and homes to the north and northwest. Sensitive receivers to the east and south are even farther away because of the separation provided by commercial/industrial zones and San Diego Bay.

4.7.4.1 Noise Monitoring

To document existing ambient noise conditions, noise monitoring was conducted at five locations in the project vicinity between January 7 and 9, 2019. Long-term noise monitoring (24 hours or more) was conducted at three locations, designated LT1, LT2, and LT3. Short-term noise monitoring (20 minutes in duration) was conducted at two locations, designated ST1 and ST2. Long-term measurement sites were selected to represent land uses that are noise sensitive 24 hours per day (homes) or at nighttime (a hotel). Short-term measurement sites were selected to represent land uses with primarily daytime noise sensitivity (a park and a school). All measurement locations are indicated in Figure 4.7-1. The sound level meters used for both the long- and short-term noise monitoring were field calibrated, using a Larson Davis CAL200 acoustical calibrator, prior to each measurement to ensure accuracy; calibration was also rechecked at the conclusion of each measurement. All measurement microphones were fitted with a wind screen to reduce the effects of wind-related interference. All acoustical instruments are maintained to manufacturer specifications, in accordance with American National Standards Institute Standard S1.4-2014. Field noise survey sheets are provided in Appendix F.

Long-Term Noise Measurements

Long-term ambient noise measurements were conducted between January 7 and 9, 2019, at three locations. Measurements LT1 and LT2 were obtained using a Piccolo SLM-P3 Type 2 sound-level meter. Measurement LT3 was obtained using a Rion NL-21 Type 2 sound-level meter. Hourly noise data were collected continuously at each measurement site for approximately 41 to 46 hours. Daily noise levels, in terms of CNEL, were also calculated from the hourly sound level data. Table 4.7-2 summarizes the results of the long-term noise measurements. The table indicates the range of measured CNEL values and hourly average (L_{eq}) noise levels. The range of hourly L_{eq} values is reported separately for the daytime (7:00 a.m. to 7:00 p.m.) and evening/nighttime (7:00 p.m. to 7:00 a.m.) periods; the overall L_{eq} value for each time period is also reported. Each of the long-term noise measurement locations is briefly described below.

LT1 was at the northeast corner of Coronado Tidelands Park, approximately 90 feet west of San Diego Bay and 50 feet south of guest accommodations at the Coronado Island Marriott Resort and Spa.

LT2 was in the parking lot at the southwest corner of the Mercado Apartments at 2001 Newton Avenue. These apartments are the closest residential receptors north of the project site.

LT3 was in the yard of a single-family residence at 2644 Boston Avenue. This location was representative of the closest residential neighborhood northeast of the project site.



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Figure 4.7-1
Ambient Noise Monitoring Locations
BAE Systems Waterfront Improvement Project



Short-Term Noise Measurements

Short-term noise measurements were taken at two locations on Monday, January 7, and Wednesday, January 9, 2019. Measurements ST1 and ST2 were obtained using a Larson Davis LxT1 Type 1 sound-level meter. Each measurement lasted approximately 20 minutes and was conducted with the meter mounted on a tripod at a height of 5 feet above the ground. Noise metrics were recorded subsequent to the conclusion of each measurement. Data from the measurements are shown in Table 4.7-2. Each of the short-term noise measurement locations is briefly described below.

ST1 was near the southeast corner of the Cesar Chavez Park soccer field, approximately 105 feet northwest of the curb of Cesar E. Chavez Parkway.

ST2 was on the sidewalk adjacent to the southeast corner of Perkins Elementary School, near the intersection of Beardsley Street and Main Street.

Table 4.7-2. Summary of Noise Measurement Results

Site	Location	Date	Range of CNEL (dB)	Time of Day	Range of Hourly L_{eq} Values (average, dBA)
LT1	Coronado Tidelands Park	1/7/19– 1/9/19	63.0–65.6	Daytime (7:00 a.m. to 7:00 p.m.)	54.7–62.3 (59.5)
				Evening/Nighttime (7:00 p.m. to 7:00 a.m.)	51.3–61.7 (57.8)
LT2	Mercado Apartments	1/7/19– 1/9/19	68.5–69.4	Daytime (7:00 a.m. to 7:00 p.m.)	59.1–65.7 (62.7)
				Evening/Nighttime (7:00 p.m. to 7:00 a.m.)	56.6–66.1 (61.9)
LT3	2644 Boston Avenue	1/7/19– 1/9/19	61.0–62.0	Daytime (7:00 a.m. to 7:00 p.m.)	53.2–60.9 (56.5)
				Evening/Nighttime (7:00 p.m. to 7:00 a.m.)	50.4–58.6 (54.5)
ST1	Cesar Chavez Park	1/7/19	N/A	2:47 p.m. to 3:07 p.m.	58.5
ST2	Perkins Elementary School	1/9/19	N/A	9:47 a.m. to 10:07 a.m.	61.2

Source: ICF field noise measurements (see Appendix F)

CNEL = community noise equivalent level; dB = decibels; L_{eq} = equivalent sound levels; dBA = A-weighted decibels.

4.7.5 Applicable Laws and Regulations

The District does not have its own noise or vibration standards and does not currently maintain formal impact thresholds for assessing potential impacts under CEQA. The sections below discuss various laws, regulations, and guidelines that may apply to the proposed project or otherwise be useful in developing thresholds of impact for the proposed project.

There are no federal noise regulations that apply directly to the proposed project.

4.7.5.1 State Regulations

California Department of Transportation

None of the local laws and regulations discussed below provide any quantitative criteria regarding groundborne noise and vibration. Although the proposed project would not be subject to Caltrans oversight, guidance published by the agency nonetheless provides groundborne vibration criteria that can be useful in establishing thresholds of impact. Caltrans' widely referenced *Transportation and Construction Vibration Guidance Manual* (Caltrans 2020) provides guidance for two types of potential impact: (1) damage to structures and (2) annoyance to people. Guideline criteria for each are provided in Tables 4.7-3 and 4.7-4.

Table 4.7-3. Caltrans Guideline Vibration Damage Criteria

Structure and Condition	Maximum PPV (in/s)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Caltrans 2020.

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity; in/s = inches per second.

Table 4.7-4. Caltrans Guideline Vibration Annoyance Criteria

Human Response	Maximum PPV (in/s)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: Caltrans 2020.

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity; in/s = inches per second.

4.7.5.2 Local

As discussed in Chapter 3, *Project Description*, the proposed project is primarily a construction project, without substantial changes to facility operations. Therefore, noise and vibration levels from

project operations would not change substantially and are discussed qualitatively. The following local regulations review is therefore limited to those standards that are helpful in developing the specific thresholds used in this report to assess construction noise and vibration impacts. A description of additional local regulations (i.e., that were not used in the development of thresholds of impact) can be found in Appendix F.

City of San Diego Municipal Code Section 59.5.0401 (Noise Ordinance)

The City of San Diego (City) Noise Ordinance makes it unlawful for any person to cause noise by any means to the extent that the 1-hour L_{eq} exceeds the applicable limit given in Table 4.7-5 at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced.

Table 4.7-5. City of San Diego Noise Limits

Land Use	Time of Day	1-hour L_{eq} (dBA)
Single-family residential	7:00 a.m. to 7:00 p.m.	50
	7:00 p.m. to 10:00 p.m.	45
	10:00 p.m. to 7:00 a.m.	40
Multi-family residential (up to a maximum density of 1/2,000)	7:00 a.m. to 7:00 p.m.	55
	7:00 p.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
All other residential	7:00 a.m. to 7:00 p.m.	60
	7:00 p.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial	7:00 a.m. to 7:00 p.m.	65
	7:00 p.m. to 7:00 a.m.	60
Industrial or Agricultural	Anytime	75

Source: City of San Diego Municipal Code.

Note: The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

City of San Diego Municipal Code Section 59.5.0404 (Construction Noise)

The City Noise Ordinance also regulates construction noise levels. Specifically, construction that creates disturbing, excessive, or offensive noise is prohibited between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day; on legal holidays, as specified in Section 21.04 of the City Municipal Code, with the exception of Columbus Day and Washington's Birthday; and on Sundays, unless a permit is granted by the noise abatement and control administrator.

In granting a permit, the administrator must consider whether construction noise in the vicinity of the work site would be less objectionable at night because of different population densities or different neighboring activities; whether obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night; whether the type of work to be performed would generate noise at a level that would cause significant disturbance in the vicinity of the work site; whether great economic hardship would occur if the work were spread over a longer period of time; and whether proposed night work is in the general public interest. Also considered are the character and nature of the neighborhood where the proposed work site is located. The

administrator shall prescribe the conditions, working times, types of construction equipment to be used, and permissible noise levels, as deemed to be required in the public interest.

Except under special circumstances related to emergency work, as detailed in the noise ordinance, construction activity that creates an average sound level greater than 75 dB during the 12-hour period from 7:00 a.m. to 7:00 p.m. at or beyond the property lines of any residentially zoned property is prohibited by ordinance.

City of San Diego CEQA Significance Determination Thresholds

The City's CEQA Significance Determination Thresholds outline the criteria and thresholds used by the City in determining whether project impacts would be significant (City of San Diego 2016). The District has not adopted these City significance thresholds; however, the thresholds related to traffic noise are used for the proposed project and are described below.

Interior and Exterior Noise Impacts from Traffic-Generated Noise

The City's traffic noise significance thresholds are reproduced below as Table 4.7-6.

Table 4.7-6. City of San Diego CEQA Significance Determination Thresholds, Traffic Noise

Structure or Proposed Use that Would Be Affected by Traffic Noise	Interior Space (CNEL)	Exterior Usable Space ¹ (CNEL)	General Indication of Potential Significance
Single-family residences, detached	45 dB	65 dB	Structure or outdoor usable area ² is < 50 feet from the center of the closest (outside) lane on a street with an existing or future ADT level of > 7,500
Multi-family residences, schools, libraries, hospitals, day care facilities, hotels, motels, parks, convalescent homes	Development Services Department ensures 45 dB, pursuant to Title 24	65 dB	
Offices, churches, businesses, professional uses	N/A	70 dB	Structure or outdoor usable area is < 50 feet from the center of the closest lane on a street with an existing or future ADT level of > 20,000
Commercial, retail, industrial, outdoor spectator sports uses	N/A	75 dB	Structure or outdoor usable area is < 50 feet from the center of the closest lane on a street with an existing or future ADT level of > 40,000

Source: City of San Diego 2016, Table K-2.

¹ If a project is currently at or exceeding the significance thresholds for traffic noise described above and the noise levels would result in less than a 3 dB increase, then the impact is not considered significant.

² Exterior usable areas do not include residential front yards or balconies, unless the areas are part of the required usable open space calculation for multi-family units.

CNEL = Community Noise Equivalent Level; dB = decibels; ADT = average daily traffic.

City of Coronado Municipal Code Section 41.10.010 (Noise Ordinance)

The noise ordinance makes it unlawful for any person to cause noise by any means to the extent that the 1-hour L_{eq} exceeds the applicable limit given in Table 4.7-7 at any location in the city of Coronado on or beyond the boundaries of the property on which the noise is produced.

Table 4.7-7. City of Coronado Noise Limits

Land Use Zone	Time of Day	1-Hour L_{eq} (dBA)
All R-1A; R-1B (Single-family residential)	7:00 a.m. to 7:00 p.m.	50
	7:00 p.m. to 10:00 p.m.	45
	10:00 p.m. to 7:00 a.m.	40
All R-3; R-4; R-PCD; and R-5 (Multi-family residential and planned community development residential)	7:00 a.m. to 7:00 p.m.	55
	7:00 p.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
Commercial (C), Commercial Recreation (C-R), Hotel/Motel (HM), Civic Use (C-U), Open Space (OS), and Parking Overlay (P-1)	7:00 a.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	50

Source: City of Coronado Municipal Code.

Note: The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

L_{eq} = equivalent sound level; dBA = A-weighted decibels.

City of Coronado Municipal Code Sections 41.10.040 and 41.10.050 (Construction Noise)

The City of Coronado Municipal Code regulates both the permissible times for construction activities and the noise levels that such activities can generate. Section 41.10.040 provides a construction noise curfew, which prohibits construction between the hours of 7:00 p.m. and 7:00 a.m., or on legal holidays and Sundays, that would create a disturbing, excessive, or offensive noise (unless a noise control permit has been applied for and granted beforehand by the noise control officer). Section 41.10.050 provides construction noise limits that make it unlawful for any person to conduct any construction activity at or within the property line of any residentially zoned property that causes an average sound level greater than 75 dBA during a 1-hour period between the hours of 7:00 a.m. and 7:00 p.m. (unless a variance has been applied for and granted by the noise control officer.)

4.7.6 Project Impact Analysis

4.7.6.1 Methodology

Construction Noise

Construction-related noise was analyzed using data and modeling methodologies from the Federal Highway Administration's (FHWA's) Roadway Construction Noise Model (FHWA 2008), which predicts average noise levels at nearby receptors by analyzing the types of equipment, the distance

from source to receptor, usage factor,³ and the presence or absence of intervening shielding between source and receptor. This methodology calculates composite average noise levels for the multiple pieces of equipment scheduled for each construction phase. The source-to-receptor distances used in the analyses were the acoustical average distances between the relevant construction area and each receptor. The acoustical average distance is used to represent noise sources that are mobile or distributed over an area, such as the project site; it is calculated by multiplying the shortest distance between the receiver and the noise source by the farthest distance, then taking the square root of the product. Table 4.7-8 provides noise levels for the construction equipment that is expected to be used by the proposed project; the noise levels are provided for a reference distance of 50 feet.

Noise levels for each phase of construction were analyzed at five receptors (R1 through R5) in the project vicinity. These represent the closest noise-sensitive receptors to the project site. Each receptor is in proximity to one of the long-term or short-term measurement locations illustrated in Figure 4.7-1. The corresponding noise measurement data are used to establish ambient noise levels for each receptor. The receptors, land uses, and corresponding ambient noise measurement locations are summarized in Table 4.7-9. The distance from each receptor to the nearest project boundary is also noted. Receptor R1 on Coronado Island is used to represent two different noise-sensitive land uses: Coronado Tidelands Park and the adjacent hotel (Coronado Island Marriott Resort and Spa). The remaining receptor locations are all in the City of San Diego. R2 represents the closest park (Cesar Chavez Park), R3 represents the closest school (Perkins Elementary), R4 represents the closest multi-family homes (the Mercado Apartments), and R5 represents the closest single-family homes (on Boston Avenue).

For pile driving or extraction activity, an attenuation rate of 6 dB per doubling of distance from the source was assumed for all receivers. This is generally expected to be a conservative assumption because it neglects any acoustical shielding or excess attenuation that may occur, such as that provided by buildings, topography, or ground conditions. This assumption was determined based on the elevated height of the noise source, which is typical of pile driving. An attenuation rate of 6 dB per doubling of distance was also assumed for all other construction activity affecting R1 because of the open water between the project site and Coronado Island. A rate of 6 dB per doubling of distance is representative for noise propagation across open water because it is based purely on geometric spreading and does not assume noise reduction due to any other factors including ground absorption, air absorption, or barrier effects. For all other receivers, noise from non-pile-driving or extraction activity was assumed to attenuate at a rate of 7.5 dB per doubling of distance. The excess attenuation (1.5 dB per doubling of distance) was selected to represent the combined effects of buildings, topography, and ground effects between the project site and each of the receivers.

To estimate increases over ambient noise levels due to construction activities, construction noise levels were compared to the corresponding measured noise levels. For locations where short-term ambient noise levels were measured, the ambient L_{eq} was used as the basis for comparison. For locations where long-term noise measurements were obtained, the average L_{eq} measured across all of the corresponding hours (i.e., daytime or nighttime) was used as the basis for comparison.

³ Usage factor is the fraction of time the equipment is operating in its noisiest mode.

Table 4.7-8. Construction Equipment Noise Levels

Equipment Item	Maximum Noise Level (L_{max}) at 50 feet, dBA ¹	Usage Factor ^{1,2}	Average Noise Level (L_{eq}) at 50 feet, dBA
Backhoe	77.6	0.4	73.6
Crane	80.6	0.16	72.6
Dredge	81.0	0.3	75.8
Forklift	79.1	0.4	75.1
Generator	80.6	0.5	77.6
Impact pile driver	101.3	0.2	94.3
Loader	79.1	0.4	75.1
Material barge	82.0	0.3	76.8
Other construction equipment	79.1	0.4	75.1
Other material handling equipment	85.2	0.5	82.2
Scow/barge	82.0	0.3	76.8
Survey vessel	82.0	0.3	76.8
Tugboat	82.0	0.3	76.8
Vibratory pile driver/extractor	100.8	0.2	93.8
Welder	74.0	0.4	70.0

¹ Obtained or estimated from FHWA 2008 Roadway Construction Noise Model and Port of Long Beach 2009.

² Usage factor is the fraction of time the equipment is operating in its noisiest mode. L_{eq} is estimated from L_{max} using the following equation: $L_{eq} = L_{max} + 10 \times \log_{10}$ (usage factor).

L_{max} = maximum sound level; L_{eq} = equivalent sound level; dBA = A-weighted decibels.

Table 4.7-9. Summary Description of Analyzed Receiver Locations

Receiver	Represented Land Use(s)	Corresponding Ambient Noise Measurement	Location (City)	Distance to Nearest Project Boundary (feet)
R1	Coronado Tidelands Park Coronado Island Marriott Resort and Spa	LT1	Coronado	5,000
R2	Cesar Chavez Park	ST1	San Diego	1,700
R3	Perkins Elementary School	ST2	San Diego	2,550
R4	Mercado Apartments	LT2	San Diego	1,180
R5	Boston Avenue Homes	LT3	San Diego	1,500

Construction Vibration

Construction-related vibration was analyzed using data and modeling methodologies provided by Caltrans's *Transportation and Construction Vibration Guidance Manual* (Caltrans 2020). This guidance manual provides typical vibration source levels for various types of construction equipment as well as methods for estimating the propagation of groundborne vibration over distance. Table 4.7-10 provides the PPV associated with the worst-case scenario for the construction equipment expected to be used by the proposed project; the levels are provided for a reference distance of 25 feet. Note that vibration-related equations from the Caltrans guidance manual were used to estimate the change in PPV levels over distance, as described in Appendix F.

Table 4.7-10. Construction Equipment Vibration Levels

Equipment Item	Reference PPV at 25 feet (in/s) ¹
Impact pile driver	0.65
Vibratory pile driver	0.65
Large bulldozer ²	0.089

¹ Obtained from Caltrans 2020.

² Considered representative of other heavy earthmoving equipment, such as excavators, graders, backhoes, etc. PPV = peak particle vibration; in/s = inches per second.

Operational Analysis

The general types of onsite operational activities (i.e., vessel service and repair) would remain the same as those that currently occur, and the overall intensity of the operations would not increase. In addition, the closest noise-sensitive receptors are 1,180 feet or more away from the project site. As a result, a quantitative analysis of operational noise and vibration levels is not necessary; operational effects are discussed qualitatively.

4.7.6.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and the various laws, regulations, and guidelines discussed in Section 4.7.5. These provide the basis for determining the significance of impacts from noise and vibration associated with implementation of the proposed project. The District has not adopted its own specific thresholds of impact for potential noise and vibration impacts; therefore, it uses, where appropriate, the applicable standards and guidelines of other agencies, such as the City of San Diego, City of Coronado, or Caltrans. The determination of whether a noise and vibration impact would be significant is based on the professional judgment of the District as Lead Agency and the recommendations of qualified personnel at ICF, all of which is based on the evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following:

1. 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. A significant impact would occur at any of the noise-sensitive receptors if:
 - a. Daytime (7:00 a.m. to 7:00 p.m.) construction activity fails to comply with the construction noise standards provided by the municipal codes of the City of San Diego or the City of Coronado (City of San Diego Municipal Code Section 59.5.0404 or City of Coronado Municipal Code Sections 41.10.040 and 41.10.050); or
 - b. Nighttime (7:00 p.m. to 7:00 a.m.) construction activity exceeds existing ambient noise levels and fails to comply with the applicable nighttime noise standards provided by the municipal codes of the City of San Diego or the City of Coronado (City of San Diego Municipal Code Section 59.5.0401 or City of Coronado Municipal Code Section 41.10.010), or exceeds existing ambient noise levels by 5 dBA (a readily perceptible change) or more, 12-hour L_{eq} ; or

- c. Project traffic generates a noise increase of 3 dB CNEL or more, to a level in excess of the impacts from traffic-generated noise criteria of the City of San Diego's CEQA Significance Determination Thresholds, or any noise increase of 5 dB CNEL or more; or
 - d. Noise from new onsite operational activity exceeds the exterior noise standards of the City of San Diego's noise ordinance (Municipal Code Section 59.5.0401) or the City of Coronado's noise ordinance (Municipal Code Section 41.10.010).
 - e. Noise from onsite operational activity increases ambient noise levels by 5 dBA or more (a readily perceptible change).
2. Generation of excessive groundborne vibration or groundborne noise levels. A significant impact would occur if construction or operation of the project exceeds Caltrans' guideline vibration criteria for damage to structures at any nearby buildings or annoyance to people (distinctly perceptible vibration) at any vibration-sensitive location.
 3. For a project in 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, expose people residing or working in the project area to excessive noise levels?

4.7.6.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would not result in the 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.

Impact Discussion

Construction

Two types of short-term noise impacts could occur during project construction. First, construction workers' vehicles and haul trucks for transporting equipment and materials would incrementally increase noise levels on access roads. The second type of short-term noise impact would be related to noise generated during onsite construction. Construction is expected to start in January 2021 and be completed by October 2025. The exception would be dredging operations.

Construction Traffic

Although there would be a relatively high single-event noise level, which could cause an intermittent noise nuisance (e.g., passing trucks at 50 feet would generate up to 77 dBA), the effect on longer-term ambient noise levels (e.g., the daily CNEL used to assess traffic noise levels) would be small, especially given the industrial nature of the surrounding neighborhood and the relatively high proportion of heavy trucks that are already present on the primary access roadways. An analysis of the average daily traffic volumes on nearby roadways was conducted based on the project construction traffic memorandum (Appendix G1). The results of the analysis are summarized in Table 4.7-11 and indicate that average daily traffic volumes would increase by up to approximately 1.5 percent as a result of project construction traffic. A 1.5 percent daily traffic increase would

generate a noise increase of less than 0.1 dB CNEL.⁴ This noise increase is well below the threshold of 3 dB CNEL and would be imperceptible. As a result, construction traffic noise impacts would be less than significant.

Table 4.7-11. Traffic Volume Increases Due to Project Construction

Road	Segment	Ex ADT	Ex + Const ADT	% Incr	NT 2020 ADT	NT 2020 + Const ADT	% Incr	NT 2022 ADT	NT 2022 + Const. ADT	% Incr
Harbor Dr	Sampson St– Schley St	12,050	12,226	1.46	17,471	17,647	1.01	18,560	18,670	0.59
	Schley St– 28 th St	11,626	11,802	1.51	17,047	17,223	1.03	18,109	18,219	0.61
28 th St	National Ave– Boston Ave	22,112	22,256	0.65	23,104	23,248	0.62	24,544	24,634	0.37
	Boston Ave– Main St	19,563	19,739	0.90	20,650	20,826	0.85	21,937	22,047	0.50
	Main St– Harbor Dr	16,134	16,310	1.09	17,264	17,440	1.02	18,340	18,450	0.60

Ex = Existing; ADT = Average Daily Traffic; Const = Construction; Incr = Increase; NT = Near Term.

Onsite Construction

Project construction would be broken down into various project elements and phases, some of which would overlap. Construction is proposed to occur primarily between 7:00 a.m. and 7:00 p.m. Monday through Saturday, as permitted by the City’s Municipal Code. As discussed in Chapter 3, dredging, but no other construction work, would continue to occur during the nighttime hours of 7:00 p.m. to 7:00 a.m. This work would consist of dredging associated with Project Element 1 (Pride of San Diego Drydock Dredging and Moorage Replacement), Project Element 4 (Pier 3 South Nearshore Dredging), and Project Element 6 (Pier 3 Lunchroom Wharf Replacement Realignment), which would occur 24 hours a day, 7 days a week for the duration of dredging activities. The details of the construction noise analyses are included in Appendix F. A summary of the results is provided in Tables 4.7-12 and 4.7-13 for daytime and nighttime construction activities, respectively.

The range of predicted construction noise levels over the entire course of project construction is reported in Tables 4.7-12 and 4.7-13. Furthermore, the results are reported separately for daytime construction with conventional construction equipment (i.e., no pile driving or pile extraction), daytime construction with pile driving or extraction equipment included (impact or vibratory), and nighttime construction. Nighttime construction would not include any pile driving or pile extraction. The results indicate that all construction noise impacts, relative to both local noise standards and temporary noise increases, as applicable, would be less than significant. As a result, no mitigation measures would be required for project construction noise impacts.

⁴ The greatest percentage increase in traffic occurs on Harbor Drive between Schley Street and 28th Street. The resulting noise increase is calculated as: $10 \times \log (11,802 / 11,626) = 0.07$ dB.

Table 4.7-12. Predicted Daytime Construction Noise Levels

Receiver	Location	Measured Ambient Leq (dBA)	Range of Construction Noise Levels, Leq (dBA)	Municipal Code Standard Applied, Leq (dBA)	Impact
Daytime Construction without Pile Driving and/or Pile Extraction					
R1	Coronado Tidelands Park	59.5	35.5 to 46.5	75 ¹	LTS
	Coronado Island Marriott Resort and Spa		N/A – not considered noise-sensitive during daytime hours		
R2	Cesar Chavez Park	58.5	33 to 46.5	75 ²	LTS
R3	Perkins Elementary School	61.2	30.2 to 42.7	75 ²	LTS
R4	Mercado Apartments	62.7	35.6 to 49.7	75 ²	LTS
R5	Boston Avenue Homes	56.5	36.4 to 46.5	75 ²	LTS
Daytime Construction with Pile Driving and/or Pile Extraction					
R1	Coronado Tidelands Park	59.5	47.9 to 52.4	75 ¹	LTS
	Coronado Island Marriott Resort and Spa		N/A – not considered noise-sensitive during daytime hours		
R2	Cesar Chavez Park	58.5	54.2 to 59.4	75 ²	LTS
R3	Perkins Elementary School	61.2	51.3 to 56.2	75 ²	LTS
R4	Mercado Apartments	62.7	54.5 to 61.0	75 ²	LTS
R5	Boston Avenue Homes	56.5	54.3 to 60.1	75 ²	LTS

¹ City of Coronado noise limit for construction during permissible daytime hours of 7:00 a.m. to 7:00 p.m. at any residentially zoned property.

² City of San Diego noise limit for construction during permissible daytime hours of 7:00 a.m. to 7:00 p.m. at any residentially zoned property.

LTS = less-than-significant impact; Leq = equivalent sound level; dBA = A-weighted decibels.

Table 4.7-13. Predicted Nighttime Construction Noise Levels

Receiver	Location	Measured Ambient L_{eq} (dBA)	Range of Construction Noise Levels, L_{eq} (dBA)	Municipal Code Standard Applied ¹	Impact Relative to Local Standards	Range of Combined (Ambient plus Construction) Noise Levels, L_{eq} (dBA)	Range of Noise Level Increases, L_{eq} (dBA)	Impact Relative to Temporary Noise Increases
Nighttime Construction (Dredging Only)								
R1	Coronado Tidelands Park	57.8	38.6 to 38.6	50 ²	LTS	57.9 to 57.9	0.1	LTS
	Coronado Island Marriott Resort and Spa	57.8	38.6 to 38.6	50 ³	LTS	57.9 to 57.9	0.1	LTS
R2	Cesar Chavez Park	56.5	37.0 to 37.4	50 ²	LTS	56.5 to 56.6	0.0 to 0.1	LTS
R3	Perkins Elementary School	N/A – not considered noise-sensitive during nighttime hours						
R4	Mercado Apartments	61.9	38.4 to 39.8	60 ⁴	LTS	61.9	0.0	LTS
R5	Boston Avenue Homes	54.5	37.0 to 39.9	57.5 ⁵	LTS	54.6	0.1	LTS

¹ Total time period considered is 7:00 p.m. to 7:00 a.m. Nighttime (10:00 p.m. to 7:00 a.m.) municipal code standards are used because these are the most restrictive and applicable during the analyzed time period.

² City of Coronado noise limit for open space land use. In the absence of an established City of San Diego noise limit for parks, the City of Coronado noise limit for open space is applied to parks in San Diego.

³ City of Coronado noise limit for hotel/motel land use.

⁴ City of San Diego noise limit for boundary between multi-family residential use and industrial use zones (arithmetic average of 45 dBA and 75 dBA).

⁵ City of San Diego noise limit for boundary between single-family residential use and industrial use zones (arithmetic average of 40 dBA and 75 dBA).

LTS = less-than-significant impact; L_{eq} = equivalent sound level; dBA = A-weighted decibels.

Operation

Operation of the BAE Systems facility generates noise that currently contributes to the ambient noise environment in the project vicinity. The primary source of noise is the heavy industrial activity related to ship repair that occurs on the site. Traffic noise is also generated in the surrounding community by workers while commuting to and from the site and trucks delivering parts and materials to be used at the site.

Once project construction is completed, the improvements would allow BAE Systems to increase operational efficiency and service newer and larger classes of vessels that cannot be accommodated under existing conditions. However, the changes would not lead to additional simultaneous vessel work or increase the number of people on the site. In fact, the size of the worst-case (i.e., largest) onsite vessel crew and labor force would decrease under the proposed project, as described in Table 3-5 in Chapter 3, Section 3.6, *Project Operations*. Consequently, the general nature and types of operational activities (i.e., vessel service and repair) at the project site would be the same as those that currently occur, and the overall intensity of the operations would not increase. This, combined with the distances to the nearest noise-sensitive receptors (1,180 feet or more), means that operational noise levels, including BAE Systems-related traffic noise in the surrounding community, would not change appreciably at the nearest receptors. The operational noise impacts would be less than significant.

Level of Significance Prior to Mitigation

Construction

Construction of the proposed project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of local noise standards. Impacts would be less than significant.

Operation

Operation of the proposed project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of local noise standards. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

Threshold 2: Implementation of the proposed project would not result in the generation of excessive groundborne vibration or groundborne noise levels.

Impact Discussion

Construction

As discussed previously, groundborne vibration can cause two types of impact: (1) damage to structures and (2) annoyance to people. Damage to a structure can occur regardless of the use at a specific building; therefore, this potential impact is assessed at the closest buildings but is not assessed at any land uses that do not include buildings (such as parks). Annoyance to people is assessed only at land uses with vibration-sensitive buildings.

When pile drivers and heavy construction equipment operate on the site, they would generate groundborne vibration that could affect nearby receivers. All of the major vibration sources would be categorized as continuous/frequent intermittent sources. Given the industrial nature of the neighboring land uses, the closest offsite buildings are assumed to be industrial buildings, with a threshold for potential vibration damage of 0.5 in/s PPV (refer to Table 4.7-3). Table 4.7-14 summarizes the estimated maximum distances from each piece of equipment at which groundborne vibration impacts would exceed the threshold (see Appendix F for additional details).

Table 4.7-14. Impact Distances from Construction Equipment for Potential Vibration-related Building Damage

Construction Equipment Item	Maximum Impact Distance for 0.5 in/s PPV
Impact pile driver	32 feet
Vibratory pile driver/extractor	32 feet
Large bulldozer ¹	6 feet

¹ Considered representative of various heavy pieces of earthmoving equipment, such as excavators, graders, backhoes, etc.

in/s = inches per section; PPV = peak particle velocity.

There are no offsite buildings within 32 feet of the footprint for proposed pile driving activities or within 6 feet of the remainder of the project boundary where heavy construction equipment may operate. Therefore, potential building damage impacts from groundborne vibration associated with project construction would be less than significant, and no mitigation measures would be required.

Table 4.7-15 summarizes the estimated maximum distances from each piece of equipment at which groundborne vibration impacts would exceed the established “distinctly perceptible” threshold of 0.04 in/s PPV (refer to Table 4.7-4).

Table 4.7-15. Impact Distances from Construction Equipment for Potential Vibration Annoyance

Construction Equipment Item	Maximum Impact Distance for 0.04 in/s PPV (barely perceptible vibration)
Impact pile driver	316 feet
Vibratory pile driver/extractor	316 feet
Large bulldozer ¹	52 feet

¹ Considered representative of various heavy pieces of earthmoving equipment, such as excavators, graders, backhoes, etc.
in/sec = inches per second; PPV = peak particle velocity.

The closest sensitive receptors to the project site would be more than 1,000 feet away. Consequently, potential annoyance impacts from groundborne vibration associated with project construction would be less than significant, and no mitigation measures would be required.

Operation

Heavy equipment and machinery currently in use at the project site generate groundborne vibration levels that are localized and typically only perceptible at very close range or within the buildings where the equipment operates. Based on the distances to the closest offsite sensitive receptors (1,180 feet or more), operational vibration levels would not be perceptible at sensitive offsite locations. As described above for operational noise, the types of operations at the site would be the same with implementation of the proposed project. As a result, there would be no new vibration sources that would cause impacts at offsite receptors. The operational vibration impacts would be less than significant.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

Threshold 3: For a project in 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, implementation of the proposed project would not expose people residing or working in the project area to excessive noise levels?

Impact Discussion

The closest air facilities to the project site are San Diego International Airport (SDIA) and Naval Air Station (NAS) North Island. SDIA, approximately 3 miles from the project site, is a public airport with an adopted airport land use plan. NAS North Island, approximately 3.25 miles from the site, is a private airport without an adopted airport land use plan. Based on the noise contour maps for

both of these facilities (Ricondo & Associates 2014 and Onyx Group 2011, respectively), the project site is outside their designated noise contours (the minimum noise contour value is 60 CNEL dB). In addition, the proposed project would not change operations at SDIA or NAS North Island or otherwise affect the existing aircraft noise environment in the project vicinity. The proposed project would not create any new noise-sensitive receptors that could be affected by aircraft noise. Therefore, the proposed project would not expose people residing or working in the project area to excessive airport noise levels.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not expose people residing or working in the project area to excessive noise levels from a private airstrip, public airport, or public use airport. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant.

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4.8.1 Overview

This section describes existing conditions and applicable laws and regulations pertaining to sea-level rise impacts, followed by an analysis to determine if the proposed project would exacerbate any existing and/or projected damage to the environment, including damage to existing structures, sensitive resources, and human health, due to predicted climate change effects, particularly sea-level rise, or be inconsistent with applicable sea-level rise policies of the California Coastal Act of 1976 (CCA) and other land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect from sea-level rise. The analysis determined that no significant sea-level rise impacts would occur through 2050 under the *medium-high* risk tolerance sea-level rise scenario, and no mitigation measures are required; however, best practices from the California Coastal Commission (CCC) recommend revisiting these conclusions over time (e.g., at the end of the proposed project lease period).

4.8.2 Existing Conditions

This section provides a discussion of the existing understanding of global climate change and its effects on sea level.

4.8.2.1 Impacts of Global Climate Change

Climate change is a complex phenomenon that has the potential to alter local climatic patterns and meteorology. Although modeling indicates that climate change will result in sea-level rise (both globally and regionally) as well as changes in climate and rainfall, among other effects, there remains uncertainty with regard to characterizing precise *local* climate characteristics and predicting precisely how various ecological and social systems will react to changes in the existing climate at the local level. Regardless of this uncertainty, it is widely understood that substantial climate change is expected to occur in the future, although the precise extent will take further research to define. Consequently, the entire San Diego region, including the project site and surrounding area, will be affected by changing climatic conditions.

Research efforts coordinated through the California Air Resources Board (CARB), the California Energy Commission (CEC), the California Environmental Protection Agency, the University of California system, and others are examining the specific changes to California's climate that will occur as the Earth's surface warms. Potential impacts include rising sea levels along the California coastline; extreme heat conditions; an increase in heat-related human deaths, infectious diseases, and respiratory problems caused by deteriorating air quality; reduced snow pack and streamflow in the Sierra Nevada, affecting winter recreation and water supplies; a potential increase in the severity of winter storms, affecting peak streamflows and causing flooding; changes in growing conditions that could affect California agriculture, causing variations in crop quality and yield; and changes in the distribution of plant and wildlife species due to changes in temperature, competition

from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.

With respect to the San Diego region, the *San Diego Summary Report* produced under California's Fourth Climate Change Assessment provides a summary of potential climate change impacts in the region (Kalansky et al. 2018), which include the following:

- **Increased temperatures:** The San Diego region will very likely experience hotter and drier days and more frequent, more intense, and longer heat waves. Average annual temperatures are expected to increase by 5–10°F by the end of the century. In coastal regions, marine layer clouds can help mitigate temperature increases. However, the impact of clouds requires further research because current climate models do not represent them well (Kalansky et al. 2018).
- **More volatile precipitation:** Rainfall will continue to be highly variable, with wet and dry extremes intensifying. Droughts are expected to occur more often and be more severe, while individual precipitation events are expected to intensify. At the seasonal level, the region is expected to see wetter winters and drier springs (Kalansky et al. 2018).
- **Greater wildfire risk:** Drier autumns are expected to increase the risk of wildfires, particularly the risk of large, catastrophic wildfires driven by Santa Ana wind events (Kalansky et al. 2018).
- **Impacts on human health:** Climate change is expected to exacerbate public health impacts. Specifically, more intense heat waves, warmer temperatures, and wildfires are expected to exacerbate heat-related illness, adverse health impacts from wildfire smoke, and vector-borne diseases. Certain populations are particularly vulnerable to these health impacts, including those with preexisting or underlying health conditions, those with chronic illnesses (e.g., asthma), the elderly, and the uninsured (Kalansky et al. 2018).
- **Reductions in fresh water:** Climate change is expected to reduce the San Diego region's imported and local water supplies and increase water demand. By mid-century, two of the major imported water supplies are expected to decline. State Water Project imports are expected to drop by 10 percent or more, while Colorado River imports are expected to drop by 10 to 45 percent. Meanwhile, demand is projected to increase by 30 percent by 2040 (Kalansky et al. 2018).
- **Rising sea levels:** Projected sea-level rise, coastal erosion, and increasing storm surges may cause fragile sea cliffs to collapse, shrink beaches, and destroy coastal property and ecosystems. Along the San Diego County coast, sea levels are expected to rise by around 1 foot by mid-century and rise rapidly through the end of the century by around 3 feet. Higher sea levels, combined with high-tide events, are expected to lead to higher extreme water levels (Kalansky et al. 2018). More information on sea-level rise projections for the city of San Diego are provided below.
- **Impacts on habitats:** Climate change is a significant stressor to San Diego's natural lands, which are among the most biodiverse in the United States. Climate stressors—such as rising temperatures, a greater portion of rainfall falling as extreme precipitation, more frequent and intense droughts, and rising sea levels—may also stress habitats and native species, thereby harming biodiversity. For instance, as sea levels rise, wetlands migrate upstream and inland. However, in heavily urbanized areas such as San Diego, migration is limited by development, causing wetlands and the populations that rely on them to shrink (Kalansky et al. 2018).

Given the proposed project's location along the waterfront, sea-level rise, as an effect of climate change, is the primary concern and discussed in detail below.

Sea-Level Rise

Over the past century, mean global sea level has risen approximately 0.07 inch per year, accelerating to a rate of 0.12 inch per year since 1993 (Intergovernmental Panel on Climate Change 2013). From 1906 to 2017, the tide gage at San Diego suggests a rise of approximately 0.09 inch per year, approximately 32 percent higher than the global rate (National Oceanic and Atmospheric Administration [NOAA] 2018). In total, sea levels rose 0.71 feet in San Diego during the twentieth century (NOAA 2018).

A variety of factors affect local relative sea-level rise (i.e., the sea-level rise projections for a specific location rather than the global average sea-level rise projections), including vertical land movement, ocean dynamics, and changes in the Earth's gravitational and rotational fields (National Research Council [NRC] 2012). Through 2100, San Diego is projected to subside at a rate of 0.05 inch per year, and the glacial geostatic adjustment¹ is projected to cause the local relative sea level to increase by 0.02 inch per year (NRC 2012). These values are factored into the San Diego region sea-level rise projections.

Governor Schwarzenegger's Executive Order S-13-08, issued in November of 2008, directed state agencies to plan for sea-level rise and coastal impacts. In response to this, several iterations of sea-level rise guidance have been developed to help state agencies incorporate sea-level rise into project planning and decision-making. In late 2018, the CCC released sea-level rise policy guidance (CCC 2018), which draws on sea-level rise projections and other information from 2017 and 2018 Ocean Protection Council documents and provides recommendations for addressing sea-level rise in local coastal programs and coastal development permits.

Based on CCC guidance, the proposed project is evaluated against low, medium-high, and high risk-aversion scenarios regarding sea-level rise. Project site elevation and projections were analyzed for conditions in 2034 (the year when the lease is scheduled to expire), 2050 (to provide a view of projected exposure should the lease be extended beyond its current expiration date), and 2100. Table 4.8-1 provides a summary of this analysis.

Table 4.8-1. Sea-Level Rise Projections

Year	Sea-Level Rise Projections (feet) ¹		
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
2034 ²	0.8	1.1	1.5
2050	1.2	2.0	2.8
2100	3.6	7.0	10.2

¹ Based on projections for San Diego (CCC 2018).

² Sea-level rise values reflect midpoint of projections for 2030 and 2040.

¹ The Earth's crust is still reaching a state of equilibrium after the melting of the glaciers at the end of the last ice age. This process is called glacial geostatic adjustment. Some locations that were compressed from the huge weight of the ice are still rebounding, while areas that were near but not covered with glaciers were pushed up during the ice age. These areas, including San Diego, are still subsiding.

Projected sea-level rise, as an effect of climate change, is expected to increase the geographic area that experiences coastal flooding along San Diego Bay. Coastal and low-lying areas, such as the project site, are particularly vulnerable to future sea-level rise. More specifically, sea-level rise is particularly a concern when considered in combination with future storm events and coastal flooding. A scenario with 100-year floodflows that coincide with high tides, taking into account sea-level rise over a 50- or 100-year horizon, would dramatically increase the risk of flooding in the project vicinity.

The San Diego Bay vulnerability assessment conducted by the International Council for Local Environmental Initiatives (ICLEI), Local Governments for Sustainability, found that the greatest concern related to sea-level rise is the increase in the frequency and intensity of flooding that the region experiences due to waves, storm surge, El Niño events, and very high tides. Furthermore, starting around mid-century, San Diego Bay may become more susceptible to regular inundation during daily high-tide events at certain locations. The most vulnerable sectors in the community include stormwater management, wastewater collection, shoreline park, and transportation facilities; commercial buildings; and ecosystems (ICLEI 2013). Working waterfronts specifically may experience intermittent flooding that disrupts operations by making areas inaccessible or unworkable temporarily and backing up stormwater infrastructure as well as damages to sensitive assets in flooded areas, such as electrical infrastructure or other facilities not equipped to be inundated by saltwater. In the longer-term permanent flooding may render areas and assets, such as piers and wharfs, unusable unless modified.

4.8.3 Applicable Laws and Regulations

This section summarizes the federal, state, and local regulations related to sea-level rise and climate change that are applicable to the proposed project.

4.8.3.1 Federal

Climate change is widely recognized as an imminent threat to the global climate, economy, and population. However, there is still no comprehensive, overarching federal law for addressing climate change-related effects specifically, such as sea-level rise.

4.8.3.2 State

California has adopted statewide legislation for addressing adaptation to climate change effects, namely sea-level rise. Summaries of key policies, regulations, and legislation at the state level that are relevant to the proposed project are provided below in chronological order.

Assembly Bill 691 – Proactively Planning for Sea-Level Rise Impacts (2013)

Assembly Bill (AB) 691 required the District to prepare and submit an assessment of how the District proposes to address the impacts of sea-level rise on tidelands to the California State Lands Commission (SLC) by no later than July 1, 2019. The bill states that addressing the impacts of sea-level rise shall be among the management priorities of the local trustee. In accordance with AB 691, the assessment was completed and submitted to the SLC. It includes the following:

- An assessment of the impact of sea-level rise on granted public trust lands, as described by certain documents.
- Maps showing the areas that may be affected by sea-level rise in 2030, 2050, and 2100. These maps shall include the potential impacts of 100-year storm events. The District may rely on appropriate maps generated by other entities.
- An estimate of the financial cost of the impact of sea-level rise on District public trust lands. The estimate shall consider, but not be limited to, the potential cost of repairs for damage, as well as the value of lost use associated with improvements and land, and the anticipated cost to prevent or mitigate potential damage.
- A description of how the District proposes to protect and preserve natural and human-made resources and facilities located on, or proposed to be located on, trust lands and operated in connection with the use of trust lands. The description shall include, but not be limited to, how wetlands restoration and habitat preservation would mitigate the impact of sea-level rise.

Assembly Bill 2516 – Planning for Sea-Level Rise Database

AB 2516 requires the Natural Resources Agency, in collaboration with the Ocean Protection Council, to create, update biannually, and post online a Planning for Sea-Level Rise database that describes the steps being taken throughout the state to prepare for, and adapt to, sea-level rise. The bill requires various public agencies and private entities to provide sea-level rise planning information, defined as studies, programs, modeling, mapping, cost-benefit analyses, vulnerability assessments, adaptation assessments, and local coastal programs developed for the purpose of addressing or preparing for sea-level rise, to the Natural Resources Agency and Ocean Protection Council for incorporation into the Planning for Sea-Level Rise database. The entities subject to AB 2516 include 13 state agencies as well as all ports, airports, and electric and natural gas utilities within the Coastal Zone and San Francisco Bay Area.

California Coastal Act

The CCA (Public Resources Code Sections 30000–30900) established the CCC to oversee future development along California’s coastline. Chapter 8, Article 3, of the CCA requires ports, including the Port of San Diego, to develop a Port Master Plan (PMP) by which to conduct project reviews and issue individual coastal development permits or exclusions within their jurisdictions. Individual PMPs require review and certification by the CCC for conformity with the CCA, including any amendments to the certified PMP. Chapter 8 (Section 30715) also specifies which projects within a port are subject to Chapter 3 policies of the CCA (i.e., Coastal Resources Planning and Management Policies). Those policies provide guidance regarding public access to the coast, recreation, the marine environment, land resources, development, and sea-level rise.

The proposed project must be consistent with the CCA, including policies from Chapters 3 and 8, which require protection for certain coastal resources, some of which may be affected by sea-level rise. For example, sea-level rise increases the risk of flooding, coastal erosion, and saltwater intrusion into fresh water, including groundwater, and has the potential to threaten many resources that are integral to the California coast. These include coastal developments; coastal access and recreational areas; habitats such as wetlands, coastal bluffs, dunes, and beaches; water quality and water supplies; cultural resources; community character; and scenic quality.

Several CCA policies are applicable to sea-level rise as it relates to the protection of coastal resources, including 30210, 30211, 30220, 30234, 30235, 30236, and 30253. A discussion of the proposed project's consistency with these CCA policies is provided in Section 4.6, *Land Use and Planning*.

California Coastal Commission Sea-Level Rise Policy Guidance (2018)

To guide local governments and ports in addressing sea-level rise in the context of the CCA, the CCC issued sea-level rise policy guidance in 2015. The sea-level rise policy guidance provides a framework for addressing sea-level rise in PMPs and coastal development permits. The guidance provides principles for addressing sea-level rise in the Coastal Zone; an overview of the science behind sea-level rise, as well as a description of the potential consequences; and an outline of the steps for addressing sea-level rise (CCC 2015). This guidance was recently updated in November 2018 (i.e., a science update) (CCC 2018).

4.8.3.3 Regional

There are no regional regulations related to the proposed project that require consideration of or adaptation to climate change effects, including sea-level rise.

4.8.3.4 Local

There are no local regulations related to the proposed project that require consideration of or adaptation to climate change effects, including sea-level rise.

4.8.4 Project Impact Analysis

4.8.4.1 Methodology

The project site was evaluated for sea-level rise impacts associated with climate change using a state-recommended approach. A summary of the methodology is provided below.

Climate change analysis consists of a quantitative assessment of future sea-level rise and storm surge projections applicable to the elevation at the project site. The analyses begin with a review of California guidance and estimates of climate change impacts. For sea-level rise, historic and projected future rates of sea-level rise are reviewed. This analysis relies on projections developed by the Ocean Protection Council and adopted by the CCC in its updated sea-level rise policy guidance in November 2018. The analysis uses projections for three timeframes (see Table 4.8-3):

- 2034, to characterize exposure at the time that the project lease ends. These projections reflect the average of those provided in the CCC guidance for 2030 and 2040. The analysis uses this value because the CCC provides projections in 10-year increments, and the average of the 2030 and 2040 values most closely approximates those for 2034.
- 2050 and 2100, to characterize potential exposure between the end of the project lease and the end of the project life.

Table 4.8-2 summarizes the various project site structures and project elements that were considered for use in this analysis. This sea-level rise assessment was conducted using two elevations:

1. The lowest landside elevation, the sheet piling for the quay wall (Project Element 7) (approximately 7 feet above mean sea level [MSL]).² The sheet pilings at the waterfront are the first line of defense against rising seas. If the sheet pilings are breached, then water may be able to infiltrate portions of the project site.
2. The lowest waterside elevation, which is also the most common elevation across the structures (approximately 9 feet above present-day MSL). The new Pride of San Diego wharf and associated ramp (Project Element 2) would all be constructed to this elevation.

The two elevations were compared to a range of sea-level rise projections and timeframes on top of high tide (i.e., mean higher high water). This provides insight regarding the possibility of daily inundation at the project site. To assess the possibility of inundation during future storm events, the analysis added the historic 100-year storm surge (i.e., 1 percent annual return probability) elevation to the sea-level rise projections and compared this combined water level elevation to the selected elevations.

Table 4.8-2. Project Site Components and Elevations

Waterside or Landside	Project Site Components	Structure Type	Minimum Elevation (feet) (relative to MSL)	Maximum Elevation (feet) (relative to MSL)
Landside	Pier 1 and 3 Fenders (Project Element 3)	Sheet-pile wall	7.6	10.1
Landside	Quay Wall (Project Element 7)	Sheet-pile wall	7.1	7.1
Landside	Building 13, Ground Floor (Project Element 14)	Building	9.1	9.1
Landside	Pier 3 Break Room, Ground Floor (Project Element 6)	Wharf	10.1	10.1
Waterside	Pride of San Diego Drydock (Project Element 1)	Mooring dolphins	10.1	10.1
Waterside	New Pride of San Diego Wharf Ramp (Project Element 2)	Ramp	9.1	9.1
Waterside	New of Pride of San Diego Wharf (Project Element 2)	Wharf	9.1	10.1
Waterside	Pier 3 Mooring Dolphins (Project Element 5)	Mooring dolphins	10.1	10.1

MSL = mean sea level

² Note that mean sea level is approximately 2.94 feet above mean lower low water, based on values retrieved from <https://tidesandcurrents.noaa.gov/datums.html?id=9410170>.

4.8.4.2 Thresholds of Significance

CEQA does not direct agencies to analyze the environment's effects on a project but does require analysis when a project could exacerbate environmental hazards or conditions. As such, the analysis provided within this section focuses on the project's potential to exacerbate existing and projected future conditions associated with climate change (Threshold 1) and addresses the following question:

- Would the proposed project exacerbate any existing and/or projected damage to the environment, including existing structures, sensitive resources, and human health, due to predicted climate change effects, particularly sea-level rise?

The project site is within the Coastal Zone. Several CCA policies require coastal resources to be protected from sea-level rise and the impacts of climate change. Executive Order S-13-08 requires consideration of the potential impacts of sea-level rise on a proposed project when determining consistency with the CCA and the 2018 adopted sea-level rise policy guidance. The policy guidance provides an overview of the best available science on sea-level rise and a recommended methodology for addressing sea-level rise in CCC planning and regulatory actions (CCC 2018). As such, this section analyzes consistency with the sea-level rise guidance provided in land use plans, policies, and regulations (Threshold 2) by addressing the following question:

- Would the proposed project be inconsistent with the applicable sea-level rise policies of the CCA or other land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect from sea-level rise?

4.8.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would not exacerbate any existing and/or projected damage to the environment, including existing structures, sensitive resources, and human health, due to predicted climate change effects, particularly sea-level rise.

Impact Discussion

As discussed in Section 4.8.2.1, *Impacts of Global Climate Change*, several impacts on the environment are expected throughout California as a result of global climate change. The extent and timing of these effects are being refined as climate modeling tools become more robust. Regardless of the uncertainty in precise predictions, it is widely understood that climate change will occur in the future. Given the project site's location at the bayfront, the climate change issue of note is sea-level rise. Therefore, this analysis considers the extent to which the proposed project would exacerbate (i.e., worsen) any existing and/or projected damage to the environment, including existing structures, sensitive resources, and human health, due to sea-level rise.

Projected sea-level rise, as an effect of climate change, is expected to increase the number of areas that experience coastal flooding along San Diego Bay. Coastal and low-lying areas, such as the project site, are particularly vulnerable to future sea-level rise, especially in combination with future storm events and coastal flooding. When 100-year floodflows coincide with high tides, on top of future sea-level rise, the risk of flooding in the project vicinity increases.

The 2017 Ocean Protection Council (OPC) report entitled *Rising Seas in California* (Griggs et al. 2017), which was used in the OPC's 2018 report *State of California Sea-Level Rise Guidance* and the CCC's sea-level rise policy guidance (CCC 2018), projects sea-level rise in San Diego to be 0.8 to 1.5 feet by 2034, 1.2 to 2.8 feet by 2050, and 3.6 to 10.2 feet by 2100. Sea-level rise by 2034 (i.e., the end of the project lease) reflects the average of sea-level rise projections for 2030 and 2040. The sea-level rise projections provided here extend to 2050 and 2100 to provide a sense of how the project site might be affected should the lease be renewed and extended beyond the current 2034 expiration year. The sea-level rise projections for the project area are shown below in Table 4.8-3 and Table 4.8-4.

The lowest landside elevation would be that of the sheet piling for the quay wall (Project Element 7), which would be 7 feet above present-day MSL. On the landside portion of the proposed project, the sheet pilings would be the lowest of the first lines of defense against sea-level rise and storm surge. If the sheet pilings are breached, water may infiltrate portions of the project site. This infiltration would occur without the proposed project.

The lowest waterside elevation, which is also the most common elevation across the structures, would be approximately 9 feet above present-day MSL. The new Pride of San Diego wharf and associated ramp (Project Element 2) as well as the reconfigured electrical equipment at the Building 13 Wharf (Project Element 14) would all be at this elevation. If water levels reach or exceed an elevation of 9 feet above present-day MSL, these wharfs would be expected to be inundated and compromised, at least temporarily.

Tables 4.8-3 and 4.8-4 show the minimum landside elevation and the minimum waterside elevation compared to sea-level rise and storm surge projections for the 2034, 2050, and 2100 timeframes. Using data contained within these two tables, the following conclusions can be made:

Permanent Inundation

- **2034 through 2050:** As shown in Table 4.8-3 and Table 4.8-4, the lowest landside and waterside structures should remain above the upper end of the permanent sea-level rise projections through mid-century (2050).
- **2100:** By 2100, under the medium-high and high risk-aversion scenarios, permanent inundation may become a concern for both landside and waterside components of the project.

Storm Surge

- **2034:** When accounting for a 100-year storm surge event (temporary inundation), the lowest landside and waterside structures would remain protected until at least 2034, which is the end of the lease period.
- **2050:** The waterside elevations are not projected to experience inundation under any of the sea-level rise and storm surge scenarios during this timeframe. However, the lowest landside portions of the project may become exposed to storm surge under some scenarios.
 - The low risk-aversion projections indicate that storm surge events would not lead to inundation. This scenario is the upper end of the “likely range” and should be used in the design and construction of projects that would experience minimal consequences from inundation and have greater ability to adapt (CCC 2018).

- The medium-high risk-aversion projections indicate that the storm surge water level would be approximately equal to the proposed elevation of the sheet pile walls. The medium-high risk-aversion scenario is intended for projects that would experience greater consequences from inundation and have limited ability to adapt (CCC 2018). It is the most appropriate risk-aversion scenario for the proposed project.
- The extreme risk-aversion projections indicate that storm surge could lead to inundation at the lowest landside project areas. The extreme risk-aversion scenario is intended for projects that would experience substantial consequences from inundation and have little to no ability to adapt (CCC 2018).
- **2100:** By 2100, which is well after the end of the current lease (2034), the landside components of the proposed project would be exposed to a 100-year storm surge under all three sea-level rise scenarios. The waterside components of the proposed project would be exposed only under the medium-high and extreme risk-aversion scenarios.

Through the end of the project lease (2034), the site is not projected to experience flooding. Under the medium risk-aversion scenario, through 2050 the landside sheet pile walls would only be overtopped by an inch or two during a 100-year storm surge event. This flooding would occur even if the proposed project were not constructed, and the proposed project would not add new uses or other features that could exacerbate impacts. Consequently, the proposed project would not exacerbate the potential for inundation due to projected sea-level rise or storm surge. Given this finding, mitigation measures are not required.

The impacts of sea-level rise will be revisited during renewal of the existing lease once it expires in 2034, providing time for modifications that would protect against higher rates of sea-level rise, should those projected levels occur. This approach to monitoring sea-level rise and flooding impacts over time before committing to investments in protection strategies is consistent with the adaptive-pathways approach recommended by the CCC in its sea-level rise policy guidance.

Table 4.8-3. Sea-Level Rise Elevations and Projections Relative to a 7-foot Project Element (i.e., lowest landside elevation)

Year	Present-Day Tidal Datum ¹		Sea-Level Rise Projection ²			Sheet-Piling Elevation Relative to Projection ³ – Permanent Sea-Level Rise			Sheet-Piling Elevation Relative to Projection ⁴ – Plus Storm Surge		
	Lowest Sheet-Piling Elevation above MSL	Mean Higher High-Water Elevation above MSL	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
2034	7.1	2.8	0.8	1.1	1.5	3.5	3.2	2.8	1.1	0.8	0.4
2050	7.1	2.8	1.2	2.0	2.8	3.1	2.3	1.5	0.7	-0.1	-0.9
2100	7.1	2.8	3.6	7.0	10.2	0.7	-2.7	-5.9	-1.7	-5.1	-8.3

¹ Calculated mean higher high-water elevation above MSL based on the difference between mean higher high-water elevation (5.72 feet) and MSL (2.94 feet). Obtained from <https://tidesandcurrents.noaa.gov/datums.html?id=9410170>.

² Based on projections for San Diego. Obtained from https://documents.coastal.ca.gov/assets/slr/guidance/2018/0_Full_2018Adoptedsea-level riseGuidanceUpdate.pdf.

³ Based on the difference between bulkhead elevation, mean high-water elevation above MSL, and sea-level rise projections. For example, the lower-end elevation for 2034 is calculated as follows: 7.06 – 2.78 – 0.8 = 3.5 feet.

⁴ Based on the difference between permanent sea-level rise above mean higher high-water elevation and 100-year (1 percent return probability) surge events. For example, the lower-end elevation for 2034 is calculated as follows: 3.5 – 2.4 = 1.1 feet. Surge event obtained from <http://tidesandcurrents.noaa.gov/est/curves.shtml?stnid=9410170>.

MSL = mean sea level

Bold values reflect scenarios where water would overtop the sheet-piling.

Table 4.8-4. Sea-Level Rise Elevation and Projections Relative to a 9-foot Project Element (i.e., lowest waterside elevation)

Year	Present-Day Tidal Datum ¹		Sea-Level Rise Projection ²			Sheet-Piling Elevation Relative to Projection ³ – Permanent Sea-Level Rise			Sheet-Piling Elevation Relative to Projection ⁴ – Plus Storm Surge		
	Lowest Sheet-Piling Elevation above MSL	Mean Higher High-Water Elevation above MSL	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
2034	9.1	2.8	0.8	1.1	1.5	5.5	5.2	4.8	3.1	2.8	2.4
2050	9.1	2.8	1.2	2.0	2.8	5.1	4.3	3.5	2.7	1.9	1.1
2100	9.1	2.8	3.6	7.0	10.2	2.7	-0.7	-3.9	0.3	-3.1	-6.3

¹ Calculated mean higher high-water elevation above MSL based on the difference between mean higher high-water elevation (5.72 feet) and MSL (2.94 feet). Obtained from <https://tidesandcurrents.noaa.gov/datums.html?id=9410170>.

² Based on projections for San Diego. Obtained from https://documents.coastal.ca.gov/assets/slr/guidance/2018/0_Full_2018Adoptedsea-level riseGuidanceUpdate.pdf.

³ Based on the difference between bulkhead elevation, mean high-water elevation above MSL, and sea-level rise projections. For example, the lower-end elevation for 2034 is calculated as follows: 9.06 – 2.78 – 0.8 = 5.5 feet.

⁴ Based on the difference between permanent sea-level rise above mean higher high-water elevation and 100-year (1 percent return probability) surge events. For example, the lower-end elevation for 2034 is calculated as follows: 5.5 – 2.4 = 3.1 feet. Surge event obtained from <http://tidesandcurrents.noaa.gov/est/curves.shtml?stnid=9410170>.

MSL = mean sea level

Bold values reflect scenarios where water would overtop the sheet-piling.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not exacerbate any existing and/or projected damage to the environment, including existing structures, sensitive resources, and human health, due to projected climate change effects, particularly sea-level rise.

Mitigation Measures

No mitigation is required. However, as discussed above, additional sea-level rise measures may be assessed at the lease renewal (2034).

Level of Significance after Mitigation

Impacts would be less than significant.

Threshold 2: Implementation of the proposed project would not be inconsistent with the applicable sea-level rise policies of the CCC or other land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect from sea-level rise.

Impact Discussion

An analysis of the proposed project's consistency with the CCA is provided in Section 4.6, while an analysis of the proposed project's consistency with the CCC's sea-level rise policy guidance is provided in Table 4.8-5, below. As shown, the proposed project would be consistent with all applicable sea-level rise policies. Therefore, the proposed project would not be inconsistent with the applicable sea-level rise policies of the CCC or other land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect from sea-level rise. Impacts would be less than significant.

Table 4.8-5. Project Consistency with Goals, Objectives, and Policies Related to Sea-Level Rise

Goal, Policy, Objective	Proposed Project Consistency
California Coastal Commission Sea-Level Rise Policy Guidance	
Establish the sea-level rise range for the proposed project.	Consistent. The year for the end of the lease, 2034, was established for the range of sea-level rise. It reflects the average of the sea-level rise projections for 2030 and 2040 provided in the CCC's guidance. Projections for 2050 and 2100 were also used to provide a view of coastal flood exposure should the lease be extended. Low and high sea-level rise projections for 2034, 2050, and 2100 were derived from CCC projections and used for this analysis. In addition, a comparison of landside elevation and the minimum waterside elevation to sea-level rise and storm surge projections for the 2034, 2050, and 2100 timeframes was analyzed.
Determine how sea-level rise impacts may constrain the project site.	Consistent. Geologic stability and erosion are not relevant because the project site is already protected by structural elements (e.g., riprap, bulkheads). Flooding and inundation were assessed by comparing the lowest landside and waterside elevations, which would be the sheet piling for the quay wall (Project Element 7) and the new Pride of San Diego wharf and associated ramp (Project

Goal, Policy, Objective	Proposed Project Consistency
	Element 2), respectively, to sea-level rise projections. Storm surge was assessed by comparing the lowest landside and waterside elevations to a 100-year storm surge elevation on top of the sea-level rise projections. Wave run-up was not assessed because the project site is protected by San Diego Bay, and there is insufficient fetch for the development of wind-driven waves.
Determine how the project may affect coastal resources over time, considering sea-level rise.	Not applicable. The project would not affect coastal resources over time. Furthermore, the project site would not be affected by mean sea-level rise during the useful design life of the various project elements. Therefore, coastal resources would not be affected by regular inundation during the analysis period. The site may be affected by storm surge during the years of its useful life; however, inundation during storm surges would occur with or without the proposed project. Consequently, the proposed project would not exacerbate the potential for inundation during storm surges.
Identify project alternatives to both avoid resource impacts and minimize risks to the project.	Consistent. Implementation of the project would not exacerbate existing and/or projected damage to the environment, including damage to existing structures and sensitive resources, due to projected sea-level rise. Mitigation is not required.
Finalize project design and submit permit application.	Consistent. To be completed after the CEQA process is complete, as is standard.

Level of Significance Prior to Mitigation

Implementation of the proposed project would be consistent with the applicable sea-level rise policies of the CCC or other land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect from sea-level rise. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance after Mitigation

Impacts would be less than significant

Section 4.9

Transportation, Circulation, and Parking

4.9.1 Overview

This section describes the existing conditions and applicable laws and regulations for transportation, circulation, and parking, followed by an analysis of the proposed project's potential to (1) conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities; (2) conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b); and (3) result in an inadequate parking supply. All other potential transportation, circulation, and parking issues were analyzed in Section XVI of the Initial Study/Environmental Checklist (see Appendix A) and determined to have no impact or less-than-significant impacts. The analysis and conclusions regarding these issues are summarized in Chapter 6, Section 6.4, *Effects Not Found to Be Significant*.

The information provided in this section is summarized from the *BAE Systems Waterfront Improvements Transportation Impact Study (TIS), Vehicle Miles Traveled – SB 743 Analysis*, dated May 2020 (Appendix G). Based on the analysis that follows, all impacts related to transportation, circulation, and parking would be less than significant. No mitigation is required.

4.9.2 Existing Conditions

4.9.2.1 Existing Roadway Corridors

Traffic associated with the proposed project would use the roadways and intersections surrounding the project site. These roadways and intersections are within the jurisdiction of the City of San Diego. There are two primary roadway corridors that provide access to the project site, each of which is described below. The descriptions provide a general understanding of the local roadway corridors and identify the existing setting for transportation.

Harbor Drive

Harbor Drive travels through downtown San Diego along its western and southern boundaries. Although Harbor Drive travels in a north/south orientation in some locations within downtown San Diego, near the project site it converts to a northwest/southeast orientation and links the project site to the Beardsley Street and 28th Street north/south corridors for freeway access.

Harbor Drive is a two-way road that is primarily four lanes wide with a raised median. Posted speed limits between Cesar Chavez Parkway and 32nd Street are 40 miles per hour (mph). Widths along Harbor Drive range from 85 to 110 feet. Parking is not allowed on either side of Harbor Drive between Beardsley Street and Sampson Street; however, parking is allowed on both sides southeast of Sampson Street. Pedestrian facilities and a Class II bicycle lane are present on each side of the roadway. Two transit stations, the Barrio Logan Trolley Station and the Harborside Trolley Station, serve the San Diego Trolley's Blue Line along Harbor Drive. In addition, Metropolitan Transit System

(MTS) Bus Route 929 provides bus service along this roadway and has one stop within the traffic study area at the intersection of Main Street and Sampson Street.

28th Street

Within the project study area, 28th Street is configured as:

- A four-lane raised median roadway between Harbor Drive and Main Street;
- A four-lane roadway with a continuous two-way, left-turn lane between Main Street and Boston Avenue; and
- A three-lane roadway (two northbound and one southbound) with a continuous two-way, left-turn lane between Boston Avenue and National Avenue.

Roadway width ranges from 64 to 76 feet, with a posted speed limit of 30 mph. Parking is allowed on both sides of the roadway between Harbor Drive and Main Street, but is prohibited between Main Street and National Avenue. Sidewalks are present on both sides of the roadway, but bicycle facilities are not. In addition, MTS Bus Route 12 provides bus service along this roadway and has one stop within the traffic study area at the intersection of 28th Street and National Avenue.

4.9.2.2 Vehicle Miles Traveled

Pursuant to Senate Bill (SB) 743, Public Resources Code (PRC) Section 21099, and State CEQA Guidelines Section 15064.3, automobile delay (as typically measured by level of service [LOS]) no longer constitutes a significant impact under CEQA. Therefore, vehicle miles traveled (VMT) is used to determine whether a project would result in significant transportation impact.

VMT is a metric for determining the amount and distance of automobile travel attributable to a project (State CEQA Guidelines Section 15064.3), and is intended to discourage suburban sprawl, reduce greenhouse gas emissions, and encourage the development of smart growth, complete streets, and multimodal transportation networks (ITE 2019). The Base Year Regional Average VMT for the San Diego region is a baseline calculation to represent existing conditions.¹ The Base Year Regional Average VMT/Employee is the measurement of vehicle-based person trips grouped and summed to the work location of individuals on the trip (a detailed description of this VMT metric is included in Section 4.9.4.2, *Thresholds of Significance*). The Base Year Regional Average VMT/Employee is 25.9 miles for the San Diego region (Appendix G).

4.9.2.3 Public Transportation Services

Regional public transportation serving the downtown San Diego area and surrounding communities includes the COASTER commuter train, the San Diego Trolley, and local bus lines. Planned public transportation services are based on the San Diego Association of Governments' (SANDAG's) adopted *San Diego Forward: The Regional Plan* (Regional Plan), which identifies planned transit improvements that enhance access in the San Diego downtown area and surrounding communities through the year 2050.

¹ The Base Year Regional Average for the San Diego Region is calculated using SANDAG's Series 13 Model, which relies on 2013 data.

COASTER Commuter Train

The North County Transit District (NCTD) owns and operates the COASTER commuter train, which first began service on February 27, 1995. The COASTER travels over a 41-mile route with eight stations along the San Diego coastline, extending between Oceanside and downtown San Diego. The COASTER operates more than 100 trains each week, carrying about 4,970 passengers each weekday, totaling 1.5 million trips annually (NCTD 2018). The closest COASTER station to the project site is at the Santa Fe Depot, approximately 2.4 miles walking distance to the north. COASTER riders (i.e., work commuters) can either transfer to the Blue Line Trolley at this location or walk/bike to the project site. Per SANDAG's Regional Plan, the COASTER commuter rail service is anticipated to be extended from its current terminus at Santa Fe Depot to a new bayside station by 2035, providing direct access to the San Diego Convention Center.

San Diego Trolley

The San Diego Trolley is a light rail passenger service operated by San Diego Trolley, Inc., which is owned by MTS. The San Diego Trolley system consists of four lines, including the University of California (UC) San Diego Blue, Orange, Sycuan Green, and SDG&E Silver Lines, with a total of 53 stations and 54.3 miles of rail (MTS 2016). The Blue Line currently runs at 7- to 8-minute headways during peak periods and 15-minute headways in off-peak periods. The Blue Line stops at the Barrio Logan and Harborside Stations, which are approximately 0.4-mile and 0.8-mile walking distance to the project site, respectively.

Local Bus Services

The following MTS bus routes also serve the project site.

- Route 12 stops at National Avenue and 26th Street, approximately 0.5-mile walking distance from the project site.
- Route 929 stops at Main Street and 26th Street, approximately 0.5-mile walking distance from the project site.

4.9.2.4 Pedestrian and Bicycle Facilities

Existing pedestrian facilities in the project area include sidewalks and crosswalks along Belt Street and Sampson Street. While pedestrians may utilize pedestrian facilities (e.g., sidewalks and crosswalks) that are part of the surrounding street system, access onto the project site is restricted to authorized personnel.

The Bayshore Bikeway path is a 24-mile bicycle facility that runs along the San Diego Bay. Bicycle facilities in the project study area consist of Class II Bicycle Lanes in each direction along Harbor Drive as a part of the Bayshore Bikeway facility. These bicycle lanes are designated and signed.

4.9.2.5 Parking Conditions

BAE Systems currently has an available parking capacity of approximately 1,586 spaces with an option of 200 additional parking spaces for employees, customers, and visitors (BAE Systems 2019). These parking spaces are available within existing parking lots or parking garages on and near to

the project site. Table 4.9-1 identifies the existing available parking capacity within each of the parking lots used by BAE Systems.

Table 4.9-1. Available Parking Capacity

Property Description	Parking Spaces	Occupant	Designation	Distance to Gate
Belt Street – Lot 1	107	Navy/SWRMC	Reserved	65 feet
Belt Street – Lot E	111	BAE Systems	BAE Systems Only	200 feet
Belt Street – Lot C	23	BAE Systems/ Visitors	Visitor/ADA	140 feet
Main Street – Lot 11	790	BAE Systems/Navy	Not Reserved	860 feet
Lot A (Executive Lot, North Side of Shipyard)	84	BAE Systems	BAE Systems Only	0 feet
In-Yard Lot (Adjacent to Lot A)	47	BAE Systems	BAE Systems Only	0 feet
Main Street – Lot 12	54	BAE Systems	BAE Systems Only	1,780 feet
Motorcycle Lot	30	BAE Systems	First Come, First Served	95 feet
Hilton Hotel/ Ace Parking Structure	300–500	BAE Systems	BAE Systems Only	1.4 miles ¹
Total	1,586 – 1,786			

Source: BAE Systems 2019

¹ A shuttle is provided to and from this parking facility.

ADA = Americans with Disabilities Act; SWRMC = Southwest Regional Maintenance Center.

4.9.3 Applicable Laws and Regulations

4.9.3.1 State

Senate Bill 743

Governor Jerry Brown signed SB 743 on September 27, 2013, which mandated a change in the way that public agencies evaluate transportation impacts of projects under CEQA, focusing on VMT rather than LOS and other delay-based metrics. SB 743 states that new methodologies under CEQA are needed for evaluating transportation impacts that are better able to promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution, promoting the development of a multimodal transportation system, and providing clean, efficient access to destinations. SB 743 indicates that measurements of transportation impacts may include VMT, VMT per capita, automobile trip generation rates, or automobile trips generated. Accordingly, SB 743 required the Governor's Office of Planning and Research (OPR) to amend the State CEQA Guidelines to reflect these changes.

State CEQA Guidelines Section 15064.3

Section 15064.3 of the State CEQA Guidelines was added as part of a comprehensive update to the guidelines that were adopted by the California Resources Agency in December 2018. Section 15064.3 describes specific considerations for evaluating a project's transportation impacts and identifies vehicle miles traveled as the most appropriate metric for determining impacts. Except for roadway capacity projects, Section 15064.3 stipulates that a project's effect on automobile delay does not constitute a significant environmental impact under CEQA. The specific criteria for analyzing transportation impacts are provided in Section 15064.3, subdivision (b) of the State CEQA Guidelines.

Technical Advisory on Evaluating Transportation Impacts in CEQA

In response to SB 743 and the addition of Section 15064.3 to the State CEQA Guidelines, the OPR adopted the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory) in December 2018 to provide technical recommendations on methods for assessing VMT, thresholds of significance, and mitigation measures (OPR 2018). The recommendations in the OPR Technical Advisory are intended to provide guidance to agencies and the public for assessing VMT-related transportation impacts under CEQA. Details of the recommended thresholds of significance from the OPR Technical Advisory are provided in Section 4.9.4.2, below.

4.9.3.2 Regional

San Diego Association of Government's *San Diego Forward: The Regional Plan*

The Regional Plan was adopted by the SANDAG Board of Directors on October 9, 2015, to establish a long-range blueprint for the San Diego region's growth and development through the year 2050. The Regional Plan was developed in close partnership with the region's 18 cities and the County government, and aims to provide innovative mobility choices and planning to support a sustainable and healthy region, a vibrant economy, and an outstanding quality of life for all. The Regional Plan integrates the 2004 Regional Comprehensive Plan and the 2050 Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) into one unified plan. By incorporating the SCS, the Regional Plan is in compliance with SB 375, which identifies how the region will address greenhouse gas emissions to meet State-mandated levels and focuses on land use planning and transportation issues in an attempt to develop sustainable growth patterns on a regional level.

California State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a Congestion Management Program (CMP). The requirements within the state CMP were developed to monitor the performance of the transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. SANDAG provided regular updates for the state CMP from 1991 through 2008. In October 2009, the San Diego region elected to be exempt from the state CMP, and, since this decision, SANDAG has been abiding by 23 Code of Federal Regulations (CFR) 450.320 to ensure the region's continued compliance with the federal congestion management process. The Regional Plan is the region's long-range transportation plan and SCS, and meets the requirements of 23 CFR 450.320 by incorporating the following federal congestion management process: performance monitoring and measurement of the regional transportation system, multimodal alternatives and non-single occupant vehicle analysis, land use impact analysis, the provision of

congestion management tools, and integration with the regional transportation improvement program process.

Riding to 2050, the San Diego Regional Bike Plan

The San Diego Regional Bike Plan (SANDAG 2010) was developed to support the 2004 Regional Comprehensive Plan and the 2050 RTP in implementing the regional strategy for utilizing the bicycle as a valid form of everyday travel. The bike plan, as a part of the SCS mandated by SB 375, provides for a detailed Regional Bike Network, as well as the programs that are necessary to support it. Implementation of the Regional Bike Plan would help the region meet goals for reducing greenhouse gas emissions and improve mobility.

4.9.3.3 Local

The project site is within the land use jurisdiction and control of the District. However, because the streets and intersections serving the project site are within the City's jurisdiction, the following local laws, regulations, and plans were taken into account in the analysis of the proposed project's impacts on transportation and circulation.

City of San Diego Bicycle Master Plan

The City of San Diego Bicycle Master Plan Update (2013) provides a framework for making cycling a more practical and convenient transportation option for San Diegans with different riding purposes and at different skill levels. The Bicycle Master Plan is a 20-year policy document that guides the development and maintenance of San Diego's bicycle network. The bicycle network includes all roadways that bicyclists have the legal right to use, support facilities, and non-infrastructure programs. The plan includes direction for policymakers on the expansion of the existing bikeway network, connecting gaps, addressing constrained areas, improving intersections, providing for greater local and regional connectivity, and encouraging more residents to bicycle more often. The 2013 update builds on the 2002 version by updating bicycling needs by addressing changes to the bicycle network and overall infrastructure.

City of San Diego Pedestrian Master Plan

The Pedestrian Master Plan (City of San Diego 2006) provides guidelines to the City that will enhance neighborhood quality and mobility options through the facilitation of pedestrian improvement projects. The Pedestrian Master Plan both identifies and prioritizes pedestrian improvement projects through technical analysis and community input programs, which are typically grant-funded.

4.9.4 Project Impact Analysis

4.9.4.1 Methodology

Section 15064.3 of the State CEQA Guidelines describes specific considerations for evaluating a project's transportation impacts on transportation and identifies VMT as the most appropriate metric for determining the significance of impacts. Except for roadway capacity projects, Section

15064.3 stipulates that a project's effect on automobile delay does not constitute a significant environmental impact under CEQA. As such, to comply with SB 743, the transportation analysis only uses VMT to determine the significance of transportation and circulation impacts.

Potential transportation and circulation impacts associated with the proposed project are summarized below from Appendix G of this EIR. Methods used to determine impacts are informed by the OPR Technical Advisory. For more details on the methods used, please see Appendix G, Chapter 2, *Analysis Methodology*.

Construction

The proposed project is a maintenance, repair, and replacement project for waterfront infrastructure associated with mooring and operational facilities at BAE Systems' San Diego Ship Repair Yard. Construction of the various project elements is anticipated to begin in 2021, with Project Element 3 (Fender Systems Repair and Replacement) and Project Element 4 (Pier 3 South Nearshore Dredging), and last through 2025. State CEQA Guidelines Section 15064.3(b)(3) notes that a lead agency may analyze a project's VMT qualitatively if existing models or methods are not available to estimate the VMT for the particular project being considered. State CEQA Guidelines Section 15064.3(b)(3) further notes that a qualitative construction analysis is appropriate for many projects.

It is anticipated that construction workers would primarily be drawn from existing residents of the City of San Diego and surrounding area. As such, construction worker VMT associated with the proposed project would not be newly generated, but rather would be redistributed throughout the transportation network based on their travel to different work sites each day. Accordingly, construction worker VMT is merely a redistribution of VMT that would otherwise be generated at other construction sites throughout the region. Additionally, per OPR's Technical Advisory, SB 743's intent is to plan for "long term climate goals," so projects with temporary effects on VMT and the transportation system are not deemed to be significant.

Operation

Transportation Network VMT Metrics

Project-related VMT refers to the number of automobile trips and their associated travel distance that would be attributable to a project. For land use development projects that have trip-generating characteristics, like an employment trip, the OPR Technical Advisory recommends using VMT/Employee to determine if a project has a significant transportation-related impact.

VMT/Employee includes all vehicle-based person trips grouped and summed to the work location of individuals on the trip. This includes all trips, not just work-related trips. The VMT for each work location is then summed for all work locations in a particular census tract and then divided by the total number of employees of that census tract to arrive at the VMT/Employee. Detailed descriptions of the VMT methodology is provided in Appendix G of this EIR.

VMT Analysis Tool

The VMT analysis was completed using the SANDAG Series 13 Activity Based Model (ABM). The ABM is a travel demand forecasting model that incorporates census data and travel surveys to

inform the algorithms of the model's projections. The ABM uses a simulated population based on existing and projected demographics to match residents to employment and forecasts the daily travel on the regional transportation network. In addition, the model is able to track the daily travel of individuals in the simulated population, including origins, destinations, travel distances, and mode choices. The Series 13 ABM has four forecast scenarios: 2012, 2020, 2035, and 2050.

The SANDAG Series 13 ABM was calibrated and customized by the District, the San Diego International Airport (SDIA), and the City of San Diego to incorporate the land use and transportation network changes proposed within the area, based on a series of recently adopted or on-going planning efforts. These efforts include the proposed Port Master Plan Update, SDIA Master Plan, Midway-Pacific Highway Community Plan Update, Mission Valley Community Plan Update, Barrio Logan Community Plan Update, and the Downtown Mobility Plan. This was a comprehensive effort by all jurisdictions to provide consistency between the ongoing planning efforts within the area by providing a single transportation forecast model to build from.

To calculate both the VMT/Employee and the total VMT generated, the land use changes were coded into their respective Transportation Analysis Zones (TAZs), and transportation network changes were also coded throughout the Tidelands. Select Zone Assignments were then conducted for the TAZs to track origin and destination pairings, as well as the route choices for vehicular trips coming to and from the District's land uses. The total VMT generated within the planning district in which the proposed project is located was calculated by summing the total number of trips (all trip types) generated between the District land uses then multiplying by the route distances between them. VMT/Employee was calculated by summing the total VMT generated by employees and then dividing by the total number of jobs.

Model output results are presented in Appendix G of this EIR (Appendix A of the TIS). For additional details related to the methods used, please see Appendix G, Chapter 2.

4.9.4.2 Thresholds of Significance

The following significance criteria are based on Appendix G of the State CEQA Guidelines and provide the basis for determining the significance of impacts on existing transportation, circulation, and parking conditions associated with the proposed project. The determination of whether a transportation, circulation, and parking impact would be significant is based on the professional judgment of the District as Lead Agency supported by the recommendations of qualified personnel at Chen Ryan Associates and ICF, all of which is based on the evidence in the administrative record.

Impacts are considered significant if the proposed project would result in any of the following.

1. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
2. Conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b).
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.
5. Result in an inadequate parking supply.

As discussed in the Initial Study/Environmental Checklist, Section XVI (Appendix A), Thresholds 3 and 4 are not included in the analysis below, as it was determined that the proposed project would result in no impact or less-than-significant impacts related to increasing hazards due to geometric design features and inadequate emergency access. Those conclusions and the rationale that supports them are summarized in Chapter 6, *Additional Consequences of Project Implementation*. Therefore, only Thresholds 1, 2, and 5 are discussed in the impact analysis that follows.

Supplemental Thresholds

Transportation

Section 15064.3 of the State CEQA Guidelines describes specific considerations for evaluating a project's transportation impacts and identifies VMT as the most appropriate metric for determining impact significance.

Section 15064.3(4) of the State CEQA Guidelines states:

A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

As previously mentioned, for land use development projects that have trip-generating characteristics like an employment trip, the OPR Technical Advisory recommends using VMT/Employee to determine if a project has a significant transportation related impact. The OPR Technical Advisory suggests that a project that generates a VMT/Employee greater than 85 percent of the regional VMT may indicate a significant transportation impact. Table 4.9-2 identifies the VMT significance thresholds used in this analysis.

Table 4.9-2. VMT Supplemental Thresholds

Metric	Commercial Uses VMT/Employee (miles/person)
Base Year (2012) Regional Average	25.9
Base Year (2012) Significance Threshold ¹	17.2
2050 Regional Average	21.2
2050 Significance Threshold ¹	18.0

Source: SANDAG Regional Transportation Model, July 2019.

¹San Diego Regional Average × 85%.

Pedestrian, Bicycle, and Transit

Potential impacts on pedestrian, bicycle, and transit circulation would be considered significant if the proposed project would conflict with a program, plan, ordinance, or policy addressing these facilities, as outlined in Appendix G of the State CEQA Guidelines.

Parking Supply

A significant impact would occur if the proposed project would result in an insufficient parking supply during construction or operation.

4.9.4.3 Project Impacts and Mitigation Measures

Threshold 1: Implementation of the proposed project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Impact Discussion

An impact on the circulation system, including transit, roadway, bicycle, and pedestrian facilities would occur if the proposed project would conflict with a program, plan, ordinance, or policy addressing these facilities. The project site is an operating ship repair yard with restricted access. There are no pedestrian, bicycle, or transit facilities within the project site; however, the Bayshore Bikeway traverses E. Harbor Drive approximately 0.10 mile from the project site. Additionally, existing light rail transit stops in the project vicinity include the Barrio Logan and Harborside stations. The proposed improvements would occur entirely within the boundaries of the existing ship repair yard. As such, no changes are proposed to the existing roadway, pedestrian, bicycle, and transit facilities outside of the project site that could result in impacts on the existing circulation system. Therefore, the proposed project would not conflict with the Regional Plan, the San Diego Regional Bike Plan, or the City's Pedestrian Master Plan and Bicycle Master Plan.

Level of Significance Prior to Mitigation

The proposed project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Threshold 2: Implementation of the proposed project would not conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b).**Impact Discussion****Construction**

Construction activities for the proposed project would primarily include pavement removal, demolition, grading and excavation, filling and compaction, and construction of buildings, as well as in-water construction work such as dredging and pile driving. It is anticipated that construction workers would primarily be drawn from existing residents of the City of San Diego and surrounding area. As such, construction worker VMT associated with the proposed project would not be newly generated, but rather would be redistributed throughout the transportation network based on their travel to different work sites each day. Accordingly, construction worker VMT is merely a redistribution of VMT that would otherwise be generated at other construction sites throughout the San Diego region. This redistribution is considered to be nominal and temporary.

Additionally, the goals of SB 743, as stated in the legislative text, include reducing greenhouse gas emissions and traffic-related air pollution, promoting the development of multimodal transportation systems, and providing clean, efficient access to destinations. The legislative text of SB 743 further states that it is the intent of the Legislature to balance the need for LOS standards for traffic with the need to build infill housing and mixed-use commercial developments within walking distance of mass transit facilities, downtowns, and town centers. Therefore, based on the legislative intent of SB 743, which focuses on long-term VMT reductions through smart growth and planning, the temporary generation of VMT from construction traffic is not expected to substantially increase VMT in the region such that it could contribute to long-term adverse environmental effects from increases in greenhouse gas and criteria pollutant emissions or hinder the promotion of multimodal transportation systems or implementation of clean, efficient access to destinations. Also, projects with temporary effects on VMT and the transportation system are not deemed to be significant. Therefore, the proposed project's construction-related VMT impacts would be less than significant.

Operation

To determine potential transportation-related impacts, the proposed project's VMT/Employee was first compared against the Base Year Regional Average threshold. Next, a Horizon Year 2050 analysis was conducted to identify any cumulative impacts that may occur with the full implementation of the forthcoming Port Master Plan Update, which is a reasonably foreseeable condition. It should be noted that the proposed project land uses are consistent with those contained in both the current Port Master Plan as well as the forthcoming Port Master Plan Update.

Table 4.9-3 compares the proposed project's VMT and the Base Year Regional Average, while Table 4.9-4 compares the proposed project's VMT and 2050 Regional Average. Consistent with the OPR Technical Advisory, the significance threshold for the proposed project's VMT/Employee is 15 percent VMT below the San Diego Regional Average VMT/Employee.

Table 4.9-3. Comparison of Proposed Project VMT to Base Year Regional Average

Metric	VMT/Employee (miles/person)
Base Year Regional Average	25.9
Base Year Significance Threshold ¹	22.0
Proposed Project	17.2
Proposed Project vs. Base Year Significance Threshold	-4.8
Significant Impact?	No

Source: Appendix G.

¹ San Diego Regional Average × 85% (i.e., 15% below regional average target for employment-based VMT).

As shown in Table 4.9-3, operation of the proposed project is anticipated to generate a VMT/Employee of 17.2 miles, which is 4.8 miles below the Base Year Regional Average significance threshold of 22.0 miles (i.e., 15 percent below the Base Year Regional Average). Therefore, operation of the proposed project would result in less-than-significant VMT impacts under Base Year conditions.

Table 4.9-4. Comparison of Proposed Project VMT to 2050 Regional Average

Metric	VMT/Employee (miles/person)
2050 Regional Average	21.2
2050 Significance Threshold ¹	18.0
Proposed Project	17.2
Proposed Project vs. 2050 Significance Threshold	-0.8
Significant Impact?	No

Source: Appendix G.

¹ San Diego Regional Average × 85% (i.e., 15% below regional average target for employment-based VMT).

Additionally, as shown in Table 4.9-4, the proposed project's operational VMT/Employee is 0.8 mile below the 2050 Regional Average significance threshold of 18.0 miles (i.e., 15 percent below the 2050 Regional Average). Therefore, operation of the proposed project would result in less-than-significant VMT impacts under 2050 conditions. Finally, although the proposed project's lease expires in 2034, the 2050 Regional Average is more conservative as it presents a lower VMT/Employee due to the planned transit and telecommuting features in the future. It is anticipated that the VMT/Employee threshold for year 2034 conditions would fall between the 2050 Regional Average threshold (18.0 VMT/Employee) and the Base Year Regional Average threshold (22.0 VMT/Employee). Therefore, as the proposed project's VMT/Employee is lower than both the 2050 and Base Year Regional Average thresholds, it can be assumed that it will be below the year 2034 threshold as well, resulting in a less-than-significant VMT impact under year 2034 conditions. Therefore, operation of the proposed project would result in a less-than-significant VMT impact.

Level of Significance Prior to Mitigation

The proposed project would not conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b). Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Threshold 5: Implementation of the proposed project would not result in inadequate parking supply.

Impact Discussion

Construction

BAE Systems currently has an available parking capacity of approximately 1,586 spaces, with an option of 200 additional parking spaces for employees, customers, and visitors. These parking spaces are available within existing parking lots or parking garages on and near the project site. At the peak of project construction, approximately 25 daily construction workers would access and park at the project site. Construction equipment laydown and parking would be provided onsite adjacent to the construction zones for each project element. The areas that would be designated for construction parking are shown on Figure 4.9-1. As shown, there are five locations, represented by orange boxes, that would be set aside for construction personnel parking. Due to the minimal number of daily construction workers during the peak of project construction, it is anticipated that construction parking could be accommodated at the designated parking areas onsite. However, there is a potential that some project elements may require the use of designated onsite parking areas for construction material and equipment laydown, which would remove these areas for construction worker parking. In these instances, construction workers may be required to park within the existing parking lots maintained by BAE Systems. In addition, construction personnel for project elements that involve in-water construction work may be required to park offsite and access floating equipment by crew boat.

As detailed in Chapter 3, *Project Description*, in the event of excess parking demand, BAE Systems has an existing agreement with the nearby Hilton San Diego Bayfront for additional overflow parking and a shuttle service to transport workers to the project site. As further described in Chapter 3, all construction workers who cannot be accommodated onsite and/or would need to park offsite would be required to park at the Hilton San Diego Bayfront, and all construction personnel would receive parking passes for the duration of the construction period for that project element(s). Once parked at the Hilton San Diego Bayfront, construction personnel would be required to use vanpools to and from the project site. Because this agreement is already in place and effective, the proposed project would not result in any construction-related impacts on parking supply. As such, construction of the proposed project would not result in an inadequate parking supply. Therefore, impacts would be less than significant, and no mitigation is required.

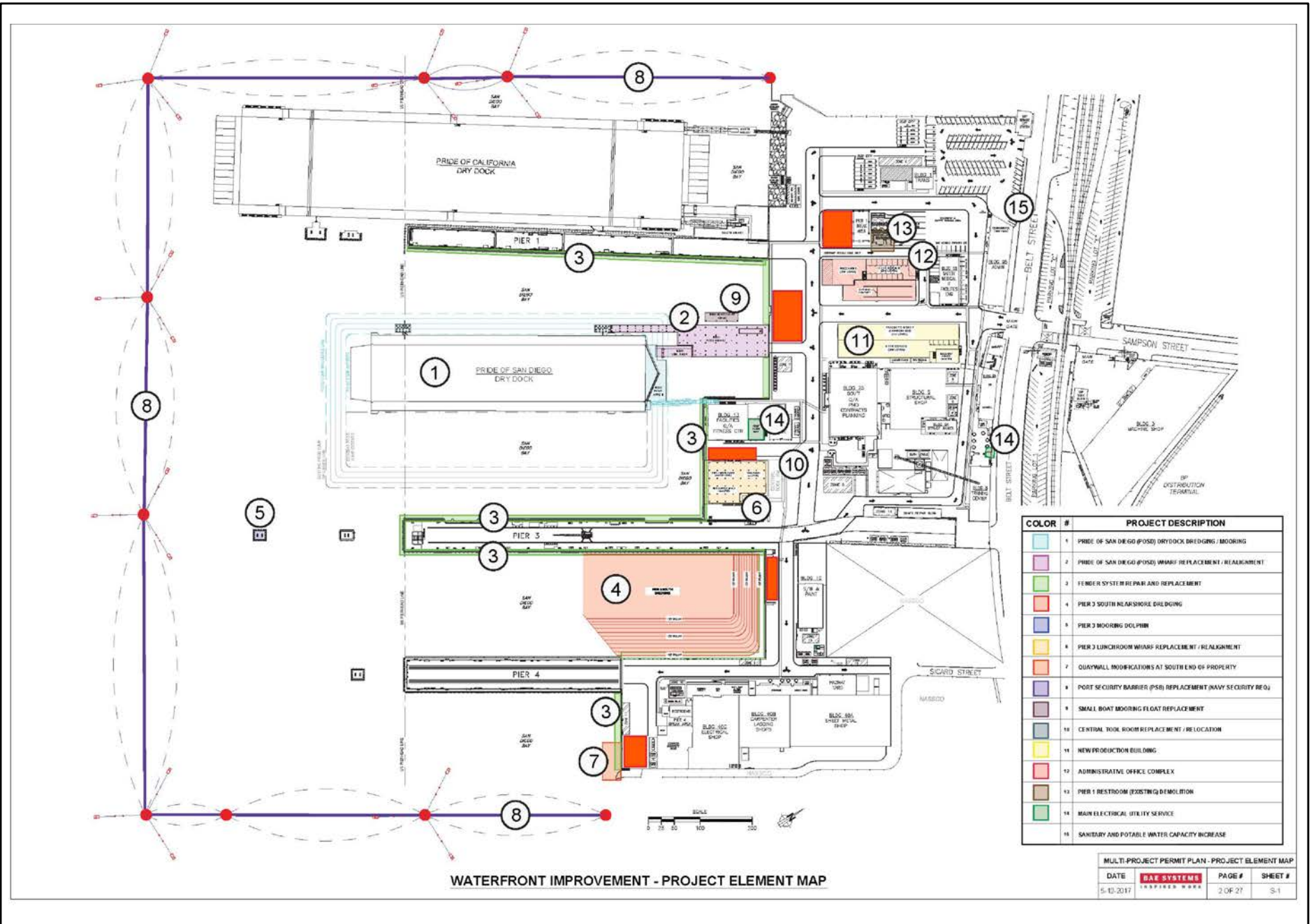


Figure 4.9-1
Designated Construction Parking Areas
BAE Systems Waterfront Improvement Project

Operation

As explained in Chapter 3 and shown in Table 3-5, the number of individuals reporting to the BAE Systems ship repair yard across three 8-hour shifts depends on the mixture of vessel types and typically ranges from 1,572 to 2,216 individuals. These individuals consist of a mix of BAE personnel, Navy personnel, and customers. During project operations, none of the proposed project elements would increase the number of permanent employees on site. Project Elements 1 (Pride of San Diego Drydock Dredging and Moorage), 4 (Pier 3 Nearshore Dredging), and 5 (Pier 3 Mooring Dolphin) would allow BAE Systems to improve operational efficiency and servicing of newer and different classes of vessels. With the addition of a supplemental mooring dolphin and nearshore dredging at Pier 3, the ship repair yard would be able to moor larger naval and commercial vessels at the Pier 3 South berth.

Based on the changes to the mooring capacity at Pier 3, the total number of crew and laborers onsite could change depending on the specific ship mix at the site. For example, commercial vessels do not generally carry a large crew, while large naval vessels occasionally do. The specific ship mix that the facility could support is dependent upon the size of the vessel moored and its effects on adjacent berths. When a larger navy ship is moored at Pier 3 South, the potential berthing capacity of the site would be reduced by two vessels, resulting in a corresponding reduction in crew and labor compared to existing conditions. As such, because the proposed project would not add any new permanent employees and, at times, would reduce the overall number of crew and laborers at the ship repair yard compared to existing conditions, project operations would not result in an inadequate parking supply. Therefore, impacts would be less than significant, and no mitigation is required.

Level of Significance Prior to Mitigation

Implementation of the proposed project would not result in inadequate parking supply. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

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5.1 Overview

According to Section 15130 of the State CEQA Guidelines, an EIR must discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. As defined in Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. *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.

This chapter considers the cumulative effects of past, present, and reasonably foreseeable future projects and the proposed project's contribution to these effects. Past projects are defined as those that were recently completed (typically in the last 5 years) and are now operational. Present projects are defined as those that are under construction but not yet operational. Reasonably foreseeable future projects are defined as those for which a development application has been submitted or credible information is available to suggest that project development is a probable outcome at the time the Notice of Preparation (NOP) was issued (March 7, 2019).

With the incorporation of mitigation measures, the proposed project would result in less than cumulatively considerable contributions to impacts from past, present, and reasonably foreseeable future projects for the following resource:

- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality

The proposed project's contribution to all other cumulative impacts would not be cumulatively considerable.

Table 5-1 summarizes the significant cumulative impacts and mitigation measures discussed in Section 5.3, *Cumulative Impact Analysis*, below.

Table 5-1. Summary of Significant Cumulative Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Greenhouse Gas Emissions and Energy			
Impact-C-GHG-1: Inconsistency with District Climate Action Plan and Partial Consistency with Applicable GHG Reduction Plans, Policies, and Regulatory Programs	<p>MM-GHG-1: Implement Diesel Emission-Reduction Measures During Project Construction</p> <p>MM-GHG-2: Comply with San Diego Unified Port District Climate Action Plan Measures</p> <p>MM-GHG-3: Use Modern Vessels and Dredgers</p>	Less than Cumulatively Considerable	Mitigation would reduce the project’s incremental contribution to cumulative impacts related to GHG emissions and reduction targets and plans.
Hazards and Hazardous Materials			
Impact-C-HAZ-1: Cumulatively Considerable Contribution to Waterside Exposure of Hazardous Materials in Sediment	<p>MM-HAZ-2: Implement a Dredging Management Program</p> <p>MM-HAZ-3: Implement a (Waterside) Sediment Management Program</p> <p>MM-HAZ-4: Comply with Federal and State Permits</p> <p>MM-HAZ-5: Implement Post-Dredging and/or Post-Waterside Construction Remediation</p>	Less than Cumulatively Considerable	Mitigation would reduce the project’s incremental contribution to cumulative impacts related to the exposure of hazardous materials in sediment.
Hydrology and Water Quality			
Impact-C-HWQ-1: Cumulatively Considerable Contribution to Degradation of Water Quality from Waterside Sediment Contamination	<p>MM-HAZ-2: Implement a Dredging Management Program</p> <p>MM-HAZ-3: Implement a (Waterside) Sediment Management Program</p> <p>MM-HAZ-4: Comply with Federal and State Permits</p> <p>MM-HAZ-5: Implement Post-Dredging and/or Post-Waterside Construction Remediation</p>	Less than Cumulatively Considerable	Mitigation would reduce the project’s incremental contribution to cumulative impacts related to the degradation of water quality from waterside sediment contamination.

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact-C-HWQ-2: Cumulatively Considerable Contribution to Water Quality Impacts from the Removal of Creosote Piles	MM-HWQ-1: Remove and Dispose of Creosote Piles Properly	Less than Cumulatively Considerable	Mitigation would reduce the project’s incremental contribution to cumulative impacts related to water quality impacts from the removal of creosote piles.

5.2 Cumulative Impact Analysis Methodology

According to Section 15130(b) of the State CEQA Guidelines, cumulative impact analysis may be conducted using one of two methods: the List Method, which includes “a list of past, present, and probable activities producing related or cumulative impacts”; or the Plan Method, which uses “a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.” The cumulative analysis of near-term conditions for all issue areas uses the List Method.

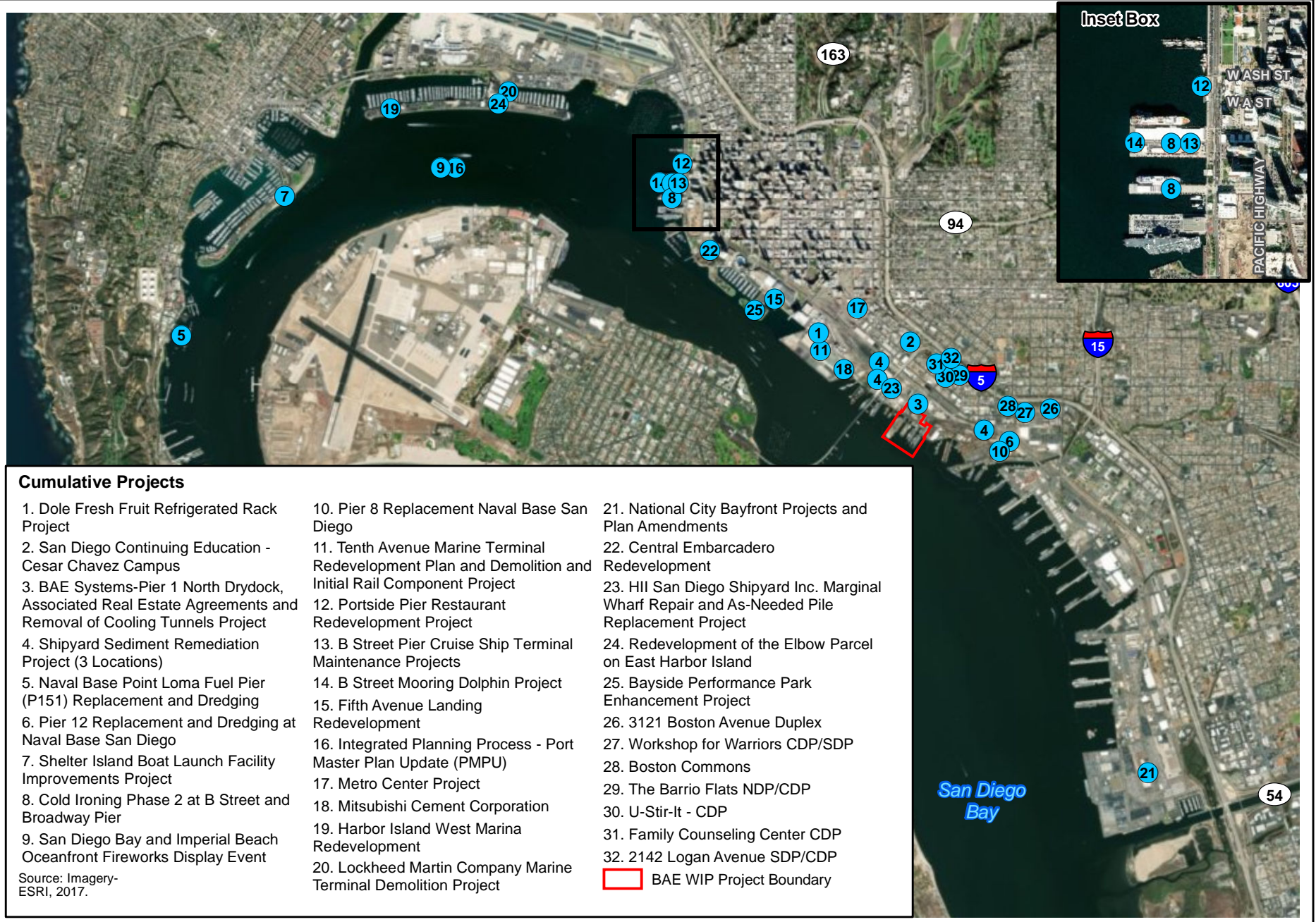
The process of analyzing cumulative impacts first involves understanding the context of the cumulative conditions for each resource area. This involves determining the area of effect, or study area, within which past, present, and reasonably foreseeable future projects, along with the proposed project, have the potential to contribute to cumulative impacts. Generally, the geographic scope of the area affected by cumulative effects varies according to the issue area. The study area for each issue area is described further under the respective resource headings. An analysis of the significance of the cumulative effect from past, present, and reasonably foreseeable projects is conducted, which may be a qualitative analysis, or a deduction may be made based on relevant environmental documentation and studies. In the event a cumulative effect is identified, the proposed project’s incremental contribution to that cumulative effect must be analyzed. The project’s individual impacts are assessed in the context of the cumulative impacts from past, present, and reasonably foreseeable future projects to determine if the project impacts are “cumulatively considerable” based on the project’s magnitude of contribution to the cumulative context or baseline. If it is determined that the proposed project’s contribution to the cumulative effect is considerable, a cumulatively significant impact is identified, and mitigation is imposed.

5.2.1 Cumulative Projects List

The District has identified 32 cumulative projects for this analysis. The projects identified in the proposed project’s cumulative study area have had applications submitted or have been approved, are under construction, or have recently been completed. The cumulative projects identified in the study area are listed in Table 5-2 (project numbering corresponds to numbers shown on Figure 5-1).

In addition, the District has been discussing general growth projections with the U.S. Navy related to the Navy’s Pacific Rebalance of Assets/Pivot West Strategy. Specifically, the U.S. Navy anticipates a 46 percent increase in both naval vessels (24 vessels) and active duty military and dependents (15,880) between Fiscal Years 2015 and 2020 reporting to Naval Base San Diego. Naval Base San Diego is approximately 0.6 mile southeast of the proposed project. This potential increase in personnel reporting to the base in the general project vicinity is being disclosed for consideration by the decision-makers.

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Cumulative Projects

- | | | |
|---|---|---|
| 1. Dole Fresh Fruit Refrigerated Rack Project | 10. Pier 8 Replacement Naval Base San Diego | 21. National City Bayfront Projects and Plan Amendments |
| 2. San Diego Continuing Education - Cesar Chavez Campus | 11. Tenth Avenue Marine Terminal Redevelopment Plan and Demolition and Initial Rail Component Project | 22. Central Embarcadero Redevelopment |
| 3. BAE Systems-Pier 1 North Drydock, Associated Real Estate Agreements and Removal of Cooling Tunnels Project | 12. Portside Pier Restaurant Redevelopment Project | 23. HII San Diego Shipyard Inc. Marginal Wharf Repair and As-Needed Pile Replacement Project |
| 4. Shipyard Sediment Remediation Project (3 Locations) | 13. B Street Pier Cruise Ship Terminal Maintenance Projects | 24. Redevelopment of the Elbow Parcel on East Harbor Island |
| 5. Naval Base Point Loma Fuel Pier (P151) Replacement and Dredging | 14. B Street Mooring Dolphin Project | 25. Bayside Performance Park Enhancement Project |
| 6. Pier 12 Replacement and Dredging at Naval Base San Diego | 15. Fifth Avenue Landing Redevelopment | 26. 3121 Boston Avenue Duplex |
| 7. Shelter Island Boat Launch Facility Improvements Project | 16. Integrated Planning Process - Port Master Plan Update (PMPU) | 27. Workshop for Warriors CDP/SDP |
| 8. Cold Ironing Phase 2 at B Street and Broadway Pier | 17. Metro Center Project | 28. Boston Commons |
| 9. San Diego Bay and Imperial Beach Oceanfront Fireworks Display Event | 18. Mitsubishi Cement Corporation | 29. The Barrio Flats NDP/CDP |
| | 19. Harbor Island West Marina Redevelopment | 30. U-Stir-It - CDP |
| | 20. Lockheed Martin Company Marine Terminal Demolition Project | 31. Family Counseling Center CDP |
| | | 32. 2142 Logan Avenue SDP/CDP |
| | | BAE WIP Project Boundary |

Source: Imagery-ESRI, 2017.



0 0.5 1
Miles
1 in = 1 miles

**Figure 5-1
Cumulative Project Locations
BAE Waterfront Improvement Project**

Table 5-2. Present and Reasonably Foreseeable Cumulative Projects

Project #	Name	Location	Description	Status
1	Dole Fresh Fruit Refrigerated Rack Project	850 Water Street, within the District's Tenth Avenue Marine Terminal	Involved the installation of five new refrigerated racks with an additional 94 electrical outlets, to increase outlets from 669 to 763. Improvements increased storage capacity within the existing footprint to accommodate up to three new larger ocean-going vessels.	Completed.
2	San Diego Continuing Education – Cesar Chavez Campus	Intersection of National Avenue and Cesar E. Chavez Parkway	New Cesar E. Chavez Campus is a 67,924-square-foot school facility with 22 classrooms to serve 720 students. The facility includes a multi-purpose room and administrative offices.	Completed.
3	BAE Systems-Pier 1 North Drydock, Associated Real Estate Agreements and Removal of Cooling Tunnels Project	2205 East Belt Street	Replacement of a wet berth with a new floating drydock and removal of subsurface cooling tunnels. Dredging activities were estimated to result in approximately 395,000 cubic yards of sediment.	Completed.
4	Shipyards Sediment Remediation Project	San Diego Bay between Sampson Street extension to the north and Schley Street to the south from the shoreline to the U.S. Pierhead Line to the west and a portion of British Aerospace Systems facility, San Diego, CA 92113	Consisted of the dredging of sediment adjacent to shipyards in the San Diego Bay, the dewatering and solidification of the dredged material on-shore, treatment of decanted water, and the transport of the removed material to an appropriate landfill for disposal.	Completed.
5	Naval Base Point Loma Fuel Pier (P151) Replacement and Dredging	Naval Station Point Loma and Alternative Bait Barge locations within state lands, San Diego, CA	Temporary Space and Naval Warfare Systems Center (SSC) marine mammal facilities at Naval Main and Anti-Submarine Warfare Command (NMAWC) and relocation of the program to NMAWC; demolished existing Naval Base Point Loma Fuel Pier in phases so as to leave pier operational throughout project; constructed 71,180-square-foot double-deck replacement pier and performed associated dredging; returned SSC marine mammal program to original location.	Completed.

Project #	Name	Location	Description	Status
6	Pier 12 Replacement and Dredging at Naval Base San Diego	Pier 12 at Naval Base San Diego	Demolition of an inadequate existing pier (Pier 12); dredging in berthing and approach areas for a new pier; dredged material disposal at an approved ocean disposal site and permitted upland landfill; construction of a new pier and associated pier utilities, including upgrades to the electrical infrastructure at the adjacent Pier 13; and reuse of demolition concrete to create fish enhancement structures (artificial reefs). The purpose of the project was to address the current and impending shortfall at Naval Base San Diego of pier infrastructure necessary to support modern Navy ship classes with deep draft-power intensive or power intensive requirements.	Completed.
7	Shelter Island Boat Launch Facility Improvements Project	2210 Shelter Island Drive, San Diego, CA 92106	Repair, maintenance, and replacement of the boat launch ramp, jetties (including public walkways), gangways, and floating docks, as well as minor improvements to the kayak launching area, restrooms, and parking.	Completed.
8	Cold Ironing Phase 2 at B Street and Broadway Pier	B Street Pier and Broadway Pier, 1140 and 1000 North Harbor Drive	Infrastructure components to provide shore power to existing terminal operations at the B Street and Broadway Piers (three berths) to reduce air pollutant emissions and greenhouse gas emissions while cruise ships are berthed. Initially, shore power will be available to one ship at a time; in subsequent years, two ships will be able to use shore power at the same time.	Currently in design and slated for future construction.
9	San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events	Throughout District tidelands	Addition of an Ordinance to the Port District Code that established a program to regulate fireworks. Specifically, the program governs the existing and proposed new fireworks display events requiring a discretionary action by the District or operated by the District's tenants that occur within the San Diego Bay and Imperial Beach Oceanfront. Four new fireworks display events were anticipated to require a future discretionary action by the District, including three displays along the Chula Vista	EIR was certified and Ordinance was adopted on May 25, 2017.

Project #	Name	Location	Description	Status
			Bayfront and one display along the National City Bayfront.	
10	Pier 8 Replacement Naval Base San Diego	Pier 8 at Naval Base San Diego	Demolition of the inadequate existing Pier 8, construction of a replacement Pier 8, and provision of associated pier utilities. The purpose of the proposed action is to address the current and impending shortfall at Naval Base San Diego of pier infrastructure necessary to support modern Navy ship classes with deep-draft and power-intensive requirements.	Under construction.
11	Tenth Avenue Marine Terminal Redevelopment Plan and Demolition and Initial Rail Component Project	686 Switzer Street	<p>Program- and project-level EIR analysis. The program component looks at Maximum Practical Capacity of three distinct cargo nodes (e.g., Refrigerated Container, Neo-bulk/Break Bulk, Dry Bulk) to the horizon year of 2035. Long-term infrastructure investments may include up to five gantry cranes, additional and consolidated dry bulk storage capacity, enhancements to the existing conveyor system, demolition of molasses tanks and Warehouse C, additional open storage space, and on-dock intermodal rail facilities.</p> <p>Project-level improvements would be completed by June 30, 2020, and involve demolition of two transit sheds, installation of a small gear-shack with restrooms and outdoor storage space, and on-terminal rail upgrades. Project improvements do not involve any in-water work; all program- and project-level improvements would be landside.</p>	Under construction.
12	Portside Pier Restaurant Redevelopment Project	1360 North Harbor Drive	Redevelopment of an existing waterfront restaurant with a new facility, including new pilings, piers, decking, and structure. Development involves demolition of an existing restaurant and supporting structure (including 66 piles) and redevelopment with a new, two-story restaurant and supporting structure (on 53 piles). The new facility would be approximately 33,577 square feet and include three distinct dining establishments, a coffee and gelato	Under construction.

Project #	Name	Location	Description	Status
			shop, an expanded dock-and-dine for short-term boat berthing, and a public viewing deck. The project would involve an approximately 8,722-square-foot increase in building floor area and a 4,480-square-foot net increase in water coverage. Restaurant seating would be increased by 464 seats. A new public viewing deck with approximately 108 seats is proposed and the replacement dock and dine boat dock would allow an increase in boat slips from 2 to 12; however, 4 would be constructed initially.	
13	B Street Pier Cruise Ship Terminal Maintenance Projects	B Street Pier, 1140 North Harbor Drive	Projects on B Street Pier required to address routine maintenance requirements to improve safety, security, integrity, aesthetics, and comfort of this facility. Roof replacement, roll-up and rolling gate doors installation, fire system upgrades, ceiling and hangers cleaning and painting, mobile gangway and platform painting, and installation of photovoltaic system.	Completed.
14	B Street Mooring Dolphin Project	B Street Pier, 1140 North Harbor Drive	Proposal to install moorings off the end of B Street Pier to allow for larger cruise ship docking.	Draft EIR was circulated February 2013. The Final EIR has not yet been certified. Project on hold.
15	Fifth Avenue Landing Redevelopment	Southerly paper end of Fifth Avenue, between the back of the Convention Center and South Embarcadero Park, San Diego, CA 92101	Proposed development would include: two hotel structures; one 44-story, approximately 498-foot-tall, 850-room hotel tower; and one 5-story, approximately 82-foot-tall, 565-bed, lower-cost, visitor-serving hotel; a 263-space parking structure; retail; meeting space; ancillary guest amenities; an optional bridge connecting the hotel to the Convention Center; approximately 85,490 square feet of public access areas, with approximately 3,190 square feet at ground level and 82,300 square feet on a podium level; and expansion of the marina by an additional 57,696 square feet of dock space.	Draft EIR released December 2017. The Final EIR has not yet been certified.

Project #	Name	Location	Description	Status
			The project would maintain the existing 35-foot-wide bayfront promenade.	
16	Integrated Planning Process – Port Master Plan Update (PMPU)	Throughout District tidelands	Comprehensive Update of the Port Master Plan that is anticipated to include new topical sections, or elements, to provide Baywide guidance related to Land and Water Use, Coastal Access and Recreation, Mobility, Natural Resources, Safety and Resiliency, and Economic Development.	Planning Phase – Program EIR under preparation.
17	Metro Center Project	West side of National Avenue between Commercial and 16 th Streets	Consists of 160,600 square feet of regional shopping center uses, 163,300 square feet of retail space, and a 152,000-square-foot lumber store.	Foreseeable project, not entitled.
18	Mitsubishi Cement Corporation	850 B. Water Street, within District’s Tenth Avenue Marine Terminal	Involves improvements to Warehouse C at the Tenth Avenue Marine Terminal to import up to 500,000 metric tons of cement per year with an estimated 20,000 annual customer truck trips, for an average of less than 55 trucks per day during operations, with a maximum 192 trucks visiting the site per day.	Foreseeable project, not entitled. Final EIR currently in preparation.
19	Harbor Island West Marina Redevelopment	2040 Harbor Island Drive, San Diego, CA 92101	Involves demolition of 23,000 square feet of existing building and construction of 15,000 square feet of new office, deli, and retail, as well as reconfiguration of an existing marina. The project would construct a new 12-foot-wide public promenade and reduce the number of boat slips from 620 to 603.	Foreseeable project, not entitled. Draft Mitigated Negative Declaration (MND) currently in preparation.
20	Lockheed Martin Company Marine Terminal Demolition Project	1160 Harbor Island Drive, San Diego, CA 92101	Involves demolition of 5,500 square feet of building and removal of a pier and trolley rail.	Foreseeable project, not entitled. NOP release for Draft EIR anticipated in Fall 2019.
21	National City Bayfront Projects and Plan Amendments	Generally north of Sweetwater Channel, south of Civic Center Drive, east of National City Marine Terminal, and west of Paradise Marsh and Interstate 5, National City, CA 91950	Includes several landside and waterside improvements, including a recreational vehicle park, modular cabins, dry boat storage, hotels, an expanded marina, a rail connector track and storage track, road closures, Segment 5 of the Bayshore Bikeway, restaurants, and retail development. The project also includes corresponding amendments to the District’s Port Master Plan and the City of National City’s General Plan, Local Coastal Program,	Foreseeable project, not entitled. Draft EIR currently in preparation.

Project #	Name	Location	Description	Status
			Harbor District Specific Area Plan, Land Use Code, and Bicycle Master Plan.	
22	Central Embarcadero Redevelopment	Generally south of the USS Midway Museum and Harbor Drive, west of the Manchester Grand Hyatt and Kettner Boulevard, and north and east of San Diego Bay, San Diego, CA 92101	Includes redevelopment of approximately 40 acres of land and 30 acres of water. Project design is conceptual at this time, but currently includes an observation tower, boat slips, an aquarium, public park space, hotels, retail, office space, an educational center, and parking.	Foreseeable project, not entitled. Pending receipt of formal project application from applicant.
23	HII San Diego Shipyard Inc. Marginal Wharf Repair and As-Needed Pile Replacement Project	1995 Bay Front Street, San Diego, California	Involves two components consisting of demolition, reconstruction, and reconfiguration of piers and wharves. Component 1 is the replacement of three wharves that have severely deteriorated. Component 2 includes the demolition of one pier and the as-needed pile replacement of the remaining five piers.	MND adopted on April 9, 2019. Construction anticipated 2019.
24	Redevelopment of the Elbow Parcel on East Harbor Island	7-acre parcel of land north of the East Basin Industrial Subarea in the current PMP known as the Elbow Parcel	Involves an approximately 500-room hotel with other amenities including swimming pools, spas, gym, retail shops, open space event lawn, and a viewing deck.	Foreseeable project, not entitled.
25	Bayside Performance Park Enhancement Project	Embarcadero Marina Park South (EMPS)	Involves the replacement and enhancement of structures in EMPS and new facilities including the Bayside Performance Park, a new performance and event venue to hold up to 10,000 attendees and various other park improvements.	EIR certified on January 9, 2018. Construction anticipated to commence 2019/2020.
26	3121 Boston Avenue Duplex – Project 409094	3121 Boston Avenue	Includes a 2,535-square-foot residential duplex on a 7,704 square-foot site that contains an existing 1,892-square-foot residential duplex.	Unknown.
27	Workshop for Warriors CDP/SDP – Project 528711	2984, 2970, 2960, 2948, 2940 Main Street	Includes a 89,000-square-foot warehouse/ trade school/ roof deck and parking, within 1.28 acres.	Unknown.
28	Boston Commons – Project 176117	2893 Boston Avenue	Involves five affordable residential units for rent on a 0.24-acre site.	Unknown.
29	The Barrio Flats NDP/CDP – Project 541700	2257–2275 Logan Avenue	Involves the demolition of existing buildings and construction of a new 38,375-square-foot, four-story, mixed-use building that would include:	Unknown.

Project #	Name	Location	Description	Status
			24 residential units, 10 hotel rooms, and 5 retail spaces. The existing building on the 0.41-acre site would remain.	
30	U-Stir-It – CDP – Project 586276	2209 National Avenue	Involves the demolition of an existing commercial building within the 0.807-acre site, for the development of a new three-story 68,878-square-foot self-storage building over two levels, and 90,297 square feet of underground basement.	Unknown.
31	Family Counseling Center CDP – Project 490726	2130, 2134, and 2142 National Avenue	Involves the demolition of two single dwelling units and one commercial building located on three contiguous lots consisting of 0.34 acre. Includes the construction of a two-story family counseling center facility totaling 8,129 square feet.	Unknown.
32	2142 Logan Avenue SDP/CDP – Project 585277	2142 Logan Avenue	Involves a mixed-use building to include 11 artist studios, retail sales, offices, and gallery spaces within the 0.10-acre site.	Unknown.

5.3 Cumulative Impact Analysis

The discussion below evaluates the potential for the proposed project to contribute to a cumulative adverse impact on the environment. For each resource area, an introductory statement is made regarding what would amount to a significant cumulative impact for a particular resource area.

The analysis that follows considers two separate impacts: (1) the significance of the cumulative effect from past, present, and reasonably foreseeable projects; and (2) in the event a cumulative effect is identified, the proposed project's incremental contribution to that cumulative effect.

Based on the analysis provided in the Initial Study/Environmental Checklist (Appendix A), it was determined that the proposed project would not result in any impacts on aesthetics and visual resources, agriculture and forestry resources, cultural resources, geology and soils, mineral resources, population and housing, public services, recreation, tribal cultural resources, or utilities and service systems. According to Section 15130 (a)(1) of the State CEQA Guidelines, an EIR should not discuss impacts that do not result in part from the project evaluated in the EIR. Consequently, the proposed project would not have a potential to contribute to cumulative impacts related to these resources, and they are not discussed in the cumulative impact analysis below. Therefore, the cumulative analysis that follows addresses the incremental contribution of the proposed project to cumulative impacts associated with air quality and health risk; biological resources; greenhouse gas emissions and energy; hazards and hazardous materials; hydrology and water quality; land use and planning; noise and vibration; and transportation, circulation, and parking.

5.3.1 Air Quality and Health Risk

Potential cumulative air quality impacts would result when cumulative projects' emissions would combine to degrade air quality conditions below attainment levels for the San Diego Air Basin (SDAB), delay attainment of air quality standards, affect sensitive receptors, or subject surrounding areas to objectionable odors. The District has not established quantitative thresholds to determine whether a project's incremental contribution to emissions would be cumulatively considerable. The San Diego Air Pollution Control District (SDAPCD) does not provide specific quantitative thresholds for determining the significance of air quality impacts under CEQA. However, the SDAPCD specifies Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources in SDAPCD Rules 20.2 and 20.3. Additionally, the County of San Diego specifies screening level thresholds (SLTs) for cumulative air quality impacts, which are based on the SDAPCD Rules 20.1 and 20.3, and are used for the analysis of impacts related to emissions for proposed project construction and operations evaluated within the context of past, present, and reasonably foreseeable future projects. The substantial evidence for using the County's and SDAPCD's threshold levels for this project is contained within Section 4.1, *Air Quality and Health Risk*, under Section 4.1.4.2, *Thresholds of Significance*, of this Draft EIR.

5.3.1.1 Geographic Scope

The SDAB, which covers 4,260 square miles of Southern California and is contiguous with San Diego County, represents the cumulative geographic scope for air quality impacts related to consistency with air quality plans and air quality threshold levels because plans and thresholds are established at the air basin-wide level to attain air quality standards that are assigned for the entire air basin,

which in this case is the entire County. Cumulative impacts on sensitive receptors and odors are considered at a more localized level due to the more limited area of dispersion, and include the surrounding neighborhoods and areas close to the source of the emission and odor sources, respectively. Localized air quality conditions are influenced by a variety of sources, and guidance from several lead agencies, including the Bay Area Air Quality Management District (2017) and CARB (2005), recommend analyzing the effects of emissions from sources within 1,000 feet of proposed new emission sources or proposed new receptor locations.

5.3.1.2 Cumulative Effects

Past projects within the SDAB have involved the emissions of ozone precursors (reactive organic gases [ROG] or volatile organic compounds [VOC] and nitrogen oxides [NO_x]), particulate matter 10 microns or less in diameter (PM₁₀), and particulate matter 2.5 microns or less in diameter (PM_{2.5}), resulting in nonattainment status for 8-hour ozone under National Ambient Air Quality Standards (NAAQS) and nonattainment status for ozone, PM₁₀, and PM_{2.5} under California Ambient Air Quality Standards (CAAQS). Therefore, the emissions of concern within the SDAB are ozone precursors (ROG and NO_x), PM₁₀, and PM_{2.5}.

The nonattainment status for the entire County is a consequence of past and present projects; the cumulative contribution of reasonably foreseeable future projects, such as those listed in Table 5-2, could result in continued nonattainment. The reasonably foreseeable future projects within 1,000 feet of the proposed project that could contribute cumulative impacts on localized air quality conditions generally include the following: Mitsubishi Cement Corporation project (Cumulative Project #18) and HII San Diego Shipyard Inc. Marginal Wharf Repair and As-Needed Pile Replacement Project (Cumulative Project #23). Construction of one or both of these projects would potentially overlap with the construction of the proposed project, which is scheduled to occur through 2025. However, because past and present projects have resulted in the current nonattainment status for ozone (ROG and NO_x), PM₁₀, and PM_{2.5}, and reasonably foreseeable future projects would continue to contribute to the nonattainment status and potentially affect sensitive receptors, impacts related to the cumulative contribution of nonattainment pollutants (ozone precursors, PM₁₀, and PM_{2.5}) and the exposure of sensitive receptors to substantial pollutant concentrations would be considered cumulatively significant.

5.3.1.3 Project Contribution

As discussed under Threshold 1 of Section 4.1, the project does not propose any new land uses and is therefore deemed consistent with the most recent Regional Air Quality Strategy (RAQS) and State Implementation Plan (SIP), which are designed to bring the SDAB into attainment status for state and federal ozone standards. Therefore, although there is a cumulative impact from past, present, and reasonably foreseeable future projects resulting in nonattainment status for some criteria pollutants in the air basin, the proposed project's incremental contribution to cumulative air emissions would not conflict with progress toward attainment of the air quality standards described in the RAQS and SIP.

As discussed under Threshold 2 of Section 4.1 and shown in Table 4.1-10, construction of the proposed project would contribute emissions to the cumulative condition. However, emissions would be below thresholds for all pollutants during concurrent construction activity. As discussed in Section 4.1, thresholds are designed to be health-protective and are thus both project level and cumulative in nature. Accordingly, while the effects from past, present, and reasonably foreseeable

future projects are considered cumulatively significant, the proposed project's incremental contribution from construction emissions would be less than cumulatively considerable.

As discussed under Threshold 2 of Section 4.1 and shown in Table 4.1-11, operational-related emissions would be below threshold levels for all pollutants. As with the construction phase, the effects from past, present, and reasonably foreseeable future projects are considered cumulatively significant, but the proposed project's incremental contribution from operational emissions would not result in a net increase in nonattainment pollutants as emissions would not exceed thresholds that are designed to assess both project level and cumulative effects. Consequently, the proposed project's incremental contribution to cumulative air quality impacts during its operational stage would be less than cumulatively considerable.

As discussed under Threshold 3 of Section 4.1, neither construction nor operation of the proposed project would expose sensitive receptor locations to substantial toxic air contaminant concentrations, including diesel particulate matter and asbestos-containing materials. Similarly, additional traffic created by the proposed project would not result in carbon monoxide concentrations in excess of the NAAQS or CAAQS. Odors emitted during construction and operation would likewise not result in nuisance odors that would violate SDAPCD Rule 51 (see Threshold 4 in Section 4.1). Accordingly, while the effects from past, present, and reasonably foreseeable future projects are considered cumulatively significant, the proposed project's incremental contribution to cumulative health risks and odor emissions would be less than cumulatively considerable.

5.3.1.4 Level of Significance Prior to Mitigation

The proposed project's contribution to a cumulative air quality impact would be less than cumulatively considerable.

5.3.1.5 Mitigation Measures

No mitigation is required.

5.3.1.6 Level of Significance After Mitigation

The proposed project's incremental contribution to cumulative air quality impacts would not be cumulatively considerable and would be less than significant.

5.3.2 Biological Resources

A significant cumulative impact on biological resources would occur if the proposed project would contribute to impacts related to sensitive plant or wildlife species, sensitive habitat/natural communities, federal and state protected wetlands, wildlife movement corridors, or conflicts with applicable local policies or ordinances or applicable adopted habitat conservation plans or natural community conservation plans.

5.3.2.1 Geographic Scope

The geographic scope for cumulative impacts on terrestrial biological resources includes the surrounding downtown area, embarcadero and waterfront, and Tenth Avenue Marine Terminal. The geographic scope for cumulative marine biological resources impacts is limited to areas adjacent to, or otherwise linked to, the San Diego Bay. Past, present, and reasonably foreseeable future projects

that could contribute to cumulative impacts on terrestrial biological resources include projects with grading, paving, landscaping, road, and building construction of undeveloped land or land containing habitat. Marine organisms could be directly affected by construction and/or operation activities in or along the water, including dredging, filling, pile-driving, and wharf demolition/construction. Untreated runoff from construction or operation activities on land into harbor waters via storm drains or sheet runoff also has the potential to contribute to cumulative impacts on marine biological resources.

5.3.2.2 Cumulative Effects

As shown in Table 5-2, the project site and surrounding areas within present-day downtown San Diego continue to see an increase in urban density and intensity from recent past and present projects, and reasonably foreseeable future projects appear to continue the area's urbanization along this portion of the San Diego Bay. The vast majority of sensitive habitat in downtown is no longer present. However, open water of the San Diego Bay could provide foraging habitat, and trees and even structures may provide nesting habitat for avian species. Present and future cumulative projects would be required to be consistent with the City's Multiple Species Conservation Program Subarea Plan (if within the City's jurisdiction) or the Port of San Diego's and U.S. Navy's Integrated Natural Resources Management Plan (if within the District's jurisdiction), which identify important sensitive species and habitats in San Diego and San Diego Bay. Moreover, present and future projects also would comply with requirements of the Migratory Bird Treaty Act (MBTA), which contains regulations for the take of any migratory birds, including feathers, nests, or eggs, and would require that present and future projects avoid and/or mitigate potential impacts on any nesting birds.

In addition, present and reasonably foreseeable future projects have the potential to further degrade water quality within San Diego Bay as well as existing marine habitat. However, specific federal, state, and local regulations are in place that would minimize continued degradation of water quality and existing marine habitat of San Diego Bay. These include the Clean Water Act (CWA) regulations that require compliance with water quality standards, including state and local water quality regulations and the District's Jurisdictional Runoff Management Plan (JRMP) and *BMP Design Manual* (for projects within the District's jurisdiction) and the City of San Diego's Storm Water Management and Discharge Control Ordinance, which identifies water quality best management practices (BMP) requirements (for projects within the City's jurisdiction). Under these regulations, projects over 1 acre in size are required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the NPDES Construction General Permit, while projects smaller than 1 acre are still required to comply with the City of San Diego's water quality regulations and the District's JRMP, depending on the jurisdiction within which the project would be located. The SWPPPs would identify short-term, project-specific BMPs for each project to minimize pollutants and/or sediments traveling via runoff, and long-term BMPs would be implemented based on the required Water Quality Control Plans using a combination of Site Design BMPs, Source Control BMPs, and Treatment Control BMPs. Implementation of both construction and operational BMPs would minimize harm to marine habitat from stormwater runoff.

Moreover, construction of present and future projects that involve in-water work such as pile driving have the potential to cause hydroacoustic impacts on fish, green sea turtle, and marine mammals as well as airborne noise impacts on marine mammal species. However, all present and future projects would be required to mitigate for these impacts, which could include mitigation measures such as surveying for the presence of marine special-status species, and monitoring

programs to reduce potential impacts during in-water construction. Monitoring would comply with the requirements defined by the National Oceanic Atmospheric Administration's Guidance for Developing a Marine Mammal Monitoring Plan (NOAA 2017).

Eleven of the cumulative projects listed in Table 5-2 propose in-water work, such as dredging, fill, or pile-driving. In addition, marinas, piers, and other structures currently exist throughout the San Diego Bay, and recreational, commercial, and industrial boating activities currently occur. These past, present, and reasonably foreseeable future projects have increased, and could continue to increase, the overwater coverage throughout the San Diego Bay, and could also affect the water quality of the Bay, disturb sensitive marine species during marina pile driving activities, and reduce eelgrass habitat. The increase in overwater coverage reduces the available open water habitat that is used for foraging by fish-eating avian species. Construction activities, accidental spills, bilge pump discharges, and other activities associated with recreational, commercial, and industrial boating uses can contaminate or reduce the clarity of the water in the Bay, which would inhibit the ability of fish-eating avian species such as California least tern and California brown pelican to identify prey for foraging. However, all present and future projects would be required to mitigate for these impacts, which could entail the implementation of mitigation measures based on an approved mitigation ratio, ensuring compliance with CWA Sections 401 and 404 and Rivers and Harbors Act Section 10, or implementing requirements such as bilge pump discharge limitations and spill control plans.

Therefore, cumulative effects on biological resources from past, present, and reasonably foreseeable future projects within the cumulative study area would not be significant.

5.3.2.3 Project Contribution

The proposed project consists of construction and operation activities in both terrestrial and marine environments. The landside project elements would not affect any federal or state protected wetlands, or environmentally sensitive area. The landside portion of the project site does not contain any natural habitat and is not within the City of San Diego Multi-Habitat Planning Area or a wildlife corridor, but does include potential nesting habitat in the existing canary island palm trees and existing human-made structures found within the project site. The proposed project would result in construction activities that have the potential to disturb or destroy nests protected by the MBTA or California Fish and Game Code (**Impact-BIO-2**). Mitigation required for the proposed project will ensure compliance with the MBTA and avoidance of impacts on nesting birds (**MM-BIO-2**).

As discussed under Thresholds 1 and 2 of Section 4.2, *Biological Resources*, the waterside project elements could affect sensitive species by potentially impairing water quality, which would inhibit foraging for the California least turn and the California brown pelican (**Impact-BIO-1**); disrupting or injuring green sea turtles and marine mammals due to increased noise during in-water pile driving activities (**Impact-BIO-3**); reducing open water habitat from shipyard operations (**Impact-BIO-4**); and impacting adjacent eelgrass habitat outside of the project site during construction (**Impact-BIO-5**). However, the proposed project requires the implementation of **MM-BIO-1**, **MM-BIO-3**, **MM-BIO-4**, and **MM-BIO-5** to reduce these project-level impacts to less-than-significant levels. Mitigation measure **MM-BIO-1** requires the implementation of construction measures in accordance with regulations, including CWA Sections 401 and 404, Rivers and Harbors Act Section 10, the National Pollutant Discharge Elimination System (NPDES) permit for the project, and Stormwater Management and Discharge Ordinance to ensure construction activities would reduce water quality

impairment impacts that could affect California least tern and California brown pelican foraging opportunities. Mitigation measure **MM-BIO-3** would require the implementation of a marine mammal and green sea turtle monitoring program to reduce potential impacts on these species due to in-water construction-related noise. Mitigation measure **MM-BIO-4** would require implementation of overwater coverage mitigation to compensate for the loss of open water habitat due to new overwater coverage within the Bay from certain project elements. Mitigation measure **MM-BIO-5** would require preconstruction and post-construction eelgrass surveys in accordance with the California Eelgrass Mitigation Policy (CEMP) and the installation of silt curtains to protect eelgrass present outside of the project site during construction. Additionally, present and reasonably foreseeable future projects would also be required to implement similar mitigation measures and to comply with CWA Sections 401 and 404, Rivers and Harbors Act Section 10, applicable NPDES and other permits, the Stormwater Management and Discharge Ordinance, and the California Eelgrass Mitigation Policy. Moreover, a cumulatively significant biological resources impact does not exist within the cumulative study area. Therefore, the contribution of the proposed project to cumulative biological resources impacts when combined with past, present, and reasonably foreseeable future projects would be less than cumulatively considerable.

5.3.2.4 Level of Significance Prior to Mitigation

The proposed project's contribution to a cumulative biological resources impact would not be cumulatively considerable.

5.3.2.5 Mitigation Measures

No mitigation is required.

5.3.2.6 Level of Significance After Mitigation

The proposed project's incremental contribution to cumulative biological resource impacts would not be cumulatively considerable and would be less than significant.

5.3.3 Greenhouse Gas Emissions and Energy

There would be the potential for a cumulatively considerable greenhouse gas (GHG)-related impact if the project would be inconsistent with the District's Climate Action Plan (CAP); non-compliant with regulatory programs outlined in the Scoping Plan and adopted by the California Air Resources Board (CARB) or other California agencies to reduce GHG emissions in 2020; inconsistent with the post-2020 reduction targets set forth through California Executive Order (EO) S-03-05 and Senate Bill (SB) 32; or non-compliant with plans, policies, and regulations promulgated to reduce GHG emissions post-2020. Finally, there would be the potential for a cumulatively considerable energy use-related impact if the project would contribute to a cumulatively significant impact related to the wasteful, inefficient, and unnecessary usage of energy, either directly or indirectly.

5.3.3.1 Geographic Scope

The geographic scope for cumulative GHG emission impacts is global. Because climate change is the result of cumulative global emissions, no single project, when taken in isolation, can cause climate change—a single project's emissions are insufficient to change the radiative balance of the atmosphere. GHGs are emitted by innumerable sources worldwide, and therefore, cumulative GHG

emissions that contribute to global climate change will have a significant cumulative impact on the natural environment as well as on human development and activity. The global increase in GHG emissions that has occurred and will occur in the future is the result of the actions and choices of individuals, businesses, local governments, states, and nations. The GHG analysis within Section 4.3, *Greenhouse Gas Emissions and Energy*, is inherently a cumulative analysis. However, a summary of the discussion is provided below. Energy use is a regional issue, and the geographic scope includes the service area of San Diego Gas and Electric (SDG&E).

5.3.3.2 Cumulative Effects

Past, present, and reasonably foreseeable future projects throughout the region, state, nation, and world, including, but not limited to those projects listed in Table 5-2, have contributed to, and will continue to contribute to, the cumulative impacts of GHG emissions. As with the proposed project, all the projects in Table 5-2, along with all other projects within the county, region, and state, would be required to comply with all applicable federal, state, and local policies and regulations regarding GHG emission reductions (e.g., Assembly Bill [AB] 32, Pavley 1, Advanced Clean Cars, Renewables Portfolio Standard, SB 350). However, changes from past, present, and reasonably foreseeable future projects have contributed to, and will continue to contribute to, a cumulatively significant impact in the project vicinity.

5.3.3.3 Project Contribution

As discussed under Threshold 2 of Section 4.3, the proposed project would contribute GHG emissions to the cumulative condition. As shown in Tables 4.3-6 and 4.3-7 in Section 4.3, equipment and vehicles used during construction (e.g., on-road motor vehicles, vessels, and heavy equipment) and operations (e.g., portable equipment and tugs) would result in a net increase in GHG emissions over existing conditions. As shown in Tables 4.3-8 through 4.3-11 in Section 4.3, the proposed project would not be consistent with the CAP because it would not implement all of the applicable reduction measures, and the project would have partial consistency with the applicable policies and regulatory programs through 2030 before mitigation (**Impact-C-GHG-1**). With implementation of **MM-GHG-1** through **MM-GHG-3**, the proposed project would be consistent with the CAP, Scoping Plan, and other near-term (2020–2030) GHG reduction policies and plans. Therefore, after mitigation, the proposed project would not result in cumulatively considerable impacts related to near-term (i.e., 2020–2030) GHG emissions because it would not impede achievement of near-term state reduction targets.

As discussed under Threshold 3 of Section 4.3, implementation of the proposed project would also not result in the wasteful, inefficient, and unnecessary consumption of energy, nor would project construction or operation conflict with or obstruct any applicable renewable energy or energy efficiency plans. As such, the proposed project's contribution to cumulative impacts on energy would not be cumulatively considerable.

5.3.3.4 Level of Significance Prior to Mitigation

The proposed project's incremental contribution to cumulative impacts related to GHGs would be cumulatively considerable prior to mitigation. The following potential cumulatively considerable impact has been identified:

Impact-C-GHG-1: Inconsistency with District Climate Action Plan and Partial Consistency with Applicable GHG Reduction Plans, Policies, and Regulatory Programs. The proposed project would partially comply with plans, policies, and regulatory programs outlined in the District's CAP, the Scoping Plan, and other plans, policies, and regulatory programs adopted by CARB for the purpose of reducing the emissions of GHGs.

5.3.3.5 Mitigation Measures

For **Impact-C-GHG-1**:

Implement **MM-GHG-1: Implement Diesel Emissions Reduction Measures During Project Construction**, as described in Section 4.3.

Implement **MM-GHG-2: Comply with San Diego Unified Port District Climate Action Plan Measures**, as described in Section 4.3.

Implement **MM-GHG-3: Use Modern Vessels and Dredgers**, as described in Section 4.3.

5.3.3.6 Level of Significance After Mitigation

After mitigation, the proposed project's incremental contribution to cumulative impacts related to GHG emissions and reduction targets and plans would be less than cumulatively considerable.

5.3.4 Hazards and Hazardous Materials

A significant cumulative impact on hazards and hazardous materials would result if the proposed project were to contribute to impacts related to 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; or related to being 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, create a significant hazard to the public or the environment.

Because the proposed project would have no impacts related to the following issues, it would also have no cumulative impacts related to these issues: transport, use, or disposal of hazardous materials; involve hazardous emissions or materials within one-quarter mile of an existing or proposed school; be located within an airport land use plan or within two miles of a public airport or public use airport; interfere with an adopted emergency response or evacuation plan; or expose people or structures to wildland fires.

5.3.4.1 Geographic Scope

The hazards and hazardous materials geographic scope consists of the areas that could be affected by proposed project activities as well as areas affected by other projects whose activities could directly or indirectly affect the proposed activities on the project site. In general, projects occurring within 0.12 mile of the project site (and in the case of active release sites, within 0.25 mile) were considered in this analysis due to the localized nature of potential impacts associated with the release of hazardous materials into the environment on the landside. On the waterside, the geographic scope consists of the whole San Diego Bay, due to the extent of contamination throughout the Bay, and the variable nature of water- and sediment-based contamination.

5.3.4.2 Cumulative Effects

As discussed in Section 4.4, *Hazards and Hazardous Materials*, record searches using Environmental Data Resources and other historic records were conducted. The results indicate that there are multiple sites within 0.12 mile (and in some cases within 0.25 mile) of the project site that involve the handling of hazardous materials.

Landside

There were three sites wherein unauthorized releases were recorded within 0.12 mile of the project site, and several sites within 0.25 mile. Simply the presence of sites (with a history of releases) within the cumulative study area is not sufficient to determine if a significant cumulative impact is present. Evidence must suggest that the contamination has resulted in a cumulative condition to which other projects are contributing. This was not evident during the database research because existing contamination was caused by site-specific incidents at individual sites and not exacerbated by multiple sites. Therefore, impacts from past cumulative projects are not cumulatively significant.

Present and reasonably foreseeable future projects within the cumulative study area could disrupt or result in the exposure of hazardous materials that are typically used during construction activities. For projects having the potential to disrupt or result in the exposure of hazardous materials, mitigation measures would be required during construction to reduce potential impacts to a level below significance. These projects, like the proposed project, are required to comply with all federal, state, and local policies regarding hazards and hazardous materials, as the ones described in Section 4.4.3, *Applicable Laws and Regulations*, which would reduce potential releases of hazardous materials into the environment. Because all cumulative projects listed in Table 5-2 with potential to expose hazardous materials during construction in the vicinity of the project site would be subject to federal, state, and local hazardous materials laws, including those described in Section 4.4.3, cumulative effects related to hazardous materials from past, present, and reasonably foreseeable future projects would be less than cumulatively significant.

Waterside

The San Diego Bay has a history of water and sediment contamination. Several Cleanup and Abatement Orders and Investigative Orders have been issued by the Regional Water Quality Control Board (RWQCB) for the characterization and remediation of contaminated sediment throughout the Bay. Several cumulative projects listed in Table 5-2 are located along the Bay and involve in-water work that could have the potential to disturb existing contaminated sediment and release it to the environment. All past, present, and reasonably foreseeable cumulative projects would be required to comply with applicable federal, state, and local regulations; be required to obtain the requisite permits for in-water construction; and be required to comply with the stipulations of the applicable Cleanup and Abatement Orders issued by the RWQCB. However, because some types of cumulative projects, such as pier replacement, require extensive in-water work, it is possible cumulative projects would contribute to the exacerbation of hazardous conditions in the Bay related to sediment contamination. Therefore, cumulative effects related to the release of hazardous materials to the environment from past, present, and reasonably foreseeable future projects within the cumulative study area are significant.

5.3.4.3 Project Contribution

Analysis of information contained in the Environmental Data Resources report, along with other environmental studies conducted at the project site (i.e., *Final Cleanup and Abatement Completion Report, San Diego Shipyard Sediment Site*, Anchor QEA 2016) identified the presence of landside soil contamination that could be exacerbated by proposed project activities (**Impact-HAZ-1**). Project-level mitigation (**MM-HAZ-1**) is required to reduce **Impact-HAZ-1** to less-than-significant levels by ensuring the proper handling and disposal of contaminated soil during landside construction activities. This would ensure the proposed project would not accidentally expose existing landside contamination areas, and would minimize effects in the event an unanticipated upset condition does occur. Because a cumulatively significant landside hazard and hazardous materials impact does not exist, the proposed project's incremental contribution to landside hazard and hazardous materials impacts would not be cumulatively considerable.

On the waterside portion, the proposed project would include in-water construction activities that could disturb contaminated sediment and release it into the environment, thereby exacerbating the risk of exposure of hazardous materials. Proposed dredging at the project site would include areas with known sediment contamination that has not been completely removed but has been covered with sand or gravelly sand. The proposed dredging would effectively remove contaminated sediment from some of these areas, which would potentially avoid disturbing and releasing contaminated sediments from in-water construction activities (i.e., pile installation, wharf replacement, etc.). However, these dredging activities may also result in the disturbance of existing sand or gravelly sand covers such that underlying contaminated sediment is exposed to the environment. Due to the mobile nature of sediment in the Bay, and the extent of known and suspected historical contamination in the Bay, it is possible extensive in-water work proposed as part of the project would result in a cumulatively considerable contribution to the cumulative hazardous materials impacts when combined with past, present, and reasonably foreseeable future projects (**Impact-C-HAZ-1**). However, implementation of project-level mitigation measures **MM-HAZ-2** through **MM-HAZ-5** would reduce potential cumulative impacts associated with in-water sediment contamination to a less-than-significant level.

Mitigation measure **MM-HAZ-2** would require the implementation of a Dredging Management Program to ensure the proper dredging methods and safety measures to protect workers and the environment during dredging activities. Implementation of **MM-HAZ-2** would also require post-dredging sediment sampling and testing. Sediment sampling and testing would determine the impact of dredging activities on areas of known contamination and a report containing the results would be provided to the RWQCB for review and approval, and to the District for concurrence.

Mitigation measure **MM-HAZ-3** would require the implementation of a Waterside Sediment Management Program prior to and throughout any in-water construction. The Waterside Sediment Management Program would include a Sampling and Analysis Plan, Marine Sediment Characterization Report, and Contaminated Sediment Management Plan for sampling, characterizing, and managing contaminated sediment during pile removal, pile driving, and other in-water construction activities, and would require implementation of measures specific to in-water activities to mitigate potential cross-contamination of marine sediment during in-water construction that would disturb potentially contaminated sediment.

MM-HAZ-4 would ensure the proposed project would obtain and comply with all federal and state permits required for in-water construction activities. Compliance with the applicable regulations,

permits, and Cleanup and Abatement Orders that have been issued for the project area, as well as the mitigation measures identified above would minimize the potential risk associated with the accidental release or exposure of hazardous materials to the environment during construction activities.

Mitigation measure **MM-HAZ-5** would be implemented after completion of dredging activity or in-water construction work, and would ensure that if sampling results identify concentrations of contaminants of concern (COCs) that exceed those set forth in the CAO R9-2012-0024, the project proponent will propose remediation consistent with CAO R9-2012-0024 (or other levels as prescribed by the RWQCB), subject to approval by the RWQCB, and any other agencies with jurisdiction over the site contamination, and concurrence by the District. Thus, implementation of **MM-HAZ-5** would ensure remediation would occur to maintain acceptable levels of COCs as set forth by the CAO R9-2012-0024, or the RWQCB, at the project site. As such, the project's limited contribution to the cumulatively significant effects of past, present, and reasonably foreseeable future projects would not be cumulatively considerable after mitigation.

In addition to the potential of encountering contaminated soils and sediments from past activities, construction of the project would require use of construction-related hazardous materials, including cleaners, fuel, solvents, paints, oils, and grease. It is possible that any of these substances could be released during construction and maintenance activities in small quantities. However, compliance with federal, state, and local regulations described in Section 4.7.3 would minimize any impacts. Consequently, the proposed project is not expected to create a significant hazard to the public or the environment through upset and accident conditions because no new acutely hazardous materials would be introduced at the project site.

In summary, due to the nature of in-water work and the history of sediment contamination in the Bay, the dredging and in-water work proposed as part of the project could contribute to the cumulatively considerable impact of existing contamination in the Bay (**Impact-C-HAZ-1**). The proposed project would not result in new hazardous materials, substances, or wastes; however, the in-water construction activities of the proposed project could disturb existing contaminated sediment. The implementation of **MM-HAZ-2** through **MM-HAZ-5** would minimize disturbance of existing contaminated sediment in the Bay and would require remediation if the proposed project resulted in elevated contamination levels in the project site. Implementation of these mitigation measures would reduce the project's cumulatively considerable impact to less than significant.

5.3.4.4 Level of Significance Prior to Mitigation

The proposed project's incremental contribution to cumulative hazard and hazardous materials impacts would be cumulatively considerable. The following potential cumulatively considerable impact has been identified:

Impact-C-HAZ-1: Cumulatively Considerable Contribution to Waterside Exposure of Hazardous Materials in Sediment. Due to the mobile nature of sediment in the Bay, and the extent of known and suspected historical contamination in the Bay, there is a potential that extensive in-water work proposed as part of the project would result in a cumulatively considerable contribution to the cumulative hazardous materials impacts when combined with past, present and reasonably foreseeable future projects.

5.3.4.5 Mitigation Measures

For **Impact-C-HAZ-1**:

Implement **MM-HAZ-2: Implement a Dredging Management Program**, as described in Section 4.4.

Implement **MM-HAZ-3: Implement a (Waterside) Sediment Management Program**, as described in Section 4.4.

Implement **MM-HAZ-4: Comply with Federal and State Permits**, as described in Section 4.4.

Implement **MM-HAZ-5: Implement Post-Dredging and/or Post-Waterside Construction Remediation**, as described in Section 4.4.

5.3.4.6 Level of Significance After Mitigation

After mitigation, the proposed project's incremental contribution to cumulative hazard and hazardous materials impacts would not be cumulatively considerable and would be less than significant.

5.3.5 Hydrology and Water Quality

A significant cumulative impact on hydrology and water quality would result if the proposed project were to contribute to impacts related to water quality standard violations, depletion of groundwater supplies or interference with recharge, alterations to drainage patterns leading to erosion or flooding, increased runoff in excess of available capacity, substantial additional sources of polluted runoff, the placement of structures within a 100-year flood hazard area that would impede or redirect flood flows, and/or exposure of people or structures to flooding risk from inundations by seiche or tsunami. These are evaluated within the context of past, present, and reasonably foreseeable future projects. The proposed project is not anticipated to result in impacts related to depletion of groundwater supplies or interference with recharge; alterations to drainage patterns leading to erosion or flooding; placement of structures within a 100-year flood hazard area; and/or the exposure of people or structures to flooding risk from inundations by dam and/or levee failure, seiche, or tsunami. As such, cumulative impacts related to these issues are not evaluated.

5.3.5.1 Geographic Scope

The geographic scope of analysis for cumulative impacts on hydrology and water quality includes the receiving waters of the San Diego Bay, which includes a number of the projects listed in Table 5-2. Given the project site is located on the downstream end of the watershed, the project site's cumulative contributions would be limited to the Bay waters.

5.3.5.2 Cumulative Effects

Many of the directly adjacent projects listed in Table 5-2 are located on the landside of the Bay and would not involve in-water construction activities. The projects that would involve at least 1 acre of grading during construction would be required to comply with the NPDES Construction General Permit, which requires preparation of a Stormwater Pollution Prevention Plan (SWPPP) by a Qualified SWPPP Developer and implementation of BMPs by a Qualified SWPPP Practitioner to ensure runoff from individual projects meet current water quality standards. For projects under

1 acre, the Municipal Permit requires minimum BMPs at all construction and grading projects. The implementation of BMPs for all construction sites is required to ensure a reduction of potential pollutants from the project sites to the maximum extent practicable and to effectively prohibit non-stormwater discharges from construction sites to the Municipal Separate Storm Sewer System or directly to the San Diego Bay. Therefore, cumulative effects from past, present, and reasonably foreseeable projects on landside water quality and hydrology would not be significant.

Waterside

Past projects have contributed pollutants to the San Diego Bay, as evidenced by the CWA Section 303(d) List of Water Quality Limited Segments Requiring Total Maximum Daily Loads. The entire San Diego Bay is a listed impaired water body for polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), and mercury. Portions of the Bay shoreline are listed as impaired for benthic community effects, sediment toxicity, heavy metals, PAHs, and PCBs. This is primarily due to historic uses of the Bay and the surrounding area, as well as current uses. Current and reasonably foreseeable future projects may involve activities that could exacerbate existing impacts on the water quality of the Bay, including disturbing contaminated sediment that is released into the water column. Current and reasonably foreseeable future projects could also contribute pollutants such as oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens into the stormwater conveyance system and receiving waters. In addition to typical development projects, the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events project includes operational in-water activities, such as the discharge of fireworks from barges, that contribute pollutants to San Diego Bay.

Present and reasonably foreseeable future projects would be subject to Clean Water Act regulations that require compliance with water quality standards, including state and local water quality regulations and the District's JRMP and local *BMP Design Manual* (for projects within the District's jurisdiction) and the City of San Diego's Storm Water Management and Discharge Control Ordinance, which identifies water quality BMP requirements (for projects within the City's jurisdiction). For projects in the City, the Storm Water Management and Discharge Control Ordinance requires implementation of measures to reduce the risk of non-stormwater discharges and pollutant discharges through the use of BMPs. In addition, projects affecting waters of the U.S. would also need to comply with CWA Section 404 and 401 regulations, requiring implementation of additional BMPs to protect water quality during construction. Furthermore, current and future fireworks display events associated with the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events project are governed by the San Diego RWQCB's General Permit for Public Display of Fireworks, as well as the ordinance that was adopted by the Board of Port Commissioners as part of the project. However, because the San Diego Bay is currently an impaired water body and has been for some time, the cumulative effects of past, present, and reasonably foreseeable future projects on water quality are significant.

5.3.5.3 Project Contribution

A cumulatively significant impact on hydrology and water quality presently exists because of San Diego Bay's status as an impaired water body and the potential for present and future projects to further degrade water quality with the addition of similar pollutants as those already impairing the Bay.

The proposed project would involve land-disturbing activities that would expose soils; however, the proposed project would not be required to comply with the Construction General Permit because it would disturb less than 1 acre of land during construction. The proposed project would be required to comply with the Municipal Permit and the District's JRMP, which identifies construction BMPs that would be implemented in order to protect stormwater runoff. The District's JRMP requires preparation of a Construction BMP Plan. Construction BMPs, identified in the Construction BMP Plan, would be required to be implemented throughout the various construction phases to protect water quality and would reduce impacts on water quality during construction. Pursuant to the District's JRMP, post-construction BMPs are required for all projects falling under the Municipal Permit. Post-construction BMPs are a subset of BMPs that include structural and nonstructural controls that detain, retain, filter, or educate to prevent the release of pollutants to surface waters during operation. District Code, Article 10 (Stormwater Management and Discharge Ordinance) also specifically requires pollutant control BMPs for all priority development projects (PDPs). The proposed project would be considered a PDP and would be required to implement pollutant control BMPs. Additionally, the project proponent would prepare a project-specific Stormwater Quality Management Plan (SWQMP) for approval by the District that identifies low-impact development (LID) features (site design and source control BMPs) and pollutant control BMPs to reduce the discharge of pollutants to the maximum extent practicable. Therefore, the proposed project would implement BMPs consistent with the District's JRMP, the *BMP Design Manual*, District Code Article 10, and the SWQMP to ensure that water quality standards or wastewater discharge requirements are not violated and impacts on water quality would be less than significant during construction and operation. Consequently, construction and operation of the landside project elements would not result in a cumulatively considerable impact related to the violation of water quality standards and wastewater discharge requirements.

Additionally, any open excavation occurring associated with utilities or soil removal for foundation preparation may serve to capture stormwater and impede its flow if unprotected; however, BMPs would be in place to divert runoff away from the construction site and toward proper drainage locations. As a result, the proposed project would not 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. The proposed project's contribution to polluted runoff would not be cumulatively considerable.

Similar to existing conditions, some project components located on the landside portion of the project site are within the Federal Emergency Management Agency (FEMA) 100-year floodplain. During construction activities associated with implementation of the proposed project, construction equipment would be mobile and could move to higher ground if needed. Thus, the temporary presence of the construction-related equipment would not represent a permanent change to the floodplain, and would not impede or redirect flood flows. All structures proposed within Flood Zone AE must be designed to ensure that the floor elevation is raised at least 1 foot above the floodplain elevation and meets the structural requirements of FEMA to avoid any damage to persons or structures as a result of a 100-year flood. Given the project's location over San Diego Bay, the project site is unlikely to flood due to capacity of the waterway and is more vulnerable to tidal waters that are pushed inland by coastal storms. Therefore, because the construction and operation of the proposed project would not exacerbate the flooding potential of the project site or the effects of flooding on the existing environment, impacts would be less than significant. The proposed project's incremental contribution to flooding would not be cumulatively considerable.

Construction of the in-water project elements would result in short-term water quality impacts associated with the removal and replacement of pile structures, fender systems, anchor, and sinker weights, as well as dredging activities due to increased turbidity and the resuspension of toxic chemicals from the sediment in the water column. In addition, in-water construction could disturb potentially contaminated sediments associated with San Diego RWQCB Investigative Order No. R9-2017-0083, resulting in significant disruption of sediments that could release contaminants to the water column. The disturbance of potentially contaminated sediments that would become suspended in the water column, resulting in the release of hazardous pollutants and the degradation of water quality would be considered a cumulatively considerable impact (**Impact-C-HWQ-1**). The proposed project would be required to obtain from the U.S. Army Corps of Engineers (USACE) a CWA Section 404 and Rivers and Harbors Act Section 10 permit for the placement of piles, mooring dolphins, and other structures in navigable waters, and a corresponding CWA Section 401 Water Quality Certification from the RWQCB. These permits would require the implementation of construction BMPs that would minimize the discharge of materials; control debris; provide spill containment and cleanup equipment; minimize resuspension, spillage, and displaced sediment during dredging operations; contain suspended sediments with double silt curtains; monitor water quality; and otherwise reduce impacts on water quality. While the proposed project is required to comply with all regulatory requirements, those requirements^{*/} are further enforced through **MM-HAZ-4**, which requires the project proponent to obtain all federal and state permits required for in-water construction activities and demonstrate to the District compliance with all permit conditions during in-water construction.

In addition to the required regulatory permits (as enforced through **MM-HAZ-4**), implementation of **MM-HAZ-2**, **MM-HAZ-3**, and **MM-HAZ-5** would reduce **Impact-C-HWQ-1** to less-than-significant levels because measures such as monitoring, sampling, and BMPs (e.g., double silt curtains) would be implemented during in-water construction activities for the proposed project (see description of **MM-HAZ-2** and **MM-HAZ-3** in Section 5.3.4.3). In addition, **MM-HAZ-5** would require the remediation of in-water construction or dredging areas if sampling results show that concentrations of COCs exceed those set forth in CAO R9-2012-0024 (or other levels as prescribed by the RWQCB), subject to approval by the RWQCB, and any other agencies with jurisdiction over the site contamination, and concurrence by the District. Implementation of **MM-HAZ-2**, **MM-HAZ-3**, and **MM-HAZ-5** would minimize potential impacts associated with sediment contamination during in-water construction activities, including dredging and pile installation/removal located within areas with contaminated sediment. Therefore, the implementation of **MM-HAZ-2** through **MM-HAZ-5** would reduce the potential cumulatively considerable impact on water quality due to the suspension of contaminated sediments in the water column (**Impact-C-HWQ-1**) to less than significant; thus, the proposed project would not result in a cumulatively considerable contribution to the cumulative impact after mitigation.

The removal of creosote-treated piles may result in the resuspension of sediments that have been contaminated due to the leeching of creosote, which could result in a cumulatively considerable water quality impact when combined with past, present, and reasonably foreseeable future projects (**Impact-C-HWQ-2**). Implementation of **MM-HWQ-1** would require the proper disposal methods for creosote-treated piles, which would reduce potential cumulative impacts from creosote leeching into the water to less than significant.

5.3.5.4 Level of Significance Prior to Mitigation

The proposed project's incremental contribution to cumulative hydrology and water quality impacts would be cumulatively considerable. The following potential cumulatively considerable impacts have been identified:

Impact-C-HWQ-1: Cumulatively Considerable Contribution to Degradation of Water Quality from Waterside Sediment Contamination. The disturbance of potentially contaminated sediments that would become suspended in the water column, resulting in the release of hazardous pollutants and the degradation of water quality, would be considered a cumulatively considerable impact.

Impact-C-HWQ-2: Cumulatively Considerable Contribution to Water Quality Impacts from the Removal of Creosote Piles. The removal of creosote-treated piles may result in the resuspension of sediments that have been contaminated due to the leaching of creosote, which could result in a cumulatively considerable water quality impact when combined with past, present, and reasonably foreseeable future projects.

5.3.5.5 Mitigation Measures

For **Impact-C-HWQ-1**:

Implement **MM-HAZ-2: Implement a Dredging Management Program**, as described in Section 4.4.

Implement **MM-HAZ-3: Implement a (Waterside) Sediment Management Program**, as described in Section 4.4.

Implement **MM-HAZ-4: Comply with Federal and State Permits**, as described in Section 4.4.

Implement **MM-HAZ-5: Implement Post-Dredging and/or Post-Waterside Construction Remediation**, as described in Section 4.4.

For **Impact-C-HWQ-2**:

Implement **MM-HWQ-1: Remove and Dispose of Creosote Piles Properly**, as described in Section 4.5, *Hydrology and Water Quality*.

5.3.5.6 Level of Significance After Mitigation

After mitigation, the proposed project's incremental contribution to cumulative hydrology and water quality impacts would not be cumulatively considerable and would be less than significant.

5.3.6 Land Use and Planning

Cumulative effects from past, present, and reasonably foreseeable future projects are determined by whether there are cumulative inconsistencies with the applicable land use plans that have resulted or will result in significant physical impacts on the environment or by the physical division of established communities from cumulative projects. A significant cumulative impact would occur if the proposed project would contribute to either of these conditions.

5.3.6.1 Geographic Scope

The geographic scope of analysis for cumulative land use and planning impacts to which the proposed project may contribute includes the jurisdiction of the PMP, the adjacent neighborhood of Barrio Logan, and the projects identified in Table 5-2.

5.3.6.2 Cumulative Effects

Past projects within the surrounding area have been subject to local regulations governing land use decisions and have resulted in the development of a highly industrialized area west of East Harbor Drive. Throughout the development of past projects, the surrounding area has generally maintained its street grid system, and development has not resulted in the division of a neighborhood. The District's PMP, as amended, has been certified by the California Coastal Commission (CCC), and all past development projects within District boundaries have been approved pursuant to the adopted PMP, ensuring review and general conformity with the coastal zone management program. Since adoption and certification of the current PMP, there have been cases where PMP amendments were required to implement various development projects. However, these amendments have undergone environmental review and District approval, and have been certified by the California Coastal Commission. As a result, impacts from past projects have not been cumulatively significant.

In addition, construction and operation associated with recently approved and developed projects have demonstrated consistency with the San Diego Downtown Community Plan and the Barrio Logan Community Plan (which are the guiding land use policy document for the surrounding area, and are the documents used to calculate projections in the SIP and RAQS), and the same can be expected of reasonably foreseeable future projects. As such, because the street system in the surrounding area is established, none of the current or reasonably foreseeable future projects propose changes to the circulation system, and current cumulative projects and reasonably foreseeable future projects in the surrounding area would be required to demonstrate consistency with the San Diego Downtown Community Plan and Barrio Logan Community Plan, it is not expected that these projects would physically divide the established downtown neighborhood.

Consequently, there are no present or reasonably foreseeable future development projects within the project site's cumulative geographic scope that would physically divide an established community or result in a land use inconsistency that could result in significant environmental impacts; therefore, cumulative effects from past, present, and reasonably foreseeable future projects would not be significant.

5.3.6.3 Project Contribution

As discussed in Section 4.6, *Land Use and Planning*, the proposed land use changes would not result in uses that would be incompatible with existing PMP land uses on site and in the vicinity. In addition, the project would be largely consistent with all applicable policies in the governing land use documents and would result in less-than-significant impacts related to consistency with plans and policies adopted for the purposes of avoiding or mitigating an environmental effect.

As noted above, a cumulatively significant land use impact does not exist, and the proposed project would not result in an impact such that a cumulatively significant impact would be created. The proposed project's contribution to inconsistencies with land use and planning policies would be less than cumulatively considerable.

5.3.6.4 Level of Significance Prior to Mitigation

The proposed project's incremental contribution to cumulative land use and planning impacts would not be cumulatively considerable.

5.3.6.5 Mitigation Measures

No mitigation is required.

5.3.6.6 Level of Significance After Mitigation

The proposed project's incremental contribution to cumulative land use and planning impacts would not be cumulatively considerable and therefore would be less than significant.

5.3.7 Noise and Vibration

A significant cumulative impact on noise and vibration would result if the proposed project were to contribute to impacts related to exceedances of noise standards, groundborne vibration, or ambient noise levels when evaluated within the context of past, present, and reasonably foreseeable future projects. At the project level, there were determined to be no impacts related to air traffic noise; as such, cumulative impacts related to air traffic noise are not evaluated.

5.3.7.1 Geographic Scope

The geographic scope of analysis for cumulative noise impacts (construction and operations) is the area within 2,000 feet of the project site.

5.3.7.2 Cumulative Effects

Construction

Very few of the related projects listed in Table 5-2 are within 2,000 feet of the proposed project site. The distance to the other projects, along with the shielding provided by intervening buildings, would substantially reduce construction noise from these projects so that they would not generate any cumulative impacts in the immediate vicinity of the proposed project site. Most of the nearby related projects (i.e., within 2,000 feet) are already constructed, and, as such, their construction activity could not overlap with that of the proposed project, including the BAE Systems Pier 1 North Drydock (#3) and the Shipyard Remediation Project (#4). Construction related to the HII San Diego Shipyard Inc. Marginal Wharf Repair and As-Needed Pile Replacement Project (#23) is anticipated to extend into 2023 and could, therefore, overlap with construction of the proposed project.

The MND prepared for the HII San Diego Shipyard project (District 2019) indicates that its noise and vibration impacts on surrounding land uses would be less than significant and that the project would be in compliance with the City's Noise Abatement and Control Ordinance. Because the proposed project would also have less-than-significant construction impacts, with noise levels at least 14 decibels (dB) below the applicable City noise standard (refer to Table 4.7-12), the two projects would not generate combined noise levels in excess of established thresholds. The next nearest related project with potentially ongoing construction work (the Tenth Avenue Marine Terminal Redevelopment Plan and Demolition and Initial Rail Component Project [#11]) is outside the geographic scope for cumulative noise impacts as it is separated from the project site by

a distance of approximately 2,500 feet and, as a result, would not be expected to generate a cumulative impact if construction were to occur simultaneously at both locations.

The remaining project within the geographical scope for analysis is the Port Master Plan Update (#16), which is a planning document that could result in water and land use designation changes within the District's jurisdiction in the project area. However, no specific related projects have been identified as of the preparation of this EIR, and it would be highly speculative to assume any specific construction activities or schedules for unknown future development occurring under implementation of the Port Master Plan Update. As a result, there would be no significant cumulative construction noise or vibration impacts.

None of the nearby related projects include on-going in-water construction, so there would be no cumulative noise impacts on fish and marine mammals.

Operation

Traffic

As detailed in Chapter 3, *Project Description*, there would be a net decrease in crew and labor at BAE Systems, and, therefore, the project site and surrounding roadway network would experience an incremental decrease in vehicular trips associated with the proposed project during the long-term operational conditions. As noted above, only four related projects are within the 2,000-foot geographical scope for the cumulative noise analysis. Two of these projects are complete and are now operational (#3, #4) and one project (#23) is essentially a maintenance, improvement, and replacement project for existing facilities that would generate negligible long-term traffic. The fourth involves the Port Master Plan Update, which could lead to future changes in local traffic; however, the nature of such changes is purely speculative at this time. As such, no substantial cumulative increases in overall traffic in the project vicinity are anticipated, and the cumulative effect related to traffic noise would not be significant.

Onsite Operations

As described above, the proposed project and the related cumulative projects within the geographic scope of cumulative analysis consist primarily of maintenance, improvement, and replacement projects for existing facilities used for heavy industrial activity related to ship repair. Any future projects occurring subsequent to the Port Master Plan Update would be consistent with the water-dependent industrial uses that currently exist in the area. As a result, operational noise and vibration levels from these projects would be similar in character and level to the existing noise conditions and would not be expected to cause significant changes in the existing environment. Therefore, cumulative effects from past, present, and reasonably foreseeable future projects would not be significant.

5.3.7.3 Project Contribution

Construction

Construction of the proposed project would result in less-than-significant impacts relative to local noise standards and temporary noise increases, as well as established thresholds for groundborne vibration. As noted above, a cumulatively significant noise impact does not exist, and the proposed project would not result in an impact such that a cumulatively significant impact would be created.

The proposed project's contribution to noise and vibration would be less than cumulatively considerable.

Operation

Traffic

Because the proposed project is expected to result in fewer operational vehicular trips under project conditions than existing conditions, noise levels related to vehicular traffic would be less than significant. In addition, a cumulatively significant traffic noise impact does not exist, and the proposed project would not result in an impact such that a cumulatively significant impact would be created. As a result, the proposed project's contribution would be less than cumulatively considerable.

Onsite Operations

Operation of the proposed project would result in less-than-significant impacts relative to local noise standards and permanent noise increases, and would not introduce substantial new sources of groundborne vibration. As noted above, a cumulatively significant noise impact does not exist, and the proposed project would not result in an impact such that a cumulatively significant impact would be created. The proposed project's contribution to noise would be less than cumulatively considerable.

5.3.7.4 Level of Significance Prior to Mitigation

The proposed project's incremental contribution to noise and vibration impacts would not be cumulatively considerable.

5.3.7.5 Mitigation Measures

No mitigation is required.

5.3.7.6 Level of Significance After Mitigation

The proposed project's incremental contribution to cumulative noise and vibration impacts would not be cumulatively considerable and therefore would be less than significant.

5.3.8 Sea-Level Rise

A cumulatively considerable sea-level rise impact would occur if the proposed project would exacerbate projected future conditions associated with sea-level rise and climate change when combined with past, present, and reasonably foreseeable future projects. A cumulatively considerable sea-level rise impact would also occur if the proposed project, when evaluated within the context of past, present, and reasonably foreseeable future projects, would be inconsistent with the applicable sea-level rise policies of the CCC or other land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect from sea-level rise, resulting in a cumulatively considerable physical impact on the environment.

5.3.8.1 Geographic Scope

The geographic scope of analysis for cumulative sea-level rise impacts includes the past, present, and reasonably foreseeable future projects identified in Table 5-2 situated along the entirety of the San Diego Bayfront.

5.3.8.2 Cumulative Effects

Projected sea-level rise is expected to increase the number of areas that experience coastal flooding along San Diego Bay. Coastal and low-lying areas are particularly vulnerable to future sea-level rise, especially in combination with future storm events and coastal flooding. Several plans, policies, guidance, and regulations related to sea-level rise have been adopted and/or passed at the state level, the most notable being AB 691 and the CCC Sea Level Rise Policy Guidance. Past, present, and reasonably foreseeable future projects within the geographic scope for cumulative sea-level rise impacts and on public trust lands would be subject to AB 691, which required the District to prepare a sea-level rise impact assessment identifying how it will protect and preserve existing and proposed built environment resources and facilities. The incorporation of adaptation strategies would ensure that past projects within the geographic scope would not exacerbate the effects of sea-level rise. Additionally, because present and reasonably foreseeable future projects within the geographic scope are all within the Coastal Zone, they would be required to demonstrate consistency with the CCC Sea Level Rise Policy Guidance. This guidance provides a framework for addressing sea-level rise in PMPs and coastal development permits and the principles for addressing sea-level rise in the Coastal Zone. Because the past, present, and reasonably foreseeable future projects within the geographic scope would be required to comply with all applicable state plans, policies, and regulations related to sea-level rise (e.g., AB 691, AB 2516, California Coastal Act), cumulative effects related to sea-level rise would not be significant.

5.3.8.3 Project Contribution

As discussed under Threshold 1 of Section 4.8, *Sea-Level Rise*, the proposed project would not exacerbate any existing and/or projected damage to the environment, including existing structures, sensitive resources, and human health, due to predicted climate change effects, particularly sea-level rise. Due to its coastal location, the project site is particularly vulnerable to future sea-level rise and storm surge events. When 100-year floodflows coincide with high tides, on top of future sea-level rise, the risk of flooding in the project vicinity increases. From 2034 through 2050, the lowest landside and waterside structures should remain above the upper end of the permanent sea-level rise projections through mid-century (2050). By 2100, under the medium-high and high risk-aversion scenarios, permanent inundation may become a concern for both landside and waterside components of the project. When accounting for a 100-year storm surge event (temporary inundation), the lowest landside and waterside structures would remain protected until at least 2034, which is the end of the lease period. The waterside elevations are not projected to experience inundation under any of the sea-level rise and storm surge scenarios during the 2050 timeframe. Although the lowest landside portions of the project may become exposed to storm surge under some scenarios during the 2050 timeframe, this would only occur under the extreme risk-aversion scenario.

As discussed further in Section 4.8, under the medium risk-aversion scenario, through 2050 the landside sheet pile walls at the project site would only be overtopped by an inch or two during a 100-year storm surge event. By 2100, which is well after the end of the current lease (2034), the

landside components of the proposed project would be exposed to a 100-year storm surge under all three sea-level rise scenarios. The waterside components of the proposed project would be exposed only under the medium-high and extreme risk-aversion scenarios. This flooding would occur even if the proposed project was not constructed. Consequently, the proposed project would not exacerbate the potential for inundation due to projected sea-level rise or storm surge. Given this finding, mitigation measures are not required. However, the impacts of sea-level rise will be revisited during renewal of the existing lease once it expires in 2034, providing time for modifications that would protect against higher rates of sea-level rise, should those projected levels occur. This approach to monitoring sea-level rise and flooding impacts over time before committing to investments in protection strategies is consistent with the adaptive-pathways approach recommended by the CCC in its Sea Level Rise Policy Guidance.

As discussed under Threshold 2 and shown in Table 4.8-5 of Section 4.8, the proposed project would be consistent with all applicable sea-level rise policies. Therefore, the proposed project would not be inconsistent with the applicable sea-level rise policies of the CCC or other land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect from sea-level rise. As noted above, a cumulative sea-level rise effect from past, present, and reasonably foreseeable future projects does not exist. Therefore, the proposed project's contribution to cumulative sea-level rise impacts would not be cumulatively considerable.

5.3.8.4 Level of Significance Prior to Mitigation

The proposed project's incremental contribution to sea-level rise impacts would not be cumulatively considerable.

5.3.8.5 Mitigation Measures

No mitigation is required.

5.3.8.6 Level of Significance After Mitigation

The proposed project's incremental contribution to cumulative sea-level rise impacts would not be cumulatively considerable and therefore would be less than significant.

5.3.9 Transportation, Circulation, and Parking

Based on the changes to the State CEQA Guidelines initiated by the passage of SB 743, a project's impact on transportation is measured by the amount of vehicle miles traveled (VMT) that would be generated. By its nature, VMT is inherently a cumulative issue, as it is not likely that any single project would be large enough to prevent the region or state from meeting its VMT reduction targets, which correlate to the state's GHG reduction targets. Rather, a project's individual VMT contributes to cumulative VMT impacts.

Cumulative impacts on transportation, circulation, and parking could also occur if the proposed project, when combined with past, present, and probable future projects, would conflict with applicable programs, plans, ordinances or policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Lastly, a cumulative parking impact could occur when these cumulative projects combine with the proposed project to result in an insufficient parking supply.

The proposed project is not anticipated to result in impacts related to substantial increases in hazards due to geometric design features or incompatible uses, or inadequate emergency access. As such, cumulative impacts related to these issues are not evaluated.

5.3.9.1 Geographic Scope

The geographic scope for cumulative VMT impacts includes the entire San Diego region. As such, the VMT analysis within Section 4.9, *Transportation, Circulation, and Parking*, is inherently a cumulative analysis. However, a summary of the discussion is provided below. The geographic scope of cumulative analysis for all transportation, circulation, and parking impacts includes all past, present, and probable future projects identified near the project site and along the San Diego Bay waterfront that have affected, or would have the potential to affect, the same transit, roadway, bicycle, pedestrian, and parking facilities as the proposed project.

5.3.9.2 Cumulative Effects

Consistency with Applicable Programs, Plans, Ordinances, or Policies Addressing the Circulation System

Cumulative effects on the circulation system, including transit, roadway, pedestrian, and bicycle facilities could occur if past, present, and probable future projects would conflict with a program, plan, ordinance, or policy addressing these facilities. Past projects identified in Table 5-2 would have been required to demonstrate consistency with any program, plan, ordinance, or policy addressing the circulation system. Reasonably foreseeable future projects such as National City Bayfront Projects and Plan Amendments (Cumulative Project #21) would include implementation of Segment 5 of the Bayshore Bikeway, which is a bicycle facility identified in applicable plans, including the San Diego Regional Bike Plan and National City Bicycle Master Plan. Other present and probable future projects within the cumulative study area would be required to demonstrate consistency with programs, plans, ordinances, and policies related to transit, roadway, pedestrian, and bicycle facilities. Therefore, cumulative effects from past, present, and probable future projects would not be significant.

Vehicle Miles Traveled

The generation of VMT, which is a function of the number and distance of vehicle trips, is largely a cumulative impact by nature. VMT from past, present, and probable future projects have contributed to, and will continue to contribute to, cumulative VMT impacts as well as similarly cumulative secondary physical environmental effects such as increased GHG emissions. The VMT analysis was completed using the San Diego Association of Governments' (SANDAG's) Series 13 Activity Based Model (ABM), a travel demand forecasting model that incorporates census data and travel surveys to inform the algorithms of the model's projections. Series 13 ABM has four forecast scenarios: 2012, 2020, 2035, and 2050. Generally, the 2050 Regional Average includes past and present cumulative projects that were either constructed, in progress, or in the planning phases when the SANDAG Series 13 ABM was completed. As such, while these projects have been accounted for in the 2050 Regional Average VMT calculations, some present as well as probable future projects have not. The 2050 Regional Average VMT/Employee for the San Diego region is 22.2 miles per person. It should be noted that the 2050 Regional Average is the most conservative cumulative forecast scenario, as it presents a lower VMT/Employee due to the planned transit and

telecommuting features in the future. Therefore, the analysis relies on the 2050 Regional Average for determining the significance of cumulative VMT impacts associated with the proposed project.

Cumulative present and probable future projects would be required to comply with SB 743 during project-specific environmental review. However, although compliance is required, it is not guaranteed each present and probable future project would be able to achieve a 15% reduction (or other applicable thresholds used by the relevant Lead Agency) below regional average VMT. Mitigation may reduce VMT for a project, but still may not reduce potential impacts to a less-than-significant level. Projects that cannot reach the VMT reduction goal of 15% below the regional average would contribute to increased VMT in the region, which would contribute to the prevention of the state and region reaching the established GHG reduction targets. Therefore, present and probable future projects in the region could result in a cumulatively significant VMT impact.

Parking

Due to the industrial setting of the project vicinity, and the nature of most of the cumulative projects as industrial improvement or redevelopment projects, none of the past, present, or reasonably foreseeable projects listed in Table 5-2 include components that would result in inadequate parking within the cumulative study area. Construction activities of cumulative projects may temporarily reduce parking availability, and other cumulative projects such as the San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events project would also result in temporary loss of parking during fireworks display events. However, any temporary loss of parking would not amount to a cumulative parking impact. Therefore, cumulative effects from past, present, and probable future projects would not be significant.

5.3.9.3 Project Contribution

As noted above, past, present, and probable future projects identified in Table 5-2 have not resulted in cumulative effects related to inconsistencies with programs, plans, ordinances, and policies addressing the circulation system, including transit, roadway, pedestrian, and bicycle facilities; or inadequate parking supply. Therefore, the proposed project would not have the potential to contribute to cumulative impacts related to these issues.

As discussed in Section 4.9, construction worker VMT is not anticipated to be newly generated, rather it would be drawn from existing workers in the City of San Diego area, and would be redistributed through the transportation network based on their travel to different work sites each day. The temporary generation of VMT from construction traffic is not expected to substantially increase VMT in the region such that it could contribute to long-term adverse environmental effects from greenhouse gas and criteria pollutant emissions or hinder the promotion of multimodal transportation systems. Therefore, VMT generated by construction of the proposed project is not anticipated to contribute to the cumulatively considerable VMT impact.

Additionally, as discussed in Section 4.9, operation of the proposed project is anticipated to generate a VMT/Employee of 17.2 miles, which is 0.8 mile below the 2050 Regional Average significance threshold of 18.0 miles (i.e., 15% below the 2050 Regional Average). Therefore, operation of the proposed project would not result in a cumulatively considerable contribution to cumulative VMT impacts.

5.3.9.4 Level of Significance Prior to Mitigation

The proposed project's incremental contribution to cumulative transportation, circulation, and parking impacts would not be cumulatively considerable.

5.3.9.5 Mitigation Measures

No mitigation is required.

5.3.9.6 Level of Significance After Mitigation

The proposed project's incremental contribution to cumulative transportation, circulation, and parking impacts would not be cumulatively considerable and therefore would be less than significant.

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Additional Consequences of Project Implementation

6.1 Introduction

This chapter addresses the potential for additional consequences related to implementation of the proposed project, pursuant to State CEQA Guidelines Sections 15126.2(e)¹ and 15128. Specifically, this chapter (1) discusses the growth-inducing impacts of the proposed project, which pertain to the ways in which the proposed project could promote either direct or indirect growth, and (2) identifies the environmental effects of the project that were determined to be not significant during the initial environmental review process.

6.2 Growth-Inducing Impacts

State CEQA Guidelines Section 15126.2(e) requires that an EIR discuss the ways in which a proposed project could directly or indirectly foster economic development, population growth, or additional housing and how that growth could affect the surrounding environment. Direct growth inducement would result if a project were to, for example, involve construction of new housing. Indirect growth might occur if a project were to establish substantial new permanent employment opportunities that would stimulate the need for additional housing, utilities, and public services. Similarly, a project would indirectly induce growth if it were to remove an obstacle to additional development, such as a constraint on a required public service or utility. A project proposing to expand water supply capabilities in an area where limited water supply has historically restrained growth would be considered growth inducing.

This section discusses the characteristics and consequences of the proposed project that may encourage or facilitate activities that could significantly affect the environment, either individually or cumulatively. However, the following analysis does not assume that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment (State CEQA Guidelines 15126.2(e)). Rather, Chapters 4 and 5 discuss the adverse impacts on resources, including any impacts that would be caused by cumulative conditions.

6.2.1 Foster Economic Growth

One criterion by which growth inducement can be measured involves economic growth. The proposed project would allow BAE Systems to remain competitive in the ship-building marketplace and continue to meet demands of its customers. As such, it would result in economic benefits to the

¹ The requirements of State CEQA Guidelines Section 15126.2(a) and (c) are met in Chapter 4, *Environmental Analysis*, and Chapter 5, *Cumulative Impacts*, under each resource discussion. Additionally, the requirements of State CEQA Guidelines Section 15126.2(b) are met in Section 4.3, *Greenhouse Gas Emissions and Energy*. Lastly, the proposed project does not meet any of the criteria in State CEQA Guidelines Section 15127 requiring a discussion of significant irreversible environmental changes under Section 15126.2(c).

region. However, growth inducement would be driven primarily by job growth, which is discussed below.

In the short term, the proposed project would induce economic growth by introducing temporary employment opportunities, which would be associated with construction of the project. The proposed project could result in up to a maximum of approximately 149 temporary jobs throughout the duration of project construction (see Table 3-1). In addition to direct short-term employment, these workers would very likely patronize businesses in the project area and in the larger San Diego region, resulting in indirect economic benefits as well.

In the long term, operation of the project would not induce economic growth because there would be an overall decrease in long-term employment opportunities. As discussed further in Chapter 3, *Project Description*, the changes to mooring capacity at Pier 3 South could result in changes to the number of vessel crew and laborers on site depending on the number and type of vessels being serviced at the site. Although the number of laborers on site would fluctuate depending on the specific ship mix, it would not increase compared to existing conditions. When a larger vessel such as an Amphibious Assault Ship (LHD) is moored at Pier 3 South, the total number of laborers on site would decrease anywhere from 223 to 516 (see Table 3-5). This is an insignificant decrease compared to the projected number of jobs in the overall area of influence by 2050 (i.e., approximately 1.911 million) (SANDAG 2013). As such, the proposed project would create new short-term employment opportunities but would potentially decrease the total number of permanent jobs, and therefore would not ultimately be growth inducing as a result of new jobs.

6.2.2 Foster Population Growth

The proposed project does not call for the construction of housing, which is prohibited on District property under the Public Trust Doctrine, nor would it increase the city's population in a manner that would necessitate the construction of additional housing. As described in Section 6.2.1, construction of the proposed project would provide approximately 149 new temporary jobs, with employees anticipated to be drawn from existing residents of the city and surrounding area. Furthermore, the proposed project would potentially decrease the total number of permanent jobs depending on the number and types of vessels being serviced at the site. Therefore, the project would not result in the construction of additional housing, either directly or indirectly, and, as such, would not be growth inducing as a result of new housing.

6.2.3 Removal of Obstacles to Population Growth

As stated above, a project could indirectly induce growth if it were to remove a constraint on a required public service or utility. A project could also indirectly induce growth if it were to establish a precedent-setting action (e.g., an innovation, a change in zoning, a general plan amendment approval). The proposed project would not require a Port Master Plan amendment or infrastructure upgrades beyond the boundaries of the project site and, therefore, would not result in the removal of obstacles to growth.

6.3 Effects Not Found to Be Significant

Pursuant to State CEQA Guidelines Section 15063, the District prepared an Initial Study that determined that effects related to aesthetics, agriculture and forestry resources, cultural resources, geology and soils, mineral resources, population and housing, public services, recreation, and tribal cultural resources would not be significant. In accordance with State CEQA Guidelines Section 15128, a brief explanation indicating the reasons why the effects on these resources would not be significant is provided under each subheading below.

6.3.1 Aesthetics

6.3.1.1 Adverse Effect on a Scenic Vista

The visual character of the project site and surrounding area is defined by industrial uses, proximity to the San Diego-Coronado Bay Bridge and Coronado, and the commercial and residential uses in the adjacent Barrio Logan community. Views of the project site from the surrounding areas include large ships, working piers, berths, security fencing, lighting, and drydocks. Planning District 4, where the project site is located, does not contain any vista areas, as designated by the PMP. Designated vistas in District 6 (Coronado Bayfront) have partial but mostly obstructed views of the project site. The project site represents a small portion of the viewshed from Coronado. Furthermore, the character of the project site is compatible with that of the naval shipyards immediately to the southeast. Therefore, existing views from Coronado would not change substantially with implementation of the proposed project, and impacts on scenic vistas would be less than significant.

6.3.1.2 Scenic Resources along a State Scenic Highway

The San Diego-Coronado Bay Bridge (State Route 75 [SR-75]), located just north of the project site, is a State Scenic Highway. Long-distance views of downtown San Diego from the San Diego-Coronado Bay Bridge are dominated by a mix of high-rise residential, commercial, and urban developments. The view of the project site appears in the foreground, surrounded by industrial uses, including ships, silos, warehouses, and heavy industrial machinery. There are no trees, rock outcroppings, or other scenic resources along SR-75. The project would include visual changes, including additional mooring dolphins, quay wall modifications, and replacement structures. None of these changes are anticipated to damage scenic resources along SR-75 because none have been identified. Therefore, impacts on designated scenic highways would be less than significant.

6.3.1.3 Degradation of Existing Visual Character or Quality

The project site is in an area of the District that is developed entirely with industrial and maritime uses. The proposed project components would be similar in color, size, bulk, and scale to existing structures at the project site and in the surrounding area. The proposed project would have less-than-significant impacts on the visual character and quality of the surrounding area.

6.3.1.4 Light and Glare

The proposed project would upgrade existing facilities at the project site. This includes replacing existing lighting with LED lighting to increase energy efficiency. However, this would not change the hours of operation or substantially increase nighttime lighting. In addition, no structures with highly reflective materials are proposed; therefore, no additional glare would occur. Furthermore, none of the operational changes associated with the proposed project would generate new sources of substantial lighting or glare. Therefore, lighting and glare-related impacts from the proposed project would be less than significant.

6.3.2 Agriculture and Forestry Resources

6.3.2.1 Important Farmland

The project site is entirely within the District. According to the California Department of Conservation (DOC) 2016 San Diego County Important Farmland Map, the project site is classified as “Urban and Built-Up Land” and “Other Land,” classifications that do not contain agricultural uses or areas that have been designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC 2016). Construction of the proposed project would not affect Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and there is no potential for any actions to convert farmland resources to nonagricultural uses. No impact would occur.

6.3.2.2 Williamson Act Contracts or Agricultural Zoning

The project site is not zoned for agricultural use, nor is there a Williamson Act contract for the site (DOC 2013). Therefore, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and no impact would occur.

6.3.2.3 Conflict with Forestland Zoning

The project site is classified as “Urban and Built-Up Land” and not zoned as forestland, timberland, or timberland zoned Timberland Production (DOC 2016). No land that has been zoned as forestland or timberland exists within the boundaries of the project site. No impact would occur.

6.3.2.4 Conversion of Forestland to Non-Forest Use

No land that has been zoned as forestland or timberland exists within the boundaries of the project site. Approval of the proposed project would not result in a loss of forestland or the conversion of forestland to other uses. No impact would occur.

6.3.2.5 Conversion of Farmland to Non-Agricultural Use

Implementation of the proposed project would have no impact on agriculture and/or forestry resources. No agricultural land, forestland, or timberland exists on or in the vicinity of the project site. The proposed project would not involve changes to the existing environment that, because of their location or nature, would result in the conversion of farmland to nonagricultural use or forestland to non-forest use. No impact would occur.

6.3.3 Cultural Resources

6.3.3.1 Historical Resource

To qualify as historical resources under CEQA, buildings or structures need to have historical significance as well as historical integrity with respect to their period of significance. Although buildings or structures that are less than 50 years old sometimes qualify as historical resources under CEQA when they are exceptionally significant, this is rare. The overwhelming majority of historical resources are at least 50 years old. Although several buildings and structures that would be physically altered by the proposed project at the BAE Systems San Diego Ship Repair Yard include elements that are 50 years old or older, those buildings and structures have been subject to substantial alteration. Limited portions of Pier 3 are more than 50 years of age. However, historic aerial photographs show that this pier was dramatically altered in the 1980s. Pier 1, which was a fairly narrow structure in the early 1990s, was altered after 2000 to create a much wider structure. In addition, the production building is an amalgamation of dissimilar structures that have been joined together over time, both prior to and during the last 50 years (NETR 2018). These built resources do not maintain historical integrity with respect to a discernable period of potential significance from more than 50 years ago. For these reasons, the proposed project would not result in an impact on any built resource with potential to qualify as a historical resource. Therefore, no impact would occur.

6.3.3.2 Archaeological Resource

The entire project area consists of constructed fill or water. Analysis of historic maps shows that the historic shoreline in 1857 was east of the project area; therefore, no native soil is present in the project area. A record search was conducted on April 25, 2017, by the South Coastal Information Center located on the San Diego State University campus. The record search revealed that no archaeological resources are present within the project area. Therefore, because the record search was negative and no native soils are present in the project area that could contain an intact archaeological deposit, no impact would occur.

6.3.3.3 Paleontological Resource

The landside portion of the project site is underlain by modern fill, below which is the Bay Point formation. The Bay Point formation is assigned a high resource sensitivity rating in the City of San Diego CEQA Significance Determination Thresholds. Pursuant to City Municipal Code Chapter 14, Article 2, Division 11, Grading Regulations, any proposed excavation or other ground-disturbing activities in a paleontologically sensitive area needs to comply with City Municipal Code Section 142.0151, which requires paleontological resource monitoring when grading involves 1,000 cubic yards or greater and extends 10 feet or deeper within a highly sensitive formation. The City's grading regulations stipulate the treatment for any paleontological resources that are discovered during grading activities. This minimizes potential disturbances of paleontological resources. Compliance with the City's grading regulations would reduce potential impacts on paleontological resources to less than significant.

The waterside portion of the project site is made up of Holocene deposits, which are underlain by a thin layer of younger Quaternary terrace deposits, followed by older Quaternary deposits. The

change between Holocene deposits and younger Quaternary terrace deposits ranges from -16 to -20 feet mean lower low water (MLLW). The change between younger and older Quaternary deposits occurs around -65 feet MLLW. Waterside project activities would consist of dredging to a depth of -70 feet. Waterside project-related activities would not reach geologic formations of high paleontological sensitivity; therefore, they would not destroy a unique paleontological resource, and impacts would be less than significant.

6.3.3.4 Human Remains

No evidence in the historical record indicates that human remains were buried on the site. It is highly unlikely that human remains would be encountered during construction of the proposed project because the project site consists of imported fill and water. However, if human remains should be discovered during construction, which is unlikely, they would be treated in accordance with existing laws and regulations, notably Public Resources Code (PRC) Section 5097 and Health and Safety Code Section 7050.5, ensuring that impacts would be less than significant.

6.3.4 Geology and Soils

6.3.4.1 Rupture of a Known Earthquake Fault

According to the City's Seismic Safety Study, Geologic Hazards and Faults, Sheet 13, the project site is not within an active Alquist-Priolo Earthquake Fault Zone (City of San Diego 2008a). As such, project construction would have no potential to exacerbate rupture of a known earthquake fault, and impacts would be less than significant.

6.3.4.2 Strong Seismic Ground Shaking

The project site is not within an active Alquist-Priolo Earthquake Fault Zone. However, the San Diego region is subject to earthquakes, which can result in strong seismic ground shaking. As such, the project site could be exposed to strong seismic ground shaking in the future. At question, however, is not whether the project site would experience strong seismic ground shaking but, rather, whether project construction and operation would exacerbate such effects on future users at the site. Because the proposed project would have no potential to result in any increased chance of strong seismic ground shaking (i.e., increase the risk of an earthquake), no impact would occur.

6.3.4.3 Liquefaction and Other Seismically Related Ground Failure

The project site is underlain by relatively loose, unconsolidated bay deposits and fill materials. The potential for liquefaction at the project site is high because of the area's shallow groundwater table and the low density of the underlying sandy subsurface materials. In addition, the City's Seismic Safety Study, Geologic Hazards and Faults, Sheet 13, maps the project site as being in an area with high potential for liquefaction.

Three key components are required for liquefaction: (1) liquefaction-susceptible soils, (2) groundwater, and (3) strong ground shaking, such as that caused by an earthquake. The geotechnical report prepared for the *BAE Pier 1 North Drydock Project EIR* (Terra Costa Consulting Group 2015) notes that the recent bay deposits are considered liquefiable. However, the geotechnical

report indicates that the subsurface soils within the Holocene, the younger Quaternary terrace deposits, and the older Quaternary terrace deposits are generally non-liquefiable. There are several isolated pockets of soils that might liquefy, but because of the general heterogeneous nature of the Quaternary terrace deposits, the impact associated with these layers is considered less than significant. Moreover, the design and construction of the proposed project would be required to comply with all seismic safety development requirements, including Title 24 standards contained within the current California Building Code. Because the proposed project would be engineered to eliminate the liquefaction hazard and would not exacerbate the potential for liquefaction to occur, impacts associated with liquefaction or other seismically related ground failure would be less than significant.

6.3.4.4 Landslides

Landslide activity generally occurs in areas that lack vegetation and have steep slopes (typically, with grades of 30 percent or more). The project site is situated on fill areas that are flat and completely developed. In addition, the project site was not mapped as within a landslide hazard zone in the City's Seismic Safety Study (City of San Diego 2008a). No portion of the project site would be susceptible to landslides. As such, the proposed project would not exacerbate the potential for landslides to occur at the site or in the surrounding area. Therefore, no impacts would occur.

6.3.4.5 Soil Erosion or Loss of Topsoil

None of the actions associated with the proposed project would disrupt any native soil or topsoil. In addition, consistent with the District's Jurisdictional Runoff Management Program (JRMP) (pursuant to State Water Resources Control Board Order No. R9-2013-0001, as amended by Order No. R9-2015-0001 and R9-2015-0100 [NPDES Permit #CAS0109266, Municipal Permit]), the proposed project would be designed in accordance with best management practices (BMPs), consistent with the District's *BMP Design Manual*, which requires the use of low-impact development BMPs as well as source-control and treatment-control BMPs (District 2018). As such, soil erosion is not anticipated to occur as a result of construction at the project site, and no impact would occur.

6.3.4.6 Unstable Geologic Units or Soil

Refer to Sections 6.3.4.3 and 6.3.4.4, respectively, for a discussion of potential impacts associated with liquefaction and landslides. Because the proposed project would be engineered to eliminate liquefaction hazards and would not exacerbate the potential for liquefaction to occur, impacts associated with liquefaction or other seismically related ground failure would be less than significant. Because of these onsite conditions and compliance with the applicable regulations, the proposed project would not exacerbate existing unstable conditions, and the impact would be less than significant.

6.3.4.7 Expansive Soil

Expansive soils are fine-grained soils (generally high-plasticity clays) that can undergo a significant increase in volume with an increase in water content as well as a significant decrease in volume with a decrease in water content. Changes in the water content of highly expansive soils can result in severe distress for structures constructed on or against the soils. Underlying soils found on the site

are partially composed of clays and, as such, could be subject to expansion. The Huerhuero-Urban land complex (2 to 9 percent slope) has high shrink-swell behavior, Urban land has variable shrink-swell behavior, and tidal flats have high shrink-swell behavior (USDA 1973). Should any soil failure occur, risks to life or property associated with the proposed project may increase because of the construction of new structures. Construction of the proposed project would be subject to applicable standards of the current California Building Code (California Code of Regulations Title 24), and expansive soils would be removed and replaced with engineered soil. The project site is underlain by Urban land, which is identified as having a variable shrink-swell potential (USDA 1973). Because of the developed nature of the project site, it is likely that expansive soils have been removed during previous development of the site. Therefore, construction of the proposed project would not result in substantial risks to life or property from being located on expansive soils. Impacts would be less than significant.

6.3.4.8 Septic Systems

No septic tanks or alternative wastewater disposal systems are proposed; therefore, no impact would occur.

6.3.5 Hazards and Hazardous Materials

6.3.5.1 Routine Transport, Use, or Disposal of Hazardous Materials

The proposed project would use heavy equipment to dredge sediments and would require demolition activities for several project elements, including Project Elements 1 (Pride of San Diego Drydock Dredging and Moorage), 4 (Pier 3 South Nearshore Dredging), 10 (Central Tool Room Demolition and Reconstruction), 11 (New Production Building), 12 (Administration Office Building), and 13 (Pier 1 Restroom Renovation and/or Demolition). Construction-related hazardous materials would be used during project construction, including fuel, solvents, paints, oils, and grease. In addition, in-water construction activities would include the removal of contaminated sediments, some of which would be transported to an approved upland disposal site capable of accepting contaminated sediment. The proposed project would be required to comply with federal, state, and local regulations for the routine transport, use, and disposal of any hazardous materials during landside and waterside construction activities. These regulations include the Resource Conservation and Recovery Act (RCRA); U.S. Department of Transportation (DOT) Hazardous Materials Regulations (Code of Federal Regulations [CFR] Title 49); California Health and Safety Code; and San Diego County Code, Title 6, Division 8, in combination with construction BMPs that would be implemented during project construction. Any accidental release of these materials due to spills or leaks would be cleaned up in the normal course of business, consistent with the above-mentioned regulations. Once construction is completed, operations would remain similar to existing conditions and the routine transport, use, and disposal of any hazardous materials would continue to occur in compliance with the above-mentioned federal, state, and local regulations. Therefore, impacts associated with the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials would be less than significant.

6.3.5.2 Hazards within One-Quarter Mile of a School

No existing public schools have been identified within one-quarter mile of the project site. The closest public school to the project site is Perkins Elementary School, approximately 0.6 mile to the northwest across SR-75. As such, project construction and operation would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Therefore, impacts would be less than significant.

6.3.5.3 Airport Land Use Plan

The project site is approximately 3 miles south of San Diego International Airport (SDIA) and 3.25 miles east of Naval Air Station (NAS) North Island. The project site is not within any accident potential zones for SDIA; however, it is within Review Area 2 of the SDIA Airport Influence Area, per the Airport Land Use Compatibility Plan (ALUCP) (SDIA 2014). The proposed project structures are similar in height as other structures in the project area. The San Diego County Regional Airport Authority is currently preparing the ALUCP for NAS North Island; therefore, it was not available for review. In accordance with Federal Aviation Regulations, Part 77, the Federal Aviation Administration (FAA) would be notified at least 45 days prior to construction because of the proximity of the site to a navigation facility. There are no other airports in the vicinity of the project site that could be affected by the proposed project.

6.3.5.4 Emergency Response or Evacuation Plan

Emergency response and evacuation is the responsibility of the police and fire service providers serving the project site. The proposed project would replace aging structures, improve existing infrastructure, increase space utilization, and increase efficiency of operations. These improvements would allow for newer and larger classes of vessels to be moored and repaired on site; however, these changes are not expected to significantly alter existing site use. Additionally, all of the proposed landside improvements would occur entirely within BAE Systems' leasehold and would not extend off site, where they would potentially interfere with emergency response. As such, proposed project construction or operation would not impair implementation of or physically interfere with an approved emergency response plan.

The proposed project would be required to comply with applicable requirements set forth by the County of San Diego Office of Emergency Services (OES) Operational Area Emergency Plan, San Diego Harbor Police Department (HPD), City of San Diego Police Department (SDPD), and City of San Diego Fire-Rescue Department (SDFD). The County of San Diego OES coordinates emergency response at the local level in the event of a disaster, including fires. This emergency response coordination is facilitated by the Operational Area Emergency Operations Center and responding agencies to the project site, which include the SDPD, SDFD and HPD. Because the proposed project would not result in any changes to access in the surrounding area, impacts would be less than significant.

6.3.5.5 Wildfire

The City of San Diego is subject to both wildland and urban fires due to its climate, topography, and native vegetation (City of San Diego 2015). The extended drought characteristic of the region's

Mediterranean climate and increasingly severe dry periods associated with global warming result in large areas of dry native vegetation that provide fuel for wildland fires. State law requires that all local jurisdictions identify very high fire hazard severity zones (VHFHSZ) within their areas of responsibility (California Government Code Section 51175–51189). Inclusion within these zones is based on vegetation density, slope severity, and other relevant factors that contribute to fire severity.

According to the VHFHSZ Maps prepared by the City in collaboration with the California Department of Forestry and Fire Protection, the project site is not within or adjacent to wildland fire hazard area (City of San Diego 2009). The project site is located on San Diego Bay, near downtown San Diego, and is covered with impermeable surfaces. There are no wildlands or heavily vegetated areas in proximity to the project site, and, as such, replacement of aging structures, improvement to existing infrastructure, and increased efficiency of operations would not exacerbate the potential to expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Therefore, no impacts would occur.

6.3.6 Hydrology and Water Quality

6.3.6.1 Groundwater

Because of the proposed project's proximity to the Bay, groundwater at the project site is saline from saltwater intrusion, and, therefore, it is not used as a groundwater supply source or for recharge. Consequently, the proposed project would not impact the groundwater table level or recharge activities. Impacts related to lowering a groundwater table and interfering with groundwater recharge would be less than significant.

6.3.7 Land Use and Planning

6.3.7.1 Physically Divide an Established Community

The proposed project would replace aging structures, improve existing infrastructure, increase space utilization, and increase efficiency of operations within an existing ship repair yard on San Diego Bay. The proposed project would not expand the physical landside boundaries of the ship repair yard or develop areas outside of its current landside boundaries and expand into any adjacent communities. All the landside improvements would occur entirely within BAE Systems' leasehold. Therefore, the proposed project would not physically divide an established community, and no impacts would occur.

6.3.8 Mineral Resources

6.3.8.1 Known Mineral Resource

The project site is underlain by artificial fill material; no commercial mining operations exist on the project site or in the immediate vicinity. The project site and the surrounding area are not designated or zoned as land with available mineral resources. In addition, the project site does not contain aggregate resources and is not in a mineral resource zone that contains important

resources. In accordance with guidelines established by the State Mining and Geology Board, mineral deposits in western San Diego County have been classified as Mineral Resource Zones (MRZs). According to the Conservation Element of the City's General Plan (City of San Diego 2008b), the project site is mapped within the MRZ-1 classification, which signifies areas where adequate information indicates that no significant mineral deposits are present or where it is judged that there is little likelihood for their presence (City of San Diego 2016a). Therefore, the proposed project would not result in a loss of known mineral resources, and no impact would occur.

6.3.8.2 Important Mineral Resource

The project site is underlain by artificial fill material. The PMP does not identify any mineral resources in the area or designated plans for mineral resource extraction. The project site and the surrounding area do not contain locally important mineral resources. Therefore, implementation of the proposed project would not result in the loss of availability of a locally important mineral resource recovery site, and no impact would occur.

6.3.9 Population and Housing

6.3.9.1 Population Growth

The proposed project would not construct homes or commercial uses or extend roads or other infrastructure that could induce substantial population growth. Construction activities would result in the generation of temporary construction jobs. However, the additional jobs are expected to be filled by people who currently live in the San Diego region. The jobs would not result in relocation of any population. In addition, none of the operational changes associated with the proposed project, which are targeted toward improving operational efficiency, would create new jobs. Therefore, the proposed project would not directly or indirectly induce substantial population growth through the creation of new homes or businesses in the San Diego region. Impacts would be less than significant.

6.3.9.2 Displacement of Housing

The project site is a working ship repair yard on San Diego Bay and does not include residential housing. As such, no housing would be displaced with implementation of the proposed project. Therefore, no impact would occur.

6.3.9.3 Displacement of People

The project site is a working ship repair yard on San Diego Bay and does not contain any permanent residents. The proposed project involves replacement of aging structures, improvement of existing infrastructure, increased space utilization, and increased operational efficiency. Implementation of the proposed project would not displace people or require the construction of replacement housing elsewhere. Therefore, no impact would occur.

6.3.10 Public Resources

6.3.10.1 Fire Protection

The project site is served by the SDFD, along with the San Diego HPD for fireboat operations. The proposed project would replace aging structures, improve existing infrastructure, increase space utilization, and increase operational efficiency. Construction activities and operational changes associated with the proposed project would not generate new or increased demands on fire protection. Therefore, the proposed project would not result in increased demand that would require new or physically altered fire protection facilities; impacts would be less than significant.

6.3.10.2 Police Protection

The San Diego HPD and/or SDPD provide police protection services at the project site. The proposed project would replace aging structures, improve existing infrastructure, increase space utilization, and increase operational efficiency. Construction activities and operational changes associated with the proposed project would not generate new or increased demands on police protection. Therefore, the proposed project would not result in increased demand that would require new or physically altered police protection facilities; impacts would be less than significant.

6.3.10.3 Schools

Physical impacts on school facilities and services are typically associated with population in-migration and growth, which increase the demand for schools and result in the need for new or expanded facilities, the construction of which may result in physical impacts on the environment. As discussed above under Section 6.3.9.1, the proposed project would have a less-than-significant effect on population growth. Jobs generated during construction of the proposed project would be filled by the local workforce, and no new jobs would be generated during project operations. Therefore, the proposed project would not result in increased demand that would require the need for new or physically altered school facilities; no impact would occur.

6.3.10.4 Parks

The project site is in an area of predominantly industrial and maritime uses. No park facilities are within or immediately adjacent to the project site that would be physically affected. As discussed above under Section 6.3.9.1, the proposed project would have a less-than-significant effect on population growth. Jobs generated during construction of the proposed project would be filled by the local workforce, and no new jobs would be generated during project operations. Therefore, the proposed project would not result in increased demand requiring the need for new or physically altered park facilities, and any related impact would be less than significant.

6.3.10.5 Other Public Facilities

The proposed project would not result in adverse impacts on other public facilities. As discussed above, physical impacts on public services are usually associated with in-migration and population growth, which increase demand for public services and facilities. The proposed project would not increase the local population. Although additional employees are anticipated during construction,

they are not expected to increase the use of existing public services and facilities to the extent that new or expanded facilities would be necessary. Therefore, the proposed project would not result in increased demand that would require the need for new or physically altered public facilities. No impact would occur.

6.3.11 Recreation

6.3.11.1 Increased Use of Parks or Other Recreational Facilities

An increase in the use of existing parks and recreational facilities typically results from an increase in the number of housing units or residents in an area. The proposed project would not result in an increase in the number of housing units or residents in the project vicinity. As discussed above under Section 6.3.10.4, the project site is in an area of predominantly industrial and maritime uses, and no park facilities are within or immediately adjacent to the project site. Although additional employees are anticipated during construction, they are not expected to use existing neighborhood or regional parks heavily or any other recreational facilities. In addition, none of the operational changes associated with the proposed project would create new jobs. Impacts would be less than significant.

6.3.11.2 Construction or Expansion of Recreational Facilities

The proposed project does not include the development of any recreational facilities. The proposed project would replace aging structures, improve existing infrastructure, increase space utilization, and increase operational efficiency. In addition, as described under Section 6.3.11.1, the project would not increase the use of existing recreational facilities. Therefore, the proposed project would not require construction or expansion of recreational facilities that might have an adverse physical effect on the environment. As a result, no impact would occur.

6.3.12 Transportation, Circulation, and Parking

6.3.12.1 Geometric Design Features

The proposed project does not involve any design modifications to existing street segments or intersections, nor would it change any driveways that provide access to the project site. Additionally, the project site is situated in an area consisting predominantly of industrial and maritime uses. The proposed project would replace aging structures, improve existing infrastructure, increase space utilization, and increase efficiency of operations within an existing ship repair yard on San Diego Bay. The project site would continue to operate as a ship repair yard upon project completion, which is compatible with the surrounding land uses. Therefore, the proposed project does not have the potential to increase traffic hazards to motorists or create an incompatible traffic-related use. No impacts would occur.

6.3.12.2 Emergency Access

Construction of the proposed project would not require any temporary closures of public roadways or driveways that could impede emergency access either within the District's jurisdiction or along

streets under the jurisdiction of the City of San Diego. Access to the site from E. Belt Street would be maintained throughout project construction. Additionally, there are no components of the proposed project that would result in inadequate emergency access during project operations. No impacts on emergency access would occur.

6.3.13 Tribal Cultural Resources

6.3.13.1 California Register of Historical Resources

Pursuant to Assembly Bill (AB) 52 (codified as PRC Section 21080.3.1), tribes can request to be notified of projects in particular geographies. However, at present, no Native American tribes have requested consultation regarding environmental review for projects subject to CEQA within the District's jurisdiction. Tribal cultural resources (TCRs) are a defined class of resources under Section 1 of AB 52. TCRs include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a tribe.

A search of the Native American Heritage Commission's Sacred Lands File conducted on August 13, 2018 revealed that there are no known sacred lands in or near the project area. Additionally, a record search conducted on April 25, 2017, by the South Coastal Information Center revealed that no cultural resources have been recorded in the project area. Furthermore, the project area is constructed entirely of fill. Historic maps indicate that the natural shoreline was east of the project area in 1857. Therefore, the proposed project would not cause a substantial adverse change in the significance of a TCR, and no impacts would occur.

6.3.13.2 California Native American Tribe Significant Resource

Pursuant to PRC Section 21080.3.1 (AB 52), California Native American tribes that are traditionally and culturally affiliated with the project area can request notification of projects in their traditional cultural territory. No tribes have requested consultation regarding projects that are subject to CEQA within the District's jurisdiction. The District has determined that no impacts would occur on TCRs, given the lack of substantial evidence and the criteria set forth in subdivision (c) of PRC Section 5024.1. However, in the event that a TCR is unexpectedly identified during the course of the proposed project and the District determines that the project may cause a substantial adverse change to a TCR, the District will rely on measures described in the Public Resources Code that, if the District determines to be feasible, may avoid or minimize the significant adverse impacts (PRC Section 21084.3 (b)).

6.3.14 Utilities and Service Systems

6.3.14.1 Exceed Wastewater Treatment Requirements

Wastewater treatment service is provided to the project site by the Metropolitan Sewerage System, which is owned and operated by the City of San Diego Public Utilities Department (PUD), Wastewater Branch. The Metropolitan Sewerage System serves the City's water customers as well as 12 cities and agencies, with a service area of approximately 450 square miles and service population of approximately 2.2 million. The Metropolitan Sewerage System collects, treats, and disposes of

approximately 180 million gallons per day (mgd) of wastewater. Planned improvements will increase wastewater treatment capacity to serve an estimated population of 2.9 million through 2050, when nearly 340 mgd of wastewater will be generated (City of San Diego 2016b). Three treatment plants currently treat wastewater generated within the Metropolitan Sewerage System's service area (i.e., the North City Water Reclamation Plant, South Bay Water Reclamation Plant, and Point Loma Wastewater Treatment Plant). The Point Loma plant currently treats wastewater generated at the project site and has a treatment capacity of 240 mgd and a peak wet-weather capacity of 432 mgd (City of San Diego 2016b).

As discussed in Section 6.3.9.1, the proposed project would not increase population; the jobs generated during project construction would primarily rely on workers drawn from the local workforce, which is currently served by existing wastewater treatment facilities; no new jobs would be generated during project operations. Project-generated wastewater requiring treatment would be limited to that generated by onsite construction personnel and activities. These activities, which would be limited primarily to personal wastewater, would not generate a significant amount of new wastewater that would require new treatment facilities. In addition, none of the operational changes associated with the proposed project would generate new or additional sources of wastewater. Therefore, impacts would be less than significant.

6.3.14.2 Construction of New Water or Wastewater Treatment Facilities

As discussed above in Section 6.3.14.1, the proposed project would generate minimal wastewater during construction. In addition, none of the operational changes associated with the proposed project would generate new sources of wastewater or require the expansion of existing wastewater treatment facilities. Similarly, water use would increase minimally during project construction. No new sources of water use are anticipated during project operations compared to existing conditions, and any water-related improvements would be limited to the replacement of existing potable water feeds. Therefore, the proposed project would not substantially increase the amount of water or wastewater requiring treatment and would not require the need for new or improved water or wastewater treatment facilities. Impacts would be less than significant.

6.3.14.3 Construction of New or Expansion of Existing Stormwater Drainage Facilities

The proposed project would not result in a change to existing stormwater flows or drainage patterns or result in other stormwater discharges during construction that would require new or upgraded stormwater drainage facilities. The proposed project would increase space utilization and increase operational efficiency but would not substantially alter the existing drainage pattern of the site. The project site would continue to discharge to the Bay but would not increase the rate or amount of surface runoff because the impervious surfaces would be similar to existing conditions. Construction of the proposed project would be required to comply with the District's Municipal Stormwater Permit, District Code Article 10 (Stormwater Management and Discharge Control Ordinance), and the JRMP. The proposed project is considered a Priority Development Project; therefore, it is required to implement pollutant control BMPs, following the hierarchy described in the District's *BMP Design Manual* (i.e., retention, partial retention with biofiltration, or flow through with participation in an Alternative Compliance Program).

During project operations, the impervious surfaces associated with the site would remain consistent with existing conditions, as the majority of the site currently consists of impervious surfaces. The project site would continue to discharge directly to the Bay. As such, the proposed project would not substantially increase the amount of surface runoff and exceed the capacity of existing or planned stormwater drainage systems, requiring the construction of new or expansion of existing storm drain facilities. In addition, it is anticipated that relevant project elements would incorporate existing BMPs, including the Stormwater Diversion System, or modify/develop project-specific BMPs, as appropriate in accordance with regulatory requirements. The diversion system consists of 36 catch basins and associated piping as well as secondary containment. Additional system capacity would not be required. Therefore, impacts would be less than significant.

6.3.14.4 Sufficient Water Supplies Available to Serve the Project

Potable water would be provided to contractors on the site during various project activities, including demolition to limit the propagation of fugitive dust, concrete preparation and placement, and other general activities. Dredge and utility projects do not require potable water. Approximately 150,000 gallons of water would be required for construction of the proposed project (BAE Systems pers. comm.). This water would be provided by the City of San Diego PUD, which is the current water service provider for the project site.

The proposed project includes replacement of existing Pier 3 restroom facilities, thereby requiring the provision of utilities and related infrastructure, including potable water. However, there would not be a substantial change in water use because the nature of operations would remain similar to existing conditions. In addition, the worst-case (largest) onsite vessel crew and labor force size would decrease under the proposed project compared to existing conditions. No other components of the proposed project would require potable water during project operations. Therefore, impacts on water supplies would be less than significant.

6.3.14.5 Adequate Wastewater Capacity Determined by the Wastewater Treatment Provider

As discussed above in Sections 6.3.14.1 and 6.3.14.2, the proposed project would not generate a substantial amount of new wastewater from construction activities. In addition, none of the operational changes associated with the proposed project would generate new sources of wastewater. Therefore, the proposed project would not substantially increase the amount of wastewater that would require treatment and have the potential to affect the wastewater treatment capacity of the Point Loma Wastewater Treatment Plant. Impacts would be less than significant.

6.3.14.6 Served by a Landfill with Sufficient Permitted Capacity

Eight of the project elements require demolition of existing structures and disposal of the subsequent debris. Construction waste generated from this demolition would be transported from the site and disposed of at an approved upland disposal facility (e.g., Miramar or Otay Landfill). A minimum of 65 percent of the construction waste would be recycled in accordance with the City of San Diego Construction and Demolition (C&D) Debris Deposit Ordinance. Scrap steel generated during demolition and construction would be handled through BAE Systems' facility scrap recycling program and, therefore, would not be disposed of at a landfill. In addition, dredged sediment

designated for upland disposal would be transported to Otay Landfill in the city of Chula Vista, which is capable of accepting contaminated sediment. Furthermore, because the proposed project would not increase the number of employees at the site, none of the operational changes associated with the proposed project would generate new sources of solid waste that would require disposal at a landfill. Therefore, impacts would be less than significant.

6.3.14.7 Comply with Federal, State, and Local Regulations Related to Solid Waste

When first enacted, AB 939 required every city and county in the state to prepare a Source Reduction and Recycling Element in their Solid Waste Management Plans to identify how they planned to meet mandatory the state waste diversion goals of 25 percent by 1995 and 50 percent by 2000. AB 939 also established the California Integrated Waste Management Board, the state agency designated to oversee, manage, and track California's solid waste generation each year. In order to further the goals of AB 939, statewide strategies for achieving a 75 percent reduction goal by 2020 were established with the adoption of AB 341 in May 2012. The main component of AB 341 implemented mandatory commercial recycling for certain businesses and public entities. In addition, the City of San Diego C&D Debris Deposit Ordinance requires the majority of construction, demolition, and remodeling projects that need permits to pay a refundable C&D debris recycling deposit and divert at least 65 percent of their debris through recycling, reusing, or donating usable materials.

Eight of the project elements require demolition of existing structures and disposal of the subsequent debris. The construction waste generated from this demolition would be transported from the site and disposed of at an approved upland disposal facility (e.g., Miramar or Otay Landfill). A minimum of 65 percent of the construction waste would be recycled in accordance with the City of San Diego C&D Debris Deposit Ordinance. In addition, dredged sediment designated for upland disposal would be transported to Otay Landfill in the city of Chula Vista, which is capable of accepting contaminated sediment.

Furthermore, because the proposed project would not increase the number of employees at the site, none of the operational changes associated with the proposed project would generate new sources of solid waste that would require disposal at a landfill. Therefore, the proposed project would have a less-than-significant impact related to compliance with federal, state, and local solid waste statutes and regulations.

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Chapter 7

Alternatives to the Proposed Project

7.1 Overview

This chapter describes and analyzes a range of reasonable alternatives that could feasibly attain most of the basic project objectives while avoiding or substantially lessening one or more of the significant effects of the proposed project. The chapter's primary purpose is to ensure that the comparative analysis provides sufficient detail to foster informed decision-making and public participation in the environmental process.

Two alternatives to the proposed project are analyzed in this chapter and discussed in terms of their merits relative to the proposed project.

- Alternative 1 – No Project/No Build Alternative
- Alternative 2 – Reduced Project Alternative

Based on the analysis below, the Reduced Project Alternative (Alternative 2) would be the environmentally superior alternative.

7.2 Requirements for Alternatives Analysis

The State CEQA Guidelines require that an EIR present a range of reasonable alternatives to a project, or to the location of a project, that could feasibly attain a majority of the basic project objectives, but that would avoid or substantially lessen one or more significant environmental impacts of the project. The range of alternatives required in an EIR is governed by a “rule of reason” that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider every conceivable alternative to a project. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the basic project objectives, are not feasible, or do not avoid or substantially lessen any significant environmental effects (State CEQA Guidelines, Section 15126.6(c)).

In addition to the requirements described above, CEQA requires the evaluation of a No Project Alternative, which analyzes the environmental effects that would occur if the project did not proceed (State CEQA Guidelines Section 15126.6(e)). Moreover, the EIR is required to identify the environmentally superior alternative. If the environmentally superior alternative is the No Project Alternative, the EIR must also identify an environmentally superior alternative among the other alternatives (State CEQA Guidelines Section 15126.6(e)(2)).

7.3 Selection of Alternatives

In developing alternatives that meet the requirements of CEQA, the starting point is the proposed project's objectives. The proposed project includes the following objectives.

1. Construct and operate shipyard repair facilities that maximize the use of existing waterways, available shoreline, and existing land.
2. Modernize the BAE Systems San Diego Ship Repair Yard by providing improved facilities to meet the needs of the current and anticipated ship fleet of military and commercial customers.
3. Enhance worker safety, customer security, and environmental protection programs through integration of relevant project elements.
4. Invest in new shipyard infrastructure that will enhance the short- and long-term attractiveness and viability of San Diego Bay and the region to military and commercial ship operators for construction and repair, consistent with the Port Master Plan.¹
5. Preserve jobs by maintaining the physical capacity and technical capability to support U.S. Naval presence and commercial maritime needs in San Diego.

CEQA also requires that alternatives be feasible. Feasible is defined in CEQA as “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors” (Public Resource Code Section 21061.1). The State CEQA Guidelines indicate that factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, other plans or regulatory limitations, and jurisdictional boundaries and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (State CEQA Guidelines Section 15126.6).

Finally, the alternatives should also avoid or substantially lessen one or more significant environmental impacts that would occur under the proposed project. Table 7-1 summarizes the proposed project’s significant impacts, which have been identified to assist with focusing the analysis of alternatives in Section 7.5.

Table 7-1. Summary of Significant Environmental Impacts of the Proposed Project

Resource Impact	Significant and Unavoidable	Less than Significant with Mitigation
Section 4.1, Air Quality and Health Risk		
No significant impact identified	N/A	N/A
Section 4.2, Biological Resources		
Impact-BIO-1: Water Quality Impairment Impacts on California Least Tern and California Brown Pelican Foraging		X
Impact-BIO-2: Potential Disturbance or Destruction of Nests Protected by the Migratory Bird Treaty Act and California Fish and Game Code		X
Impact-BIO-3: Potential Disruption of or Injury to Green Sea Turtles and Marine Mammals During Pile Driving Activities		X
Impact-BIO-4: Loss of Open Water Habitat from Shipyard Operations		X

¹ “Renovation and redevelopment of existing facilities will continue as industries respond to market demands and changes in the maritime industrial climate.” San Diego Unified Port District, Port Master Plan (August 2017), page 79.

Resource Impact	Significant and Unavoidable	Less than Significant with Mitigation
Impact-BIO-5: Potential Water Quality Impairment or Construction-Related Impacts on Eelgrass		X
Section 4.3, Greenhouse Gas Emissions and Climate Change		
Impact-GHG-1: Inconsistency with District Climate Action Plan and Partial Consistency with Applicable GHG Reduction Plans, Policies, and Regulatory Programs		X
Section 4.4, Hazards and Hazardous Materials		
Impact-HAZ-1: Landside Potential to Encounter Hazardous Materials in Soil and/or Groundwater		X
Impact-HAZ-2: Waterside Potential to Encounter Hazardous Materials in Sediment		X
Section 4.5, Hydrology and Water Quality		
Impact-HWQ-1: Degradation of Water Quality from Waterside Sediment Contamination		X
Impact HWQ-2: Removal of Creosote Piles Could Result in Resuspension of Sediments Contaminated with PAHs		X
Section 4.6, Land Use and Planning		
No significant impact identified	N/A	N/A
Section 4.7, Noise and Vibration		
No significant impact identified	N/A	N/A
Section 4.8, Sea-Level Rise		
No significant impact identified	N/A	N/A
Section 4.9, Transportation, Circulation, and Parking		
No significant impact identified	N/A	N/A

7.4 Alternatives Considered

Five alternatives were initially considered for evaluation. Based on the criteria described in Section 7.3, *Selection of Alternatives*, in addition to evaluating the No Project Alternative scenario, one other alternative was carried forward. The other alternatives that were considered, but rejected, included an alternate location, overlapping construction schedule, and no waterside improvements. The alternative that was carried forward and analyzed below eliminates certain project elements in order to reduce one or more significant environmental impacts of the proposed project. No alternatives were suggested in any of the scoping comments received during the 30-day public scoping period.

7.4.1 Alternatives Considered But Rejected

As mentioned above, alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the basic project objectives, are not feasible, or do not avoid or substantially lessen any significant environmental effects (State CEQA Guidelines, Section 15126.6(c)). The following discusses the alternatives that were initially considered, but rejected for further consideration.

7.4.1.1 Alternate Location

Besides the proposed project site, possible suitable locations with marine-related industrial and specialized berthing designations are largely limited to the Working Waterfront Planning District. However, industrial waterfront property in the District's jurisdiction is limited for several reasons, primarily that there are already existing lease agreements with tenants, and the size or physical constraints of alternative sites, including the lack of drydocks, would not allow implementation of the proposed project. Importantly, the project proponent does not have a current lease or another agreement with the District for another property with adequate acreage or characteristics to accommodate the proposed project, which includes both landside and waterside development with structures designed to accommodate the ship repair services provided by BAE Systems, including three working piers, five wet berths, and two floating drydocks, as well as administrative offices and electrical, metal, painting shops, etc. Therefore, there is a lack of available locations within the District's jurisdiction for the proposed project.

In addition, an alternative site would not likely reduce any of the proposed project's significant impacts and, in certain cases, could worsen one or more impacts. For example, another location may require more dredging to accommodate new drydocks, which would potentially result in greater air emissions and water quality, biological resources, and hazardous materials impacts from longer construction activities. Additionally, an alternative site would not result in the long-term benefits of the proposed project associated with the removal of contaminated sediment from San Diego Bay.

Therefore, because (1) it is unlikely that developing the proposed project at other waterfront location within the District's jurisdiction would reduce a significant impact and not result in similar or more severe impacts, (2) the tenant does not have leasing rights to any other sites, and (3) the proposed project site is surrounded by land uses similar to the proposed project, no suitable alternative sites were identified. Thus, the Alternate Location Alternative was rejected from consideration.

7.4.1.2 Overlapping Construction Schedule

The Overlapping Construction Schedule Alternative was selected because it would reduce the duration of environmental impacts due to the condensed construction schedule, which would begin in 2021 with Project Element 3 (Fender System Repair and Replacement) and Project Element 4 (Pier 3 South Nearshore Dredging) and last through 2025. Under this alternative, construction of several project elements may occur concurrently, as shown in Table 7-2. All construction activities would occur between 7 a.m. and 7 p.m. except for dredging activities, which would potentially occur 24 hours a day, 7 days a week for their duration. Table 7-2 lists the project elements in chronological order and provides the timing, duration, and construction crew size of each element. Note that the anticipated construction schedule in the table is approximate and is provided for analysis purposes, and the actual start and end dates may vary.

Table 7-2. Overlapping Construction Schedule

#	Project Element	Schedule	Duration (months)	Crew Size
3 ¹	Fender System Repair and Replacement (If continuous)	February 2021–October 2021	9.00	6
4	Pier 3 South Nearshore Dredging	February 2021–April 2021	2.25	10
5	Pier 3 Mooring Dolphin	March 2021–April 2021	1.50	5
9	Small Boat Mooring Float Replacement	July 2021–August 2021	1.00	5
7	Quay Wall Modifications	October 2021–November 2021	1.00	10
14	Electric Utility Service Update	January 2022–April 2022	3.50	5
8	Post Security Barrier Replacement	February 2022–April 2022	2.00	6
6	Pier 3 Lunchroom Wharf Replacement and Realignment	July 2022–October 2022	3.50	7
1	Pride of San Diego Drydock Dredging and Moorage	February 2023–May 2023	3.25	12
2	Pride of San Diego Drydock Wharf Replacement and Realignment	February 2023–May 2023	4.00	13
15	Sanitary Sewer and Potable Water Utility Services	July 2023–September 2023	3.00	3
11	New Production Building	October 2023–July 2024	9.25	16
12	Administration Office Building	August 2024–May 2025	9.50	16
13	Pier 1 Restroom Renovation and/or Demolition	March 2025–April 2025	1.00	10
10	Central Tool Room Demolition and Reconstruction	June 2025–December 2025	7.00	13

¹ Fender system repairs and new installation to be conducted at various berths and quay walls depending on BAE Pier availability. Schedule for this project element reflects the duration if all berths were replaced/installed continuously. Note: The project construction schedule has been structured to minimize in-water work during the California Least Tern nesting/foraging season, where feasible.

As shown in Table 7-2, the construction of several project elements would have overlapping schedules. Due to the condensed construction schedule, which includes construction of several overlapping project elements, it is anticipated that this alternative would result in greater air quality and noise impacts compared to the proposed project. Therefore, this alternative was rejected as infeasible because it would result in greater air quality and noise impacts than the proposed project, and impacts related to the other resources would be similar. Because this alternative would not reduce any significant impacts of the proposed project, and would increase impacts related to air quality and noise, it was rejected from consideration.

7.4.1.3 No Waterside Improvements

The No Waterside Improvements Alternative would eliminate all of the project elements that involve in-water work, including Project Elements 1 through 9, and therefore would only include the landside elements of the proposed project. The No Waterside Improvements Alternative includes the following project elements:

- Project Element 10: Central Tool Room Demolition and Reconstruction
- Project Element 11: New Production Building

- Project Element 12: Administrative Office Building
- Project Element 13: Pier 1 Restroom Renovation and/or Demolition
- Project Element 14: Main Electrical Utility Service Update
- Project Element 15: Sanitary Sewer and Potable Water Utility Services

The purpose of this alternative is to eliminate the project impacts related to hazards and hazardous materials release and exposure resulting from marine side sediment contamination. Under this alternative, all existing in-water structures would remain in their current location and configuration. While the replacement of the Port Security Barrier (PSB) would not occur under this alternative, it should be noted that the U.S. Navy could still require the replacement of the barrier to comply with its security requirements under a separate action. Dredging, and the associated transport of dredged material off site (upland and ocean disposal), would be eliminated under this alternative. Similarly, no pile driving or other bottom disturbing activities would occur under this alternative. As a result, there would be no potential to disturb contaminated sediments during in-water construction activities; however, no removal of contaminated sediment would occur either. Therefore, this alternative would not achieve the same long-term benefits as the proposed project. While this alternative would eliminate the project's significant hazard and hazardous materials impacts related to exposure to contaminated sediment, it would not meet most of the project objectives (#1, #2, #4, and #5) because it would not provide a modernized shipyard repair facility that would meet the berthing needs of current and future Navy assets and other customers, and therefore would not allow BAE Systems to service newer and larger classes of vessels. Therefore, this alternative was rejected from consideration.

7.4.2 Alternatives Selected for Analysis

7.4.2.1 Alternative 1 – No Project/No Build Alternative

The No Project/No Build Alternative is required by CEQA to discuss and analyze potential impacts that would occur if the proposed project was not implemented. Under the No Project/No Build Alternative, the site would operate as it currently does until the expiration of the current lease in 2034. The proposed project would not occur, and the existing site would retain the existing buildings and facilities without any upgrades to and/or reconstruction of these landside or waterside facilities. The existing configuration of the Pride of San Diego Drydock and associated dredge sump would continue to create operational inefficiencies, including the requirement for the drydock to be detached from its moorings and shifted to the west and south during docking and undocking of a vessel. The associated removal of potentially contaminated sediment during the proposed Pride of San Diego Drydock improvements would not occur under this alternative. Dredging of up to approximately 116,600 cubic yards (cy) of dredged material, including potentially contaminated sediment that was previously inaccessible during 2015 remedial dredging activities, would not occur under this alternative, nor would replacement of deteriorated or damaged structures, such as the existing fender systems or Pier 3 North wharf, or security features required by the U.S. Navy, including the PSB or the small boat mooring float replacement. Similarly, no pile driving or other bottom disturbing activities would occur under this alternative. As a result, there would be no potential to disturb contaminated sediments during in-water construction activities; however, no removal of contaminated sediment would occur either. Therefore, this alternative would not achieve the same long-term benefits as the proposed project. While the replacement of the PSB would not occur under this alternative, it should be noted that the U.S. Navy could still

require the replacement of the barrier to comply with its security requirements under a separate action, regardless of whether the No Project/No Build Alternative is adopted. Finally, the No Project/No Build Alternative would not involve landside improvements, including reconstruction of the tool room, production building, administrative office buildings, restrooms, or upgrades to the onsite utilities.

7.4.2.2 Alternative 2 – Reduced Project Alternative

Under Alternative 2, all project elements, except Project Element 1 (Pride of San Diego Drydock Dredging and Moorage Replacement), and Project Element 2 (Pride of San Diego Drydock Wharf Replacement and Realignment) would occur. Eliminating Project Elements 1 and 2 was assumed for this alternative because they represent significant construction components of the proposed project. Elimination of other project elements may also reduce associated construction emissions (whether or not included with the elimination of Project Elements 1 and 2). Therefore, eliminating Project Elements 1 and 2 is a representative “reduced project alternative” for purposes of the alternatives analysis. This alternative includes the following project elements:

- Project Element 3: Fender System Repair and Replacement
- Project Element 4: Pier 3 South Nearshore Dredging
- Project Element 5: Pier 3 Mooring Dolphin
- Project Element 6: Pier 3 North Lunchroom Wharf Replacement and Realignment
- Project Element 7: Quay Wall Modifications
- Project Element 8: Port Security Barrier Replacement
- Project Element 9: Small Boat Mooring Float Replacement
- Project Element 10: Central Tool Room Demolition and Reconstruction
- Project Element 11: New Production Building
- Project Element 12: Administrative Office Building
- Project Element 13: Pier 1 Restroom Renovation and/or Demolition
- Project Element 14: Main Electrical Utility Service Update
- Project Element 15: Sanitary Sewer and Potable Water Utility Services

The purpose of this alternative is to avoid or reduce the project-level and/or cumulative construction impacts associated with biological resources, greenhouse gas (GHG) emissions and energy, hazards and hazardous materials, and hydrology and water quality. Under this alternative, the Pride of San Diego Drydock would remain in its current location and would require the drydock to be moved from its mooring to the west and south in order to submerge and dock or undock a vessel each time a vessel comes in for drydock servicing and would continue to create constraints when wide-bodied vessels are moored at Pier 3 North. This would prevent wide-bodied vessels from being concurrently moored at Pier 3 North and would require the diesel engines of two separate vessels to run concurrently during docking and undocking activities, and would require tugboats to move the drydock. Dredging, and the associated transport of dredged material off site (upland and ocean disposal), would be substantially reduced under this alternative because the project would no longer include the dredging of 98,800 cy of material in order to accommodate the Pride of San Diego

Drydock improvements. However, this alternative would involve the removal of the contaminated sediment around the Pride of San Diego ramp wharf and eastern mooring dolphin during implementation of Project Element 6 (Pier 3 North Lunchroom Wharf Replacement and Realignment). Because Alternative 2 would still include implementation of other project elements that would allow servicing of newer and different classes of vessels (e.g., Project Elements 4 and 5), the potential ship mix at the site as well as the number of vessel crew and laborers onsite would be similar to the proposed project.

7.5 Analysis of Alternatives

This section discusses each of the project alternatives and determines whether each alternative would avoid or substantially reduce any of the significant impacts of the proposed project. This section also identifies any additional impacts resulting from the alternatives that would not result from the proposed project and considers the alternatives' respective relationships to the proposed project's basic objectives. A summary comparison of the impacts of the proposed project and the alternatives under consideration is included as Table 7-3 at the end of this chapter. A summary comparison of the relationship of the project objectives for the proposed project and the alternatives is included as Table 7-4 at the end of this chapter.

7.5.1 Alternative 1 – No Project/No Build Alternative

7.5.1.1 Air Quality and Health Risk

Alternative 1 would not include any construction activities that would result in additional air pollutant emissions. Under the No Project/No Build Alternative, operational conditions would be the same as existing conditions at the site, which currently has more berthing capacity, more vessel calls annually, and higher overall emissions than the proposed project. Under this alternative, the Pride of San Diego Drydock would remain in its current location and would require the drydock to be moved from its mooring to the west and south in order to submerge and dock or undock a vessel each time a vessel comes in for drydock servicing. This would result in operational inefficiencies because it would require the diesel engines of two separate vessels to run concurrently during docking and undocking activities, and tugboats would be needed to move the drydock. Since Alternative 1 would result in higher operational emissions than the proposed project, air quality and health risk impacts from operations would be greater compared to the proposed project, for which impacts would be less than significant.

7.5.1.2 Biological Resources

Under Alternative 1, no pile driving or construction activities associated with the proposed project would occur that would impair the water quality of California least tern and California brown pelican foraging areas; disrupt or injure green sea turtles and marine mammals; disturb or destroy protected nests; result in the loss of open water habitat; or result in indirect impacts on adjacent eelgrass. While this alternative would not disturb any contaminated sediment that could be released into the water column, thereby affecting marine biological resources, it also would not result in the removal of potentially contaminated sediment from San Diego Bay. As such, Alternative 1 would not achieve the same long-term benefits as the proposed project. Overall, no biological resource impacts

would occur under Alternative 1, and impacts would be reduced compared to the proposed project, for which impacts would be less than significant after mitigation.

7.5.1.3 Greenhouse Gas Emission and Energy

Alternative 1 would not include any construction and operational activities that would result in additional GHG emissions. Alternative 1 would be consistent with the District's Climate Action Plan (CAP); however, Alternative 1 would not include the operational efficiency improvements of the proposed project. The proposed improvements would result in a decrease in GHG emissions over time primarily due to the decrease in annual vessel calls, as well as new, energy efficient buildings that would use less energy and water and generate less wastewater. Alternative 1 would maintain the current annual vessel calls; thus, it would reduce GHG emissions compared to existing conditions and the proposed project. Therefore, while construction-related GHG emissions under Alternative 1 would be reduced when compared to the proposed project, this alternative would not incorporate efficiency improvements and would continue business as usual at the project site, thereby not reducing operational GHG emissions. Under this alternative, the Pride of San Diego Drydock would remain in its current location and would require the drydock to be moved from its mooring to the west and south in order to submerge and dock or undock a vessel each time a vessel comes in for drydock servicing. This would result in operational inefficiencies because it would require the diesel engines of two separate vessels to run concurrently during docking and undocking activities, and tugboats would be needed to move the drydock. As such, because the No Project/No Build Alternative would emit more GHGs on an annual basis, it would result in greater impacts associated with GHGs compared to the proposed project, for which impacts would be less than significant after mitigation.

7.5.1.4 Hazards and Hazardous Materials

Alternative 1 would not result in any construction activities that would disturb potentially contaminated landside soils and/or groundwater or waterside sediment contamination, if present. Consequently, Alternative 1 would result in no impact associated with the potential for hazardous materials to be released into the environment and expose workers or the public. Impacts under the proposed project would be less than significant with mitigation. While this alternative would not disturb any contaminated sediment that could be released into the environment from construction and expose workers or the public, it also would not remove potentially contaminated sediment from San Diego Bay. As such, Alternative 1 would not achieve the same long-term benefits as the proposed project. Overall, impacts related to hazards and hazardous materials from Alternative 1 would be reduced compared to the proposed project, for which impacts would be less than significant after mitigation.

7.5.1.5 Hydrology and Water Quality

Unlike the proposed project, Alternative 1 would not involve any soil- or sediment-disturbing construction activities that have the potential to adversely affect water quality from increased turbidity or the release of hazardous materials into the water column. Therefore, Alternative 1 would result in no impacts related to hydrology and water quality, whereas the proposed project would result in less-than-significant impacts with mitigation incorporated. While this alternative would not disturb any contaminated sediment that could be released into the water column, it also would not result in the removal of potentially contaminated sediment from San Diego Bay. As such,

Alternative 1 would not achieve the same long-term benefits as the proposed project. Overall, impacts would be reduced compared to the proposed project.

7.5.1.6 Land Use and Planning

Alternative 1 would not change the existing operations at the site, would not involve any construction activities, and would not have the potential to conflict with plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. As such, similar to the proposed project, Alternative 1 would be consistent with the goals of the PMP and other applicable plans and policies, including the California Coastal Act, the California Coastal Commission's Sea Level Rise Policy Guidance, and the San Diego Bay Integrated Natural Resource Management Plan. Therefore, Alternative 1 would result in no impacts related to land use and planning, which would be slightly reduced compared to the proposed project, for which impacts would be less than significant.

7.5.1.7 Noise and Vibration

Alternative 1 would not involve any noise-generating construction activities, and because the nature of operations would be similar to existing conditions, noise levels under operational conditions would not change. Therefore, no impacts related to noise and vibration would result from Alternative 1, and impacts would be slightly reduced compared to the proposed project, for which impacts would be less than significant.

7.5.1.8 Sea-Level Rise

Alternative 1 would not change any of the land- or waterside structures at the project site, which are at a similar minimum elevation relative to mean lower low water as the proposed project elements. Therefore, impacts related to sea-level rise under Alternative 1 would be less than significant and similar to the proposed project, for which impacts would be less than significant.

7.5.1.9 Transportation, Circulation, and Parking

Alternative 1 would not involve any new construction activities, and operations would remain the same as existing conditions. As such, this alternative would not generate new traffic or parking demands above existing conditions. Therefore, Alternative 1 would result in no impacts related to transportation, circulation, and parking, and impacts would be slightly reduced compared to the proposed project, for which impacts would be less than significant.

7.5.1.10 Relationship to Project Objectives and Summary of Impacts

The project would not result in any significant and unavoidable impacts. However, when accounting for mitigated impacts of the project, the No Project/No Build Alternative would avoid or reduce impacts of the proposed project related to biological resources, GHG emissions and energy, hazards and hazardous materials, and hydrology and water quality. However, the No Project/No Build Alternative would not meet any of the project objectives (#1, #2, #3, #4, and #5), which aim to maximize use of the project site for ship repair facilities, modernize the BAE Systems San Diego Ship Repair Yard by providing improved facilities, enhance worker safety, invest in new shipyard infrastructure to enhance short- and long-term viability of the San Diego Bay and the region to military and commercial ship operators, and preserve jobs by maintaining the physical capacity and

technical capability to support the U.S. Naval presence. Due to the current operational inefficiencies that exist at the project site, these objectives would not be met because none of the project elements, which would increase operational efficiency and are required to meet the demands anticipated by the U.S. Navy's "Pivot West" strategy, would be implemented.

7.5.2 Alternative 2 – Reduced Project Alternative

7.5.2.1 Air Quality and Health Risk

Under the Reduced Project Alternative, there would be no construction associated with Project Elements 1 and 2. As a result, large emission sources during construction, including dredgers, scows, tugs, and survey vessels, would be reduced under Alternative 2; thus, daily and annual construction emissions of criteria pollutants would generally be decreased compared to the proposed project. Under this alternative, the Pride of San Diego Drydock would remain in its current location and would require the drydock to be moved from its mooring to the west and south in order to submerge and dock or undock a vessel each time a vessel comes in for drydock servicing. This would continue existing operational inefficiencies because it would require the diesel engines of two separate vessels to run concurrently during docking and undocking activities, and tugboats would be needed to move the drydock. Therefore, emissions during operation of the Reduced Project Alternative would be similar to existing conditions, which are higher for each criteria pollutant than the proposed project on an annual basis. Because there would be a reduction in emissions during construction and an increase in emissions during operation compared to the proposed project, overall impacts associated with emissions of criteria pollutants from Alternative 2 would be similar to the proposed project, for which impacts would be less than significant.

7.5.2.2 Biological Resources

Alternative 2 would involve in-water work, including pile driving, dredging, barge operations, and some new open water coverage (although a smaller amount than what would occur under the proposed project) that has the potential to result in significant impacts on biological resources, including impacts related to water quality impairment of California least tern and California brown pelican foraging areas, disruption of or injury to green sea turtle and marine mammals during pile driving, disturbance or destruction of protected nests, loss of open water habitat, and indirect impacts on eelgrass habitat outside the project site. Similar to the proposed project, mitigation would be required to reduce these impacts to less-than-significant levels. However, the extent of impacts would be less under Alternative 2 due to the elimination of Project Elements 1 and 2. While this alternative would result in less disturbance of contaminated sediment that could be released into the water column than the proposed project, it also would remove less potentially contaminated sediment from San Diego Bay. As such, Alternative 2 would not achieve the same long-term benefits as the proposed project. Overall, impacts on biological resources from Alternative 2 would be reduced compared to the proposed project, for which impacts would be less than significant after mitigation.

7.5.2.3 Greenhouse Gas Emission and Energy

The Reduced Project Alternative would reduce the amount of sources of construction-related GHG emissions compared to the proposed project due to the elimination of Project Elements 1 and 2. The Pride of San Diego Drydock would remain in its current location under this alternative and would

require the drydock to be moved from its mooring to the west and south in order to submerge and dock or undock a vessel each time a vessel comes in for drydock servicing. This would result in operational inefficiencies because it would require the diesel engines of two separate vessels to run concurrently during docking and undocking activities, and tugboats would be needed to move the drydock. GHG emissions during operation of the Reduced Project Alternative would be similar to existing conditions, which are higher than the proposed project on an annual basis, as shown in Table 4.3-7 of Section 4.3, *Greenhouse Gas Emissions and Energy*. Therefore, Alternative 2 would result in a reduction of GHG emissions resulting from construction, but would result in more GHG emissions from operation compared to the proposed project. Overall, the impacts related to GHG emissions from Alternative 2 would be greater than the proposed project.

7.5.2.4 Hazards and Hazardous Materials

Similar to the proposed project, Alternative 2 would involve ground-disturbing activities on the landside and waterside portions of the project site that would have the potential to encounter landside contamination and waterside sediment contamination, thereby resulting in potentially significant hazards and hazardous materials impacts. Similar to the proposed project, mitigation would be required to reduce these impacts to less than significant. However, the extent of impacts would be less under Alternative 2 due to the elimination of Project Elements 1 and 2. While this alternative would result in less disturbance of contaminated sediment than the proposed project, it also would remove less contaminated sediment from San Diego Bay. As such, Alternative 2 would not achieve the same long-term benefits as the proposed project. Overall, hazards and hazardous materials impacts under Alternative 2 would be reduced compared to the proposed project.

7.5.2.5 Hydrology and Water Quality

Similar to the proposed project, Alternative 2 would involve dredging in the Bay (although less than the project), including removal of contaminated sediment as part of Project Elements 4 and 6, and would also involve construction of the landside project elements. Therefore, Alternative 2 has the potential to violate water quality standards or degrade existing water quality. Similar to the proposed project, mitigation would be required to reduce these impacts to less-than-significant levels. However, the extent of impacts would be less under this alternative due to the elimination of Project Elements 1 and 2. While this alternative would result in less disturbance of contaminated sediment that could be released into the water column than the proposed project, it also would remove less contaminated sediment from San Diego Bay. As such, Alternative 2 would not achieve the same long-term benefits as the proposed project. Overall, hydrology and water quality impacts under Alternative 2 would be reduced compared to the proposed project.

7.5.2.6 Land Use and Planning

Alternative 2 would result in less construction than the proposed project due to the elimination of Project Elements 1 and 2, but operation of Alternative 2 would generally be similar to the proposed project. As such, similar to the proposed project, Alternative 2 would be consistent with the goals of the PMP and other applicable plans and policies including the California Coastal Act, the California Coastal Commission's Sea Level Rise Policy Guidance, and the San Diego Bay Integrated Natural Resource Management Plan. Therefore, land use and planning impacts under Alternative 2 would be similar to the proposed project.

7.5.2.7 Noise and Vibration

Alternative 2 would involve construction activities similar to those anticipated for the proposed project, including pile driving/extraction, dredging, and hauling, but overall construction activities would be reduced compared to the proposed project due to the elimination of Project Elements 1 and 2. Similar to the proposed project, Alternative 2 would result in less-than-significant impacts related to noise standards, temporary noise increases, and vibration. Therefore, noise and vibration impacts under Alternative 2 would be similar to the proposed project.

7.5.2.8 Sea-Level Rise

Alternative 2 would involve many of the same project elements as the proposed project, including Project Element 3 (Pier 1 and 3 Fenders), Project Element 5 (Pier 3 Mooring Dolphins), Project Element 6 (Pier 3 Breakroom), Project Element 7 (Quay Wall), and Project Element 14 (Building 13). Similar to the proposed project, impacts associated with these project elements would be less than significant. Additionally, similar to the proposed project, Alternative 2 would be consistent with the California Coastal Commission's Sea Level Rise Policy Guidance. Therefore, sea-level rise impacts under Alternative 2 would be similar to the proposed project.

7.5.2.9 Transportation, Circulation, and Parking

Alternative 2 would generate construction traffic, including construction worker trips and truck trips, but would be slightly reduced compared to the proposed project because it would not require as many trucks to haul away dredged material and would also likely reduce construction worker trips due to the elimination of Project Elements 1 and 2. Alternative 2 would result in fewer vehicle trips and a reduced parking demand during construction compared to the proposed project, and impacts would be less than significant. However, the proposed project would also result in less-than-significant impacts on transportation, circulation, and parking. Therefore, transportation, circulation, and parking impacts under Alternative 2 would be similar to the proposed project.

7.5.2.10 Relationship to Project Objectives and Summary of Impacts

Alternative 2 would avoid or reduce impacts of the proposed project related to biological resources, GHG emissions and energy, hazards and hazardous materials, and hydrology and water quality during construction. However, this alternative would result in greater air pollutant and GHG emissions than the proposed project during operations because the Pride of San Diego Drydock would remain in its current location and would require the drydock to be moved from its mooring to the west and south in order to submerge and dock or undock a vessel each time a vessel comes in for drydock servicing. This would result in operational inefficiencies because it would require the diesel engines of two separate vessels to run concurrently during docking and undocking activities, and tugboats would be needed to move the drydock. Alternative 2 would only fully meet one of the project objectives (#3) and only partially meet the rest (#1, #2, #4, and #5). Without the improvements to the Pride of San Diego Drydock, substantial operational inefficiencies would still exist at the project site. Thus, this alternative would not fully achieve the objectives related to maximizing the use of existing waterways, available shoreline, and land; modernizing the shipyard to meet the demands of the current and anticipated ship fleet of military and commercial customers; enhancing the short- and long-term viability of the San Diego Bay related to shipyard infrastructure; and preserving jobs by maintaining the physical capacity and technical capabilities needed to support U.S. Naval presence and commercial maritime needs in San Diego.

7.5.3 Environmentally Superior Alternative

Pursuant to CEQA, the EIR is required to identify the environmentally superior alternative. Although the No Project/No Build Alternative (Alternative 1) reduces the greatest number of significant impacts, CEQA requires that when the environmentally superior alternative is the No Project/No Build Alternative, another alternative should be identified. The Reduced Project Alternative (Alternative 2) reduces the second-largest number of impacts of the proposed project associated with biological resources, GHG emissions and energy, hazards and hazardous materials, and hydrology and water quality.

Impacts on biological resources under Alternative 2 would be reduced compared to the proposed project because of the elimination of in-water construction activities and new overwater structures for Project Elements 1 and 2. However, impacts on biological resources under Alternative 2 would still be significant and would require mitigation to reduce the impacts to less than significant. Impacts related to criteria pollutants and GHG emissions under Alternative 2 would be reduced during construction compared to the proposed project because of the reduction in heavy emitters such as scows and tugs; however, Alternative 2 would result in more emissions during the overall life of the project because efficiency measures would not be implemented. Impacts related to hazards and hazardous materials and hydrology and water quality would be reduced compared to the proposed project because Alternative 2 would result in less disturbance of contaminated sediment. However, impacts on hazards and hazardous materials and hydrology and water quality under Alternative 2 would still be significant and would require mitigation to reduce the impacts to less than significant. Impacts on all other resources would be similar to the proposed project under Alternative 2.

Therefore, Alternative 2 is considered the environmentally superior alternative, and overall impacts on environmental resources would be reduced compared to the proposed project (see Table 7-3). However, the proposed project would also result in beneficial effects on the environment, including dredging to remove contaminated sediment from the project site, and efficiency improvements to the operations of the Pride of San Diego Drydock, which would reduce criteria pollutants emissions and GHG emissions over time. This alternative would not fully achieve most of the project objectives (see Table 7-4).

Table 7-3. Summary Impact Comparison of Proposed Project Alternatives

Environmental Resource	Proposed Project Determination	No Project/No Build Alternative (Alternative 1)	Reduced Project Alternative (Alternative 2)
Air Quality and Health Risk	Less than Significant	+1	+1
Biological Resources	Less than Significant w/Mitigation	-1	-1
Greenhouse Gas Emissions and Energy	Less than Significant w/Mitigation	+1	+1
Hazards and Hazardous Materials	Less than Significant w/Mitigation	-1	-1
Hydrology and Water Quality	Less than Significant w/Mitigation	-1	-1
Land Use and Planning	Less than Significant	0	0
Noise and Vibration	Less than Significant	-1	0

Environmental Resource	Proposed Project Determination	No Project/No Build Alternative (Alternative 1)	Reduced Project Alternative (Alternative 2)
Sea-Level Rise	Less than Significant	0	0
Transportation, Circulation, and Parking	Less than Significant	-1	0
Total¹	--	-3	-1

¹ Lowest score is environmentally superior alternative; however, if the lowest score is the No Project Alternative, then the next lowest score is the environmentally superior alternative.

-1= Reduced; 0 = Similar; +1 = Greater

Table 7-4. Summary Project Objective Comparison of Proposed Project Alternatives

Project Objective	No Project/No Build Alternative (Alternative 1)	Reduced Project Alternative (Alternative 2)
1. Construct and operate shipyard repair facilities that maximize the use of existing waterways, available shoreline, and existing land.	No	Partially
2. Modernize the BAE Systems San Diego Ship Repair Yard by providing improved facilities to meet the needs of the current and anticipated ship fleet of military and commercial customers.	No	Partially
3. Enhance worker safety, customer security, and environmental protection programs through integration of relevant project elements.	No	Yes
4. Invest in new shipyard infrastructure that will enhance the short- and long-term attractiveness and viability of San Diego Bay and the region to military and commercial ship operators for construction and repair, consistent with the Port Master Plan.	No	Partially
5. Preserve jobs by maintaining the physical capacity and technical capability to support U.S. Naval presence and commercial maritime needs in San Diego.	No	Partially

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Chapter 8

List of Preparers and Agencies Consulted

8.1 Lead Agency—San Diego Unified Port District

Real Estate and Development Services

Real Estate

Amber Jensen	Asset Manager
Ryan Donald	Department Manager

Development Services

Wileen C. Manaois	Director
Joseph Smith	Department Manager
Peter Eichar	Project Manager
Kelly Czechowski	Senior Planner
Megan Hamilton	Associate Planner

Planning & Green Port

Eileen Maher	Director, Environmental Conservation
Paul Brown	Program Manager

Office of the General Counsel

Rebecca S. Harrington, Esq.	Senior Deputy General Counsel
Christopher Burt	Deputy General Counsel

8.2 Project Management Consultant—Dudek

Matt Valerio	Project Manager
Shannon Baer	Environmental Analyst

8.3 EIR Preparation—ICF

EIR Management

Chad Beckstrom	Principal-In-Charge/QA-QC
Tristan Evert	Project Manager

Emily Seklecki Deputy Project Manager

Technical Staff

Kelly Ross Senior Environmental Planner

Claudia Watts Environmental Planner

Matt McFalls Senior Air Quality and Greenhouse Gas Specialist

Sarah Halterman Air Quality and Climate Change Specialist

Louis Browning, Ph.D. Technical Director, Maritime Air Expert

Brenda Dix Senior Climate Change Specialist (Sea Level Rise)

Maya Bruguera Climate Change Specialist (Sea Level Rise)

Jonathan Higginson, INCE Senior Noise Specialist

Jacob Rzeszutko Noise Specialist

Keoni Calantas Senior Biologist

Mike Ireland Senior Biologist

Laura Rocha Senior Water Quality Specialist

David Duncan GIS Specialist

Publication Staff

Kenneth Cherry Lead Editor

Jenelle Mountain-Castro Publications Specialist

8.4 Traffic Report—Chen Ryan Associates

Stephen Cook, P.E. Project Engineer

Nick Mesler Project Planner

Dale Domingo Project Planner

8.5 Biological Technical Study and Essential Fish Habitat Assessment—Merkel and Associates

Keith Merkel Principal Consultant

8.6 Biological Technical Study and Essential Fish Habitat Assessment 3rd Party Review—Marine Taxonomic Services, Ltd.

Robert Mooney, PhD.

Principal Marine Scientist

8.7 Hazardous Materials Technical Report—Ninyo and Moore

Lisa Bestard

Senior Environmental Scientist

8.8 Agencies, Organizations, and Persons Consulted

Agency/Company Name	Contact
State of California, Governor's Office of Planning and Research, State Clearinghouse and Planning Unit (SCH)	N/A
California Department of Fish and Wildlife	Loni Adams, Marine Environmental Specialist
California Department of Transportation	Melina Pereira, Acting Branch Chief
Native American Heritage Commission	Steve Quinn, Associate Governmental Program Analyst
San Diego Regional Water Quality Control Board	Sarah Mearon, Senior Engineering Geologist Julie Macedo, Senior Staff Counsel
San Diego Association of Governments	Katie Hentrich, Associated Regional Energy/Climate Planner
City of San Diego, Development Services Department	Ismail Elhamad, Associate Traffic Engineer
City of San Diego, Environmental Services Department	Lisa Wood, Principal Planner
City of San Diego, Transportation and Stormwater Department	Mark G. Stephens, Associate Planner
Environmental Health Coalition	Joy Williams, Research Director

I hereby certify that the statements furnished above present the data and information required for this report to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signature:  _____ Date: July 1, 2020

Chad Beckstrom, Principal, ICF

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