Final Environmental Initial Study Checklist/
Mitigated Negative Declaration

SLPR-Arendsee Rock Revetment Replacement Project (State Clearinghouse No. 202581124; MND2024-016)

NOVEMBER 2025

Prepared for:

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APPENDIX

A Changes to Draft Initial Study Checklist/ Mitigated Negative Declaration

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
Caltrans	California Department of Transportation
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
MND	Mitigated Negative Declaration
project	SLPR-Arendsee Rock Revetment Replacement Project

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1 Introduction

1.1 Final Initial Study Checklist/Mitigated Negative Declaration Introduction

This chapter presents background and introductory information for the SLPR-Arendsee Rock Revetment Replacement Project (proposed project). This chapter also describes the proposed project and its purpose under the California Environmental Quality Act (CEQA) and presents the authorities of the San Diego Unified Port District (District), the lead agency preparing this Final Initial Study (IS) Checklist and Mitigated Negative Declaration (MND), the scope and content of the Final IS/MND, and the public outreach for the proposed project. Chapter 2 presents information regarding the distribution of and comments on the Draft IS/MND, comments received on the Draft IS/MND and responses to those comments. Chapter 3 presents changes made to the Draft IS/MND that were made in response to comments received. Chapter 4 presents the environmental factors potentially affected and effects found not to be significant. Chapter 5 presents the mitigation monitoring and reporting program for the project. Chapter 6 presents the findings of the Final IS/MND, and Chapter 7 presents the documents in support of the findings.

1.2 CEQA Review Process

CEQA was enacted by the California Legislature in 1970 and requires public agency decision makers to consider the environmental effects of their actions. CEQA Section 21064 defines a "Negative Declaration" as a well written statement briefly describing the reasons that a proposed project will not have a significant effect on the environment and does not require the preparation of an environmental impact report.

CEQA Section 21064.5 defines a “Mitigated Negative Declaration” as a negative declaration prepared when a state or local agency determines that an IS has identified potentially significant effects on the environment, but (1) revision in the project plans or proposals (mitigation measures) made by, or agreed to by, the Applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the lead agency that the project, as revised, may have a significant effect on the environment.

CEQA Section 21068 defines a significant effect on the environment as a substantial or potentially substantial adverse change in the environment.

CEQA Section 21082.2(a) requires the lead agency to determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record.

The District prepared a Draft IS/MND to address the potential environmental effects associated with the proposed project pursuant to the requirements of CEQA and the implementing State CEQA Guidelines. Specifically, the Draft IS/MND meets the requirements of CEQA Guidelines Section 15063 as discussed in more detail below. The Draft IS/MND included a discussion of the proposed project’s effects on the existing environment. Issue areas identified as having potential impacts are discussed further and includes mitigation measures that would reduce potential impacts to “Less Than Significant With Mitigation Incorporated.”

1.3 Intended Use of the Final Initial Study Checklist/ Mitigated Negative Declaration

This Final IS/MND for the proposed project has been prepared in accordance with CEQA of 1970, as amended. The District is the local lead agency for the project, and has prepared this Final IS/MND. This Final IS/MND is an informational document that would inform the Board of Port Commissioners (Board), as the local decision-maker, and the general public of the significant environmental effects of the proposed project and the recommended ways to mitigate the significant effects of the proposed project. The document fulfills the requirements of the CEQA (California Public Resources Code 21000 et seq.) implementing regulations, and the State CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15000 et seq.). Specifically, this Final IS/MND meets the requirements of CEQA Guidelines Sections 15070 and 15071, among others. The IS Checklist meets the requirements of CEQA Guidelines Section 15063, and together, the IS and MND meet CEQA's content requirements by including a project description; a description of the environmental setting, thresholds of significance, potential environmental impacts; discussion of consistency with plans and policies; and names of the document preparers. The Final IS/MND would support the permitting process of all agencies, including any agencies whose discretionary approvals must be obtained for particular elements of this project.

1.4 Final Initial Study Checklist/Mitigated Negative Declaration

As the CEQA lead agency, the District considered the environmental resources present within its jurisdiction and the surrounding area and identified the probable environmental effects of the proposed project by preparing a Draft IS/MND. The Draft IS/MND evaluated approving the proposed project, which includes the issuance of a Non-appealable Coastal Development Permit (CDP).

On August 26, 2025, the District issued a Notice of Intent to Adopt an MND for the proposed project to inform responsible and trustee agencies, public agencies, and the public that the District was preparing a Draft IS/MND to evaluate the potential environmental impacts of the proposed project. The Draft IS/MND was circulated for a 30-day public review and comment period starting on August 26, 2025, and ending on September 25, 2025. During this timeframe, the document was available for review by various federal, state, regional, and local agencies as well as by interested organizations and individuals. There were two written comment letters received during the public review period and District responses to the comments received are included in Chapter 2 of this Final IS/MND. The District received written comments on the Draft IS/MND from two agencies, the California Coastal Commission and the California Department of Transportation (Caltrans), District 11.

1.5 Adoption of the Final Initial Study Checklist and Mitigated Negative Declaration

This Final IS/MND addresses the comments contained in the comment letters received on the Draft IS/MND in the responses to comments received during the public review period section of Chapter 2. This Final IS/MND also includes minor clarifications to the text. Any additions are indicated in underline text, and any deletions are shown as strikeout text in Chapter 3. This Final IS/MND has been provided to the public for review, comment, and participation in the planning process. This Final IS/MND is being distributed to provide the basis for decision making by the District as the

CEQA lead agency and other concerned agencies. Adoption of the Final IS/MND for the proposed project must precede project approval. Project approval requires that the Board review and consider the Final IS/MND.

1.6 Project Background

1. Project Title:

SLPR-Arendsee Rock Revetment Replacement Project
(State Clearinghouse No. 202581124; MND2024-016)

2. Lead Agency Name and Address:

San Diego Unified Port District
Development Services Department
3165 Pacific Highway
San Diego, California 92101

3. Contact Person and Phone Number:

Luis Duran, Senior Planner
Development Services Department, San Diego Unified Port District
858.294.1697

4. Project Location:

Bayward of 407 and 409 First Street, Coronado, California 92118

5. Public Review Period of Draft IS/MND:

August 26, 2025, to September 26, 2025

6. Water Use Designation:

Open Bay

7. Project Applicant:

SLPR CA LLC and Allan W. Arendsee and Lyndsey J. Arendsee as Trustees of the Arendsee Family Trust

8. Project Description:

The project includes the replacement of existing rock revetment located bayward of homes at 407 and 409 First Street in Coronado. The project Applicants are seeking a Non-appealable CDP to allow the removal and disposal of existing rock revetment and debris, the placement of new substrate and rock revetment, and final cleanup and demobilization of the project. Project construction would begin early in 2026 and would take approximately 3 months to complete.

9. Surrounding Land Uses:

Open Bay and Residential Uses in the City of Coronado

10. Necessary Public Agency Approvals:

- District Adoption of the MND
- District Adoption of the Mitigation Monitoring and Reporting Program
- District Right of Entry Permit
- District issuance of a Non-Appealable CDP
- U.S. Army Corps of Engineers for Section 10 of the Rivers and Harbors Act and for Section 404 of the Clean Water Act
- California Regional Water Quality Control Board for a Clean Water Act Section 401 water quality certification
- Wildlife agency coordination, including potential endangered species action Section 7 coordination with the U.S. Fish and Wildlife Service, and National Marine Fisheries Service

2 Responses to Comments

2.1 Distribution of the Draft Initial Study/ Mitigated Negative Declaration

The Draft IS/MND prepared for the District's Development Services Department was distributed to the public and regulatory agencies on August 26, 2025, for a 30-day review period. Electronic copies of the Draft IS/MND were distributed to various government agencies, organizations, and individuals through the California State Clearinghouse and a copy of the Notice of Intent to Adopt an MND was sent to the State Clearinghouse and the County of San Diego, all interested parties, and all individuals within a 300-feet of the proposed project's boundary.

The Draft IS/MND was available for review at the District's Office of the District Clerk, 3165 Pacific Highway, San Diego, California 92101 and at the following libraries:

- San Diego Downtown Public Library
- Coronado Public Library

Electronic copies of the Draft IS/MND were also made available on the District's website at https://www.portofsandiego.org/public-records/port-updates/notices-disclosures/ceqacoastal-act-notices.

2.2 Comments Received on the Draft Initial Study/ Mitigated Negative Declaration

The public comment and response component of the CEQA process serves as essential role. It allows the lead agency to assess the impacts of the project based on the analysis of other responsible, concerned, or adjacent agencies and interested parties, and it provides an opportunity to amplify and better explain the analysis that the lead agency has undertaken to determine the potential new or substantially more severe environmental impacts of the proposed project. To that extent, responses to comments are intended to provide complete and thorough explanation to commenting agencies, organizations and individuals, and to improve the overall understanding of the project for the decision-making bodies.

The District received two comment letters in the form of emails during the public review period (August 26, 2025 – September 25, 2025). The following pages shows the comments made on the Draft IS/MND.

2.3 Comment Letter No. 1 - California Coastal Commission

COMMENT LETTER NO. 1
CALIFORNIA COASTAL COMMISSION

STATE OF CALIFORNIA -- THE NATURAL RESOURCES AGENCY GAVIN NEWSOM, *Governor*

CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370

September 24, 2025

Luis Duran
San Diego Unified Port District
CEQASLPR@portofsandiego.org

Re: Coastal Commission Comments on MND for Arendsee Rock Revetment Replacement Project

Dear Luis Duran:

Coastal Commission (Commission) staff appreciates the opportunity to review and provide the following comments on the Draft Mitigated Negative Declaration (MND) for the Arendsee Rock Revetment Replacement Project which was emailed to our office on August 26, 2025. The project includes the replacement of an existing rock revetment located bayward of two lots containing single-family residences at 407 and 409 First Street in the City of Coronado. The applicant for the project is the owner of the single-family residence located at 409 First Street which is located landward of the project site. 1-1

As discussed below, we believe that there are several errors with the MND analysis of consistency with Chapter 3 of the Coastal Act, and that the project is inconsistent with Chapter 3. As such, we are recommending that the MND be revised to include an analysis of a no project alternative or repair of the existing revetment which is the only allowable modification to the revetment under Chapter 3 of the Coastal Act. 1-2

Standard of Review for the Coastal Development Permit

As indicated in Section 4.11.2 of the MND, the proposed project would require the Port to issue a non-appealable coastal development permit (CDP). Since the project site is located within water delineated as wetland and estuary, the project must be found consistent with Chapter 3 and Chapter 8 of the Coastal Act. 1-3

Project Description

Please provide additional details regarding the project, including the length, width, location, volume, and fill amount of the existing revetments and the new revetment. Please also include a cross section of the existing revetment with elevations. 1-4

Fill of Coastal Waters

The proposed project would result in 249 cubic yards of additional fill in coastal waters and a new riprap revetment. 1-5

Table 4.11-1. of the MND provides an argument for consistency with the Coastal Act policies but incorrectly analyzes Sections 30233 and 30235 and should be revised. 1-5 contd.

Section 30235 of the Coastal Act limits shoreline protective devices to those required to serve coastal dependent uses or to protect existing structures or public beaches in danger from erosion; however, neither of these uses describe the sites landward of the project. Specifically, the MND indicates that the "replacement is needed to protect the existing shoreline and structures in danger of erosion." However, there is no public beach at this site, nor is public access available along the shoreline. The residence located landward of the project site at 409 First Street is also not considered "existing" since our understanding is that the structure was built in 2022. Specifically, "existing" has been interpreted by the Commission to mean structures lawfully in existence prior to the effective date of the Coastal Act (January 1, 1977). This interpretation was formally adopted by the Commission when it adopted the Sea Level Rise Policy Guidance[1] in 2015 and was affirmed by a California Court of Appeal decision in 2024[2]. Thus, the residence at 409 First Street is not pre-Coastal and is not considered an existing structure entitled to shoreline protection pursuant to Section 30235. 1-6

Further, even if the structure at 409 First Street did qualify for protection under the Coastal Act, the MND does not contain a site-specific analysis that identifies the structures at the site are currently in danger of flooding, erosion, or sea level rise which is also required by 30235. In addition, the MND does not provide any specific information regarding the risks to the adjacent residence at 407 First Street, and it is our understanding that the revetment fronting the 407 First Street property has been maintained and repaired. Further, it does not appear that the property owner at 407 is a co-applicant to the subject permit application and it is unclear if the property owner has expressed concern that their home is currently at risk. 1-7

Coastal Act Section 30233 allows fill for certain types of development, but the project design must be the least environmentally damaging feasible alternative, and unavoidable resource impacts must be mitigated. Regarding the first test for consistency with Section 30233, the MND incorrectly identifies the shoreline protection as a restoration purpose which is an allowable use for fill; however, the 1-8

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[1] Chapter 8 of the Commission's Sea Level Rise Policy Guidance provides an in-depth explanation for this interpretation. To summarize, it states that together, Sections 30235 and 30253 evince a broad legislative intent to give structures in existence prior to the passage of the Coastal Act a right to a shoreline protective device (in other words, to grandfather them in), and to limit shoreline protective devices for development built after the passage of the law.

[2] *Casa Mira Homeowners Assoc. v. California Coastal Com.* (2024) Case No. A168645; petition to California Supreme Court denied, March 12, 2025.

Commission has interpreted the term "restoration purposes" to mean to restore natural coastal processes or historic habitat, which is not the purpose of the subject project or fill. The proposed project also does not qualify for any of the other identified allowable uses of Section 30233 for an increase of fill. 1-8 contd.

In addition, the MND states that there is no environmentally damaging feasible alternative, "in light of the location of the project and the nature of the proposed construction activities." However, it is not clear what alternatives were evaluated, if any, or why the location or construction activities would render other alternatives infeasible. Our project engineer previously reviewed conditions at the site and did believe that repair of the existing revetment was an option that should be analyzed. 1-9

Please also note that the statement included in the SLR Vulnerability Assessment that states "California Coastal Commission's current policy guidance highly values scenic and visual resources for shoreline adaptation, which would be enhanced at the project site by replacing concrete debris with riprap stones" is also not correct. This portion of the shoreline does not have public access and is only visible from boats on the water; as such, retaining the existing concrete revetment would not significantly impact visual resources and we do not believe it is an argument for replacing the existing revetment given the inconsistencies with the Coastal Act. 1-10

Finally, the MND does not require mitigation of the proposed fill impacts and, as such, is not consistent with Section 30233. Fill impacts are typically mitigated by removing an equal amount of fill elsewhere in the San Diego Bay; however, environmental restoration projects, such as the restoration of eelgrass, have also been accepted. 1-11

In conclusion, instead of pursuing new shoreline protection, the new residence built in 2022 at 409 First Street should have been sited and designed to be safe from flooding and sea level rise throughout its economic life, as the applicant was informed by Commission staff during the review of Appeal No. A-6-COR-19-0027 discussed below. 1-12 The proposed project is inconsistent with the Chapter 3 policies of the Coastal Act and, as such, the MND should be revised correct the analysis in Table 4.11-1 and to evaluate alternatives, including no project and repair of the existing revetment, based on the proposed engineering plans and a site specific analysis. 1-13

Project History

Modifications to the shoreline protective device at 409 First Street were approved by the City of Coronado in 2019 and subsequently appealed by two members of the California Coastal Commission (A-6-COR-19-0027). Specifically, the City's decision allowed for the demolition of an existing 3 ft. high, 85 ft. long retaining wall and construction of a new 7 ft. high, 85 ft. long sheet pile retaining wall. A 1-14

new home was also approved at the site which was exempt from permitting requirements. 1-14 contd.

The appellants asserted that the project as approved by the City of Coronado did not conform to the City's certified Local Coastal Program because 1) the shoreline protection device would be used to protect a new single family residence and patio, which are not structures that merit shoreline protection; instead the new residence should be sited and designed to be safe from flooding and sea level rise throughout its economic life in order to avoid the need for a new retaining wall; 2) the retaining wall is sited seaward of the existing retaining wall, which could impact the natural shoreline erosion process; 3) it is unclear why a new retaining wall is necessary, given the site is protected by an existing retaining wall and riprap revetment; and 4) construction of the project could result in adverse impacts to water quality and biological resources, including adjacent eelgrass habitat. 1-15

The project was withdrawn by the applicant, who is the same applicant for the subject project, following staff's publication of a staff report[3] that recommended that a substantial issue existed with respect to the appellant contentions and recommended denial of the project on de novo. The concerns described it that appeal are relevant as they mirror the concerns that continue with the project described in the MND. 1-16

Please note that these comments are based on the information that has been presented to us thus far and are not binding; Commission staff may have further comments or identify additional issues over time. We look forward to continuing our coordination with Port staff on this project. If you have any questions or require further clarification, please do not hesitate to contact me at Melody.Lasiter@coastal.ca.gov. 1-17

Sincerely,

Melody Lasiter
Coastal Program Analyst
California Coastal Commission

CC (via email):
Diana Lilly, California Coastal Commission
Kanani Leslie, California Coastal Commission

[3] https://documents.coastal.ca.gov/reports/2020/12/W17a/W17a-12-2020-report.pdf

2.4 Responses to Comments - Letter No. 1

1-1 Summary

The comment is introductory in nature. The commenter states that Coastal Commission staff appreciates the opportunity to review and provide comments on the Draft IS/MND. The commenter recaps the project and states the Applicant for the project is the owner of the single family residence located at 409 First Street, which is located landward of the project site.

Response

The District appreciates the California Coastal Commission's participation in the review of the Draft IS/MND for the SLPR-Arendsee Rock Revetment Replacement Project. To clarify, the project would involve a repair and replacement-in-kind of rock revetment at 407 and 409 First Street on District tidelands in Coronado, California 92118. See the new Figure 2-2, Site Plan, on Page 15 of the Draft MND. The Applicants of the proposed project are SLPR CA LLC for the 407 First Street property and Allan W. Arendsee and Lyndsey J. Arendsee as Trustees of the Arendsee Family Trust for the 409 First Street property. The project proposes removal and off-site disposal of existing rock revetment and construction debris, the placement of new rock revetment, and final cleanup and demobilization at both properties.

The commenter does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, the comment will be included in the materials presented to the Board of Port Commissioners for consideration in whether to approve the proposed project.

1-2 Summary

The commenter states that they believe that there are several errors with the MND analysis of consistency with Chapter 3 of the Coastal Act, and that the project is inconsistent with Chapter 3. The commenter recommends that the MND be revised to include an analysis of a no project alternative or repair of the existing revetment, which is the only allowable modification to the revetment under Chapter 3 of the Coastal Act.

Response

This comment is introductory in nature as it introduces the comments to follow.

Please see responses 1-3 through 1-10 below for responses.

1-3 Summary

The commenter states the proposed project would require the Port to issue a Non-appealable CDP and states that since the project site is located within water delineated as wetland and estuary, the project must be found consistent with Chapter 3 and Chapter 8 of the Coastal Act.

Response

The District agrees that the proposed development is on water delineated as wetlands and estuary and must be consistent with Chapter 3 of the California Coastal Act. Accordingly, the Draft IS/MND included a consistency analysis of the Coastal Resources Planning and Management Polices in Chapter 3 of the Coastal Act Table 4.11-1, SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies, on Page 141.

1-4 Summary

The comment asks that the Port provide additional details regarding the project, including the length, width, location, volume, and fill amount of the existing revetments and the replacement revetment. The commenter also requests that a cross section of the existing revetment with elevations be included.

Response

In response to this comment, additional details have been added in a new Figure 2-3, Existing and Proposed Cross Sections, on Page 17 of the Draft IS/MND. This figure depicts cross sections of the existing and proposed new rock revetment at both the 407 First Street and 409 First Street properties. These cross sections provide the requested details of length, width, elevation and location of the existing and proposed rock revetment. As shown on Figure 2-3, the proposed new rock revetment would be approximately 170 feet long (across both properties), 24 feet wide, and approximately 10 feet tall. Also as shown in Figure 2-3, the location of the proposed revetment envelope is depicted in red and is superimposed on top the existing revetment envelope shown in blue.

1-5 Summary

The comment restates that the project would result in 249 cubic yards of additional fill in coastal waters and new riprap revetment and states that the MND provides an argument for consistency with the Coastal Act policies in Table 4.11-1 but incorrectly analyzes Sections 30233 and 30235 and should be revised.

Response

The Draft IS/MND did mistakenly state that the proposed project would result in 249 cubic yards of additional fill in coastal waters.

The District communicated this to the Applicant's engineer, ENGEO, and the consultants that collected the bathymetric data, Marine Taxonomic Services. ENGEO and Marine Taxonomic Services informed the District that this was an inadvertent mistake, and in fact, found the revetment excavation, fill calculation and cross section from this previous iteration did not accurately reflect the proposed revetment excavation and fill volumes. A refined project plan set was submitted to the District.

Figure 2-3, Existing and Proposed Cross Sections, has been added to Page 17 of the Draft IS/MND to show the existing and proposed cross sections of the existing and proposed rock revetment at both properties. In addition, Section 2.1.6, Overwater Coverage and Fill, on Page 20 of the Draft IS/MND has been revised to clarify that the project would result in a net decrease of 280 cubic yards of fill with the proposed revetment. The revised fill calculation was prepared by ENGEO and Marine Taxonomic Services after further data analysis. The refined fill and export values include the import of 58 cubic

yards of 0.25-ton rock and 118 cubic yards of 9-inch minus quarry material, and an export of 456 cubic yards of existing revetment/subgrade material. As such, the resulting net fill/export results in a net decrease of fill to San Diego Bay waters of 280 cubic yards. Since there is no net increase in fill, the District considers this project a repair and replacement-in-kind of the existing rock revetment, and it is consistent with Chapters 3 and 8 of the Coastal Act because it will not result in an increase in fill. Additionally, as explained in the revised Table 4.11-1, the proposed project is the least feasible environmentally damaging alternative and includes mitigation measures and CDP conditions to minimize adverse environmental effects. Page 20 of the Draft IS/MND clarifies the proposed fill/export amounts and shows that the project is considered a replacement-in-kind of the existing rock revetment.

1-6 Summary

The commenter states that Section 30235 of the Coastal Act limits shoreline protective devices to those required to serve coastal dependent uses or to protect existing structures or public beaches in danger from erosion; however, the commenter asserts that neither of these uses describe the sites landward of the project. The commenter points out that the MND indicates that the replacement is needed to protect the existing shoreline and structures in danger of erosion; however, the there is no public beach at this site, nor is public access available along the shoreline. The commenter further asserts that the residence located landward of the project site at 409 First Street is not considered "existing" since the structure was built in 2022 and the Coastal Commission interprets existing to mean structures lawfully in existence prior to the effective date of the Coastal Act (January 1, 1977). The comment asserts this interpretation was formally adopted by the Coastal Commission when it adopted the Sea Level Rise Policy Guidance in 2015 and was affirmed by a California Court of Appeal decision in 2024; and as such the residence at 409 First Street is not pre-Coastal and is not considered an existing structure entitled to shoreline protection pursuant to Section 30235.

Response

The comment is noted. As discussed in Comment Responses 1-1 and 1-4 above, the District considers the project a repair and replacement-in-kind of an existing rock revetment that is in need of repair and does not consider it a new shoreline protective device. Pages 20 and 21 of the Draft IS/MND have been revised to clarify this intention. In addition, Section 30235 of Table 4.11-1, SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies, has been revised on Page 147 of the Draft IS/MND to clarify the proposed project is a replacement-in-kind.

1-7 Summary

The commenter states that even if the structure at 409 First Street did qualify for protection under the Coastal Act, the MND does not contain a site specific analysis that identifies the structures at the site are currently in danger of flooding, erosion, or sea level rise, which is also required by 30235. In addition, the commenter states that the MND does not provide any specific information regarding the risks to the adjacent residence at 407 First Street, and it is the commenter's understanding that the revetment fronting the 407 First Street property has been maintained and repaired. The commenter further states that it does not appear that the property owner at 407 is a co-Applicant to the subject permit application and it is unclear if the property owner has expressed concern that their home is currently at risk.

Response

As discussed in Comment Response 1-1 above, the property owner at 407 First Street, SLPR CA LLC, is a co-Applicant to the subject permit application. The proposed project would involve repair and replacement of rock revetment bayward of 407 and 409 First Street on District tidelands in Coronado, California 92118. See the new Figure 2-2, Site Plan, on Page 15 of the Draft MND to see the 170 foot project area.

The IS/MND provides a site specific analysis of both the 407 and 409 First Street. The project analyzed in the IS/MND includes the replacement of existing rock revetment bayward of 407 and 409 First Street in Coronado as described below in Section 2.1, Project Construction, of the Draft IS/MND including the removal and off-site disposal of existing debris, the placement of new rock revetment, and final cleanup and demobilization of the project. The existing shoreline protection at 407 First Street was installed in 2001 pursuant to a permit issued by the District. The shoreline protection is now in need of repair as the revetment is covered with old construction debris that does not provide effective protection, and the revetment at 407 First Street has insufficient toestone embedment and is in need of a rock apron to stabilize the revetment. As discussed in Comment Response 1-4 above, the District considers the project a repair and replacement-in-kind of an existing rock revetment that is in need of repair and does not consider it a new shoreline protective device.

Appendix D of the Draft IS/MND included a Sea Level Rise Vulnerability Assessment that presented the results of Dudek's sea level rise vulnerability assessment of the project located at the shoreline fronting both waterfront properties at 407 and 409 1st Street, Coronado, California 92118. This assessment analyzed the proposed riprap revetment structure fronting approximately 170 linear feet of shoreline fronting these residences and provides specific information regarding the risks to the adjacent residence at 407 First Street. The analysis concluded that the proposed repaired revetment plays a critical role of reducing wave energy by breaking approaching waves and stabilizing the shoreline to prevent erosion, thereby enhancing coastal resilience.

1-8 Summary

The commenter states that the Coastal Act Section 30233 allows fill for certain types of development, but the project design must be the least environmentally damaging feasible alternative, and unavoidable resource impacts must be mitigated. Regarding the first test for consistency with Section 30233, the commenter states the MND incorrectly identifies the shoreline protection as a restoration purpose, which is an allowable use for fill; however, the commenters asserts the Coastal Commission has interpreted the term "restoration purposes" to mean to restore natural coastal processes or historic habitat, which is not the purpose of the subject project or fill. The commenter also asserts the proposed project does not qualify for any of the other identified allowable uses of Section 30233 for an increase of fill.

Response

As discussed in Comment Response 1-6 above, a new Figure 2-3, Existing and Proposed Cross Sections, has been added to Page 17 of the Draft IS/MND and revisions made to Page 20 to show that there is no net fill to San Diego Bay caused by the proposed rock revetment replacement. Instead there would be a net decrease in fill of 280 cubic yards.

In addition, Section 30233 of Table 4.11-1, SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies, has been revised on Page 146 of the Draft IS/MND to clarify the proposed project is a replacement-in-kind of existing rock revetment that would not create any fill of open coastal waters. Additionally, as explained in the revised Table 4.11-1, the proposed project is the least environmentally damaging feasible alternative and includes mitigation measures and CDP conditions to minimize adverse environmental effects.

1-9 Summary

The commenter restates that there is no environmentally damaging feasible alternative, in light of the location of the project and the nature of the proposed construction activities. However, the commenter states that it is not clear what alternatives were evaluated, if any, or why the location or construction activities would render other alternatives infeasible. The commenter states that the Commission's project engineer previously reviewed conditions at the site and did believe that repair of the existing revetment was an option that should be analyzed.

Response

As discussed in Comment Response 1-4 above, with the revised plan set found that the proposed project would result in no net increase in fill to San Diego Bay and the project would be a replacement-in-kind of an existing rock revetment. Please see the revised Figure 2-3, Existing and Proposed Cross Sections, on Page 17 of the Final IS/MND and revisions to Section 2.1.6, Overwater Coverage and Fill, on Page 20 of the Final MND. In addition, as discussed in Comment Response 1-8 above, revisions have been made to Table 4.11-1 on Page 146 of the Final IS/MND to clarify how the proposed project is consistent with Coastal Act Section 30233 and would not create any fill of open coastal waters. Additionally, as explained in the revised Table 4.11-1, the proposed project is the least environmentally damaging feasible alternative and includes mitigation measures and CDP conditions to minimize adverse environmental effects.

1-10 Summary

The commenter notes a statement included in the SLR Vulnerability Assessment about how the California Coastal Commission's current policy guidance highly values scenic and visual resources for shoreline adaptation, which would be enhanced at the project site by replacing concrete debris with riprap stones and states that this statement is not correct. The commenter asserts that this portion of the shoreline does not have public access and is only visible from boats on the water; as such, retaining the existing concrete revetment would not significantly impact visual resources and the commenter does not believe it is an argument for replacing the existing revetment given the inconsistencies with the Coastal Act.

Response

The comment is noted. In response to comment, this statement has been deleted from Page 6, 10 and 26 of the Draft IS/MND's SLR Vulnerability Assessment. This statement has also been deleted from Section 4.1.3, Discussion, on Page 39 of the Draft IS/MND.

1-11 Summary

The commenter asserts the MND does not require mitigation of the proposed fill impacts and, as such, is not consistent with Section 30233. The commenter states that fill impacts are typically mitigated by removing an equal amount of fill elsewhere in the San Diego Bay; however, environmental restoration projects, such as the restoration of eelgrass, have also been accepted.

Response

As discussed in Comment Response 1-4 above, with the revised plan set found that the proposed project would result in no net increase in fill to San Diego Bay and the project would be a replacement-in-kind of an existing rock revetment. Please see the revised Figure 2-3, Existing and Proposed Cross Sections, on Page 17 of the Draft IS/MND and revisions to Section 2.1.6, Overwater Coverage and Fill, on Page 20 of the Draft IS/MND. In addition, as discussed in Comment Response 1-8 above, revisions have been made to Table 4.11-1 on Page 146 of the Draft IS/MND to clarify how the proposed project is consistent with Coastal Act Section 30233.

1-12 Summary

The commenter states that instead of pursuing new shoreline protection, the new residence built in 2022 at 409 First Street should have been sited and designed to be safe from flooding and sea level rise throughout its economic life, as the Applicant was informed by Commission staff during the review of Appeal No. A-6-COR-19-0027 discussed below.

Response

The commenter does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, the comment is noted and will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

1-13 Summary

The commenter asserts that the proposed project is inconsistent with the Chapter 3 policies of the Coastal Act and, as such, the MND should be revised to correct the analysis in Table 4.11-1 and to evaluate alternatives, including no project and repair of the existing revetment, based on the proposed engineering plans and a site specific analysis.

Response

As discussed in Comment Response 1-4 above, with the revised plan set found that the proposed project would result in no net increase in fill to San Diego Bay and the project would be a replacement-in-kind of an existing rock revetment. Please see the revised Figure 2-3, Existing and Proposed Cross

Sections, on Page 17 of the Draft IS/MND and revisions to Section 2.1.6, Overwater Coverage and Fill, on Page 20 of the Draft MND. In addition, as discussed in Comment Response 1-8 above, revisions have been made to Table 4.11-1 on Page 146 of the Draft IS/MND to clarify how the proposed project is consistent with Coastal Act Section 20233 and would not create any fill of open coastal waters. As such, the analysis in Table 4.11-1 has been revised and found that no environmental effects would be created by the proposed project that would warrant additional alternatives analysis or mitigation measures as required by the Coastal Act Section 30233.

1-14 Summary

The commenter states that modifications to the shoreline protective device at 409 First Street was approved by the City of Coronado in 2019 and subsequently appealed by two members of the California Coastal Commission (A-6-COR-19-0027). Specifically, the City's decision allowed for the demolition of an existing 3-foot-high, 85-foot-long retaining wall and construction of a new 7-foot-high, 85-foot-long sheet pile retaining wall. A new home was also approved at the site, which was exempt from permitting requirements.

Response

Please note that the District has no jurisdiction over the site referenced in the comment. The comment is informational in nature and provides historic information relevant to the project site. The commenter does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, the comment is noted and will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

1-15 Summary

The comment states that the appellants asserted that the project as approved by the City of Coronado did not conform to the City's certified Local Coastal Program because 1) the shoreline protection device would be used to protect a new single family residence and patio, which are not structures that merit shoreline protection; instead the new residence should be sited and designed to be safe from flooding and sea level rise throughout its economic life in order to avoid the need for anew retaining wall; 2) the retaining wall is sited seaward of the existing retaining wall, which could impact the natural shoreline erosion process; 3) it is unclear why a new retaining wall is necessary, given the site is protected by an existing retaining wall and riprap revetment; and 4) construction of the project could result in adverse impacts to water quality and Biological Resources, including adjacent eelgrass habitat.

Response

Please note that the District has no jurisdiction over the site referenced in the comment. The comment is informational in nature and provides historic information relevant to the project site. The commenter does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, the comment is noted and will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

1-16 Summary

The commenter states that the project was withdrawn by the Applicant, who is the same Applicant for the subject project, following staff's publication of a staff report that recommended that a substantial issue existed with respect to the appellant contentions and recommended denial of the project on de novo. The commenter asserts that the concerns described that appeal are relevant as they mirror the concerns that continue with the project described in the MND.

Response

The comment is informational in nature and provides historic information relevant to the project site. The commenter does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, the District has reviewed the appeal and the comment is noted and will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

1-17 Summary

The commenter states that the Port should note that these comments are based on the information that has been presented to us thus far and are not binding, and that Commission staff may have further comments or identify additional issues over time. The commenter states that they look forward to continuing coordination with Port staff on this project and provides the contact information of the commenter if the Port has any questions or require further clarification.

Response

The comment is conclusionary in nature and does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, this comment will be made available to the Board of Port Commissioners as part of the project record during the Board hearing. The District appreciates the California Coastal Commission's comments on the Draft IS/MND.

2.5 Comment Letter No. 2 - California Department of Transportation, District 11

COMMENT LETTER NO. 2
CALIFORNIA DEPARTMENT OF TRANSPORTATION

CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
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September 25, 2025

11-SD-282
PM 0.476
SLPR-Arendsee Revetment Replacement Project
MND/SCH# 2025081124

Mr. Luis Duran
Senior Planner
San Diego Unified Port District
3165 Pacific Highway
San Diego, CA 92101

Dear Mr. Duran:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Mitigated Negative Declaration (MND) for the SLPR-Arendsee Revetment Replacement Project near State Route (SR-282) in the city of Coronado. The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities. **2-1**

Safety is one of Caltrans' strategic goals. Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work. **2-2**

Caltrans has the following comments:

Hauling
Caltrans has discretionary authority with respect to highways under its jurisdiction and may, upon application and if good cause appears, issue a special permit to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or **2-3**

"Improving lives and communities through transportation"

weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. The Caltrans Transportation Permits Issuance Branch is responsible for the issuance of these special transportation permits for oversize/overweight vehicles on the State Highway network. Additional information is provided online at: https://dot.ca.gov/programs/traffic-operations/transportation-permits

2-3 contd.

Environmental

Caltrans appreciates the opportunity to comment on this MND. The analysis presented does not have any impact on Caltrans' Right-of-Way (R/W). Should elements of the project and/or mitigation measures change to effect Caltrans' R/W, we would then have discretionary authority of a portion of the project that is in Caltrans' R/W through the form of an encroachment permit process.

2-4

Please contact us when you discover that Caltrans' R/W is affected as we would appreciate meeting with you to discuss the elements of the MND that Caltrans will use for our subsequent environmental compliance. Caltrans would welcome the opportunity to be a Responsible Agency under the California Environmental Quality Act (CEQA) and to the continued coordination of our efforts.

2-5

Thank you for the opportunity to comment on the MND for this project. Although not currently identified, should any work within the Caltrans' R/W be identified, an encroachment permit will be required for prior to construction. As part of the encroachment permit process, the applicant must provide approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits. Specifically, California Environmental Quality Act (CEQA) determination or exemption. The supporting documents must address all environmental impacts within the Caltrans' R/W, and address any impacts from avoidance and/or mitigation measures.

2-6

We recommend that this project specifically identifies and assesses potential impacts caused by the project or impacts from mitigation efforts that occur within Caltrans R/W that includes impacts to the natural environment, infrastructure (highways/roadways/on- and off-ramps) and appurtenant features (lighting/signs/guardrail/slopes). Caltrans is interested in any additional mitigation measures identified for the Final MND.

2-7

Right-of-Way

Per Business and Profession Code 8771, perpetuation of survey monuments by a licensed land surveyor is required, if they are being destroyed by any construction.

2-8

Any work performed within Caltrans' R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' R/W prior to construction. **2-8 contd.**

Additional information regarding encroachment permits may be obtained by visiting the website at https://dot.ca.gov/programs/traffic-operations/ep. Projects with the following:

- require a Caltrans Encroachment Permit
- have completed the Caltrans Local Development Review (LDR) process
- have an approved environmental document

2-9

need to have documents submitted for Quality Management Assessment Process (QMAP) process via email to D11.QMAP.Permits@dot.ca.gov. Early coordination with Caltrans is strongly advised for all encroachment permits.

If you have any questions or concerns, please contact Mark McCumsey, LDR Coordinator, at (619) 985-4957 or by e-mail sent to mark.mccumsey@dot.ca.gov. **2-10**

Sincerely,

Kimberly D. Dodson

KIMBERLY D. DODSON, GISP
Branch Chief
Local Development Review

2.6 Responses to Comments - Letter No. 2

2-1 Summary

This commenter thanks the District in including Caltrans in the environmental review process for the IS/MND and provides information about the mission of Caltrans as providing a safe and reliable transportation network that serves all people and respects the environment. The commenter states that the Local Development Review Program reviews land use projects and plans to ensure consistency with the Caltrans mission and state planning priorities.

Response

The District appreciates the Caltrans's participation in the review of the Draft IS/MND for the SLPR Arendsee Rock Revetment Replacement project.

2-2 Summary

The comment states that safety is one of Caltrans' strategic goals and Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. The commenter states that Caltrans is striving for more equitable outcomes for the transportation network's diverse users, and to achieve these goals, Caltrans would pursue meaningful collaboration with its partners. The commenter further asserts that Caltrans encourages the implementation of new technologies, innovations, and best practices that would enhance the safety on the transportation network and states their accomplishment involves a focused departure from the status quo as Caltrans continues to institutionalize safety in all our work.

Response

The comment is informational in nature and does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, this comment will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

2-3 Summary

The commenter states that Caltrans has discretionary authority with respect to highways under its jurisdiction and may, upon application and if good cause appears, issue a special permit to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or "Improving lives and communities through transportation" weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. The comment states that the Caltrans Transportation Permits Issuance Branch is responsible for the issuance of these special transportation permits for oversize/ overweight vehicles on the State Highway network and provides a website for additional information.

Response

The comment is informational in nature and does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, this comment will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

2-4 Summary

The comment states that Caltrans appreciates the opportunity to comment on this MND and acknowledges that the analysis presented does not have any impact on Caltrans' Right-of-Way (R/W). The commenter states that should elements of the project and/or mitigation measures change to effect Caltrans' R/W, Caltrans would then have discretionary authority of a portion of the project that is in Caltrans' R/W through the form of an encroachment permit process.

Response

As stated on Page 174 of the Draft IS/MND, no element of the proposed project or mitigation measures would occur in or affect Caltrans R/W, and no encroachment permits in to Caltrans R/W are being sought as part of the project application. The comment does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, this comment will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

2-5 Summary

This comment asks that the District contact Caltrans when it is discovered that Caltrans' R/W is affected as Caltrans would appreciate meeting with District staff to discuss the elements of the MND that Caltrans would use for their subsequent environmental compliance. The comment states that Caltrans would also welcome the opportunity to be a Responsible Agency under CEQA and would like continued coordination of our efforts.

Response

As discussed in Response 2-4 above, no element of the proposed project or mitigation measure would affect Caltrans R/W, and no encroachment permits in the Caltrans R/W are being sought as part of the project application. The comment does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, this comment is noted and will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

2-6 Summary

This comment thanks the District for the opportunity to comment on the MND, and states that although not currently identified, should any work within the Caltrans' R/W be identified, an encroachment permit would be required for prior to construction. The comment also states that as part of the encroachment permit process, the Applicant must provide approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits, specifically, a CEQA determination or exemption and supporting documents that must address all environmental impacts within the Caltrans' R/W, and address any impacts from avoidance and/or mitigation measures.

Response

As discussed in Response 2-4 above, no element of the proposed project or mitigation measure would affect Caltrans R/W, and no encroachment permits in the Caltrans R/W are being sought as part of the project application. The comment does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, this comment is noted and will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

2-7 Summary

The commenter recommends that this project specifically identifies and assesses potential impacts caused by the project or impacts from mitigation efforts that occur within Caltrans R/W including impacts to the natural environment, infrastructure (highways/roadways/on- and off-ramps) and appurtenant features (lighting/signs /guardrail/slopes). The commenter states that Caltrans is interested in any additional mitigation measures identified for the Final MND.

Response

As discussed in Response 2-4 above, no element of the proposed project or mitigation measure would affect Caltrans R/W, and no encroachment permits in the Caltrans R/W are being sought as part of the project application. The comment does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, this comment is noted and will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

2-8 Summary

This comment states Business and Profession Code 8771 covers perpetuation of survey monuments by a licensed land surveyor and asserts that this survey is required if any monuments are destroyed by any construction. The commenter also states that any work performed within Caltrans' R/W would require discretionary review and approval by Caltrans and an encroachment permit would be required for any work within the Caltrans' R/W prior to construction.

Response

As discussed in Response 2-4 above, no element of the proposed project or mitigation measure would affect Caltrans R/W, and no encroachment permits in the Caltrans R/W are being sought as part of the project application. As such, no survey monuments would be destroyed during project construction. The comment does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, this comment is noted and will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

2-9 Summary

The commenter provided website information where additional information can be obtained regarding encroachment permits. The commenter states that projects that require a Caltrans Encroachment Permit, have completed the Caltrans Local Development Review process, or have an approved environmental document need to have documents submitted for Quality Management Assessment Process via email and states that early coordination with Caltrans is strongly advised for all encroachment permits.

Response

As discussed in Response 2-4 above, no element of the proposed project or mitigation measure would affect Caltrans R/W, and no encroachment permits in the Caltrans R/W are being sought as part of the project application. The comment does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. However, this comment is noted and will be made available to the Board of Port Commissioners as part of the project record during the Board hearing.

2-10 Summary

The comment is conclusionary in natures and provides the contact information of the commenter if the District has questions or concerns.

Response

The comment is conclusionary in nature and does not specifically raise an issue with the adequacy of the Draft MND or the environmental analysis contained therein. The comment is noted. The District appreciates Caltrans providing comments on the Draft IS/MND.

3 Modifications to the Draft Initial Study Checklist/ Mitigated Negative Declaration

3.1 Introduction

This chapter of the Final IS/MND addresses modifications to the Draft IS/MND for the proposed project. It presents all revisions related to public comments, as determined necessary by the District as lead agency under CEQA, for the following areas of the document.

As provided in Section 15088(c) of the State CEQA Guidelines, responses to comments may take the form of a revision to a Draft MND or may be a separate section of the Final MND. In this Final MND, responses to comments are presented in Chapter 2, and necessary revisions to the text are presented in this chapter below.

Any additions to the text are indicated in underline text, and any deletions to the text are shown as strikeout text in Attachment A of this Final IS/MND.

Public comments prompted the following changes to Draft MND:

- There is a new Figure 3-2, Site Plan, on Page 15 of the Draft MND.
- The Applicants of the proposed project are SLPR CA LLC for the 407 First Street property and Allan W. Arendsee and Lyndsey J. Arendsee as Trustees of the Arendsee Family Trust for the 409 First Street property.
- Additional details have been added in a new Figure 2-3, Existing and Proposed Cross Sections, on Page 17 of the Draft IS/MND. This figure depicts cross sections of the existing and proposed new rock revetment at both the 407 First Street and 409 First Street properties. These cross sections provide the requested details of length, width, elevation and location of the existing and proposed rock revetment.
- Section 2.1.6, Overwater Coverage and Fill, on Page 20 of the Draft IS/MND has been revised to clarify that the project would result in a net decrease of 280 cubic yards of fill with the proposed revetment. The revised fill calculation was prepared by ENGEO and Marine Taxonomic Services after further data analysis. The refined fill and export values include the import of 58 cubic yards of 0.25-ton rock and 118 cubic yards of 9-inch Minus quarry material, and an export of 456 cubic yards of existing revetment/subgrade material. As such, the resulting net fill/export results in a net decrease of fill to San Diego Bay waters of 280 cubic yards.
- The District considers the project a replacement-in-kind of an existing rock revetment that is in need of repair and does not consider it a new shoreline protective device. Pages 20 and 21 of the Draft IS/MND have been revised to clarify this intention.
- Section 30235 of Table 4.11-1, “SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies”, has been revised on Page 147 of the Draft IS/MND to clarify the proposed project is a replacement-in-kind.
- Section 30233 of Table 4.11-1, “SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies”, has been revised on Page 146 of the Draft IS/MND to clarify

the proposed project is a replacement-in-kind of existing rock revetment that would not create any fill of open coastal waters. As such, no environmental effects would be created by the proposed project that would warrant additional alternatives analysis or mitigation measures as required by the Coastal Act Section 30233.

- Appendix D, Sea Level Rise Vulnerability Assessment, in Attachment A has been updated on Page 8 and 10 to show the new cross sections.
- Appendix D, Sea Level Rise Vulnerability Assessment, in Attachment A has also been revised to delete statement about visual quality being improved on Pages 6, 10 and 26.

Under CEQA, recirculation of all or part of an may be required if significant new information is added after public review and prior to certification. According to CEQA Guidelines Section 15088.5(a), new information is not considered significant unless the environmental documents changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project's proponents have declined to implement. More specifically, the Guidelines define significant new information as including:

- A new significant environmental impact resulting from the project or from a new mitigation measure
- A substantial increase in the severity of an environmental impact that would not be reduced to insignificance by adopted mitigation measures
- A feasible project alternative or mitigation measure considerably different from those analyzed in a Draft MND that would clearly lessen the environmental impacts of the project and which the project proponents decline to adopt
- A Draft MND that is so fundamentally and basically inadequate and conclusory that meaningful public review and comment were precluded

The text changes shown in this chapter above and shown in Attachment A update and clarify the proposed project information and analyses presented in the Draft IS/MND. No new significant impacts are identified, and no information is provided that would involve a substantial increase in severity of an impact. In addition, no considerably different mitigation measures have been identified. Finally, there are no changes that would reflect fundamental inadequacies in the Draft IS/MND. As such, recirculation of any part of the Draft IS/MND is not required.

3.2 Changes to the Draft Mitigated Negative Declaration

The changes to the text of Draft IS/MND as presented in Attachment A are incorporated into this Final IS/MND. Changes are provided in revision-mode text, wherein deletions of the original text are shown in strikethrough and additions to the Final IS/MND are shown in underline.

4 Environmental Analysis

4.1 Environmental Factors Potentially Affected

The Draft IS/MND (Attachment A) evaluated the potential environmental impacts of the project and determined that the project would result in impacts that are mitigated to below a level of significance with regard to Biological Resources, Noise and Mandatory Findings of Significance. A full analysis/discussion of these issue areas is provided in the attached revised Draft IS/MND.

4.2 Effects Found Not to be Significant

Based on the IS Checklist conducted for the proposed project in the Draft IS/MND (see Attachment A), the following effects were found not to be significant and no mitigation is required: Aesthetics, Agricultural and Forest Resources, Air Quality, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire. A full analysis/discussion of these issue areas is provided in the attached Draft IS/MND.

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5 Mitigation Monitoring and Reporting Program

Reporting and documentation of implementation of the following mitigation measures shall be performed in accordance with District Administrative Policy No. 750. The project mitigation measures would be made a specific condition of the project Applicant's Non-appealable CDP for the project issued pursuant to District Administrative Procedure No. 760.

Table 1. SLPR-Arendsee Rock Revetment Replacement Project Final Initial Study/ Mitigated Negative Declaration Mitigation Monitoring and Reporting Program

Mitigation Measure	Responsible Party	Mitigation Timing
Biological Resources		
MM-BIO-1 Worker Environmental Awareness Program. Prior to commencement of activities within the project site, a qualified biologist shall conduct a Worker Environmental Awareness Program (WEAP) that provides a description of potentially occurring special-status species and methods for avoiding inadvertent impacts prior to commencement of activities within the project site. The WEAP training shall be provided to all construction personnel, including vessel operators. Attendees shall be documented on a WEAP training sign-in sheet. The WEAP training shall describe how vessel props must be directed away from eelgrass beds to prevent damage, all boats must have depth finders to avoid eelgrass at low tides, slow work if special-status species such as California least terns or green sea turtles are present, and construction crews must monitor turbidity and if excessive, work must slow/stop until it dissipates to avoid impacts to eelgrass.	Project Applicant/ Contractor	Prior to the commencement of construction
MM-BIO-2 Water Quality Best Management Practices. Prior to commencement of the proposed project activities within marine habitat, limits of work and staging areas shall be established. Construction contractors shall use best management practice water quality controls to ensure compliance with the water quality standards, to protect eelgrass and other sensitive species. Measures could include use of a bin wall around stockpiled revetment, daily inspection of construction equipment for leaks or malfunction, and no fueling on site. All work and associated construction materials/equipment shall be confined to designated areas. No sediment, trash, debris, or any materials shall leave the work limits or associated staging areas and enter the surrounding environment.	Project Applicant/ Contractor	Prior to the commencement of construction
MM-BIO-3 Eelgrass Habitat Protection. Barges shall only shade eelgrass when construction necessitates. For limited periods of time when high tide levels occur, the contractor shall use a high and low tide schedule to determine barge movements to deeper wider. Barge spuds shall be placed outside of known eelgrass beds and the barge shall not pivot on spuds if within eelgrass in	Project Applicant/ Contractor	During construction

Table 1. SLPR-Arendsee Rock Revetment Replacement Project Final Initial Study/ Mitigated Negative Declaration Mitigation Monitoring and Reporting Program

Mitigation Measure	Responsible Party	Mitigation Timing
order to protect sensitive habitat and minimize turbidity and shading impacts. Current eelgrass maps completed per the California Eelgrass Mitigation Policy shall be conducted within 60 days prior to construction, shall be provided to equipment operators to prevent bottom-contact with eelgrass or the benthic habitat, and shall limit the amount of shading of eelgrass at the project site.		
MM-BIO-4 Pre- and Post-Construction Eelgrass Surveys. Adherence of monitoring and mitigation as required per the California Eelgrass Mitigation Policy shall ensure the project is appropriately evaluated for potential eelgrass impacts with pre-construction and post-construction eelgrass surveys. The pre-construction survey of the eelgrass habitat in the action area and an appropriate reference site(s) shall be completed within 60 days before start of construction. After construction, a post-construction survey of the eelgrass habitat and at an appropriate reference site(s) shall be completed within 30 days of construction, or within the first 30 days of the next active growing season following construction that occurs outside of the active growing season (typically March through October for Southern California). Copies of all surveys shall be provided to the lead federal agency, National Oceanic and Atmospheric Administration Fisheries, and other interested regulatory and/or resource agencies within 30 days of completing the survey. If inadvertent impacts were to occur, mitigation of eelgrass habitat shall be based on replacement at a 1.2 (mitigation) to 1 (impact) ratio.	Project Applicant/ Contractor	Prior to the commencement of construction and within 30-days after construction
MM-BIO-5 Construction Caulerpa Surveys. A pre-construction Caulerpa spp. survey shall be conducted to identify potential existence of invasive Caulerpa spp., as described in the Caulerpa Control Protocol (https://www.fisheries.noaa.gov/west-coast/habitat-conservation/aquatic-invasive-species-west-coast). If Caulerpa spp. are found, the species must not be disturbed, and California Department of Fish and Wildlife and National Oceanic and Atmospheric Administration Fisheries must be contacted within 24 hours as described in the Caulerpa Control Protocol.	Project Applicant/ Contractor	Prior to the commencement of construction
Noise		
MM-NOI-1 Construction Hours. The San Diego Unified Port District shall ensure the construction contractor(s) contract and specifications for all project-related activities include the following requirements during construction activities.	District/Project Applicant/ Contractor	During construction activities

Table 1. SLPR-Arendsee Rock Revetment Replacement Project Final Initial Study/ Mitigated Negative Declaration Mitigation Monitoring and Reporting Program

Mitigation Measure	Responsible Party	Mitigation Timing
▪ Construction hours shall be conducted in compliance with Coronado Municipal Code (CMC) 41.10.040 with respect to allowable timeframes and days of the week (including weekends and holidays). Per CMC 41.10.050, noise from construction activities shall meet the standard of 75 dBA Leq over any 1-hour period, unless authorization to exceed this limit has been granted via permit by the City's Noise Control Officer (NCO) in advance. ▪ Construction during nighttime hours is prohibited unless authorized by the NCO in advance via permit. ▪ All idling (i.e., engines running) equipment shall be kept to a minimum. ▪ The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be used for safety warning purposes only. ▪ Communication with local residents shall be maintained prior to and during construction. Specifically, the local residents shall be informed of the schedule, duration, and progress of the construction and shall be provided contact information (e.g., a telephone hotline and/or email address) for noise- or vibration-related complaints. The City shall establish a process to investigate these complaints in a timely manner and, if determined to be valid, detail efforts to provide a timely resolution and response to the complainant—with copy of outcome description documented in a log for the duration of the construction activities. ▪ All noise-producing equipment and vehicles using internal combustion engines shall be equipped with exhaust mufflers (or comparable noise-reducing exhaust flow treatments); air- inlet silencers; and hoods, shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc-welders, air compressors, generators) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.		

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6 Findings

The project, with the incorporation of mitigation measures and monitoring program, would have no significant impact on the environment with respect to Biological Resources, Noise, and Mandatory Findings of Significance nor would the project otherwise have potentially significant adverse impacts to Aesthetics, Agricultural and Forest Resources, Air Quality, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire.

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7 Documentation

The attached Draft IS/MND (see Attachment A) documents the reasons in support of the above findings.

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8 Certification

The Final IS/MND and supporting documents are on file with and may be reviewed during regular business hours in the Office of the District Clerk of the San Diego Unified Port District, 3165 Pacific Highway, San Diego, California 92101. The District administration offices are open Monday through Thursday and every other Friday from 8:00 AM to 5:00 PM.

Prepared by: 11/24/2025 — Luis Duran

Date — **Luis Duran, Senior Planner**

Final IS/MND: 11/24/2025

Date — **Lesley Nishihira, Vice President, Planning & Development**

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Attachment A

Changes to Draft Initial Study Checklist/
Mitigated Negative Declaration

Final~~Draft~~ Environmental Initial Study Checklist/Mitigated Negative Declaration

SLPR-Arendsee Rock Revetment Replacement Project

~~JULY~~ NOVEMBER 2025

Prepared for:

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Prepared by:

DUDEK

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A Air Quality and Greenhouse Gas Emissions Modeling Output
B Biological Resources Technical Report
C Rock Revetment Rehabilitation Calculation Package
D Sea Level Rise Vulnerability Assessment
E Noise Modeling Outputs

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
AFY	acre-feet per year
ALUCP	Airport Land Use Commission Plan
applicant	SLPR LLC and Allan W. Arendsee and Lyndsey J. Arendsee
AQIA	Air Quality Impact Analysis
BMP	best management practice
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAL FIRE	California Department of Forestry and Fire Protection
CAP	Climate Action Plan
CARB	California Air Resources Board
CCA	California Coastal Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDP	Coastal Development Permit
CEC	California Energy Commission
CEMP	California Eelgrass Mitigation Policy and Implementing Guidelines
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
City	City of Coronado or City of San Diego
CMC	Coronado Municipal Code
CNEL	Community Noise Equivalent Level
CO	carbon dioxide
CO2e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dBA	A-weighted decibel
District	San Diego Unified Port District
DO	Dissolved oxygen
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
EFH	Essential Fish Habitat
EIR	environmental impact report
EISA	Energy Independence and Security Act
EO	Executive Order

Acronym/Abbreviation	Definition
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
FESA	federal Endangered Species Act
FMP	Fishery Management Plan
FR	Federal Register
GHG	greenhouse gas
GWP	global warming potential
HAPC	Habitat Area of Particular Concern
HCFC	hydrochlorofluorocarbon
HFC	hydrofluorocarbon
HMD	Hazardous Materials Division
HPD	Harbor Police Department
HU	Hydrologic Unit
I	Interstate
INRMP	San Diego Bay Integrated Natural Resources Management Plan
ips	inches per second
IS	Initial Study
JRMP	Jurisdictional Runoff Management Plan
km	kilometer
L_{eq}	Equivalent Continuous Sound Level
L_{max}	Maximum Sound Level
MBTA	Migratory Bird Treaty Act
MCAS	Maritime Clean Air Strategy
MLLW	Mean Lower Low Water
MM	Mitigation Measure
MMPA	Marine Mammal Protection Act
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MT	metric ton
MTS	Metropolitan Transit System
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NASNI	North Island Naval Air Station
NCO	Noise Control Officer
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OPR	California Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PAH	Polychlorinated aromatic hydrocarbon

Acronym/Abbreviation	Definition
PCB	Polychlorinated aromatic hydrocarbon
PDC	Pacific Dredge and Construction LLC.
PFC	perfluorocarbon
PFMC	Pacific Fishery Management Council
PLWTP	Point Loma Wastewater Treatment Plant
PM_{10}	particulate matter with an aerodynamic diameter equal to or less than 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter equal to or less than 2.5 microns
PMP	Port Master Plan
PMPU	Port Master Plan Update
Porter–Cologne Act	Porter–Cologne Water Quality Control Act of 1969
PPV	Peak particle velocity
PRC	California Public Resources Code
project	SLPR-Arendsee Rock Revetment Replacement Project
RAQS	San Diego Regional Air Quality Strategy
RCRA	Resource Conservation and Recovery Act
RFS	Renewable Fuel Standard
RTP	Regional transportation Plan
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDIA	San Diego International Airport
SDG&E	San Diego Gas & Electric
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SPCC	Spill Prevention Control and Countermeasure
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
Technical Advisory	Technical Advisory on Evaluating Transportation Impacts in CEQA
TMDL	Total maximum daily load
USACE	U.S. Army Corps of Engineers.
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VGP	Vessel General Permit
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
VOC	Volatile organic compounds
WEAP	Worker Environmental Awareness Program
WDR	Waste Discharge Requirement
WQIP	Water Quality Improvement Plan

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1 Introduction

1.1 Project Overview

The San Diego Unified Port District (District) received an application from SLPR LLC and Allan W. Arendsee and Lyndsey J. Arendsee as Trustees of the Arendsee Family Trust (SLPR-Arendsee or applicant) for the SLPR-Arendsee Rock Revetment Replacement Project (project). The project would involve replacement of rock revetment at 407 and 409 First Street on District tidelands in Coronado, California 92118 (Figure 1-1, Regional Location, and Figure 1-2, Vicinity Map).

1.2 Purpose of Negative Declaration/Mitigated Negative Declaration

California Environmental Quality Act (CEQA) Section 21064 defines a "Negative Declaration" as a well written statement briefly describing the reasons that a proposed project will not have a significant effect on the environment and does not require the preparation of an Environmental Impact Report (EIR).

Section 21064.5 defines a "Mitigated Negative Declaration" as a negative declaration prepared for a project when the Initial Study has identified potentially significant effects on the environment, but (1) revision in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur; and (2) there is no substantial evidence in light of the whole record before the lead agency that the project, as revised, may have a significant effect on the environment.

CEQA Section 21068 defines a significant effect on the environment as a substantial or potentially substantial adverse change in the environment. CEQA Section 21082.2(a) requires the lead agency to determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record.

The District has prepared an Environmental Initial Study Checklist to address the potential environmental effects associated with the project pursuant to the requirements of CEQA, the CEQA Guidelines, and the District's CEQA Guidelines. Specifically, the Environmental Initial Study Checklist meets the requirements of CEQA Guidelines Section 15063 and the District's CEQA Guidelines Section IV. The Environmental Initial Study Checklist includes a discussion of the proposed project's effects on the existing environment. Issue areas identified as having potential impacts are discussed further and include mitigation measures that would reduce potential impacts to "Less-than Significant-Impact with Mitigation Incorporated." Project-specific information is discussed below.

1.3 Project Location

The proposed SLPR-Arendsee Rock Revetment Replacement Project (project) site is on Coronado Island and includes revetment structures extending from homes located at 407 and 409 First Street, Coronado, California 92118. The homes at 407 and 409 First Street are the sixth and seventh residences southeast of North Island Naval Air Station (NASNI) and also the second and third residences northwest of Bayview Park (the I Avenue street-end) in Coronado. The project site is also located in the California Coastal Zone. All of the properties along the shoreline in the vicinity of these residences have some form of shoreline protection. The proposed construction footprint on the landside area encompasses approximately 4,900 square feet and is located on the existing revetment.

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SOURCE: USGS National Map 2025

DUDEK

0 2,500 5,000 Feet

FIGURE 1-1

Regional Map

SLPR-Arendsee Rock Revetment Replacement Project

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SOURCE: Bing Maps 2025

DUDEK

0 500 1,000 Feet

FIGURE 1-2

Vicinity Map

SLPR-Arendsee Rock Revetment Replacement Project

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2 Project Description

The project includes the replacement of existing rock revetment bayward of 407 and 409 First Street in Coronado as described below in Section 2.1, Project Construction, of this Initial Study/Mitigated Negative Declaration (IS/MND) including the removal and off-site disposal of existing debris, the placement of new rock revetment, and final cleanup and demobilization of the project. The existing shoreline protection at 407 First Street was installed in 2001 pursuant to a permit issued by the Port of San Diego (Port). The shoreline protection is now in need of repair as the revetment at 409 First Street is covered with old construction debris that does not provide effective protection, and the revetment at 407 First Street has insufficient toestone embedment and is in need of a rock apron to stabilize the revetment.

2.1 Project Construction

2.1.1 Construction Times and Equipment

Construction activities would take approximately 3 months and would occur during daytime hours between 7:00 a.m. and 7:00 p.m., in a manner consistent with the City of Coronado Noise Ordinance (Section 41.10.040(B) of the Coronado Municipal Code [CMC]). Construction work during nighttime hours (between 7:00 p.m. and 7:00 a.m.) is not proposed. Some lighting may be used overnight at the construction site for security reasons, but this lighting would be low profile for worker safety and temporary lasting only during construction.

The proposed land-based equipment includes a medium-sized excavator (likely a CAT 355 excavator, 10 feet by 17 feet in plan dimension), which would be operated within the approximate revetment extent.

The primary proposed water-based equipment would be a derrick crane barge that is approximately 180 feet by 50 feet with a 5.5-foot maximum draft, a 110-foot by 32-foot material barge with a maximum 8-foot draft, A 62-foot by 20-foot tug with a maximum 10-foot draft to be used to maneuver the crane derrick barge and material barge. The tug would be on the project site only when moving the barges. The material barge would have a steel bin wall around its perimeter to prevent any loose debris or silt from entering into San Diego Bay. After the material barge is emptied, the deck of the barge would be cleaned, preventing any debris or silt from entering the Bay.

A photograph of a spud derrick barge and support barge are provided in Exhibit 2-1.

Exhibit 2-1. Spud Derrick Barge and Support Barge



2.1.2 Construction Phases

Construction of the various project components is anticipated to occur over a 3-month period. The work contractor would be Pacific Dredge and Construction LLC (PDC). PDC would operate out of their facility at 1444 Cesar E. Chavez Parkway in San Diego, northwest of the Coronado Bay Bridge and approximately 1.9 miles by water from the project site. The location of PDC's work yard relative to the project site is shown in Figure 1-2, Vicinity Map. Table 2-1 provides the duration of each phase of construction along with the anticipated start.

Table 2-1. Construction Phases and Equipment

Phase Name	Approximate Start Date	Approximate End Date	Total Work - days	Equipment Type	No. per day	Hours per day
Site Preparation/ Equipment Placement	January 2026	January 2026	2	Tugboat	1	6
				Material Barge	1	12
				Derrick Barge	1	12
				Excavator	1	12
				Cranes	1	12
Debris Removal/ subgrade preparation	January 2026	January 2026	5	Tugboat	1	6
				Material Barge	1	12
				Derrick Barge	1	4
				Excavators	1	12
				Cranes	1	12

Table 2-1. Construction Phases and Equipment

Phase Name	Approximate Start Date	Approximate End Date	Total Work - days	Equipment Type	No. per day	Hours per day
Filter Fabric Placement	February 2026	February 2026	3	Tugboat	1	0
				Material Barge	1	12
				Derrick Barge	1	12
				Excavators	1	12
				Cranes	1	0
Revetment Construction	February 2026	March 2026	15	Tugboat	1	6
				Material Barge	1	12
				Derrick Barge	1	4
				Excavators	1	12
				Cranes	1	12
Site Clean Up	March 2026	March 2026	5	Crane	1	12

The sections below describe each construction phase in more detail.

Site Preparation/Equipment Placement

PDC would load an excavator onto the derrick barge at the PDC facility south of the Tenth Avenue Marine Terminal (see Figure 1-2). The derrick barge would be towed to the project site (as shown in Figure 2-1, Proposed Work Barge Movements at Low and High Tide) during high tide conditions, based on the predicted tides per the tidal data from the Broadway Pier tide monitoring equipment, (only during +2-foot mean lower low water [MLLW] or higher tide). Once the excavator is offloaded, the PDC tug would return to the work yard south of the Tenth Avenue Marine Terminal.

The crane of the derrick barge would lift the excavator and set it on the shoreline at the 407 First Street Site. The derrick barge would then move away from the shoreline approximately 225 feet to its standby position where there is no eelgrass. The derrick barge would then drop its spuds to secure the derrick barge on location. The PDC tug would then bring another, smaller material barge to the shoreline loading and unloading location, where it would attach to the derrick barge.

Debris Removal/Subgrade Preparation

The excavator would excavate ~~178~~456 cubic yards of rock debris and place the debris in piles. The construction debris fronting 409 First Street is shown in Exhibit 2-2.

Exhibit 2-2. Construction Debris Fronting 409 First Street



The work crew would then prepare the revetment subgrade bayward/shoreline of the 409 First Street Site. See Section 2.1.4 for a list of the construction best management practices (BMPs) that would be in place to prevent the piles from entering the Bay.

During high tide conditions (above +2 feet MLLW), the derrick barge would move into the loading and unloading area to pick up the debris from 409 First Street and deposit it on the material barge. Removal of the existing debris would occur within the boundaries and construction footprint of the existing revetment. Because the derrick barge has a loaded draft of approximately 6 feet, it would approach the shoreline only at high tide, enabling it to get close enough to offload the excavator. Then, during the receding tide (below +2 feet MLLW), it would be pulled back into deeper water to avoid contact with eelgrass (see Figure 2-1). There would be similar high tide/low tide movement to facilitate the removal of debris and the placement of proposed construction materials.

A small, temporary construction dam would be fabricated around the interior perimeter of the material barge to prevent any loose debris or silt from entering the Bay. The spill containment dam would be made from sand bags, durable and chemical-resistant filter fabrics, and a K-rail barrier. The work would be performed within the proposed work area, approximately 16 feet to >40 feet from the nearshore boundary of the eelgrass. Moreover, the excavator would only be used during low tide so excavation is conducted in the dry land area. This combined with the temporary construction dam would prevent sedimentation from entering the water column and avoid any potential impact to eelgrass.

The material barge has a capacity of approximately 150 cubic yards of debris. To haul the ~~178~~456 cubic yards of exported debris, would be conducted in ~~two~~three trips. Each trip consisting of approximately ~~90~~150 cubic yards of debris.~~, well under the material barge's maximum capacity.~~

The excavator would remove the existing granitic rock revetment at 407 First Street, as generally shown in Exhibit 2-3. The rock revetment would be temporarily stockpiled on the prepared subgrade bayward of 409 First Street.

Exhibit 2-3. Existing Granitic Rock Revetment at 407 First Street



The work crew would then prepare the revetment subgrade bayward of the 407 First Street Site by placing a filter fabric. Then quarry waste would be loaded on the material barge and brought to the project site. The placement of both filter fabric and quarry waste ~~per the Rock Revetment Rehabilitation plans~~ would begin. A 9-inch-minus quarry stone would be loaded on to the material barge ~~per the Rock Revetment Rehabilitation Plan~~ and brought to the project site for placement.

Filter Fabric Placement

The work crew would place the filter fabric along the shoreline at 407 First Street. All usable stockpiled revetment on the 409 First Street site would be initially placed, and all unsuitable excavated rock from the toe of the 407 Street rock revetment would be placed on the material barge for disposal. After initial visual analysis, it is anticipated that most of the rock at 407 First Street can be reused and that virtually none of the rock at 409 First Street can be reused.

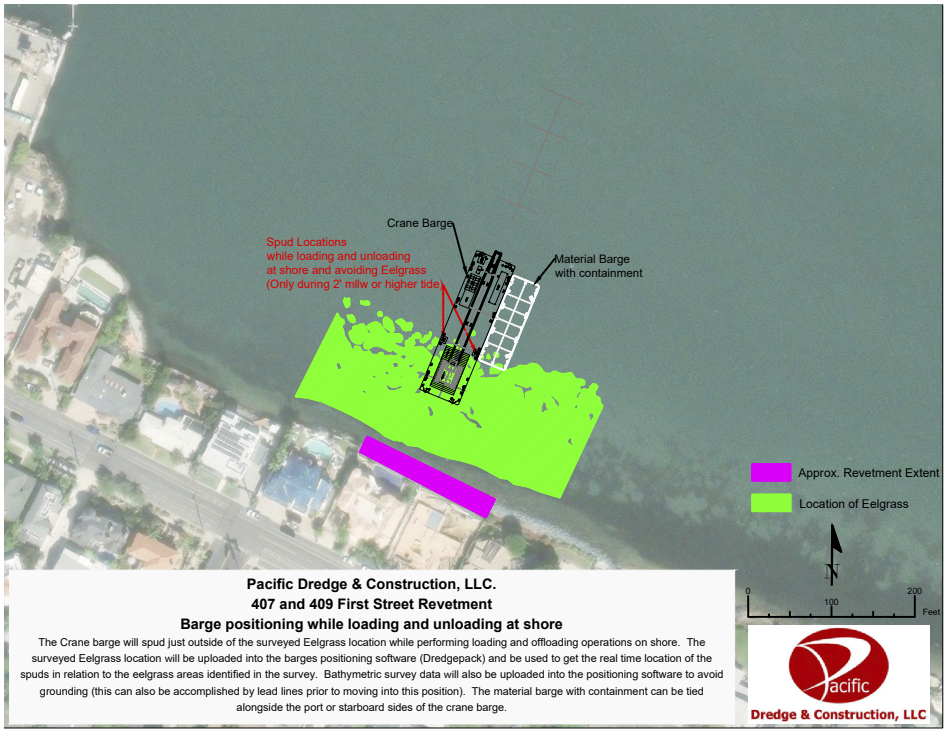
The tug would tow the material barge back to PDC's work yard. The debris would be offloaded into 10-yard dump trucks and hauled off site to a legal disposal area.

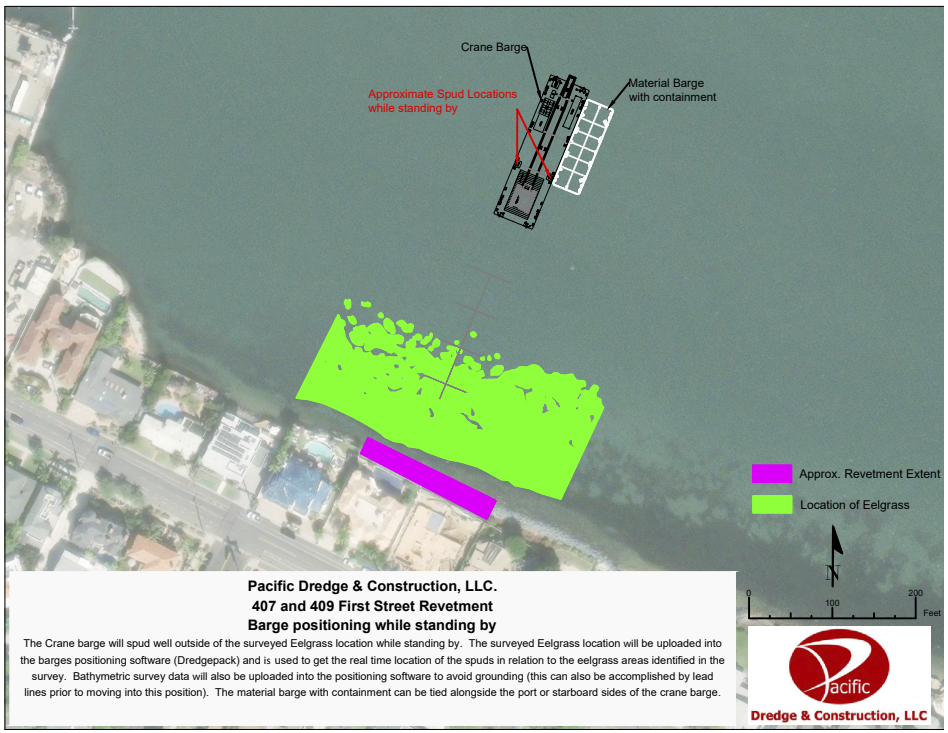
Rock Revetment Construction

The material barge would be loaded with 0.25-ton rock and towed to the shoreline loading and unloading zone. The 0.25-ton rock revetment would be placed on both the 407 First Street and 409 First Street sites as shown in the construction drawings as shown in Figure 2-3~~2~~, Existing and Proposed Cross Sections~~New Rock Revetment Drawing~~.

Site Clean Up

The project site would be cleaned up and any excess debris or rock placed on the material barge for disposal off site. The excavator would be placed back on the derrick barge, and the derrick barge would return to PDC's work yard for final cleanup and demobilization.





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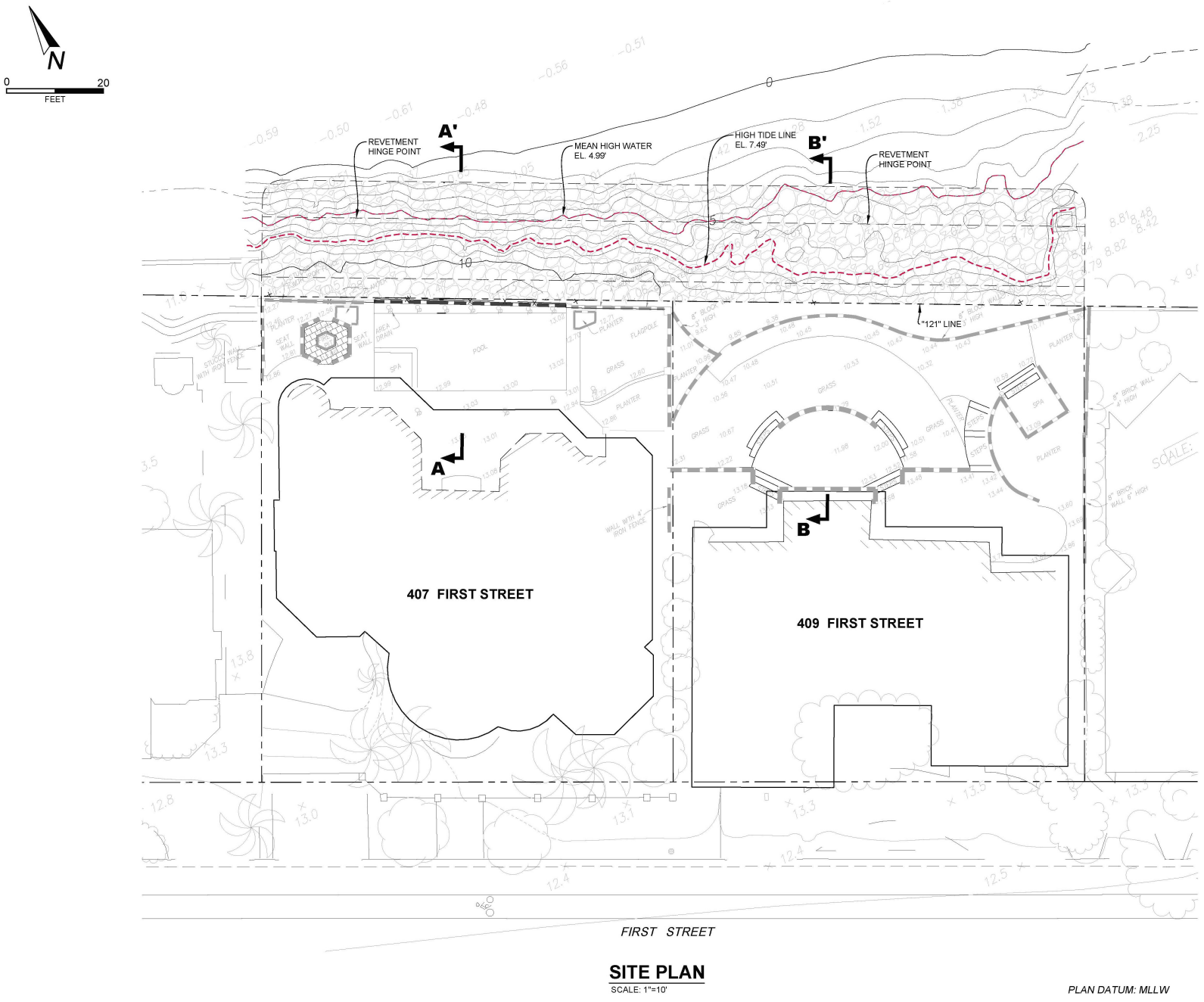
FIGURE 2-1

Proposed Work Barge Movements at Low and High Tide

SLPR-Arendsee Rock Revetment Replacement Project

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SITE PLAN

SCALE: 1"=10'

PLAN DATUM: MLLW

FIGURE 2-2

Site Plan

SLPR-Arendsee Rock Revetment Replacement Project

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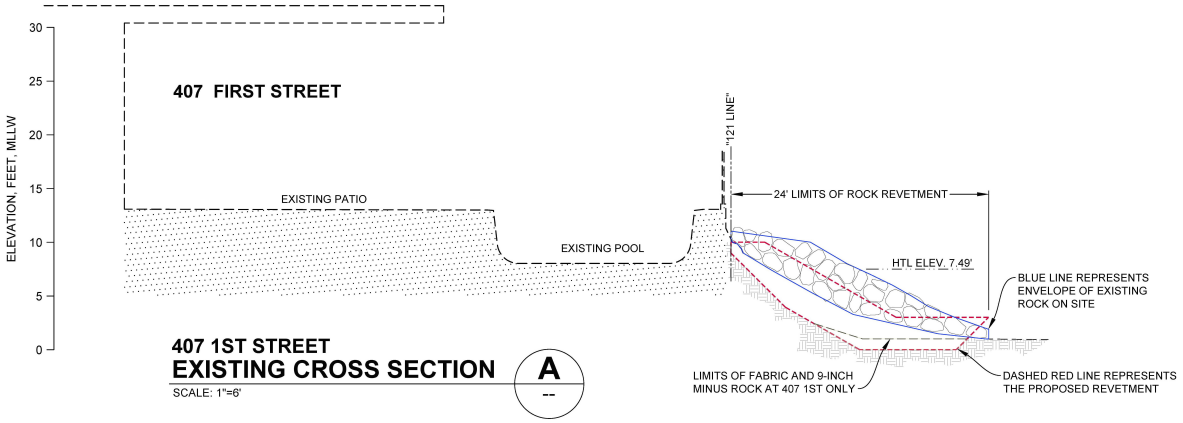
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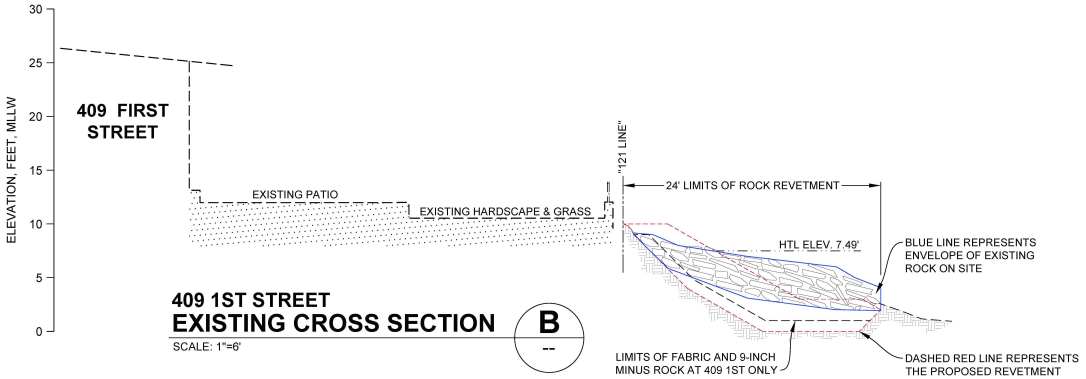
PHOTO 1, LOOKING NORTHWEST AT EXISTING REVETMENT FRONTING 407 1ST STREET. NOTE LOWER HALF OF THE EXISTING REVETMENT HAS SETTLED CAUSING A STEEPENING OF REVETMENT FACE.



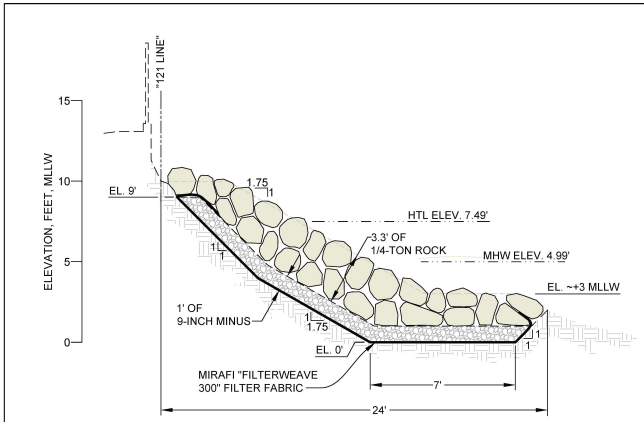
PHOTO 2, LOOKING SOUTHEAST FROM PROPERTY LINE BETWEEN 409 AND 407 1ST STREET. NOTE ALL EXISTING REVETMENT MATERIALS FRONTING 409 1ST STREET CONSIST OF BROKEN CONCRETE DEBRIS, ALL OF WHICH IS TO BE REMOVED AND DISPOSED OFFSITE. NEW REVETMENT STONE TO BE PLACED TO THE SAME GRADES AS THE ROCK REVETMENT ON THE ADJACENT PARCEL TO THE SOUTHEAST.



407 1ST STREET
EXISTING CROSS SECTION **A**
SCALE: 1"=6'



409 1ST STREET
EXISTING CROSS SECTION **B**
SCALE: 1"=6'



PROPOSED REVETMENT
SCALE: 1"=4'

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FIGURE 2-3
Existing & Proposed Cross Sections
SLPR-Arendsee Rock Revetment Replacement Project

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2.1.3 Construction Work Crew

Construction would include a maximum of approximately eight temporary construction workers per day and a minimum of approximately four workers per day, with an average of approximately six workers per day. The number of workers on the project site would depend on the operations for that day. If only shoreside operations are conducted that day and the barges are spudded out away from the shore in the standby location, the crew size would be smaller.

Construction worker parking would be located in the parallel parking spaces infront of the residences along First Street, which would be coordinated with neighbors prior to the start of construction activities. Construction staging would remain within the construction lay down areas, and all deliveries would be coordinated with vendors prior to delivery.

2.1.4 Construction Best Management Practices

Construction BMPs would apply, which include general construction BMPs related to stormwater, proper disposal of construction debris, hazardous material and waste spill prevention, and construction equipment idling limits. BMPs, such as employing materials suitable for aquatic environments and the construction of a temporary dam around the edges of the material barge would be implemented.

In addition, the following BMPs would be observed during construction:

- Potential Pollutant Sources to Mitigate with BMPs
  - Potential leaks from mechanical equipment (excavator)
  - Material and equipment transfer over water to/from 407/409 First Street
  - Material and equipment storage on barge
- General BMPs to Be Followed
  - Construction activities would be scheduled during dry weather to reduce risk of pollutant-laden stormwater discharges.
  - All trash, construction equipment, and materials would be removed from the First Street work area at the end of each workday.
  - Pollutant discharge requirements for mechanical equipment
  - The excavator and other mechanical equipment delivered to the First Street work area would be equipped with bibs to prevent hydraulic fluid spills.
  - Spill kit would be available on site at First Street work area.
  - Contractor would review mechanical equipment daily to confirm no leaks are observed.
    - If equipment leak is noted, equipment would be removed and replaced with equipment that does not pose a risk to receiving water.
    - All refueling and maintenance of mechanical equipment would be completed off site.
- Pollutant discharge requirements for over-water transfer of equipment/ materials/debris
  - Temporary turbidity curtains would be installed between derrick barge and First Street work area.
  - A roll-off bin or other containment device would be used to collect debris at First Street work area.

- Adequate freeboard and/or cover would be implemented to prevent spills during over-water transfer with crane.

- Pollutant discharge requirements for barge storage and transfer of equipment/materials/debris to San Diego
  - All barges would implement good housekeeping measures, including:
  - Storing trash in designated trash bins with secured covers.
  - Storing chemicals (if any) in watertight containers with proper secondary containment.
  - Providing dedicated storage areas with appropriate perimeter control BMPs.
  - Debris would be stored in roll-off bin with adequate freeboard, or stockpiled with sandbag berm or manufactured linear perimeter control BMP.
  - Perimeter controls, such as K-rail/berm, would be installed on barge.

All BMPs would be added as a condition to the coastal development permit (CDP).

In addition, a project design feature of the project (PDF-AQ-1) would include engine tier requirements of the construction contractor. These requirements would ensure that California Air Resources Board (CARB)-certified Tier 4 Final engines would be used for all on-land diesel-powered equipment pieces at minimum, Tier 3 engines would be used for all marine vessels throughout all phases of project construction.

2.1.5 Excavation and Import Quantities

The import and export quantities that would be needed during project construction are shown below:

- Import 0.25-ton rock = ~~275~~58 cubic yards
- Import quarry waste = ~~152~~118 cubic yards
- Import filter fabric = 570 square yards
- Export = ~~178~~456 cubic yards

There would be a net ~~increase~~ decrease of ~~249~~280 cubic yards of rock revetment.

2.1.6 Overwater Coverage and Fill

Construction of the proposed project would not result in any overwater coverage area within the project site.

The California Coastal Act Section 30108.2 defines “fill” as “earth or any other substance or material, placed for the purposes of erecting structures thereon, placed in a submerged area.” ~~Because t~~The project involves the removal and placement of imported materials in a submerged area ~~and the project~~ and would result in a net ~~increase~~decrease of ~~of~~ ~~249~~280 cubic yards of revetment material (total import of ~~new~~replacement revetment materials (58 cubic yards of 0.25-ton rock and 118 cubic yards of 9-inch minus quarry materials) minus the deteriorated revetement to be exported [456 cubic yards of existingrevetment/subgrade material]) Given there is no net fill to coastal waters, the District considers this project a repair and replacement-in-kind of the rock revetment.

2.2 Project Operation

~~Once the rock revetment is replaced, t~~The existing rock revetment would be repaired and replaced in kind and would continue to protect the shoreline at 407 and 409 First Street from coastal erosion caused by wave action, currents, and storm surges. The proposed rock revetment would continue to absorb the energy of the waves and currents, preventing them from directly impacting the shoreline.

2.3 Port Master Plan

The project site is located within Coronado Bayfront Planning District (PD6~~5~~) of the Port Master Plan (PMP). In the PMP, the water use designation for the project site is Open Bay as this area is in the First Street Shoreline area of the PMP that sits adjacent to the residences on City of Coronado land. The following are the definitions of the water designations from the PMP:

- Open Bay (Water Designation): allocated to water areas adjoining shoreline recreational areas, the boat launching ramp, fishing pier, vista areas and other public recreational facilities where the need for open water is related to the proper function of the shoreside activity. Multiple use of Open Bay water areas for recreational and for natural habitat purposes is possible under this use category designation

The proposed project is consistent with the water use designation for the project site in the PMP.

2.4 Project Review and Approvals

2.4.1 San Diego Unified Port District

The District is the lead agency under CEQA and has the primary responsibility of issuing the necessary permits for the proposed project. The following permits and approvals would be required to implement the proposed project.

- Adoption of the Mitigated Negative Declaration.
- Adoption of the Mitigation Monitoring and Reporting Program.
- Real estate agreements
- CDP

There are no responsible agencies associated with this project.

2.4.2 Resource Agencies

A review and issuance of permits may be required for the implementation of the proposed project from the following resource agencies.

- U.S. Army Corps of Engineers (USACE) for Section 10 of the Rivers and Harbors Act and for Section 404 of the Clean Water Act (CWA).
- California Regional Water Quality Control Board (RWQCB) for a CWA Section 401 water quality certification.
- Wildlife agency coordination, including potential endangered species action Section 7 coordination with the U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service.

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3 Existing Conditions

The project site is in north San Diego Bay. 407 and 409 First Street are the sixth and seventh residences southeast of the NASNI and also the second and third residences northwest of Bayview Park (the I Avenue street-end) adjacent to the Bay. Figures 3-1a through 3-1c, Existing Conditions, show the existing condition of the properties along the shoreline in the vicinity of the project site during low tide conditions (low tide elevation of -1.1' MLLW). All properties, including Bayview Park, have some form of shoreline protection to prevent erosion. Primary regional access to the project site is provided by Interstate (I) 75 via the Coronado Bridge, which is located southeast of the project site, and connects Coronado to the City of San Diego.

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The above photograph was taken from below 407 First Street looking west and shows the limited revetment on the sandy bay floor. It also shows the extent of the rock revetment northwest of 407 First Street (to the right in this view), with the obvious absence of any protective toestone along the southeasterly portion of 407 First Street (to the left in this view), all of which per plan will still be a minimum of 10 feet landward of the eelgrass bed shown below the lower photograph on the right.



The above photograph was taken from the 407 & 409 First Street common property line. It illustrates the relatively uniform limits of the eelgrass located about 40 feet bayward of the Miscellaneous Map No. 121 Line ("121 Line") and beyond the limits of the applicants' proposed rock revetment section, which extends 24 feet bayward of the 121 Line. The eelgrass setback narrows slightly to the northwest, with the distance from the 121 Line to the eelgrass being 40 feet at the southeastern 407 First Street property line and 35 feet at the northwestern 407 First Street property line.

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FIGURE 3-1a

Existing Conditions

SPLR-Arendsee Rock Revetment Replacement Project

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The above photograph was taken from the common property line between 407/409 First Street at the northeast corner of the toe of the 407 First Street revetment looking southeast.



The above photograph was taken from the 407 & 409 First Street common property line looking northwest.

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FIGURE 3-1**b**

Existing Conditions

SPLR-Arendsee Rock Revetment Replacement Project

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The above photograph was taken from the 407 & 409 First Street common property line looking southwest.



The above photograph was taken from the middle of 409 First Street looking southeast.

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FIGURE 3-1**c**

Existing Conditions

SPLR-Arendsee Rock Revetment Replacement Project

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4 Initial Study Checklist

1. **Project title:**

   SLPR-Arendsee Rock Revetment Replacement Project

2. **Lead agency name and address:**

   San Diego Unified Port District
   3165 Pacific Highway, San Diego, California 92101

3. **Contact person and phone number:**

   Luis Duran, Senior Planner
   Development Services Department

4. **Project location:**

   407 and 409 First Street, Coronado, California 92118

5. **Project Applicant's (Project Proponent) name and address:**

   SLPR, LLC and Allan W. Arendsee and Lyndsey J. Arendsee as Trustees of the Arendsee Family Trust
   701 N. 44th Street, Phoenix, Arizona 85008

6. **Port Master Plan designation:**

   Open Bay (Water Designation)

8. **Surrounding land uses and setting: Briefly describe the project's surroundings:**

   Land and water uses surrounding the project site primarily consist of Open Bay, residential, park, and commercial recreation. Specific land and water uses located in the immediate vicinity of the project site include the following:

   North: Open Bay within District Tidelands East

   East: Open Bay within District Tidelands and Residential Uses along First Street within the City of Coronado

   South: Residential Uses along First Street within the City of Coronado

   West: Residential Uses along First Street within the City of Coronado

10. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

In accordance with California Assembly Bill (AB) 52 requirements, the District has initiated tribal consultation with the Native American Heritage Association, the results of which are summarized in this IS/MND below

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☒ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities and Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

Determination (to be completed by the lead agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature Date

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off site as well as on site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to less than significance

4.1 Aesthetics

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
I.	**AESTHETICS** – Except as provided in Public Resources Code Section 21099 (where aesthetic impacts shall not be considered significant for qualifying residential, mixed-use residential, and employment centers, would the project**:**				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

4.1.1 Environmental Setting

The project site is within the First Street Shoreline Planning Subarea of Planning District 6, Coronado Bayfront, of the PMP. In the First Street Shoreline Planning Subarea, dramatic panoramic views of San Diego Bay are present but limited as Port lands are scattered, isolated and in many instances the shoreline protection areas are adjacent to residential owners (Port of San Diego 2020, pg. 87). Three designated scenic vista areas are located east of the project site at the foot of Orange Avenue, the foot of C Avenue, and the foot of B Avenue, and looks northwest toward the Bay. Two additional designated scenic vistas are located further east of the project site, along Second Street and Third Street.

4.1.2 Regulatory Setting

Local

Port Master Plan

In addition to identifying three public scenic vistas/viewpoints in the First Street Shoreline Planning Subarea described in the environmental setting above, the PMP provides two goals to guide the aesthetic value of the tidelands:

Section II Planning Goals

- **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.
- **Goal VIII.** The Port District will enhance and maintain the Bay and Tidelands as an attractive physical and biological entity
  - 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.

4.1.3 Discussion

a) Would the project have a substantial adverse effect on a scenic vista?

Less-than-Significant Impact. As discussed above there are three designated scenic vistas identified in the PMP located east of the project site at the foot of Orange Avenue in Centennial Park, the sandy beach at the foot of C Avenue, and the park in Ferry's Landing at the foot of B Avenue. Additionally, the PMP identifies two additional designated scenic vistas located further east of the project site, along Second Street and Third Street. Five of the seven designated scenic vistas look toward the San Diego Bay with the project site in the left side periphery.

The proposed project would not disrupt or block any of the aforementioned designated scenic vistas. The proposed project, which is located to the east of the scenic vistas and does not intervene between the parks or beaches and the views to the Bay. Additionally, the other designated scenic vistas are approximately 0.5 miles east of the project site. In each case, the project site is not the focus of these scenic vistas, which instead looks across the San Diego Bay.

Moreover, the proposed project would not be visible from all of the designated scenic vistas. Proposed aesthetic changes to the existing condition would be temporary and only during construction as the project involves replacement of existing revetment. Temporary construction activities include the demolition of

existing rock revetment and construction debris and replacement with new rock revetment materials along the project site, but would be low profile and not be a permanent condition. Although the rock revetment is visible, it is replacing existing rock revetment and would not stand in contrast to surrounding uses. The proposed revetment is designed to complement the site and its surroundings on the waterfront. The proposed design is consistent with the recently renovated and upgraded shoreline protection in the immediate area at residences to the north and south. For example, the shoreline protection to the immediate east adjacent to the project site is of similar design and height, and the shoreline protection to the immediate west would be similar to the existing shoreline revetment and seawall. The replaced rock revetment would be the only aesthetic change to the area and would be minor if the proposed project is implemented. Impacts to scenic vistas would be less than significant.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The State of California Department of Transportation (Caltrans) manages the State Scenic Highway Program, which protects and enhances the scenic beauty of California's highways and adjacent corridors. According to Caltrans, a highway may be designated as "scenic" depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view (Caltrans 2025a). As shown in the California State Scenic Highway System Map created by Caltrans, the project site is not located within a state scenic highway. The nearest designated state scenic highway includes a portion of State Route 163, the closest segment of which is located approximately 1 mile northeast of the project site (Caltrans 2025b). The nearest eligible state scenic highway includes a portion of I-5, the closest segment of which is located approximately 0.5 miles northeast of the project site (Caltrans 2025b). Therefore, construction of the project would not damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. No impact would occur, and no further analysis is required.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less-than-Significant Impact. As discussed in the setting above, the PMP include goals and objectives related to public views. The project site is in an urbanized area that is developed. The project would replace the existing rock revetment and is designed to be similar to other shoreline protection areas to the east and west of the project site. The existing revetment consists of nonuniform rocks and concrete debris as depicted in Figures 3-1a through 3-1c in Chapter 3, Existing Conditions. The existing revetment has settled over time and is primarily made up of concrete debris, which is not a naturally occurring material. The existing material has poor structural interlocking properties due to the nonuniformity of the concrete debris shapes. According to a National Oceanic and Atmospheric Administration's (NOAA) Natural and Structural Measures for Shoreline Stabilization guidance, the use of concrete debris for shoreline stabilization is no longer a standard practice, largely due to its poor structural properties and poor visual appeal. ~~Recent policy guidance values scenic and visual resources for shoreline adaptation, and the current debris revetment does not have visual appeal.~~

The proposed project would remove the concrete debris and replace it with new rock revetment that would provide an improvement to the existing visual character and quality of the site and its surroundings. Elevation views of the existing project site also show the revetment elevation ranges from +1 foot MLLW at the toe to +12 feet MLLW at the crest (see Figure 4 in Appendix D, Sea Level Rise Vulnerability Assessment). The overall height of the revetment fronting 407 First Street is a couple of feet shorter than that fronting 409 First Street. The proposed new rock revetment would be designed to correct this height differential and complement the materials of the sites surrounding the properties on the waterfront. Both of the residences to the east and west of the project site have shoreline rock revetment similar with the proposed design. The residence to the east has similar rock revetment at the same height as the proposed design, and the residence to the west has a combination of rock revetment and a hardscape wall. The project would be consistent with these surroundings and the goals, objectives, and policies of the PMP (Goal VIII) that protect the visual character of the tidelands and provide visual access to the water. The project would not conflict with applicable visual policies, goals or objectives and would improve the overall visual character of the area. This impact would be less than significant.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. A significant impact would generally occur if a project introduced new sources of light or glare on or from a project site, which would be incompatible in the areas surrounding the project site, or which would pose a safety hazard to motorists utilizing adjacent streets.

Light

Nighttime illumination already exists in the project vicinity in the form of streetlights and residences along the First Street, vehicle headlights traveling on First Street, vehicle headlights entering and exiting the public parking lot that provides parking for the Centennial Park, and from indoor and outdoor lighting from the adjacent residences.

Construction nighttime activities are not proposed. If any nighttime activities do occur they are required to be limited to activities that would not violate the City of Coronado's Noise Ordinance in the CMC Section 41.10.040. This ordinance specifies that any loud construction noise is only permitted from 7 a.m. to 7 p.m., Monday through Saturday. This would require construction activities to cease by 7 p.m. and lights for construction work (e.g., bright pole-mount balloon lights) would not be used beyond these hours. However, some lighting may be used overnight at the construction site for security reasons, but would be temporary lasting only during construction.

The proposed project does not propose any upgraded exterior lighting. All lighting would remain as it exists, and the project site is located within a highly urbanized area environment with various already existing sources of light from downtown Coronado. Therefore, construction of the proposed project would not result in a new source of lighting and impacts on nighttime views would not occur.

Glare

Excessive glare not only restricts visibility but also increases the ambient heat reflectivity in a given area. There are no potential reflective surfaces proposed in the project, and the project does not propose any glass façades that could produce glare. Therefore, construction of the proposed project would not result in a new source of glare or glint and no impacts would occur.

Required Mitigation Measures

The project would not result in significant impacts on aesthetics. Mitigation measures are not required.

4.2 Agriculture and Forestry Resources

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FORESTRY RESOURCES** – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

4.2.1 Environmental Setting

The project site is located within the First Street Shoreline Planning Subarea of Planning District 6, Coronado Bayfront, of the PMP. Port lands located in this area are scattered, and in many instances the shoreline and the Port District boundary line generally coincide. Shore protection along this strip includes rubble and bulkheading,

the latter usually installed by adjacent residential owners to arrest the eroding shoreline. The development potential of the tidelands is minimal as parcel size, shape and access varies. The basic concept of development of the Coronado Bayfront in this area is to continue the current undeveloped shoreline, maintaining the aquatic habitat and retaining the Open Bay for the adjoining water use, both visually and physically (Port of San Diego 2020, pg.87). The existing PMP water use designation for the project site is Open Bay. No agricultural land uses are located on or within the vicinity of the project site, which is classified as Urban Built-Up Land according to the California Department of Conservation Farmland Mapping and Monitoring Program (DOC 2025a). In addition, no Williamson Act contracts exist for the project site or for any adjacent properties in the vicinity (DOC 2025b). Finally, there are no lands on or within the vicinity of the project site that are zoned for forest land or timberland.

4.2.2 Discussion

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The project site is located along the shoreline in the shallow waters within Port jurisdiction. The project site is not classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; it is classified as Urban and Built-Up Land (DOC 2025a). Land closest in proximity to the project site that is classified for agricultural use is approximately 11 miles north of the project site, near where the I-805 and Nobel Drive intersect, which is classified as Unique Farmland; and land approximately 11 miles south of the project site, near the State Route 75 and I-5 freeway interchange, which is classified as Farmland of Local Importance (DOC 2018). The project's construction would be confined within the shoreline area of Coronado and would not encroach upon any agricultural land. Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. The project would have no impact.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project site is not zoned for agricultural uses or enrolled under a Williamson Act contract (DOC 2025b). The existing water use designation of the project site is Open Bay. Agricultural uses are not an allowable use under the Open Bay designation. As such, the project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. As discussed above, the existing water use designation of the project site is Open Bay. No forest land, timberland, or timberland production is located on, adjacent to, or in the vicinity of the project site. Further, all construction activities would be confined to areas designated Open Bay and would not encroach upon any land zoned for forest land, timberland, or timberland production. Therefore, construction of the project would not conflict with existing zoning for, or cause the rezoning of, forest land, timberland, or timberland zoned for timberland production. No impact would occur.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed above, no forest land is located on, adjacent to, or in the vicinity of the project site, and construction of the project would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, the project would have no impact.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. No land zoned for agricultural use or forest land use exists on, adjacent to, or in the vicinity of the project site. As such, construction of the project would not result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

4.3 Air Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Are significance criteria established by the applicable air district available to rely on for significance determinations? ☒Yes ☐No Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

4.3.1 Environmental Setting

The project site is within the San Diego Air Basin (SDAB) and is subject to the San Diego Air Pollution Control District (SDAPCD) guidelines and regulations. The SDAB includes all of San Diego County and is 1 of 15 air basins that geographically divide the State of California. Air quality is a function of the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature

gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants and consequently affect air quality.

Ambient Air Quality

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards (criteria) for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort.

A brief description of the source and health effects of criteria air pollutants relevant to the project is provided in Table 4.3-1.

Table 4.3-1. Criteria Air Pollutants

Pollutant	Description	Health Effects
Ozone (O_3)	O_3 is a strong-smelling pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. The O_3 that the U.S. Environmental Protection Agency (EPA) and CARB regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is, thus, considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere.	O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.
Nitrogen Dioxide (NO_2)	NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. NO_X is formed from fuel combustion under high temperature or pressure and is an important precursor to acid rain. The two major emissions sources of NO_x are transportation and stationary fuel combustion sources, such as electric utility and industrial boilers.	NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections.
Carbon Monoxide (CO)	CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO from motor vehicle exhaust can become locally concentrated when surface-based	The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Table 4.3-1. Criteria Air Pollutants

Pollutant	Description	Health Effects
	temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.	
Sulfur Dioxide (SO_2)	SO_2 is a colorless, pungent gas that is produced from coal and oil used in power plants and industriesSO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.	SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight.
Coarse Particulate Matter (PM_{10}) and Fine Particulate Matter ($PM_{2.5}$)	Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) consists of particulate matter that is 10 microns or less in diameter (about 1/7 the thickness of a human hair). Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; and windblown dust from open lands. Fine particulate matter ($PM_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter (roughly 1/28 the diameter of a human hair). $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves.	$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$.

Sources: CARB 2025a; EPA 2021

Although not noted as a criteria air pollutant in Table 4-3-1, volatile organic compounds (VOCs) (also referred to as reactive organic gases) are important criteria air pollutant precursors as they contribute to the formation of ozone (O_3). VOCs are compounds that have high vapor pressure and low water solubility. Sources of outdoor VOC include motor vehicle exhaust, burning fossil fuels, industrial processes, consumer products (paints, cleaning supplies, and aerosols), and waste disposal sites. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Although VOCs are a health concern indoors and outdoors, regulation of VOCs outdoors is mainly focused on their ability to create photochemical smog under certain conditions.

Other criteria air pollutants under federal and/or state definitions include lead, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles; however, these pollutants are not anticipated to be generated by the project and are not evaluated herein.

Attainment Area Designations

Pursuant to the 1990 federal Clean Air Act amendments, the U.S. Environmental Protection Agency (EPA) classifies air basins (or portions thereof) as in "attainment" or "nonattainment" for each criteria air pollutant, based on whether the National Ambient Air Quality Standards (NAAQS) have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment," but based on California Ambient Air Quality Standards (CAAQS) rather than the NAAQS. Table 4.3-2 displays the current attainment status of the SDAB with respect to the NAAQS and CAAQS.

Table 4.3-2. San Diego Air Basin Attainment Classification

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone (O_3) – 1 hour	Attainment[a]	**Nonattainment**
O_3 – (8 hour)	**Nonattainment**	**Nonattainment**
Nitrogen Dioxide (NO_2)	Unclassifiable/attainment	Attainment
Carbon Monoxide (CO)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Unclassifiable/attainment	Attainment
Coarse Particulate Matter (PM_{10})	Unclassifiable[b]	**Nonattainment**
Fine Particulate Matter ($PM_{2.5}$)	Unclassifiable/attainment	**Nonattainment**[c]
Lead	Unclassifiable/attainment	Attainment
Hydrogen Sulfide	No federal standard	Attainment
Sulfates	No federal standard	Unclassified
Visibility-Reducing Particles	No federal standard	Unclassified
Vinyl Chloride	No federal standard	No designation

Source: SDAPCD 2024.
Notes: Attainment = meets the standards; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify;

[a] The federal 1-hour standard of 0.12 parts per million (ppm) was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.

[b] At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

[c] CARB has not reclassified the region to attainment yet due to (1) incomplete data, and (2) the use of non-California Approved Samplers. Although data collected does meet the requirements for designation of attainment with federal $PM_{2.5}$ standards, the data completeness requirements for state $PM_{2.5}$ standards substantially exceed federal requirements and mandates, and have historically not been feasible for most air districts to adhere to given local resources. SDAPCD has begun replacing most regional

filter-based $PM_{2.5}$ monitors as they reach the end of their useful life with continuous $PM_{2.5}$ air monitors to ensure collected data meets stringent completeness requirements in the future. The Air Pollution Control District anticipates these new monitors will be approved as "California Approved Samplers" monitors once CARB reviews the list of approved monitors, which has not been updated since 2013.

In summary, the SDAB is designated as an attainment area for the 1997 8-hour O_3 NAAQS and as a nonattainment area for the 2008 8-hour O_3 NAAQS. The SDAB is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ CAAQS. The SDAB is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

Non-criteria Pollutants

Toxic Air Contaminants (TACs). A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air.

TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic (i.e., short-term [acute] or long-term [chronic]) effects.

Diesel particulate matter (DPM), which is part of a complex mixture that makes up diesel exhaust, is a TAC of key concern as it is estimated that approximately 70% of the total known cancer risk related to air toxics in California is attributable to DPM (CARB 2025b). Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (is a subset of $PM_{2.5}$ (CARB 2025). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) (17 California Code of Regulations [CCR] 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines, including on-road diesel engines from trucks, buses, and cars and off-road diesel engines from locomotives, marine vessels, and heavy-duty construction equipment, among others. Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and, overall, is quite subjective. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children, older adults, and people with cardiovascular and chronic respiratory diseases. According to the SDAPCD, sensitive receptors are those who are especially susceptible to adverse health effects from exposure to TACs, such as children, the elderly, and the ill. Examples of sensitive receptors include long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playground, childcare centers, and athletic facilities (SDAPCD 2025). The closest sensitive receptors are single-family residences located directly adjacent to the south of the project site.

4.3.2 Regulatory Setting

Regional

San Diego Association of Governments

The San Diego Association of Governments (SANDAG) is the regional planning agency for the County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SANDAG serves as the federally designated metropolitan planning organization for the County. With respect to air quality planning and other regional issues, SANDAG has prepared San Diego Forward: The Regional Plan (Regional Plan) for the San Diego region. The Regional Plan combines the big-picture vision for how the region would grow over the next 35 years with an implementation program to help make that vision a reality. The Regional Plan, including its Sustainable Communities Strategy (SCS), is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050 (SANDAG 2021).

The 2021 Regional Plan includes a SCS, which describes coordinated transportation and land use planning that exceeds the state's target for reducing per-capita GHG emissions set by CARB. The state-mandated target is a 19% reduction—compared to 2005—in per-capita GHG emissions from cars and light-duty trucks by 2035. By comparison, the 2021 Regional Plan achieves a 20% reduction by then.

San Diego Air Pollution Control District

Although CARB is responsible for the regulation of mobile emission sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The project site is located within the SDAB and is subject to the guidelines and regulations of the SDAPCD.

In the County, O_3 and particulate matter are the pollutants of main concern because exceedances of state ambient air quality standards for those pollutants have been observed in most years. For this reason, the SDAB has been designated as a nonattainment area for the state PM_{10}, $PM_{2.5}$, and O_3 standards. The SDAB is also a federal O_3 attainment (maintenance) area for 1997 8-hour O_3 standard, an O_3 nonattainment area for the 2008 8-hour O_3 standard, and a CO maintenance area (western and central part of the SDAB only, including the project site).

Federal Attainment Plans

In November 2020, SDAPCD adopted the Air Quality Management Plan for attaining the federal 8-hour 75 parts per billion (ppb) and 70 ppb O_3 standards (2020 Attainment Plan), which is the SDAB's input to the State Implementation Plan (SIP) and required to demonstrate how the SDAPCD proposes to attain the federal ozone standards. The plan anticipates attainment of the 75 ppb and 70 ppb NAAQS standards by 2026 and 2032, respectively. The 2020 Attainment Plan establishes planning requirements for attaining the O_3 NAAQS, including on-road motor vehicle emissions budgets for transportation conformity, a vehicle miles traveled (VMT) offset demonstration, Reasonably Available Control Measures, Reasonable Further Progress, an Attainment Demonstration, and contingency measures in the event of a failure to meet a milestone or to attain by the predicted attainment date (SDAPCD 2020a).

State Attainment Plans

SDAPCD and the 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 Regional Air Quality Strategy (RAQS) for the SDAB was initially adopted in 1991 and is updated every 3 years, most recently in 2022 (SDAPCD 2023). The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O_3. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the County, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans (SANDAG 2017).

On March 9, 2023, SDAPCD adopted the revised 2022 RAQS for the County. The RAQS plan demonstrates how the San Diego region would further reduce air pollution emissions to meet state health-based standards for ground-level O_3. The 2022 RAQS guides SDAPCD in deploying tools, strategies, and resources to continue reducing pollutants that are precursors to ground-level O_3, including nitrogen oxides (No_x) and VOC. The 2022 RAQS emphasizes O_3 control measures but also identifies complementary measures and strategies that can reduce emissions of greenhouse gases (GHGs) and particulate matter. It also includes new analyses exploring O_3 and its relationship to public health, mobile sources, under-resourced communities, and GHGs and climate change. Further, the 2022 RAQS identifies strategies to expand SDAPCD regional partnerships, identify more opportunities to engage the public and communities of concern, and integrate environmental justice and equity across all proposed measures and strategies.

Regarding particulate matter emissions reduction efforts, in December 2005, the SDAPCD prepared a report titled Measures to Reduce Particulate Matter in San Diego County to address implementation of Senate Bill (SB) 656 (SB 656 required additional controls to reduce ambient concentrations of PM_{10} and $PM2._5$) (SDAPCD 2005). In the report, SDAPCD evaluated implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carry-out and track-out removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust (SDAPCD 2005).

CARB Air Toxics "Hot Spots" Program

The SDAPCD locally administers the CARB's Air Toxics "Hot Spots" Program, established under the Ari Toxics "Hot Spots" Act. This program requires stationary sources—such as industrial facilities—to report the types and quantities of specific toxic substances they routinely release into the air, with the primary objectives being to gather detailed emissions data, identify facilities with localized air quality impacts, evaluate potential health risks, notify nearby residents of any significant risks, and implement measures to reduce those risks to acceptable levels. SDAPCD publishes an annual report summarizing emission estimates, health risk assessment outcomes, and the status of public notifications and risk reduction efforts. The most recent report, released in 2021, covers data from 2019 and 2020 (SDAPCD 2021).

SDAPCD Rules and Regulations

As stated above, the SDAPCD is responsible for planning, implementing, and enforcing federal and state ambient standards in the SDAB. The following rules and regulations apply to the project.

- SDAPCD Regulation II: Permits; Rule 10: Permits Required

  This rule requires any person building, erecting, altering or replacing any article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate or reduce or control the issuance of air contaminant, to first obtain written authorization for such construction from the Air Pollution Control Officer (SDAPCD 1996).
- SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions

  This rule prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes, which is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart (SDAPCD 1996).
- SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance

  This rule prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1976).
- SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust

  This rule regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project area (SDAPCD 2009).

San Diego Unified Port District Port Master Plan Update

The PMP serves as the guiding land use policy document under the California Coastal Act. Adopted in February 2024 and set to be certified in 2025, the Port Master Plan Update (PMPU) builds on the previous document and uses a multifaceted and integrated approach that establishes a set of long-range planning principles to serve as the framework for future development in the Port. The PMPU includes goals and policies that work to improve air quality to advance the development of statewide clean air goals.

San Diego Unified Port District Maritime Clean Air Strategy

The Maritime Clean Air Strategy (MCAS), adopted by the District in 2021, is a policy document that establishes goals and implementation pathways for reducing air polluting emissions from maritime operations and Port activities. The MCAS aligns with regional and state air quality and climate initiatives, including CARB strategies, and serves as a tool to improve air quality for local communities.

The MCAS encourages the use of cleaner construction practices and equipment for maritime uses to minimize temporary air quality impacts. The strategy includes goals related to reducing emissions from off-road construction equipment through clean fleets, alternative fuels, and implementation of best available control technologies.

Although relevant to air quality, the goals and measures outlined in the MCAS are intended to be implemented by maritime uses. As such, the MCAS is not directly applicable and is therefore not used herein for evaluating project consistency with applicable air quality plans.

Community Emissions Reduction Plan

AB 617, signed into law in 2017, established the Community Air Protection Program, which requires new community-focused and community-driven action to reduce air pollution and improve public health in communities that experience disproportionate burdens from exposure to air pollutants. In December 2019, CARB selected the Portside Community[1] for a Community Emissions Reduction Program. The purpose of the Community Emissions Reduction Program is to focus and accelerate new actions that go beyond existing state and regional programs to provide direct reductions in air pollution emissions and exposure within Portside communities. The Portside Community's Community Emissions Reduction Program was adopted by CARB's governing board in October 2021 (CARB 2021).

The project is not located within the Portside Community. The closest portion of the Portside Community boundary is located approximately 1 mile southeast of the project site. Therefore, because the project is not located within the Portside Community, the project is not subject to the requirements of the Community Emissions Reduction Program.

4.3.3 Methodology

Construction

Emissions from project construction were estimated using a combination of marine vessel combustion calculations and the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.29.[2]

The proposed land-based equipment includes a medium-sized excavator to be operated within the approximate revetment extent. The primary proposed water-based equipment would be a derrick crane barge, a material barge, and a tugboat to be used to maneuver the crane derrick barge and material barge. The tug would be on the project

[1] The Portside Community includes the neighborhoods of Barrio Logan, Logan Heights, and Sherman Heights in the City of San Diego, and West National City within National City.

[2] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects (CAPCOA 2022). The model was developed for the California Air Pollution Control Officers Association in collaboration with multiple air districts across the state. Numerous lead agencies in the state, including SDAPCD, use CalEEMod to estimate GHG emissions in accordance with CEQA Guidelines Section 15064.4(a)(1).

site only when moving the barges. The material barge would have a steel bin wall around its perimeter to prevent any loose debris or silt from entering into the San Diego Bay. After the material barge is emptied, the deck of the barge would be cleaned, preventing any debris or silt from entering the Bay.

The construction schedule, equipment mix, and vehicle trips were developed based on available information provided by the applicant, typical construction practices, and CalEEMod default assumptions. Construction phasing is intended to represent a schedule of anticipated activities for use in estimating potential project-generated construction emissions. It is assumed that construction of the project would begin in January 2026[3] and would occur over an approximately 3-month period, ending in March 2026; however, construction activities that would generate emissions would occur over a shorter duration, which is reflected in the emission modeling. There would be no overlap of phases. The analysis contained herein is based on the following schedule assumptions:

- Site Preparation/Excavator Placement (2 days)
- Debris Removal/Subgrade Preparation (5 days)
- Filter Fabric Placement (3 days)
- Revetment Construction (15 days)
- Site Clean Up (5 days)

Table 4.3-3 provides the construction equipment mix and vehicle trips assumed for estimating project-generated construction emissions. Additional details regarding construction assumptions are provided in the modeling output provided in Appendix A, Air Quality and Greenhouse Gas Emissions Modeling Output.

Table 4.3-3. CalEEMod Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips	Equipment Type	Quantity	Daily Usage Hours
Site Preparation/ Excavator Placement	16	0	2	Excavators	1	12
				Cranes	1	12
				Tugboats	1	6
Debris Removal/ Subgrade Preparation	16	4	6	Excavators	1	12
				Cranes	1	12
				Tugboats	1	6
Filter Fabric Placement	16	4	0	Excavators	1	12
Revetment Construction	16	4	0	Excavators	1	12
				Cranes	1	12
				Tugboats	1	6

[3] The analysis assumes a construction start date of January 2026, which represents the approximate date construction would initiate. Assuming the start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Table 4.3-3. CalEEMod Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	Average Daily Vendor Truck Trips	Average Daily Haul Truck Trips	Equipment Type	Quantity	Daily Usage Hours
Site Clean Up	16	0	50	Cranes	1	12

Note: See Appendix A for additional details.
Based on applicant-provided data, it was assumed that the excavator and crane would be equipped with Tier 4 engines, and the tugboat would be equipped with Tier 3 engines. Use of this equipment would be included in the description of development in the proposed CDP.

For the analysis, it is generally assumed that heavy construction equipment would be operating at the site for a range of 6 to 12 hours per day, 5 days per week. The default CalEEMod trip distance for worker and vendor vehicles was assumed, which was a one-way distance of 11.97 miles for worker trips and 7.63 miles for vendor truck trips; a trip length of 25 miles was used for haul truck trips based on the distance from the project site to the anticipated disposal site.

Implementation of the project would generate criteria air pollutant emissions from entrained dust, off-road equipment and vehicle emissions. Based on project information, approximately ~~702~~176 and ~~178~~456 cubic yards of material is expected to be imported and exported, respectively, for project construction during the debris removal and revetment construction phases, resulting in 54 daily haul truck trips. Entrained dust results from the exposure of Earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. Project construction would be subject to SDAPCD Rule 55 – Fugitive Dust Control. Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) that may be generated during grading and construction activities. As described in the permit condition "Dust Control Measures," standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites twice per day, depending on weather conditions.

Outside of CalEEMod, the emissions from operating combustion engines on the tugboat were calculated based on emission factors from the Port of San Diego Maritime Air Emissions Inventory (District 2018) and project-specific information. The tugboat would be driven by two Tier 3 propulsion engines, in addition to a Tier 3 auxiliary engine. The tugboat was assumed to be operating for 6 hours per working day during the construction phase.

Operation

Operational activities and associated air quality pollutant sources would be largely similar to the current maintenance of the rock revetment. For the air quality analysis, therefore, the project is considered to only include a construction scenario. Any operational activities and associated air pollutant sources would be largely similar to the current maintenance of the rock revetment. The new rock revetment would result in no new sources of air pollutant emissions related to project operations.

4.3.4 Discussion

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less-than-Significant Impact. The SDAPCD is responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the basin—specifically, the

SIP and RAQS. SANDAG is responsible for developing forecasts and data that are used by SDAPCD in preparing the SIP and RAQS. In November 2020, SDAPCD adopted the Air Quality Management Plan for attaining the federal 8-hour 75 parts per billion and 70 parts per billion O_3 standards (2020 Attainment Plan), which is the air basin's input to the SIP and required to demonstrate how SDAPCD proposes to attain the federal O_3 standards. The plan anticipates attainment of the 2008 and 2015 NAAQS standards by 2026 and 2032, respectively. The 2020 Attainment Plan includes planning requirements for attaining the O_3 NAAQS including on-road motor vehicle emissions budgets for transportation conformity, a VMT offset demonstration, Reasonably Available Control Measures, Reasonable Further Progress, an Attainment Demonstration, and contingency measures in the event of a failure to meet a milestone or to attain by the predicted attainment date (SDAPCD 2020a).

The 2022 RAQS was finalized in 2023 and addresses California planning requirements to meet the CAAQS. The 2022 RAQS contains strategies to continue directly reducing emissions of O_3 precursors in San Diego County and assist in reducing particulate matter and GHGs as a co-benefit. Consistent with the SDAPCD's recent reorganization pursuant to AB 423 (Gloria, 2019), the 2022 RAQS also proposes to expand the SDAPCD's involvement as a regional agency within our regulatory authority, by including commitments to support research and innovation opportunities, developing new partnerships with public and private entities, convening more opportunities for engagement and education with stakeholders, and integrating environmental justice and equity into all SDAPCD's actions.

The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions as well as information regarding projected growth in the County of San Diego (County) as a whole and the cities in the County, to project future emissions and determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

Although SDAPCD and the District do not provide guidance regarding the analysis of impacts associated with air quality plan conformance, the County's Guidelines for Determining Significance and Report and Format and Content Requirements – Air Quality does discuss conformance with the RAQS (County of San Diego 2007). The guidance indicates that, if the project, in conjunction with other projects, contributes to growth projections that would not exceed SANDAG's growth projections for the City, the project would not be in conflict with the RAQS (County of San Diego 2007). If a project includes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality.

Because the revetment reconstruction project does not involve increases in population, housing, or commercial/industrial development, it is not growth-inducing. Therefore, it would not conflict with the SANDAG's land use projections contained within the RAQS. Additionally, the project would represent a short-term, localized source of emissions and would not affect long-term regional emissions. Furthermore, the project would comply with SDAPCD Rules to ensure emissions are within acceptable levels during construction.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less-than-Significant Impact. Past, present, and future development projects may contribute to the SDAB's adverse air quality impacts on a cumulative basis. By its nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and SDAPCD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If a project's emissions would exceed the applied significance thresholds, it would have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

The District has not developed CEQA thresholds of significance for air quality and health risk. The SDAPCD has also not developed specific thresholds of significance to evaluate construction and operational air quality impacts within CEQA documents; however, SDAPCD's Regulation II, Rules 20.2 and 20.3 (new source review for non-major and major stationary sources, respectively), outline Air Quality Impact Analysis (AQIA) trigger levels for criteria pollutants for new or modified sources, based on emissions levels identified under the New Source Review program (SDAPCD 2020b, 2022a). The County of San Diego established screening level thresholds based on SDAPCD AQIA trigger levels in their 2007 Air Quality guidelines for determining significance. SDAPCD amended Rule 20.2 in 2018 to include a $PM_{2.5}$ AQIA of 67 pounds per day; however, the County recommends a $PM_{2.5}$ screening level threshold of 55 pounds per day based on EPA's "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published in 2005 (County of San Diego 2007), which is also consistent with South Coast Air Quality Management District's Air Quality Significance Thresholds (SCAQMD 2023). The County's $PM_{2.5}$ threshold is lower and is consistent with other CEQA analyses at the District; therefore, it is applied herein. The County also recommends a VOC screening level threshold based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley, which the SDAPCD AQIA does not establish. In summary, the County's air quality thresholds, based on SDAPCD guidance, are applied herein to evaluate the significance of the project's criteria air pollutant emissions.

Construction of the project would result in emissions of criteria air pollutants, which may result in a cumulatively considerable net increase in emissions of criteria air pollutants for which the SDAB is designated as nonattainment under the NAAQS or the CAAQS. The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The following discussion quantitatively evaluates potential short-term construction and qualitatively evaluates long-term operational impacts that would result from implementation of the project.

Construction

Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment and soil disturbance) and off-site sources (i.e., on-road haul trucks, delivery trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emissions levels can only be estimated, with a corresponding uncertainty in precise ambient air quality impacts.

Criteria air pollutant emissions associated with construction activity were quantified using the CalEEMod (CAPCOA 2022). Construction emissions were calculated for the estimated worst-case day over the construction period associated with each phase and reported as the maximum daily emissions estimated during the construction year (2026). Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the applicant or CalEEMod defaults and are intended to represent a reasonable scenario based on the best information available.

NOx and CO emissions would primarily result from the use of construction equipment, including a tugboat, and on-road motor vehicles. Fugitive dust (PM_{10} and $PM_{2.5}$) emissions would primarily result from excavation activities. The project would be required to comply with SDAPCD Rule 55, Fugitive Dust Control. This rule requires that the project take steps to restrict visible emissions of fugitive dust beyond the property line. Compliance with Rule 55 would limit fugitive dust (PM_{10} and $PM_{2.5}$) generated during grading and construction activities. To account for dust control measures in the calculations, it was assumed that the project would ensure that active sites be watered at least two times daily.

Table 4.3-4 presents the estimated maximum daily construction emissions generated during construction of the project and compares the emissions to the SDAPCD air quality thresholds to determine the potential for the project to result in a significant impact under CEQA. Details of the emission calculations are provided in Appendix A.

Table 4.3-4. Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds Per Day					
2026	3.90	20.01	38.97	2.14	2.54	1.63
Maximum Daily Emissions	**3.90**	**20.01**	**38.97**	**2.14**	**2.54**	**1.63**
Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Appendix A
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = particulate matter with an aerodynamic diameter equal to or less than 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter equal to or less than 2.5 microns.

As shown in Table 4.3-4, maximum daily construction emissions would not exceed the significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction; and short-term construction air quality impacts would be less than significant.

Operation

Similar to existing conditions, routine maintenance checks may occur; however, no net increase in operational activities associated with the project would occur (e.g., no routine daily equipment operation, vehicle trips, or energy use would be required). Because the project would not result in a net increase in long-term operational activities, there would be no potential air quality impacts associated with operational air pollutant emissions.

Summary

Based on the project-generated construction emissions of VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ that would not exceed the applied thresholds, and no change in operational emissions as a result of project implementation, the project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants. Therefore, the project's cumulative air quality impact would be less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact. As explained in the setting, some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. Sensitive receptors include residences, schools (grades Kindergarten through 12th Grade), libraries, day care centers, nursing homes, retirement homes, health clinics, and hospitals within 2 kilometers (km) of the facility (SDAPCD 2022a). The nearest sensitive receptors are the residences located directly adjacent to the project site's southern boundary.

Carbon Monoxide Hotspots

Mobile source impacts occur on two scales of motion. Regionally, project-related travel would add to regional trip generation and increase the VMT within the local airshed and the SDAB. Locally, project-generated traffic would be added to the roadway system near the project site. If such traffic occurs during periods of poor atmospheric ventilation, is composed of many vehicles "cold-started" and operating at pollution-inefficient speeds and is operating on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing.

CO transport is extremely limited, and CO disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, school children, hospital patients, and the elderly. Typically, high CO concentrations are associated with urban roadways or intersections operating at an unacceptable level of service. Projects contributing to adverse traffic impacts may result in the formation of CO hotspots.

Project construction would generate vehicle trips associated with workers traveling to and from the construction staging location, vendor trucks deliveries, and haul trucks transporting material to and from the project site. Trips would be temporary and would cease following the completion of construction, lasting approximately 3 months. Project operations would not generate any new vehicle trips. Based on these considerations, the project would not result in a CO hotspot and would result in a less-than-significant impact.

Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as TACs or hazardous air pollutants. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California, and has adopted

appropriate control measures for sources of these TACs. The following measures are required by state law to reduce DPM emissions, which is the primary TAC potentially associated with project construction:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use Off-Road Diesel Vehicles (13 CCR 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles. All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

Project construction would result in emissions of DPM from heavy construction equipment (on-land and in-water) and trucks accessing the project site. The Office of Environmental Health Hazard Assessment has identified carcinogenic and chronic noncarcinogenic effects from long-term exposure, but has not identified health effects due to short-term exposure to diesel exhaust. The duration of proposed construction activities would only constitute a small percentage of the total long-term exposure period (3 months compared to the standard 30-year exposure period) and would not result in exposure of proximate sensitive receptors to substantial TACs. In addition, the project would not require the extensive operation of heavy-duty diesel construction equipment, which is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce DPM emissions, and would not involve extensive use of diesel trucks, which are also subject to a CARB Airborne Toxics Control Measure. Furthermore, as shown in Table 4.3-4, maximum daily particulate matter (i.e., PM_{10} or $PM_{2.5}$) emissions generated by construction equipment use and haul truck trips during construction (exhaust particulate matter or DPM), combined with fugitive dust generated by equipment use and vehicle travel, is minimal. Therefore, the project would not expose sensitive receptors to substantial quantities of TACs during construction.

Moreover, as discussed previously, the project would not include any new activities as part of ongoing project operations; the project is considered to be construction-only. Therefore, project operations would not expose sensitive receptors to substantial quantities of TACs. Potential impacts related to health risk would be less than significant.

Health Effects of Criteria Air Pollutants

As shown and determined in Section 4.3.4(b) of this Initial Study, project construction and operation would not exceed significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. VOCs and NO_x are precursors to O_3, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 CAAQS/NAAQS tend to occur between April and October when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of reliable and meaningful quantitative methods to assess this impact. The project would not exceed the significance thresholds for VOC or NO_x; therefore, implementation of the project would contribute minimally to regional O_3 concentrations and the associated health effects.

In addition to O_3, NO_x emissions contribute to potential exceedances of the NAAQS and CAAQS for nitrogen dioxide (NO_2) (because NO_2 is a constituent of NO_x). Health effects that result from NO_2 and NO_x include respiratory irritation, which could be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, project construction would be short term, lasting approximately 3 months with time gaps anticipated between phases, and emissions from off-road construction equipment would not be concentrated in one portion of the site at any one time. Because project-generated NO_x emissions would not exceed the significance threshold, the project would not result in potential health effects associated with NO_2 and NO_x.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots were discussed previously and were determined to be a less-than-significant impact. Furthermore, the SDAPCD Annual Air Quality Monitoring Network Report for 2022 shows that CO concentrations have decreased in the San Diego region over the last 20 years and are well below the NAAQS and CAAQS standards (SDAPCD 2022b). Thus, the project's CO emissions would not contribute to significant health effects associated with this pollutant.

Construction and operation of the project would also not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or would obstruct the SDAB from coming into attainment for these pollutants. Additionally, the project would implement dust control strategies in compliance with SDAPCD Rule 55, Fugitive Dust Control, which limits the amount of fugitive dust generated during construction. Due to the minimal contribution of particulate matter during construction, the project is not anticipated to result in health effects associated with PM_{10} or $PM_{2.5}$.

In summary, the project would not result in any potentially significant contribution to local or regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants. Impacts would be less than significant. Furthermore, there are numerous scientific and technological complexities associated with correlating criteria air pollutant emissions from an individual project to specific health effects or potential additional nonattainment days, and there are currently no modeling tools that could provide reliable and meaningful additional information regarding health effects from criteria air pollutants generated by individual projects.

In conclusion, the project would not expose sensitive receptors to substantial pollutant concentrations, and impacts are determined to be less than significant.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-than-Significant Impact. Construction of the project would result in various emissions. Criteria air pollutants, fugitive dust, and TACs are addressed under Sections 4.3.4(b) and 4.3.4(c), above. The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the project. Odors produced during construction would primarily be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment. Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be considered less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Proposing to renovate a revetment, the project would not engage in any of these activities or other potential activities that would generate operational odors. Therefore, impacts related to odors are determined to be less than significant.

Required Mitigation Measures

The project would not result in significant impacts on air quality. Mitigation measures are not required.

4.4 Biological Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) 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?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

4.4.1 Environmental Setting

The biological resources analysis presented in this section is based primarily on the Biological Resources Technical Report prepared by Dudek (2025). The Biological Resources Technical Report, which is included as Appendix B, provides additional data and information related to the biological resources analyses.

Vegetation Communities and Land Covers

The vegetation communities and land covers were mapped according to Holland (1986) and Oberbauer et al. (2008), with a few exceptions. Some vegetation communities were given additional descriptions to identify highly dominant species within the community. One anthropogenic land cover type and one open water community were mapped within the project boundary: developed land and open water. The land cover types recorded on the project site are described in detail in the following subsections, their acreages are presented in Table 4.4-1, and their spatial distributions are presented on the Vegetation Communities and Land Covers map (Figure 4 in Appendix B).

Table 4.4-1. Vegetation Communities and Land Cover Types in the Project Site

Vegetation Community/ Land Cover Type	Vegetation Community	Acreage
Anthropogenic Land Covers		
Urban/developed land	Disturbed land	0.13
Other Non-Vegetated Land Covers		
Open water	Unvegetated habitat marine intertidal	0.06
	Total	**0.18**

Source: Appendix B.

Anthropogenic Land Covers

Urban/Developed Land

The urban/developed land cover is characterized as having been constructed upon or otherwise physically altered to an extent that native vegetation communities are not supported. This land cover type generally consists of semi-permanent structures, homes, parking lots, pavement or hardscape, bare ground, and landscaped areas that require maintenance and irrigation (e.g., ornamental greenbelts). Typically, this land cover is unvegetated or supports various anthropogenic landscape features. In the context of the study area, urban/disturbed areas refer to the existing homes and associated landscaping. These areas support limited natural ecological processes, native vegetation, and/or habitat for wildlife species and thus are not considered sensitive by local, state, and/or federal agencies.

Other Non-Vegetated Land Covers

Open Water

Open water consists of unvegetated standing or flowing water associated with an active waterway. Areas of open water within the study area refer to San Diego Bay.

Eelgrass and Caulerpa Survey

The entirety of the project site and reference site was surveyed to determine the presence/absence of eelgrass and *Caulerpa*, and document observed species. Table 4.4-2 summarizes the results of the eelgrass surveys. No *Caulerpa* spp. were observed.

Table 4.4-2. Eelgrass Surveys – Area and Density of Eelgrass Beds

Survey Location	Eelgrass Beds (square meters)	Eelgrass 5-Meter Buffer (square meters)	Total Eelgrass Area (square meters)	Eelgrass Density (mean ± 1 standard deviation)
Project area	4,341	1,872	6,213	1085 ± 443
Reference site	1,996	398	2,394	1088 ± 344
Reference site	1,996	398	2,394	1088 ± 344

Source: Appendix B.
Note: Adapted from Marine Taxonomic Services Ltd. (2023, 2024a).

During the eelgrass survey of the project site, all flora and fauna were recorded (Table 4.4-3). As shown in Table 4.4- 3, all species encountered except Pacific oyster (*Crassostrea gigas*) are native, and one is considered a managed species.

Table 4.4-3. Species observed

Scientific Name	Common Name	FMP/Status	Native, Non-Native, or Invasive
Algae and Seagrasses			
Zostera marina	Eelgrass	EFH, HAPC	Native
Invertebrates			
Panulirus interruptus	California spiny lobster	CDFW	Native
Balanus glandula	Acorn barnacle	—	Native
Crassostrea gigas	Pacific oyster	—	Non-native
Bulla gouldiana	Gould's bubble snail	—	Native
Fish			
Urobatis helleri	Round ray	—	Native

Source: Appendix B.
Notes: EFH = Essential Fish Habitat; HAPC = Habitat Area of Particular Concern; CDFW = California Department of Fish and Wildlife managed species; — = non-listed.
Adapted from Marine Taxonomic Services Ltd. (2024b).

Essential Fish Habitat

San Diego Bay is designated as Essential Fish Habitat (EFH) in the Pacific Coast Groundfish and Coastal Pelagic Species Fishery Management Plans (FMPs). This designation includes coastal waters and some tidally influenced inland water bodies in the area. No important fishing areas overlap with the project site. The soft-bottom substrate of San Diego Bay contains the seagrass Habitat Area of Particular Concern (HAPC) type—specifically, seagrass beds—discussed in the Pacific Coast Groundfish FMP (Appendix B of Appendix B). In total, the project site that was surveyed supports approximately 1.5 acres of eelgrass habitat, including 1.07 acres of vegetated habitat and 0.46 acres of unvegetated habitat. Eelgrass is recognized by state and federal agencies as valuable and sensitive habitat and in addition to being designated a HAPC, it has been further designated as an EFH under the Magnuson-Stevens Fishery Conservation and Management Act. According to NOAA Fisheries (2014a):

> Eelgrass provides a number of important ecosystem functions, including foraging areas and shelter to young fish and invertebrates, food for migratory waterfowl and sea turtles, and spawning for species such as the Pacific herring. By trapping sediment, stabilizing the substrate, and reducing the force of wave energy, eelgrass beds also reduce coastal erosion. In fact, eelgrass forms the base of a highly productive marine food web.

Special-Status Species

California species identified in the literature review as listed by USFWS, NOAA Fisheries, or the California Department of Fish and Wildlife as protected, rare, sensitive, threatened, or endangered and that have a moderate to high potential to occur in the project site are summarized in Table 4.4-4. Results of the USFWS IPaC query are provided in Appendix A of Appendix B. Based on the literature review, a habitat suitability analysis was performed for the species with potential to occur in the project site. Some species documented in the vicinity were omitted because of the absence of suitable habitat on site. The only special-status species directly observed was eelgrass (EFH/HAPC). The California Natural Diversity Database search identified multiple plant and wildlife species within 5 miles of the project site, with no marine species noted (Figure 5, California Natural Diversity Database Plant and Wildlife Occurrences, in Appendix B). Five federally listed or protected species are known to occur within 5 miles of

the project site: eelgrass, California least tern (*Sternula antillarum browni*), green sea turtle (*Chelonia mydas*), common bottlenose dolphin (*Tursiops truncatus*), and California sea lion (*Zalophus californianus*). Appendix C of Appendix B contains information on species not expected or with a low potential to occur.

Table 4.4-4. Special-Status Species Observed or with a Moderate to High Potential to Occur in the Project Site

Scientific Name	Common Name	Status Federal/State	Primary Habitat Associations	Potential to Occur
Plants				
Zostera marina	Eelgrass	EFH, HAPC/ None	Shallow, soft-bottom, marine environments.	Present. Eelgrass beds were identified and mapped during field surveys in the project area.
Reptiles				
Chelonia mydas	Green sea turtle	FT/None	Shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds.	Low to Moderate. Known to migrate through San Diego Bay, and forage in south bay.
Birds				
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Low to Moderate. Numerous breeding and nesting areas are located in San Diego Bay at a distance of 1.7 miles. No nesting habitat. May forage within the project area at high tide.
Marine Mammals				
Tursiops truncatus	Common bottlenose dolphin	MMPA	Worldwide ranging from 45°N to 45°S latitude; found in temperate and tropical waters. Coastal populations migrate into bays, estuaries, and river mouths. Offshore populations inhabit pelagic waters along the continental shelf.	Low. Known to migrate and/or forage along the coast and within San Diego Bay.
Zalophus californianus	California sea lion	MMPA	Eastern North Pacific Ocean from central Mexico to Canada; shallow coastal and estuarine waters; prefers sandy beaches for haul out sites but will also haul out on marina docks, jetties, and buoys.	Low to Moderate. Known to forage along the coast and within San Diego Bay.

Source: Appendix B.
Notes: CNDDB = California Natural Diversity Database; USFWS = U.S. Fish and Wildlife Service
Status Key:
Federal:
FDL = federally delisted
FE = federal endangered

FT = federal threatened
EFH = essential fish habitat
HAPC = Habitat Area of Particular Concern
MMPA = Marine Mammal Protection Act
State:
SSC = California species of special concern
FP = fully protected
SDL = state delisted
SE = state endangered
ST = state threatened
WL = California watch list
Potential to Occur Key:
Present – Has been observed during the part of the species' life cycle noted.
High – Not confirmed, but likely occurs periodically, if not more frequently.
Moderate – Likelihood that the species occurs or does not occur is relatively equal.
Low – Probably does not occur, but occurrence cannot be discounted.
Not expected – Habitat, range, or other factors preclude occurrence for the part of the species life cycle noted.

Green Sea Turtle

Green sea turtle (*Chelonia mydas*) is a federally listed threatened species, that is also protected by the Marine Mammal Protection Act (MMPA). The Eastern Pacific Distinct Population Segment ranges from Baja California to southern Alaska. However, the green sea turtle is mostly found in south San Diego Bay. This species forages in the open ocean when migrating as well as shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds. They are herbivorous and feed primarily on seagrasses and algae. Green sea turtles are generally found in shallow waters except when migrating. They are regular visitors in the waters off the southwest coast of the United States. Residents occur in the San Gabriel River, Long Beach (NOAA Fisheries and USFWS 1998). The closest known nesting occurrences are in Mexico (NOAA Fisheries and USFWS 1998). This species requires open beaches with a sloping platform and minimal disturbance for nesting. Green sea turtles have strong nesting site fidelity and often make long distance migrations between feeding grounds and nesting beaches. This species may travel through the project site year-round. Adults migrate every 2 to 5 years from their coastal foraging areas to their nesting beaches. This species may migrate and/or forage but does not nest in the Bay.

California Least Tern

California least tern (*Sternula antillarum browni*) is the only subspecies of least tern found in California. Least terns feed on smelt, anchovies, silversides, and other small, nearshore prey in shallow estuaries or lagoons where small fish are abundant (USFWS 1985). When looking for prey, terns hover above the water and plunge into the water to catch its prey. The California least tern once nested widely along the Central and Southern California coast and the Pacific coast of Mexico. Nesting today is limited to colonies in San Francisco Bay, Sacramento River delta, and areas along the coast from San Luis Obispo County to San Diego County. The greatest concentrations of breeding pairs nest in Los Angeles, Orange and San Diego Counties. Historical nesting locations have been disturbed or eliminated by habitat loss due to increased urbanization/development. Because they need to nest close to shoreline areas where prey is abundant, the birds are often forced to concentrate their colonies in areas that are restricted in size, making them more vulnerable to predation and disturbance. In San Diego Bay, there are six known California least tern colony sites, with the closes nesting colony 1.7 miles away from the project site.

Common Bottlenose Dolphin

The common bottlenose dolphin (*Tursiops truncates*) is protected by the MMPA. Bottlenose dolphins have a worldwide distribution ranging from 45°N to 45°S latitude and are found in temperate and tropical waters. Coastal

populations often migrate into bays, estuaries, and river mouths. Oceanographic events appear to influence their distribution. North–south movements of bottlenose dolphins have been observed during ocean temperature changes, with higher temperatures associated with northward migrations. The common bottlenose dolphin, as its name suggests, is a common coastal species and a generalist feeder (i.e., squid, fish and crustaceans) (Jefferson et al. 2008). Coastal bottlenose dolphins are known to regularly occur within 1 km of shore (Carretta et al. 1998). In Southern California, they are found within 500 meters of the shoreline 99% of the time and within 250 meters 90% of the time (NOAA Fisheries 2017). They may travel alone or in groups and commonly work together to herd prey. Habitat-based density models show high predicted density for this species along the coast in Southern California (Becker et al. 2016), and north San Diego Bay at the mouth of the Bay, where this species is present year-round.

California Sea Lion

California sea lion (*Zalophus californianus*) is protected by the MMPA. It inhabits the eastern North Pacific Ocean from central Mexico to Canada. This species is present along the west coast from the Tres Marias Islands off Puerto Vallarta, throughout the Gulf of California and the Baja peninsula, north to Alaska. Males (adults, subadults, and juveniles) undertake a northward migration to Central California and Washington after the breeding season in southern rookeries. They are generalist opportunistic feeders (squid and fishes in areas of upwelling) and use the continental shelf and slope but have also been observed in deeper oceanic waters (Jefferson et al. 2008). California sea lions prefer shallow coastal and estuarine waters and sandy beaches for haulout sites but will also haul out on marina docks, jetties, and buoys (NOAA Fisheries 2022). On land, they are wary of humans, but in the water, they are curious and bold and will approach boats looking for fish. They will take fish from commercial fishing gear, sport fishing lines, and fish passage facilities at dams and rivers. They may also be curious about construction activities. California sea lions are subject to several threats: entanglement in fishing gear (gillnets, longline), pollution, ship strikes, and human-caused injuries. This species has known haulouts and rookeries at Point La Jolla and Boomer Beach, San Diego. In San Diego, this species is present year-round.

4.4.2 Regulatory Setting

Federal

Coastal Zone Management Act of 1972

The Coastal Zone Management Act of 1972 is administered by the NOAA's 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. The goal of these programs are 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, to 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 permitted 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, and fish and wildlife and their habitat) within the Coastal

Zone are protected. The California Coastal Commission (CCC) enforces the Coastal Zone Management Act by certifying that any proposed project is consistent with the California Coastal Act of 1976 (as amended). The enforceable policies of the Coastal Zone Management Act are found in Chapter 3 of the California Coastal Act.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801–1884) of 1976, as amended in 1996 and reauthorized in 2007 (Magnuson-Stevens Act), is intended to protect fisheries resources and fishing activities within 200 miles of shore. The amended law, also known as the Sustainable Fisheries Act (Public Law 104-297), requires all federal agencies to consult with the Secretary of Commerce on proposed projects authorized, funded, or undertaken by that agency that may adversely affect EFH. The main purpose of the EFH provisions is to avoid loss of fisheries due to disturbance and degradation of habitat. EFH is regulated under the Magnuson-Stevens Act, protecting waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (16 USC 1801 et seq.). Substrates that are considered include sediment, hard bottom, structures underlying waters, and associated biological communities.

The Pacific Fishery Management Council (PFMC) is one of eight regional fishery management councils established by the Magnuson-Stevens Act. Under the Magnuson-Stevens Act, the federal government has jurisdiction to manage fisheries in the Exclusive Economic Zone, which extends from the outer boundary of state waters (3 nautical miles from shore) to a distance of 200 nautical miles from shore. With jurisdiction over the 822,817 square km (317,690 square miles) of Exclusive Economic Zone off Washington, Oregon, and California, the PFMC manages fisheries for approximately 120 species, including salmon, groundfish, coastal pelagic species (sardines, anchovies, and mackerel), and highly migratory species (tunas, sharks, and swordfish). The PFMC is also active in international fishery management organizations that manage fish stocks that migrate through the PFMC's area of jurisdiction, including the International Pacific Halibut Commission, the Western and Central Pacific Fisheries Commission (for albacore tuna *[Thunnus alalunga*] and other highly migratory species), and the Inter-American Tropical Tuna Commission (for yellowfin tuna [*T. albacare*s] and other highly migratory species) (PFMC 2024). Management measures developed by the PFMC are recommended to the Secretary of Commerce through National Marine Fisheries Service. Management measures are implemented by the National Marine Fisheries Service west coast regional offices and enforced by the NOAA Office of Law Enforcement, the 11th and 13th Coast Guard Districts, and local enforcement agencies (PFMC 2024).

Congress defined EFH to mean those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. In 2002, National Marine Fisheries Service further clarified EFH with the following definitions (50 Code of Federal Regulations [CFR] 600.05–600.930):

- "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate.
- "Substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities.
- "Necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and
- "Spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle.

The entire coastal region of California is designated as EFH in the Pacific Coast Groundfish FMP. This FMP manages more than 90 species over a large and ecologically diverse area extending from the Pacific coast border between California and Mexico to the Pacific coast border between Washington and Canada (PFMC 2025). Because the EFH determination from the Pacific Coast Groundfish FMP addresses such a large number of species, it covers areas out to 11,483 feet in depth, shoreline areas up to mean higher high water, and areas up coastal rivers where ocean-derived salinity is at least 0.5 practical salinity units during average annual low flows.

Habitat Areas of Particular Concern

HAPCs are considered high priority areas for conservation, management, or research because they are rare, sensitive, stressed by development, or important to ecosystem function. The HAPC designation does not necessarily mean that additional protections or restrictions are required for an area, but the designation helps to prioritize and focus conservation efforts. EFH guidelines identify HAPCs as types or areas of habitat that are identified based on one or more of the following considerations:

- The importance of the ecological function provided by the habitat
- The extent to which the habitat is sensitive to human-induced environmental degradation
- Whether, and to what extent, development activities are or will be stressing the habitat type
- The rarity of the habitat type

These areas are detailed in EFH sections of FMPs and are summarized within the Regional Council Approaches to the Identification and Protection of Habitat Areas of Particular Concern (NOAA Fisheries 2001). Current HAPC types are estuaries, canopy kelp, seagrass, rocky reefs, and marine protected areas or areas of interest (such as banks, seamounts, and canyons). No marine protected areas occur in or adjacent to the project site; therefore, they would not be affected by the proposed project and are not analyzed in this report.

Estuaries

Estuaries are semi-enclosed regions where saltwater and freshwater mix, leading to a unique and biodiverse community of plant and animal species. Estuaries are characterized by high productivity, sediment deposition, varying salinity, and high biodiversity. Due to the variable salinity, tides, outflow, and water properties, many organisms have adapted in a myriad of ways to exploit the environment. Estuaries are vital habitats for marine fishes that use the shallow protected habitat as rearing zones for juveniles. Without these important habitats, juveniles would be exposed to physical forces beyond their swimming capabilities, as well as high predatory pressure due to a lack of shelter. The nutrient input, calm waters, and sedimentation of estuaries allow many plant species to thrive, forming the base of a very productive ecosystem that influences many habitats and species beyond its borders. Estuaries also provide habitat for various seabirds, invertebrates, marine mammals, and turtles.

Canopy Kelp

Giant kelp (*Macrocystis pyrifera*), perhaps the most recognized species of brown macroalgae, forms the more southern kelp forests, from the southern Channel Islands, California, to northwestern Baja California, Mexico. In California, there are two dominant species: Giant kelp and bull kelp (*Nereocystis luetkeana*). Considered an ecosystem engineer, kelp provides a physical substrate and habitat for kelp forest communities. A wide range of sea life uses kelp forests for protection or food, including fish (particularly rockfish) and many invertebrates, such as amphipods, shrimp, marine snails, bristle worms, and brittle stars. Many marine mammals and birds are also

found, including seals, California sea lion (*Zalophus californianus*), whales, sea otter (*Enhydra lutris*), gulls, terns, snowy egret (*Egretta thula*), great blue heron (*Ardea herodias*), and cormorants (*Phalacrocorax* spp.), as well as some shorebirds. In California giant kelp forests, the nudibranch *Melibe leonina* and skeleton shrimp (*Caprella californica*) are closely associated with surface canopies; the kelp perch (*Brachyistius frenatus*), rockfishes (*Sebastes* spp.), and many other fishes are found within the stipitate understory; brittle stars and turban snails (*Tegula* spp.) are closely associated with the kelp holdfast, while various herbivores, such as sea urchins and abalones (*Haliotis* spp.), live under the prostrate canopy; many sea stars, hydroids, and benthic fishes live among the benthic assemblages; and solitary corals, various gastropods, and echinoderms live over the encrusting coralline algae.

Seagrass

Seagrasses are one of the only flowering plants, or angiosperms, that can grow in a marine environment. These plants support a diversity of life and can form extensive beds in shallow, protected, estuarine, or other nearshore environments. Two common seagrasses that occur in the west coast region are eelgrass (genus *Zostera*) and surfgrass (genus *Phyllospadix*), with eelgrass being the most prevalent in California. Eelgrass (*Zostera marina* and *Z. pacifica*) beds are located in soft, sandy, sheltered seafloor environments, typically in shallow bays and estuaries. Eelgrass beds function as nursery grounds and provide habitat for juvenile fish, snails, sea stars, anemones, crabs, and clams, and further serve as potential foraging habitat for sea turtles. Surfgrass beds are located in the rocky intertidal and subtidal zones with turbulent surf. Surfgrass beds are habitat for several species of invertebrates, juvenile fish, and epiphytic algae. Eelgrass beds are recognized by federal and state statutes as highly valuable and sensitive habitats. Eelgrass has been designated as EFH for various fish species managed under the Magnuson-Stevens Act, and has been listed as a HAPC, identifying it as rare, especially vulnerable to human impacts, particularly important ecologically, and/or located in environmentally stressed areas. This designation requires federal agencies to consult with NOAA Fisheries on ways to avoid or minimize the adverse effects of their actions on eelgrass. The California Eelgrass Mitigation Policy and Implementing Guidelines (CEMP) provides federal agencies consulting with NOAA Fisheries with comprehensive and consistent information to ensure their actions result in “no net loss” of eelgrass habitat function (NOAA Fisheries 2014b). The CEMP provides information on how to avoid or lessen impacts to eelgrass and for considering different options for mitigation. This flexibility provides an opportunity to protect and restore eelgrass, a key foundation to a healthy marine habitat, and to preserve the basic ecosystem functions along the California coast.

Rocky Reefs

Rocky reefs are submerged rock outcrops with varying relief, known to be rich in both fish abundance and species diversity. In these systems, rocky reefs provide prey, shelter, and refuge for recruiting, juvenile, and adult fishes. Rocky reefs also provide surface area for colonization of algae and invertebrates. It is the physical structure itself of rocky reefs that is the most beneficial to the marine ecosystem. Nearshore rocky reefs receive enough light for photosynthesis and are inhabited by algae, invertebrates, and groundfishes. Rocky reefs in deeper waters do not receive enough light for photosynthesis and are therefore dominated by sessile invertebrates, deep-sea corals, and groundfishes. Several species of groundfish, such as lingcod (*Ophiodon elongatus*), many species of rockfish, and cabezon (*Scorpaenichthys marmoratus*), prefer rocky reefs. These species inhabit rocky reefs because they can find shelter from predators inside the structure they provide. In reefs close to the surface, algae can attach to the rocks and provide the base of a food chain, making rocky reefs highly productive. When reefs exist at depth below where sunlight can penetrate, invertebrate filter feeders dominate the community, capturing prey as they pass by in the current.

Marine Mammal Protection Act (1972)

The MMPA of 1972, as amended, establishes a federal responsibility for the protection and conservation of marine mammal species by prohibiting the "take" of any marine mammal. The MMPA defines "take" as the act of hunting, killing, capture, and/or harassment of any marine mammal, or the attempt at such. The MMPA also imposes a moratorium on the import, export, or sale of any marine mammals, parts, or products within the United States. USFWS and NOAA Fisheries are jointly responsible for implementation of the MMPA; USFWS is responsible for the protection of sea otters and NOAA Fisheries is responsible for protecting pinnipeds (seals and sea lions) and cetaceans (whales and dolphins).

Under Section 101(a)(5)(D) of the MMPA, an incidental harassment permit may be issued for activities other than commercial fishing that may impact small numbers of marine mammals. An incidental harassment permit covers activities that extend for periods of not more than 1 year and that would have a negligible impact on the impacted species. Amendments to the MMPA in 1994 statutorily defined two levels of harassment. Level A harassment is defined as any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal in the wild. Level B harassment is defined as harassment having potential to disturb marine mammals by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.

Clean Water Act

The major federal legislation governing water quality is the federal Water Pollution Control Act Amendments of 1972, commonly known as the CWA (33 United States Code [USC] 1251–1376), as amended by the Water Quality Act of 1987. The intention of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into waters of the United States are regulated under CWA Section 404 and includes (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (ii) The territorial seas; or (iii) Interstate waters; (2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section; (3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water; (4) Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1) of this section; or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters; (5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section. Important applicable sections of the CWA are discussed below:

- Section 401 requires any federal permit applicant that proposes an activity that may result in a discharge into waters of the United States to obtain certification from the state that the discharge will comply with the CWA. A 401 certification is provided by the Regional Water Quality Control Board (RWQCB) assigned to the project's region. A Section 401 certification from the San Diego RWQCB would be required for this project if a Section 404 permit and Rivers and Harbor Act (Section 10) permit is required.
- Section 404 certification is required where USACE issues permits for discharge of dredged or fill material into waters of the United States. These 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 waters of the United States.

Rivers and Harbors Act (Section 10)

The USACE is authorized to regulate any activity within or over any navigable water of the United States pursuant to Section 10 of the Rivers and Harbors Act. 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 CFR 322). The San Diego Bay is considered a traditional navigable water regulated under Section 10 of the Rivers and Harbors Act.

Endangered Species Act

The federal Endangered Species Act (FESA) of 1973, as amended, (16 USC 1531 et seq.) serves as the enacting legislation to list, conserve, and protect threatened and endangered species, and the ecosystems on which they depend, from extinction. In addition, for those wildlife species listed as federally endangered, FESA provides for the ability to designate critical habitat, defined as that habitat considered "essential to the conservation of the species" and that "may require special management considerations or protection." Under FESA Section 7, if a project that would potentially result in adverse impacts to threatened or endangered species includes any action that is authorized, funded, or carried out by a federal agency, that agency must consult with USFWS to ensure that any such action is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat for that species. FESA Section 9(a)(1)(B) prohibits the taking, possession, sale, or transport of any endangered fish or wildlife species. "Take" is defined to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532 [19]). With respect to any endangered species of plant, Sections 9(a)(2)(A) and 9(a)(2)(B) prohibit the possession, sale, and import or export, of any such species, and prohibits any action that would "remove and reduce to possession any such species from areas under federal jurisdiction; maliciously damage or destroy any such species on any such area; or remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law." Pursuant to FESA Section 10(a)(1)(B), the USFWS may issue a permit for the take of threatened or endangered species provided that such taking is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity."

California Eelgrass Mitigation Policy

Eelgrass, Zostera spp., is protected under the CWA as a habitat forming species and the resource is managed locally under the CEMP as developed by NOAA Fisheries (NOAA Fisheries 2014b). Additionally, due to the high ecological value of eelgrass as EFH, eelgrass is also designated as an HAPC by NOAA Fisheries. The CEMP requires that an eelgrass survey be performed prior to construction to evaluate the presence of eelgrass and or potential eelgrass habitat.

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

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50, Section 10.13 of the CFR. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country and is enforced in the United States by

USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50, Section 20 of the CFR. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors). On December 22, 2017, the Department of Interior issued a legal opinion (M-Opinion 37050) that interpreted the above prohibitions as only applying to direct and purposeful actions of which the intent is to kill, take, or harm migratory birds; their eggs; or their active nests. Incidental take of birds, eggs, or nests that are not the purpose of such an action, even if there are direct and foreseeable results, was not prohibited. On January 7, 2021, the USFWS published a final rule (the January 7th rule) that codified the previous administration's interpretation, which after further review was determined to be inconsistent with the majority of relevant court decisions and readings of the MBTA's text, purpose, and history. On May 7, 2021, the USFWS published a proposed rule to revoke the January 7th rule, which would result in a return to implementing the statute as prohibiting incidental take. On July 19, 2021, the USFWS announced the availability of two revised economic analysis documents for public review that evaluate the potential for the proposed rule to impact small entities, including businesses, governmental jurisdictions, and other organizations. The public review period on these documents ended on August 19, 2021. A final rule revoking the January 7th rule was published on October 4, 2021 and went into effect on December 3, 2021. In their summary of the October 4, 2021 final rule, the USFWS explained that "the immediate effect of this final rule is to return to implementing the MBTA as prohibiting incidental take and applying enforcement discretion, consistent with judicial precedent and longstanding agency practice prior to 2017" (86 Federal Register [FR] 54642).

State

California Endangered Species Act

Under the California Endangered Species Act (CESA), the California Fish and Game Commission has the responsibility of maintaining a list of threatened and endangered species. CESA prohibits the take of state-listed threatened or endangered animals and plants unless otherwise permitted pursuant to CESA. Take under CESA is defined as any of the following: "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California Fish and Game Code Section 86). Unlike FESA, CESA does not include harassment or harm (e.g., habitat degradation) in its definition of take. Species determined by the State of California to be candidates for listing as threatened or endangered are treated as if listed as threatened or endangered and are, therefore, protected from take. Pursuant to CESA, a state agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species, or candidate species, could be potentially impacted by that project.

California Environmental Quality Act

CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been generally modeled after the definition in FESA and Chapter 1.5 of the California Fish and Game Code that addresses rare or endangered plants and animals. Appendix G of the CEQA Guidelines requires a lead agency to determine whether or not a project would "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service." CEQA Guidelines Section 15065 requires that a lead agency find an impact to be significant if a project would "substantially reduce the number or restrict the range of an endangered, rare, or threatened species."

California Fish and Game Code, Sections 3503, 3503.5, 3511, 3513

California Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

Wetlands and Waters of the State

Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act established the State Water Resources Control Board (SWRCB) and each RWQCB as the principal state agencies responsible for the protection of water quality in California. As noted under the discussion of the CWA, the Santa Ana RWQCB has regulatory authority over the project area.

The Porter–Cologne Water Quality Control Act provides that "All discharges of waste into the waters of the State are privileges, not rights." Waters of the state are defined in Section 13050(e) of the Porter–Cologne Water Quality Control Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." All dischargers are subject to regulation under the Porter–Cologne Water Quality Control Act, including both point and non-point-source dischargers. As noted in the discussion of the CWA, the Santa Ana RWQCB is the appointed authority for Section 401 compliance in the project area.

California Coastal Act

Under the California Coastal Act (CCA), the CCC, in partnership with local governments, regulates impacts to wetlands and other sensitive habitat in the "coastal zone" and requires a CDP for almost all development within this zone. The Coastal Zone generally extends approximately 1,000 yards inland from the mean high tide line. In less developed areas, it can extend up to 5 miles inland from the mean high tide line, but can also be considerably less than 1,000 yards inland in developed areas.

Regional and Local Plans

San Diego Bay Integrated Natural Resources Management

The INRMP is a long-term strategy sponsored by the U.S. Navy and the District. Its intent is to provide direction for the good management of natural resources while also supporting the ability of the Navy and District to meet their missions and continue functioning within San Diego Bay. The main 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.

4.4.3 Discussion

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

Less-than-Significant Impact with Mitigation Incorporated. No fish species that are managed under the Coastal Pelagic Species FMP or the Pacific Coast Groundfish FMP were observed on site during the surveys (Marine Taxonomic Services Ltd. 2023, 2024a, 2024b). Any impacts potentially occurring to fish and invertebrates within the project site are recommended to be reduced through implementation of mitigation measures as discussed below

Special-status and protected marine wildlife species that have potential to occur on the project site include eelgrass, green sea turtle, California least tern, common bottlenose dolphin, and California sea lion. Any impacts potentially occurring to special-status wildlife species or managed wildlife species on the project site are expected to be reduced through implementation of mitigation measures as discussed below.

Direct Impacts

With the rock revetment, no direct impacts are expected for fish species or mobile invertebrates inhabiting the water column (e.g., crabs), as they are highly mobile. However, benthic invertebrate species may not be as mobile and rock revetment replacement activities could result in mortality. Benthic invertebrates are expected to recolonize the area quickly, within approximately 6 months to 1 year, similar to dredging (Wilbur and Douglas 2007). Therefore, direct impacts to these species would be less than significant.

Fisheries

As per the Pacific Coast Groundfish FMP, the project is not likely to affect the EFH or function/values of fish species identified as Pacific Coast Groundfish. Elasmobranchs, ratfish, and flatfish are likely present on the project site based on habitat preference of soft-bottom habitats. The functions/values that may affect for groundfish (elasmobranchs, ratfish, and flatfish) is foraging, as well as the potential for spawning for two species. However, due to the vast amount of available sandy bottom habitat, the relatively short-term nature of the project, and the mobility of these species, the project would have a negligible effect on Pacific Coast Groundfish. The project may affect but is not likely to adversely affect Pacific Coast Groundfish.

As per the Coastal Pelagic Species FMP, the point-of-concern process is the Council's primary tool for determining impact to a fish stock (PFMC 2024). None of the listed points of concern can be found or expected with the implementation of the project as this project is not harvesting species and there are no biologically significant impacts to forage. This temporary project would have less-than-significant impacts on coastal pelagic species.

With the rock revetment project, no direct impacts are expected for special-status marine wildlife species that have potential to occur on the project site, as they are highly mobile and none are expected in the project site. Therefore, direct impacts to special-status/protected marine species would be less than significant.

Indirect Impacts

Construction noise from overwater and in-water activities would increase ambient noise levels at and surrounding the project site. However, the amount of noise is unlikely to reach species' thresholds, and therefore construction noise would be unlikely to create significant impacts to any managed fish, and these impacts would be less than significant. Further, the rock revetment replacement is a one-time event expected to be conducted during daytime hours for approximately 12 weeks and therefore would only have temporary indirect noise impacts in a limited portion of the Bay.

Short-term water quality impacts (e.g., turbidity) may temporarily have minor effects on fish and invertebrate species in or adjacent to the project site; however, these impacts would likely not affect the success of populations due to the ability of the juvenile and adult fish to relocate to adjacent areas and construction taking place during low tides. Furthermore, as described above, those fish and invertebrate species in the area are not expected to include any managed fisheries. For this reason, temporary relocation of these mobile species would not result in biologically significant impacts with regard to competition, predation, or spawning of native species. By employing water quality BMPs (Mitigation Measure [MM]-BIO-2), indirect impacts to fish and invertebrate species would be less than significant.

No special-status/managed/protected marine species are expected in the project site and indirect impacts associated with rock revetment (e.g., noise, turbidity) are not expected to extend into the Bay or open ocean environment, due to rock installation and excavation at low tide. Construction noise would increase ambient noise levels in water and over water surrounding the project site. Construction noise would be unlikely to create significant impacts to any special-status/managed/protected species potentially occurring in the vicinity because noise threshold levels would not begin to approach NOAA's temporary threshold levels. For example, the typical sound power level of an excavator is 112 dB. This is below the thresholds set by NOAA Fisheries for behavioral disturbance of phocid pinnipeds such as harbor seals (175 dB underwater; 134 dB in-air), otariid pinnipeds such as sea lions (179 dB underwater; 157 dB in-air), high-frequency cetaceans such as bottlenose dolphins (181 dB); sea turtles (175 dB), and fishes (150 dB), and well below auditory injury thresholds for these species (NOAA Fisheries 2024).

Short-term water quality impacts (e.g., turbidity) may temporarily have minor effects on special-status/protected species in or adjacent to the project site; however, these impacts would likely not affect these species because of their ability to relocate to adjacent areas with similar habitat for foraging and migration. Due to the proximity of the project relative to known nesting colonies, there is moderate potential for California least terns to use areas of Open Bay water within the project site for fish foraging. Impacts associated with construction noise and water quality (turbidity), could result in reduced least tern foraging opportunities within the project site. Temporary relocation of these highly mobile species, such as foraging least terns or other sea birds, would not result in biologically significant impacts with regard to critical life stages. In addition, there are no birthing lagoons, rookeries for pupping, or nesting sites in the project site or vicinity for any marine wildlife species. Marine wildlife species would be predominantly migrating/traveling through the area; however, potential indirect impacts could occur prior to mitigation. By employing MM-BIO-2, which includes water quality BMPs, indirect impacts to special-status/protected marine species would be less than significant.

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

Less-than-Significant Impact with Mitigation Incorporated. The project site is adjacent to San Diego Bay with no sensitive land-based biological resources and limited aquatic resources present. There would be no potential for impacts to sensitive biological resources on land. However, as previously discussed construction would result in temporary, localized increases in water turbidity from the re-suspension of sediments. Turbidity can negatively impact filter-feeding organisms by impairing respiration and feeding. If turbidity is severe, sedentary organisms may be buried by suspended sediments; mobile species may be displaced to other areas. Water quality may also be impacted by decreases in concentrations of dissolved oxygen (DO) and increases in levels of any chemical contaminants released from the re-suspension of sediments. Bottom-dwelling organisms, as well as organisms that attach to riprap, would be affected by localized deterioration of water quality and increased levels of suspended sediments. Although the proposed project would result in a short-term increase in turbidity, there would not be any sensitive plant or animal species present, and the District is required to comply with all applicable requirements of USACE and the RWQCB; therefore, impacts would be less than significant.

Eelgrass (*Zostera marina*) is considered to be a sensitive natural community that can be found in San Diego Bay. This community also is considered a HAPC and as such is EFH under the Pacific Coast Groundfish FMP. Impacts to EFH are analyzed as applicable to this FMP.

The project site supports eelgrass: a total of 1.5 acres of eelgrass habitat (1.07 acres of vegetated habitat and 0.46 acres of unvegetated habitat). There are no anticipated direct impacts to eelgrass habitat. The proposed project may result in indirect impacts to eelgrass habitat. Mitigation for any loss of eelgrass habitat is outlined in the CEMP (NOAA Fisheries 2014b). Any potential impacts occurring to eelgrass habitat within the project site are recommended to be mitigated through the recommended mitigation measures outlined below.

Direct Impacts

As shown in Figure 6 in Appendix B, Impacts, the project as designed would have no permanent impacts to eelgrass habitat. The location of the derrick barge spuds would be located outside of mapped eelgrass habitat. In addition, the derrick barge would relocate based on the tide in order to avoid touching the sea floor and sensitive eelgrass beds. Pre-construction surveys would be required prior to construction and post-construction eelgrass surveys would be necessary pursuant to the CEMP to ascertain no impacts to eelgrass.

There are no anticipated direct impacts to eelgrass habitat. The project includes replacement of a rock revetment, which is a direct permanent impact of 0.1 acres. However, based on the literature review and proposed project activities, the project does not include any direct permanent impacts (e.g., placement of structures) in the marine environment or to eelgrass beds. Rock revetment replacement is proposed as a one-time, small-scale activity that proposes no permanent structures in the marine environment. The location of the derrick barge spuds would be located outside of mapped eelgrass habitat. In addition, the derrick barge would be relocated based on the tide in order to avoid touching the sea floor and sensitive eelgrass beds. Therefore, direct impacts to eelgrass would be less than significant.

Indirect Impacts

Short-term indirect impacts from project activities have the potential to indirectly impact eelgrass (i.e., turbidity and shading). Rock revetment replacement activities could result in temporary increased turbidity within the project site and vicinity. Shading could affect eelgrass habitat by altering their morphology density to maintain carbon balance (Wong et al. 2020). Shading can result in leaf loss, reduced growth and chlorophyll content, and utilizing stored rhizome carbohydrates. To mitigate any potential impacts from increased turbidity or overwater shading caused by the derrick and utility barges, movement of barges with tidewaters would be implemented. At a tide below +2 feet MLLW the barges would be moved into deeper waters that do not overlap with eelgrass habitat, based on the eelgrass maps. Barges would occupy the space over the eelgrass bed only when the tide allows and only when work is actively being done, minimizing the time that shading would occur. The area of eelgrass beds that may be shaded by boat movements is 0.06 acres (Figure 6 in Appendix B). Areas temporarily disturbed by project activities would be naturally restored to the condition that existed prior to disturbance following completion of work. These impacts could be significant, absent mitigation. MM-BIO-1 through MM-BIO-4 are recommended to address these potential impacts. Worker environmental awareness training would be provided to all construction personnel (MM-BIO-1), and contractors would employ water quality BMPs (MM-BIO-2) and eelgrass habitat protection through proper barge placement (MM-BIO-3). Pre- and post-construction eelgrass surveys would ensure compliance with the CEMP (MM-BIO-4) and a pre-construction Caulerpa survey would ensure habitat protection (MM-BIO-5). By implementing the mitigation measures above, adverse water quality impacts, including turbidity, are expected to be avoided and minimized. With these measures in place, indirect impacts to eelgrass beds would be less than significant.

Based on all of the conclusions listed above and anticipated USACE and RWQCB permit conditions, the proposed project would have less-than-significant impacts on any riparian habitat or other sensitive natural community identified in local or regional plans with the implementation of mitigation measures.

c) ***Would the project 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?***

Less-than-Significant Impact with Mitigation Incorporated**.** As discussed in Section 4.4.3(b), above, the site supports one marine community that meets the definition of eelgrass habitat. This community also is considered a HAPC and as such is EFH under the Pacific Coast Groundfish FMP. Impacts to EFH are analyzed as applicable to this FMP.

The project site supports eelgrass: a total of 1.5 acres of eelgrass habitat (1.07 acres of vegetated habitat and 0.46 acres of unvegetated habitat). There are no anticipated direct impacts to eelgrass habitat. The proposed project may result in indirect impacts to eelgrass habitat. Mitigation for any loss of eelgrass habitat is outlined in the CEMP (NOAA Fisheries 2014b). Any potential impacts occurring to eelgrass habitat on the project site are recommended to be mitigated through the recommended mitigation measures outlined below.

Direct Impacts

As shown in Figure 6 in Appendix B, Impacts, the project as designed would have no permanent impacts to eelgrass habitat. The location of the derrick barge spuds would be located outside of mapped eelgrass habitat. In addition, the derrick barge would reposition based on the tide in order to avoid touching the sea floor and sensitive eelgrass beds. Pre-construction and post-construction eelgrass surveys would be necessary to ascertain no impacts to eelgrass.

As shown in Figure 6 in Appendix B, Impacts, the project as designed would have no permanent impacts to eelgrass habitat. The location of the derrick barge spuds would be located outside of mapped eelgrass habitat. In addition, the derrick barge would relocate based on the tide in order to avoid touching the sea floor and sensitive eelgrass beds. Pre-construction and post-construction eelgrass surveys would be necessary to ascertain no impacts to eelgrass.

There are no anticipated direct impacts to eelgrass habitat. The project includes replacement of a rock revetment, which is a direct permanent impact of 0.1 acres. However, based on the literature review and proposed project activities, the project does not include any direct permanent impacts (e.g., placement of structures) in the marine environment or to eelgrass beds. Rock revetment replacement is proposed as a one-time, small-scale activity that proposes no permanent structures in the marine environment. The location of the derrick barge spuds would be located outside of mapped eelgrass habitat. In addition, the derrick barge would be relocated based on the tide in order to avoid touching the sea floor and sensitive eelgrass beds. Therefore, direct impacts to eelgrass would be less than significant.

Indirect Impacts

Short-term indirect impacts from project activities have limited potential to indirectly impact eelgrass (i.e., turbidity and shading). Rock revetment replacement activities could result in temporary increased turbidity within the project site and vicinity. Shading could affect eelgrass habitat by altering their morphology density to maintain carbon balance (Wong et al. 2020). Shading can result in leaf loss, reduced growth and chlorophyll content, and utilizing stored rhizome carbohydrates. To mitigate any impact from increased turbidity or overwater shading caused by the derrick and utility barges, movement of barges with tidewaters would be implemented. When the tide, based on the tidal predictions from the NOAA tidal gauge at Broadway Pier, is below +2 feet MLLW the barges would be moved into deeper waters that do not overlap with eelgrass habitat, based on the eelgrass maps. Barges would occupy the space over the eelgrass bed only when the tide allows and only when work is actively being done, minimizing the time that shading would occur. The area of eelgrass beds that may be shaded by boat movements is 0.06 acres (Figure 6 in Appendix B). Areas temporarily disturbed by project activities would be naturally restored to the condition that existed prior to disturbance following completion of work. These impacts could be significant, absent mitigation. MM-BIO-1 through MM-BIO-4 are recommended to address these potential impacts. Worker environmental awareness training would be provided to all construction personnel (MM-BIO-1), and contractors would employ water quality BMPs (MM-BIO-2) and eelgrass habitat protection through proper barge placement (MM-BIO-3). Pre- and post-construction eelgrass surveys would ensure compliance with the CEMP (MM-BIO-4) and a pre-construction Caulerpa survey would ensure habitat protection (MM-BIO-5). By implementing the mitigation measures above, adverse water quality impacts, including turbidity, are expected to be avoided and minimized. With these measures in place, indirect impacts to eelgrass beds would be less than significant.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less-than-Significant Impact. During construction, equipment such as the work and derrick barges would be located within the project site to provide equipment and supplies. Fish are expected to temporarily avoid the area during construction. Green sea turtles (*Chelonia mydas*) and marine mammals known to inhabit San Diego Bay are not known to frequent the project area and would also be expected to avoid the area during construction. Sufficient open water areas exist within the Bay and specifically surrounding the project site to allow for unrestricted movement of fish and other wildlife species. Impacts are anticipated to be less than significant. Once the rock revetment is constructed, the project site would return to conditions very similar to those that exist today underneath the existing rock revetment. The proposed new rock revetment would not result in an obstruction to marine species or interfere with the movement of resident or migratory fish species, green sea turtles, or marine mammals. The project would not be located in a wildlife nursery site. There would also be no in water coverage by the proposed project.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The PMP provides for the protection of biological resources and states that the District would remain sensitive to the needs of and cooperate with communities and other agencies in both Bay and tideland development. Impacts to biological resources from the construction of the proposed project would be less than significant. (See Section 4.4.3[a], above.) Therefore, the proposed project would be consistent with the PMP policies pertaining to biological resources. The proposed project involves the replacement of an existing facility within a heavily used area of the Bay and does not involve a change of land use nor does it require a PMP amendment.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less-than-Significant Impact. No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan is in place that includes the project site or surrounding vicinity; however, the San Diego Bay Integrated Natural Resources Management Plan (INRMP) is a relevant plan that applies to the project area. The INRMP was prepared to guide planning, management, conservation, restoration, and enhancement of the Bay ecosystem and to "ensure the long-term health, restoration, and protection of the Bay ecosystem in concert with the Bay's economic, naval, navigational, recreational, and fisheries needs" (NAVFAC and POSD 2013). The INRMP includes a vision for San Diego Bay, a detailed description of the current state of the ecosystem, and a pathway to change for proceeding toward the goal and vision. The proposed project is not expected to substantially change the ecosystem composition or result in a net loss of resources for birds, green sea turtles, fish, and marine mammals. Therefore, the proposed project would not impede implementation of the INRMP and is consistent with the plan. Six species of fish identified in the project area are managed under the Coastal Pelagic Species FMP and Pacific Coast Groundfish FMP. These plans identify EFH for each of the species covered by the plan. Although the project site is located in an area identified as EFH for both plans, construction of the proposed project would not conflict with the provisions of either plan. Impacts would therefore be less than significant.

Required Mitigation Measures

The following mitigation measures are designed to reduce or keep potentially significant impacts to eelgrass habitat to levels below significance. These measures are consistent with in-water construction procedures and mitigation measures previously implemented in the Bay and throughout Southern California to reduce significant impacts to fish, turtles, marine mammals, and California least terns. The mitigation measures would also be consistent with typical USACE permit conditions.

MM-BIO-1 Worker Environmental Awareness Program. Prior to commencement of activities within the project site, a qualified biologist shall conduct a Worker Environmental Awareness Program (WEAP) that provides a description of potentially occurring special-status species and methods for avoiding inadvertent impacts prior to commencement of activities within the project site. The WEAP training shall be provided to all construction personnel, including vessel operators. Attendees shall be documented on a WEAP training sign-in sheet. The WEAP training shall describe how vessel props must be directed away from eelgrass beds to prevent damage, all boats must have depth finders to avoid eelgrass at low tides, slow work if special-status species such as California least terns or green sea turtles are present, and construction crews must monitor turbidity and if excessive, work must slow/stop until it dissipates to avoid impacts to eelgrass.

MM-BIO-2 Water Quality Best Management Practices. Prior to commencement of the proposed project activities within marine habitat, limits of work and staging areas shall be established. Construction contractors shall use best management practice water quality controls to ensure compliance with the water quality standards, to protect eelgrass and other sensitive species. Measures could include use of a bin wall around stockpiled revetment, daily inspection of construction equipment for leaks or malfunction, and no fueling on site. All work and associated construction materials/equipment shall be confined to designated areas. No sediment, trash, debris, or any materials shall leave the work limits or associated staging areas and enter the surrounding environment.

MM-BIO-3 Eelgrass Habitat Protection. Barges shall only shade eelgrass when construction necessitates. For limited periods of time when high tide levels occur, the contractor shall use a high and low tide schedule to determine barge movements to deeper wider. Barge spuds shall be placed outside of known eelgrass beds and the barge shall not pivot on spuds if within eelgrass in order to protect sensitive habitat and minimize turbidity and shading impacts. Current eelgrass maps completed per the California Eelgrass Mitigation Policy shall be conducted within 60 days prior to construction, shall be provided to equipment operators to prevent bottom-contact with eelgrass or the benthic habitat, and shall limit the amount of shading of eelgrass at the project site.

MM-BIO-4 Pre- and Post-Construction Eelgrass Surveys. Adherence of monitoring and mitigation as required per the California Eelgrass Mitigation Policy shall ensure the project is appropriately evaluated for potential eelgrass impacts with pre-construction and post-construction eelgrass surveys. The pre-construction survey of the eelgrass habitat in the action area and an appropriate reference site(s) shall be completed within 60 days before start of construction. After construction, a post-construction survey of the eelgrass habitat and at an appropriate reference site(s) shall be completed within 30 days of construction, or within the first 30 days of the next active growing season following construction that occurs outside of the active growing season (typically March

through October for Southern California). Copies of all surveys shall be provided to the lead federal agency, National Oceanic and Atmospheric Administration Fisheries, and other interested regulatory and/or resource agencies within 30 days of completing the survey. If inadvertent impacts were to occur, mitigation of eelgrass habitat shall be based on replacement at a 1.2 (mitigation) to 1 (impact) ratio.

MM-BIO-5 Pre-Construction Caulerpa Surveys. A pre-construction Caulerpa spp. survey shall be conducted to identify potential existence of invasive Caulerpa spp., as described in the Caulerpa Control Protocol (https://www.fisheries.noaa.gov/west-coast/habitat-conservation/aquatic-invasive-species-west-coast). If Caulerpa spp. are found, the species must not be disturbed, and California Department of Fish and Wildlife and National Oceanic and Atmospheric Administration Fisheries must be contacted within 24 hours as described in the Caulerpa Control Protocol.

4.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

4.5.1 Environmental Setting

The project site consists of harbor fill and is entirely developed with rock revetment and construction debris; therefore, a site visit was not required to determine if archaeological resources are present. No buildings and structures are on the project site that are 50 years old or older, so a built environment resources assessment was not conducted to determine eligibility for listing in the National Register of Historic Properties or the California Register of Historical Resources (CRHR). To be eligible for inclusion in the National Register of Historic Places or the CRHR, a property generally must be at least 50 years old, have significance, and retain integrity.

4.5.2 Discussion

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact. As described above, there are no existing structures on the project site that meet the criteria for listing in the CRHR or the National Register of Historic Places or meet the definition of a historical resource pursuant to CEQA. Therefore, there would be no impact on historical resources.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less-than-Significant Impact. The shoreline and majority of the project site is underlain by artificial fill; including compacted engineered and non-compacted, nonengineered fill. The majority of the construction activities related to the proposed project would occur in the water and the improvements on the landside would occur in artificial fill under the existing revetment. Therefore, no original ground would be disturbed and no impacts on archaeological resources are expected. The rock revetment replacement process would involve excavation activities within the Bay, primarily in locations that have been previously disturbed by the installation of the existing revetment. Additionally, the project site portion of the Bay has been previously disturbed during installation of the existing revetment and other past activities at the project site. As such, it is not anticipated that significant (i.e., intact) archaeological resources are present where the project would involve ground-disturbing activities. Therefore, the project would not cause an adverse change in the significance of an archaeological resource and a less-than-significant impact would occur.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less-than-Significant Impact. There are no known cemeteries or burials on the project site or immediate area. Although there is potential to encounter buried human remains or unknown cemeteries in areas with little or no previous disturbance, ground-disturbing activities associated with project construction would occur within artificial fill or areas previously disturbed.

California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in California Health and Safety Code Section 7050.5 and PRC Section 5097.

These statutes require that, if human remains are discovered, potentially damaging ground-disturbing activities in the area of the remains shall be halted immediately, and the County coroner shall be notified immediately. If the remains are determined by the coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. Following the coroner's findings, the NAHC-designated Most Likely Descendant and the landowner shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments, if present, are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94. Impacts would be less than significant.

Required Mitigation Measures

The project would not result in significant impacts on cultural resources. Mitigation measures are not required.

4.6 Energy

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Energy – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

4.6.1 Environmental Setting

California's energy supply comes from a varied mix of sources, including petroleum, natural gas and renewables.

Petroleum: According to the U.S. Energy Information Administration, California used approximately 628 million barrels of petroleum in 2022, with the majority (534 million barrels) used for the transportation sector (EIA 2025a). This total annual consumption equates to a daily use of approximately 1.7 million barrels of petroleum. In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation sources. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel.

Natural Gas: California used approximately 2,087 billion cubic feet of natural gas in 2023 (EIA 2025b). The majority (by number) of California's natural gas customers are residential and small commercial customers (core customers). These customers account for approximately 35% of the natural gas delivered by California utilities (CPUC 2019). Large consumers, such as electric generators and industrial customers (noncore customers), account for approximately 65% of the natural gas delivered by California utilities (CPUC 2021). The California Public Utilities Commission (CPUC) regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. California gas utilities may soon also begin receiving biogas into their pipeline systems (CPUC 2021).

San Diego Gas & Electric (SDG&E), a subsidiary of Sempra Energy, provides San Diego County with natural gas service. In 2022, SDG&E delivered approximately 522 million therms (52.2 billion kilo–British thermal units [kBTU]) to its service area (CEC 2022a).

Electricity and Renewables: According to the U.S. Energy Information Administration, California used approximately 239,480 gigawatt hours of electricity in 2023 (EIA 2025a). Electricity usage in California for different land uses varies substantially by the types of uses in a building, the type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. In 2023, California was the fourth-largest electricity producer in the nation, but the state was also the nation's third-largest consumer of electricity (EIA 2025a).

SDG&E provides electricity to the Port. SDG&E receives electric power from various sources. According to the 2023 SCE Power Content Label, eligible renewable energy accounts for 41.4 of SDG&E's overall energy resources (SDG&E 2024). Within San Diego County, annual non-residential electricity use in 2022 was approximately 12.4 billion kilowatt-hours (kWh) per year, and residential electricity use is approximately 7.8 billion kWh per year (CEC 2022b).

4.6.2 Regulatory Setting

Federal

Federal Energy Policy Regulations

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. In addition to setting increased Corporate Average Fuel Economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- Renewable Fuel Standard (RFS) (Section 202)
- Appliance and Lighting Efficiency Standards (Sections 301–325)
- Building Energy Efficiency (Sections 411–441)

The RFS, a federal law, requires ever-increasing levels of renewable fuels to replace petroleum (EPA 2017). The EPA is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in key ways that laid the foundation for achieving significant reductions of GHG emissions through the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of our nation's renewable fuels sector. The updated program ("RFS2") includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.

- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel and set separate volume requirements for each one.
- EISA required EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

State

California Environmental Quality Act

In accordance with the CEQA Guidelines and Appendix F, Energy Conservation, of the CEQA Guidelines, in order to ensure that energy implications are considered in project decisions, environmental documents must include a discussion of the potential significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the CEQA Guidelines provides a list of energy-related topics that should be analyzed in an EIR. In addition, although not described as significance thresholds for determining the significance of impacts related to energy, Appendix F provides the following topics that the lead agency may consider in the energy analysis in an EIR, where topics are applicable or relevant to the project:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project's life cycle including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed;
- The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the project on peak and base period demands for electricity and other forms of energy;
- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources; and
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Warren–Alquist Act

The California Legislature passed the Warren–Alquist Act in 1974, which created the California Energy Commission (CEC). The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed CEC to formulate and adopt the nation's first energy conservation standards for both buildings constructed and appliances sold in California.
- The act removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high-demand projections, and transferred it to a more impartial CEC.
- CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

State of California Energy Action Plan

CEC and CPUC approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure the provision of adequate, reliable, and reasonably priced electrical power and natural gas supplies; it also identified cost-effective and environmentally sound energy policies, strategies, and actions for California's consumers and taxpayers. In 2005, CEC and CPUC adopted a second Energy Action Plan to reflect various policy changes and actions from the prior 2 years.

At the beginning of 2008, CEC and CPUC determined that it was not necessary or productive to prepare a new Energy Action Plan (CPUC 2008). This determination was based, in part, on a finding that the state's energy policies had been significantly influenced by the passage of AB 32, the California Global Warming Solutions Act of 2006 (discussed below). Rather than producing a new Energy Action Plan, CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change.

Transportation-Related Regulations

In response to the transportation sector accounting for more than half of California's carbon dioxide (CO_2) emissions, AB 1493 was enacted in 2002. AB 1493 required CARB to set GHG emissions standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles whose primary use is noncommercial personal transportation in the state. The bill required that CARB set GHG emissions standards for motor vehicles manufactured in 2009 and all subsequent model years. The 2009–2012 standards resulted in a reduction in approximately 22% of GHG emissions compared to emissions from the 2002 fleet, and the 2013–2016 standards resulted in a reduction of approximately 30% compared to the 2002 fleet.

In 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases with requirements for greater numbers of zero-emission vehicles into a single package of standards called Advanced Clean Cars. By 2025, when the rules would be fully implemented, new automobiles would emit 34% fewer global warming gases and 75% fewer smog-forming emissions (CARB 2020).

In 2019, the EPA and National Highway Traffic Safety Administration published the Safer Affordable Fuel-Efficient Vehicles Rule Part One: One National Program (SAFE-1)(84 Fed. Reg. 51310), which revoked California's authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. In March 2020, Part Two was issued which set CO_2 emissions standards and Corporate Average Fuel Economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. In March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and zero-emission vehicle sales mandate. EPA's action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

AB 1007 (2005) required the CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the plan in partnership with CARB and in consultation with other state agencies, plus federal and local agencies. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Renewable Energy Regulations

The California Renewables Portfolio Standard Program, established by SB 1078, requires electricity providers to procure a specified percentage of their electricity from eligible renewable sources. Initially set at 20% by 2017, the standard was accelerated by SB 107 (2006), which moved the 20% target to 2010, and further expanded by SB X1-2 (2011), which established a 33% renewable requirement by 2020 through phased compliance milestones.

Subsequent legislation continued to raise the targets: SB 350 (2015) mandated 50% renewable energy by 2030 with interim milestones of 40% by 2024 and 45% by 2027; SB 100 (2018) increased this requirement to 60% by 2030 and established a statewide goal of 100% carbon-free electricity by 2045. SB 1020 (2022) further refined these goals, requiring 90% clean electricity by 2035, 95% by 2040, and 100% by 2045.

Local

Port of San Diego Climate Action Plan

The District adopted its Climate Action Plan (CAP) in December 2013 to address GHG emissions associated with its operations and long-term planning. The CAP includes an inventory of existing (2006) emissions and projections for 2020, 2035, and 2050 and outlines the Port's GHG reduction targets and strategies designed to support statewide climate goals, including those established under AB 32, which set a target of reducing emissions to 1990 levels by 2020.

Although the CAP is not a qualified GHG reduction plan under CEQA Guidelines Section 15183.5 for post-2020 projects due to the absence of quantified long-term targets beyond 2020, it provides important context for energy conservation and climate policy within the Port's planning and decision-making process.

San Diego Association of Governments Regional Energy Strategy

SANDAG adopted the Regional Energy Strategy to serve as a long-term policy framework guiding the San Diego region's transition to a more sustainable, reliable, and equitable energy system. The Regional Energy Strategy supports regional implementation of state energy and climate goals, including the increased use of renewable energy, electrification of buildings and transportation, and improved energy efficiency. It also promotes coordination among local governments, utilities, and stakeholders to reduce GHG emissions and enhance energy resilience. Although the Regional Energy Strategy does not establish binding requirements for individual projects, it provides regional context for energy planning in relation to broader state energy goals.

4.6.3 Methodology

CalEEMod Version 2022.1.1.29 (CAPCOA 2022) and marine vessel combustion calculations were used to estimate the potential project energy consumption during construction. Construction of the project would result in petroleum consumption primarily associated with use of off-road construction equipment, the use of a tugboat, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details specific to construction and operation that are discussed in Section 4.3, Air Quality, of this Draft IS/MND—specifically in Section 4.3.3, Methodology—are also applicable for the estimation of construction-related energy consumption. As discussed previously, the project is considered construction-only and would not require ongoing maintenance; therefore, the operational scenario would not include any vehicle trips or other associated activity and was not considered to use energy.

Potential impacts were assessed through projected traffic trip generation during construction, as detailed in the CalEEMod outputs that were prepared for the project (Appendix A). Fuel consumption from construction equipment, including the use of a tugboat to transport equipment and material barges, was estimated by converting the total CO_2 emissions from each construction phase to gallons using conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton (kg/MT) CO_2 per gallon, and the conversion factor for diesel is 10.21 kg/MT CO_2 per gallon (The Climate Registry 2023). Heavy-duty construction equipment associated with construction activities, including the tugboat transporting equipment and material to the project site, and haul trucks involved in importing or exporting material to and from the site, such as export of old revetment rock, are assumed to use diesel fuel. It is assumed that construction workers would travel in the project area in gasoline-powered vehicles.

Operational activities and associated air quality pollutant sources would be largely similar to the current maintenance of the rock revetment. For the energy analysis, therefore, the project is considered to only include a construction scenario. Any operational activities and associated energy consumption sources would be largely similar to the current maintenance of the rock revetment. The new rock revetment would result in no new energy consumption and would not result in increased fuel consumption from mobile sources.

4.6.4 Discussion

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less-than-Significant Impact. Implementation of the project would increase petroleum consumption during construction; however, the energy consumption associated with the project is not considered wasteful, inefficient, or unnecessary, as described herein.

Construction

Electricity

Temporary electric power for as-necessary lighting and electronic equipment, such as computers would be provided by SDG&E. The electricity used for such activities is anticipated to be minimal and would be temporary, therefore having a negligible contribution to the project's overall energy consumption. Impacts would be less than significant.

Natural Gas

Natural gas is not expected to be required during project construction. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum Usage," below. Any minor amounts of natural gas that may be consumed because of project construction would be temporary and negligible, and would not have an adverse effect. Impacts would be less than significant.

Petroleum

Petroleum would be consumed throughout construction of the project. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction, and VMT associated with the transportation of construction materials and construction worker commutes would also

result in petroleum consumption. Heavy-duty construction equipment associated with construction activities and haul trucks involved in relocating dirt around the project site are assumed to use diesel fuel. Construction workers would travel to and from the project site throughout the duration of construction (approximately 3 months). It is assumed that construction workers would travel to and from the project site in gasoline-powered vehicles.

CalEEMod was used to estimate construction equipment usage. The estimated diesel fuel usage from construction equipment, including the tugboat, haul trucks, and vendor trucks, as well as estimated gasoline fuel usage from worker vehicles, is shown in Table 4.6-1.

Table 4.6-1. Total Project Construction Petroleum Demand – (Gallons)

Construction Phase	Off-Road Land Equipment (Diesel)	Off-Road Water Equipment (Diesel)	Haul Trucks (Diesel)	Vendor Trucks (Diesel)	Worker Vehicles (Gasoline)
Total	6,888	632	916	113	217

Source: Appendix A.

In summary, construction associated with the development of the project is estimated to consume a total of approximately 217 gallons of gasoline from worker vehicles and 9,181 gallons of diesel for off-road equipment, haul trucks, vendor trucks, and the tugboat, for a total of 9,398 gallons of petroleum. Project construction would represent a "single-event" petroleum demand and would not require ongoing or permanent commitment of petroleum resources for this purpose.

The project would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation, which applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation (1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; (2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; (3) restricts adding older vehicles into fleets starting on January 1, 2014; and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must show that either its fleet average index was less than or equal to the calculated fleet average target rate, or the fleet has met the Best Achievable Control Technology requirements. Overall, the project would not be unusual compared to overall local and regional demand for energy resources and would not involve characteristics that require equipment that would be less energy efficient than that found at comparable construction sites in the region or state. Considering these requirements, the project would not result in the inefficient, wasteful, or unnecessary consumption of energy during construction. Impacts would be less than significant.

Operation

The operation of the project would not use energy except for occasional minor maintenance of the revetment similar to what already occurs. Any operational activities and associated energy consumption sources would be largely similar to the current maintenance of the rock revetment. The new rock revetment would result in no new energy consumption and would not result in increased fuel consumption from mobile sources. The project is not estimated to generate any new daily vehicle trips and visitation to the area is not anticipated to increase substantially, and any increase in visitation would be minimal and the increase in overall energy demand compared to existing conditions would thus be minimal. Impacts would be less than significant.

Summary

The project would increase energy consumption for temporary construction activities related to off-road equipment, including marine vessels, and vehicle use during material transport and worker trips. However, construction activities would be temporary and would not increase long-term energy or fuel demand. Construction activities would consume the necessary amount of fuel to complete work in an efficient and timely manner. Once operational, the project would not increase energy use above existing conditions.

According to Appendix F of the State CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall per-capita energy consumption, decreasing reliance on oil, and increasing reliance on renewable energy sources. Project energy consumption for transportation would support these goals due to the effects of existing state laws and requirements and project design that promotes energy conservation. The project would not include any ongoing maintenance activities that would conflict with goals of decreasing per-capita energy consumption, reliance on oil (petroleum), or increasing uses of renewable energy sources, or that would result in wasteful, inefficient, or unnecessary consumption of energy. Accordingly, impacts associated with the potential for the project to result in inefficient, wasteful, or unnecessary consumption of energy during construction and operation would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-than-Significant Impact. As detailed in this section, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Construction

State and local renewable energy and energy efficiency plans that are applicable to the proposed project include California Title 24 energy efficiency standards, the State of California Energy Action Plan, which contain required standards related to energy efficiency for buildings and renewable energy development (CPUC 2008), the District's CAP, which includes strategies to reduce GHG emissions, and SANDAG's Regional Energy Strategy, which establishes long-term energy goals in the region through 2050, including energy efficiency, renewable energy, distributed generation, transportation fuels, land use and transportation planning, border energy issues, and the green economy. The proposed project is required to comply with these regulations, to the extent applicable, which are aimed at increasing energy efficiency.

Energy to meet the project's construction electricity demand, which is anticipated to be minimal, would be provided by SDG&E, which is subject to meeting California's Renewables Portfolio Standard. SDG&E plans to increase procurement from eligible renewable energy resources to achieve net-zero GHG emissions from energy production by 2045. This aligns with the goals of SB 1020, which requires that eligible renewable energy resources and zero-carbon resources supply 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% by December 31, 2040, 100% by December 31, 2045.

Furthermore, the project would use construction contractors that demonstrate compliance with applicable regulations. Construction equipment would be required to comply with federal, state, and regional requirements where applicable. With respect to truck fleet operators, EPA and National Highway Traffic Safety Administration have adopted fuel-efficiency standards for medium- and heavy-duty trucks that would be phased in over time. Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty

pickup trucks and vans, and vocational vehicles for model years 2014 through 2018 and result in a reduction in fuel consumption from 6% to 23% over the 2010 baseline, depending on the vehicle type (76 FR 57106–57513). EPA and National Highway Traffic Safety Administration also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5% to 25% reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (81 FR 73478–74274). The energy modeling for trucks does not take into account specific fuel reductions from these regulations because they would apply to fleets as they incorporate newer trucks meeting the regulatory standards; however, these regulations would have an overall beneficial effect on reducing fuel consumption from trucks over time as older trucks are replaced with newer models that meet the standards.

In addition, construction equipment and trucks are required to comply with CARB regulations regarding heavy-duty truck idling limits of 5 minutes per occurrence. Off-road emissions standards would increase equipment efficiencies as they are phased in and less-efficient equipment is phased out of construction fleets. These limitations would result in an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines. Although these requirements are intended to reduce criteria pollutant emissions, compliance with the anti-idling and emissions regulations would also result in the efficient use of construction-related energy. Thus, construction of the project would comply with state or local plans for renewable energy or energy efficiency.

In accordance with CEQA Guidelines Appendix F, construction equipment used for the project would not conflict with the energy standards applicable to construction equipment, including limiting idling fuel consumption and using contractors that comply with applicable CARB regulatory standards that affect energy efficiency. Impact would be less than significant.

Operation

As the project would not include any operational activities, the project would not result long-term energy consumption. No impact would occur.

Summary

Based on the above considerations, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

Required Mitigation Measures

The project would not result in significant impacts on energy. Mitigation measures are not required.

4.7 Geology and Soils

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

4.7.1 Environmental Setting

According to the U.S. Geological Survey (USGS) Quaternary Faults Map, the nearest fault line to the project site is the Newport-Inglewood-Rose Canyon Fault Zone, located approximately 0.5 miles to the northeast and 0.5 miles to the northwest (USGS 2025). According to the Department of Conservation Earthquake Fault Zones of Required Investigation Map, the project site is located adjacent to land that is identified to be within an Alquist-Priolo Fault Zone but is not itself located within an Alquist-Priolo Fault Zone (DOC 2022a). As shown in the City's San Diego Seismic Safety Study, the project site is located in an area identified as having a high potential for liquefaction due to shallow groundwater, major drainages, and hydraulic fills (City of San Diego 2008).

Information obtained from Department of Conservation and the PMPU Final Program EIR (certified February 2024) indicates that the project site and vicinity contain surficial soil deposits of artificial fill underlain by geologic soils of San Diego Bay deposits specifically consisting of *Qmo*, which are undivided marine deposits in offshore region (late Holocene), unconsolidated, often ponded marine sediments that generally consist of loose to medium dense sand and silt deposited below the water table (DOC 2022b; Port of San Diego 2023: 4.5-2).

4.7.2 Regulatory Setting

Federal

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act establishes the framework for safe and healthful working conditions for workers by authorizing enforcement of the standards developed under the act. The act assigns the Occupational Safety and Health Administration (OSHA) two regulatory functions: setting standards and conducting inspections to ensure that employers are providing safe and healthful workplaces. OSHA standards may require that employers adopt certain practices, means, methods, or processes reasonably necessary and appropriate to protect workers on the job. Employers must become familiar with the standards applicable to their establishments and eliminate hazards.

Compliance with standards may include implementing engineering controls to limit exposures to physical hazards and toxic substances, implementing administrative controls, and ensuring that employees have been provided with, have been effectively trained on, and use personal protective equipment when required for safety and health, where the former controls cannot be feasibly implemented. Employees must comply with all rules and regulations that apply to their own actions and conduct. Even in areas where OSHA has not set forth a standard addressing a specific hazard, employers are responsible for complying with the act's "general duty" clause, which states that each employer "shall furnish…a place of employment which is free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees" (Section 5[a][1]).

Regulations defining safe standards have been developed for general industry, construction, maritime, recordkeeping, and agriculture. OSHA standards specific to safety and health regulations pertaining to construction are listed in 29 CFR 1926, Subtitle B. Specifically, subpart C handles general safety and health provisions including safety training and education, first aid and medical attention, fire protection and prevention, and personal protective equipment. Subpart D is specific to occupational health and environmental controls such as radiation, gases/vapors/fumes/dust, lead, hazardous chemicals, and noise exposure. Subpart P handles excavation work and safety. Subparts Q and R handle concrete/masonry and steel structures, respectively. In addition, several more subparts provide additional requirements.

State

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Act (PRC 2621 et seq.) was enacted by the State of California in 1972.[4] The act's primary purpose is to prohibit the construction of structures intended for human occupancy across the traces of active faults and the act strictly regulates construction in the corridors along active faults. It also defines criteria for identifying active faults, giving legal weight to terms such as "active," and establishes a process for reviewing proposals in and adjacent to active faults. In addition, the Alquist-Priolo Act requires the State Geologist to establish regulatory zones, known as "earthquake fault zones," around the surface traces of active faults and to issue appropriate maps to assist cities and counties in planning, zoning, and building regulation functions. Maps are distributed to all affected cities and counties for the controlling of new or renewed construction and are required to sufficiently define potential surface rupture or fault creep. The State Geologist is charged with continually reviewing new geologic and seismic data and revising existing zones and delineating additional earthquake fault zones when warranted by new information. According to the Alquist-Priolo Act, before a project can be permitted, cities and counties shall require a geologic investigation, prepared by a licensed geologist, to demonstrate that buildings would not be constructed across active faults. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back. Although setback distances may vary, a minimum 50-foot setback is required.

Under the Alquist-Priolo Act, faults are zoned, and construction along or across them is strictly regulated if the faults are considered "sufficiently active" and "well-defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for the purposes of the act as within the last 11,000 years). A fault is considered well-defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) is intended to reduce damage resulting from earthquakes. The Alquist-Priolo Act addresses surface fault rupture, and the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act. The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards; and cities and counties are required to regulate development within mapped seismic hazard zones.

Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Under PRC Section 2697, cities and counties must require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard. Each city or county shall submit one copy of each geotechnical report, including mitigation measures, to the State Geologist within 30 days of its approval.

[4] The act was originally titled the Alquist-Priolo Geologic Hazards Zone Act.

4.7.3 Discussion

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42

No Impact. Fault rupture impacts are limited to areas in the immediate vicinity of an earthquake fault line. According to the USGS, the nearest earthquake fault line is the Newport-Inglewood-Rose Canyon Fault Zone, which travels along the coastline before fanning out in several inferred (estimated) directions across downtown San Diego (USGS 2025). The closest portion of this fault zone to the project site is inferred with a dashed line and is located approximately 0.36 miles east. The second closest portion of this fault line is also inferred with a dashed line and is located approximately 0.5 miles west of the project site. According to the DOC, due to this proximity, land adjacent to the project site to the east and west is considered within an Alquist-Priolo Fault Zone area (DOC 2022a). However, the project site itself is not located within an Alquist-Priolo Fault Zone area, and as such, surface rupture on site is not anticipated to occur. As such, construction of the project would not exacerbate the existing risk of fault rupture to the surrounding area. Because there are no active faults within the project site, the project would have no potential to cause or exacerbate the risk of a fault rupture. No impact would occur.

ii) Strong seismic ground shaking?

No Impact. Although the project site is not within an active fault zone, the project site is in a seismically active region of Southern California and would be susceptible to seismic ground shaking produced by nearby faults during earthquakes. However, none of the project components would have the potential to exacerbate the existing risk of strong seismic ground shaking. Therefore, because the project has no potential to exacerbate strong seismic ground shaking, no impact would occur.

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. As shown in the California Department of Conservation Geological Hazards map, the project site is considered to have a high potential for liquefaction due to hydraulic fills. According to the PMPU Final EIR, According to the Draft Liquefaction map for the County of San Diego, the Coronado Bayfront is located within an area mapped as having a liquefaction risk. According to the Coronado General Plan, areas underlain by hydraulic fill along the margins of San Diego Bay can be expected to be susceptible to earthquake triggered differential settlement or lateral spreading caused by liquefaction. Thus, the sediments of the Bay floor have been found to have the potential for liquefaction, and based on the anticipated loose Bay sediment materials underlying the project site and their saturated condition, the potential for liquefaction is somewhat high, The project applicant has retained a geotechnical coastal engineer professionally licensed in the State of California to prepare a geotechnical cross section for the proposed project. The geotechnical cross section (see Appendix C, Rock Revetment Rehabilitation Calculation Package) concluded that compacted fill and the Formational Bay Point sediments that directly underly the Street subgrade thicken as they approach the Bay, and these sediments are not susceptible to liquefaction. As such, the proposed project would not have the potential to exacerbate seismic-related ground failure, including liquefaction. Therefore, impacts related to liquefaction during construction and operation would be less than significant.

iv) Landslides?

No Impact. According to the California DOC, the project site is not within a landslide hazard area. The area of the Coronado proposed to undergo improvements was engineered to be flat. There are no steep slopes or sharp gradients on or adjacent to the project site, and the proposed structure would have no potential to impact any existing risk of landslides. Project construction and operation would have no impact.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less-than-Significant Impact. The project site is directly on the San Diego Bay shoreline, and the new rock revetment would be the first line of defense against erosion or flooding. The existing revetment consists of nonuniform rocks and concrete debris (see Figures 3-1a through 3-1c, in Chapter 3, Existing Conditions). The existing revetment has settled over time and experienced structural degradation that could cause the structure to not provide the protections and structural stability it was designed for. The existing debris is primarily concrete, which is not a naturally occurring material, and has poor structural interlocking properties due to the nonuniformity of the debris shapes. The use of debris for shoreline stabilization is no longer a standard practice due to its poor structural properties.

The primary functions of the proposed new rock revetment would be to stabilize the shoreline from erosion and break waves to minimize wave runup and overtopping. The proposed revetment consists naturally occurring rock that would interlock more efficiently and would not result in the erosion of the shoreline. The rock revetment would be adjacent to the residences, that have similar rock revetement and little exposed sand. Construction activities would involve grading and excavation, which have the potential to disturb soils; however, per the project's Construction BMP Plan, the project would implement and maintain an effective combination of erosion and sediment control BMPs during construction. The following principles would be followed to the maximum extent practicable to control erosion and sedimentation in disturbed areas at the site:

- Fit grading to the surrounding terrain.
- Time grading operations to minimize soil exposure.
- Retain existing vegetation whenever feasible.
- Vegetate and mulch or otherwise stabilize disturbed areas.
- Minimize the length and steepness of slopes.
- Keep runoff velocities low.
- Prepare drainage ways and outlets to handle concentrated runoff until permanent drainage structures are constructed.
- Trap sediment on site.
- Inspect and maintain control measures frequently.

The proposed placement of rock revetment on the new substrate would ensure that the proposed project would not result in sand erosion or the loss of shoreline. Thus, impacts from erosion and sedimentation during construction and operation would be less than significant.

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

Less-than-Significant Impact. As discussed under Section 4.7.3(a)(iv), the project site is not located within a landslide hazard area. However, as discussed under Section 4.7.3(a)(iii), the project site is considered to have a high potential for liquefaction due to hydraulic fills and the potential for underlying sediment to become unstable. However, the project applicant has retained a geotechnical coastal engineer professionally licensed in the State of California to prepare a geotechnical cross section for the proposed project. The geotechnical cross section concluded that compacted fill and the Formational Bay Point sediments that directly underly the Street subgrade thicken as they approach the Bay, and these sediments are not susceptible to liquefaction. Thus, the proposed project would not have the potential to exacerbate seismic-related ground failure, including liquefaction. Therefore, impacts related to liquefaction during construction and operation would be less than significant.

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

Less-than-Significant Impact. Expansive soils are soils that have the capacity to expand and contract (shrink/swell) depending on moisture levels and normally occur within the first 5 feet below the surface. The shrinking and swelling of soils where building foundations are located can lead to cracking damage and fractures in the foundations.

Surficial deposits of the landside portion of the project site are located on artificial fill, not clayey soils (DOC 2022b). Within the waterside portion of the project site, sediments likely consist of approximately 25%–65% silt/clay, with the remainder sand and gravel (NAVFAC and POSD 2013). However, according to the PMPU Final Program EIR, deeper soil deposits of the landside portion are Pueblo San Diego soils, and the marine soils underlying the waterside portion of the project site are San Diego Bay soils, both of which were identified as having low to moderate expansive potential (Port of San Diego 2023). As noted under a) iii. and c) above, construction within the project site has the potential to exacerbate the risk of unstable soils. The project applicant has retained a geotechnical coastal engineer professionally licensed in the State of California to prepare a geotechnical cross section for the proposed project. The geotechnical cross section concluded that compacted fill and the Formational Bay Point sediments that directly underly the Street subgrade thicken as they approach the Bay, and these sediments are not susceptible to liquefaction. Thus, the proposed project would not have the potential to create substantial direct or indirect risk to life or property from the presence of expansive soils. Therefore, impacts related to potential expansive soils during construction and operation would be less than significant.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The project does not propose the use of septic tanks or alternative waste water disposal systems. No impact would occur, and no further analysis is required.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-than-Significant Impact. The surficial soils that underlie the project site include artificial fill, which is underlain by San Diego Bay marine soils. Primary types of activities that typically have the potential to destroy paleontological resources are ground-disturbing activities, such as grading and excavation. As stated in the PMPU Final PEIR, all planning districts contain at least one geologic formation with low or no paleontological sensitivity, and none of the planning districts contain geologic formations with moderate paleontological sensitivity (Port of San Diego 2023: 4.5-29). However, Planning District 10, which includes the project site, contains Bay Point Formation soils, which have a high paleontological sensitivity. Therefore, construction activities in areas underlain by Bay Point Formation have the potential to cause significant direct impacts on paleontological resources or sites that require over 1,000 cubic yards of excavation and a depth of excavation exceeding 10 feet, or require any amount of grading on a fossil recovery site or within100 feet of a mapped fossil recovery site (Port of San Diego 2023: 4.5-69).

Construction of all proposed rock revetment would be located primarily landside and all bayfloor disturbance would consist of installation of rock revetment only. No dredging or pile driving is proposed and therefore there would be no potential to encounter fossil resources.

Landside components of the project include excavation of ~~178~~456 cubic yards to a depth of no more than 6 feet. As such, even though the project site is included in an area known to contain a high sensitivity topaleontological resources, the project itself would not propose over 1,000 cubic yards of excavation or a depth of excavation exceeding 10 feet, or require any amount of grading on a fossil recovery site or within 100 feet of a mapped fossil recovery site. Therefore, construction and operation of the project would have a less-than-significant impact.

Required Mitigation Measures

The project would not result in significant impacts to geology and soils. Mitigation measures are not required.

4.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

4.8.1 Environmental Setting

Climate Change and Greenhouse Gases

Climate change refers to any significant change in measures of climate—such as temperature, precipitation, or wind patterns—lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the Sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect, and causing the Earth's surface temperature to rise.

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).[5] Some GHGs—such as CO_2, CH_4, and N_2O— are emitted to the atmosphere through both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases (e.g., HFCs, HCFCs, PFCs, and SF_6) and are associated with certain industrial products and processes. A summary of the GHGs evaluated herein (i.e., CO_2, CH_4, and N_2O) and their sources is included in the following text.[6]

Carbon Dioxide. CO_2 is both a naturally occurring gas and a byproduct of human activities, and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are the combustion of fuels (e.g., coal, oil, natural gas, and wood) and changes in land use.

Methane. CH_4 also is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. CH_4 is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

5 California Health and Safety Code 38505 identifies seven GHGs that the California Air Resources Board (CARB) is responsible for monitoring and regulating to reduce emissions: CO_2, CH_4, N_2O, SF_6, HFCs, PFCs, and nitrogen trifluoride.

6 The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change's Fourth Assessment Report (IPCC 2007), the California Air Resources Board's Glossary of Terms Used in GHG Inventories (CARB 2023), and EPA's Glossary of Climate Change Terms (EPA 2017).

Nitrous Oxide. N_2O is produced, once again, through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers; manure management; industrial processes, such as in nitric acid production, nylon production, and fossil-fuel-fired power plants; vehicle emissions; and using N_2O as a propellant (such as in rockets, race cars, and aerosol sprays).

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2016). The Intergovernmental Panel on Climate Change developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in MT of carbon dioxide equivalent (CO_2e).

The current version of the CalEEMod (Version 2022.1.1.29) utilizes 25 as the GWP for CH_4 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and 298 as the GWP for N_2O, based on the Intergovernmental Panel on Climate Change Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the project analysis.

Greenhouse Gas Inventory

A GHG emissions inventory is a snapshot of the GHG emissions associated within a geographic boundary during a given period. Per the 2024 EPA Inventory of U.S. GHG Emissions and Sinks: 1990–2022, total U.S. GHG emissions were approximately 6,343 million metric tons of CO_2e in 2022 (EPA 2024). According to California's 2000 through 2022 GHG emissions inventory (2024 edition), California emitted 371.1 million metric tons of CO_2e in 2022, including emissions resulting from out-of-state electrical generation (CARB 2024). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high GWP substances, and recycling and waste.

As part of its 2013 CAP, the District developed a comprehensive GHG inventory to establish a baseline for emissions associated with Port-controlled operations. The initial inventory quantified emissions for the year 2006 and included projections for 2020, 2035, and 2050. The inventory accounts for emissions from sources such as electricity and natural gas for Port-owned facilities; on-road transportation; transportation of off-road vehicles such as marine vessels, locomotives, and other equipment; water use, and waste. The initial baseline scenario estimated a total of 826,429 MT CO_2e, and the predictive future scenarios of 2020, 2035, and 2045 estimated 855,489 MT, 907,177 MT, and 929,629 MT CO_2e, respectively.

4.8.2 Regulatory Setting

State

State Climate Change Targets and the CARB Scoping Plan. The state has taken a number of actions to address climate change. These actions are summarized below, and include Executive Orders (EOs), legislation, and CARB plans and requirements.

Executive Order S-3-05. EO S-3-05 (2005) identified GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO identified the following targets: reduce GHG emissions to 2000 levels by 2010, reduce GHG emissions to 1990 levels by 2020, and reduce GHG emissions to 80% below 1990 levels by 2050.

Assembly Bill 32. In furtherance of the goals identified in EO S-3-05, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006 (California Health and Safety Code Sections 38500–38599). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020, and initiate the transformations required to achieve the state's long-range climate objectives.

Executive Order B-30-15. EO B-30-15 (2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050, as set forth in EO S-3-05.

Senate Bill 32. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030.

Executive Order B-55-18. EO B-55-18 (2018) identified a policy for the state to achieve carbon neutrality as soon as possible (no later than 2045) and achieve and maintain net-negative emissions thereafter. The goal is in addition to the existing statewide targets of reducing the state's GHG emissions.

Assembly Bill 1279. AB 1279, the California Climate Crisis Act (2022), declares the policy of the state to achieve net-zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net-negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels.

California Air Resources Board's Climate Change Scoping Plan

One specific requirement of AB 32 is for CARB to prepare a Scoping Plan to help achieve the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (California Health and Safety Code Section 38561[a]), and to update the Scoping Plan at least once every 5 years. In 2008, CARB approved the first Scoping Plan: The Climate Change Proposed Scoping Plan: A Framework for Change (Scoping Plan) (CARB 2008). The Scoping Plan included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emissions reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives.

In 2014, CARB approved the First Update to the Climate Change Scoping Plan: Building on the Framework (2014 Scoping Plan), which defined the state's GHG emissions reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012 (CARB 2014). The 2014 Scoping Plan concluded that California was on track to meet the 2020 target, but recommended that a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The 2017 Climate Change Scoping Plan (CARB 2017) builds on the successful framework established in the initial Scoping Plan and 2014 Scoping Plan while identifying new technologically feasible and cost-effective strategies that would serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond.

CARB adopted the 2022 Scoping Plan in December 2022. The 2022 CARB Scoping Plan outlines the state's plan to reach carbon neutrality by 2045 or earlier, while also assessing the progress the state is making toward achieving GHG reduction goals by 2030. The carbon neutrality goal requires CARB to expand proposed actions from only the reduction of anthropogenic sources of GHG emissions to also include those that capture and store carbon (e.g., through natural and working lands, or mechanical technologies). The carbon reduction programs build on and accelerate those currently in place, including moving to zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel-fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options, such as green hydrogen (CARB 2022). The 2022 CARB Scoping Plan also emphasizes that there is no realistic path to carbon neutrality without carbon removal and sequestration, and to achieve the state's carbon neutrality goal, carbon reduction programs must be supplemented by strategies to remove and sequester carbon.

State CEQA Guidelines

California has developed guidelines to address the significance of GHG emissions impacts that are contained in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). Appendix G provides that a project would have a significant environmental impact if it would result in the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Appendix G thresholds for GHGs do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009).

Local

San Diego Unified Port District Green Port Program

The District launched the Green Port Program to implement its 2008 Green Port Policy, focusing on sustainability in water conservation, energy efficiency, air quality, waste reduction, and sustainable development. In partnership with SDG&E, the District supports energy-saving efforts using utility funds designated for local government

programs. These resources help deliver education, track energy use, conduct audits, and complete retrofit projects—benefiting District staff, and other community stakeholders.

San Diego Unified Port District Climate Action Plan

The District adopted a CAP in December 2013 to address GHG emissions associated with its operations and long-term planning (Port of San Diego 2013). The CAP includes an inventory of existing (2006) emissions and projections for 2020, 2035, and 2050, outlining the Port's GHG reduction targets and strategies designed to support statewide climate goals, including those established under AB 32, which set a target of reducing emissions to 1990 levels by 2020. The CAP reflects the Port's commitment to reducing emissions from its operations.

The CAP meets the guidelines of CEQA Section 15183.5 by establishing reduction targets that are consistent with statewide GHG reduction goals. However, because it does not quantify reduction measures beyond 2020, the CAP cannot be considered a qualified GHG reduction plan under CEQA Section 15183.5 for projects with buildout dates extending beyond 2020.

San Diego Association of Governments Regional Transportation Plan

The passage of SB 375 requires Metropolitan Planning Organizations to prepare an SCS in their Regional Transportation Plan (RTP). SANDAG serves as the Metropolitan Planning Organization for the San Diego region and is responsible for developing and adopting an SCS that integrates transportation, land use, and housing to meet GHG reduction targets set by CARB. The RTP/SCS is updated every 4 years in collaboration with the 18 cities and unincorporated County of San Diego, in addition to regional, state, and federal partners. The most recent Regional Plan was adopted in 2021 and provides guidance on meeting or exceeding GHG targets through implementation of five key transportation strategies: complete corridors, high-speed transit services, mobility hubs, flexible fleets, and a digital platform to tie the transportation system together. Through these strategies, the RTP/SCS is projected to reduce per-capita GHG emissions from cars and light-duty trucks to 20% below 2005 levels by 2035, exceeding the region's state-mandated target of 19% (SANDAG 2021).

4.8.3 Methodology

The construction methodology outlined in Section 4.3.3, Methodology, of Section 4.3, Air Quality, including the use of CalEEMod Version 2022.1.1.29, also applies to this section.

4.8.4 Discussion

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less-than-Significant Impact. A numerical threshold of significance for District-wide projects has not been established and the SDAPCD has not issued GHG threshold guidance for projects within the SDAB. In the absence of project-specific and regionally recommended numerical GHG thresholds, thresholds from other air districts may be used to assess project-related GHG impacts. The Sacramento Metropolitan Air Quality Management District (SMAQMD) has issued GHG threshold guidance that aligns with achieving the state's long-term GHG emission reduction goals (e.g., EO B-30-15) including a numerical bright-line threshold of significance that can be used to screen out smaller projects from further analysis (SMAQMD 2021).

Because GHGs are pollutants of global concern, the location of where a GHG is emitted is not relevant to its contribution to global climate change. Therefore, although the SMAQMD thresholds were established for projects within Sacramento County, the SMAQMD's thresholds represent a reasonable threshold for evaluating the magnitude of the project's GHG emissions within San Diego. The SMAQMD's CEQA guidelines recommend that lead agencies compare the project's estimated construction- and operations-related GHG emissions to the SMAQMD's threshold of significance of 1,100 MT CO_2e per year (SMAQMD 2021). In contrast to typical GHG emissions threshold approaches, construction emissions are not amortized over a 30-year project lifetime and instead are evaluated on an annual basis per the SMAQMD approach.

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment (including marine vessels), on-road hauling, and vendor (material delivery) trucks, and worker vehicles. GHG emissions associated with temporary construction activity were quantified using CalEEMod, using the assumptions summarized above in Section 4.3.3, Methodology. Table 4.8-1 summarizes the estimated annualized GHG construction emissions associated with the project.

Table 4.8-1. Estimated Annual Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	R	CO_2e
	Metric Tons per Year				
2026	88.28	<0.01	<0.01	<0.01	89.15
				Total	**89.15**

Source: Appendix A.
Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; R = refrigerant; CO_2e = carbon dioxide equivalent; <0.01 = reported value less than 0.01. Totals may not add due to rounding.

Total construction-related GHG emissions associated with the project are estimated to be approximately 89 MT CO_2e in 2016, which would not exceed the applied threshold of 1,100 MT CO_2e per year.

As noted earlier, the project would not involve ongoing operational activities—such as building energy use, vehicle trips, or water consumption—that would typically generate long-term GHG emissions. Therefore, only the amortized construction emissions are included in the assessment of the project's long-term GHG impacts. As such, the project's GHG emissions profile is limited to the approximately 89 MT CO_2e per year from construction, with no additional long-term emissions to consider. With no operational emissions and construction emissions below the applied threshold level, the project's GHG emissions impact would be considered less than significant.

b) Would the project generate conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less-than-Significant Impact. Applicable plans for the project include the SANDAG's RTP/SCS and CARB's Scoping Plan. Each of these plans is described below along with an analysis of the project's potential to conflict with the related GHG emission reduction goals.

SANDAG's San Diego Forward: The 2021 Regional Plan

As discussed in Section 4.3, Air Quality, SANDAG's 2021 Regional Plan has been adopted for the purpose of reducing GHG emissions attributable to passenger vehicles in the San Diego region (SANDAG 2021). The RTP/SCS is not directly applicable to the project because the underlying purpose of the RTP/SCS is to

provide direction and guidance on future regional growth (i.e., the location of new residential and non-residential land uses) and transportation patterns throughout San Diego County, as stipulated under SB 375. CARB has recognized that the approved RTP/SCS is consistent with SB 375. The SANDAG Regional Plan is generally consistent with the local government plans. Because the project is a short-term, construction-only effort located within the District's jurisdiction, does not result in growth, and does not include any ongoing sources of GHG emissions, the project would not conflict with the SANDAG Regional Plan goals and policies directly or indirectly related the reducing GHG emissions.

CARB's 2022 Scoping Plan for Achieving Carbon Neutrality

The 2022 Scoping Plan lays out the path to achieve the statewide 2030 target of a 40% reduction below 1990 emission levels as implemented by SB 32 and the statewide 2045 target of an 85% reduction below 1990 emissions levels, and carbon neutrality no later than 2045, as implemented by AB 1279.

As a construction-only project, the project would not conflict with the CARB 2022 Scoping Plan, which prioritizes emissions reductions from long-term sources. By limiting emissions to a temporary construction phase and avoiding new operational emissions, the project would align with the Scoping Plan's broader climate strategy and would not obstruct the state's ability to achieve its carbon neutrality targets.

Summary

Based on the above considerations, the project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the GHG emissions and impacts would be less than significant.

Required Mitigation Measures

The project would not result in significant impacts on GHG emissions. Mitigation measures are not required.

4.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) 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	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

4.9.1 Environmental Setting

Hazardous Materials Database Results

A record search was conducted to identify any on site or nearby known contamination site. The results of the record search are summarized in Table 4.9-1. As shown on the California Department of Toxic Substances Control (DTSC) EnviroStor database, which is the department's data management system for tracking cleanup, permitting, enforcement, and investigation of hazardous waste facilities and sites with known contamination or sites where there is reason to investigate further, the project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (DTSC 2025). The project site is also not listed on GeoTracker, which is the SWRCB's data management system for sites that impact or have the potential to impact water quality in California, with an emphasis on groundwater (SWRCB 2025).

Table 4.9-1. Hazardous Waste Sites within a 0.5-Mile Radius of the Project Site (Open or Needing Evaluation)

Site Name	Address	Site Type	Status	Potential Contaminants of Concern	Potential Media of Concern
DTSC EnviroStor Results					
11th Naval District HQ and SUP	San Diego, California	FUDS	Inactive – Needs Evaluation as of 7/1/2005	None Specified	None Specified
Coast Guard Air Base	San Diego, California	FUDS	Inactive – Needs Evaluation as of 7/1/2005	None Specified	None Specified
Coronado Center Dry Cleaner	110 'B' Avenue Coronado, California 92118	Evaluation	Inactive as of 6/6/2007	None Specified	None Specified
NASNI Hazardous Waste Facility Complex	Naval Air Station N Island Bldg. 1606 San Diego, California 92135	Federal Superfund	Operating Permit	None Specified	None Specified
Naval Base Coronado Mixed Waste Storage Facility	NASNI Bldg. 74, San Diego, California 92135	Hazardous Waste RCRA	Operating Permit	None Specified	None Specified
Naval Air Station	North Island, Coronado, California	Military Evaluation	Inactive – Needs Evaluation	None Specified.	None Specified
NASNI Hazardous Waste Facility Complex	Naval Air Station N Island Bldg. 1606	Hazardous Waste – RCRA	Operating Permit	None Specified	None Specified
Air Force Plt No. 19	San Diego, California	Military Evaluation	Inactive – Needs Evaluation	None Specified	None Specified
Vacant Lot	875 Orange Avenue Coronado, California 92118	Evaluation	1248 Local Agency	None Specified	None Specified
Consolidated Aircraft Seaplane Ramp	San Diego, California	Military Evaluation	Inactive – Needs Evaluation	None Specified	None Specified
SDG&E Harbor Substation	951 Kettner Blvd	Evaluation	Refer 1248 Local Agency as of 4/22/2004	None Specified	None Specified
Southwestern Division Headquarters	1220 Pacific Highway	Open Base	Refer RWQCB as of 6/21/2006	None Specified	None Specified

Table 4.9-1. Hazardous Waste Sites within a 0.5-Mile Radius of the Project Site (Open or Needing Evaluation)

Site Name	Address	Site Type	Status	Potential Contaminants of Concern	Potential Media of Concern
W-Hotel San Diego	114-58-1168 State Street	Evaluation	Refer 1248 Local Agency as of 6/26/2001	None Specified	None Specified
Fischer Parcel	304 J Street San Diego, California 92101	Evaluation	Refer: 1248 Local Agency as of 3/6/2000	None Specified	None Specified
Hard Rock Hotel	208-228 6th Avenue and K Street, San Diego, California 92101	Evaluation	1248 Local Agency as of 9/8/2004	None Specified	None Specified
GeoTracker Database Results					
B Street and Broadway Piers	San Diego Bay, San Diego	Cleanup Program	Open – Inactive as of 5/5/2016	Other metal, Polychlorinated Biphenyls, Polynuclear Aromatic Hydrocarbons, Zinc	Sediments, Surface Water, Under Investigation
North Island Naval Air Station – Mercury Spill	San Diego Bay, San Diego, California 92125	Cleanup Program	Completed – Case Closed	None Specified	None Specified
North Island Naval Air Station – Tanks 1044/45/46	NAS North Island San Diego, California 92135	Military UST Site	Completed – Case Closed	None Specified	None Specified
North Island Naval Air Station Tanks 1044/45/46	NAS Noth Island San Diego, California 92135	Military UST Site	Completed – Case Closed	None Specified	None Specified
North Island Naval Air Station – UST BLDG 484	Bldg. 484 NAS North Island San Diego, California 92135	Military UST Site	Completed – Case Closed	None Specified	None Specified
North Island Naval Air Station – UST BLDG 620 – 1and2	Bldg. 620 NAS North Island, San Diego, California 92135	Military UST Site	Completed – Case Closed	None Specified	None Specified
North Island Naval Air Station (NAS) – BLDG 678	BLDG 678 San Diego, California 92125	Military UST Site	Completed – Case Closed	None Specified	None Specified
Coronado Point Condominiums	1100 1st Street Coronado, California 92118	Cleanup Program Site	Completed – Case Closed	None Specified	None Specified

Table 4.9-1. Hazardous Waste Sites within a 0.5-Mile Radius of the Project Site (Open or Needing Evaluation)

Site Name	Address	Site Type	Status	Potential Contaminants of Concern	Potential Media of Concern
Mike Foote Development Co	1100 First Street Coronado, California 92118-1407	Cleanup Program Site	Completed – Case Closed	None Specified	None Specified
0 North Harbor Drive and West Broadway	San Diego, California	Cleanup Program	Open – Site Assessment as of 9/27/2011	None Specified	None Specified

Sources: DTSC 2025; SWRCB 2025.

Schools and Airports

There are no schools within 0.25 miles of the project site: Coronado Middle Scheel is located at 55 F Street, is approximately 0.5 miles southeast of the project site. The closest public airport is the NASNI, a naval air station located approximately 0.30 miles west of the project site. In addition, the San Diego International Airport (SDIA) is approximately 1.85 miles northwest of the project site.

Wildland Fire Hazard

The project site is on the shoreline, lacks vegetation, and is within a developed, urban area that is not susceptible to wildland fire. As discussed further in Section 4.20, Wildfire, the project site is designated by the California Department of Forestry and Fire Protection (CAL FIRE) as a non-Very High Fire Hazard Severity Zone (CAL FIRE 2009).

4.9.2 Regulatory Setting

Federal

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act Amendments

The federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act (RCRA) of 1976 established a program, which is administered by 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)

The U.S. Department of Transportation Hazardous Materials Regulations (49 CFR 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 project site.

Enforcement of these U.S. Department of Transportation regulations is shared by each of the following administrations under delegations from the Secretary of the U.S. Department of Transportation:

- 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.
- Federal Aviation Administration (FAA) enforces all regulations pertaining to air carriers.
- U.S. Coast Guard (USCG) enforces all regulations pertaining to shipments by water.
- Spill Prevention Control and Countermeasure (SPCC) Plans (40 CFR 112.7)

The 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.

Emergency Planning and Community Right-to-Know Act (42 USC 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

OSHA 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 OSHA 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.

OSHA 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.

State

California Health and Safety Code (Hazardous Waste Control Act)

DTSC, a department of the California Environmental Protection Agency, 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).

Environmental Health Standards for the Management of Hazardous Waste (California Code of Regulations Title 22, Division 4.5, Section 66001 et seq.)

The Environmental Health Standards for the Management of Hazardous Waste (22 CCR 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 CCR, Section 1532.1 is a rule developed by the federal OSHA in 1993 and adopted by the State of California. 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 OSHA and the California Division of Occupational Safety and Health are responsible for ensuring worker safety in the workplace. The California Division of Occupational Safety and Health 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.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (California Health and Safety Code, Chapter 6.11, Sections 25404 – 25404.9)

The Unified Hazardous Waste and Hazardous Materials Management Regulatory 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. The Certified Unified Program Agency 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 off-site 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 on-site 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.

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.

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 (see also Section 4.10, 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 cleanup 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 (WDRs), 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 and 68-16

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.

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), which was adopted by the San Diego RWQCB in 1994 and last updated in 2021, designates the Beneficial Uses and Water Quality Objectives for water bodies under its jurisdiction (San Diego RWQCB 2021).

Local

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 "co-permittees" 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 accomplish the following:

- 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.

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 Certified Unified Program Agency. 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.

San Diego Unified Port District, Article 10

The District's 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.

4.9.3 Discussion

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less-than-Significant Impact. During project construction, potentially hazardous materials would be handled in small quantities on the project site. These materials would include gasoline, diesel fuel, lubricants, and other petroleum-based products used to operate and maintain construction equipment. Although these materials may be stored on the project site, only the quantities needed are expected to be kept on site; excessive amounts are not expected to be stored. Consistent with federal, state, and local requirements, removal and disposal of hazardous materials from the project site would be conducted by a permitted and licensed service provider.

Federal regulations related to the transport of hazardous materials include the Standards Applicable to the Transporters of Hazardous Waste of the RCRA of 1976 (40 CFR Part 263) and the Hazardous Materials Transportation Act of 1975 (49 CFR Parts 105–109). State regulations include California Health and Safety Code Sections 25160–25166.5 and the Standards Applicable to Transporters of Hazardous Waste (22 CCR Division 4.5, Chapter 13), both of which are administered by the California DTSC. Local regulation includes the CMC, Chapter 62.12,002 Hazardous Materials.

Any handling, transport, use, or disposal would comply with all applicable federal, state, and local agencies and regulations, including the EPA, the California DTSC, Caltrans, the California Division of Occupational Safety and Health, the San Diego County Environmental Health Division (the Certified Unified Program Agency for San Diego County), and the fire department. In addition, as mandated by the federal OSHA, all hazardous materials stored on site would be accompanied by a Material Safety Data Sheet, which would inform on-site personnel on the necessary remediation procedures in the case of accidental release.

Potentially hazardous materials associated with typical housekeeping and maintenance activities would be handled and stored on the project site. These types of materials would vary, but would generally include cleaning products. Many of these materials are considered Household Hazardous Wastes, Common Wastes, and/or Universal Wastes by EPA, which considers these types of wastes to be common

to businesses and households and to pose a lower risk to people and the environment than other hazardous wastes when properly handled, transported, used, and disposed of. Many of these wastes do not have to be managed as hazardous waste. In addition, any hazardous materials would be limited in quantity and concentrations, consistent with other similar commercial and residential communities in the City, and any handling, transport, use, and disposal would comply with applicable federal, state, and local agencies and regulations.

Transport of construction materials like rock revetment found unsuitable for reuse would be transported by the PDC via the barges back to their work yard and handled under a waste manifest to an authorized Hazardous Waste Treatment, Storage, and Disposal Facility via haul trucks. PDC would operate out of their facility at 1444 Cesar E. Chavez Parkway in San Diego, northwest of the Coronado Bay Bridge and approximately 1.9 miles by water from the project site, as shown in Figure 1-2.

PDC would also implement construction BMPs related to hazardous material and waste spill prevention during the construction activities. Construction period BMPs would include requirements for material and equipment transfer over water to/from the project site, such as the following:

- Material and equipment storage on the barge
- Pollutant discharge requirements for mechanical equipment
- Equipping the excavator and other mechanical equipment with bibs to prevent hydraulic fluid spills
- Review of mechanical equipment daily to confirm no leaks are observed and removal and/or replacement of equipment that is found to be leaking.
- Construct a temporary dam around the edges of the material barge to make sure no materials are leaked into the water.
- Installation of perimeter controls, such as a K-rail/berm on the barge.

The project would also include construction BMPs that would prevent pollutant discharge over the water during transfer of equipment, materials and debris such as:

- Installation of temporary turbidity curtains between the derrick barge and the shoreline work area.
- Implementation of adequate freeboard and/or cover to prevent spills during over-water transfer with the crane.
- Implementation of good housekeeping measures on all barges during construction including:
  - Storing trash in designated trash bins with secured covers,
  - Storing chemicals (if any) in watertight containers with proper secondary containment.
  - Providing dedicated storage areas with appropriate perimeter control BMPs
  - Storing debris in roll-off bins with adequate freeboard, or stockpiled with sandbag berm or manufactured linear perimeters

Therefore, the project's Construction BMP Plan has been designed so that impacts associated with routine transport, use, or disposal of hazardous materials would be less than significant,

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less-than-Significant Impact. As discussed in Section 4.9.3(a), any handling, transport, use, and disposal of hazardous materials would comply with all applicable federal, state, and local requirements. Construction of the project would adhere to the policies and programs established by all applicable federal, state, and local agencies, including EPA, California DTSC, California OSHA, and the County of San Diego. Adherence to the regulations administered by these agencies would ensure that any interaction with hazardous materials would occur in the safest possible manner, reducing the opportunity for the accidental release of hazardous materials into the environment. Any handling of hazardous materials would be limited in quantity and concentration, consistent with other similar residential communities. In addition, as mandated by the U.S. OSHA, all hazardous materials stored on site would be accompanied by a Material Safety Data Sheet, which would inform on-site personnel as to the necessary remediation procedures in the case of accidental release.

As mentioned above, any handling of hazardous materials would be done in a manner that abides by the standard state and local regulations and follows all construction BMP outlined in Section 4.9.3(a). Therefore, impacts associated with these hazards to the public or the environment through the release of hazardous materials into the environment would be less than significant.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. Land uses and activities typically associated with hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste include heavy commercial, manufacturing, research, and industrial uses. The proposed project does not include any such uses or activities.

Further, any potentially hazardous material handled on the project site would be limited in quantity and concentration during the temporary construction period, and any handling, transport, use, and disposal of such material would comply with applicable federal, state, and local agencies and regulations and would implement the construction BMPs outline in Section 4.9.3(a).

The closest school is Coronado Middle School, located approximately 0.5 miles south of the project site; therefore, the proposed project would not emit hazardous emissions or include handling of hazardous or acutely hazardous materials, substances, or wastes within 0.25 miles of a school. There would be no impacts to an existing or proposed school.

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

No Impact. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the state, local agencies, and developers to comply with the CEQA requirements in providing information about the locations of hazardous materials release sites. California Government Code Section 65962.5 requires the California EPA to develop, at least annually, an updated Cortese List. The DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous materials release information for the Cortese List.

The project site is not located on the GeoTracker database maintained by the SWRCB (SWRCB 2025), and none of the sites identified in the GeoTracker within 0.5 miles of the project site have active cleanup status of their cases. The project site is also not located on the EnviroStor database maintained by DTSC (DTSC 2025), and none of the sites identified in the EnviroStor database within 0.5 miles of the project site have active cleanup site as well. As such, there would be no impact.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Less-than-Significant Impact. The nearest airport to the project site is NASNI, located approximately 0.30 miles west of the project site. The second nearest airport to the project site is SDIA, located approximately 1.85 miles to the northwest of the project site. As such, the project site is located within 2 miles of a public airport or public use airport and is in the airport influence area of both the NASNI Airport Land Use Commission Plan (ALUCP) and the SDIA ALUCP. The NASNI ALUCP is a guiding document for development of the airport and surrounding areas in a manner that protects public health, safety, and welfare. As designated in the ALUCP, the project site is within the airport influence area and in the airspace protection area for the NASNI (SDCRAA 2020: Exhibit 3). Also, as seen in Exhibit 4, Safety Zones and Noise Contours, the project site is located outside the outer boundary of all safety zones and the Threshold Siting Surfaces (SDCRAA 2020). The significance of Threshold Siting Surfaces is that it defines critical airspace that must be protected to allow for safe approaches to runways, and any objects penetrating the Threshold Siting Surfaces would cause the runway thresholds to be further displaced, reducing available landing distances (SDCRAA 2020). Given its location, the project does not have the potential to experience a safety hazard from or to NASNI, but is within the boundary for which airspace protection and overflight policies and standards apply. The project site is also within the FAA airspace protection boundary pursuant to Federal Aviation Regulations, Part 77 (SDCRAA 2014: Exhibit 4-1).

The SDIA ALUCP is a guiding document for development of the airport and surrounding areas in a manner that protects public health, safety, and welfare. As designated in the SDIA ALUCP, the project site is within the airport influence area and within the airspace protection boundary for the SDIA (SDCRAA 2014: Exhibit 1-1). The project site is in an area where the airspace protection and overflight policies and standards apply and the FAA airspace protection boundary pursuant to Federal Aviation Regulations, Part 77 (SDCRAA 2014: Exhibit 4-1) would apply, but it is outside the safety zones identified in SDIA's ALUCP. The project would be consistent with and/or would comply with the airspace protection and overflight policies and standards that apply. Therefore, impacts associated with airport safety hazards would be less than significant.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The project would not require the construction, redesign, or alteration of any public roadways and most construction activities would be completed on the waterside (in-water and/or overwater). As detailed under Section 4.15, Public Services, the Coronado Fire Department provides fire protection and emergency response services to the project site. The project would not change any standards for emergency access during construction. Emergency access would be subject to review by the District and responsible emergency service agencies; thus, ensuring that the project would be designed to meet all applicable emergency access and design standards. In the unlikely event of an emergency, this project-adjacent First

Street would serve as the emergency evacuation route for first responders and residents. The proposed project would not adversely affect operations on the local or regional circulation system, and as such, would not affect the use of this facility as an emergency response route. Therefore, no impacts associated with emergency response plan or emergency evacuation plan would occur.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact**.** The project site and the area surrounding the project site are developed and as a whole, the project lacks any lands considered wildlands or wildland-urban interfaces. According to CAL FIRE's Fire Hazard Severity Zones maps, the project site is neither moderately, highly, nor very highly susceptible to wildland fire (CAL FIRE 2009), Therefore, no impacts associated with wildland fires would occur.

4.10 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase 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?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

4.10.1 Environmental Setting

Regional and Surrounding Area Conditions

Surface Water Hydrology

The project site is within the jurisdiction of the San Diego RWQCB. The San Diego region is divided into 11 hydrologic units (HUs) for administrative purposes. Waters within each of the HUs flow from elevated regions in the east to lagoons, estuaries, or bays in the west. The project site is within the San Diego Bay Watershed, which is within the Pueblo San Diego HU. The Pueblo San Diego HU is the smallest HU 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% of the watershed is developed. Major water features in the Pueblo San Diego HU include Chollas Creek, Paleta Creek, and San Diego Bay (Project Clean Water 2021). The Pueblo San Diego HU 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. 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, as are the San Diego Bay and Chollas Creek. The project site is adjacent to and within the San Diego Bay and approximately 5.3 km (3.3 miles) northwest of Chollas Creek.

Surface Water Quality

San Diego Bay is the receiving water body for the project site, which occurs indirectly through the City of San Diego's municipal storm drain system. Water quality in the San Diego Bay is influenced by processes and activities that take place within the Pueblo San Diego HU. The creeks in the watershed are highly affected by urban runoff, such as contaminants from roadways, industry, and other urban sources. Contaminants found in San Diego Bay include chlorinated hydrocarbons, toxic components of petroleum hydrocarbons, polychlorinated aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), heavy metals, and organotins (i.e., 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 2021).

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.

In San Diego Bay, circulation is primarily related to tides; winds are usually fairly mild and there is a low fetch area (NAVFAC and POSD 2013). Tidal current velocities range from 0.2 to 0.8 m/second (0.6 to 2.7 feet/second) at the mouth, but are much lower in central and south Bay. Velocities vary with changes in depth and width of the Bay as the tidal prism moves southward, the presence of marinas and basins that effectively slow water movement, and the increasing distance from the Bay entrance. Flushing rates vary with distance from the Bay entrance. During a strong tidal cycle, up to 40% of the mean volume of the Bay exits during the ebb flow, at least temporarily residing outside the Bay. During an average tidal cycle, the volume of water leaving the Bay is only approximately 13%.

Beneficial Uses

The San Diego RWQCB is responsible for designating beneficial uses for water bodies in the San Diego region; establishing water quality objectives; and developing implementation plans to protect designated beneficial uses through the Water Quality Control Plan for the San Diego Basin (San Diego RWQCB 2021). Beneficial uses for the nearest coastal water, the San Diego Bay, include: industrial service supply; navigation; contact and non-contact recreation; commercial and sport fishing; preservation of biological habitats of special significance; estuarine habitat; wildlife habitat; preservation of rare, threatened and endangered species; marine habitat; migration of aquatic organisms; spawning, reproduction, and early development; and shellfish harvesting (San Diego RWQCB 2021).

Total Maximum Daily Loads

CWA Section 303(d) requires the identification of water bodies that do not meet, or are not expected to meet, water quality standards (i.e., impaired water bodies). The affected water body, and associated pollutant or stressor, is then prioritized in the 303(d) List. California's current 303(d) List is the 2020–2022 List of Impaired Waters, which was adopted by the SWRCB on February 6, 2024, and was submitted to EPA for approval. The CWA further requires the development of a total maximum daily load (TMDL) for each listing. A TMDL is the maximum daily amount of a pollutant that a water body can receive and still safely meet water quality standards.

The water bodies with 303(d)-listed impairments within 0.5 miles of the project site are shown in Table 4.10-1. These include (1) San Diego Bay (encompasses the project site); (2) downtown Anchorage (0.3 km [0.2 miles] from the project site); (3) and East Basin of Harbor Island (1.3 km [0.8 miles] from the project site) (SWRCB 2024).

Table 4.10-1. 303(d)-Listed Impairments for Water Bodies and Adjacent Shorelines within the Project Vicinity

Reach	303(d)-Listed Impairments	Source	Estimated TMDL Completion
San Diego Bay	PCBs	Contaminated sediments, dredging, historic land management activities, illegal dumping, spills, urban runoff/storm sewers	2021
	PAHs	Unknown	2025

Table 4.10-1. 303(d)-Listed Impairments for Water Bodies and Adjacent Shorelines within the Project Vicinity

Reach	303(d)-Listed Impairments	Source	Estimated TMDL Completion
	Mercury	Atmospheric deposition, contaminated sediments, historic land management activities, urban runoff	2027
San Diego Bay, Harbor Island (East Basin)	Copper	Unknown	2019
San Diego Bay, Downtown Anchorage	Sediment Toxicity	Unknown	2019
	Benthic Community Effects	Unknown	—
	Toxicity	Unknown	—

Source: SWRCB 2024.
Notes: TMDL = total maximum daily load; PCBs = polychlorinated biphenyls; PAHs= polycyclic aromatic hydrocarbons.

Existing Site Conditions

Regional and Surrounding Area Conditions

Surface Water Hydrology

The project site is within the jurisdiction of the San Diego RWQCB. The San Diego region is divided into 11 HUs for administrative purposes. Waters within each of the HUs flow from elevated regions in the east to lagoons, estuaries, or bays in the west. The project site is within the San Diego Bay Watershed Management Area. The San Diego Bay Water Management Area is the largest Water Management Area is located entirely within San Diego County and includes three major sub-watersheds: (1) the Pueblo San Diego; (2) the Sweetwater; and the Otay. Coronado is within the Coronado HU (HU 910.00). The Otay HU can be further divided into three hydrologic areas: Otay Watershed. The Otay Watershed is one of three major sub-watersheds that make up the San Diego Bay Watershed Management Area. The project site is adjacent to and within the San Diego Bay and approximately 4.3 miles northwest of Chollas Creek.

Surface Water Quality

San Diego Bay is the receiving water body for the project site, which occurs indirectly through the City of San Diego's municipal storm drain system. Water quality in the San Diego Bay is influenced by processes and activities that take place within the Pueblo San Diego HU. The creeks in the watershed are highly affected by urban runoff, such as contaminants from roadways, industry, and other urban sources. Contaminants found in San Diego Bay include chlorinated hydrocarbons, toxic components of petroleum hydrocarbons, PAHs, PCBs, heavy metals, and organotins (i.e., 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 2021).

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.

In San Diego Bay, circulation is primarily related to tides; winds are usually fairly mild and there is a low fetch area (NAVFAC and POSD 2013). Tidal current velocities range from 0.2 to 0.8 m/second (0.6 to 2.7 feet/second) at the mouth, but are much lower in central and south Bay. Velocities vary with changes in depth and width of the Bay as the tidal prism moves southward, the presence of marinas and basins that effectively slow water movement, and the increasing distance from the Bay entrance. Flushing rates vary with distance from the Bay entrance. During a strong tidal cycle, up to 40% of the mean volume of the Bay exits during the ebb flow, at least temporarily residing outside the Bay. During an average tidal cycle, the volume of water leaving the Bay is only approximately 13%.

Beneficial Uses

The San Diego RWQCB is responsible for designating beneficial uses for water bodies in the San Diego region; establishing water quality objectives; and developing implementation plans to protect designated beneficial uses through the Water Quality Control Plan for the San Diego Basin (San Diego RWQCB 2021). Beneficial uses for the nearest coastal water, the San Diego Bay, include: industrial service supply; navigation; contact and non-contact recreation; commercial and sport fishing; preservation of biological habitats of special significance; estuarine habitat; wildlife habitat; preservation of rare, threatened and endangered species; marine habitat; migration of aquatic organisms; spawning, reproduction, and early development; and shellfish harvesting (San Diego RWQCB 2021).

Total Maximum Daily Loads

CWA Section 303(d) requires the identification of water bodies that do not meet, or are not expected to meet, water quality standards (i.e., impaired water bodies). The affected water body, and associated pollutant or stressor, is then prioritized in the 303(d) List. California's current 303(d) List is the 2020–2022 List of Impaired Waters, which was adopted by the SWRCB on February 6, 2024, and was submitted to EPA for approval. The CWA further requires the development of a TMDL for each listing. A TMDL is the maximum daily amount of a pollutant that a water body can receive and still safely meet water quality standards.

The water bodies with 303(d)-listed impairments within 1 mile of the project site are shown in Table 4.10-2. These include San Diego Bay (encompasses the project site), Downtown Anchorage (0.3 km [0.2 miles] from the project site), and East Basin of Harbor Island (1.3 km [0.8 miles] from the project site) (SWRCB 2024).

Table 4.10-2. 303(d)-Listed Impairments for Water Bodies and Adjacent Shorelines within the Project Vicinity

Reach	303(D)-Listed Impairments	Source	Estimated TMDL Completion
San Diego Bay	PCBs	Contaminated sediments, dredging, historic land management activities, illegal dumping, spills, urban runoffs/storm sewers	2021
	PAHs	Unknown	2-25
	Mercury	Atmospheric deposition, contaminated sediments, historic land management activities, urban runoff	2027

Table 4.10-2. 303(d)-Listed Impairments for Water Bodies and Adjacent Shorelines within the Project Vicinity

Reach	303(D)-Listed Impairments	Source	Estimated TMDL Completion
San Diego Bay, Harbor Island (East Basin)	Copper	Unknown	2019
San Diego Bay, Downtown Anchorage	Sediment Toxicity	Unknown	2019
	Benthic Community Effects	Unknown	—
	Toxicity	Unknown	—

Source: SWRCB 2025.
Notes: TMDL = total maximum daily load; PCBs = polychlorinated biphenyls; PAHs= polycyclic aromatic hydrocarbons.

Existing Site Conditions

The project site is on the shoreline of San Diego Bay, and surrounded by residences to the south, east and west and open water to the north. The project site consists of residences with shoreline protection. Waters within San Diego Bay are up to 18 meters (59 feet) deep near the mouth, but average approximately 6.5 meters (21 feet) (NAVFAC and POSD 2013). Water depth in the project area ranges from approximately -0.74 feet to 6.57 feet MLLW (NOAA Office of Coast Survey 2012). The Bay is primarily marine, but influenced by freshwater flows from the Otay and Sweetwater Rivers, as well as from several creeks (Telegraph Canyon, Chollas, Switzer, Paleta, and Paradise). However, major runoff is limited to approximately 3 months during an average year.

Tides

Tides are sea level variations that result from astronomical and meteorological forces. Tidal variations along the coast of Southern California are influenced primarily by the passage of two harmonic tide waves, one with a period of 12.5 hours and the other with a period of 25 hours. This combination of two harmonic tide waves usually produces two high and two low tides each day. The twice daily (semidiurnal) tide of 12.5 hours predominates over the daily (diurnal) tide of 25 hours in the Bay, generating a diurnal inequality, or mixed semidiurnal tides. This causes a difference in height between successive high and low waters ("water" is commonly used in this context instead of "tide"). The result is two high waters and two low waters each day, consisting of a higher high water (HHW), a lower high water (LHW), a higher low water, and a lower low water.

The mean tidal range for San Diego, calculated by averaging the difference between all high and low waters, is 1.23 meters (4.05 feet) (NOAA 2024a). MLLW is the mean of all lower low waters, equal to 0.90 meters (2.94 feet) below mean sea level, and 0.13 meters (0.43 feet) below North American Vertical Datum of 1988 in the Port. MLLW is the datum from which Southern California tides are usually measured. The extreme tidal range (between maximum high and maximum low waters) is approximately 3.44 meters (11.3 feet). The highest and lowest tides reported are 2.51 meters (8.24 feet) above MLLW and -0.94 meters (-3.09 feet) below MLLW, respectively (NOAA 2024a).

Temperature and Salinity

Between April 2005 and December 2012, monthly mean sea surface temperatures in the Bay (at a station approximately 0.5 north of the project site) ranged from 14.5°C (58.1°F) in January to 22.0°C (71.6°F) in August (NOAA NDBC 2013). The overall monthly mean surface temperature at that location was approximately 18.6°C (65.5°F). The lowest monthly mean was 12.9°C (55.2°F) in December 2007, and the highest was 25.4°C (77.7°F) in August 2007. Warmest temperatures (and thermal stratification) generally occur in July and August, and coolest temperatures in January and February (NAVFAC and POSD 2013). Salinity near the Bay mouth is generally similar to that of the open ocean (31.2 to 31.4 practical salinity units) (NAVFAC and POSD 2013). Salinity in the south Bay can reach 37 practical salinity units in the summer due to evaporation and poor flushing. Conversely, salinity can decrease to 22 practical salinity units following heavy rains.

Dissolved Oxygen

The concentration of DO in seawater is affected by physical, chemical, and biological variables. High DO concentrations may result from cool water temperatures (solubility of oxygen in water increases as temperature decreases), active photosynthesis, and/or mixing at the air-water interface. Conversely, low concentrations may result from warm water temperatures, high rates of organic decomposition, and/or extensive mixing of surface waters with oxygen-poor subsurface waters. During water quality surveys in summer 2013, DO levels throughout the water column at two stations within 1 km (0.6 miles) of the project site ranged between 6.7 and 7.7 milligrams per liter (mg/L) (AMEC 2016). DO offshore Point Loma typically averages between 7.0 and 8.0 mg/L, with a range between 0.2 and 14.4 mg/L (City of San Diego 2024).

pH

In the open ocean, pH concentration remains fairly constant due to the buffering capacity of seawater. However, in nearshore areas, pH may be more variable due to physical, chemical, and biological influences. Reduced pH values may occur in areas of freshwater influx because freshwater generally has a lower pH than saltwater. In contrast, phytoplankton blooms, which are often associated with nearshore upwelling, may cause an increase in pH levels. During water quality surveys in summer 2013, pH throughout the water column at two stations within 1 km (0.6 miles) of the project site ranged between 7.18 and 7.65 (AMEC 2016). The pH of nearshore coastal waters (offshore Point Loma) typically ranges between 7.5 and 8.7 mg/L (City of San Diego 2024).

Water Clarity

Transparency is a measure of water clarity or the ability of light to pass through water. Transparency can be determined by evaluating turbidity and/or transmissivity, and can be measured in several ways (i.e., Secchi disk, transmissometer, turbidimeter [or nephelometer], and as total suspended solids). The San Diego Basin Plan prohibits turbidity (solids) from adversely affecting beneficial uses or causing nuisances, and sets allowable increases in turbidity based on ambient conditions (San Diego RWQCB 2021).

Increased turbidity usually results in decreased transparency. Turbidity generally increases because of one or a combination of the following conditions: fine sediment from terrestrial runoff or re-suspension of fine bottom sediments by currents or disturbance; algal blooms; and dredging activities. Propeller wash from ships moving in and out of the Bay is also a source of mixing in the water column that may temporarily disturb bottom sediments and affect transparency. Shallower, wider areas in the south end of the Bay are more likely to be turbid than the

deeper, narrower areas of the Bay; winds are more likely to stir up bottom sediments in shallow waters (NAVFAC and POSD 2013). During water quality surveys in summer 2013, light transmittance throughout the water column at two stations within 1 km (0.6 miles) of the project site ranged between 59% to 77% (AMEC 2016).

Sediment Quality

Sediment composition varies considerably within San Diego Bay. Within the project area, sediments likely consist of approximately 25%–65% silt/clay, with the remainder sand and gravel (NAVFAC and POSD 2013). Areas with relatively high concentrations ("hotspots") of contaminants are dispersed throughout the Bay. These include areas with relatively high concentrations of certain metals, including copper, lead, mercury, and zinc; PAHs; PCBs; dichlorodiphenyltrichloroethane and its derivatives ; and other pesticides. Within San Diego Bay, there are multiple areas where contaminants exceed Effects Range-Low concentrations (i.e., levels where biological effects could occur). However, there are relatively few sites with contaminant concentrations exceeding Effects Range-Median levels (i.e., where biological effects are likely to occur) (NAVFAC and POSD 2013).

In 2018, sediments were sampled at multiple stations in San Diego Bay as part of a regional monitoring effort, and sediment characteristics were analyzed. Two stations were sampled within 1 mile of the project site: Station B18-10112, 0.4 miles south-southwest in the project site, and Station B18-10024, 0.75 miles south from the project site. Sediments at both stations were composed of 49%–50% sand, 34%–35% silt, and 15%–16% clay (SCCWRP 2024a, unpubl. data). Concentrations of most sediment contaminants at these two locations were below thresholds that could indicate effects to marine organisms (<Effects Range-Low). Exceptions included copper and mercury at both locations, and PCBs at one station. None of the metal, pesticide, PCB, or PAH concentrations exceeded thresholds that indicate likely effects to marine organisms (≥Effects Range-Median). Although levels of some contaminants may exceed their respective Effects Range-Low thresholds near the project site (e.g., some metals and PCBs), it is unlikely any exceed their respective Effects Range-Median thresholds.

During 2018, sediments were collected at a total of 5 locations within 1.4 miles of the project site and analyzed for toxicity using amphipod (*Eohaustorius estuarius*) on sediment and mussel (*Mytilus galloprovincialis*) on the sediment-water interface (SCCWRP 2024b). Water depths ranged from 12–13 meters (39–43 feet) at three of the stations, and were unreported at the other two. Based on toxicity test results, sediments at all five stations were classified as 'non-toxic.'

San Diego Bay (in the vicinity of the project site) is currently listed as 'impaired' for mercury, PAHs, and PCBs. An additional impairment for indicator bacteria is proposed (SWRCB 2024). Known sources of contaminants to Bay waters and sediments include surface runoff, industrial facilities, U.S. Naval vessel activities, recreational marinas and commercial ports, aerial deposition, spills, and storm drains (NAVFAC and POSD 2013).

Urban runoff is the largest source of pollutants in the region, contributing more metals than all other sources combined. Of the 40 MS4 outfalls in the Port's jurisdiction, 24 were dry during the latest dry weather water quality survey, 13 consisted of tidal flow, and 3 consisted of transient flow (defined as having some ponded, pooled, or flowing water during one or two of the three dry weather surveys) (City of Chula Vista et al. 2024).

4.10.2 Regulatory Setting

Federal

Clean Water Act of 1972

The CWA of 1972 provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. Discharges of wastes to waters of the United States (e.g., surface waters) must be authorized through NPDES permits (under CWA Section 402). In California, SWRCB and the nine RWQCBs have authority delegated by EPA to issue NPDES permits. California permits are also issued as WDRs as required under California law by the Porter–Cologne Water Quality Control Act (see below). CWA Section 301(a) prohibits discharges without a permit and is the basis of the NPDES permit program. Discharges from vessels were previously exempted from the CWA, but in December 2008 EPA issued the first General Permit (described below).

Section 303 of the CWA requires states to develop water quality standards for all waters and submit to EPA for approval all new or revised standards established for inland surface waters, estuaries, and ocean waters. Under Section 303(d), the state is required to list water segments that do not meet water quality standards and to develop action plans, called TMDLs, to improve water quality. The SWRCB and the RWQCBs implement sections of the CWA through the California Ocean Plan, the Water Quality Control Plan for Enclosed Bays and Estuaries of California, the nine Water Quality Control Plans (one for each region), and permits for waste discharges. The proposed project would be required to comply with the CWA, as discussed in the subsections below.

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 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.

Section 10, Rivers and Harbors Appropriations Act of 1899

Section 10 of the Rivers and Harbors Appropriations Act (33 USC 403) regulates work and structures in, over, and under navigable waters that would affect the course, location, condition or capacity of navigable waters of the United States, including dredging, wharf improvements, overwater cranes, and artificial islands and installations on the outer continental shelf (33 CFR 322.3). The objectives of the Rivers and Harbors Appropriations Act include the protection of navigation and navigable capacity for maritime commercial, and environmental protection. The General Bridge Act applies to bridges and causeways over navigable waters, and is administered by USCG. Under Section 10, USACE issues permits for work (e.g., dredging) and structures (e.g., cranes, sheet piles, king piles) in, over, and under navigable waters.

Water Quality Standards: Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (California Toxics Rule)

The California Toxics Rule establishes numeric criteria for priority toxic pollutants in inland waters, as well as enclosed bays and estuaries, to protect ambient aquatic life and human health. The numeric criteria are the same as those recommended by EPA in its CWA Section 304(a) guidance. The California Toxics Rule also includes provisions for compliance schedules to be issued for new or revised NPDES permit limits when certain conditions are met.

Commercial Vessel Discharge Standards

On December 4, 2018, the President signed into law the Vessel Incidental Discharge Act (Title IX of the Frank LoBiondo Coast Guard Authorization Act of 2018). The Vessel Incidental Discharge Act restructures how EPA and USCG regulate incidental discharges, primarily from commercial vessels, into waters of the United States and the contiguous zone. Specifically, the Vessel Incidental Discharge Act requires EPA to develop new national standards of performance for commercial vessel discharges and the USCG to develop corresponding implementing regulations.

Until EPA publishes final standards and the USCG publishes corresponding implementing regulations, the following interim requirements continue to apply:

- For large commercial vessels (≥79 feet in length), except fishing vessels: The existing vessel discharge requirements established through the EPA 2013 Vessel General Permit (VGP), described further below) and the USCG ballast water regulations, and any applicable state and local government requirements.
- For small vessels (<79 feet in length) and fishing vessels of any size: The existing discharge requirements for ballast water only established through the EPA 2013 VGP and the USCG ballast water regulations, and any applicable state and local government requirements.

Vessel General Permit

The EPA regulates the discharges incidental to the normal operation of commercial vessels greater than 79 feet in length, and operating as a means of transportation, through the VGP. The VGP was first issued in 2008, and was re-issued in March 2013; it became effective on December 19, 2013. It applies to discharges in waters of the United States.

The permit specifies the types of discharges that are allowed (and not allowed), who must obtain coverage under the permit, effluent limitations, corrective actions required to remedy deficiencies and violations, and the monitoring, record keeping, and reporting requirements. The VGP covers multiple discharges and waste streams from vessels. Some of the discharges that are eligible for coverage under the permit include: deck washdown and runoff, bilgewater (which accumulates in the vessel hull), ballast water, anti-fouling hull coatings and leachate, chain locker effluent, and graywater (from showers, baths, sinks, and laundry facilities).

Coastal Nonpoint Source Pollution Control Program

This is a joint program between EPA and NOAA. Established during reauthorization of the Coastal Zone Management Act of 1972, the program provides a more comprehensive solution to the problem of polluted runoff in coastal areas. The program sets economically achievable measures to prevent and mitigate runoff pollution problems stemming from agriculture, forestry, urban developments, marinas, hydromodification (e.g., stream channelization), and the loss of wetland and riparian areas. The Plan for California's Nonpoint Source Pollution Control Program is implemented by the SWRCB, nine RWQCBs, and the CCC.

State

Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (or Porter–Cologne Act–California Water Code Section 13000 et seq.), which is the principal law governing receiving water quality regulation in California, establishes a comprehensive program to protect water quality and the beneficial uses of state waters. Unlike the federal CWA, the Porter–Cologne Act covers both surface water and groundwater. Since 1973, the SWRCB and the nine RWQCBs were established by this act and have been delegated the responsibility for implementing its provisions and administering permitted waste discharge into the coastal marine waters of California.

The Porter–Cologne Act also implements many provisions of the CWA, such as the NPDES permitting program. Under the Porter–Cologne Act "any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state" must file a report of the discharge with the appropriate RWQCB. The RWQCB may then prescribe WDRs that add conditions related to control of the discharge. The Porter–Cologne Act defines "waste" broadly, and the term has been applied to a diverse array of materials, including non-point-source pollution. When regulating discharges that are covered under the CWA, the SWRCB and RWQCBs issue WDRs and NPDES permits as a single permitting vehicle. In April 1991, the SWRCB and other state environmental agencies were incorporated into the California Environmental Protection Agency. Section 401 of the CWA gives the SWRCB the authority to review any proposed federally permitted or federally licensed activity that may impact water quality and to certify, condition, or deny the activity if it does not comply with state water quality standards. If the SWRCB imposes a condition on its certification, those conditions (including WDRs) must be included in the federal permit or license.

Standard WDRs include conditions and requirements to minimize potential impacts on the existing surface water and groundwater and sediment quality from dredging and filling activities. These conditions are addressed by complying with the requirements of the applicable permit and implementing management programs. The assessment of impacts for dredging and filling is based on these regulatory controls for dredging and filling activities that contain conditions including standard WDRs. More recently, installation of pilings and other associated wharf work that has not required a Section 404 permit from USACE, has required a Section 401 Water Quality Certification from the RWQCB to certify these installations would not violate state water quality standards.

Enclosed Bays and Estuaries Plan

Under the California Bay Protection and Toxic Cleanup Act, the SWRCB is required to develop Sediment Quality Objectives for toxic pollutants to protect the condition of enclosed bays and estuaries. The SWRCB issued Part 1 (Sediment Quality) of the Water Quality Control Plan for Enclosed Bays and Estuaries in August 2009. Part 1 of this document represented the first phase of the SWRCB's development of Sediment Quality Objectives. This first phase (direct effects) focused on the protection of benthic communities in enclosed bays and estuaries based on chemical and biological measures to determine if the sediment-dependent biota are protected or degraded from exposure to toxic substances in the sediment (SWRCB 2018). Amendments to the Plan in 2011 and 2018 included a narrative Sediment Quality Objective to protect finfish and wildlife from sediment pollutants, and a more prescriptive implementation framework. This program is applicable to all enclosed bays and estuaries in the state, including San Diego Bay.

State Water Resources Control Board General Stormwater Permits

The SWRCB has issued and periodically renews a statewide General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities and a statewide General Industrial Activities Stormwater Permit for projects that do not require an individual permit for these activities. The General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities was adopted in 2022 and went into effect on September 1, 2023 (Order No. 2022-0057-DWQ). All construction activities that disturb 1 acre or more must prepare and implement a construction Stormwater Pollution Prevention Plan that specifies BMPs to ensure compliance with water quality objectives. BMPs are effective, practical, structural, or nonstructural methods used to prevent or reduce the movement of sediments, nutrients, and pollutants from land to surface waters. The intent of the Stormwater Pollution Prevention Plan and BMPs is to keep all products of erosion from moving off site into receiving waters, eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the United States, and perform sampling and analysis to determine the effectiveness of BMPs in reducing or preventing pollutants (even if not visually detectable) in stormwater discharges from causing or contributing to violations of water quality objectives.

The most recent General Industrial Activities Stormwater Permit (Order No. 2014-0057-DWQ) was adopted in April 2014, and amended in 2015 and 2018. This Order requires dischargers to develop and implement a Stormwater Pollution Prevention Plan to reduce or prevent industrial pollutants in stormwater discharges, eliminate unauthorized non-storm discharges, conduct visual and analytical stormwater discharge monitoring to verify the effectiveness of the Stormwater Pollution Prevention Plan, and submit an annual report.

California Coastal Act Section 30233

CCA Section 30233 relates to in-water work in open coastal waters, wetlands, estuaries, and lakes. Specifically, diking, filling, or dredging is allowed (in accordance with other applicable provisions of the CCA), where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects. Diking, filling, and dredging are only allowed for seven different categories of activities, including “new or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.”

Local

San Diego Region Basin Plan

The City of Corondo is a participating agency for the San Diego Basin Plan (San Diego RWQCB 2021). The Water Quality Control Plan for the San Diego Basin is designed to preserve and enhance water quality and to protect beneficial uses of regional waters (inland surface waters, groundwater, and coastal waters such as bays and estuaries). The Basin Plan designates beneficial uses of surface water and groundwater, such as contact recreation or municipal drinking water supply. The Basin Plan also establishes water quality objectives, which are defined as "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.”

The Basin Plan specifies water quality objectives for a number of constituents/characteristics that could be affected by the proposed project. These include floating material, oil and grease, suspended sediments, and turbidity. With the exception of turbidity, water quality objectives for these constituents are expressed as narrative rather than numerical limits.

San Diego Municipal Separate Storm Sewer System NPDES Permit

The San Diego RWQCB regulates discharges from Phase I MS4s in the San Diego region under the Regional MS4 Permit. The City of Coronado is part of the Regional MS4 Permit that covers 39 municipal, county government, and special district entities (referred to jointly as Co-permittees) located in San Diego County, southern Orange County, and southwestern Riverside County who own and operate large MS4s that discharge stormwater runoff and non-stormwater runoff to surface waters throughout the San Diego region. The permit is the NPDES Permit and WDRs for Discharges from the Municipal Separate Storm Sewer Systems (MS4) Draining the Watersheds within the San Diego region (Order No. R9-2013-0001, NPDES Permit No. CAS0109266, as amended).

The permit identifies the implementation of WQIPs as a framework for permittees to implement the requirements of the permit in an integrated and collaborative fashion to address water quality priorities on a watershed scale, including complying with TMDL provisions and by customizing certain control measures. The ultimate goal of the WQIPs is to ensure that discharges from the San Diego MS4 protect, preserve, enhance, and restore water quality and designated beneficial uses of waters of the state.

Each Co-permittee must use their land use and planning authorities to implement a development planning program in accordance with the strategies in the WQIPs and includes, at a minimum, the following requirements: BMP requirements for all development projects, priority development projects, structural BMP requirements for priority development projects, BMP Design Manual updates, BMP implementation and oversight for priority development

projects, and development project enforcement. Each Co-permittee must also implement Construction Management Programs, Existing Development Management Programs, Enforcement Response Plans, and Public Education and Participation Programs.

The District's Jurisdictional Runoff Management Plan (JRMP) provides an overall account of the program to be conducted by the District during the 5-year life of the MS4 Permit. The District's JRMP has been developed to meet the conditions of the MS4 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, 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 MS4 Permit.

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 would 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.

4.10.3 Discussion

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less-than-Significant Impact. The project entails on-water and over-water work to deliver project materials, and construct a portion of the rock revetment. The project would also make landside improvements to the shoreline in front of adjacent residences. On-water and over-water work would include the use of hazardous materials, including fuels for the operation and maintenance of the barges. Accidental spills from the work barges could directly affect water quality in the waters adjacent to the project site. The installation of the rock revetment wall also has the potential to introduce construction/demolition debris to Bay waters.

The project requires the preparation, approval and implementation of a District Construction BMP Plan for projects less than 1 acre. The project's Construction BMP Plan has been prepared and submitted to the District for review and approval. The Construction BMP Plan describes the implementation and maintenance of the stormwater pollution prevention BMPs and other BMPs used to prevent unauthorized discharges to the stormwater conveyance system from the project's construction activities.

BMPs included in the Construction BMP Plan include requirements for material and equipment transfer over water to/from the project site such as the following:

- Material and equipment storage on the barge
- Pollutant discharge requirements for mechanical equipment
- Equipping the excavator and other mechanical equipment with bibs to prevent hydraulic fluid spills
- Review of mechanical equipment daily to confirm no leaks are observed and removal and/or replacement of equipment that is found to be leaking.
- Construct a temporary dam around the edges of the material barge to make sure no materials are leaked into the water.
- Installation of perimeter controls, such as a K-rail/berm on the barge.

Other construction-related BMPs the would prevent pollutant discharge over the water during transfer of equipment, materials and debris such as:

- Installation of temporary turbidity curtains between the derrick barge and the shoreline work area.
- Implementation of adequate freeboard and/or cover to prevent spills during over-water transfer with the crane.
- Implementation of good housekeeping measures on all barges during construction including:
  - Storing trash in designated trash bins with secured covers,
  - Storing chemicals (if any) in watertight containers with proper secondary containment.
  - Providing dedicated storage areas with appropriate perimeter control BMPs
  - Storing debris in roll-off bins with adequate freeboard, or stockpiled with sandbag berm or manufactured linear perimeters

These appropriate construction/demolition BMPs would be used to minimize introduction of materials to the Bay, including use of methods to contain debris for subsequent and appropriate disposal. With the implementation of these BMPs, the probability of an accidental spill is also low. Additionally, these BMPs would ensure that discharges of any material or waste that may contaminate stormwater or enter the stormwater conveyance system would not occur, and stormwater runoff from the project site would be limited.

The installation of the rock revetment wall and project spudding in the load/unload area has the potential to disturb and suspend seafloor sediments. The construction contractor must comply with requirements in permits issued from the San Diego RWQCB (such as WDRs/Section 401 Water Quality Certification). Installation of revetment is not expected to result in a substantial release of contaminants to the water column. Although these activities could generate turbidity plumes that can adversely affect water quality, they would be limited in scope (localized to the immediate area of construction) and duration (minutes or hours).

In addition to depressions in water clarity, suspended sediments could result in slightly reduced DO and pH levels. Sediment contaminants and nutrients are not anticipated to be suspended in the water column and effects to water quality from sediment suspension would be localized and temporary, In addition, the implementation of construction BMPs such as the temporary turbidity curtains to minimize turbidity would limit the spread of the turbidity outside the specific work area, and increased turbidity levels would be generally confined to within the area of the curtain containment. After initial high turbidity levels within the specific work area, sediments would disperse, and background levels would be restored within hours of disturbance. Furthermore, 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 and limited effects on water quality.

In summary, the project would not violate any water quality standards or WDRs, or substantially degrade surface water quality through compliance with permit conditions and through the implementation of the Construction BMP Plan. Therefore, this impact would be less than significant.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less-than-Significant Impact. Construction activities would occur within the project site located on and adjacent to the San Diego Bay. The project would not result in a net increase in impervious surfaces, such that the surface area for percolation of stormwater would be reduced. All stormwater runoff from the proposed project would be minimized with the implementation of construction BMPs as discussed in Section 4.10.3(a). In addition, the project site is located within Coronado, California, which is not within a recognized groundwater basin as defined by the California Department of Water Resources and is not used as a groundwater supply source. Therefore, groundwater recharge from stormwater would not occur at the project site.

The project would require landside excavation but not to depths that would potentially encounter groundwater. Furthermore, as discussed in more detail in Section 4.19, Utilities and Service Systems, construction-related water use would represent a small demand on local and regional water supplies that could be accommodated by the existing water service provider. The project would not generate a permanent increase in water demand compared to existing conditions. Consequently, the project would not substantially decrease groundwater supplies or interfere with groundwater recharge. Impacts would be less than significant.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site?

Less-than-Significant Impact. The project site is directly on the San Diego Bay shoreline, and the new rock revetment would be the first line of defense against erosion or flooding. The existing revetment consists of nonuniform rocks and concrete debris (see Figures 3-1a through 3-1c, in Chapter 3, Existing Conditions). The existing revetment has settled over time and experienced structural degradation that could cause the

structure to not provide the protections and structural stability it was designed for. The existing debris is primarily concrete, which is not a naturally occurring material, and has poor structural interlocking properties due to the nonuniformity of the debris shapes. The use of debris for shoreline stabilization is no longer a standard practice due to its poor structural properties.

The primary functions of the proposed new rock revetment would be to stabilize the shoreline from erosion and break waves to minimize wave runup and overtopping. The proposed revetment would consist of naturally occurring rock that would interlock more efficiently and would not result in the erosion or siltation of the shoreline. The ~~new~~replacement revetment structure would fully replace the existing structure, and would consists of a standard design of a sloped armor layer supported by a filter layer. The filter layer would be 1 foot thick and consists of quarry waste laid on filter fabric. The armor layer would be 3.3 feet thick and consists of 0.25-ton rock. The ~~new~~replacement revetment would have a uniform slope, and would be confined within the same horizontal footprint as the existing revetment for a total width of 24 feet. This design ensures that substantial erosion or siltation would not occur. The project site would also employ construction BMPs that would captures and divert runoff water to minimize the potential for erosion or siltation to occur during construction. Impacts would be less than significant.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off site?

Less-than-Significant Impact. The project does not propose any permanent overwater structures and would not result in an increase in overwater coverage for permanent structures. Stormwater runoff from the proposed project's construction would be captured and contained by construction BMPs in the Construction BMP Plan that would be approved by the District. Project implementation would not affect the amount of surface runoff at the project site. The primary functions of the proposed new rock revetment would be to stabilize the shoreline from erosion and break waves to minimize wave runup and overtopping. The proposed revetment would consist of naturally occurring rock that would interlock more efficiently. The ~~new~~replacement revetment structure would also fully replace the existing structure, and would consists of a standard design of a sloped armor layer supported by a filter layer with a uniform slope confined within the same horizontal footprint as the existing revetment for a total width of 24 feet. This design would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on site or off site. Impacts would be less than significant.

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?

Less-than-Significant Impact. The project design would replace the existing rock revetment structure but would not contribute additional runoff to the site. Construction BMPs to contain stormwater from subsequent discharge are contained in the project's Construction BMP Plan that would be reviewed and approved by the District. Therefore, the capacity of the stormwater drainage systems would not be exceeded and there are no additional, substantial sources of polluted runoff. Less-than-significant impacts would occur.

iv) Impede or redirect flood flows?

Less-than-Significant Impact. The proposed project would reconfigure portions of the project site through (1) removal of the existing rock revetment wall, and (2) installation of the new rock revetment. There are no streams or rivers draining into San Diego Bay in the vicinity of the project site. The project would also implement construction BMPs during project construction to contain subsequent discharge. Flood flows would not be impeded or redirected. Impacts would be less than significant.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Less-than-Significant Impact. Strong earthquakes can produce tsunamis, which is a series of long-period waves caused by sudden, large displacement of the ocean (such as landslides and earthquakes). When tsunamis reach land, they can cause catastrophic surge and flooding. Seiches are standing waves that surge back and forth in an enclosed basin; seiches can result from earthquakes or other disturbances such as high winds.

The project site, including landside elements, is located in a Tsunami Hazard Area (Graehl and Wilson 2022). The Tsunami Hazard Area effort is primarily based on inundation limits corresponding to a 975-year average return period tsunami event model. These inundation limits reflect potential local tsunami sources not considered in probabilistic analysis.

The tsunami generated by an 8.8 magnitude earthquake off the coast of Chile (February 27, 2010) caused damage to docks, concrete piers, and boats in San Diego Bay and North Shelter Island (County of San Diego 2024). Based on past tsunamis and detailed wave modeling, the largest waves projected to hit San Diego Bay are primarily attributed to local sources, as well as the Alaska-Aleutians Subduction Zone (Barberopoulou et al. 2010).

The Port of San Diego's June 2019 Sea Level Rise Vulnerability Assessment and Coastal Resiliency Report (POSD 2019) analyzed areas projected to be affected by sea level rise in years 2030, 2050, and 2100, including effects from a 100-year storm event. The report assessed sea level rise values of 0.8, 1.6, and 4.9 feet corresponding to years 2030, 2050, and 2010, respectively. According to NOAA, sea level rise of approximately 22 centimeters (cm) (9 inches) has occurred in San Diego over the past 100 years (NOAA 2024b). The Port of San Diego's report estimates that the sea level is likely to rise 12 to 18 cm (5 to 7 inches) above the 1991–2009 mean by 2030, and 55 to 110 cm (22 to 43 inches) above the 1991–2009 by 2100 (the Likely Range). The 1-in-200 (0.5% chance) modeling scenario predicts sea level rise of 28 cm (11 inches) by 2030, and 2.16 meters (85 inches) by 2100.

A Sea Level Rise Vulnerability Assessment was prepared by Dudek in July 2025 for the proposed project and is included as Appendix D. The assessment provides data and information related to both the vulnerabilities that sea level rise poses to the new project structure and surrounding environment, as well as potential sea level rise vulnerabilities that the new project could exacerbate or introduce. Sea level rise-related coastal hazards assessed included tidal inundation, storm flooding, wave runup and overtopping, erosion, groundwater rise, and tsunamis. Based on the latest guidance from the California Ocean Protection Council's 2024 Sea Level Rise Guidance, the report analyzed years 2060, 2075, and 2100, and mapped coastal hazards under SLR values of 1.6, 2.5, and 4.9 feet (Appendix D).

The assessment found that the project site is located in a coastal area at significant risk of future sea level rise, and that this project plays a critical role in stabilizing the shoreline and mitigating sea level rise hazards. The project site property becomes inundated from the Mean High Water tide with 4.9 feet of sea level rise, and flooded from the 100-year flood with 2.5 feet of sea level rise. The existing shoreline revetment is exhibiting signs of settlement and structural failure, which could leave the property vulnerable to erosion, wave action, and storm flooding, all of which are amplified by sea level rise. The ~~new~~replacement revetment would therefore mitigate these hazards by stabilizing the shoreline. However, Dudek's Sea Level Rise Vulnerability Assessment determined that the revetment is not the primary shoreline structure responsible for preventing coastal flooding. The revetment is backed by existing hardscape that is just beyond the Port's jurisdiction and extends multiple feet above the crests of both the existing and ~~new~~replacement revetments' base layers. Therefore, the revetment does not directly affect sea level rise flooding beyond preventing erosion and breaking waves. Similarly, the project site is located within a tsunami zone and this project does not directly protect from tsunami flooding, but the project does have a net positive effect on mitigating tsunami hazards by stabilizing the shoreline, thereby helping protect critical evacuation routes from Coronado.

The West Coast/Alaska Tsunami Warning Center is responsible for issuing warnings of potential tsunamis along the west coast of the United States. The County of San Diego Office of Emergency Services also provides tsunami warnings and guidance for what to do during and after a tsunami warning. In the event of a tsunami or tsunami warning, the evacuation protocol outlined in the project site-specific Emergency Action Plan, including evacuation routes and methods, would be followed. Sufficient tsunami avoidance and response procedures are in place that facilitate the timely evacuation of workers present at the project site during construction of the project.

As described above, the proposed project would have a net positive effect on mitigating tsunami hazards by stabilizing the shoreline and would not increase the potential for the risk of a release of pollutants due to a tsunami, seiche, or storm tide. Therefore, impacts would be less than significant.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less-than-Significant Impact. The project includes removal and construction activities for the improved rock revetment. All construction/demolition activities would be conducted in accordance with applicable Water Quality Control Plans and permits. These include the San Diego Basin Plan, the State Enclosed Bays and Estuaries Plan, applicable commercial vessel discharge standards, and stormwater permits. The project site is within Coronado, California, which is not located within a recognized groundwater basin as defined by the California Department of Water Resources and would not conflict with any groundwater management plan. Impacts would be less than significant.

4.11 Land Use and Planning

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

4.11.1 Environmental Setting

Port Master Plan

The project site is within Coronado Planning District (Planning District 6) of the PMP. In the PMP, the water use designation for the project site Open Bay, as this area is in the First Street Shoreline area of the PMP that sits adjacent to the residences on City of Coronado land. The following are the definitions of the water designations from the PMP:

- Open Bay (Water Designation): allocated to water areas adjoining shoreline recreational areas, the boat launching ramp, fishing pier, vista areas and other public recreational facilities where the need for open water is related to the proper function of the shoreside activity. Multiple use of Open Bay water areas for recreational and for natural habitat purposes is possible under this use category designation

The proposed project is consistent with the water use designation for the project site in the PMP.

4.11.2 Regulatory Setting

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 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 water and land 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 CCA Chapter 3. The CCC enforces the Coastal Zone Management Act by certifying that a proposed project is consistent with the CCA.

State

California Coastal Act

The CCA of 1976 governs land use planning for the entire Coastal Zone of California. The CCA includes policies for public access to the coast, recreation, marine environment, land resources, development, and SLR. The CCC enforces the Coastal Zone Management Act by certifying that a proposed project is consistent with the CCA. Pursuant to the CCA and the CCC Sea Level Rise Policy Guidance document (CCC 2018), projects in the California Coastal Zone must address SLR and resiliency of the project and coastal resources.

There are four categories of development on tidelands in the Coastal Zone: appealable, non-appealable, excluded, and emergency. The types of development listed in Section 30715 of Chapter 8 of the CCA are considered appealable development and are subject to Chapter 3, Coastal Resources Planning and Management Policies, of the CCA. For appealable development, a PMP must include policies that ensure consistency with both Chapters 3 and 8 of the CCA. Appealable projects as defined in the CCA include:

- Developments for the storage, transmission, and processing of liquefied natural gas and crude oil in such quantities as would have a significant impact upon the oil and gas supply of the state or nation or both the state and nation. A development which has a significant impact shall be defined in the master plans.
- Wastewater treatment facilities; except for those facilities which process wastewater discharged incidental to normal port activities or by vessels.
- Roads or highways not principally intended for internal circulation within port boundaries.
- Office and residential buildings not principally devoted to the administration of activities within the port; hotels, motels, and shopping facilities not principally devoted to the sale of commercial goods used for water-oriented purposes; commercial fishing facilities, and recreational small craft marina related facilities.
- Oil refineries.
- Petrochemical production plants.
- Dredging required for the maintenance of developments specified above.

In addition, development located on wetlands, estuaries, or "existing recreation areas," as delineated in the original 1975 Coastal Plan (Coastal Plan–delineated development), must also comply with Chapter 3 even if the proposed development is not the type listed in Section 30715 (see Section 1.3.1(A), Coastal Initiative - Proposition 20

(1971)[7]). The project site is delineated as Wetland and Estuary in the map; thereby, Chapter 3 policies of the Coastal Act would need to be evaluated. All other types of development that do not qualify for an exclusion from a CDP or an emergency CDP are non-appealable and need not seek approval of the CCC after certification of a PMP. However, a PMP must include policies that ensure that such developments are consistent with Chapter 8. All development and associated CCA approvals, whether appealable or non-appealable, must be consistent with the certified PMP.

The proposed project qualifies as a non-appealable development; therefore, the District Board would be asked to issue a Non-appealable CDP for the project.

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 for the benefit of all of the people of California. All tidelands and submerged lands granted or ungranted, as well as navigable rivers and sloughs, are covered under the Public Trust Doctrine. The Public Trust Doctrine, as overseen by California State Lands Commission, restricts the types of water and land uses allowed on public lands, including within the District's jurisdiction. The Public Trust Doctrine is an evolving doctrine, but generally 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. Although Public Trust uses originally focused on navigation, commerce, and fisheries, Public Trust uses have been interpreted to include a broad array of uses such as fishing, hunting, bathing, swimming, boating, anchoring, and general recreation. Trust lands may be devoted to purposes unrelated to the trust if such purposes are incidental to and accommodate trust uses.

Port Act

The 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 own, 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 or acquired by 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 in its jurisdiction. Section 19 of the Port Act requires that the board "shall draft a master plan for harbor and port improvement and for the use of all of the tidelands and submerged lands which shall be conveyed to the district pursuant to the provisions of this act."

[7] In 1972, the State of California adopted a Coastal Initiative (Proposition 20) that established temporary regional coastal commissions and one statewide commission. These commissions were tasked with preparing a coastal plan with coastal policy and planning recommendations for the State. The Coastal Plan was certified in 1975, and many of these recommendations were brought forward into the Coastal Act, including the establishment of CCC. Part IV of the 1975 Coastal Plan provided specific policy recommendations to each region, with accompanying maps (refer to Figure 1.2 of the proposed PMPU, San Diego Region Map from 1975 Coastal Plan) that identify various landmarks and coastal resources. Chapter 8 (titled "Ports") of the Coastal Act describes these maps as a resource for identifying wetland, estuary, and recreation areas in the Coastal Zone. The San Diego region map is still used in coastal development permitting today for the District because all development proposed in the identified wetlands, estuary, and recreation areas in Figure 1.2 of the proposed PMPU must comply with policies in Chapters 3 and 8 of the Coastal Act.

In addition, Section 87, part (a), of the Port Act defines allowable uses that may occur on tidelands. These include harbors and all necessary structures or appliances necessary, or convenient, for the promotion and accommodation of commerce and navigation; commercial and industrial uses; airport, heliport, or other aviation facilities, including runways, terminal buildings, roadways, and other facilities; highways, streets, roadways, bridges, belt line railroads, parking facilities, power, telephone, telegraph or cable lines or landings, water and gas pipelines, and other facilities; public buildings, public assembly and meeting places, convention centers, parks, playgrounds, bathhouses and bathing facilities, and golf courses; small boat harbors and marinas, aquatic playgrounds and similar recreational facilities, snack bars, cafes, restaurants, motels, launching ramps, storage sheds, boat repair facilities, administration buildings, public restrooms, bait and tackle shops, chandleries, boat sales establishments, service stations and fuel docks, yacht club buildings, parking areas, pedestrian ways, and landscaped areas. Accordingly, under the Port Act, the PMP is the mechanism that dictates where such allowable uses are to be located and how they shall be improved.

Local

San Diego Unified Port District Port Master Plan

The San Diego Unified Port District Act (Port Act), adopted in 1962, gives the District authority for the development, operation, maintenance, control, regulation, and management of the tidelands and lands underlying the inland navigable waters of San Diego Bay. The District PMP is the guiding land use policy document for all areas under the District's jurisdiction. The PMP was developed consistent with the Public Trust Doctrine and in accordance with the provisions of the CCA. Under the PMP, the District has permitting authority and the ability to issue CDPs.

Goals in the PMP that are applicable to the project include the following:

- 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.
- 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.
- 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.
    - 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.
- Goal VIII: The Port District will enhance and maintain the Bay and tidelands as an attractive physical and biological entity.
    - 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.
    - 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.
- Goal X: The quality of water in San Diego Bay will be maintained at such a level as will permit human water contact activities.
    - 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.

  - Adopt ordinances and take other legal and remedial action to eliminate sources of pollution.
- 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.
  - Identify existing and potential assets.
  - Keep appraised of the growing body of knowledge on ecological balance and interrelationships.
  - Administer the natural resources so that impacts upon natural resource values remain compatible with the preservation requirements of the Public Trust.

Pursuant to Section 30711 of the Coastal Act, because the project is considered a "non-appealable," and not an "appealable," project for District 5, which is provided as Table 17 of the PMP.

Values and standards in the PMPU that are applicable to the project include the following:

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 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.

Planning principles in the PMP that are applicable to the project include the following:

1. Honor the water. Future decisions shall consider the health of the entire Bay ecosystem as a single, multifaceted 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.
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.

Related to the PMP, Table 4.11-1 analyzes the proposed project's consistency with the applicable PMP goals, objectives, and policies,

Naval Air Station North Island Airport Land Use Compatibility Plan

The NASNI ALUCP is a guiding document for development of the airport and surrounding areas in a manner that protects public health, safety, and welfare. As designated in the ALUCP, the project site is within the airport influence area and in the airspace protection area for the NASNI (SDCRAA 2020: Exhibit 3). Also, as seen in Exhibit 4, Safety Zones and Noise Contours, the project site is located outside the outer boundary of all safety zones and outside of the 60 A-weighted decibel (dBA) community noise equivalent level (CNEL) noise contour, and the Threshold Siting Surfaces (SDCRAA 2020). The significance of Threshold Siting Surfaces is that it defines critical airspace that must

be protected to allow for safe approaches to runways, and any objects penetrating the Threshold Siting Surfaces would cause the runway thresholds to be further displaced, reducing available landing distances (SDCRAA 2020). Given its location, the project does not have the potential to experience a safety hazard or excessive noise from NASNI, but is within the boundary for which airspace protection and overflight polices and standards apply. The project site is also within the FAA airspace protection boundary pursuant to Federal Aviation Regulations, Part 77 (SDCRAA 2014: Exhibit 4-1).

San Diego International Airport Land Use Compatibility Plan

The SDIA ALUCP is a guiding document for development of the airport and surrounding areas in a manner that protects public health, safety, and welfare. As designated in the SDIA ALUCP, the project site is within the airport influence area and within the airspace protection boundary for the SDIA (SDCRAA 2014: Exhibit 1-1). The project site is in an area where the airspace protection and overflight policies and standards apply. The project site is also within the FAA airspace protection boundary pursuant to Federal Aviation Regulations, Part 77 (SDCRAA 2014: Exhibit 4-1).

San Diego Bay Integrated Natural Resources Management Plan

The San Diego Bay INRMP is a long-term strategy, sponsored by the U.S. Navy and the District, that is intended to provide direction for the good stewardship of natural resources, while also supporting the ability of the U.S. Navy and District to meet their missions and continue functioning within the San Diego Bay (NAVFAC and POSD 2013). The stated goal of the INRMP is "to ensure the long-term health, restoration, and protection of San Diego Bay's ecosystem in concert with the bay's economic, Naval, navigational, recreational, and fisheries needs." Table 1-5 of the INRMP summarizes the INRMP objectives. The INRMP objectives that are applicable to the project include the following:

- **Objective 4.3.7:** Artificial Shoreline Structures. Through engineering solutions, minimize the use of shoreline stabilization structures that impact or replace natural intertidal habitats, and maximize the value and function that necessary artificial structures contribute to the Bay ecosystem.
- **Objective 5.1.2:** Sustainable Resource Use and Development. Sustain natural resources and Port and Navy institutional missions into the future without decline to natural resource assets or compromising the ability to grow those assets, by enabling innovation in planning, design, project management, and implementation.
- **Objective 5.2.3**: Shoreline Construction. Seek improved habitat value of developed shorelines and marine structures and their functional contribution to the ecosystem.
- **Objective 5.2.4:** Water Surface Use and Shoreline Disturbance. Properly balance the various surface uses of the Bay as a navigable waterway and associated shorelines with conservation priorities for waterbirds and shorebirds.
- **Objective 5.3.2.1:** Industrial. Reduce and minimize stormwater pollutants harmful to the Bay's ecosystem from entering the Bay from watershed users.
- **Objective 5.4.1:** Remediation of Contaminated Sediments. Ensure that San Diego Bay finfish and shellfish are safe to eat, that the food web is not adversely altered and that risks are minimized to recreational and commercial water contact users from the effects of contaminated sediment.
- **Objective 5.4.2:** Oil Spill Prevention and Clean Up. Prevent spills of oil and other hazardous substances, and ensure the effectiveness of prevention and response planning.
- **Objective 5.5:** Cumulative Effects. Minimize adverse cumulative effects on habitats and species of the Bay ecosystem.

4.11.3 Discussion

a) Would the project physically divide an established community?

No Impact. Construction of the proposed rock revetment would primarily be confined to the boundaries of the shoreline area directly in front of the two residences, and construction activities would be completed on the waterside (in-water and/or overwater) in the load/unload zone. The project does include improvements to the shoreline adjacent to the residences along First Street, including new substrate and rock revetment. Construction staging would remain within the shoreline work area in front of the residences, so staging area would not physically divide an established community. Further, it would be short term and temporary, only existing for the duration of construction activities. Therefore, no impact would occur.

b) Would the project cause a significant environmental impact which has not already been disclosed elsewhere in this IS/MND due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect ?

Less-than-Significant Impact. The proposed project is consistent with the water use designation in the PMP of Open Bay and pursuant to Section 30711 of the Coastal Act, the project is considered a "non-appealable," and not an "appealable," project for a CDP.

The project would not affect coastal access because it would not decrease the availability of existing parking or alter existing any designated scenic vistas. Therefore, the project would be consistent with the goals, policies, and objectives outlined in the PMP, which were developed in accordance with the requirements of the CCA and Public Trust Doctrine. Furthermore, the project would include measures to reduce impacts on biological resources and water quality (see Section 4.4, Biological Resources, and Section 4.10, Hydrology and Water Quality, for more information).

For the reasons described above and as demonstrated in Table 4.11-1 below, the proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant.

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
California Coastal Act, Chapter 3, Coastal Resources Planning and Management Polices	
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.	**Consistent.** The proposed project would replace the existing rock revetment and would not change the existing landside public access in the area from First Street to the shoreline. There is adequate access nearby at The sandy beach, located just north of the foot of E Street and Orange Avenue provides public access consistent with the existing recreational use. Existing uses include a shoreline park and promenade, the automobile parking areas, retail complex, and a combined public fishing and bicycle/pedestrian ferryboat docking pier at the foot of B Avenue. Shoreline promenade utilizes the public corridor,

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
	which follows along Orange Avenue extended through the proposed residential development. This cone-shaped access and vista corridor widens toward the bay from First Street, along Orange Avenue extended, and crosses Portland to serve the bayfront bicycle/pedestrian system, connecting the shoreline path's terminus to a major city street. View corridors are maintained along extensions of Orange, B and C Avenues.
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: (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. (b) It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution. Nothing in this section or any amendment thereto shall be construed as a limitation on the rights guaranteed to the public under Section 4 of Article X of the California Constitution. (c) In carrying out the public access policies of this article, the commission and any other responsible public agency shall consider and encourage the utilization of innovative access	Consistent. The project site contains a rock revetment and is topographically and geologic site characteristics would not provide public access (see Section 4.7, Geology and Soils). The existing waterside promenade to the east of the project site at the foot of E Avenue would not be hindered by the proposed project and waterside access would remain as it exists today replacement of the existing rock revetment. The proposed project is the replacement of an existing rock revetment and does not change the existing public access features to the east and west of the site. In addition, the rock revetment is consistent with the existing operation of the site.

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
management techniques, including, but not limited to, agreements with private organizations which would minimize management costs and encourage the use of volunteer programs.	
Section 30222. The use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over private residential, general industrial, or general commercial development, but not over agriculture or coastal-dependent industry.	**Not applicable.** The project site contains rock revetment on oceanfront land that is adjacent to private residences. The project does not propose visitor-serving commercial recreational facilities and does not hinder existing public facilities for coastal recreation to the east and west of the project site.
Section 30232. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.	**Consistent**. The proposed project does not propose any new expanded activities involving hazardous substances. The project's Construction BMP Plan would also have several BMPs to prevent or protect against spillage of these substances such as requiring the use of appropriate containers, the use of equipment bibs to prevent spills, and other good housekeeping measures on all areas.
Section 30233. (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: (l) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities. (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps. (3) In open coastal waters, other than wetlands, including streams, estuaries, lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that would provide public access and recreational opportunities. (4) Incidental public service purposes, including but not limited to, burying cables and pipes or	**Consistent.** The project does not propose any diking or dredging ~~of open coastal waters, wetlands, estuaries, and lakes~~. ~~However~~While the project proposes replacement of fill materials~~, the proposed project~~ the project would result in a net decrease of fill ~~in~~to bay waters ~~in the form of~~ ~~249~~280 cubic yards ~~of rock revetment to support the rock revetments,~~ as discussed in Section 2.1.6, Overwater Coverage and Fill, ~~4.7, Geotechnical and Soils~~. ~~However,~~ this project is being proposed to ~~restore~~repair and replace-in-kind existing rock revetment that has settled and to bring it up to its design plan. The project is also the least environmentally damaging feasible alternative. Without the project, existing revetment would continue to erode with the potential for urban runoff, including materials used to treat landscaping and the adjacent pool liquids flowing into the San Diego Bay. The replacement of the revetment with less fill than existing would avoid this impact. Additionally, a more intensive repair of the revetment would result in more fill in the Bay than the proposed project. It likely would require a similar construction timeline and materials, and would continue to have one property's revetment at a higher elevation, which could cause future flooding on the property with the shorter revetment.

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
inspection of piers and maintenance of existing intake and outfall lines. (5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas. (6) Restoration purposes. (7) Nature study, aquaculture, or similar resource dependent activities.	Hence, the proposed project is the least environmentally damaging feasible alternative. Moreover, mitigation measures and conditions will be included in the CDP for the project, which minimize adverse environmental effects, including construction BMPs (as special conditions to the CDP). As discussed in Section 4.4, Biological Resources, MM-BIO-1 through MM-BIO-5 would be required to minimize adverse environmental effects to biological resources. In addition, as discussed in Section 4.13, Noise and Vibration, MM-NOI-1 would be required for the proposed project to eliminate or reduce construction noise impacts on the residences off First Street to the east and west of the project site in the City of Coronado. Furthermore, the project would require a CDP, which would be conditioned to ensure compliance with the Coastal Act. With implementation of these mitigation measures ~~within this IS/MND~~, the CDP conditions and the mandatory regulatory compliance, any adverse environmental effects associated with ~~fill~~replacement ~~from~~ of the ~~additional~~existing rock revetment would be reduced to less than significant. ~~In light of the location of the project and the nature of the proposed construction activities, there is no feasible less environmentally damaging alternative and feasible mitigation measures have been provided and regulatory permit conditions will~~would be imposed to minimize adverse environmental ~~effects~~.
Section 30233. (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, 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.	**Consistent.** The proposed project would involve replacement-in-kind of a rock revetment on the watercourse at an appropriate point on the shoreline of San Diego Bay consistent with the rock revetment that currently exists along the shoreline ~~to provide erosion and flood control facilities~~. As discussed in Section 4.4, Biological Resources, MM-BIO-1 through MM-BIO-5 have been required and Construction BMPs have been designed into the project to minimize adverse environmental effects.

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
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	**Consistent.** The proposed project would include the replacement of an existing rock revetment on an area that has already has an altered shoreline. ~~This replacement is needed to protect the existing shoreline and structures in danger of erosion.~~ The proposed rock revetment has been designed to eliminate or mitigate adverse impacts on local shoreline sand supply and would not contribute to water stagnation or pollution problems and fishkills in the area.
Section 30240. (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.	**Consistent.** As discussed in Section 4.4, Biological Resources, the project would involve construction work within areas containing open water habitats. MM-BIO-1 through MM-BIO-5 would be required to ensure no net loss of environmentally sensitive habitat or substantial degradation of environmentally sensitive habitat areas. Construction BMPs have also been designed into the project to also help prevent loss of environmentally sensitive habitat.
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.	**Consistent.** As discussed in Section 4.7, Geology and Soils, and Section 4.5, Cultural Resources, the project would have less-than-significant impacts on paleontological and/or archaeological resources.
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.	**Consistent.** As discussed in Section 4.1, Aesthetics, the proposed project would result in less-than-significant impacts on the scenic and visual qualities of the site and surrounding area.
Section 30253. New development shall do all of the following:	**Consistent.** The proposed project involves the replacement of existing rock revetment along the waterfront. The proposed project would not increase risks to life and property due to geologic or fire hazards and would decrease

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.	risks to life and property due to flood hazards (see Section 4.7, Geology and Soils; Section 4.9, Hazards and Hazardous Materials; Section 4.10, Hydrology and Water Quality; and Section 4.20, Wildfire).
(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.	**Consistent.** The project site is located along a human-made shoreline and is not located along a natural bluff or cliff. The project is replacing existing rock revetment with new rock revetment ~~that will continue preventing erosion of the existing shoreline~~ and is a replacement-in-kind (see Section 4.7, Geology and Soils).
(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.	**Consistent.** As analyzed in Section 4.3, Air Quality, the project would be consistent with the Regional Air Quality Strategy and the state implementation plan.
d) Minimize energy consumption and vehicle miles traveled.	**Consistent.** As noted above, the proposed project would result in minor increase in energy consumption during construction (see Section 4.6, Energy) and would not result in any impacts related to vehicle miles traveled (see Section 4.17, Transportation).
California Coastal Act, Chapter 8, Ports	
Section 30708. All port-related developments shall be located, designed, and constructed so as to: Minimize substantial adverse environmental impacts.	**Consistent.** As documented throughout this IS/MND, the project would minimize substantial adverse environmental impacts through the implementation of mitigation measures, construction BMPs and consistency with existing regulations.
Minimize potential traffic conflicts between vessels.	**Consistent.** The proposed project would involve the replacement of existing rock revetment along the existing shoreline. The project would result in a temporary and minor increase in vessel traffic during construction activities (for delivery of the construction materials and rock revetment 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 U.S. Coast Guard and would adhere to the provisions of the Harbor Safety Plan.
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.	**Consistent.** The proposed project would involve the replacement of existing rock revetment along the existing shoreline. The new rock revetment would not interfere with high priority navigational or shipping, uses support District purposes, including naval and commercial shipping uses.
Provide for other beneficial uses consistent with the public trust, including, but not limited to,	**Consistent.** The proposed project involves the replacement of existing rock revetment along the existing waterfront and is not appropriate for recreation uses. The proposed rock

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
recreation and wildlife habitat uses, to the extent feasible.	revetment is appropriate for intertidal wildlife habitat uses. The project would be consistent with the public trust commitments of the District.
Port Master Plan – Section II	
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.	**Consistent.** The proposed project would provide for present use and enjoyment of the Bay and tidelands by continuing to protect the existing shoreline to the Bay. The new rock revetment would prevent erosion and help deter flooding in the area. The project would also not hinder any existing public access area to the east and west of the site, which provide enjoyment of Coronado and the Bay.
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.	**Consistent.** The new rock revetment would prevent erosion and deter flooding of the area from wave action. In addition, the new rock revetment would replace deteriorating construction materials that are currently being used as revetment that would improve the aesthetic of the Bay. Thus, the proposed project would provide new aesthetic opportunities as compared to the existing rock revetment.
Goal III. The Port District will assume leadership and initiative in determining and regulating the use of the bay and tidelands. ▪ 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.	**Consistent.** The new rock revetment would replace the existing rock revetment. Construction of the new rock revetment would provide some additional temporary jobs to the local economy during construction.
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. ▪ 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 preservation of lands in their natural state, the reclamation of tidelands, the construction of facilities, and the promotion of its use. ▪ Encourage non-exclusory uses on tidelands.	**Consistent.** The new rock revetment would continue to protect the shoreline from erosion and deter flooding at the shoreline. In addition, the project would not hinder any existing public access areas to the east and west of the project site. Therefore, the proposed project would enhance the shoreline and provide a benefit to visitors to the waterfront area.

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
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. 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.	**Consistent.** The project does not propose any change in the existing operations at the site, except for the replacement of existing rock revetment, and thus would not result in a disproportionate impact on adjacent communities. None of the project components are proposed on City of Coronado property and all construction staging would be handled on the project site on District property. In addition, the District's applicant would coordinate with adjacent communities and agencies with jurisdiction over temporary parking within the project vicinity that would be required for construction workers or some landside deliveries. In addition, as discussed in Section 4.13, Noise, MM-NOI-1 would be required for the proposed project to eliminate or reduce construction noise impacts on the residences off First Street to the east and west of the project site in the City of Coronado.
Goal VIII. The Port District will enhance and maintain the bay and tidelands as an attractive physical and biological entity. ▪ 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.	**Consistent.** The proposed project would provide for present use and enjoyment of the Bay and tidelands by continuing to protect the shoreline from erosion and flooding from wave action and not hindering any existing public access to the Bay. The new rock revetment would also improve the aesthetic quality of the Bay by removing construction debris revetment and evening up the shoreline at these two locations with the residences to the east and west. Thus, the project increases the enjoyment of Coronado and the Bay. As discussed in Section 4.1, Aesthetics, the proposed project would not affect any existing view corridors.
Goal IX. The Port District will ensure physical access to the bay except as necessary to provide for the safety and security, or to avoid interference with waterfront activities.	**Consistent.** The proposed project would provide for present use and enjoyment of the Bay and tidelands by continuing not to hinder public access to the Bay to the east and west of the Bay and improving the aesthetic quality of the Bay by removing the existing construction debris and matching the existing shorelines to the north and south. The project would also not hinder any existing public access areas to the east and west that allows enjoyment of the Coronado and the Bay. As discussed in Section 4.1, Aesthetics, the proposed

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
▪ 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.	project would not affect any existing view corridors or windows to the water. The project would also not provide any barricades during construction as all construction staging would occur on the project site area and would not require detours around any landside areas.
Goal X. The quality of water in San Diego Bay will be maintained at such a level as will permit human water contact activities. ▪ 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. Adopt ordinances and take other legal and remedial action to eliminate sources of pollution.	**Consistent.** The proposed project would involve in-water construction activities and minor disturbance to the Bay floor during the barge spudding activities, which could increase the opportunity for debris or pollutants to enter into the Bay. However, the proposed project has been designed to implement construction BMPs to ensure that project-related impacts on water quality would be less than significant. These BMPs would include Construction BMP plan as described in Section 4.10, Hydrology and Water Quality. These measures would ensure that the water quality of the Bay would be protected during project construction.
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. ▪ Promote and advance public knowledge of natural resources through environmental educational materials. ▪ Identify existing and potential assets. ▪ Keep appraised 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.	**Consistent.** As detailed in Section 4.4, Biological Resources, the proposed project would be required to implement MM-BIO-1 through MM-BIO-5, which include implementation of construction measures to protect eelgrass and other sensitive species. As a result, the proposed project would not conflict with the protection of any natural plant and animal life in the Bay.

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
CCC: Sea Level Rise Policy Guidance	
Determine range of sea level rise projections relevant to LCP planning	**Consistent:** As discussed in Section 4.10, Hydrology and Water Quality, A Sea Level Rise Vulnerability Assessment was prepared by Dudek in July 2025 for the proposed project and is included as Appendix D. The assessment analyzed sea level rise projections for the years 2060, 2075, and 2100, and mapped coastal hazards under sea level rise values of 1.6, 2.5, and 4.9 feet. The assessment found that the project site is located in a coastal area at significant risk of future SLR, and that this project plays a critical role in stabilizing the shoreline and mitigating sea level rise hazards. The Sea Level Rise Vulnerability Assessment also determined that the revetment structure is not the primary shoreline structure responsible for preventing coastal flooding due to sea level rise. The revetment is backed by existing hardscape that is just beyond the Port's jurisdiction and extends multiple feet above the crest of the ~~new~~replacement revetment's base layer; therefore, the revetment has no effect on sea level rise flooding or other flooding scenarios. The rock revetment would continue preventing erosion of the shoreline due to breaking waves. This revetment project would have a net positive effect on mitigating flooding hazards due to sea level rise by stabilizing the shoreline, which both prevents flooding and helps protect critical evacuation routes from Coronado.
Identify potential sea level rise impacts in LCP planning	**Consistent**: As discussed in Section 4.10, Hydrology and Water Quality, the project Sea Level Rise scenarios were analyzed in the Sea Level Rise Vulnerability Assessment for the years 2060, 2075, and 2100, and mapped coastal hazards under sea level rise values of 1.6, 2.5, and 4.9 feet. The assessment found that the project site is located in a coastal area at significant risk of future SLR, and that this project plays a critical role in stabilizing the shoreline and mitigating sea level rise hazards. The Sea Level Rise Vulnerability Assessment also determined that the revetment structure is not the primary shoreline structure responsible for preventing coastal flooding. The revetment is backed by existing hardscape that is just beyond the Port's jurisdiction and extends multiple feet above the crest of the ~~new~~replacement revetment's base layer; therefore, the revetment has no effect on sea level rise flooding or other flooding scenarios. The rock revetment would continue preventing erosion of the shoreline due to breaking waves. This revetment project would have a net positive effect on mitigating flooding hazards due to sea level rise by stabilizing the shoreline, which both prevents

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
	flooding and helps protect critical evacuation routes from Coronado.
Assess potential risks from sea level rise to coastal resources and development in LCP planning area	**Consistent:** As discussed in Section 4.10, Hydrology and Water Quality, the project Sea Level Rise scenarios were analyzed relevant to the PMP. The Sea Level Rise Vulnerability Assessment determined that the revetment structure is not the primary shoreline structure responsible for preventing coastal flooding. The revetment is backed by existing hardscape that is just beyond the Port's jurisdiction and extends multiple feet above the crest of the ~~new~~replacement revetment's base layer; therefore, the revetment has no effect on sea level rise flooding or other flooding scenarios. The rock revetment would continue preventing erosion of the shoreline due to breaking waves. This revetment project would have a net positive effect on mitigating flooding and tsunami hazards by stabilizing the shoreline, which both prevents flooding and helps protect critical evacuation routes from Coronado.
Identify LCP adaptation strategies to minimize risks	**Consistent:** As discussed in Section 4.10, Hydrology and Water Quality, the project Sea Level Rise scenarios were analyzed relevant to the PMP. The Sea Level Rise Vulnerability Assessment determined that the revetment structure is not the primary shoreline structure responsible for preventing coastal flooding. The revetment is backed by existing hardscape that is just beyond the Port's jurisdiction and extends multiple feet above the crest of the ~~new~~replacement revetment's base layer; therefore, the revetment has no effect on sea level rise flooding or other flooding scenarios. The rock revetment would continue preventing erosion of the shoreline due to breaking waves. This revetment project would have a net positive effect on mitigating flooding and tsunami hazards by stabilizing the shoreline, which both prevents flooding and helps protect critical evacuation routes from Coronado.
San Diego Integrated Natural Resources Management Plan	
Objective 4.1.1 Retain sufficient deep subtidal habitat to support safe navigation, good water quality, and physical biological functioning in balance with the need for other habitat types in the bay.	**Consistent.** As discussed in Section 4.4, Biological Resources, the project would involve replacement of existing rock revetment with new rock revetment. The project has been designed with materials and construction BMPs that retain sufficient deep subtidal habitat to support safe navigation, good water quality, and physical biological functioning in balance with the need for other habitat types in the bay. The proposed project is not expected to substantially change the ecosystem composition or result in a net loss of resources for birds, green sea turtles, fish, and marine mammals. Therefore, the proposed project would

Table 4.11-1. SLPR-Arendsee Rock Revetment Replacement Project Consistency with Relevant Goals, Objectives, and Policies

Goal, Policy, Objective	Proposed Project Consistency
	not impede implementation of the INRMP and is consistent with the plan.
Objective 4.4.1 Minimize the harmful ecological, economic, and human health of aquatic invasive species in San Diego Bay.	**Consistent.** As discussed in Section 4.4, Biological Resources, the project would involve construction work within areas containing open water habitats. MM-BIO-1 through MM-BIO-5 would be required to minimize the ecological, economic and human health of aquatic invasive species in San Diego Bay.
Objective 4.4.5 Maintain a healthy balance of marine mammal species inhabiting or visiting San Diego Bay.	**Consistent.** As discussed in Section 4.4, Biological Resources, the project would involve construction work within areas containing open water habitats. MM-BIO-1 through MM-BIO-5 would be required to ensure a healthy balance of marine mammal species inhabiting or visiting San Diego Bay would continue.

Port Act/California Public Trust Doctrine

The proposed project complies with Section 87.(a)(1) of the Port Act, which allows for the establishment, improvement, and conduct of a harbor, and for the construction, reconstruction, repair, maintenance, and operation of wharves, docks, piers, slips, quays, and all other works, buildings, facilities, utilities, structures, and appliances incidental, necessary, or convenient, for the promotion and accommodation of commerce and navigation. The Port Act was enacted by the California Legislature and is consistent with the Public Trust Doctrine. Consequently, the proposed project is consistent with the Public Trust Doctrine.

NASNI and San Diego International Airport Land Use Compatibility Plan

The project is not within the safety zones or noise contours of either airport, but is within the airport influence area of both. In accordance with Federal Aviation Regulations, Part 77, the FAA would be notified at least 45 days prior to construction because project construction would introduce temporary objects (e.g., construction equipment, work barges, derrick barges) in proximity to both airports. 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. In addition, the project would be consistent with and/or would comply with the airspace protection and overflight policies and standards that apply. Therefore, the project would be consistent with the ALUCP and would not pose an obstruction or hazard to air navigation.

Natural Resources Management Plans

There are no habitat conservation plans or natural community conservation plans that apply to the project site. However, there is the San Diego Bay Natural Resources Management Plan. As discussed in Section 4.4, Biological Resources, the project would include mitigation measures to reduce impacts on marine habitats and species during construction activities. In addition, as discussed in Section 4.10, Hydrology and Water Quality, the project would include construction BMPs to protect water quality during construction activities. Because the project includes measures to reduce impacts on the San Diego Bay's natural resources, the project would be consistent with the

goal and objectives of the San Diego Bay INRMP, as summarized in Table 4.11-1 above. Therefore, the project would not conflict with a natural resources management plan.

Summary

As discussed above, the project would not result in any changes in existing land or water uses. Rather, the project would result in on-site improvements that would ensure the continued use of the project site. SLPR-Arendsee would be required to obtain all necessary approvals from agencies governing land use of the project site, including the District. Therefore, the project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant.

Required Mitigation Measures

The project would not result in significant impacts associated with land use. Mitigation measures are not required.

4.12 Mineral Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

4.12.1 Environmental Setting

The Surface Mining and Reclamation Act directs the State Geologist to identify and map the non-fuel mineral resources of the state to show where economically significant mineral deposits occur and where they are likely to occur based on the best available scientific data. Areas known as Mineral Resource Zones (MRZs) are classified on the basis of geologic factors, without regard to existing land use and land ownership. The areas are categorized into four general classifications (MRZ-1 through MRZ-4). Of the four, the MRZ-2 classification is recognized in land use planning because the likelihood for occurrence of significant mineral deposits is high, and the classification may be a factor in the discovery and development of mineral deposits that would tend to be economically beneficial to society.

Because the project site is entirely along the shoreline, it is not classified as being within an MRZ (DOC 2025). Lands adjacent to the planning area are classified as MRZ-1, which indicates no significant mineral deposits in those areas. As such, the planning area is not designated as a locally important mineral resource recovery site in the City of Coronado General Plan Conservation Element (City of Coronado 1994).

4.12.2 Discussion

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. As depicted in Figure 2 of the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Mineral Resources (County of San Diego 2008), the project site is within Mineral Resource Zone 3 (MRZ-3). MRZ-3 is defined as areas containing known or inferred mineral occurrences of undetermined mineral resource significance. The project site is currently developed with residential and marine-related commercial land uses and parks that are incompatible with mineral extraction. Development of the project would not result in the loss of a known mineral resource. Furthermore, development of the project would not preclude the discovery of previously unidentified mineral resources in the future. There would be no impacts to known mineral resources that would be of value to the region or the state.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. As discussed under Section 4.12.3(a), the project site is within MRZ-3, which is defined as areas containing known or inferred mineral occurrences of undetermined mineral resource significance. No mineral extraction activities occur on or adjacent to the project site, and no known mineral resources are present on site. Therefore, there would be no impacts associated with the loss of availability of a locally important mineral resource recovery site.

Required Mitigation Measures

The project would not result in significant impacts associated with mineral resources. Mitigation measures are not required.

4.13 Noise

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE – Would the project result in:				
a) 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?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

4.13.1 Environmental Setting

Noise Fundamentals

Sound may be described in terms of level or amplitude (measured in decibels [dB]), frequency or pitch (measured in hertz (Hz) or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the amplitude of sound is the decibel. Because the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is used to relate noise to human sensitivity. The dBA scale performs this compensation by discriminating against low and very high frequencies in a manner approximating the sensitivity of the human ear. Several descriptors of noise (noise metrics) exist to help predict average community reactions to the adverse effects of environmental noise, including traffic-generated noise, on a community. These descriptors include the equivalent noise level over a given period (Leq), the statistical sound level (Ln), the day–night average noise level (Ldn), and the CNEL. Each of these descriptors uses units of dBA.

L_{eq} is a sound energy level averaged over a specified time period (typically no less than 15 minutes for environmental studies). L_{eq} is a single numerical value that represents the amount of variable sound energy received by a receptor during a time interval. For example, a 1-hour L_{eq} measurement would represent the average amount of energy contained in all the noise that occurred in that hour. L_{eq} is an effective noise descriptor because of its ability to assess the total time-varying effects of noise on sensitive receptors. L_{max} is the greatest sound level measured during a designated time interval or event.

Unlike the L_{eq} metrics, L_{dn} and CNEL metrics always represent 24-hour periods, usually on an annualized basis. L_{dn} and CNEL also differ from Leq because they apply a time-weighted factor designed to emphasize noise events that occur during the evening and nighttime hours (when speech and sleep disturbance is of more concern). “Time weighted” refers to the fact that Ldn and CNEL penalize noise that occurs during certain sensitive periods. In the case of C_{NEL}, noise occurring during the daytime (7:00 a.m.–7:00 p.m.) receives no penalty. Noise during the evening (7:00 p.m.–10:00 p.m.) is penalized by adding 5 dB to each of the measured hourly L_{eq}, and nighttime (10:00 p.m.–7:00 a.m.) noise is penalized by adding 10 dB to each of the measured hourly L_{eq}. L_{dn} differs from CNEL in that the daytime period is defined as 7:00 a.m.–10:00 p.m., thus eliminating the evening period. L_{dn} and CNEL are the predominant criteria used to measure roadway noise affecting residential receptors. These two metrics generally differ from one another by no more than 0.5 to 1 dB.

Table 4.13-1 provides examples of A-weighted noise levels from common sounds. In general, human sound perception is such that a change in sound level of 3 dB is barely noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving of the sound level.

Table 4.13-1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
—	110	Rock band
Jet flyover at 300 meters (1,000 feet)	100	—
Gas lawn mower at 1 meter (3 feet)	90	—
Diesel truck at 15 meters (50 feet), at 80 kph (50 mph)	80	Food blender at 1 meter (3 feet) Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime gas lawn mower at 30 meters (100 feet)	70	Vacuum cleaner at 3 meters (10 feet)
Commercial area Heavy traffic at 90 meters (300 feet)	60	Normal speech at 1 meter (3 feet)
Quiet urban daytime	50	Large business office Dishwasher, next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural night time	20	Bedroom at night, concert hall (background)
—	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2013.
Notes: dBA = A-weighted decibels; kph = kilometers per hour; mph = miles per hour

Groundborne Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as blasting, pile driving, and heavy earthmoving equipment.

Several different methods are used to quantify vibration. For the assessment of vibration effects on humans and structures, Peak particle velocity (PPV) is most frequently used. PPV is defined as the maximum instantaneous peak of the vibration signal and is usually measured in inches per second (ips).

High levels of vibration may cause physical personal injury or damage to buildings. However, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect concentration or disturb sleep. In addition, high levels of vibration can damage fragile buildings or interfere with equipment that is highly sensitive to vibration (e.g., electron microscopes). Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical

outdoor sources of perceptible vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

Existing Noise Environment

The proposed project involves the removal and reconstruction of riprap revetment along the San Diego Bay frontage of two residential lots in Coronado, at 407 and 409 1st Street. Primary noise sources in the project vicinity include vehicular traffic along 1st Street, marine vessel activities in San Diego Bay, and aircraft operations at the NASNI. The project site is separated from the eastern boundary of the air station facility by six residential lots.

Represented by locations ST-1 and ST-2 in Table 4.13-2, the existing outdoor ambient sound environment of the project site and vicinity were characterized during a field survey conducted on May 16, 2025. Collected sample sound pressure level measurements at these locations, along with documented investigator observations regarding perceived or witnessed acoustical contributors to this baseline or pre-project noise environment, appear in Table 4.13-2. Photographs, tagged survey positions, and instrument details can be found in Appendix E, Noise Modeling Outputs.

Table 4.13-2. Measured Existing Outdoor Ambient Sound Levels

Survey Position	Description/Address	Time (hh:mm)	L_{eq} (dBA)	L_{max} (dBA)	L_{min} (dBA)	Notes (observed sound sources)
ST-1	Along 1st Street in front of adjacent residence to the west of project.	5/16/25, 11:22 a.m. – 11:37 a.m.	66	77	46	distant traffic, birds, leaves rustling, golfer speech, golf club strike on ball
ST-2	Along the top of the riprap revetment at adjacent residence to the east of project.	5/16/25, 11:03 a.m. – 11:18 a.m.	48	51	46	Waves against riprap, distant industrial noise from North Island, speaker noise with music and voices from across the bay

Source: Appendix E
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; L_{min} = minimum sound level during the measurement interval; dBA = A-weighted decibels.

Sensitive Receptors

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would be considered noise- and vibration-sensitive and may warrant unique measures for protection from intruding noise.

Sensitive receivers near the project site consist of residences located immediately to the west and east, and across 1st Street to the south. The boundary of the future construction zone for the project would extend to within 40 feet of the residential property to the west (401 1st Street) and to within 35 feet of the residential property to the east (411 1st Street).

4.13.2 Regulatory Setting

Federal

Federal Transit Administration

In its Transit Noise and Vibration Impact Assessment Guidance Manual (FTA 2018), the Federal Transit Administration recommends 0.2 ips PPV as the structural damage threshold for typical residential buildings. Although this Federal Transit Administration guidance is not a regulation, it can serve as a quantified standard in the absence of such limits at the state and local jurisdictional levels.

State

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, declares that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also identifies a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Department of Transportation Vibration Standards

Caltrans conducted extensive research on human annoyance and damage to structures caused by vibration from short-term construction activities and from long-term highway operations and has published criteria for vibration management (Caltrans 2020). These criteria established by Caltrans are commonly used to assess vibration impacts from all types of projects and activities. Caltrans uses a threshold of 0.2 inches/sec PPV for annoyance to persons (which equates to a distinctly perceptible level). For residential structures employing concrete foundation and wood frame construction, Caltrans identifies a conservative damage threshold vibration level standard of 0.3 inches/sec PPV (Caltrans 2020).

Local

City of Coronado General Plan Noise Element

Figure 8 of the Noise Element (Impact Interpretation for Residential and Other Land Uses) indicates exterior noise exposure levels for residential land uses up to 65 dBA CNEL are considered “Normally Acceptable.” Also for residential land uses, exterior noise exposure levels from 65 – 75 dBA CNEL are considered “Normally Unacceptable” while those above 75 dBA CNEL are considered “Clearly Unacceptable” (City of Coronado 1999)

City of Coronado Municipal Code

Unless allowed by permit approved by the City’s Noise Control Officer (NCO), CMC Section 41.10.040 prohibits construction activities between 7:00 p.m. and 7:00 a.m. on Mondays through Saturdays, and all day and night on Sundays and legal holidays. On allowable days from 7:00 a.m. to 7:00 p.m., CMC 41.10.050 sets a limit of 75 dBA hourly Leq at or within residentially zoned property

4.13.3 Discussion

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Temporary Construction Noise

Less-than-Significant Impact with Mitigation Incorporated. Excavation and construction activities would generate temporary noise in the vicinity of the project site. Noise levels and potential noise-related impacts at residential properties adjacent to the project site depend on three factors: (1) the location and type of noise-generating equipment (source); (2) the distance between the noise sources and sensitive receptors; and (3) the obstacles or barriers between the noise sources and sensitive receptors that may attenuate (reduce) noise exposure levels at the receivers. The nearest sensitive receivers are the residential property to the west (401 1st Street, within 40 feet of the future construction boundary) and the residential property to the east (411 1st Street, within 35 feet of the future construction boundary). To estimate noise levels at these two receivers, a worst-case "noise-producing" scenario (requiring the most equipment/ vessels in operation) was calculated based on: construction equipment and vessel noise levels during project deployment (delivery of equipment), excavation, revetment reconstruction, and project close-out (retrieval of equipment); the percent usage factor for each piece of equipment or vessel; and the distance between each noise-generating piece of equipment or vessel and the sensitive receiver using the Federal Highway Administration Roadway Construction Noise Model.

Table 4.13-3 shows the reference noise levels at 50 feet from the source for the types of equipment associated with the project under the modeled scenarios, as well as the expected percent usage factor for each given phase.

Table 4.13-3. Noise Levels at 50 Feet from Typical Project Equipment

Equipment Type (Quantity)	Noise Level (L_{max}) at 50 Feet (dBA)	Percent Usage Factor (%)
Deployment Phase		
Tugboat (1)	82	50
Excavator (1)	81	10
Excavation Phase		
Excavator (1)	81	40
Crane (1)	81	40
Tugboat	82	50
Tugboat Generator	72	50
Revetment Construction		
Excavator (1)	81	45
Crane (1)	81	40
Tugboat	82	50
Tugboat Generator	72	50

Table 4.13-3. Noise Levels at 50 Feet from Typical Project Equipment

Equipment Type (Quantity)	Noise Level (L_{max}) at 50 Feet (dBA)	Percent Usage Factor (%)
Project Close-Out		
Tugboat (1)	82	50
Excavator (1)	81	10

Source: Noise levels except tugboat from the Roadway Construction Noise Model (FHWA 2006). Noise levels for tugboat from the California State Lands Commission (CSLC 2004)
Notes: L_{max} = maximum sound level of equipment at full throttle; dBA = A-weighted decibels.

Given the information above, noise levels from project construction activities were calculated for the closest residence west (R1) and east (R2) of the project. Table 4.13-4 presents the estimated construction noise level (hourly Leq) at the neighboring residences for each anticipated phase of activity. The assessment was performed for worst-case construction noise conditions (i.e., using the distance from the closest construction boundary to the nearest off-site residence). In reality, construction activities would take place across the entire construction zone, with greater separation distances from operating equipment and neighboring receivers. Details of these predictions in Appendix E show the expected acoustical contribution from each type of operating construction equipment for each phase.

Table 4.13-4. Predicted Per Phase Construction Noise Levels at Closest Adjacent Residences

Construction Phase	Noise Level at West Adjacent Residence 401 1st Street (R1) dBA L_{eq}	Noise Level at East Adjacent Residence - 411 1st Street (R2) dBA L_{eq}
Deployment Phase	73	74
Excavation Phase	80	81
Revetment Construction	81	82
Project Close-Out	73	74

Source: Appendix E
Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); dBA = A-weighted decibels.

Noise levels at the immediately adjacent residential property to the west and at the immediately adjacent residential property to the east during the excavation phase and revetment construction phase of the project would exceed the City's 75 dBA hourly L_{eq} threshold during allowable construction hours and would thus create the potential for a significant impact requiring mitigation. Construction noise exposure for residents using outdoor spaces of the adjacent residential properties would not be expected to reach harmful levels (for instance OSHA requires hearing protection for noise exposure exceeding 85 dBA over an 8-hour workday).

Recent CEQA case law requires that construction noise be compared not only to adopted absolute standards, but also relative to ambient noise levels without construction. The daytime ambient noise level measured near the rear property line for one of the adjacent neighbors (ST2) was 48 dBA Leq. Thus, short-term construction noise could be as much as 34 dBA Leq above ambient noise levels. This increase would be immediately noticeable over ambient conditions and may leave to temporary annoyance. However, noise levels inside the adjacent homes would not be expected to exceed approximately 57 dBA Leq when

construction is operating along the closest construction boundary, and this level should not be disruptive for daytime household activities. Impacts inside adjacent homes are anticipated to be less than significant.

Also, CMC 41.16.010 allows variances from CMC 41.14 and thus allows the City's NCO to permit the temporary construction activities associated with the project. Therefore, MM-NOI-1 includes common best practices to reduce noise emission from construction activities and defines the conditions upon which such permits would need to be submitted to and approved by the NCO in order for these project construction activities to be considered legal temporary exceedances of the City's noise ordinance. As a result, noise impact associated with construction of the project would be less than significant with the following mitigation.

Operational Noise

Once construction is completed the project would not generate any noise. Therefore, the project would have no operational noise impacts.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. Construction vibration is temporary phenomenon. Construction vibration levels vary from hour to hour and day to day, depending on the equipment in use, the operations performed, and the distance between the source and receptor. Equipment that would be in use during project construction would include an excavator (onshore within the riprap area) and a crane (offshore, mounted on a barge). Neither Caltrans nor the Federal Transit Administration provide the vibration generation level from an excavator. The vibration level for both a heavy bulldozer and a rotary drill rig is identified as 0.089 ips PPV (FTA 2018); an excavator would have a vibration generation level less than either of these heavier equipment.

Although the CMC does not have a vibration threshold against which project construction-related groundborne vibration impacts to the community might be assessed, for purposes of this impact assessment, a vibration velocity level of 0.2 ips PPV would be adopted as the standard for evaluating human annoyance (as perceived groundborne vibration within an occupied residence) and the potential risk for residential building damage due to "continuous" or frequently occurring groundborne vibration events (Caltrans 2020).

Groundborne vibration attenuates rapidly, even over short distances. The attenuation of groundborne vibration as it propagates from source to receptor through intervening soils and rock strata can be estimated with expressions found in Federal Transit Administration (FTA 2018) and Caltrans guidance (Caltrans 2020). By way of example, for a bulldozer operating as close as 35 feet to the nearest receiving residential land use, the estimated vibration velocity level would be 0.054 ips per the equation as follows (FTA 2018):

$$PPVrcvr = PPVref * (25/D)^{1.5} = 0.089 * (25/35)^{1.5} = 0.054 \text{ ips PPV}$$

In the above equation, PPVrcvr is the predicted vibration velocity at the receiver position, PPVref is the reference value at 25 feet from the vibration source (the bulldozer), and D is the actual horizontal distance to the receiver (35 feet in this example). The shortest distance between the boundary within which an excavator would be used for project construction and the closest existing residential structure would be 35 feet. Even based on the vibration generation level for a heavier bulldozer (which would be greater than for

the proposed excavator), the calculated vibration level from construction equipment at the closest residence would be approximately 0.054 ips PPV, well below the 0.2 ips PPV threshold, and thus is considered less than significant. Similarly, the predicted PPV would be less than the 0.2 ips PPV threshold for human annoyance and, on that basis, would also be a less-than-significant impact. Therefore, the overall impacts associated with groundborne vibration and groundborne noise would be less than significant.

c) ***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

No Impact. According to Exhibits 3-3 and 3-7 of the NASNI Airport Land Use Compatibility Plan Draft EIR, the project site is not within the 65 dBA CNEL contour of NASNI aviation traffic (SDCRAA 2019); thus, workers involved in construction of the project features would not be temporarily exposed to NASNI aviation noise exceeding 65 dBA CNEL. Additionally, City of Coronado workers at the project sites would not be exposed to NASNI aviation noise levels exceeding 65 dBA CNEL. Further, the project would not create new residential exposures to NASNI aviation traffic noise. Therefore, no impact due to NASNI aviation traffic noise exposure would occur.

Furthermore, Figure 4.7 (Future CNEL Contours 2026) from the SDIA Part 150 Update Noise Exposure Map shows that the project site is approximately 1.5 miles from the nearest 65 dBA CNEL aviation noise contour (SDCRAA 2009). Therefore, workers involved in construction of the project features would not be temporarily exposed to SDIA aviation noise exceeding 65 dBA CNEL. Additionally, City of Coronado workers at the project sites would also not be exposed to SDIA aviation noise levels exceeding 65 dBA CNEL. As such, no impacts resulting from SDIA aviation traffic noise exposure would occur.

Required Mitigation Measures

MM-NOI-1 The San Diego Unified Port District (District) shall ensure that the construction contractor(s) contract and specifications for all project-related activities include the following requirements during construction activities:

- Construction hours shall be conducted in compliance with Coronado Municipal Code (CMC) 41.10.040 with respect to allowable timeframes and days of the week (including weekends and holidays). Per CMC 41.10.050, noise from construction activities shall meet the standard of 75 dBA Leq over any 1-hour period, unless authorization to exceed this limit has been granted via permit by the City's Noise Control Officer (NCO) in advance.
- Construction during nighttime hours is prohibited unless authorized by the NCO in advance via permit.
- All idling (i.e., engines running) equipment shall be kept to a minimum.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be used for safety warning purposes only.
- Communication with local residents shall be maintained prior to and during construction. Specifically, the local residents shall be informed of the schedule, duration, and progress of the construction and shall be provided contact information

(e.g., a telephone hotline and/or email address) for noise- or vibration-related complaints. The City shall establish a process to investigate these complaints in a timely manner and, if determined to be valid, detail efforts to provide a timely resolution and response to the complainant—with copy of outcome description documented in a log for the duration of the construction activities.

- All noise-producing equipment and vehicles using internal combustion engines shall be equipped with exhaust mufflers (or comparable noise-reducing exhaust flow treatments); air-inlet silencers; and hoods, shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc-welders, air compressors, generators) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.

4.14 Population and Housing

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

4.14.1 Population and Housing

The project site is within Planning District 6, Coronado Bayfront, of the PMP. According to the PMP, the First Street is the downtown waterfront area for an urban region (Port of San Diego 2020). There are no residential land uses within the District's jurisdiction, including the project site that is zoned as Open Bay in the PMP. The nearest residences to the project site are located immediately adjacent to the project site along First Street, in downtown Coronado.

4.14.2 Discussion

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less-than-Significant Impact. A significant impact would typically occur, for example, if the project would locate new development, such as residential, businesses, or infrastructure, that could result in substantially inducing population growth in the area beyond what was accounted for in the population growth projections of applicable land use planning documents.

As discussed in Chapter 2, Project Description, of this IS/MND, construction of the project would include an average increase of approximately eight temporary construction workers per day. However, these construction workers are not anticipated to result in a permanent net increase in population. Construction workers generally remain at a job site only for the time in which their specific skills are needed and are not likely to relocate their residences as a consequence of working on constructing a project. Nevertheless, it is anticipated that the demand for six short-term construction jobs would be internally captured and accounted for by the existing large workforce available within the City of Coronado and San Diego County. Therefore, construction of the project would not constitute substantial unplanned employment population growth.

The project would also include a new rock revetment wall at the shoreline. None of the proposed project improvements would include the expansion of existing infrastructure that would indirectly induce population growth. Therefore, the project would not induce substantial unplanned population growth in an area, either directly or indirectly. This impact would be less than significant.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project would not include the demolition of existing housing units. The project site has an existing water use designation of Open Bay, and residential housing is not an allowable land use under this designation. The existing residences that sit adjacent to the project site are on City land and are not a part of the proposed project. Therefore, the project has no potential to displace existing people or housing, necessitating the construction of replacement housing elsewhere. No impact would occur.

Required Mitigation Measures

The project would not result in significant impacts associated with population and housing. Mitigation measures are not required.

4.15 Public Services

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES – Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

4.15.1 Environmental Setting

The City of Coronado's Fire Department provides fire, emergency medical, lifeguard, and emergency management services, including 9-1-1 services, fire inspections, permits, and community education. In addition, the San Diego Harbor Police Department (HPD) provides marine crime and firefighting services. The closest fire station is Coronado Fire Department Station 36 located at 1001 6th Street, approximately 0.5 miles south of the project site.

The Port of San Diego HPD and the City of Coronado Police Department provide law enforcement services to the project site. The closest police station is the Coronado Police Station at 700 Orange Avenue, approximately 0.75 miles southeast of the project site. The HPD has a police station located at 3380 North Harbor Drive, approximately 2.2 miles northwest of the project site.

The project site is located within Coronado Unified District. The project site is served by the following schools: Village Elementary School, located at 600 6th Street, approximately 0.65 miles southeast of the project site; Coronado Middle School, located at 550 F Street, approximately 0.5 miles southeast of the project site; and Coronado High School, located at 650 D Steet, approximately 0.64 miles southeast of the project site (Coronado Unified School District 2025).

As identified in Section 4.16, Recreation, the closest parks to the project site include Bayview Park, Centennial Park, Coronado Ferry Landing Park, and Coronado Tidelands Park. Other nearby public facilities include the Coronado Public Library at 604 Orange Avenue, approximately 0.65 miles southeast of the project site.

4.15.2 Discussion

a) ***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:***

Fire protection?

Less-than-Significant Impact. As discussed in Section 4.14, Population and Housing, an average of approximately eight temporary construction workers would be on site each day during construction of the project. These construction workers are not anticipated to contribute to a permanent increase in the service population and would only be present for the duration of construction activities. Therefore, construction of the project would not lead to a significant increase in the local service population of the Coronado Fire Department and therefore would not substantially affect the performance objectives of fire protection responders. Further, nearly all construction activities would be contained with the shoreline project site. Construction staging would remain within the shoreline work area in front of the residences. No pedestrian routes or traffic lanes would be needed around the construction staging area, and the area would not physically interfere with emergency services. Further, the staging area would be short term and temporary, only existing for the duration of construction activities.

Once constructed, the project would not result in permanent changes to existing emergency access following completion of the short-term construction activities. In addition, project construction would result in a negligible temporary increase in vehicle trips on surrounding roadways associated with worker commutes an occasional haul trip (refer to Section 4.17, Transportation, for more information). Therefore, project construction would not contribute to substantial congestion on surrounding roadways that would affect response times for Coronado Fire Department.

Based on the above discussion, the project would not require the provision of new or physically altered fire protection facilities. Therefore, this impact would be less than significant.

Police protection?

Less-than-Significant Impact. Project construction would not result in significant permanent population growth that would affect service ratios for HPD or Coronado Police Department. In addition, project construction would not contribute to substantial congestion on surrounding roadways or otherwise hinder police response such that response times for the HPD or Coronado Police Department would be affected. Therefore, based on the discussion above, the project would not require the provision of new or physically altered police protection facilities. This impact would be less than significant.

Schools?

No Impact. As discussed in Section 4.14, Population and Housing, the project would not result in significant permanent population growth. The project would include an average of eight construction workers on site per day; however, these construction workers would be short term and temporary, and only present for the duration of construction activities. Further, these construction worker jobs would be drawn

from the local workforce that is already serving existing school facilities. Therefore, the project would not increase the demand for school facilities or increase existing student to teacher ratios. Further, project construction would not encroach onto a school property. Therefore, the project would not require the provision of new or physically altered schools. No impact would occur.

Parks?

No Impact. Refer to Section 4.16, Recreation, for additional information. The project would not result in a significant permanent population growth that would generate additional demand for parks. Further, project construction would not encroach onto a public park. Therefore, the project would not require the provision of new or physically altered parks and recreation facilities. No impact would occur.

Other public facilities?

No Impact. As discussed in Section 4.14, Population and Housing, project construction would not result in a significant permanent increase in population growth. Therefore, the project would not increase the demand for existing public facilities. Further, construction of the project would not encroach onto any public facility property. Therefore, the project would not require the provision of new or physically altered public facilities. No impact would occur.

Required Mitigation Measures

The project would not result in significant impacts to public services. Mitigation measures are not required.

4.16 Recreation

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

4.16.1 Environmental Setting

The project site is located within the shoreline at 407 and 409 First Street. The nearest public parks and recreational facilities to the project site include the following:

- Bayview Park, located at 413 1st Street, along the San Diego Bay shoreline, approximately 973 feet west of the project site
- Centennial Park, located at 1101 1st Street, along the San Diego Bay shoreline, approximately 950 feet east of the project site
- Coronado Ferry Landing Park, located at 1201 1st Street, along the San Diego Bay shoreline, approximately 2,824 feet east of the project site
- Coronado Tidelands Park. located at 2000 Mullinex Drive, along the San Diego Bay shoreline, approximately 3,900 feet southeast of the project site

4.16.2 Discussion

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less-than-Significant Impact. An increase in the use of existing neighborhood and regional parks or other recreational facilities typically results from a direct increase in multi-family or single-family housing units within the surrounding area but can also result indirectly from a substantial increase in employment in the form of jobs introduced by a project. The project does not propose housing units, but it does propose a slight increase in employment. As previously discussed in Section 4.14, Population and Housing, the project would include an average of eight construction workers during construction activities. The presence of construction workers on site would be short term and temporary, and would not contribute to a permanent increase in population such that substantial physical deterioration of parks or recreational facilities would occur or be accelerated. As such, the project's construction activities would not lead to a substantial physical deterioration of parks or recreational facilities. This impact would be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Less-than-Significant Impact. The project includes the construction of rock revetment that would include the use of an average of eight construction workers. The project does not propose recreational facilities and would not require the construction or expansion of recreational facilities. The impact would be less than significant.

Required Mitigation Measures

The project would not result in significant impacts associated with recreation. Mitigation measures are not required.

4.17 Transportation

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION – Would the project:				
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐
e) Result in an insufficient parking supply that would lead to a decrease in public coastal access?	☐	☐	☒	☐

4.17.1 Environmental Setting

This section also provides a qualitative transportation analysis of the proposed project per CEQA thresholds. This section analyzes the potential impacts of the proposed project based on CEQA Guidelines Section 15064.3, which focuses on the currently adopted VMT metric for determining the significance of transportation impacts. The passage of SB 743 required the focus of transportation analysis change from level of service or vehicle delay to VMT. The District or City of Coronado (City) have not adopted VMT guidelines and thresholds that address CEQA Guidelines Section 15064.3. Therefore, in the absence of lead agency-adopted VMT guidelines and thresholds of significance, the VMT analysis herein relies on the guidance provided in CEQA Guidelines Section 15064.3 and the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) (OPR 2018). As discussed below, because the project would generate temporary trips and VMT during the short-term construction period, a detailed VMT analysis is not warranted for the proposed project.

Roadway Network

Regional and local access to the project site is provided by the surrounding roadway network that includes I-5, State Route 75, Pomona Avenue, Orange Avenue, 3rd Street and 4th Street. Local access to the project site would be via 1st Street.

1st from A Avenue to Almeda Boulevard is a Collector Street. It provides direct access to the project site and is primarily a two-lane roadway. Class II bike lanes and sidewalks are generally present along both sides of the roadway between residential driveways. On-street parking is permitted on both sides of 1st Street.

Bicycle and Pedestrian Facilities

The bicycle and pedestrian transportation system in the City of Coronado is composed of local and regional bicycle lanes, bicycle paths, and bicycle routes. The City of Coronado Circulation Element classifies bicycle facilities as follows (City of Coronado 1995) and uses the description consistent with Caltrans:

- **Class I Bike Path:** Bike paths, also termed shared-use or multi-use paths, are paved right-of-way for exclusive use by bicyclists, pedestrians, and those using non-motorized modes of travel. They are physically separated from vehicular traffic and can be constructed in roadway right-of-way or exclusive right-of-way. Bike paths provide critical connections in the city [of Coronado] where roadways are absent or are not conducive to bicycle travel.
- **Class II Bike Lane:** Bike lanes are defined by pavement striping and signage used to allocate a portion of a roadway for exclusive or preferential bicycle travel. Bike lanes are one-way facilities on either side of a roadway.
- **Class III Bike Route:** Bike routes provide shared use with motor vehicle traffic within the same travel lane. Designated by signs, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand.

A complete network of pedestrian facilities (sidewalks) is present along all streets in the vicinity of the project site. Class II bicycle facilities are present along 1st Street, which connects to Class III bike route along Alameda Boulevard and Class II bike lane along A Street.

Transit System and Services

Transit service in the City and area surrounding the project site is operated by the San Diego Metropolitan Transit System (MTS) for bus service. MTS Route 901 and 904 operate in the City of Coronado.

MTS Route 901 operates between the Iris Avenue Transit Center in Otay Mesa and Imperial Transit Center and downtown San Diego. It serves the City by operating along the Silver Strand Boulevard, Orange Avenue, 3rd Street, 4th Street and State Route 75. The nearest bus stop for MTS Route 901 and is located near the G Avenue/3rd Street intersection, approximately 0.4 miles south of the project site. Route 901 offers service at a frequency of approximately 20 minutes, on weekdays between 4:18 a.m. and 1:28 a.m. The frequency on Saturdays is approximately 30 minutes between 5:18 a.m. and 1:28 a.m. and on Sundays approximately 60 minutes with fewer stops and reduced hours of operation.

MTS Route 904 operates along 1st Street near B Avenue, adjacent to the project site. It connects the downtown Village area and connects key locations like the Coronado Ferry Landing, City Hall, and the Coronado Island Marriott Resort & Spa. The nearest bus stop for MTS Route 904 is located near the B Avenue/1st Street intersection, approximately 0.6 miles east of the project site. Route 904 offers service every 60 minutes, 7 days a week between approximately 9:52 a.m. and 6:48 p.m.

The City-subsidized ferry service for pedestrians and bicyclists operates between the Coronado Ferry Landing and the Broadway Pier in San Diego. The free Commuter Ferry operates Monday through Friday during morning commute hours with a free return trip.

The City has recently contracted a provider to offer first-mile/last-mile free rides using neighborhood electric vehicles.

4.17.2 Regulatory Setting

State

California Code of Regulations Section 15064.3

On December 28, 2018, State CEQA Guidelines Section 15064.3 was introduced to address the significance for transportation impacts. This amendment mandates that transportation analyses be based on VMT rather than congestion metrics such as level of service. Following approval by the Office of Administrative Law, the updated State CEQA Guidelines took effect statewide on July 1, 2020, implementing the provisions outlined in CCR Section 15064.3.

In December 2018, OPR published the most recent version of the Technical Advisory, which provides guidance for VMT screening and analysis (OPR 2018). The Technical Advisory provides guidance related to screening thresholds for projects to indicate when detailed analysis is needed or if a project can be presumed to result in a less-than-significant VMT impact. Specifically, the OPR Technical Advisory states that lead agencies may screen out VMT using project size, maps, transit availability, and provision of affordable housing. Many agencies use these screening thresholds to identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. The screening criteria applicable to the project are detailed below (OPR 2018):

> *Small Project* – Projects that generate or attract fewer than 110 trips per day generally may be assumed to result in a less-than-significant transportation impact.

The District has not yet formally adopted any thresholds or guidance related to VMT analysis. It should be noted that there is no significance threshold for construction or maintenance projects. The proposed project is a construction project that would generate temporary construction-related traffic and nominal operations and maintenance traffic. This project would also be categorized under subdivision (b)(3), qualitative analysis.

Therefore, in the absence of adopted VMT guidelines and thresholds of significance, the VMT analysis herein relies on the guidance provided in CEQA Guidelines Section 15064.3 and the OPR Technical Advisory (OPR 2018).

California Fire Code

The 2022 California Fire Code, which is codified as Part 9 of Title 24 of the CCR, incorporates by adoption the 2021 International Fire Code and contains regulations related to construction, maintenance, access, and use of buildings. Topics addressed in the California Fire Code include design standards for fire apparatus access (e.g., turning radii, minimum widths), standards for emergency access during construction, provisions intended to protect and assist fire responders, and several other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises.

Parking and Public Access

The CCA, specifically Section 30252, requires new development within the Coastal Zone to maintain and enhance public access to the coast by providing adequate parking facilities or providing substitute means of serving the development with public transportation. In accordance with the CCA, a significant parking and public access impact would occur if the proposed project would result in an insufficient parking supply that, when considered with other modes of travel (e.g., bicycling, walking, transit use), would reduce the general public's access to the waterfront, as well as coastal commercial and recreational resources.

4.17.3 Discussion

a) Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less-than-Significant Impact. A discussion of the project's impacts related to a potential conflict with the existing circulation system is detailed below.

Transit Facilities and Services

The project would add temporary construction worker trips, and most of the workers are not likely to use the transit service available in the City. Therefore, the project would not increase the demand for transit facilities. The nearest bus stop is located 0.4 miles from the project site. The project would not disrupt existing transit facilities and services. For these reasons, the project would not conflict with existing or proposed transit facilities or services or any adopted guidelines, policies, plans, or standards related to such facilities.

Roadway Network

The project would not include the construction of any new roadways or modification of any external roadway network. The required improvements to the revetment would be consistent with the standard construction procedures and subject to approval by the District, thus ensuring that all applicable design standards are met. All landside construction staging would take place within the limits of the rock revetment area and would not affect the roads or roadway users. Truck routes within the City are along 3rd/4th Street, Orange Avenue, Alameda Boulevard, Ocean Boulevard and the Silver Strand and would be used to the extent feasible for haul trucks from the project site. Therefore, the project would not conflict with any plans or policies related to the roadway network.

Bicycle and Pedestrian Facilities

Local access to the project site would be via 1st Street. As detailed above, there are bicycle and pedestrian facilities present along 1st Street and there would be pedestrians and cyclists in the area. Implementation of the project would not permanently modify any existing bicycle and pedestrian facilities or interfere with any proposed facilities included in the City of Coronado Active Transportation Plan (September 4, 2018) or San Diego Regional Bike Plan (SANDAG 2010). Furthermore, during project landside construction, staging and construction work would occur within the limits of the rock revetment area and would not affect any bicycle or pedestrian facilities. For these reasons, the project would not conflict with existing or planned bicycle or pedestrian facilities, or any adopted guidelines, policies, plans, or standards related to such facilities.

Summary

Implementation of the project would not require the permanent modification of any existing or planned transit, roadway, pedestrian, or bicycle facilities. During landside construction activities, staging and work would occur within the limits of the rock revetment area and would not affect any roads or roadway users, including pedestrians and bicyclists. For these reasons, the project would not adversely affect an existing

or planned roadway, transit, bicycle, or pedestrian facility; and would not conflict with any adopted plans, policies, or standards related to such facilities. This impact would be less than significant, and no mitigation is required.

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less-than-Significant Impact. As detailed under Section 4.17.2, Regulatory Setting, the District or the City have not adopted VMT guidelines and thresholds that address CEQA Guidelines Section 15064.3. Therefore, in the absence of lead agency-adopted VMT guidelines and thresholds of significance, the VMT analysis herein relies on the guidance provided in CEQA Guidelines Section 15064.3 and the OPR Technical Advisory. State CEQA Guidelines Section 15064.3(a), which states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks (OPR 2018). Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT) but need not be. Therefore, larger on-road vehicles that do not fall within the categories of cars and light trucks do not need to be considered in calculations of trips or VMT.

The District has not adopted its own guidelines and therefore uses OPR's Technical Advisory for VMT significance criteria and thresholds. The transportation impact analysis presented in this section is based primarily on the trip generation of the project. The Institute of Transportation Engineers' (ITE) Trip Generation Manual does not contain trip rates for construction-related activities associated with the proposed project; therefore, it is primarily based on the number of construction employees or workers as well as the quantity of vendor and haul related truck estimate provided by the District and used in the proposed project's air quality analysis. Each worker and truck are assumed to generate two daily trips, one inbound and one outbound. The construction work shift would occur between 7:00 a.m. and 7:00 p.m. consistent with City's Noise Ordinance. The majority of the workers would arrive and depart outside of the AM peak hour (generally occurs between 7:00 a.m.–9:00 a.m.) and PM peak hour (generally occurs between 4:00 p.m.–6:00 p.m.) of the adjacent street network. Vendor truck traffic and haul trips are anticipated to be evenly distributed through the 8-hour workday.

As shown in Table 4.17-1, the proposed project would generate 66 total daily trips, 15 AM peak hour trips and 15 PM peak hour trips during the peak phase of construction i.e., the revetment construction phase, which only includes worker and haul truck trips. All other construction phases would generate fewer trips.

Table 4.17-1. Construction-Related Trip Generation

Vehicle Type	Daily Quantity	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Trip Generation for Peak Phase[1]								
Workers	8 workers	16	8	0	8	0	8	8
Haul Trucks	25 trucks	50	4	3	7	3	4	7
	Total	**66**	**12**	**3**	**15**	**3**	**12**	**15**

Source: Project's Air Quality Analysis
Notes:
1 Trip generation is estimated for the revetment construction phase when maximum number of workers and haul trips would be required

Construction

Project construction would occur over a 3-month period with site preparation anticipated to begin in January 2026. Project construction would generate vehicle trips associated with workers traveling to and from the construction staging location, vendor trucks deliveries, and haul trucks transporting material to and from the work yard. Trips would be temporary and would cease following the completion of construction.

All phases would require eight workers to work on the project. This estimate assumes that construction personnel would not carpool and would generate 16 trips per worker per day. Therefore, the number of daily trips associated with construction worker commutes would be less than 110 trips per day, thus satisfying the screening threshold for small projects as detailed in the OPR Technical Advisory (OPR 2018). The project would involve construction that would generate temporary traffic for the period of construction of 3 months. Even though worker and truck trips would generate VMT, once construction is completed, the construction-related traffic would cease and would return to pre-construction conditions. Measures to reduce the VMT generated by workers and trucks are limited, and there are no thresholds or significance criteria for temporary, construction-related VMT. In addition, project construction activities would not result in long-term increases in vehicular trips because the construction would be temporary in nature. Furthermore, the VMT of construction personnel is not newly generated; instead, it is redistributed throughout the regional roadway network based on the different work sites in which workers travel to each day. Therefore, construction personnel are not generating new VMT each day, only redistributing it, and this redistribution would be nominal and temporary. For these reasons, construction activity associated with the project is not expected to significantly increase VMT in the region, and would therefore not cause a significant VMT impact, per SB 743 requirements.

Operations

Once construction is complete, project operation is anticipated to entail same operational characteristics as the existing conditions. Implementation of the project would not result in an increase in the number of permanent or long-term trips. The project's VMT impact would be less-than-significant VMT impact.

Summary

During peak construction activity, construction personnel would generate up to 16 commute trips per day; therefore, the project would not exceed OPR's Technical Advisory screening criteria (110 daily trips) for small projects. Additionally, construction worker VMT is temporary and is not expected to significantly increase VMT in the region. The project is presumed to have a less-than-significant VMT impact, as detailed in CEQA Guidelines Section 15064.3 and the OPR Technical Advisory. For these reasons, the construction or operation of the project would not conflict or be inconsistent with State CEQA Guidelines Section 15064.3. This impact would be less than significant, and no mitigation is required.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less-than-Significant Impact. A discussion of the project's impacts related to transportation hazards during construction is detailed below.

The project construction would occur over a 3-month period with an anticipated start in January 2026. The project would involve improvements to the rock revetment to protect the shoreline at 407 and 409 First Street. In addition, the construction staging area would remain within the construction lay down areas, and all deliveries would be coordinated with vendors prior to delivery. Some of the construction activities that would occur on the shoreside would involve the use of the crane derrick barge and material barge and appropriate measures would be used to prevent any loose debris or silt from entering San Diego Bay. The project construction would not occur in the public right-of-way and is not anticipated to interfere with pedestrian, bike or vehicle accessibility along 1st Street. The contractor shall apply for applicable right-of-way, encroachment and transportation permits, if those are required per City's specifications for construction activities. Therefore, project construction would not substantially increase transportation hazards due to a design feature or incompatible use.

All improvements would occur to existing shoreline and would not require the construction or redesign of any public roadways. The project would be subject to review and approval by District staff ensuring all design and safety standards are met. The project would not add new trips or road users to the area; therefore, the operational conditions near the project site would be the same as existing conditions. The proposed project is consistent with the water use designation for the project site in the certified PMP and the Final Draft PMPU. For these reasons, the project would not substantially increase hazards due to a design feature or incompatible uses.

Therefore, the project would not substantially increase transportation-related hazards due to a geometric design feature or incompatible use. The impact would be less than significant, and no mitigation is required.

d) Would the project result in inadequate emergency access?

Less-than-Significant Impact. The project would not require the construction, redesign, or alteration of any public roadways and most construction activities would be completed along the shoreline. As detailed under Impact 4.15 "Public Services," the Coronado Fire Department's provides fire protection and emergency response services to the project site. The project would be required to comply with the 2022 California Fire Code, as adopted by the CMC. The California Fire Code establishes standards for emergency access during construction and design standards for fire apparatus access (e.g., turning radii, minimum widths) during operation. Emergency access would be subject to review by the District and responsible emergency service agencies; thus, ensuring that the project would be designed to meet all applicable emergency access and design standards. Therefore, the project would not result in inadequate emergency access. This impact would be less than significant, and no mitigation is required.

e) Result in an insufficient parking supply that would lead to a decrease in public coastal access?

Less-than-Significant Impact. A discussion of the project's impacts related to a potential decrease in coastal access from insufficient parking is detailed below.

As noted above, an average of eight construction workers are anticipated to access the site during each construction per day. Therefore, the parking demand associated with construction activity would be a maximum of eight parking spaces. Construction worker parking would be located along First Street, which would be coordinated with neighbors prior to the start of construction activities. If required, the contractor shall identify where off-site parking would be accommodated and details as to how construction workers

would travel to/from the off-site parking to the project site. Construction staging would remain within the construction lay down areas, and all deliveries would be coordinated with vendors prior to delivery. The contractor shall ensure that project construction would not result in an insufficient parking supply that would lead to a decrease in public coastal access.

Operation of the project would not generate new daily trips or increase parking demand in the area.

Therefore, the project would not result in insufficient parking supply that would lead to a decrease in public coastal access. This impact would be less than significant, and no mitigation is required.

Required Mitigation Measures

The project would not result in significant transportation impacts. Mitigation measures are not required.

4.18 Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES				
Has a California Native American Tribe requested consultation in accordance with Public Resources Code section 21080.3.1(b)? ☐Yes ☒No				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

4.18.1 Environmental Setting

AB 52, signed by the California Governor in September of 2014, established a new class of resources under CEQA: "tribal cultural resources," defined in PRC Section 21074. Pursuant to PRC Sections 21080.3.1, 21080.3.2, and 21082.3, lead agencies undertaking CEQA review must, upon written request of a California Native American tribe, begin consultation before the release of an EIR, negative declaration, or mitigated negative declaration.

According to PRC Section 21074:

> (A) "Tribal cultural resources" are either of the following:
>
> (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
>
> (a) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
>
> (b) Included in a local register of historical resources as defined by subdivision (k) of Section 5020.1
>
> (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (C) of Section 5024.1. In applying the criteria set forth in subdivision (C) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
>
> (B) A cultural landscape that meets the criteria of subdivision (a) is a tribal, cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
>
> (C) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

AB 52 establishes a formal consultation process between the lead agency, the City, and all California Native American tribes within the area regarding tribal cultural resource evaluation. AB 52 mandates that the lead agency must provide formal written notification to the designated contact of traditionally and culturally affiliated California Native American tribes that have previously requested notice. Native American tribes are notified early in the project review phase by written notification that includes a brief description of the project, location, and the lead agency's contact information. The tribal contact then has 30 days to request project-specific consultation pursuant to this section (PRC Section 21080.1).

Per AB 52, the District initiated consultation with Native American Heritage Association on July 2, 2025, by requesting a list of contacts for tribes that are traditionally and culturally affiliated with the geographic area of the project to identify resources of cultural or spiritual value to the tribes, as well as a search for Sacred Lands in the USGS quadrangle of the project. The NAHC replied on July 17, 2025, with contact information for 18 Native, American tribes that are affiliated with the geographic area. The NAHC also determined that there were positive search results during the Sacred Lands Fie for the USGS quadrangle, but did not provide details on what the resource(s) are or where they are located.

4.18.2 Discussion

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

No Impact. As described in Section 4.5, Cultural Resources, the project site sits on artificial fill that has been previously disturbed and no archaeological resources eligible for listing in the CRHR, or in a local register of historical resources, are present within the project area. Therefore, the project would not cause a substantial adverse change to a tribal cultural resource that would qualify or be eligible for listing in the CRHR or the local register of historical resources in accordance with PRC Section 5020.1(k). District consultation with interested tribes has occurred, and the implementation of the proposed project would not result in a substantial adverse change in the significance of a tribal cultural resource defined pursuant to PRC Section 21074. Therefore, no impacts would occur.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less-than-Significant Impact. Pursuant to AB 52, the District contacted the NAHC to request a list for the project area on July 2, 2025. The NAHC replied on July 17, 2025 stating resources are listed in the Sacred Lands File for this area, but did not provide details on what the resource(s) are or where they are located.

Per AB 52, the District initiated consultation with NAHC on July 2, 2025, by requesting a list of contacts for tribes that are traditionally and culturally affiliated with the geographic area of the project to identify resources of cultural or spiritual value to the tribes. Per the requirements of AB 52, the District mailed project notification letters to all Native American group representatives included on the NAHC contact list on July 24, 2025, via Certified Mail. These letters include a description of the project, agency contact information, and a request to respond with interest to consult on the project within 30 days of receipt. Pursuant to AB 52, California Native American tribes traditionally and culturally affiliated with the project area can request notification of projects in their traditional cultural territory under PRC Section 21080.3.1. If the District determines to be feasible, may avoid or minimize the significant adverse impacts (PRC Section 21084.3[b]).

On July 24, 2025, 18 consultation notification letters were then sent via Certified Mail to the Native American tribes on the list pursuant to the requirements of AB 52 pertaining to government-to-government consultation. 14 emails were sent to the 18 contacts who provided email addresses. One Tribe from the list provided by the NAHC e-mailed general comments during the solicitation period. District staff contacted the tribal representative via phone on August 14, 2025 to obtain more information on the comments. The representative provided a recommendation to have a tribal monitor on site during ground-disturbing activities.

The Sacred Lands search returned positively within the quadrangle, and the one (1) representative listed by the NAHC was contacted via phone on August 8, 2025. The representative could not confirm whether the site itself contained sacred resources, although noted it would be unlikely in that type of project site in Coronado, and provided a recommendation to have a tribal monitor on site during the first day of construction.

The District carefully considered these recommendations, specific site conditions and other recent environmental documents covering the area. Based on the information available, including in the recent PMPU EIR, the project site is located on artificial fill. Given the project involves only replacement of artificial fill, the District believes the likelihood of encountering cultural resources is minimal. However, the District remains committed to notifying the parties that have provided comment if new information or resources are discovered. Consistent with CEQA and applicable State laws, including California Health and Safety Code 7050.5 and PRC 5097.98, the project would implement standard inadvertent discovery procures in the event that human remains or cultural resources are encountered during construction.

Required Mitigation Measures

The project would not result in significant impacts associated with tribal cultural resources. Mitigation measures are not required.

4.19 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, waste water treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the waste water treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

4.19.1 Environmental Setting

The utility providers that serve the project site are summarized in the following sections.

Water Infrastructure

The limited water service that is to be provided to the project site during construction would be provided by the California-American Water Company, who is supplied by the City of San Diego. Based on the City of San Diego's 2020 Urban Water Management Plan (2020 UWMP), the total water demand forecast for the City of San Diego's service area is 202,865 acre-feet per year (AFY) in 2025 and 228,065 AFY in 2045, and the total potable water demand forecast is 189,092 AFY in 2025 and 214,292 AFY in 2045 (City of San Diego 2020: Table 3-6). The City of Coronado has existing water mains in Orange Avenue and First Street.

Wastewater Infrastructure

Wastewater treatment service is provided to the project site by the City of Coronado's Wastewater Division. Wastewater from the City is conveyed to be treated by the City of San Diego's Point Loma Wastewater Treatment Plant (PLWTP). The PLWTP has a maximum capacity of 240 million gallons per day (mgd) of wastewater. Currently the plant treats an average of 175 mgd (City of San Diego 2025). The City of Coronado has existing sewer mains in Orange Avenue and First Street.

Stormwater Drainage

The project site would maintain existing natural drainage pathways and hydrologic features. Surface water runoff during project construction would be managed via the project's Construction BMP Plan that part of the project and would be reviewed and approved by the District.

Electric Power and Natural Gas

SDG&E provides electricity and natural gas services to the project site. SDG&E provides electricity and natural gas to over 3.6 million customers (i.e., 1.4 million accounts) in San Diego County and portions of southern Orange County. The utility has a diverse power production portfolio, composed of various renewable and non-renewable sources.

Telecommunication

The City is currently supplied with telecommunications services through various providers, such as AT&T, Cox, Spectrum, and other independent telephone, cable, and internet companies. The project site is currently served by various telecommunication facilities and would not require new telecommunication facilities. Impacts would be less than significant.

Solid Waste

In the City of Coronado EDCO Waste and Recycling (EDCO) provides the collection and disposal of refuse, recyclables, household hazardous waste, and green waste in the City of Coronado. EDCO would provide appropriate refuse and waste to a full-service landfill and organic recycling facility, such as the Miramar Landfill, which is located at 5180 Convoy Street in the City of San Diego. The Miramar Landfill receives approximately 870,000 tons of trash per year and is anticipated to reach capacity by 2030 (City of San Diego 2015, 2024).

4.19.2 Regulatory Setting

The following statutes and regulations related to solid waste are applicable to local jurisdictions and solid waste collectors:

- AB 939 (1989) California Integrated Waste Management Act: Requires all California cities, counties, and approved regional solid waste management agencies to divert 25% of their solid waste by 1995 and 50% by 2000. AB 939 established the California Integrated Waste Management Board, which later became CalRecycle.
- AB 341 (2012) Mandatory Recycling: Increases California's waste diversion goal from 50% to 75% by 2020. AB 341 also includes mandatory commercial recycling to reduce greenhouse gas emissions. All commercial businesses that generate more than four cubic yards or more of solid waste per week are required to have a recycling program in place.
- AB 1594 (2014) Green Material Disposal: Effective January 1, 2020, jurisdictions can no longer count green material used as alternative daily cover at landfills toward their recycling goals. Jurisdictions are required to develop plans to divert green material from landfills.
- SB 1383 (2016) Short-Lived Climate Pollutants – Organic Waste Methane Emissions Reductions: Requires a 50% reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75% reduction by 2025. SB 1383 also requires at least 20% of currently disposed edible food be recovered for human consumption by 2025. Jurisdictions, haulers, and generators are required to implement programs to comply with the law by January 1, 2022.
- City of San Diego Recycling Ordinance: Provides recycling requirements for City-serviced multi-family residences, privately serviced businesses, commercial/institutional facilities, apartments, condominiums and permitted special events.
- City of San Diego Construction and Demolition Debris Deposit Ordinance: Requires construction, demolition, and remodeling projects needing building, combination (i.e., permits for structural modifications to existing structures), and demolition permits pay a refundable deposit and divert at least 65% of their debris by recycling, reusing, or donating usable materials.

4.19.3 Discussion

a) Would the project require or result in the relocation or construction of new or expanded water, waste water treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less-than-Significant Impact. The project would not require existing utility lines to be replaced or reconfigured to support project construction. Existing utilities for the project site include potable water, wastewater, stormwater drainage, and electrical power, which serve the existing uses through existing connections to the project site. Project construction would not result in a significant change in demand on municipal utility systems. The project's effects on water, wastewater, stormwater drainage, electrical power, and telecommunications are described in the following sections.

Water

The 2020 UWMP concluded that there is adequate water supply to support the retail and wholesale water demand for normal, dry, and multiple dry years with conservation (City of San Diego 2021). Construction activities would require the consumption of water for suppressing fugitive dust emissions, preparing and placing rock revetment, light washing of equipment and tools consistent with water quality regulations, and for drinking water for construction workers. Water usage during construction would be temporary, and it is possible that recycled water could be used for equipment washing (Port of San Diego 2023). The use of recycled water during construction activities would reduce the quantity of potable water that would otherwise be required. The San Diego County Water Authority's Water Shortage and Drought Response Plan and Drought Response Ordinance includes use of non-potable water for construction purposes. However, the additional water supplies can be accommodated by the existing provider (City of San Diego). The existing infrastructure would serve the proposed project. The project does not propose or require any new or expanded water facilities or infrastructure. Impacts related to water supplies would be less than significant.

Wastewater

The wastewater treatment provider to the project site is the City of Coronado. Wastewater from the City is conveyed to be treated at the City of San Diego's PLWTP. The PLWTP has a maximum capacity of 240 mgd of wastewater. Currently, the plant treats an average of 175 mgd (City of San Diego 2025). The project would not result in wastewater production that would cause the PLWTP to exceed its 240 mgd capacity. Impacts would be less than significant. Implementation of the proposed project would not result in any increase in wastewater generation due to no new increase in number of visitors associated with the proposed project. No new wastewater treatment pipelines would be necessary and no increase in treatment capacity to accommodate any increase in wastewater generation. Therefore, impacts would be less than significant.

Stormwater Drainage

The project would maintain existing natural drainage pathways and hydrologic features on the project site. Surface water runoff during project construction would be managed via the project's Construction BMP Plan that part of the project and would be reviewed and approved by the District. This would limit the discharge from the project site into the Bay during construction. Appropriate construction/demolition BMPs would be used to minimize introduction of materials to the Bay during construction, including use of

methods to contain debris for subsequent and appropriate disposal. With the implementation of appropriate BMPs such as scheduling construction activities during dry weather to reduce risk of pollutant-laden stormwater discharges and preparing drainage ways and outlets to handle concentrated runoff, stormwater impacts would be less than significant.

Electric Power and Natural Gas

As discussed in Section 4.6, Energy, the project would increase energy consumption for temporary construction activities related to vehicle use and material transport. However, construction activities would be temporary and would not increase long-term energy or fuel demand. The project would connect to existing SDG&E electrical distribution facilities and would not require the construction of new electrical facilities. Construction activities would consume the necessary amount of energy to complete work in an efficient and timely manner.

The project would connect to the existing SDG&E gas distribution facilities and would not require the construction of new natural gas facilities. As detailed in Section 4.17, Transportation, the project is estimated to generate 66 new daily vehicle trips. This increase in visitation is minimal and the increase in overall energy demand compared to existing conditions would thus be minimal.

Construction-related energy use would represent a small demand on local and regional fuel and electricity supplies that could be accommodated by existing facilities and infrastructure. Therefore, the project would not result in any new or expanded energy facilities or infrastructure. Impacts would be less than significant

Telecommunication Facilities

The project site is currently served by various telecommunication facilities and would not require new telecommunication facilities, as the project would not increase the demand for telecommunications from existing conditions or require the construction of additional telecommunication facilities. Impacts would be less than significant.

Summary

Based on the above discussion, the project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, and telecommunication facilities. Therefore, impacts from construction of the project would be less than significant.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less-than-Significant Impact. Refer to Section 4.19.2(a), above. Construction-related water use would represent a small demand for local and regional water supplies that could be accommodated by the existing provider. There is some landside construction for the installation of rock revetment along the shoreline, which may require minimal watering to control on-site dust. This minimal water increase would be sufficiently supplied by the current provider. Therefore, there would be sufficient water supplies available to serve project construction and reasonably foreseeable future development during normal, dry, and multiple dry years. Impacts would be less than significant.

c) Would the project result in a determination by the waste water treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less-than-Significant Impact. Refer to Section 4.19.2(a), above. The minimal wastewater generated from project construction would not exceed the requirements of any wastewater treatment facilities. In addition, the project would not generate a permanent increase in demand for wastewater treatment compared to existing conditions. Therefore, the wastewater treatment provider would have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. Impacts would be less than significant.

d) Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-than-Significant Impact. The project would require removal or demolition of existing rock revetment and disposal of the subsequent debris. Non-hazardous construction trash and debris would be sent by the contractor to approved recycling facilities in accordance with the City's Recycling Ordinance and C&D Debris Deposit Ordinance, which requires recycling of a minimum of 65% of the construction waste and 75% of the solid waste. Remaining non-hazardous construction trash and debris would be handled through the contractor, which is the City of Coronado Environmental Services Department, and would be sent to an approved landfill, such as the Miramar Landfill, that has sufficient capacity to handle such waste.

Project construction is not anticipated to generate much hazardous waste if at all. However, if generated, all hazardous waste and construction debris found unsuitable for reuse would be transported by the contractor via the barges back to their work yard and handled under a waste manifest to an authorized Hazardous Waste Treatment, Storage, and Disposal Facility via haul trucks.

Therefore, impacts would be less than significant.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less-than-Significant Impact. Refer to Section 4.19.2(d), above. The project would not conflict or cause a local jurisdiction or service provider to conflict with any federal, state, or local solid waste regulations, including AB 939 (California Integrated Waste Management Act), AB 341 (Mandatory Recycling), AB 1594 (Green Material Disposal), or SB 1383 (Short-Lived Climate Pollutants: Organic). Moreover, waste generated from construction activities would be required to comply with the City Recycling Ordinance and the City's C&D Debris Deposit Ordinance. No changes in operational generation of solid waste are anticipated.

In addition, hazardous wastes would be separated, classified, and disposed of at an appropriate landfill that accepts hazardous waste. The disposal of hazardous wastes would be conducted in accordance with applicable regulations and laws, including the federal Toxic Substances Control Act, RCRA and Hazardous Solid Waste Act Amendments, Environmental Health Standards for the Management of Hazardous Waste (CCR Title 22, Division 4.5, Section 66001 et seq.), California Labor Code (Division 5, Parts 1 and 7), and San Diego County Code (Title 6, Division 8) (see Section 4.9, Hazards and Hazardous Materials, for additional information).

Based on the discussion above, project construction would comply with all federal, state, and local management regulations related to solid waste. Impacts would be less than significant.

Required Mitigation Measures

The project would not result in significant impacts associated with utilities and service systems. Mitigation measures are not required.

4.20 Wildfire

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

4.20.1 Environmental Setting

The project site is not located within a state responsibility area. The project site is within a local responsibility area and is designated by CAL FIRE as a non-Very High Fire Hazard Severity Zone (CAL FIRE 2009). The nearest lands classified as a state responsibility area are approximately 1 mile northeast of the project site, at Balboa Park (CAL FIRE 2009). Therefore, the project site is not located in or near a state responsibility area or lands classified as Very High Fire Hazard Severity Zone.

4.20.2 Discussion

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The project site is not within a Fire Hazard Severity Zone or a Very High Fire Hazard Severity Zone according to the San Diego County State Responsibility Area Fire Hazard Severity Zones map by CAL FIRE (CAL FIRE 2009). In addition, the project site is located within a developed portion of the City. As such, the project would not expose people or structures to significant risk involving wildland fires, exacerbate wildfire risks, or otherwise result in wildfire-related impacts. Therefore, no impacts associated with wildfire would occur.

b) Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. The project site is not located within a Fire Hazard Severity Zone according to the State Responsibility Area map by CAL FIRE (CAL FIRE 2009). In addition, the project site is located within a developed portion of the City. Further, the project site contains only limited amounts of ruderal vegetation and does not contain extensive amounts of vegetation or wildland fuel. Therefore, it is not anticipated that the proposed project, due to slope, prevailing winds, and other factors, would exacerbate wildfire risks or expose future occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Thus, the proposed project would not expose people or structures to significant risk involving wildland fires, exacerbate wildfire risks, or otherwise result in wildfire-related impacts. Therefore, no impacts associated with wildfire would occur.

c) Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. The project site is not located within a Fire Hazard Severity Zone according to the San Diego County State Responsibility Area Fire Hazard Severity Zones map (CAL FIRE 2009). The project site is located within a developed portion of the City and the proposed project would not connect to any existing utilities around the project site. The proposed project would not exacerbate fire risk. As such, the proposed project would not expose people or structures to significant risk involving wildland fires, exacerbate wildfire risks, or otherwise result in wildfire-related impacts. Therefore, no impacts associated with wildfire would occur.

d) Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The project site is not located within a Fire Hazard Severity Zone according to the State Responsibility Area map by CAL FIRE (CAL FIRE 2009). As discussed in Section 4.7, Geology and Soils, the proposed project would not result in significant risks associated with flooding, landslides, runoff, or drainage changes, and the proposed project does not propose the use of fire (such as for a controlled vegetation burn) that would result in post-fire slope instability. Further, the project site is located within a developed portion of the City that is not susceptible to wildland fires, given its considerable distance from

open, natural areas. Thus, the project would not expose people or structures to significant risk involving wildland fires, exacerbate wildfire risks, or otherwise result in wildfire-related impacts. Therefore, no impacts associated with wildfire would occur

4.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

4.21.1 Environmental Setting

State CEQA Guidelines Section 15064(h)(2) states that:

> A lead agency may determine in an Initial Study that a project's contribution to a significant cumulative impact would be rendered less than cumulatively considerable and thus is not significant. When a project might contribute to a significant cumulative impact, but the contribution would be rendered less than cumulatively considerable through mitigation measures set forth in a mitigated negative declaration, the Initial Study shall briefly indicate and explain how the contribution has been rendered less than cumulatively considerable.

State CEQA Guidelines Section 15130(b) identifies the following three elements that are necessary for an adequate cumulative analysis:

- A list of past, present, and probable future projects producing related or cumulative impacts, including those projects outside the control of the lead agency, or a summary of projections contained in an adopted general plan or related planning document that describes or evaluates conditions contributing to the cumulative effect.
- A summary of expected environmental effects to be produced by those projects. The summary shall include specific reference to additional information stating where the information is available.
- A reasonable analysis of the cumulative impacts of the relevant projects and an examination of reasonable options for mitigating or avoiding any significant cumulative effects.

A list of past, present, and probable future projects is provided in Table 4-21-1. Past projects include all historic development that has combined to create the existing environmental condition; however recently completed projects (last 5 years) within District jurisdiction that are now operational are included for reference in Table 4.21-1. Present projects are defined as those that are under construction but not yet operational. Probable future projects are defined as those for which a development application has been submitted or credible information is available to demonstrate that project development is the probable outcome. Projects were identified based on publicly accessible information on the District website and communications with District staff members.

- Projects were selected based on their location within the cumulative study area for the project and the potential to cause impacts related to the impacts of the project. The geographic scope of the cumulative impact analysis area varies based on the environmental topic. The study area for each environmental topic is described under the environmental topic headings below.

Table 4.21-1. Cumulative Projects List

Project Number	Name	Location	Description	Status
1	Naval Base Point Loma Fuel Pier (P151) Replacement and Dredging	Naval Station Point Loma and Alternative Bait Barge locations within state lands, San Diego, California	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.
2	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.
3	Shelter Island Boat Launch Facility Improvements Project	2210 Shelter Island Drive, San Diego, California 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.

Table 4.21-1. Cumulative Projects List

Project Number	Name	Location	Description	Status
4	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 would be available to one ship at a time; in subsequent years, two ships would be able to use shore power at the same time.	Initial Infrastructure installed at B St Pier and Broadway. Subsequent infrastructure to allow two ships charging at one time in process.
5	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.
6	Tenth Avenue Marine Terminal Redevelopment Plan and Demolition and Initial Rail Component Project	686 Switzer Street	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. Project-level improvements completed involved demolition of two transit sheds, installation of a small gear-shack with restrooms and outdoor storage	Rail component project complete. Removal of molasses tank complete. Zucarmex Dry Bulk Facilities Handling and Storage System addendum in process.

Table 4.21-1. Cumulative Projects List

Project Number	Name	Location	Description	Status
			space, and on terminal rail upgrades. Project improvements do not involve any in-water work; all program- and project-level improvements would be landside.	
7	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 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.	Completed July 2020.
8	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	Completed.

Table 4.21-1. Cumulative Projects List

Project Number	Name	Location	Description	Status
			painting, and installation of photovoltaic system.	
9	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.
10	Port Master Plan Update	Throughout District tidelands	Major 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.	The Final EIR was certified by the Board of Port Commissioners in February 2024. The Final Draft PMPU is currently being processed with the Coastal Commission for certification.
11	Metro Center Project	West side of National Avenue between Commercial and 16th 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.
12	Harbor Island West Marina Redevelopment	2040 Harbor Island Drive, San Diego, California 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.	Project entitled. Construction start date is anticipated July 2025.
13	Lockheed Martin Harbor Island Facilities Demolition and Sediment Remediation Project	1160 Harbor Island Drive, San Diego, California 92101	Involves demolition of 5,500 square feet of building and removal of a pier and trolley rail.	Final EIR certified December 2020. Landside demolition complete. Waterside demolition on hold.
14	National City Bayfront Projects and Plan Amendments	Generally north of Sweetwater Channel, south of Civic Center Drive, east of	Includes several landside and waterside improvements, including a recreational vehicle park, modular cabins, dry boat storage, hotels,	Foreseeable project, not entitled. Final EIR certified by Board of Port Commissioners

Table 4.21-1. Cumulative Projects List

Project Number	Name	Location	Description	Status
		National City Marine Terminal, and west of Paradise Marsh and Interstate 5, National City, California 91950	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, Harbor District Specific Area Plan, Land Use Code, and Bicycle Master Plan.	in November 2022. The PMPA is currently being processed with the Coastal Commission for certification.
15	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, California 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. The Draft EIR is being prepared and anticipated to be released for public review in 2025.
16	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. Under construction. Additional project components analyzed through an addendum. Subsequent project entitled and under construction.
17	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. Environmental addendum in progress and construction anticipated in.
18	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 completed.

Table 4.21-1. Cumulative Projects List

Project Number	Name	Location	Description	Status
19	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. The CDP was issued in September 2015.
20	Workshop for Warriors CDP/SDP – Project 528711	2984, 2970, 2960, 2948, 2940 Main Street	Includes an 89,000-square-foot warehouse/ trade school/ roof deck and parking, within 1.28 acres.	Unknown.
21	Boston Commons – Project 176117	2893 Boston Avenue	Involves five affordable residential units for rent on a 0.24-acre site.	Unknown.
22	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: 24 residential units, 10 hotel rooms, and 5 retail spaces. The existing building on the 0.41-acre site would remain.	Final MND released July 2019. The SDP/CDP was issued in October 2019.
23	U-Stor-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. The CDP was issued in November 2018.
24	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. The CDP was issued in December 2016.
25	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.	Final ND released December 2018. The SDP/CDP was issued in March 2019.
26	BAE Systems Waterfront Improvement Project	2205 E Belt Street	Involves the maintenance, repair, and replacement project for waterfront	Final EIR certified February 2022.

Table 4.21-1. Cumulative Projects List

Project Number	Name	Location	Description	Status
			infrastructure associated with mooring and operational facilities on approximately 35.9 acres within the BAE Systems San Diego Ship Repair Yard	
27	East Harbor Island/Top Golf	North Harbor Drive and Liberator Way on East Harbor Island	Involves building a large, three-story building on approximately 9.5 acres on a portion of the north basin side of East Harbor Island. The proposed site is the southwest corner of North Harbor Drive and Liberator Way. Topgolf is proposing a three-story venue housing over 100 hitting bays with an event/stage area, outdoor patios, additional games and entertainment, and more.	IS/MND is being drafted.
28	Marine Group Boat Works	997 G Street, Chula Vista, California	Involves the modernization of the existing Marine Group Boat Works Facility which manufactures, fabricates, and services vessels ranging from private commercial vessels to Navy fleet commanders. The project includes maintenance dredging of the boat basin, replacement and reconfiguration of piles and docks, installation of a sheet pile cutoff wall, removal of the existing launch ramp, and installation of a new travel lift.	IS/MND is being drafted.

4.21.2 Discussion

a) ***Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?***

Less-than-Significant Impact with Mitigation Incorporated. As described in Section 4.5, Cultural Resources, and Section 4.18, Tribal Cultural Resources, no cultural resources were identified within the project site. In addition, it is not anticipated that intact cultural or paleontological resources are present where ground-disturbing activities would occur because ground disturbance would be limited to artificial fill. Therefore, the project would not eliminate important examples of the major periods of California history or prehistory.

The project has the potential to directly and indirectly affect wildlife and eelgrass from construction activities. Implementation of MM-BIO-1 through MM-BIO-5 would reduce impacts to marine-related biological resources to less than significant. Following construction, the project site would be returned to a similar condition as the existing setting. The project would not introduce new activities that would have potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory.

b) ***Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)***

Less-than-Significant Impact. As documented in this IS/MND, impacts associated with the project would be localized and limited to the short-term construction period. In addition, the project would be consistent with regional and local plans, and would not conflict with the SANDAG's land use projections contained within the RAQS. Additionally, the project would comply with SDAPCD Rules to ensure emissions are within acceptable levels during construction., and the project's air pollutant and GHG emissions would be well below the applicable thresholds of significance. The project would not result in conflicts with applicable land use plans and policies. The highly developed nature of the project area, and the project site's location within and adjacent to the Bay, limits the likelihood that other projects would be under construction at the same time and in the same general location as the proposed project. Other future projects would be within the surrounding area would also be required to comply with applicable local, state, and federal regulations to reduce potential impacts to a less-than-significant level. Therefore, the project is not anticipated to contribute to considerable environmental impacts, and impacts would be less than significant.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less-than-Significant Impact with Mitigation Incorporated. As documented in this IS/MND, the project is not anticipated to result in substantial adverse effect on human beings. The project site is located adjacent to a residential area; however, with the implementation of mitigation measures such as MM-NOI-1 construction noise would be eliminated or reduced for the residences off First Street to the east and west of the project site. In addition, no adverse effects on humans would be ensured through compliance with regulations and through the implementation of construction BMPs as proposed by the applicant (see Section 2.1.4). Construction BMPs related to stormwater, proper disposal of construction debris, hazardous material and waste spill prevention, and construction equipment idling limits and tier requirements would ensure impacts to humans would be less than significant.

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Mandatory Findings of Significance

No references used in this section.

5.2 List of Preparers

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Air Quality and Greenhouse Gas Emissions Modeling Output

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	POSD SPLR
Construction Start Date	1/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00
Precipitation (days)	20.0
Location	32.702193337125635, -117.18013298299276
County	San Diego
City	Coronado
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6453
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	—
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Construction	0.03	Mile	0.11	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.73	0.69	6.67	33.3	0.06	0.14	1.06	1.20	0.13	0.29	0.40	—	7,564	7,564	0.34	0.60	0.20	7,753
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.05	0.30	2.18	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	500	500	0.02	0.01	0.08	504
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.05	0.40	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	82.7	82.7	< 0.005	< 0.005	0.01	83.5

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.73	0.69	6.67	33.3	0.06	0.14	1.06	1.20	0.13	0.29	0.40	—	7,564	7,564	0.34	0.60	0.20	7,753
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2026	0.05	0.05	0.30	2.18	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	500	500	0.02	0.01	0.08	504
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.01	0.01	0.05	0.40	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	82.7	82.7	< 0.005	< 0.005	0.01	83.5

3. Construction Emissions Details

3.1. Site Preparation/Excavator Placement (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.62	3.24	32.4	0.06	0.12	—	0.12	0.12	—	0.12	—	6,576	6,576	0.27	0.05	—	6,599
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	36.0	36.0	< 0.005	< 0.005	—	36.2

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.97	5.97	< 0.005	< 0.005	—	5.99
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	140	140	0.01	0.01	0.01	142
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.23	0.08	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	175	175	0.01	0.03	0.01	184
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.79
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.96	0.96	< 0.005	< 0.005	< 0.005	1.01
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.17

3.3. Debris Removal/ subgrade preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.62	3.24	32.4	0.06	0.12	—	0.12	0.12	—	0.12	—	6,576	6,576	0.27	0.05	—	6,599
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.44	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	90.1	90.1	< 0.005	< 0.005	—	90.4
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.9	14.9	< 0.005	< 0.005	—	15.0
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	140	140	0.01	0.01	0.01	142
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.3	98.3	< 0.005	0.01	0.01	103
Hauling	0.04	0.01	0.68	0.25	< 0.005	0.01	0.14	0.15	0.01	0.04	0.04	—	525	525	0.03	0.08	0.03	551
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.19	7.19	< 0.005	< 0.005	0.01	7.55
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.25

3.5. Filter Fabric Placement (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.25	1.31	13.1	0.02	0.05	—	0.05	0.05	—	0.05	—	2,670	2,670	0.11	0.02	—	2,679
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.9	21.9	< 0.005	< 0.005	—	22.0
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.63	3.63	< 0.005	< 0.005	—	3.65

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	140	140	0.01	0.01	0.01	142
Vendor	0.01	< 0.005	0.22	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	189	189	0.01	0.03	0.01	197
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.16	1.16	< 0.005	< 0.005	< 0.005	1.18
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.55	1.55	< 0.005	< 0.005	< 0.005	1.62
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.20
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Revetment Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.51	2.68	26.8	0.05	0.10	—	0.10	0.10	—	0.10	—	5,432	5,432	0.22	0.04	—	5,450
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.11	1.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	223	223	0.01	< 0.005	—	224
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	37.0	37.0	< 0.005	< 0.005	—	37.1
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	140	140	0.01	0.01	0.01	142
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	98.3	98.3	< 0.005	0.01	0.01	103
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.82	5.82	< 0.005	< 0.005	0.01	5.91
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.04	4.04	< 0.005	< 0.005	< 0.005	4.22
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.96	0.96	< 0.005	< 0.005	< 0.005	0.98
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.67	0.67	< 0.005	< 0.005	< 0.005	0.70
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Site Cleanup (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.37	0.37	1.93	19.3	0.04	0.07	—	0.07	0.07	—	0.07	—	3,906	3,906	0.16	0.03	—	3,919
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	0.01	0.01	0.03	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	53.5	53.5	< 0.005	< 0.005	—	53.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.86	8.86	< 0.005	< 0.005	—	8.89
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.61	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	140	140	0.01	0.01	0.01	142
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.25	0.07	4.70	1.76	0.02	0.07	0.93	0.99	0.04	0.25	0.30	—	3,518	3,518	0.18	0.57	0.19	3,691
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	1.97
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.2	48.2	< 0.005	0.01	0.04	50.6

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.98	7.98	< 0.005	< 0.005	0.01	8.38

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation/Excavator Placement	Linear, Grubbing & Land Clearing	1/1/2026	1/2/2026	5.00	2.00	—
Debris Removal/ subgrade preparation	Linear, Grading & Excavation	1/5/2026	1/9/2026	5.00	5.00	—
Filter Fabric Placement	Linear, Drainage, Utilities, & Sub-Grade	2/2/2026	2/4/2026	5.00	3.00	—
Revetment Construction	Linear, Paving	2/10/2026	3/2/2026	5.00	15.0	—
Site Cleanup	Linear, Trenching	3/3/2026	3/9/2026	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation/Excavator Placement	Excavators	Diesel	Tier 4 Final	1.00	12.0	273	0.70
Site Preparation/Excavator Placement	Cranes	Diesel	Tier 4 Final	1.00	12.0	700	0.40
Debris Removal/ subgrade preparation	Excavators	Diesel	Tier 4 Final	1.00	12.0	273	0.70
Debris Removal/ subgrade preparation	Cranes	Diesel	Tier 4 Final	1.00	12.0	700	0.40
Filter Fabric Placement	Excavators	Diesel	Tier 4 Final	1.00	12.0	273	0.70
Revetment Construction	Excavators	Diesel	Tier 4 Final	1.00	12.0	273	0.40
Revetment Construction	Cranes	Diesel	Tier 4 Final	1.00	12.0	700	0.40
Site Cleanup	Cranes	Diesel	Tier 4 Final	1.00	12.0	700	0.40

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation/Excavator Placement	—	—	—	—
Site Preparation/Excavator Placement	Worker	16.0	12.0	LDA,LDT1,LDT2
Site Preparation/Excavator Placement	Vendor	0.00	7.63	HHDT,MHDT
Site Preparation/Excavator Placement	Hauling	2.00	25.0	HHDT

Site Preparation/Excavator Placement	Onsite truck	—	—	HHDT
Debris Removal/ subgrade preparation	—	—	—	—
Debris Removal/ subgrade preparation	Worker	16.0	12.0	LDA,LDT1,LDT2
Debris Removal/ subgrade preparation	Vendor	4.00	7.63	HHDT,MHDT
Debris Removal/ subgrade preparation	Hauling	6.00	25.0	HHDT
Debris Removal/ subgrade preparation	Onsite truck	—	—	HHDT
Filter Fabric Placement	—	—	—	—
Filter Fabric Placement	Worker	16.0	12.0	LDA,LDT1,LDT2
Filter Fabric Placement	Vendor	4.00	15.0	HHDT,MHDT
Filter Fabric Placement	Hauling	0.00	20.0	HHDT
Filter Fabric Placement	Onsite truck	—	—	HHDT
Revetment Construction	—	—	—	—
Revetment Construction	Worker	16.0	12.0	LDA,LDT1,LDT2
Revetment Construction	Vendor	4.00	7.63	HHDT,MHDT
Revetment Construction	Hauling	0.00	25.0	HHDT
Revetment Construction	Onsite truck	—	—	HHDT
Site Cleanup	—	—	—	—
Site Cleanup	Worker	16.0	12.0	LDA,LDT1,LDT2
Site Cleanup	Vendor	—	7.63	HHDT,MHDT
Site Cleanup	Hauling	50.0	20.0	HHDT
Site Cleanup	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation/Excavator Placement	—	—	0.11	0.00	—
Debris Removal/ subgrade preparation	280	456	0.11	0.00	—
Filter Fabric Placement	—	—	0.11	0.00	—
Revetment Construction	275	—	0.11	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Construction	0.11	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	589	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	6.59	annual days of extreme heat
Extreme Precipitation	2.55	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth

Wildfire	1.66	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A

Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	—
AQ-PM	—
AQ-DPM	—
Drinking Water	—
Lead Risk Housing	—
Pesticides	—
Toxic Releases	—
Traffic	—
Effect Indicators	—
CleanUp Sites	—

Groundwater	—
Haz Waste Facilities/Generators	—
Impaired Water Bodies	—
Solid Waste	—
Sensitive Population	—
Asthma	—
Cardio-vascular	—
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	—
Housing	—
Linguistic	—
Poverty	—
Unemployment	—

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—

Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	—
Asthma ER Admissions	—
High Blood Pressure	—
Cancer (excluding skin)	—
Asthma	—
Coronary Heart Disease	—
Chronic Obstructive Pulmonary Disease	—
Diagnosed Diabetes	—
Life Expectancy at Birth	—
Cognitively Disabled	—

Physically Disabled	—
Heart Attack ER Admissions	—
Mental Health Not Good	—
Chronic Kidney Disease	—
Obesity	—
Pedestrian Injuries	—
Physical Health Not Good	—
Stroke	—
Health Risk Behaviors	—
Binge Drinking	—
Current Smoker	—
No Leisure Time for Physical Activity	—
Climate Change Exposures	—
Wildfire Risk	—
SLR Inundation Area	—
Children	—
Elderly	—
English Speaking	—
Foreign-born	—
Outdoor Workers	—
Climate Change Adaptive Capacity	—
Impervious Surface Cover	—
Traffic Density	—
Traffic Access	—
Other Indices	—
Hardship	—
Other Decision Support	—
2016 Voting	—

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	—
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction, revetment schedule provided by project applicant.
Construction: Off-Road Equipment	Construction equipment and activity provided by project applicant.
Construction: Dust From Material Movement	Material movement assumptions provided by project applicant.
Construction: Trips and VMT	Trip information based on information provided by project applicant.

Port of San Diego SLPR Rock Revetment-Replacement Project

Source Category	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	Pb	CO2	CH4	N2O	CO2e
Maximum Daily Emissions	**pounds/day**							**pounds/day**			
Marine Vessel	3.21	13.34	5.64	2.07	1.33	1.23	0.00	3,336.95	0.15	0.05	3,355.84
CalEEMod Emissions	0.69	6.67	33.32	0.06	1.20	0.40	0.00	7,564.34	0.34	0.60	7,752.71
Total	**3.90**	**20.01**	**38.97**	**2.14**	**2.54**	**1.63**	**0.00**	**10,901.30**	**0.49**	**0.65**	**11,108.55**

Port of San Diego SLPR

Marine Emission Estimates

Boat Classification	Phase	Engine	Engine Tier	Fuel	# Engines	Engine Rating (hp)	Engine Rating (kW)	Load Factor	Operation (hr/day)	Operation (hours/yr)	Emission Factors VOC (g/kW-hr)	NOx	CO	SOx	PM10	PM2.5	Pb	CO2	CH4	N20
Tugboat - Main	Transit	Auxiliary	3	0.1%S	2	500	373	0.50	6.00	22	0.63	2.60	1.10	0.40	0.26	0.24	0.00	649.00	0.01	0.03
Tugboat - Aux	Transit	Auxiliary	3	0.1%S	1	20	15	1	6.00	22	0.51	2.60	1.10	0.50	0.26	0.24	0.00	686.00	0.01	0.03
Emission Subtotals																				

Boat Classification	Maximum Daily Emissions VOC (lb/day)	NOx	CO	SOx	PM10	PM2.5	Pb	CO2	CH4	N20	CO2E
Tugboat - Main	3.11	12.82	5.43	1.97	1.28	1.18	-	3,200.84	0.14	0.05	3,219.11
Tugboat - Aux	0.10	0.52	0.22	0.10	0.05	0.05	0.00	136.11	0.01	0.00	136.73
Emission Subtotals	**3.21**	**13.34**	**5.64**	**2.07**	**1.33**	**1.23**	**0.00**	**3,336.95**	**0.15**	**0.05**	**3,355.84**

Boat Classification	Annual Emissions VOC (ton/yr)	NOx	CO	SOx	PM10	PM2.5	Pb	CO2 (MT/yr)	CH4	N20	CO2E
Tugboat - Main	0.01	0.02	0.01	0.00	0.00	0.00	-	5.32	0.00	0.00	5.40
Tugboat - Aux	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.23
Emission Subtotals	**0.01**	**0.02**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.55**	**0.00**	**0.00**	**5.63**

Note:

Emission Factors

Marine Propulsion

Engine Type	Engine Family	Model	Tier	Fuel	VOC (g/kW-hr)	NOx	CO	SOx	PM10	PM2.5	Pb	CO2	CH4	N2O
Slow Speed Diesel		<=1999	Tier 0	0.1%S	0.600	17.01	1.4	0.39	0.26	0.24	0.00060666	589	0.012	0.029
Medium Speed Diesel		<=1999	Tier 0	0.1%S	0.500	13.16	1.1	0.43	0.26	0.24	0.00060666	649	0.010	0.029
Slow Speed Diesel		2000-2010	Tier 1	0.1%S	0.600	15.98	1.4	0.39	0.26	0.24	0.00060666	589	0.012	0.029
Medium Speed Diesel		2000-2010	Tier 1	0.1%S	0.500	12.22	1.1	0.43	0.26	0.24	0.00060666	649	0.010	0.029
Slow Speed Diesel		2011-2015	Tier 2	0.1%S	0.600	14.38	1.4	0.39	0.26	0.24	0.00060666	589	0.012	0.029
Medium Speed Diesel		2011-2015	Tier 2	0.1%S	0.500	10.53	1.1	0.43	0.26	0.24	0.00060666	649	0.010	0.029
Slow Speed Diesel		2016+	Tier 3	0.1%S	0.600	3.38	1.4	0.39	0.26	0.24	0.00060666	589	0.012	0.029
Medium Speed Diesel		2016+	Tier 3	0.1%S	0.500	2.63	1.1	0.43	0.26	0.24	0.00060666	649	0.010	0.029
Propulsion Tier 3 POSD	Medium Speed Diesel	2016+	Tier 3	0.1%S	0.630	2.60	1.1	0.40	0.26	0.24		649	0.010	0.029
EPA Certification	HCEXN19.0AAA		Tier 3	0.1%S	0.392	5.21	5.0	0.07	0.11	0.11	0.00060666	716		
EPA Certification	D233051MX03		Tier 4	0.1%S	0.190	1.80	5.0	0.07	0.04	0.04	0.00060666	716		

Notes:
Emission factors from Table 2.3 and 2.4 of the 2019 Port of Los Angeles Emission Inventory Methodology Report
EPA certification based on Tier 3 rating for the engine family from Table 1 to CFR §1042.101.
Emission factor for Pb from the Santa Barbara Air Pollution Control District Approved TAC Emission Factors, December 2023.
Arendsee Port of SD project emission factors from Port of San Diego 2016 Maritime Air Emissions Inventory

Marine Auxiliary

Engine Type	Model	Tier	Fuel	VOC (g/kW-hr)	NOx	CO	SOx	PM10	PM2.5	Pb	CO2	CH4	N2O
Aux High Speed Diesel	<=1999	Tier 0	0.1%S	0.600	10.9	1.1	0.455	0.26	0.24	0.00060666	656	0.010	0.029
Aux Med Speed Diesel	<=1999	Tier 0	0.1%S	0.600	13.82	1.4	0.455	0.26	0.24	0.00060666	686	0.012	0.029
Aux High Speed Diesel	2000-2010	Tier 1	0.1%S	0.600	9.78	1.1	0.455	0.26	0.24	0.00060666	656	0.010	0.029
Aux Med Speed Diesel	2000-2010	Tier 1	0.1%S	0.600	12.22	1.4	0.455	0.26	0.24	0.00060666	686	0.012	0.029
Aux High Speed Diesel	2011-2015	Tier 2	0.1%S	0.600	7.71	1.1	0.455	0.26	0.24	0.00060666	656	0.010	0.029
Aux Med Speed Diesel	2011-2015	Tier 2	0.1%S	0.600	10.53	1.4	0.455	0.26	0.24	0.00060666	686	0.012	0.029
Aux High Speed Diesel	2011-2015	Tier 3	0.1%S	0.600	1.97	1.1	0.455	0.26	0.24	0.00060666	656	0.010	0.029
Aux Med Speed Diesel	2011-2015	Tier 3	0.1%S	0.600	2.63	1.4	0.455	0.26	0.24	0.00060666	686	0.012	0.029
Aux Med Speed Diesel	2011-2015	Tier 3	0.1%S	0.378	5.022	5	0.068	0.12	0.12	0.00060666			
Aux Tier 3 POSD Invent	Tier 3 Standard	2016+	Tier 3	0.1%S	0.510	2.6	1.1	0.5	0.26	0.24	0.00060666	686	0.008	0.029
Aux HSD CARB					0.420	2	1.1	0.42	0.19			696	0.010	0.03
Generator Sets		Tier 4 Final	0.1%S		0.1200	2.7500	4.1000	0.0050	0.0080	0.0080	-	568.2990	0.0180	0.0081

Notes:
Emission factors from Table 2.11 of the 2016 Port of San Diego Emission Inventory Methodology Report
Load factors for auxiliary engines based on specfic information provided by applicant.
EPA certification based on Tier 3 rating for the engine family from Table 5 to CFR §1042.101.
Emission factor for Pb from the Santa Barbara Air Pollution Control District Approved TAC Emission Factors, December 2023.

Marine exhaust emissions were calculated using the following equation:

$$Emissions_{diesel} = \sum EF_i \times Eng_i \times AvgHP \times Load_i \times Activity_i$$

Where:

EF	=	*Emission factor in grams per horse-power hour*
Eng	=	*Number of engines*
AvgHP	=	*Maximum rated average horsepower*
Load	=	*Load factor*
Activity	=	*Hours of operation*
i	=	*Equipment type*

2. Emissions Summary

2.2 Construction Emissions by Year, Unmitigated

Year	ROG	NOx	CO	SO_2	PM10T	PM2.5T	BCO_2	CO_2T	CH_4	N_2O	R	CO_2e
Daily - Summer (Max)												
Daily - Winter (Max)												
2026	0.69366	6.674	33.3222	0.06482	1.20253	0.40368		7564.34	0.3411	0.60281	0.20426	7752.71
Average Daily												
2026	0.04632	0.29698	2.17588	0.00434	0.03676	0.01596		499.7	0.0209	0.01397	0.07687	504.461
Annual												
2026	0.00845	0.0542	0.3971	0.00079	0.00671	0.00291		82.7311	0.00346	0.00231	0.01273	83.5193

Appendix B
Biological Resources Technical Report

Biological Technical Report and Essential Fish Habitat Assessment

SPLR-Arendsee Rock Revetment Replacement Project

JULY 2025

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CEMP	California Eelgrass Mitigation Policy
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Database
CSP	California State Parks
CWA	Clean Water Act
EFH	Essential Fish Habitat
ESA	Endangered Species Act
FMP	Fishery Management Plan
GIS	geographic information system
HAPC	Habitat Area of Particular Concern
MAMP	monitoring and adaptive management plan
MHWL	mean high water line
MM	Mitigation Measure
MMPA	Marine Mammal Protection Act
MS4	Municipal Separate Storm Sewer Systems
NOAA FISHERIES	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
PFMC	Pacific Fishery Management Council
RWQCB	Regional Water Quality Control Board
SWPPP	stormwater pollution prevention plan
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WEAP	Worker Environmental Awareness Program

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1 Introduction

This Biological Technical Report documents the methods and results of surveys and analysis to assess the existing conditions related to terrestrial and marine biological resources within the SPLR-Arendsee Rock Revetment Replacement Project (Project) area in San Diego Bay. The report also provides analyses and conclusions regarding potential impacts to existing biological resources that may result from implementation of the Project. This report provides information to support determinations related to regulatory requirements of the City of Coronado, California Coastal Commission (CCC), San Diego Regional Water Quality Control Board (RWQCB), National Oceanic and Atmospheric Administration (NOAA) Fisheries, U.S. Fish & Wildlife Service (USFWS), and the U.S. Army Corps of Engineers (USACE).

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2 Project Description

2.1 Project Location

The proposed SLPR-Arendsee Rock Revetment Replacement Project (Project) is located on Coronado Island and includes revetment structures extending from homes located at 407 and 409 First Street, Coronado, CA 92118. 407 and 409 First Street are the sixth and seventh residences southeast of North Island Naval Air Station and also the second and third residences northwest of Bayview Park (the I Avenue street-end) in Coronado (Figure 1-2). All of the properties along the shoreline in the vicinity of these residences have some form of shoreline protection. The proposed construction footprint on the landside area encompasses approximately 4,900 square feet) to accommodate the Project (Figure 1, Figure 2).

2.2 Project Purpose

The Project includes the replacement of existing rock revetment bayward of 407 and 409 First Street in Coronado as described below in Section 2.4, including the removal and off-site disposal of existing debris, the placement of new rock revetment, and final cleanup and demobilization of the Project. The existing shoreline protection at the Project site was installed in 2001 pursuant to a permit issued by the Unified Port District of San Diego (Port). The shoreline protection is now in need of repair as the revetment at 409 First Street is covered with old construction debris which does not provide effective protection, and the revetment at 407 First Street has insufficient toestone embedment and is in need of a rock apron for stabilization.

2.3 Project Setting

The Project is located in north San Diego Bay. 407 & 409 First Street are the sixth and seventh residences southeast of North Island Naval Air Station and also the second and third residences northwest of Bayview Park (the I Avenue street-end) adjacent to the Bay. The existing condition of all of the properties along the shoreline in the vicinity of the Project site during low tide conditions (low tide elevation of -1.1 feet mean low low water (MLLW)) are shown in Figure set 3-1, Existing Conditions. All properties, including Bayview Park, have some form of shoreline protection to prevent erosion. Primary regional access to the Project area is provided by Interstate 75 via the Coronado Bridge, which is located southeast of the Project area, and connects Coronado to the City of San Diego.

San Diego Bay and its associated uplands provide important habitat for listed bird species and sensitive and rare plant species. San Diego Bay is an extremely productive area, supporting over 300 species of marine and coastal birds, over 640 species of marine invertebrates, about 80 species of fishes, over 45 species of algae, marine mammals, turtles, and 11 federal/state threatened or endangered species that are found in over 12,000 acres of marine, estuarine, and marsh habitats (Port of San Diego 2025). The Bay also serves as an important stopover for migratory birds along the Pacific Flyway.

2.4 Project Construction

Construction activities would take approximately three months and would occur during daytime hours between 7:00am and 7:00pm, consistent with the City of Coronado Noise Ordinance (Section 41.10.040(B) Coronado

Municipal Code (CMC)). Construction work during night-time hours (between 7:00 p.m. and 7:00 a.m.) is not proposed.

The proposed land-based equipment includes a medium-sized excavator (likely a CAT 355 excavator, 10'x17' in plan dimension), which would be operated within the revetment and shoreline area of the Project site.

The proposed water-based equipment includes a derrick crane barge, 180'x50' with a 5.5' maximum draft, a 110'x32' material barge with a maximum 8' draft, A 62'x20' PDC tug with a maximum 10' draft to be used to maneuver the crane derrick barge and material barge. The tug would be on the Project site only when moving the barges. The material barge would have a steel bin wall around its internal perimeter to prevent any loose debris or silt from entering San Diego Bay. After the material barge is emptied, the deck of the barge would be cleaned to also prevent any debris or silt from entering the bay.

The contractor will be Pacific Dredge and Construction, LLC (PDC). PDC would operate out of their facility at 1444 Cesar E. Chavez Parkway in San Diego, northwest of the Coronado Bay Bridge and about 1.9 miles by water fromthe Project site (Figure 1).

2.4.1 Site Preparation/Equipment Placement

PDC would load an excavator onto the derrick barge at the PDC facility south of the Tenth Avenue Marine Terminal (TAMT). The derrick barge would be towed to the Project site (Figure set 2-1, Proposed Work Barge Movements at Low and High Tide) during high tide conditions (only during 2' MLLW or higher tide). The PDC tug would return to the work yard south of the TAMT.

The crane of the derrick barge would lift the excavator and set it on the shoreline at the 407 First Street site. The derrick barge would then move away from the shoreline about 225 feet to its standby position, outside of known eelgrass beds. The derrick barge would then drop its spuds to secure the derrick barge on location. The PDC tug would then bring another, smaller material barge to the shoreline loading and unloading location, where it would attach to the derrick barge. Once the excavator is offloaded, the PDC tug would return to the work yard south of the TAMT.

2.4.2 Debris Removal/Subgrade Preparation

The excavator would excavate ~~178~~456 cubic yards of debris and place the debris in piles. The work crew would then prepare the revetment subgrade bayward/shoreline of the 409 First Street site.

During high tide conditions (only during 2'MLLW or higher tide), the derrick barge would move into the loading and unloading area to pick up the debris from 409 First Street and deposit it on the material barge. Removal of the existing debris would occur within the boundaries and construction footprint of the existing revetment. Since the derrick barge has a loaded draft of about 6 feet, it would approach the shoreline only at high tide, enabling it to get close enough to offload the excavator. Then, during the receding tide, it would be pulled back into deeper water to avoid contact with eelgrass (Figure set 2-1). There would be similar high tide/low tide movement to facilitate the removal of debris and the placement of proposed construction materials.

A small, temporary construction dam would be fabricated around the interior perimeter of the material barge to prevent any loose debris or silt from entering the bay. The work would be performed within the proposed work area, approximately 16' to >40 feet from the nearshore boundary of the eelgrass. Moreover, the excavator would only be used during low tide so excation is conducted in the dry. This combined with the temporary construction dam would prevent sedimentation from entering the water column and avoid any potential impact to eelgrass.

The material barge has a capacity of about 150 cubic yards of debris. To haul the ~~178~~456 cubic yards of exported debris, will be conducted in ~~two~~three trips. Each trip consisting of about ~~90~~150 cubic yards of debris., ~~well under the material barge's maximum capacity~~.

The excavator would remove the existing granitic rock revetment at 407 First Street. The rock revetment would be temporarily stockpiled on the prepared subgrade bayward of 409 First Street.

The work crew would then prepare the revetment subgrade bayward of the 407 First Street Site by placing filter fabric. Quarry riprap would be loaded on the material barge and brought to the Project site. The placement of both filter fabric and quarry riprap will follow the Rock Revetment Rehabilitation plans. Quarry stone (9"-minus) would be loaded on to the material barge per the Rock Revetment Rehabilitation Plan and brought to the Project site for placement.

2.4.3 Filter Fabric Placement

The work crew would place the filter fabric along the shoreline at 407 First Street. All useable stockpiled revetment on the 409 First Street site would be initially placed, and all unsuitable excavated rock from the toe of the 407 Street rock revetment would be placed on the material barge for disposal. After initial visual analysis, it is anticipated that most of the rock at 407 First Street can be reused and that virtually none of the rock at 409 First Street can be reused.

The tug would tow the material barge back to PDC's work yard. The debris would be offloaded into 10-yard dump trucks and hauled off-site to a legal disposal area.

2.4.4 Rock Revetment Construction

The material barge would be loaded with 1/4-ton rock and towed to the shoreline loading and unloading zone. The ¼-ton rock revetment would be placed on both the 407 First Street and 409 First Street sites (Figure set 2-2, Proposed New Rock Revetment Drawing).

2.4.5 Site Clean Up

The Project site would be cleaned up and any excess debris or rock placed on the material barge for disposal offsite. The excavator would be placed back on the derrick barge, and the derrick barge would return to PDC's work yard for final cleanup and demobilization.

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3 Regulatory Setting

This section provides a brief regulatory overview for marine and terrestrial biological resources addressed in this report.

3.1 Federal Laws and Regulations

3.1.1 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801–1884) of 1976, as amended in 1996 and reauthorized in 2007 (Magnuson-Stevens Act), is intended to protect fisheries resources and fishing activities within 200 miles of shore. The amended law, also known as the Sustainable Fisheries Act (Public Law 104-297), requires all Federal agencies to consult with the Secretary of Commerce on proposed Projects authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH). The main purpose of the EFH provisions is to avoid loss of fisheries due to disturbance and degradation of habitat. EFH is regulated under the Magnuson-Stevens Act, protecting waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (16 USC 1801 et seq.). Substrates that are considered include sediment, hard bottom, structures underlying waters, and associated biological communities.

The Pacific Fishery Management Council (PFMC) is one of eight regional fishery management councils established by the Magnuson-Stevens Act. Under the Magnuson-Stevens Act, the Federal government has jurisdiction to manage fisheries in the Exclusive Economic Zone, which extends from the outer boundary of State waters (3 nautical miles from shore) to a distance of 200 nautical miles from shore. With jurisdiction over the 822,817 square kilometers (317,690 square miles) of Exclusive Economic Zone off Washington, Oregon, and California, the PFMC manages fisheries for approximately 120 species, including salmon, groundfish, coastal pelagic species (sardines, anchovies, and mackerel), and highly migratory species (tunas, sharks, and swordfish). The PFMC is also active in international fishery management organizations that manage fish stocks that migrate through the PFMC's area of jurisdiction, including the International Pacific Halibut Commission, the Western and Central Pacific Fisheries Commission (for albacore tuna [*Thunnus alalunga*] and other highly migratory species), and the Inter-American Tropical Tuna Commission (for yellowfin tuna [*T. albacares*] and other highly migratory species) (PFMC 2024). Management measures developed by the PFMC are recommended to the Secretary of Commerce through NOAA Fisheries. Management measures are implemented by the NOAA Fisheries west coast regional offices and enforced by the NOAA Office of Law Enforcement, the 11th and 13th Coast Guard Districts, and local enforcement agencies (PFMC 2024).

Congress defined EFH to mean those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. In 2002, NOAA Fisheries further clarified EFH with the following definitions (50 CFR 600.05–600.930):

- "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate.
- "Substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities.

- "Necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and
- "Spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle.

The entire coastal region of California is designated as EFH in the Pacific Coast Groundfish Fishery Management Plan (FMP). This FMP manages more than 90 species over a large and ecologically diverse area extending from the Pacific coast border between California and Mexico to the Pacific coast border between Washington and Canada (PFMC 2025). Because the EFH determination from the Pacific Coast Groundfish FMP addresses such a large number of species, it covers areas out to 11,483 feet in depth, shoreline areas up to mean higher high water, and areas up coastal rivers where ocean-derived salinity is at least 0.5 practical salinity units (psu) during average annual low flows.

Habitat Areas of Particular Concern

Habitat Areas of Particular Concern (HAPCs) are considered high priority areas for conservation, management, or research because they are rare, sensitive, stressed by development, or important to ecosystem function. The HAPC designation does not necessarily mean that additional protections or restrictions are required for an area, but the designation helps to prioritize and focus conservation efforts. EFH guidelines identify HAPCs as types or areas of habitat that are identified based on one or more of the following considerations:

- The importance of the ecological function provided by the habitat
- The extent to which the habitat is sensitive to human-induced environmental degradation
- Whether, and to what extent, development activities are or will be stressing the habitat type
- The rarity of the habitat type

These areas are detailed in EFH sections of FMPs and are summarized within the Regional Council Approaches to the Identification and Protection of Habitat Areas of Particular Concern (NOAA Fisheries 2001). Current HAPC types are estuaries, canopy kelp, seagrass, rocky reefs, and marine protected areas or areas of interest (such as banks, seamounts, and canyons). No marine protected areas occur in or adjacent to the Project site; therefore, they would not be affected by the proposed Project and are not analyzed in this report.

Estuaries

Estuaries are semi-enclosed regions where saltwater and freshwater mix, leading to a unique and biodiverse community of plant and animal species. Estuaries are characterized by high productivity, sediment deposition, varying salinity, and high biodiversity. Due to the variable salinity, tides, outflow, and water properties, many organisms have adapted in a myriad of ways to exploit the environment. Estuaries are vital habitats for marine fishes that use the shallow protected habitat as rearing zones for juveniles. Without these important habitats, juveniles would be exposed to physical forces beyond their swimming capabilities, as well as high predatory pressure due to a lack of shelter. The nutrient input, calm waters, and sedimentation of estuaries allow many plant species to thrive, forming the base of a very productive ecosystem that influences many habitats and species beyond its borders. Estuaries also provide habitat for a variety of seabirds, invertebrates, marine mammals, and turtles.

Canopy Kelp

Giant kelp (*Macrocystis pyrifera*), perhaps the most recognized species of brown macroalgae, forms the more southern kelp forests, from the southern Channel Islands, California, to northwestern Baja California, Mexico. In California, there are two dominant species: Giant kelp and bull kelp (*Nereocystis luetkeana*). Considered an ecosystem engineer, kelp provides a physical substrate and habitat for kelp forest communities. A wide range of sea life uses kelp forests for protection or food, including fish (particularly rockfish) and many invertebrates, such as amphipods, shrimp, marine snails, bristle worms, and brittle stars. Many marine mammals and birds are also found, including seals, California sea lion (*Zalophus californianus*), whales, sea otter (*Enhydra lutris*), gulls, terns, snowy egret (*Egretta thula*), great blue heron (*Ardea herodias*), and cormorants (*Phalacrocoracidae*), as well as some shorebirds. In California giant kelp forests, the nudibranch *Melibe leonina* and skeleton shrimp (*Caprella californica*) are closely associated with surface canopies; the kelp perch (*Brachyistius frenatus*), rockfishes (*Sebastes* spp.), and many other fishes are found within the stipitate understory; brittle stars and turban snails (*Tegula* spp.) are closely associated with the kelp holdfast, while various herbivores, such as sea urchins and abalones (*Haliotis* spp.), live under the prostrate canopy; many sea stars, hydroids, and benthic fishes live among the benthic assemblages; and solitary corals, various gastropods, and echinoderms live over the encrusting coralline algae.

Seagrass

Seagrasses are some of the only flowering plants, or angiosperms, that can grow in a marine environment. These plants support a diversity of life and can form extensive beds in shallow, protected, estuarine, or other nearshore environments. Two common seagrasses that occur in the west coast region are eelgrass (*Zostera* spp.) and surfgrass (*Phyllospadix* spp.), with eelgrass being the most prevalent in California. Eelgrass (*Zostera marina* and *Z. pacifica*) beds are located in soft, sandy, sheltered seafloor environments, typically in shallow bays and estuaries. Eelgrass beds function as nursery grounds and provide habitat for juvenile fish, snails, sea stars, anemones, crabs, and clams, and further serve as potential foraging habitat for sea turtles. Surfgrass beds are located in the rocky intertidal and subtidal zones with turbulent surf. Surfgrass beds are habitat for several species of invertebrates, juvenile fish, and epiphytic algae. Eelgrass beds are recognized by Federal and State statutes as highly valuable and sensitive habitats. Eelgrass has been designated as EFH for various fish species managed under the Magnuson-Stevens Act, and has been listed as a HAPC, identifying it as rare, especially vulnerable to human impacts, particularly important ecologically, and/or located in environmentally stressed areas. This designation requires Federal agencies to consult with NOAA Fisheries on ways to avoid or minimize the adverse effects of their actions on eelgrass. The California Eelgrass Mitigation Policy and Implementing Guidelines (CEMP) provides Federal agencies consulting with NOAA Fisheries with comprehensive and consistent information to ensure their actions result in “no net loss” of eelgrass habitat function (NOAA Fisheries 2014a). The CEMP provides information on how to avoid or lessen impacts to eelgrass and for considering different options for mitigation. This flexibility provides an opportunity to protect and restore eelgrass, a key foundation to a healthy marine habitat, and to preserve the basic ecosystem functions along the California coast.

Rocky Reefs

Rocky reefs are submerged rock outcrops with varying relief, known to be rich in both fish abundance and species diversity. In these systems, rocky reefs provide prey, shelter, and refuge for recruiting, juvenile, and adult fishes. Rocky reefs also provide surface area for colonization of algae and invertebrates. It is the physical structure itself of rocky reefs that is the most beneficial to the marine ecosystem. Nearshore rocky reefs receive enough light for photosynthesis and are inhabited by algae, invertebrates, and groundfishes. Rocky reefs in deeper waters do not receive enough light

for photosynthesis and are therefore dominated by sessile invertebrates, deep-sea corals, and groundfishes. Several species of groundfish, such as lingcod (*Ophiodon elongatus*), many species of rockfish, and cabezon (*Scorpaenichthys marmoratus*), prefer rocky reefs. These species inhabit rocky reefs because they can find shelter from predators inside the structure they provide. In reefs close to the surface, algae can attach to the rocks and provide the base of a food chain, making rocky reefs highly productive. When reefs exist at depth below where sunlight can penetrate, invertebrate filter feeders dominate the community, capturing prey as they pass by in the current.

3.1.2 Marine Mammal Protection Act

The Marine Mammal Protection Act of 1972 (MMPA), as amended, establishes a Federal responsibility for the protection and conservation of marine mammal species by prohibiting the "take" of any marine mammal. The MMPA defines "take" as the act of hunting, killing, capture, and/or harassment of any marine mammal, or the attempt at such. The MMPA also imposes a moratorium on the import, export, or sale of any marine mammals, parts, or products within the United States. U.S. Fish and Wildlife Service (USFWS) and NOAA Fisheries are jointly responsible for implementation of the MMPA; USFWS is responsible for the protection of sea otters and NOAA Fisheries is responsible for protecting pinnipeds (seals and sea lions) and cetaceans (whales and dolphins).

Under Section 101(a)(5)(D) of the MMPA, an incidental harassment permit may be issued for activities other than commercial fishing that may impact small numbers of marine mammals. An incidental harassment permit covers activities that extend for periods of not more than 1 year and that will have a negligible impact on the impacted species. Amendments to the MMPA in 1994 statutorily defined two levels of harassment. Level A harassment is defined as any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal in the wild. Level B harassment is defined as harassment having potential to disturb marine mammals by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.

3.1.3 Clean Water Act

The major Federal legislation governing water quality is the Federal Water Pollution Control Act Amendments of 1972, commonly known as the CWA (33 United States Code [USC] 1251–1376), as amended by the Water Quality Act of 1987. The intention of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into waters of the United States (WoUS) are regulated under CWA Section 404. WoUS include (1) Waters which are: (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (ii) The territorial seas; or (iii) Interstate waters; (2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section; (3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water; (4) Wetlands adjacent to the following waters: (i) Waters identified in paragraph (a)(1) of this section; or (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters; (5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section. Important applicable sections of the CWA are discussed below.

- **Section 401** requires any Federal permit applicant that proposes an activity that may result in a discharge into WoUS to obtain certification from the State that the discharge will comply with the CWA. A 401

certification is provided by the RWQCB assigned to the Project's region. A Section 401 certification from the San Diego RWQCB would be required for this Project if a Section 404 permit and Rivers and Harbor Act (Section 10) permit is required.

- **Section 404** certification is required where USACE issues permits for discharge of dredged or fill material into WoUS. These 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.

3.1.4 Rivers and Harbors Act (Section 10)

The USACE is authorized to regulate any activity within or over any navigable water of the United States pursuant to Section 10 of the Rivers and Harbors Act. 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 is considered a traditional navigable water regulated under Section 10 of the Rivers and Harbors Act.

3.1.5 Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, (16 USC 1531 et seq.) serves as the enacting legislation to list, conserve, and protect threatened and endangered species, and the ecosystems on which they depend, from extinction. In addition, for those wildlife species listed as Federally endangered, FESA provides for the ability to designate critical habitat, defined as that habitat considered "essential to the conservation of the species" and that "may require special management considerations or protection." Under FESA Section 7, if a Project that would potentially result in adverse impacts to threatened or endangered species includes any action that is authorized, funded, or carried out by a Federal agency, that agency must consult with USFWS to ensure that any such action is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat for that species. FESA Section 9(a)(1)(B) prohibits the taking, possession, sale, or transport of any endangered fish or wildlife species. "Take" is defined to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532 (19)). With respect to any endangered species of plant, Sections 9(a)(2)(A) and 9(a)(2)(B) prohibit the possession, sale, and import or export, of any such species, and prohibits any action that would "remove and reduce to possession any such species from areas under Federal jurisdiction; maliciously damage or destroy any such species on any such area; or remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law." Pursuant to FESA Section 10(a)(1)(B), the USFWS may issue a permit for the take of threatened or endangered species provided that such taking is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity."

3.1.6 California Eelgrass Mitigation Policy

Eelgrass is protected under the CWA as a habitat forming species, and the resource is managed locally under the California Eelgrass Mitigation Policy (CEMP) as developed by NOAA fisheries (NOAA Fisheries 2014a). Additionally, due its the high ecological value as EFH, eelgrass is also designated as a habitat area of particular concern (HAPC)

by NOAA Fisheries. The CEMP requires that an eelgrass survey be performed prior to construction to evaluate the presence of eelgrass and or potential eelgrass habitat. NOAA Fisheries 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.

3.1.7 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50, Section 10.13 of the Code of Federal Regulations. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country and is enforced in the United States by USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50, Section 20 of the Code of Federal Regulations. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors).

3.2 State Laws and Regulations

3.2.1 California Endangered Species Act

Under the California Endangered Species Act (CESA), the California Fish and Game Commission has the responsibility of maintaining a list of threatened and endangered species. CESA prohibits the take of State-listed threatened or endangered animals and plants unless otherwise permitted pursuant to CESA. Take under CESA is defined as any of the following: "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California Fish and Game Code Section 86). Unlike the FESA, CESA does not include harassment or harm (e.g., habitat degradation) in its definition of take. Species determined by the State of California to be candidates for listing as threatened or endangered are treated as if listed as threatened or endangered and are, therefore, protected from take. Pursuant to CESA, a State agency reviewing a Project within its jurisdiction must determine whether any State-listed endangered or threatened species, or candidate species, could be potentially impacted by that Project.

3.2.2 California Environmental Quality Act

California Environmental Quality Act (CEQA) Guidelines Section 15380(b) provides that a species not listed on the Federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been generally modeled after the definition in FESA and provisions in Chapter 1.5 of the California Fish and Game Code that address rare or endangered plants and animals. Appendix G of the CEQA Guidelines requires a lead agency to determine whether or not a Project would "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service." CEQA Guidelines Section 15065 requires that a lead agency find an impact to be significant if a Project would "substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

3.2.3 California Fish and Game Code, Sections 3503, 3503.5, 3511, 3513

Section 3503 of the CFG Code states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 protects all birds of prey (raptors) and their eggs and nests. Section 3511 states that fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

3.2.4 Wetlands and Waters of the State

3.2.4.1 Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act established the State Water Resources Control Board and each RWQCB as the principal State agencies responsible for the protection of water quality in California. As noted under the discussion of the CWA, the San Diego RWQCB has regulatory authority over the Project site.

The Porter–Cologne Water Quality Control Act provides that "All discharges of waste into the waters of the State are privileges, not rights." Waters of the State are defined in Section 13050(e) of the Porter–Cologne Water Quality Control Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." All dischargers are subject to regulation under the Porter–Cologne Water Quality Control Act, including both point and nonpoint source dischargers. As noted in the discussion of the CWA, the San Diego RWQCB is the appointed authority for Section 401 compliance in the Project site.

3.2.4.2 California Coastal Act

Under the California Coastal Act, the CCC, in partnership with local governments, regulates impacts to wetlands and other sensitive habitat in the "coastal zone" and requires a coastal development permit for almost all development within this zone. The coastal zone generally extends approximately 1,000 yards inland from the mean high tide line. In less developed areas, it can extend up to 5 miles inland from the mean high tide line, but can also be considerably less than 1,000 yards inland in developed areas.

Section 30121 of the California Coastal Act defines wetlands as "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, swamps, mudflats, and fens."

In contrast to USACE, which uses a three-parameter definition to delineate wetlands, CCC essentially uses the Cowardin et al. (1979) method of wetlands classification, which defines wetland boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology).

3.3 Regional and Local Plans

3.3.1 San Diego Multiple Species Conservation Program

The San Diego Multiple Species Conservation Program (MSCP) is a comprehensive, regional long-term habitat conservation program designed to conserve biodiversity and to achieve certainty in the land development process for private and public-sector Projects within approximately 900 square miles in the southwestern portion of San Diego County (County of San Diego 1998). The San Diego MSCP is a cooperative Federal, State, and local program for conservation of native vegetation communities to address the habitat needs of multiple species. It serves as an approved habitat conservation plan pursuant to Section 10(a)(2)(A) of the ESA and the California Natural Communities Conservation Planning Act. The San Diego MSCP provides permit issuance authority for incidental take of Covered Species to the local regulatory agencies.

The MSCP identifies 85 plants and animals to be "covered" under the plan (termed "Covered Species"). Many of these Covered Species are subject to one or more protective designations under State and/or Federal law and some are endemic to San Diego. The MSCP seeks to provide adequate habitat in the preserve to maintain ecosystem functions and persistence of extant populations of the 85 Covered Species while also allowing participating landowners "take" of Covered Species on lands located outside of the preserve. The purpose of the MSCP is to address species conservation on a regional level and thereby avoid Project-by-Project biological mitigation, which tends to fragment habitat.

3.3.2 San Diego Bay Integrated Natural Resources Management Plan

The San Diego Bay Integrated Natural Resources Management Plan is a long-term strategy sponsored by the U.S. Navy and the Port. Its intent is to provide direction for the good management of natural resources while also supporting the ability of the Navy and the Port to meet their missions and continue functioning within San Diego Bay. The main 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.

4 Methods

4.1 Literature Review

The description of existing biological resources within and immediately surrounding the Project site is based on the review of background documents, standard biological resources database queries, and previous studies. This literature review included sources with information on potential occurrences of special-status species and other sensitive resources as well as occurrence of common resources, within San Diego Bay. This desktop analysis helped identify existing conditions, map vegetation/land use cover, and determine potential biological constraints to terrestrial resources within the upland portion of the Project boundary. It included the following databases and documents:

- CDFW California Natural Diversity Database (CNDDB) 9-quad query (CDFW 2025a)
- USFWS Species Occurrence and Critical Habitat Data (USFWS 2025a)
- USFWS Information for Planning and Consultation (USFWS 2025b)
- Coastal Pelagic Species Fishery Management Plan (PFMC 2024)
- Pacific Coast Groundfish Fishery Management Plan (PFMC 2025)
- California Spiny Lobster Fisheries Management Plan (CDFW 2016)
- CDFW Special Animals List (CDFW 2025b)
- NOAA EFH Mapper (NOAA Fisheries 2025a)
- NOAA California Species List Tools and Marine Mammal Stock Assessment Reports (NOAA Fisheries 2025b)
- NOAA Biologically Important Areas (NOAA Fisheries 2025c)
- Marine Mammal Commission (MMC 2007)
- Marine Mammal Haulouts and Rookeries (CDFG 2009)
- USFWS Recovery Plans, USFWS 5-Year Reviews, and/or Federal Register entries.

Additional resources are reported within the species account information.

4.2 Field Surveys and Analysis

4.2.1 Terrestrial Surveys

Vegetation communities and land covers were catalogued and confirmed based on a desktop analysis (Figure series 3-1). Vegetation communities and land uses within the study area were digitized using Esri ArcGIS software, and geographic information system coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover type within the study area was determined. Vegetation communities and land covers were mapped using the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) as modified by the County of San Diego and noted in Vegetation Communities of San Diego County (Oberbauer et al. 2008). A field assessment was made based on site conditions and information from the desktop analysis. Latin and common names for plant species with a California Rare Plant Rank (CRPR) follow the California Native Plant Society's Inventory of Rare and Endangered Plants (CNPS 2025). For plant species without

a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2024), and common names follow the U.S. Department of Agriculture NRCS Plants Database (USDA 2024b). Potential for special-status wildlife species to occur within the study area was assessed based on known geographic ranges, the presence/absence of suitable habitat, and other natural history elements that might predict their occurrence. Latin and common names for wildlife species referred to in this report follow Crother (2017) for reptiles and amphibians, American Ornithologists' Union Checklist (AOU 2018) for birds, Wilson and Reeder (2005) for mammals, and Moyle (2002) for fish.

4.2.2 Eelgrass and *Caulerpa* Surveys

Eelgrass Surveys were conducted by Marine Taxonomic Services Ltd in 2023 and 2024 (Marine Taxonomic Services Ltd 2023; 2024a). Marine Taxonomic Services Ltd previously prepared a Marine Biological Resources and Essential Fish Habitat Assessment for 707 and 409 First Street (Marine Taxonomic Services Ltd 2024b).

A pre-construction eelgrass and *Caulerpa* survey was conducted by Marine Taxonomic Services Ltd on October 23, 2023 (Marine Taxonomic Services Ltd 2023), and a baseline eelgrass survey was conducted on May 24, 2024 (Marine Taxonomic Services Ltd 2024a). The surveys utilized side-scan sonar and scuba survey methodologies. Eelgrass baseline surveys were conducted within the Project site in accordance with the CEMP (NOAA Fisheries 2014a). Eelgrass surveys were conducted using visual (scientific dive) survey methods. Surveys documented both vegetated eelgrass cover and unvegetated areas within eelgrass habitat. Per the CEMP, the following parameters were assessed for eelgrass: spatial distribution, areal extent, percent of cover (vegetated), and turion (leaf shoot) density.

To encompass fluctuating eelgrass distribution and functional influence around eelgrass cover, eelgrass habitat is defined as areas of vegetated eelgrass cover bounded by a 5-meter-wide perimeter of unvegetated area (NOAA Fisheries 2014a). Therefore, the boundary of eelgrass habitat was delineated by a continuous boundary around all vegetated eelgrass cover extending outward a distance of 5 meters (16 feet), excluding gaps within the vegetated cover that have individual plants more than 10 meters (33 feet) from neighboring plants (spatial distribution). Where such separations occurred, either a separate area was defined or a gap in the area was defined. The extent of the eelgrass habitat was then quantitatively assessed with the total area (acres) divided into amount of vegetated cover and unvegetated habitat (areal extent). This areal extent was delineated in the field, as described above, and calculated in ArcGIS. The percent bottom cover within eelgrass habitat was determined by totaling the area of vegetated eelgrass cover and dividing by the total eelgrass habitat area (percent vegetated cover). Vegetated cover occurred when one or more leaf shoots (turion) per square meter (11 square feet) were present. Where appropriate, the habitat was subdivided into percent cover classes. Lastly, turion density was determined. This was calculated as the mean number of eelgrass leaf shoots per square meter within mapped eelgrass vegetated cover (turion density). Turion counts were made within replicated 1-meter-square (3.3-foot-square) quadrats. Raw numbers and mean values were calculated. Per the CEMP, turion density was reported as mean ± standard deviation of replicate measurements. Turion densities are only determined within vegetated areas of eelgrass habitat, and turion density is determined for each cover class.

4.2.3 Essential Fish Habitat Assessment

To comply with the Magnuson-Stevens Act (16 USC 1801 et seq.), and in accordance with NOAA Fisheries regulations, the Project site was assessed for EFH. The main purpose of the EFH provisions is to avoid loss of

fisheries due to disturbance and degradation of the fisheries habitat; therefore, waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity are protected (Magnuson-Stevens Act, 16 USC 1801 et seq.). To further specify the needs of fish species of special concern, EFH is assessed and managed under various FMPs for specified fisheries groups. FMPs are extensive documents that are regularly updated. The goals of FMPs include the development and sustainability of an efficient and profitable fishery, optimal yield, adequate forage for dependent species, and long-term monitoring.

According to the NOAA EFH Mapper and based on the geographical location of the Project site, the Pacific Coast Groundfish FMP and the Coastal Pelagic Species FMP would be applicable for San Diego Bay (NOAA 2022). San Diego Bay is defined as a HAPC for seagrass and estuary habitat, per Amendment 19 of the Pacific Coast Groundfish Fishery Management Plan.

4.2.4 Special-Status Plant and Wildlife Species Assessment

The potential for occurrence of plant and wildlife species was summarized according to the following categories. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment is provided.

- Known to occur: the species has been documented on the property by a reliable source
- High potential to occur: the species has not been documented on the property but is known to recently occur in the vicinity, and suitable habitat is present
- Moderate potential to occur: the species has not been documented on the property or in the vicinity, but the site is within the known range of the species, and suitable habitat for the species is present
- Low potential to occur: the species has not been documented in the vicinity or on the property, but the site is within the known range of the species; however, suitable habitat for the species on site is of low quality
- Not expected to occur: the property is outside the known geographic or elevational range of the species, and/or the site does not support suitable habitat for the species

4.2.5 Special-Status Plant Species

Endangered, rare, or threatened plant species as defined in CEQA Guidelines Section 15380(b) (14 CCR 15380[b]) are referred to as “special-status plant species” and, as used in this report, include (1) plant species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and FESA (CDFW 2025b) (2) plant species with a CRPR 1 or 2 as designated by the California Native Plant Society (CNPS 2025); and (3) plant species covered under the San Diego MSCP Subarea Plan. Species with CRPR 3 or 4 generally do not qualify for protection under CEQA and therefore are not analyzed in this report.

For each special-status plant species known to occur in the vicinity of or within the study area, a determination was made regarding the potential for the species to occur within the study area based on site-specific information such as the location of the site, vegetation communities and soils present, current site conditions, and each species’ known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period.

4.2.6 Special-Status Wildlife Species

Endangered, rare, or threatened wildlife species as defined in CEQA Guidelines Section 15380(b) (14 CCR 15380[b]) are referred to as "special-status wildlife species" and, as used in this report, include (1) wildlife species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and FESA; (2) California Species of Special Concern (SSC) as designated by CDFW (2025b); (3) mammals and birds that are fully protected species as described in the California Fish and Game Code, Sections 4700 and 3511 (CDFW 2025g); and (4) wildlife species covered under the San Diego MSCP Subarea Plan.

For each special-status wildlife species listed, a determination was made regarding potential use within the study area based on site-specific information such as the location of the site, vegetation communities and soils present, current site conditions, and each species' known range and habitat preferences, as well as knowledge of the species' relative distributions in the area.

5 Results

This section highlights the results of the terrestrial analysis, the eelgrass surveys performed by Marine Taxonomic Services Ltd, as well as the results of the EFH and special-status species analysis. Photographs showing existing resources are provided in Figure series 3-1.

5.1 Vegetation Communities and Land Covers

One anthropogenic land cover type and one open water community were mapped within the Project boundary: developed land and open water. The land cover types recorded on the Project site are described in detail in the following subsections (Table 1, Vegetation Communities and Land Cover Types in the Project site; Figure 4, Vegetation Communities and Land Covers).

Table 1. Vegetation Communities and Land Cover Types in the Project Site

Vegetation Community/ Land Cover Type	Vegetation Community	Acreage
Anthropogenic Land Covers		
Urban/developed land	Disturbed land	0.13
Other Non-Vegetated Land Covers		
Open water	Unvegetated habitat marine intertidal	0.06
	Total	**0.18**

5.1.1 Anthropogenic Land Covers

Urban/Developed Land

The urban/developed land cover is characterized as having been constructed upon or otherwise physically altered to an extent that native vegetation communities are not supported. This land cover type generally consists of semi-permanent structures, homes, parking lots, pavement or hardscape, bare ground, and landscaped areas that require maintenance and irrigation (e.g., ornamental greenbelts). Typically, this land cover is unvegetated or supports a variety of anthropogenic landscape features. In the context of the study area, urban/disturbed areas refer to the existing homes and associated landscaping. These areas support limited natural ecological processes, native vegetation, and/or habitat for wildlife species and thus are not considered sensitive by local, State, and/or Federal agencies.

5.1.2 Other Non-Vegetated Land Covers

Open Water

Open water consists of unvegetated standing or flowing water associated with an active waterway. Areas of open water within the study area refer to San Diego Bay.

5.2 Eelgrass Survey

The entirety of the Project site and reference site was surveyed to determine the presence/absence of eelgrass and *Caulerpa*, and document observed species (Table 2, Eelgrass Surveys – Area and Density of Eelgrass Beds; Figure set 2-1). No *Caulerpa* spp. were observed.

Table 2. Eelgrass Surveys – Area and Density of Eelgrass Beds

Survey Location	Eelgrass Beds (square meters)	Eelgrass 5-Meter Buffer (square meters)	Total Eelgrass Area (square meters)	Eelgrass Density (mean ± 1 standard deviation)
Project site	4,341	1,872	6,213	1085 ± 443
Reference site	1,996	398	2,394	1088 ± 344

Note: Adapted from Marine Taxonomic Services Ltd. (2023, 2024a).

During the eelgrass survey in the Project site, all flora and fauna were recorded (Table 3, Species Observed). All species encountered except Pacific oyster (*Crassostrea gigas*) are native, and one is considered a managed species.

Table 3. Species Observed

Scientific Name	Common Name	FMP/Status	Native, Non-Native, or Invasive
Algae and Seagrasses			
Zostera marina	Eelgrass	EFH, HAPC	Native
Invertebrates			
Panulirus interruptus	California spiny lobster	CDFW	Native
Balanus glandula	Acorn barnacle	—	Native
Crassostrea gigas	Pacific oyster	—	Non-native
Bulla gouldiana	Gould's bubble snail	—	Native
Fish			
Urobatis halleri	Round ray	—	Native

Notes: EFH = Essential Fish Habitat; HAPC = Habitat Area of Particular Concern; CDFW = California Department of Fish and Wildlife managed species; — = non-listed.
Adapted from Marine Taxonomic Services Ltd. (2024b).

5.3 Essential Fish Habitat

San Diego Bay is designated as EFH in the Pacific Coast Groundfish and Coastal Pelagic Species FMPs. This designation includes coastal waters and some tidally influenced inland water bodies in the area. No important fishing areas overlap with the Project site. The soft-bottom substrate of San Diego Bay contains the seagrass HAPC type—specifically, seagrass beds—discussed in the Pacific Coast Groundfish FMP (Appendix B, EFH and HAPC Maps). In total, the Project site that was surveyed supports approximately 1.5 acres of eelgrass habitat, including 1.07 acres of vegetated habitat and 0.46 acres of unvegetated habitat. Eelgrass is recognized by State and Federal agencies as valuable and sensitive habitat and in addition to being designated a HAPC, it has been further

designated as an EFH under the Magnuson-Stevens Fishery Conservation and Management Act. According to NOAA Fisheries (2014b):

> Eelgrass provides a number of important ecosystem functions, including foraging areas and shelter to young fish and invertebrates, food for migratory waterfowl and sea turtles, and spawning for species such as the Pacific herring. By trapping sediment, stabilizing the substrate, and reducing the force of wave energy, eelgrass beds also reduce coastal erosion. In fact, eelgrass forms the base of a highly productive marine food web.

5.4 Special-Status Species

California species identified in the literature review (see Chapter 4, Methods) as listed by USFWS, NOAA Fisheries, or CDFW as protected, rare, sensitive, threatened, or endangered and that have a moderate to high potential to occur in the Project site are summarized in Table 4, Special-Status Species Observed or with a Moderate to High Potential to Occur in the Project Site. Results of the USFWS IPaC query are provided in Appendix A, IPaC. Based on the literature review, a habitat suitability analysis was performed for the species with potential to occur in the Project site. Some species documented in the vicinity were omitted because of the absence of suitable habitat on site. The only special-status species directly observed was eelgrass (EFH/HAPC; see Section 5.2). The CNDDB search identified multiple plant and wildlife species within 5 miles of the Project, with no marine species noted (Figure 5, California Natural Diversity Database Plant and Wildlife Occurrences). Five Federally listed or protected species are known to occur within 5 miles of the Project site: eelgrass, California least tern (*Sternula antillarum browni*), green sea turtle (*Chelonia mydas*), common bottlenose dolphin (*Tursiops truncatus*), and California sea lion (*Zalophus californianus*). Eelgrass is discussed in Section 5.2; the other species are discussed in detail in this section. Appendix C, Potential to Occur Table. contains information on species not expected or with a low potential to occur.

Table 4. Special-Status Species Observed or with a Moderate to High Potential to Occur in the Project Site

Scientific Name	Common Name	Status Federal/State	Primary Habitat Associations	Potential to Occur
Plants				
Zostera marina	Eelgrass	EFH, HAPC/ None	Shallow, soft bottom, marine environments.	Present. Eelgrass beds were identified and mapped during field surveys in the Project site.
Reptiles				
Chelonia mydas	Green sea turtle	FT/None	Shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds.	Low to Moderate. Known to migrate through San Diego Bay, and forage in south bay.
Birds				
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Moderate. Numerous breeding and nesting areas are located in San Diego Bay. No nesting habitat. May forage within the Project area at high tide.

Table 4. Special-Status Species Observed or with a Moderate to High Potential to Occur in the Project Site

Scientific Name	Common Name	Status Federal/State	Primary Habitat Associations	Potential to Occur
Marine Mammals				
Tursiops truncatus	Common bottlenose dolphin	MMPA	Worldwide ranging from 45°N to 45°S latitude; found in temperate and tropical waters. Coastal populations migrate into bays, estuaries, and river mouths. Offshore populations inhabit pelagic waters along the continental shelf.	Low to Moderate. Known to migrate and/or forage along the coast and within San Diego Bay.
Zalophus californianus	California sea lion	MMPA	Eastern North Pacific Ocean from central Mexico to Canada; shallow coastal and estuarine waters; prefers sandy beaches for haul out sites but will also haul out on marina docks, jetties, and buoys.	Moderate. Known to forage along the coast and within San Diego Bay.

Notes: CNDDB = California Natural Diversity Database; USFWS = U.S. Fish and Wildlife Service
Status Key:
Federal:
FDL = Federally delisted
FE = Federal endangered
FT = Federal threatened
EFH = Essential fish habitat
HAPC = Habitat Area of Particular Concern
MMPA = Marine Mammal Protection Act
State:
SSC = California species of special concern
FP = fully protected
SDL = state delisted
SE = state endangered
ST = state threatened
WL = California watch list
Potential to Occur Key:
Present – Has been observed during the part of the species' life cycle noted.
High – Not confirmed, but likely occurs periodically, if not more frequently.
Moderate – Likelihood that the species occurs or does not occur is relatively equal.
Low – Probably does not occur, but occurrence cannot be discounted.
Not expected – Habitat, range, or other factors preclude occurrence for the part of the species life cycle noted.

5.4.1 Green Sea Turtle

The green sea turtle (*Chelonia mydas*) is a Federally listed threatened species, that is also protected by the MMPA. The Eastern Pacific Distinct Population Segment ranges from Baja California to southern Alaska. However, the green sea turtle is more common in south San Diego Bay. This species forages in the open ocean when migrating as well as shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds. They are herbivorous and feed primarily on seagrasses and algae. Green sea turtles are generally found in shallow waters except when migrating. They are regular visitors in the waters off the southwest coast of the United States. Residents occur in

the San Gabriel River, Long Beach (NOAA Fisheries and USFWS 1998). The closest known nesting occurrences are in Mexico (NOAA Fisheries and USFWS 1998). This species requires open beaches with a sloping platform and minimal disturbance for nesting. Green sea turtles have strong nesting site fidelity and often make long distance migrations between feeding grounds and nesting beaches. This species may travel through the Project site year-round. Adults migrate every 2 to 5 years from their coastal foraging areas to their nesting beaches. This species may migrate and/or forage, but does not nest in the Bay.

5.4.2 California Least Tern

The California least tern (*Sternula antillarum browni*) is the only subspecies of least tern found in California. Least terns feed on smelt, anchovies, silversides, and other small, nearshore prey in shallow estuaries or lagoons where small fish are abundant (USFWS 1985). When looking for prey, terns hover above the water and plunge into the water to catch its prey. The California least tern once nested widely along the central and southern California coast and the Pacific coast of Mexico. Nesting today is limited to colonies in San Francisco Bay, Sacramento River delta, and areas along the coast from San Luis Obispo County to San Diego County. The greatest concentrations of breeding pairs nest in Los Angeles, Orange and San Diego counties. Historical nesting locations have been disturbed or eliminated by habitat loss due to increased urbanization/development. Because they need to nest close to shoreline areas where prey is abundant, the birds are often forced to concentrate their colonies in areas that are restricted in size, making them more vulnerable to predation and disturbance. In San Diego Bay, there are six known California least tern colony sites, with the closes nesting colony 1.7 miles away from the project site.

5.4.3 Common Bottlenose Dolphin

The common bottlenose dolphin (*Tursiops truncates*) is protected by the MMPA. Bottlenose dolphins have a worldwide distribution ranging from 45°N to 45°S latitude and are found in temperate and tropical waters. Coastal populations often migrate into bays, estuaries, and river mouths. Oceanographic events appear to influence their distribution. North–south movements of bottlenose dolphins have been observed during ocean temperature changes, with higher temperatures associated with northward migrations. The common bottlenose dolphin, as its name suggests, is a common coastal species and a generalist feeder (i.e., squid, fish and crustaceans) (Jefferson et al. 2008). Coastal bottlenose dolphins are known to regularly occur within 1 kilometer of shore (Carretta et al. 1998). In Southern California, they are found within 500 meters of the shoreline 99% of the time and within 250 meters 90% of the time (NOAA Fisheries 2017). They may travel alone or in groups and commonly work together to herd prey. Habitat-based density models show high predicted density for this species along the coast in southern California (Becker et al. 2016), and north San Diego Bay, where this species is present year-round.

5.4.4 California Sea Lion

The California sea lion (*Zalophus californianus*) is protected by the MMPA. It inhabits the eastern North Pacific Ocean from central Mexico to Canada. This species is present along the west coast from the Tres Marias Islands off Puerto Vallarta, throughout the Gulf of California and the Baja peninsula, north to Alaska. Males (adults, subadults, and juveniles) undertake a northward migration to Central California and Washington after the breeding season in southern rookeries. They are generalist opportunistic feeders (squid and fishes in areas of upwelling) and use the continental shelf and slope, but have also been observed in deeper oceanic waters (Jefferson et al. 2008). California sea lions prefer shallow coastal and estuarine waters and sandy beaches for haulout sites but will also haul out on marina docks, jetties, and buoys (NOAA Fisheries 2022). On land, they are wary of humans, but in the

water, they are curious and bold and will approach boats looking for fish. They will take fish from commercial fishing gear, sport fishing lines, and fish passage facilities at dams and rivers. They may also be curious about construction activities. California sea lions are subject to several threats: entanglement in fishing gear (gillnets, longline), pollution, ship strikes, and human-caused injuries. This species has known haulouts and rookeries at Point La Jolla and Boomer Beach, San Diego. In San Diego, this species is present year-round.

6 Impact Analysis and Recommendations

This chapter analyzes potential impacts to biological resources and provides recommendations that, when implemented, would avoid or reduce impacts to a less than significant level. As described in Section 6.1, there are two types of possible impacts to biological resources: direct impacts and indirect impacts. The analysis of both direct and indirect impacts (Section 6.2) is based on the survey results that detail the existing conditions and the potential for biological resources to occur in the Project site (Chapter 5, Survey Results), and the regulatory framework governing biological resources (Chapter 3, Regulatory Setting).

6.1 Definition of Impacts

Direct Impacts

"Direct impacts" as defined by the City of San Diego's Biology Guidelines (City of San Diego 2018) are physical changes in the environment which are caused by and immediately related to the Project. In the context of this Project and marine resources, direct impacts refer to impacts that result in direct removal of habitat or other biological resources and direct impacts to species occupying the habitat disturbed or removed. These direct impacts may be permanent or temporary.

Indirect Impacts

"Indirect impacts" as defined by the City's Biology Guidelines (2018) are reasonably foreseeable physical changes in the environment which are not immediately related to the Project, but which are caused indirectly by the Project. Indirect impacts may occur during Project implementation (i.e., short-term Project-related indirect impacts) or later in time as a result of the development (i.e., long-term, or operational, indirect impacts).

6.2 Impact Analysis

The Project has potential to result in impacts to sensitive habitats, fish and marine invertebrates, and special-status and protected species, as discussed below. Mitigation measures to address potentially significant impacts are in Section 6.3, Recommended Measures.

6.2.1 Impacts to Sensitive Habitats

This section addresses impacts to sensitive vegetation communities and habitats that occur within the Project site. The site supports one marine community that meets this definition: eelgrass habitat. This community also is considered a HAPC and as such is EFH under the Pacific Coast Groundfish FMP. Impacts to EFH are analyzed as applicable to this FMP.

6.2.1.1 Eelgrass Habitat

As noted in Section 5.1, the Project site supports eelgrass: a total of 1.5 acres of eelgrass habitat (1.07 acres of vegetated habitat and 0.46 acres of unvegetated habitat).

Direct Impacts

There are no anticipated direct impacts to eelgrass habitat. The Project includes replacement of a rock revetment, which is a direct permanent impact of 0.1 acres (Figure 6, Impacts). However, based on the literature review and proposed Project activities, the Project does not include any direct permanent impacts (e.g., placement of structures) in the marine environment or to eelgrass beds. Rock revetment replacement is proposed as a one-time, small-scale activity that proposes no permanent structures in the marine environment. The location of the derrick barge spuds will be located outside of mapped eelgrass habitat. In addition, the derrick barge would be relocated based on the tide in order to avoid touching the sea floor and sensitive eelgrass beds. Therefore, direct impacts to eelgrass would be less than significant.

Indirect Impacts

Short-term indirect impacts from Project activities have limited potential to indirectly impact eelgrass (i.e., turbidity and shading). Rock revetment replacement activities could result in temporary increased turbidity within the Project site and vicinity. Shading could affect eelgrass habitat by altering their morphology density to maintain carbon balance (Wong et al. 2020). Shading can result in leaf loss, reduced growth and chlorophyll content, and utilizing stored rhizome carbohydrates. To mitigate any impact from increased turbidity or overwater shading caused by the derrick and utility barges, movement of barges with tidewaters will be implemented. At a tide below +2 ft mean lower low water (MLLW) the barges will be moved into deeper waters that do not overlap with eelgrass habitat, based on the eelgrass maps. Barges will occupy the space over the eelgrass bed only when the tide allows and only when work is actively being done, minimizing the time that shading will occur. The area of eelgrass beds that may be shaded by boat movements is 0.06 acres (Figure 6). Areas temporarily disturbed by Project activities would be naturally restored to the condition that existed prior to disturbance following completion of work. These impacts could be significant, absent mitigation. Mitigation measures BIO-1 through BIO-4 are recommended to address these potential impacts. Worker environmental awareness training will be provided to all construction personnel (**MM BIO-1**), and contractors will employ water quality best management practices (**MM BIO-2**) and eelgrass habitat protection through proper barge placement (**MM BIO-3**). Pre- and post-construction eelgrass surveys will ensure compliance with the CEMP (**MM BIO-4**) and a pre-construction *Caulerpa* survey will ensure habitat protection (**MM BIO-5**). By implementing the mitigation measures above, adverse water quality impacts, including turbidity, are expected to be avoided and minimized. With these measures in place, indirect impacts to eelgrass beds would be less than significant.

6.2.2 Impacts to Fish and Marine Invertebrates

No fish species that are managed under the Coastal Pelagic Species FMP or the Pacific Coast Groundfish FMP were observed on site during the surveys (Marine Taxonomic Services Ltd. 2023, 2024a, 2024b). However, any fish and invertebrates that may be present could be subjected to increased noise and turbidity, and mortality as described below.

Direct Impacts

With the rock revetment, no direct impacts are expected for fish species or mobile invertebrates inhabiting the water column (e.g., crabs), as they are highly mobile. However, benthic invertebrate species may not be as mobile and rock revetment replacement activities could result in mortality. Benthic invertebrates are expected to recolonize

the area quickly, within approximately six months to one year, similar to dredging (Wilbur and Clark 2007). Therefore, direct impacts to these species would be less than significant.

Indirect Impacts

Construction noise from overwater and in-water activities would increase ambient noise levels at and surrounding the Project site. However, the amount of noise is unlikely to reach species' thresholds, and therefore construction noise would be unlikely to create significant impacts to any managed fish, and these impacts would be less than significant. Further, the rock revetment replacement is a one-time event expected to be conducted during daytime hours for approximately twelve weeks and therefore would only have temporary indirect noise impacts in a limited portion of the Bay.

Short-term water quality impacts (e.g., turbidity) may temporarily have minor effects on fish and invertebrate species in or adjacent to the Project site; however, these impacts would likely not affect the success of populations due to the ability of the juvenile and adult fish to relocate to adjacent areas and construction taking place during low tides. Furthermore, as describe above, those fish and invertebrate species in the area are not expected to include any managed fisheries. For this reason, temporary relocation of these mobile species would not result in biologically significant impacts with regard to competition, predation, or spawning of native species. By employing water quality best management practices (**MM BIO-2**), indirect impacts to fish and invertebrate species would be less than significant.

6.2.3 Impacts to Special-Status and Protected Species

Special-status and protected marine wildlife species that have potential to occur in the Project site are discussed in Section 5.4. These species include eelgrass (addressed above), green sea turtle, common bottlenose dolphin, and California sea lion.

Direct Impacts

With the rock revetment Project, no direct impacts are expected for special-status marine wildlife species that have potential to occur in the Project site, as they are highly mobile and none are expected in the Project site. Therefore, direct impacts to special-status/protected marine species would be less than significant.

Indirect Impacts

No special-status/managed/protected marine species are expected in the Project site and indirect impacts associated with rock revetment (e.g., noise, turbidity) are not expected to extend into the Bay or open ocean environment, due to rock installation and excavation at low tide. Construction noise would increase ambient noise levels in water and over water surrounding the Project site. Construction noise would be unlikely to create significant impacts to any special-status/managed/protected species potentially occurring in the vicinity because noise threshold levels would not begin to approach NOAA's temporary threshold levels.

Short-term water quality impacts (e.g., turbidity) may temporarily have minor effects on special-status/protected species in or adjacent to the Project site; however, these impacts would likely not affect these species because of their ability to relocate to adjacent areas with similar habitat for foraging and migration. Due to the proximity of the Project relative to known nesting colonies, there is moderate potential for California least terns to utilize areas of open Bay water within the Project site for fish foraging. Impacts associated with construction noise and water quality

(turbidity), could result in reduced least tern foraging opportunities within the Project site. Temporary relocation of these highly mobile species, such as foraging least terns or other sea birds, would not result in biologically significant impacts with regard to critical life stages. In addition, there are no birthing lagoons, rookeries for pupping, or nesting sites in the Project site or vicinity for any marine wildlife species. Marine wildlife species would be predominantly migrating/travelling through the area. By employing water quality best management practices (**MM BIO-2**), indirect impacts to special-status/protected marine species would be less than significant.

6.2.3.1 Fisheries

As per the Pacific Coast Groundfish FMP, the Project is not likely to affect the EFH or function/values of fish species identified as Pacific Coast Groundfish. Elasmobranchs, ratfish, and flatfish are likely present in the Project site based on habitat preference of soft bottom habitats. The functions/values that could impact groundfish (elasmobranchs, ratfish, and flatfish) is foraging, as well as the potential for spawning for two species. However, due to the vast amount of available sandy bottom habitat, the limited area of sandy bottom at the Project site, the relatively short-term nature of the Project, and the mobility of these species, the Project would have a negligible effect on pacific coast groundfish. Therefore, impacts would be less than significant.

As per the Coastal Pelagic Species FMP, the point-of-concern process is the Council's primary tool for determining impact to a fish stock (PFMC 2024). The process is intended to foster continuous and vigilant review of Pacific Coast coastal pelagic species stocks and fisheries. A "point-of-concern" occurs when one or more of the following is found or expected:

1. Catch is Projected to exceed the current harvest guidelines, annual catch limits, annual catch targets, or the harvest quota.
2. Any adverse or significant change in the biological characteristics of a species (age composition, size composition, age at maturity, or recruitment) is discovered.
3. An overfishing condition appears to be imminent or likely within two years.
4. Any adverse or significant change in ecological factors such as the availability of coastal pelagic species forage for dependent species or in the status of a dependent species is discovered.
5. Developments in a foreign fishery occur that affect the likelihood of overfishing of coastal pelagic species.
6. An error in data or a stock assessment is detected that significantly changes estimates of impacts due to current management.
7. Control rule (harvest policy) parameters or approaches require modification.
8. Projected catches for a Monitored species are expected to exceed the acceptable biological catch or the annual catch limit using either a species-specific control rule or the default control rule. This could require moving a Monitored species to the Actively managed classification.

None of the listed points of concern can be found or expected with the implementation of the Project as this Project is not harvesting species and there are no biologically significant impacts to forage. Therefore, impacts to the Coastal Pelagic Species FMP would be less than significant.

6.3 Mitigation Measures

BIO-1 Worker Environmental Awareness Program. Prior to commencement of activities within the Project site, a qualified biologist shall conduct a Worker Environmental Awareness Program (WEAP) that provides a description of potentially occurring special-status species and methods for avoiding inadvertent impacts prior to commencement of activities within the Project site. The WEAP training shall be provided to all construction personnel, including vessel operators. Attendees shall be documented on a WEAP training sign-in sheet. The WEAP training will describe how vessel props must be directed away from eelgrass beds to prevent damage, all boats must have depth finders to avoid eelgrass at low tides, slow work if special-status species such as California least terns or green sea turtles are present, and construction crews must monitor turbidity and if excessive, work must slow/stop until it dissipates to avoid impacts to eelgrass.

BIO-2 Water Quality Best Management Practices. Prior to commencement of the proposed Project activities within marine habitat, limits of work and staging areas will be established. Construction contractors shall use best management practice (BMP) water quality controls to ensure compliance with the water quality standards, to protect eelgrass and other sensitive species. Measures could include use of a bin wall around stockpiled revetment, daily inspection of construction equipment for leaks or malfunction, and no fueling onsite. All work and associated construction materials/equipment will be confined to designated areas. No sediment, trash, debris or any materials will leave the work limits or associated staging areas and enter the surrounding environment.

BIO-3 Eelgrass Habitat Protection. Barges will only shade eelgrass when construction necessitates, for limited periods of time at high tide levels allow. Contractor will use a high and low tide schedule. Barge spuds will be placed outside of known eelgrass beds and the barge will not pivot on spuds if within eelgrass in order to protect sensitive habitat and minimize turbidity and shading impacts. Current eelgrass maps, conducted within 60 days prior to construction, will be provided to operators in order to prevent bottom-contact with eelgrass or the benthic habitat, and limit the amount of shading of eelgrass at the Project site.

BIO-4 Pre- and Post-Construction Eelgrass Surveys. Adherence of monitoring and mitigation as required per the CEMP will ensure the Project is appropriately evaluated for potential eelgrass impacts with pre-construction and post-construction eelgrass surveys. The pre-construction survey of the eelgrass habitat in the action area and an appropriate reference site(s) should be completed within 60 days before start of construction. After construction, a post-construction survey of the eelgrass habitat and at an appropriate reference site(s) should be completed within 30 days of construction, or within the first 30 days of the next active growing season following construction that occurs outside of the active growing season (typically March through October for southern California). Copies of all surveys should be provided to the lead Federal agency, NOAA Fisheries, and other interested regulatory and/or resource agencies within 30 days of completing the survey. If inadvertent impacts were to occur, mitigation of eelgrass habitat should be based on replacement at a 1.2 (mitigation) to 1 (impact) ratio.

BIO-5 Pre-Construction *Caulerpa* Survey. A pre-construction *Caulerpa* spp. survey will be conducted to identify potential existence of invasive *Caulerpa* spp. as described in the *Caulerpa* Control Protocol: https://www.fisheries.noaa.gov/west-coast/habitat-conservation/aquatic-invasive-species-west-coast. If *Caulerpa* spp. are found, the species must not be disturbed, and CDFW and NOAA Fisheries must be contacted within 24 hours as described in the *Caulerpa* Control Protocol.

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SOURCE: USGS National Map 2025

DUDEK

0 2,500 5,000 Feet

FIGURE 1

Regional Map

SLPR-Arendsee Rock Revetment Replacement Project

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SOURCE: Bing Maps 2025

DUDEK

0 500 1,000 Feet

FIGURE 2

Vicinity Map

SLPR-Arendsee Rock Revetment Replacement Project

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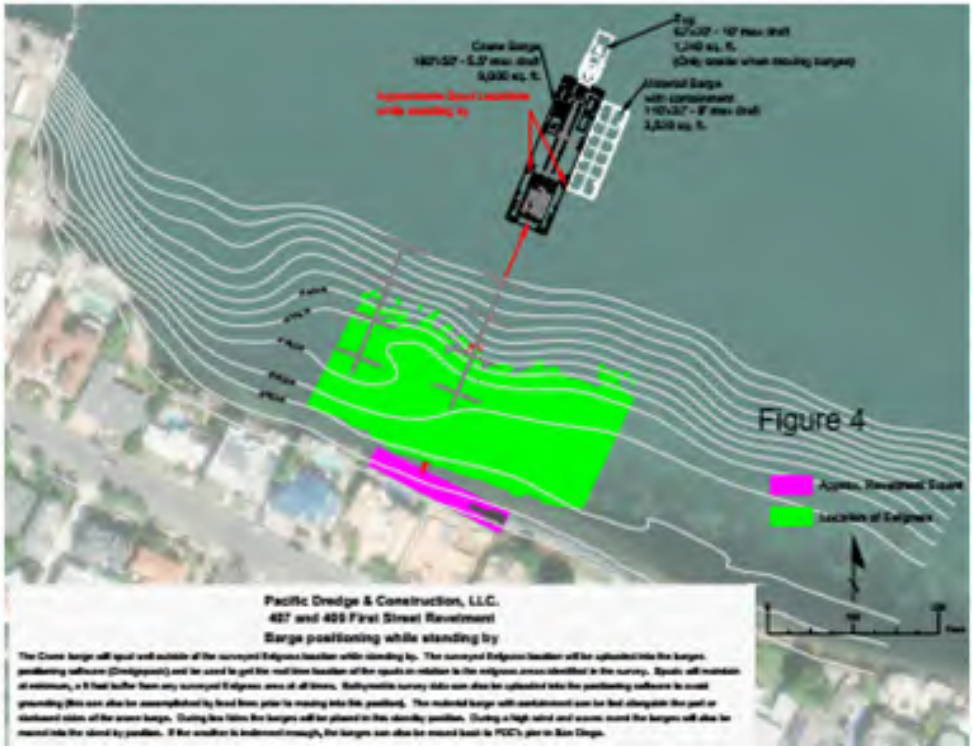


FIGURE 2-1

Proposed Work Barge Movements at Low and High Tide

SLPR-Arendsee Rock Revetment Replacement Project

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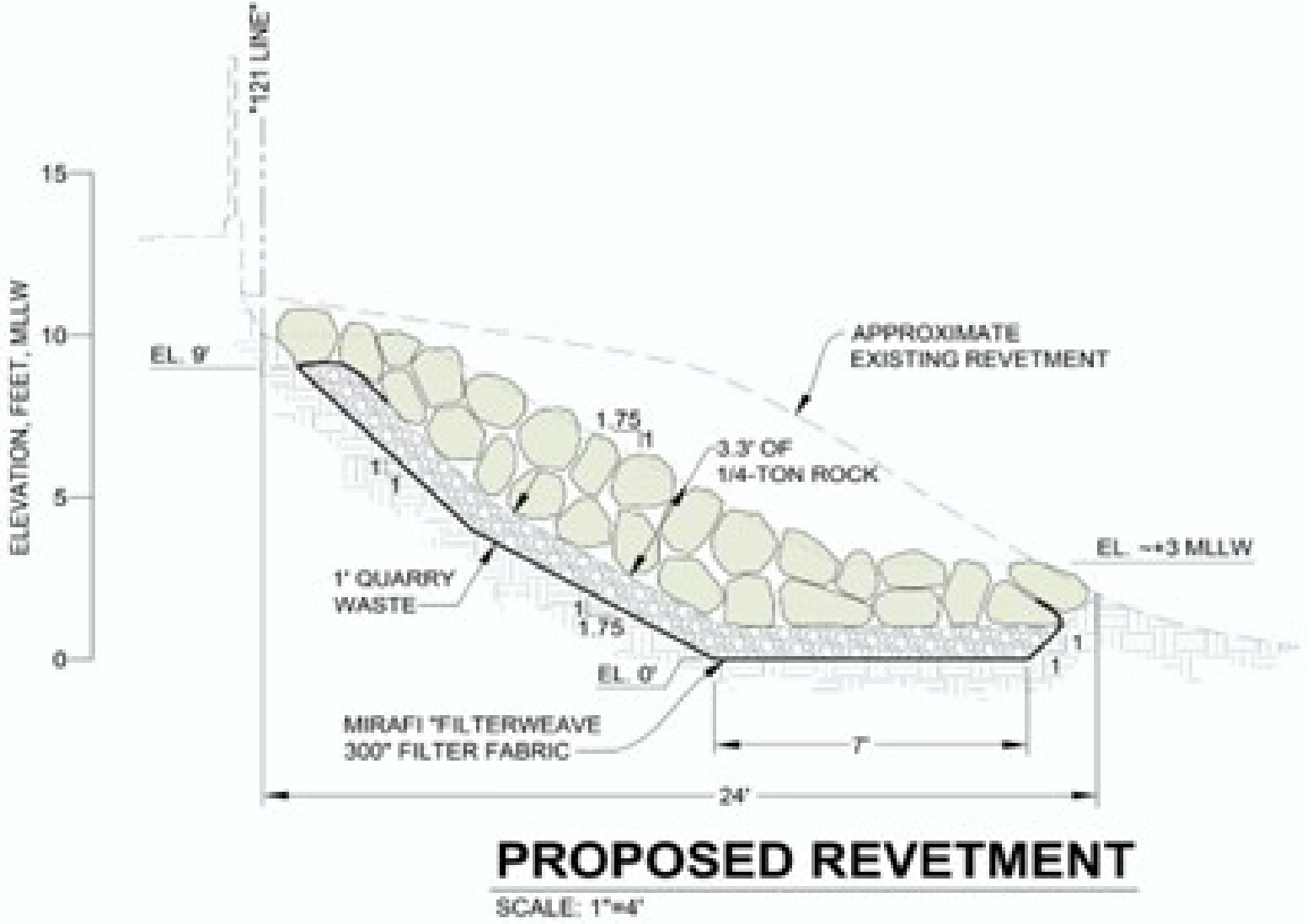


FIGURE 2-2

Proposed New Rock Revetment Drawing

SLPR-Arendsee Rock Revetment Replacement Project

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The above photograph was taken from below 407 First Street looking west and shows the limited revetment on the sandy bay floor. It also shows the extent of the rock revetment northwest of 407 First Street (to the right in this view), with the obvious absence of any protective toestone along the southeasterly portion of 407 First Street (to the left in this view), all of which per plan will still be a minimum of 10 feet landward of the eelgrass bed shown below the lower photograph on the right.



The above photograph was taken from the 407 & 409 First Street common property line. It illustrates the relatively uniform limits of the eelgrass located about 40 feet bayward of the Miscellaneous Map No. 121 Line ("121 Line") and beyond the limits of the applicants' proposed rock revetment section, which extends 24 feet bayward of the 121 Line. The eelgrass setback narrows slightly to the northwest, with the distance from the 121 Line to the eelgrass being 40 feet at the southeastern 407 First Street property line and 35 feet at the northwestern 407 First Street property line.

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FIGURE 3-1a

Existing Conditions

SPLR-Arendsee Rock Revetment Replacement Project



The above photograph was taken from the common property line between 407/409 First Street at the northeast corner of the toe of the 407 First Street revetment looking southeast.



The above photograph was taken from the 407 & 409 First Street common property line looking northwest.

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FIGURE 2b

Existing Conditions

SPLR-Arendsee Rock Revetment Replacement Project

DUDEK



The above photograph was taken from the 407 & 409 First Street common property line looking southwest.



The above photograph was taken from the middle of 409 First Street looking southeast.

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DUDEK

FIGURE 2c

Existing Conditions

SPLR-Arendsee Rock Revetment Replacement Project

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SOURCE: SANGIS 2024

DUDEK

0 20 40 Feet

FIGURE 4

Vegetation Communities and Land Cover

SLPR-Arendsee Rock Revetment Replacement Project

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Project Boundary
5-Mile Buffer
CNDDB Occurrences

Plant Occurrences

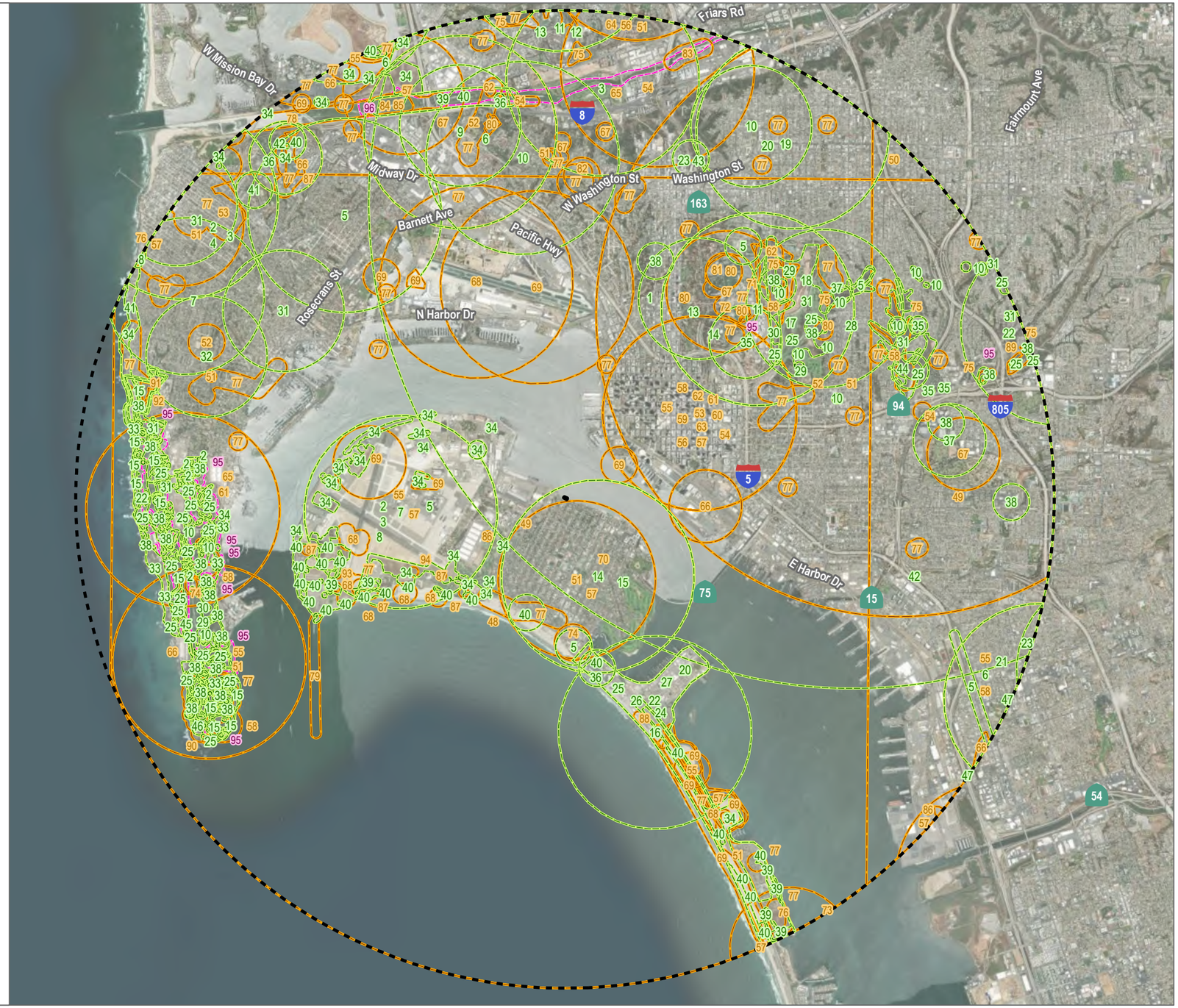
1,oil neststraw,(*Stylocline citroleum*)
2,San Diego sand aster,(*Corethrogyne filaginifolia var. incana*)
3,beach goldenaster,(*Heterotheca sessiliflora ssp. sessiliflora*)
4,sticky dudleya,(*Dudleya viscida*)
5,decumbent goldenbush,(*Isocoma menziesii var. decumbens*)
6,Coulter's goldfields,(*Lasthenia glabrata ssp. coulteri*)
7,slender cottonheads,(*Nemacaulis denudata var. gracilis*)
8,Orcutt's pincushion,(*Chaenactis glabriuscula var. orcuttiana*)
9,light gray lichen,(*Mobergia calculiformis*)
10,Nuttall's scrub oak,(*Quercus dumosa*)
11,San Diego mesa mint,(*Pogogyne abramsii*)
12,Orcutt's brodiaea,(*Brodiaea orcuttii*)
13,San Diego goldenstar,(*Bloomeria clevelandii*)
14,south coast saltscale,(*Atriplex pacifica*)
15,sea dahlia,(*Leptosyne maritima*)
16,coastal dunes milk-vetch,(*Astragalus tener var. titi*)
17,Campbell's liverwort,(*Geothallus tuberosus*)
18,bottle liverwort,(*Sphaerocarpos drewiae*)
19,Otay Mesa mint,(*Pogogyne nudiuscula*)
20,chaparral ragwort,(*Senecio aphanactis*)
21,prostrate vernal pool navarretia,(*Navarretia prostrata*)
22,aphanisma,(*Aphanisma blitoides*)
23,San Diego thorn-mint,(*Acanthomintha ilicifolia*)
24,Palmer's frankenia,(*Frankenia palmeri*)
25,snake cholla,(*Cylindropuntia californica var. californica*)
26,short-lobed broomrape,(*Aphyllon parishii ssp. brachylobum*)
27,Coulter's saltbush,(*Atriplex coulteri*)
28,willowy monardella,(*Monardella viminea*)
29,long-spined spineflower,(*Chorizanthe polygonoides var. longispina*)
30,Robinson's pepper-grass,(*Lepidium virginicum var. robinsonii*)
31,wart-stemmed ceanothus,(*Ceanothus verrucosus*)
32,Orcutt's spineflower,(*Chorizanthe orcuttiana*)
33,cliff spurge,(*Euphorbia misera*)
34,Nuttall's acmispon,(*Acmispon prostratus*)
35,Palmer's goldenbush,(*Ericameria palmeri var. palmeri*)
36,estuary seablite,(*Suaeda esteroa*)
37,California adolphia,(*Adolphia californica*)
38,San Diego barrel cactus,(*Ferocactus viridescens*)
39,Brand's star phacelia,(*Phacelia stellaris*)
40,coast woolly-heads,(*Nemacaulis denudata var. denudata*)
41,sand-loving wallflower,(*Erysimum ammophilum*)
42,San Diego marsh-elder,(*Iva hayesiana*)
43,variegated dudleya,(*Dudleya variegata*)
44,singlewhorl burrobrush,(*Ambrosia monogyra*)
45,golden-spined cereus,(*Bergerocactus emoryi*)
46,Shaw's agave,(*Agave shawii var. shawii*)
47,San Diego ambrosia,(*Ambrosia pumila*)

Animal Occurrences

48,American peregrine falcon,(*Falco peregrinus anatum*)
49,western tidal-flat tiger beetle,(*Habroscelimorpha gabbii*)
50,prairie falcon,(*Falco mexicanus*)
51,Southern California legless lizard,(*Anniella stebbinsi*)
52,western spadefoot,(*Spea hammondii*)
53,silver-haired bat,(*Lasionycteris noctivagans*)
54,least Bell's vireo,(*Vireo bellii pusillus*)
55,burrowing owl,(*Athene cunicularia*)
56,pocketed free-tailed bat,(*Nyctinomops femorosaccus*)
57,western beach tiger beetle,(*Cicindela latesignata*)
58,orange-throated whiptail,(*Aspidoscelis hyperythra*)
59,western yellow-billed cuckoo,(*Coccyzus americanus occidentalis*)
60,yellow rail,(*Coturnicops noveboracensis*)
61,coast horned lizard,(*Phrynosoma blainvillii*)
62,Crotch's bumble bee,(*Bombus crotchii*)
63,Swainson's hawk,(*Buteo swainsoni*)
64,San Diego fairy shrimp,(*Branchinecta sandiegonensis*)
65,California glossy snake,(*Arizona elegans occidentalis*)
66,California black rail,(*Laterallus jamaicensis coturniculus*)
67,Mexican long-tongued bat,(*Choeronycteris mexicana*)
68,western snowy plover,(*Charadrius nivosus nivosus*)
69,California least tern,(*Sternula antillarum browni*)
70,California mellitid bee,(*Melitta californica*)
71,western yellow bat,(*Lasiurus xanthinus*)
72,big free-tailed bat,(*Nyctinomops macrotis*)
73,green turtle,(*Chelonia mydas*)
74,western mastiff bat,(*Eumops perotis californicus*)
75,coastal California gnatcatcher,(*Polioptila californica californica*)
76,sandy beach tiger beetle,(*Cicindela hirticollis gravida*)
77,American bumble bee,(*Bombus pensylvanicus*)
78,mimic tryonia (=California brackishwater snail),(*Tryonia imitator*)
79,California brown pelican,(*Pelecanus occidentalis californicus*)
80,monarch - California overwintering population,(*Danaus plexippus plexippus pop. 1*)
81,hoary bat,(*Lasiurus cinereus*)
82,coastal cactus wren,(*Campylorhynchus brunneicapillus sandiegensis*)
83,tricolored blackbird,(*Agelaius tricolor*)
84,light-footed Ridgway's rail,(*Rallus obsoletus levipes*)
85,Belding's savannah sparrow,(*Passerculus sandwichensis beldingi*)
86,osprey,(*Pandion haliaetus*)
87,wandering (=saltmarsh) skipper,(*Panoquina errans*)
88,globose dune beetle,(*Coelus globosus*)
89,two-striped gartersnake,(*Thamnophis hammondii*)
90,western red bat,(*Lasiurus frantzii*)
91,northwestern San Diego pocket mouse,(*Chaetodipus fallax fallax*)
92,San Diego desert woodrat,(*Neotoma lepida intermedia*)
93,California horned lark,(*Eremophila alpestris actia*)
94,San Diego black-tailed jackrabbit,(*Lepus californicus bennettii*)

Community Occurences

95,Maritime Succulent Scrub
96,Southern Cottonwood Willow Riparian Forest



SOURCE: Bing Maps 2024; Open Street Map 2023; CA Dept. of Fish and Wildlife 2023

DUDEK

0 2,500 5,000 Feet

FIGURE 5

California Natural Diversity Database Plant and Wildlife Occurrences

SLPR-Arendsee Rock Revetment Replacement Project

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SOURCE: SANGIS 2024

DUDEK

0 30 60 Feet

FIGURE 6

Impacts

SLPR-Arendsee Rock Revetment Replacement Project

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Appendix A
IPaC

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

San Diego County, California



Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Pacific Pocket Mouse Perognathus longimembris pacificus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8080	Endangered

Birds

NAME	STATUS
California Least Tern Sternula antillarum browni Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered
Coastal California Gnatcatcher Polioptila californica californica Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo Vireo bellii pusillus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered
Western Snowy Plover Charadrius nivosus nivosus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Southwestern Pond Turtle Actinemys pallida Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4768	Proposed Threatened

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Amphibians

NAME	STATUS
Western Spadefoot Spea hammondii No critical habitat has been designated for this species.	Proposed Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

Flowering Plants

NAME	STATUS
Nevin's Barberry Berberis nevinii Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8025	Endangered
San Diego Ambrosia Ambrosia pumila Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8287	Endangered
San Diego Button-celery Eryngium aristulatum var. parishii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5937	Endangered
San Diego Thornmint Acanthomintha ilicifolia Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/351	Threatened

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Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, should follow appropriate regulations and implement required avoidance and minimization measures, as described in the various links on this page.

The data in this location indicates that no eagles have been observed in this area. This does not mean eagles are not present in your project area, especially if the area is difficult to survey. Please review the 'Steps to Take When No Results Are Returned' section of the Supplemental Information on Migratory Birds and Eagles document to determine if your project is in a poorly surveyed area. If it is, you may need to rely on other resources to determine if eagles may be present (e.g. your local FWS field office, state surveys, your own surveys).

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Bald & Golden Eagles FAQs

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What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

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Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

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If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Black Oystercatcher Haematopus bachmani This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black Storm-petrel Hydrobates melania This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Nov 15
Black Tern Chlidonias niger surinamenisis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20

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Black Turnstone Arenaria melanocephala — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Brandt's Cormorant Urile penicillatus — Breeds Apr 15 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Bullock's Oriole Icterus bullockii — Breeds Mar 21 to Jul 25
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

California Gull Larus californicus — Breeds Mar 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Elegant Tern Thalasseus elegans — Breeds Apr 5 to Aug 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8561

Gull-billed Tern Gelochelidon nilotica — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9501

Heermann's Gull Larus heermanni — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

NOT FOR CONSULTATION

Lawrence's Goldfinch Spinus lawrencei — Breeds Mar 20 to Sep 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Marbled Godwit Limosa fedoa — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Northern Harrier Circus hudsonius — Breeds Apr 1 to Sep 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8350

Nuttall's Woodpecker Dryobates nuttallii — Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Red Knot Calidris canutus roselaari — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8880

Santa Barbara Song Sparrow Melospiza melodia graminea — Breeds Mar 1 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/5513

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

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Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Western Gull Larus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 21 to Aug 25
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the

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maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

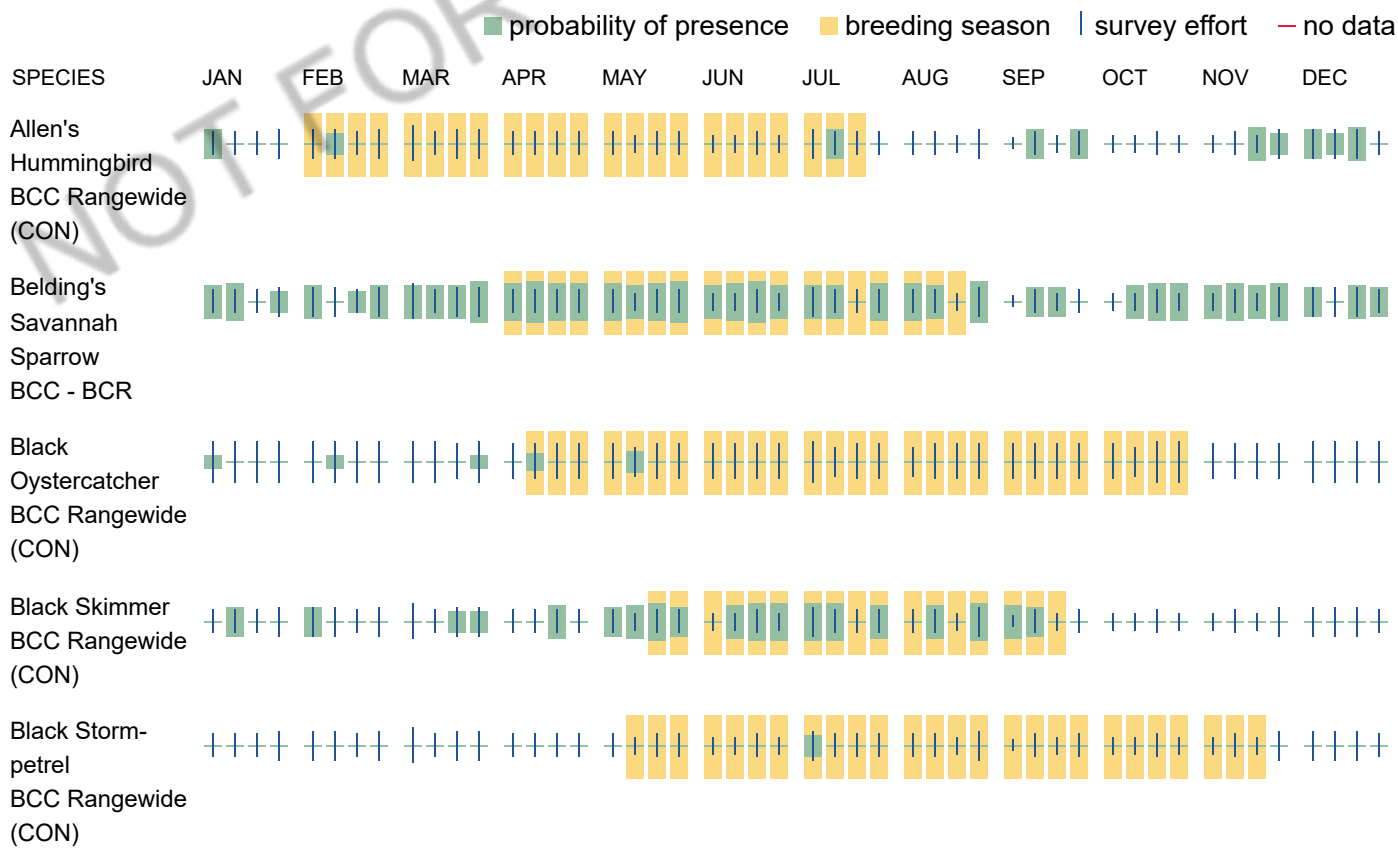
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

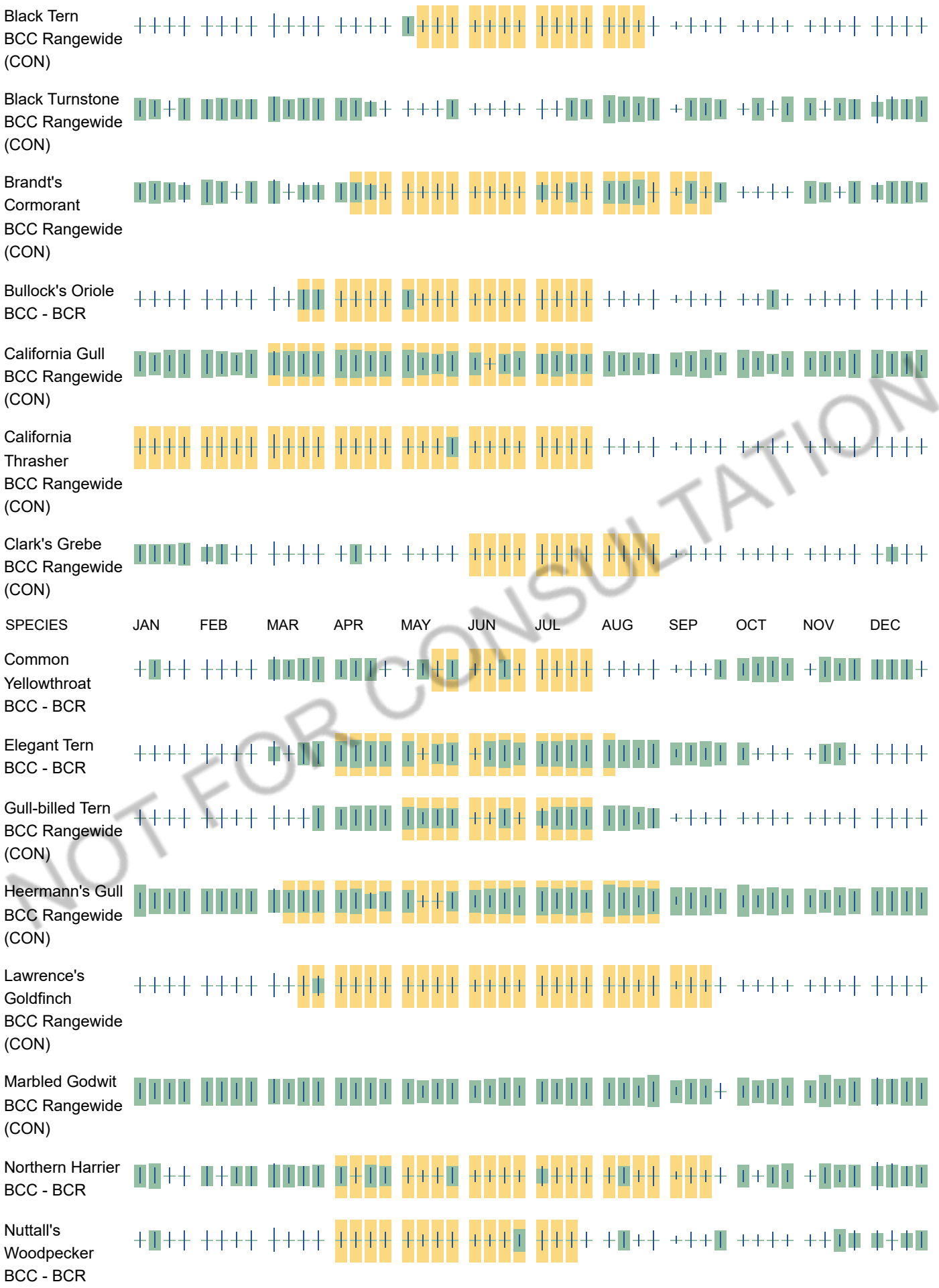
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

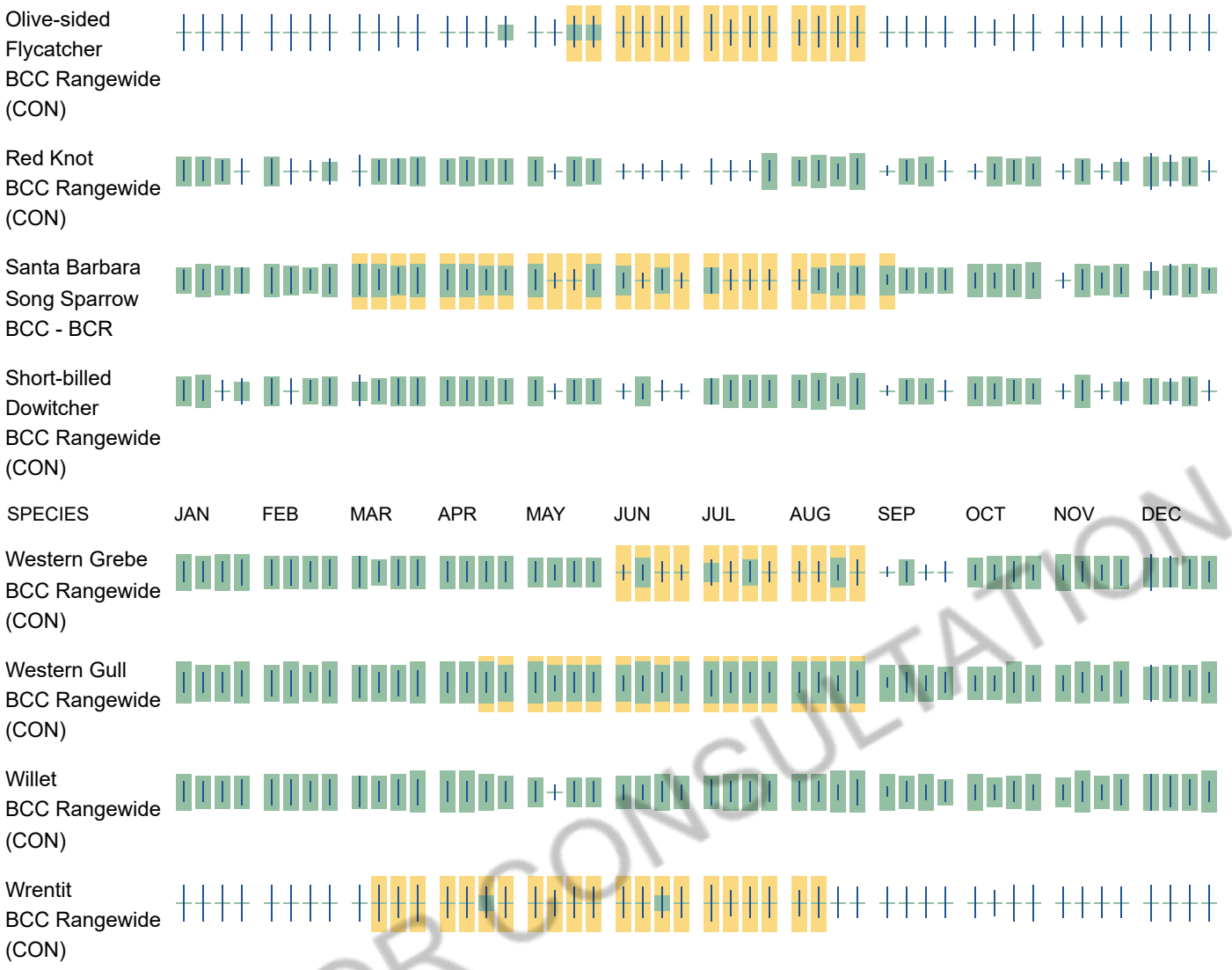
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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Migratory Bird FAQs

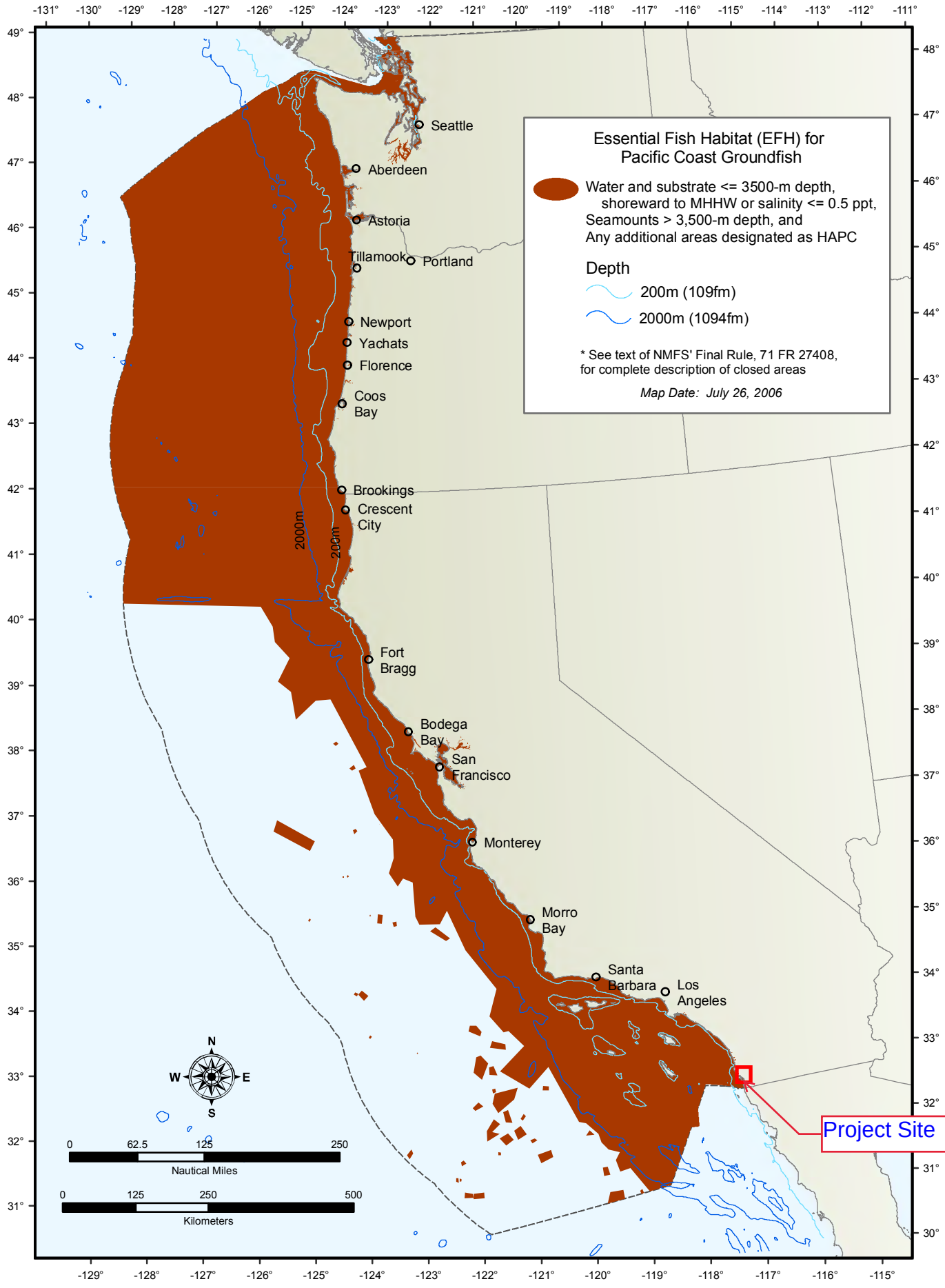
Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

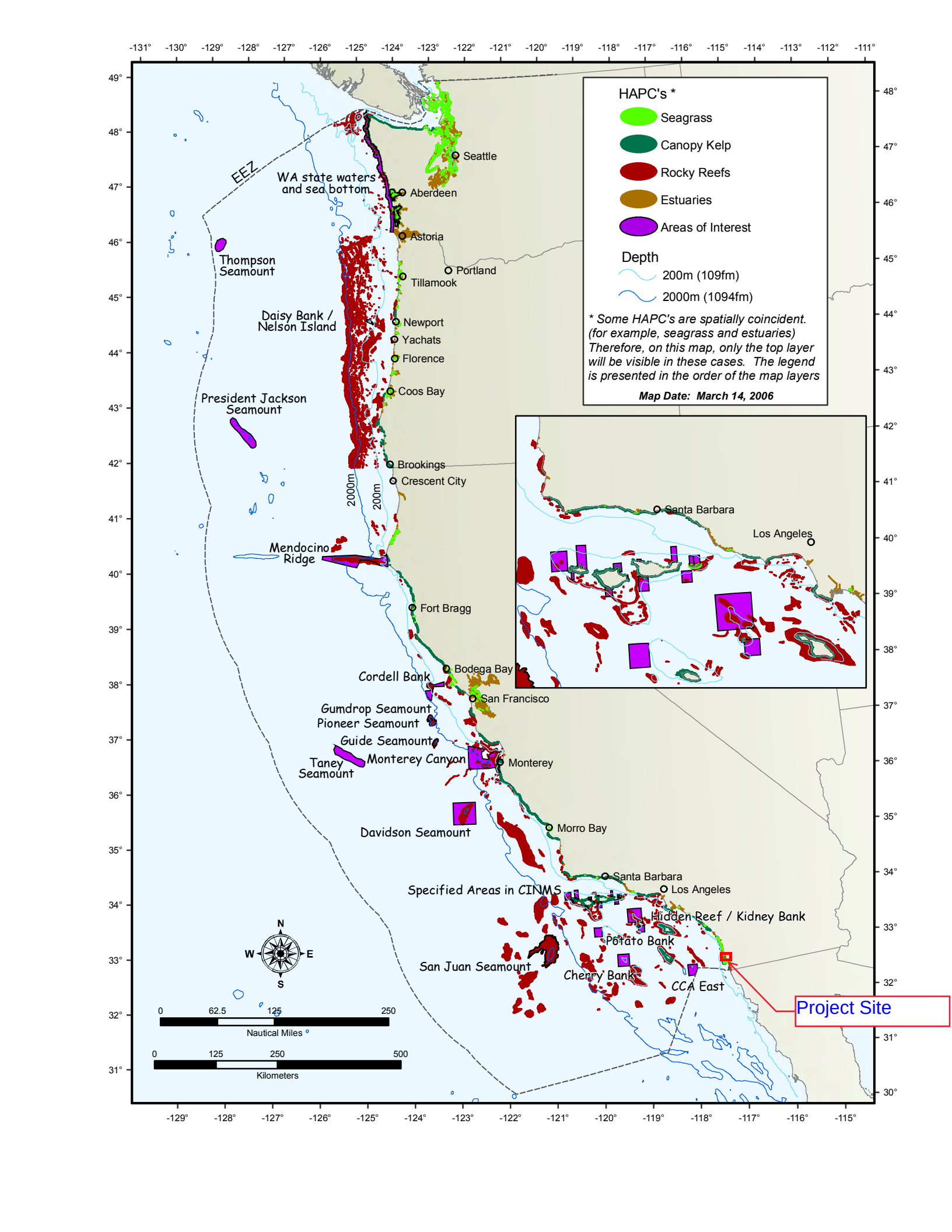
Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

Appendix B
EFH and HAPC Maps


Essential Fish Habitat (EFH) for
Pacific Coast Groundfish
Water and substrate <= 3500-m depth,
shoreward to MHHW or salinity <= 0.5 ppt,
Seamounts > 3,500-m depth, and
Any additional areas designated as HAPC
Depth
200m (109fm)
2000m (1094fm)
* See text of NMFS' Final Rule, 71 FR 27408,
for complete description of closed areas
Map Date: July 26, 2006
Seattle
Aberdeen
Astoria
Tillamook
Portland
Newport
Yachats
Florence
Coos
Bay
Brookings
Crescent
City
2000m
200m
Fort
Bragg
Bodega
Bay
San
Francisco
Monterey
Morro
Bay
Santa
Barbara
Los
Angeles
Project Site
N
W
E
S
0
62.5
125
250
Nautical Miles
0
125
250
500
Kilometers


HAPC's *
Seagrass
Canopy Kelp
Rocky Reefs
Estuaries
Areas of Interest
Depth
200m (109fm)
2000m (1094fm)
* Some HAPC's are spatially coincident. (for example, seagrass and estuaries) Therefore, on this map, only the top layer will be visible in these cases. The legend is presented in the order of the map layers
Map Date: March 14, 2006
EEZ
WA state waters and sea bottom
Thompson Seamount
Daisy Bank / Nelson Island
President Jackson Seamount
Mendocino Ridge
Cordell Bank
Gumdrop Seamount
Pioneer Seamount
Guide Seamount
Taney Seamount
Monterey Canyon
Davidson Seamount
Specified Areas in CINMS
San Juan Seamount
Hidden Reef / Kidney Bank
Potato Bank
Cherry Bank
CCA East
Project Site
Seattle
Aberdeen
Astoria
Portland
Tillamook
Newport
Yachats
Florence
Coos Bay
Brookings
Crescent City
Fort Bragg
Bodega Bay
San Francisco
Monterey
Morro Bay
Santa Barbara
Los Angeles
2000m
200m
N
S
E
W
0 62.5 125 250
Nautical Miles
0 125 250 500
Kilometers

Appendix C
Potential to Occur Table

Special-Status Marine Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Invertebrates				
Haliotis corrugata	Pink abalone	NMFS SSC/None	This species requires sheltered waters with depths from 20 to 118 feet.	Not expected: Suitable habitat not present. Very low population numbers.
Haliotis cracherodii	Black abalone	FE/None	Rocky, low intertidal zone up to 19.6 feet (6 meters) deep.	Not expected: Suitable habitat not present. Very low population numbers.
Haliotis fulgens	Green abalone	NMFS SSC/None	This species is found in rock crevices in shallow water on exposed coast from the low intertidal to depths of 60 feet (18 m).	Not expected: Suitable habitat not present. Very low population numbers.
Haliotis sorenseni	White abalone	FE/None	This species inhabits rocky pinnacles and deep reefs	Not expected: Suitable habitat not present. Very low population numbers.
Haliotis kamtschatkana	Pinto abalone	NOAA Species of Concern	Ranges from Sitka, Alaska to Point Conception. This species is usually found in the tidal zone up to 30 feet but can be at depths of up to 330 feet. Pinto Abalone are associated with kelp beds in exposed areas.	Not expected to occur. Suitable habitat not present. Very low population numbers.
Tryonia imitator	Mimic tryonia	None/None	Inhabits coastal lagoons, estuaries, and saltmarshes, from Sonoma County south to San Diego County	Not expected: not known to occur on the project site.
Fish				
Acipenser medirostris	Green Sturgeon (southern DPS)	FT, NMFS SSC/None	Ranges from Alaska to Mexico and spawns in the Rogue River, Klamath River Basin and the Sacramento River. Adults live in oceanic waters, bays, and estuaries, feeding on benthic invertebrates.	Not expected: Adults may migrate and/or forage in the area. There is very little data on green sturgeon habitat use from Monterey south to the Mexican border.

Special-Status Marine Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Catostomus santaanae	Santa Ana Sucker	FT/None	Small, shallow, cool, clear streams less than 7 meters (23 feet) in width and a few centimeters to more than a meter (1.5 inches to more than 3 feet) in depth; substrates are generally coarse gravel, rubble, and boulder.	Not expected: Habitat is unsuitable for this species. This species inhabits freshwater streams only.
Gadus microcephalus	Pacific cod (Salish Sea Population)	NMFS SSC/None	This specific population inhabits Puget Sound, the Strait of Juan de Fuca and the Strait of Georgia. They feed on krill, shrimp, sand lance and crabs. They are often found over sandy bottoms.	Not expected: Although eelgrass may play a role in habitat selection.
Eucyclogobius newberryi	Tidewater goby	FE/SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River.	Not expected: There are no historic tidewater goby records for this locality.
Merluccius productus	Pacific hake (Georgia Basin DPS)	NMFS SSC/None	The Georgia Basin DPS includes three stocks: the highly migratory stock that ranges from southern California to Queen Charlotte Sound, a central-south Puget Sound Stock and a Strait of Georgia stock. They are found at moderate depths of up to 3,000 feet (910 meters).	Not expected: The highly migratory stock range includes southern California waters. The highly migratory stock spawns in the winter in California.
Oncorhynchus keta	Chum salmon	FT/None	Inhabits the lowermost reaches of rivers and streams, open ocean for anadromous form. Historical distribution included as far south as Monterey, however presently major spawning populations are found only as far south as Tillamook Bay, Oregon.	Not expected: The project site is not within the species' known range.
Oncorhynchus kisutch	Coho salmon (Puget Sound/Strait of Georgia ESU)	NMFS SSC/None	Inhabits streams and freshwater tributaries with gravel substrates, open ocean for anadromous form. This species distribution is from central California to Alaska.	Not expected: The project site is not within the species' known range.

Special-Status Marine Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Oncorhynchus mykiss	Steelhead trout – Oregon Coast ESU	NMFS SSC/None	Ranges from Asia, through Alaska and south to Southern California. This is a coastal species.	Not expected: Oceanic range is unknown. However, spawning rivers only occur in rovers basins on the coast of Oregon from the Columbia River south to Cape Blanco.
Oncorhynchus mykiss irideus	Southern steelhead – Southern California DPS	NMFS SSC/None	This DPS includes watersheds from the Santa Maria River to the U.S./Mexican border, coast and inland habitats. Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn, open ocean for anadromous form.	Not expected: Adults may migrate and/or forage in project vicinity.
Oncorhynchus nerka	Sockeye salmon (Snake River ESU and Ozette Lake ESU)	FE (Snake River), FT (Ozette Lake)/ None	In the U.S., these populations occur in Oregon and Washington, and critical habitat is designated for this species in Snake River and Ozette Lake. This species inhabits riverine, marine and lake environments (lakes are a requirement).	Not expected: The project site is outside of species range.
Oncorhynchus tshawytscha	Chinook salmon (Central Valley Fall, Late-fall run ESU)	NMFS SSC/None	Chinook salmon ranges from Alaska to California. This ESU spawns in the Sacramento River and San Joaquin River. Chinook salmon require deeper and larger freshwater streams than other salmonids; open ocean for anadromous form.	Not expected: The project site is outside of species range.
Sebastes levis	Cowcod	NMFS SSC/None	The species ranges from central Oregon to central Baja California and Guadalupe Island, Mexico. Inhabits deep shelf and upper continental slope, inhabiting depths of 65 to 1,600 feet (20 to 500 meters) in rocky areas.	Not expected: Unsuitable habitat for cowcod, individuals may migrate through the area. Southern California has been recognized as the center of distribution of the species since the 1880s.

Special-Status Marine Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Sebastes paucispinus	Bocaccio (Southern DPS)	NMFS SSC/None	Ranges from Baja California to Alaska; most common between 160-820 feet in depth, but found up to 1,560 feet in depth. This species feeds on other fish species (mainly other rockfish).	Not expected: This species prefers deep waters.
Sebastes ruberrimus	Yelloweye rockfish	FT/None	Yelloweye rockfish range from northern Baja California to Alaska. This species is associated with rocky reefs, kelp canopies, and artificial structures like oil platforms. Adults prefer deeper waters and rocky bottoms. This species is commonly found in depths of 300 to 590 feet (91 to 180 meters).	Not expected: This species prefers deep waters, is more common from Central California northward.
Sphyrna lewini	Scalloped hammerhead shark	FT/None	In the east Pacific, scalloped hammerhead sharks range from southern California to Ecuador. Inhabits coastal warm temperate and tropical seas, ranging from intertidal to depths of up to 1000 meters.	Not expected: unsuitable habitat for hammerhead sharks.
Thaleichthys pacificus	Pacific eulachon (Southern DPS)	FT/None	Ranges from Northern California to Alaska and into the southeastern Bering Sea. Critical habitat is designated for the Southern DPS in northern California in Mad River, Redwood Creek and Klamath River. Anadromous fish, endemic to northeastern Pacific Ocean.	Not expected: The project site is outside of this species' known range.

Source: Information compiled by Dudek (June 2025).
Status Key:
Federal:
BCC = USFWS bird of conservation concern
FDL = federally delisted
FE = federal endangered
FT = federal threatened
EFH = essential fish habitat
HAPC = Habitat Areas of Particular Concern
NMFS SSC = National Marine Fisheries Service Species of Special Concern
BCC = bird of conservation concern

State:
CDF = California Department of Forestry sensitive species
SSC = California species of special concern
FP = fully protected
SDL = state delisted
SE = state endangered
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WL = California watch list
CRPR:
List 1A = Plants presumed extirpated in California and either rare or extinct elsewhere
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Special-Status Plant Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Acanthomintha ilicifolia	San Diego thornmint	FT/SE/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay, Openings/annual herb/Apr–June/35–3,150	Not expected to occur. No suitable habitat present on site.
Agave shawii var. shawii	Shaw's agave	None/None/2B.1	Coastal bluff scrub, Coastal scrub/perennial leaf/Sep–May/10–395	Not expected to occur. No suitable habitat present on site.
Aphanisma blitoides	aphanisma	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/annual herb/Feb–June/5–1,000	Not expected to occur. No suitable habitat present on site.
Aphyllon parishii ssp. brachylobum	short-lobed broomrape	None/None/4.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; Sandy/annual/perennial herb (parasitic)/Apr–Oct/10–1,000	Not expected to occur. No suitable habitat present on site.
Astragalus tener var. titi	coastal dunes milk-vetch	FE/SE/1B.1	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie (mesic); Mesic (often), Vernally Mesic (often)/annual herb/Mar–May/5–165	Not expected to occur. No suitable habitat present on site.
Atriplex coulteri	Coulter's saltbush	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/perennial herb/Mar–Oct/10–1,510	Not expected to occur. No suitable habitat present on site.
Atriplex pacifica	south coast saltscale	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar–Oct/0–460	Not expected to occur. No suitable habitat present on site.
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Alkaline (sometimes), Clay (sometimes), Disturbed areas (often), Loam (sometimes), Sandy (sometimes)/perennial rhizomatous herb/Apr–Oct/65–1,360	Not expected to occur. No suitable habitat present on site.
Berberis Nevinii	Nevin's barberry	FE/SE/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian scrub; Gravelly (sometimes), Sandy (sometimes)/perennial evergreen shrub/(Feb)Mar–June/230–2,705	Not expected to occur. No suitable habitat present on site.

Special-Status Plant Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Camissoniopsis lewisii	Lewis' evening-primrose	None/None/3	Cismontane woodland, Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Clay (sometimes), Sandy (sometimes)/annual herb/Mar–May(June)/0–985	Not expected to occur. No suitable habitat present on site.
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	None/None/1B.1	Coastal bluff scrub (sandy), Coastal dunes/annual herb/Jan–Aug/0–330	Not expected to occur. No suitable habitat present on site.
Cistanthe maritima	seaside cistanthe	None/None/4.2	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Sandy/annual herb/(Feb)Mar–June(Aug)/15–985	Not expected to occur. No suitable habitat present on site.
Corethrogyne filaginifolia var. incana	San Diego sand aster	None/None/1B.1	Chaparral, Coastal bluff scrub, Coastal scrub/perennial herb/June–Sep/10–375	Not expected to occur. No suitable habitat present on site.
Corethrogyne filaginifolia var. linifolia	Del Mar Mesa sand aster	None/None/1B.1	Chaparral (maritime, openings), Coastal bluff scrub, Coastal scrub; Sandy/perennial herb/May–Sep/15–490	Not expected to occur. No suitable habitat present on site.
Dudleya attenuata ssp. attenuata	Orcutt's dudleya	None/None/2B.1	Chaparral, Coastal bluff scrub, Coastal scrub; Gravelly (sometimes), Rocky (sometimes)/perennial herb/May–July/10–165	Not expected to occur. No suitable habitat present on site.

Special-Status Plant Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Dudleya blochmaniae ssp. blochmaniae	Blochman's dudleya	None/None/1B.1	Chaparral, Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Clay (often), Rocky, Serpentinite/perennial herb/Apr–June/15–1,475	Not expected to occur. No suitable habitat present on site.
Dudleya viscida	sticky dudleya	None/None/1B.2	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub; Rocky/perennial herb/May–June/35–1,805	Not expected to occur. No suitable habitat present on site.
Eryngium aristulatum var. parishii	San Diego button-celery	FE/SE/1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools; Mesic/annual/perennial herb/Apr–June/65–2,035	Not expected to occur. No suitable habitat present on site.
Eryngium pendletonense	Pendleton button-celery	None/None/1B.1	Coastal bluff scrub, Valley and foothill grassland, Vernal pools; Clay, Vernally Mesic/perennial herb/Apr–June(July)/50–360	Not expected to occur. No suitable habitat present on site.
Euphorbia misera	cliff spurge	None/None/2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; Rocky/perennial shrub/(Oct)Dec–Aug/35–1,640	Not expected to occur. No suitable habitat present on site.
Leptosiphon grandiflorus	large-flowered leptosiphon	None/None/4.2	Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Valley and foothill grassland; Sandy (usually)/annual herb/Apr–Aug/15–4,005	Not expected to occur. No suitable habitat present on site.
Leptosyne maritima	sea dahlia	None/None/2B.2	Coastal bluff scrub, Coastal scrub/perennial herb/Mar–May/15–490	Not expected to occur. No suitable habitat present on site.
Lycium californicum	California box-thorn	None/None/4.2	Coastal bluff scrub, Coastal scrub/perennial shrub/Mar–Aug(Dec)/15–490	Not expected to occur. No suitable habitat present on site.
Suaeda taxifolia	woolly seablite	None/None/4.2	Coastal bluff scrub, Coastal dunes, Marshes and swamps (coastal margins)/perennial evergreen shrub/Jan–Dec/0–165	Not expected to occur. No suitable habitat present on site.
Triquetrella californica	coastal triquetrella	None/None/1B.2	Coastal bluff scrub, Coastal scrub/moss/N.A./35–330	Not expected to occur. No suitable habitat present on site.

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Special-Status Terrestrial Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Amphibians				
Spea hammondii	western spadefoot	FPT/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.	Not expected: No grasslands, vernal pools or ephemeral wetlands present on site.
Reptiles				
Anniella stebbinsi	southern California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils.	Not expected to occur. No suitable vegetation present.
Arizona elegans occidentalis	California glossy snake	None/SSC	Arid scrub, rocky washes, grasslands, chaparral, open areas with loose soil.	Not expected to occur. No suitable vegetation present.
Aspidoscelis hyperythra	orange-throated whiptail	None/WL	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood.	Not expected to occur. No suitable vegetation present.
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Not expected to occur. No suitable vegetation present.
Crotalus ruber	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats.	Not expected to occur. No suitable vegetation present.
Masticophis fuliginosus	Baja California coachwhip	None/SSC	In California restricted to southern San Diego County, where it is known from grassland and coastal sage scrub. Open areas in grassland and coastal sage scrub.	Not expected to occur. No suitable vegetation present.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats.	Not expected to occur. No suitable vegetation present.

Special-Status Terrestrial Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Plestiodon skiltonianus interparietalis	Coronado skink	None/WL	Woodlands, grasslands, pine forests, and chaparral; rocky areas near water.	Not expected to occur. No suitable vegetation present.
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites.	Not expected to occur. No suitable vegetation or mammal burrows present.
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools.	Not expected to occur. No suitable habitat present.
Actinemys pallida	southwestern pond turtle	FPT/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter.	Not expected to occur. No suitable habitat present.
Birds				

Special-Status Terrestrial Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water.	Not expected to occur. No suitable vegetation present.
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture.	Not expected to occur. No suitable vegetation present.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches.	Not expected to occur. No suitable vegetation present.
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC, SC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows.	Not expected to occur. No suitable vegetation present.
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.	Not expected to occur. No suitable vegetation present.
Campylorhynchus brunneicapillus sandiegensis (San Diego & Orange Counties only)	coastal cactus wren	None/SSC	Southern cactus scrub patches.	Not expected to occur. No suitable vegetation present.
Charadrius nivosus nivosus (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds.	Not expected to occur. No suitable habitat present.

Special-Status Terrestrial Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Circus hudsonius (nesting)	northern harrier	BCC/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats.	Not expected to occur. No suitable vegetation present.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories.	Not expected to occur. No suitable vegetation present.
Coturnicops noveboracensis	yellow rail	BCC/SSC	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water.	Not expected to occur. No suitable vegetation present.
Eremophila alpestris actia	California horned lark	None/WL	This subspecies of horned lark occurs on the state's southern and central coastal slope and in the San Joaquin Valley. Nests and forages in grasslands, disturbed lands, agriculture, and beaches.	Not expected to occur. No suitable vegetation present.
Falco mexicanus (nesting)	prairie falcon	None/WL	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs.	Not expected to occur. No suitable vegetation present.
Falco peregrinus anatum (nesting)	American peregrine falcon	FPD/SCD	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present.	Not expected to occur. No suitable vegetation present.
Ixobrychus exilis (nesting)	least bittern	None/SSC	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation.	Not expected to occur. No suitable vegetation present.
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations.	Not expected to occur. No suitable vegetation present.

Special-Status Terrestrial Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Pandion haliaetus (nesting)	osprey	None/WL	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast.	Not expected to occur. No suitable vegetation present.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	BCC/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (Salicornia spp.).	Not expected to occur. No suitable vegetation present.
Pelecanus occidentalis californicus (nesting colonies & communal roosts)	California brown pelican	FPD/SCD	Forages in warm coastal marine and estuarine environments; in California, nests on dry, rocky offshore islands.	Low potential to occur. Not expected to nest. May forage in the Project area.
Phoebastria albatrus	short-tailed albatross	FE/SSC	Nests on isolated, windswept islands of the western Pacific; extremely rare in migration offshore along the California coast.	Not expected to occur. No suitable vegetation present.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level.	Not expected to occur. No suitable vegetation present.
Rallus obsoletus levipes	light-footed Ridgway's rail	FE/FP, SE	Coastal wetlands, brackish areas, coastal saline emergent wetlands.	Not expected to occur. No suitable vegetation present.
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats.	Not expected to occur. No suitable vegetation present.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season.	Not expected to occur. No suitable vegetation present.
Mammals				
Aeorestes cinereus	northern hoary bat	None/None	Forest, woodland riparian, and wetland habitats; also juniper scrub, riparian forest,	Not expected to occur. No suitable vegetation present.

Special-Status Terrestrial Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
			and desert scrub in arid areas; roosts in tree foliage and sometimes cavities, such as woodpecker holes.	
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees.	Low potential to occur. Poor, disturbed habitat on site.
Chaetodipus californicus femoralis	Dulzura pocket mouse	None/None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level.	Not expected to occur. No suitable vegetation present.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/None	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland.	Not expected to occur. No suitable vegetation present.
Choeronycteris mexicana	Mexican long-tongued bat	None/SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings.	Not expected to occur. No suitable vegetation present.
Dasypterus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms.	Not expected to occur. No suitable vegetation present.
Euderma maculatum	spotted bat	None/SSC	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed-conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes.	Not expected to occur. No suitable vegetation present.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels.	Not expected to occur. No suitable vegetation present.

Special-Status Terrestrial Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Lasionycteris noctivagans	silver-haired bat	None/None	Old-growth forest, maternity roosts in trees, large snags 50 feet aboveground; hibernates in hollow trees, rock crevices, buildings, mines, caves, and under sloughing bark; forages in or near coniferous or mixed deciduous forest, stream or river drainages.	Not expected to occur. No suitable vegetation present.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands.	Not expected to occur. No suitable vegetation present.
Myotis yumanensis	Yuma myotis	None/None	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees.	Not expected to occur. No suitable vegetation present.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas.	Not expected to occur. No suitable vegetation present.
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings.	Not expected to occur. No suitable vegetation present.
Nyctinomops macrotis	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water.	Not expected to occur. No suitable vegetation present.
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC	Fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium.	Not expected to occur. No suitable habitat present.
Invertebrates				
Bombus crotchii	Crotch's bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	Low potential to occur. No suitable vegetation present.

Special-Status Terrestrial Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools.	Not expected to occur. No suitable vegetation present.
Carolella busckana	Busck's gallmoth	None/None	Coastal scrub dunes.	Not expected to occur. No suitable habitat present.
Cicindela gabbii	western tidal-flat tiger beetle	None/None	Inhabits estuaries and mudflats along the coast of Southern California.	Not expected to occur. No suitable habitat present.
Cicindela hirticollis gravida	sandy beach tiger beetle	None/None	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico.	Not expected to occur. No suitable vegetation present.
Cicindela senilis frosti	senile tiger beetle	None/None	Inhabits marine shoreline, from Central California coast south to saltmarshes of San Diego; also found at Lake Elsinore.	Not expected to occur. No suitable habitat present.
Coelus globosus	globose dune beetle	None/None	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico.	Not expected to occur. No suitable habitat present.
Euphydryas editha quino	quino checkerspot butterfly	FE/None	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include *Plantago erecta*, *P. patagonica*, and *Antirrhinum coulterianum*, among others.	Not expected to occur. No suitable vegetation present.
Helminthoglypta coelata	mesa shoulderband	None/None	Known only from a few locations in coastal San Diego County.	Not expected to occur. No suitable vegetation present.
Lycaena hermes	Hermes copper	FT/None	Mixed woodlands, chaparral, and coastal scrub.	Not expected to occur. No suitable vegetation present.
Melitta californica	California mellitid bee	None/None	Desert regions of southwestern Arizona, southeastern California, and Baja California, Mexico; also collected from Torrey Pines, San Diego County.	Not expected to occur. No suitable vegetation present.
Panoquina errans	wandering skipper	None/None	Saltmarsh.	Not expected to occur. No suitable habitat present.

Special-Status Terrestrial Species Not Expected to Occur within the Project Site

Scientific Name	Common Name	Status Federal/ State	Primary Habitat Associations	Potential to Occur
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools.	Not expected to occur. No suitable habitat present.
Cicindela latesignata	western beach tiger beetle	None/None	Mudflats and beaches in coastal Southern California.	Not expected to occur. No suitable habitat present.
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	FC/None	Wind-protected tree groves with nectar sources and nearby water sources.	Not expected to occur. No suitable vegetation present.

Source: Information compiled by Dudek (June 2025).
Status Key:
Federal:
BCC = USFWS bird of conservation concern
FDL = federally delisted
FE = federal endangered
FT = federal threatened
EFH = essential fish habitat
HAPC = Habitat Areas of Particular Concern
NMFS SSC = National Marine Fisheries Service Species of Special Concern
BCC = bird of conservation concern
State:
CDF = California Department of Forestry sensitive species
SSC = California species of special concern
FP = fully protected
SDL = state delisted
SE = state endangered
ST = state threatened
WL = California watch list
CRPR:
List 1A = Plants presumed extirpated in California and either rare or extinct elsewhere
List 1B = Plants rare, threatened, or endangered in California and elsewhere
List 2B = Plants rare, threatened, or endangered in California, but more common elsewhere
List 3 = Insufficient information necessary for accurate ranking
List 4 = Plants of limited distribution (a watch list)

Appendix C

Rock Revetment Rehabilitation Calculation Package

Project No.
T2722.002.001

407 & 409 1st STREET, CORONADO, CA
ROCK REVETMENT REHABILITATION
CALCULATION PACKAGE
By Walter F. Crampton, GE, D.CE
August 7, 2023

The proposed rock revetment rehabilitation for 407 & 409 1st Street in Coronado, California is intended to rehabilitate the existing shoreline stabilization measures fronting both of these properties. As indicated in Photo 1, the subject properties are the second and third lots north of Bayview Park, with 411 1st Street just north of Bayview Park having a stable 1/4-ton rock revetment slope bayward of the property.

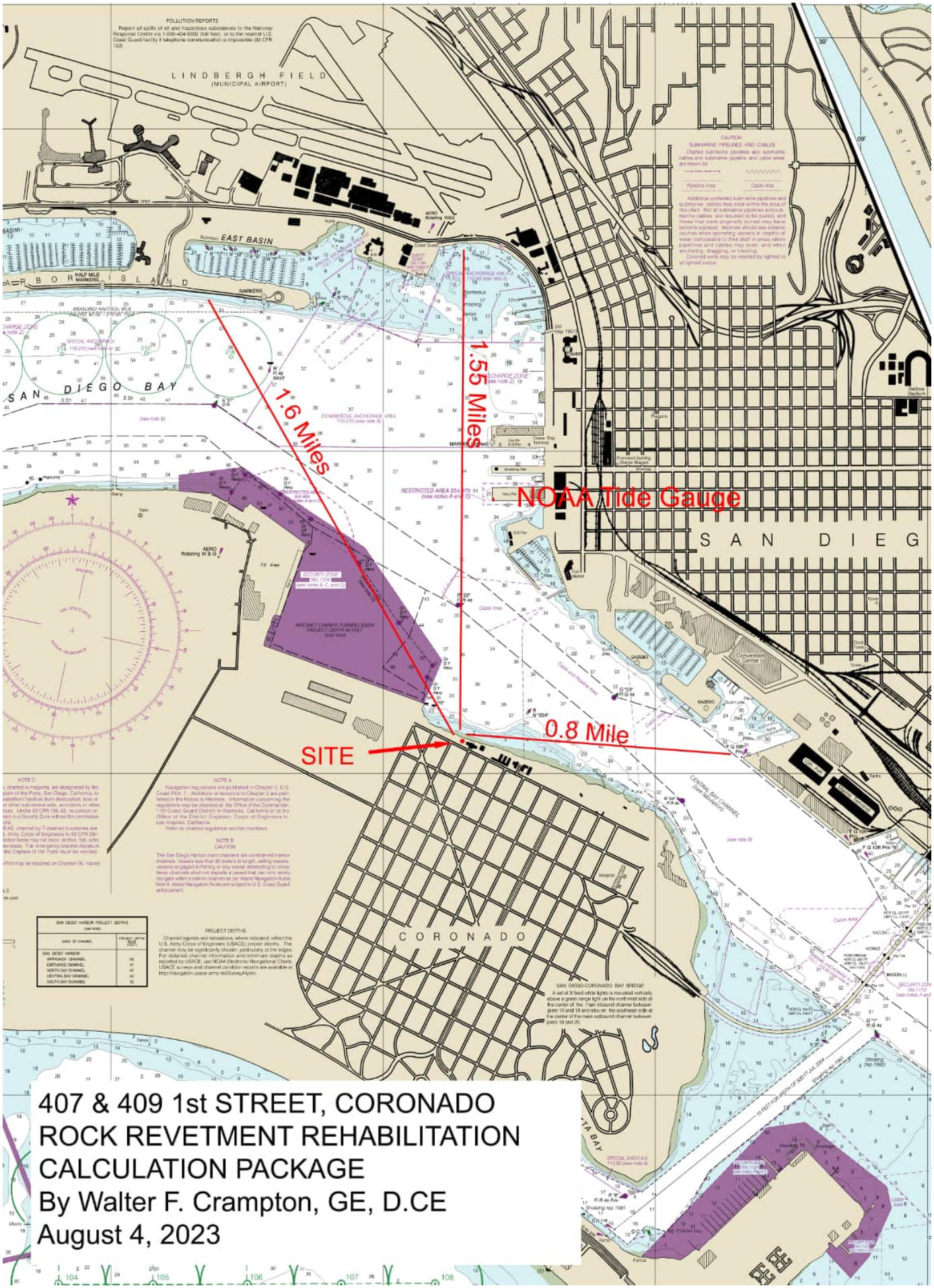
Standing near the north edge of 411 1st Street looking north (Photo 2), the shoreline armoring bayward of 409 1st Street consists entirely of old construction concrete rubble, all of which needs to be removed and replaced with a new rock revetment. Standing near the middle of the 409 1st Street rock revetment looking south (Photo 3), the debris on average is about 2 feet lower than the plane of the revetment section below 411 1st Street. During our June 1, 2023, virtual meeting with Port of San Diego (Port) staff, Photo 3 was presented to the meeting participants, with the recommendation that the new rock revetment bayward of 409 1st Street maintain the same revetment elevation as the adjacent parcel to the south. As we understand, this was agreed to by Port staff and has been incorporated into the companion rock revetment rehabilitation plans.

Photo 4, also presented during the June 1 meeting, shows the existing revetment section below 407 1st Street, with the upslope approximate half in relatively good condition. However, the lower half of the revetment has settled up to 2± feet associated with inadequate toe stone embedment. As discussing during the June 1 meeting, we are recommending that the 407 1st Street revetment be rehabilitated with a new revetment toe stone keyway to reconstruct the entire revetment slope to the same geometry as the 411 1st Street revetment slope, as reflected on the companion rock revetment rehabilitation plans. Based on our understanding from discussions during the June 1 meeting, the rehabilitation of this revetment section is also acceptable to Port staff.

The following calculation package reflects the revetment design considerations addressing both the current conditions and up to 3.6 feet of sea level rise associated with the 17% probability of exceedance sea level rise scenario reported by the Ocean Protection Council (2018) in the year 2100.

Walter F. Crampton, GE, D.CE

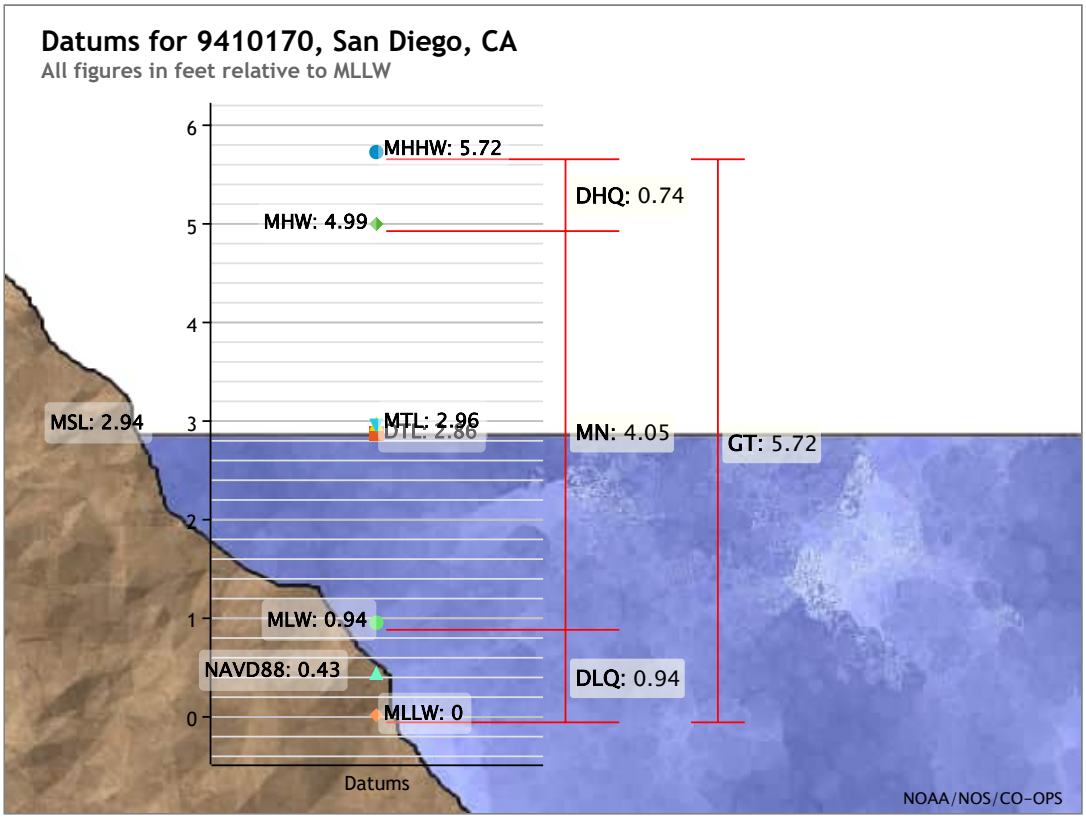




407 & 409 1st STREET, CORONADO
ROCK REVETMENT REHABILITATION
CALCULATION PACKAGE

By Walter F. Crampton, GE, D.CE

August 4, 2023



Showing datums for

9410170 San Diego, San Die…

Datum

MLLW

Data Units
- (•) Feet
- ( ) Meters

Epoch
- (•) Present (1983-2001)
- ( ) Superseded (1960-1978)

Submit

Show nearby stations

Datums for 9410170, San Diego CA

NOTICE: All data values are relative to the MLLW.

Elevations on Mean Lower Low Water

Station: 9410170, San Diego, CA
Status: Accepted (Sep 20 2017)
Units: Feet
Control Station:
T.M.: 0
Epoch: (/datum_options.html#NTDE) 1983-2001
Datum: MLLW

Datum	Value	Description
MHHW (/datum_options.html#MHHW)	5.72	Mean Higher-High Water
MHW (/datum_options.html#MHW)	4.99	Mean High Water
MTL (/datum_options.html#MTL)	2.96	Mean Tide Level
MSL (/datum_options.html#MSL)	2.94	Mean Sea Level
DTL (/datum_options.html#DTL)	2.86	Mean Diurnal Tide Level
MLW (/datum_options.html#MLW)	0.94	Mean Low Water
MLLW (/datum_options.html#MLLW)	0.00	Mean Lower-Low Water
NAVD88 (/datum_options.html)	0.43	North American Vertical Datum of 1988
STND (/datum_options.html#STND)	-3.79	Station Datum
GT (/datum_options.html#GT)	5.72	Great Diurnal Range
MN (/datum_options.html#MN)	4.05	Mean Range of Tide

Datum	Value	Description
DHQ (/datum_options.html#DHQ)	0.74	Mean Diurnal High Water Inequality
DLQ (/datum_options.html#DLQ)	0.94	Mean Diurnal Low Water Inequality
HWI (/datum_options.html#HWI)	5.01	Greenwich High Water Interval (in hours)
LWI (/datum_options.html#LWI)	11.13	Greenwich Low Water Interval (in hours)
Max Tide (/datum_options.html#MAXTIDE)	8.24	Highest Observed Tide
Max Tide Date & Time (/datum_options.html#MAXTIDEDT)	11/25/2015 15:48	Highest Observed Tide Date & Time
Min Tide (/datum_options.html#MINTIDE)	-3.09	Lowest Observed Tide
Min Tide Date & Time (/datum_options.html#MINTIDEDT)	12/17/1937 16:06	Lowest Observed Tide Date & Time
HAT (/datum_options.html#HAT)	7.62	Highest Astronomical Tide
HAT Date & Time	12/05/2025 16:24	HAT Date and Time
LAT (/datum_options.html#LAT)	-2.06	Lowest Astronomical Tide
LAT Date & Time	01/21/2023 23:24	LAT Date and Time

Tidal Datum Analysis Periods
01/01/1983 - 12/31/2001

Products available at 9410170 San Diego, CA

TIDES/WATER LEVELS

Water Levels (/waterlevels.html?id=9410170)

NOAA Tide Predictions (/noaatidepredictions.html?id=9410170)

Harmonic Constituents (/harcon.html?id=9410170)

Sea Level Trends (/sltrends/sltrends_station.shtml?id=9410170)

Datums (/datums.html?id=9410170)

Bench Mark Sheets (/benchmarks.html?id=9410170)

Extreme Water Levels (/est/est_station.shtml?stnid=9410170)

Reports (/reports.html?id=9410170)

METEOROLOGICAL/OTHER

Meteorological Observations (/met.html?id=9410170)

Water Temp/Conductivity

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OPERATIONAL FORECAST SYSTEMS

West Coast (/ofs/wcofs/wcofs.html)

OFS product page for San Diego

INFORMATION

Station Home Page (/stationhome.html?id=9410170)

Data Inventory (/inventory.html?id=9410170)

Measurement Specifications (/measure.html)

Website Owner: Center for Operational Oceanographic Products and Services

National Oceanic and Atmospheric Administration (http://www.noaa.gov)
National Ocean Service (http://oceanservice.noaa.gov)
Privacy Policy (/privacy.html)
Disclaimer (/disclaimers.html)
Take Our Survey (/survey.html)
Freedom of Information Act (https://www.noaa.gov/foia-freedom-of-information-act)
Contact Us (/contact.html)

Station Info | Tides/Water Levels | Meteorological Obs. (/met.html?id=9410170)

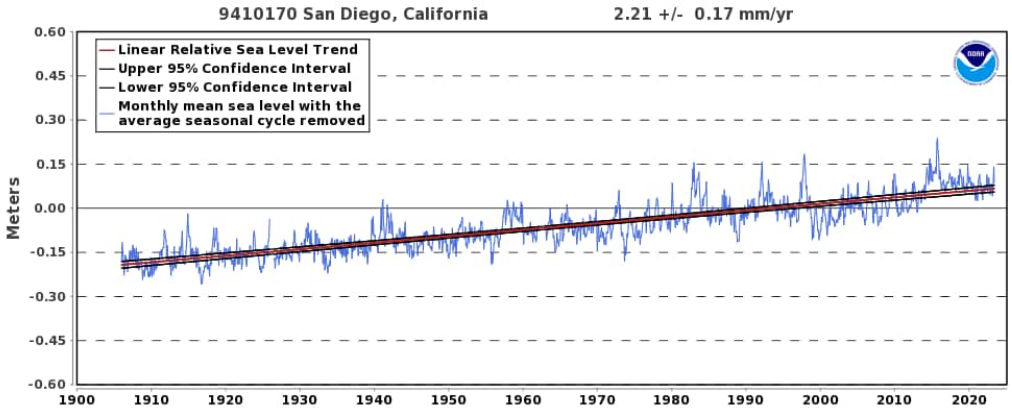
Phys. Oceanography (/physocean.html?id=9410170)

OFS (/ofs/ofs_station.html?stname=San Diego&ofs=wc&stnid=9410170&subdomain=sca)

Relative Sea Level Trend | Regional Scenarios | Interannual Variation

Average Seasonal Cycle | Variation Of 50-Year RSL Trends

Relative Sea Level Trend
9410170 San Diego, California



EXPORT TO TEXT (DATA/9410170_MEANTREND.TXT) |

EXPORT TO CSV (DATA/9410170_MEANTREND.CSV) |

SAVE IMAGE (PLOTS/9410170_MEANTREND.PNG)

The relative sea level trend is 2.21 millimeters/year with a 95% confidence interval of +/- 0.17 mm/yr based on monthly mean sea level data from 1906 to 2022 which is equivalent to a change of 0.73 feet in 100 years.

Plots show monthly mean sea levels without the regular seasonal fluctuations from coastal ocean temperatures, salinity, wind, atmospheric pressure, and ocean currents. The relative sea level trend is also shown with its 95% confidence interval. Relative Sea Level trends at the coast can be positive or negative. A negative trend does not mean the ocean surface is falling; It indicates the land is rising more quickly than the ocean in a particular area. Trends close to zero indicate the land is rising at nearly the same rate as the ocean.

Plotted values are relative to the most recent Mean Sea Level datum established by CO-OPS (https://tidesandcurrents.noaa.gov/datum_options.html). Calculated trends are available as a table in millimeters/year and in feet/century (https://tidesandcurrents.noaa.gov/sltrends/mslUSTrendsTable.html) (0.3 meters = 1 foot). If present, solid vertical lines indicate dates of any major earthquakes in the vicinity of the station. Dashed vertical lines bracket any periods of questionable data or a possible datum shift.

Products available at 9410170 San Diego, California

TIDES/WATER LEVELS

Water Levels (/waterlevels.html?id=9410170)

NOAA Tide Predictions (/noaatidepredictions.html?id=9410170)

Harmonic Constituents (/harcon.html?id=9410170)

Sea Level Trends (/sltrends/sltrends_station.shtml?id=9410170)

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Measurement Specifications (/measure.html)

NOAA Chart indicates that much of the bay is about 35-feet-deep along existing fetch lengths.

Design winds from NOAA = 60 mph

Design Fetch

From NW = 1.6 miles – Use for Design
From N = 1.55 miles
From E = 0.8 mile

For depth-limited wind waves:

Ref. USCOE: Low Cost Shore Protection; A Guide for Engineers and Contractors

$$H = \frac{0.283\,U^2}{g}\ tanh\left[0.53\left(\frac{gd}{U^2}\right)^{0.75}\right]\ tanh\left\{\frac{0.0125\left(\frac{gF}{U^2}\right)^{0.42}}{tanh\left[0.53\left(\frac{gd}{U^2}\right)^{0.75}\right]}\right\}\ EQ\ 5$$

$$T = \frac{2.40\,\pi U}{g}\ tanh\left[0.833\left(\frac{gd}{U^2}\right)^{0.375}\right]\ tanh\left\{\frac{0.077\left(\frac{gF}{U^2}\right)^{0.25}}{tanh\left[0.833\left(\frac{gd}{U^2}\right)^{0.375}\right]}\right\}\ EQ\ 6$$

Where:

U = Wind Speed, ft/sec
g = 32.2 ft/sec^2
d = Depth, ft
F = Fetch, ft

w/d = 35’	w/d = 40’	w/d = 45’	w/d = 50’
H = 3.6’	H = 3.6’	H = 3.6’	H = 3.7’
T = 3.6 sec	T = 3.6 sec	T = 3.6 sec	T = 3.6 sec

SWL

Max tide in Bay = 8.24 ft MLLW on 11-25-2015
SLR over last century = 2.21 mm/yr for 2001 tidal epoch

AD/A-112 548

LOW COST SHORE PROTECTION
A GUIDE FOR ENGINEERS AND CONTRACTORS

U. S. Army Corps of Engineers

1981

QE
581
.L69
1981

U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
NTIS®

Table 9

WIND-GENERATED WAVE HEIGHTS AND (PERIODS)
FETCH LENGTHS WITH AVERAGE DEPTHS = 25 FEET

Wind Speed (mph)	Fetch Length (miles)														
	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	6.0	7.0	8.0	9.0	10.0
10	0.5 (1.0)	0.5 (1.0)	0.5 (1.0)	0.5 (2.0)	0.5 (2.0)	0.5 (2.0)	0.5 (2.0)	0.5 (2.0)	0.5 (2.0)	0.5 (2.0)	1.0 (2.0)	1.0 (2.0)	1.0 (2.0)	1.0 (2.0)	1.0 (2.0)
20	0.5 (2.0)	1.0 (2.0)	1.0 (2.0)	1.0 (2.0)	1.0 (2.0)	1.5 (2.0)	1.5 (2.0)	1.5 (3.0)	1.5 (3.0)	1.5 (3.0)	1.5 (3.0)	2.0 (3.0)	2.0 (3.0)	2.0 (3.0)	2.0 (3.0)
30	1.0 (2.0)	1.5 (2.0)	1.5 (2.0)	2.0 (3.0)	2.0 (3.0)	2.0 (3.0)	2.0 (3.0)	2.5 (3.0)	2.5 (3.0)	2.5 (3.0)	2.5 (3.0)	2.5 (3.0)	3.0 (4.0)	3.0 (4.0)	3.0 (4.0)
40	1.5 (2.0)	2.0 (3.0)	2.0 (3.0)	2.5 (3.0)	2.5 (3.0)	3.0 (3.0)	3.0 (3.0)	3.0 (4.0)	3.0 (4.0)	3.5 (4.0)	3.5 (4.0)	3.5 (4.0)	4.0 (4.0)	4.0 (4.0)	4.0 (4.0)
50	2.0 (3.0)	2.5 (3.0)	3.0 (3.0)	3.0 (3.0)	3.5 (4.0)	3.5 (4.0)	3.5 (4.0)	4.0 (4.0)	4.0 (4.0)	4.0 (4.0)	4.5 (4.0)	4.5 (4.0)	4.5 (4.0)	4.5 (5.0)	5.0 (5.0)
55	2.0 (3.0)	2.5 (3.0)	3.0 (3.0)	3.5 (4.0)	3.5 (4.0)	4.0 (4.0)	4.0 (4.0)	4.0 (4.0)	4.5 (4.0)	4.5 (4.0)	4.5 (4.0)	5.0 (5.0)	5.0 (5.0)	5.0 (5.0)	5.0 (5.0)
60	2.0 (3.0)	3.0 (3.0)	3.5 (3.0)	3.5 (4.0)	4.0 (4.0)	4.0 (4.0)	4.5 (4.0)	4.5 (4.0)	4.5 (4.0)	5.0 (4.0)	5.0 (5.0)	5.0 (5.0)	5.5 (5.0)	5.5 (5.0)	5.5 (5.0)
65	2.5 (3.0)	3.0 (3.0)	3.5 (4.0)	4.0 (4.0)	4.5 (4.0)	4.5 (4.0)	4.5 (4.0)	5.0 (5.0)	5.0 (5.0)	5.0 (5.0)	5.5 (5.0)	5.5 (5.0)	5.5 (5.0)	6.0 (5.0)	6.0 (5.0)
70	2.5 (3.0)	3.5 (3.0)	4.0 (4.0)	4.5 (4.0)	4.5 (4.0)	5.0 (4.0)	5.0 (4.0)	5.0 (5.0)	5.0 (5.0)	5.5 (5.0)	5.5 (5.0)	6.0 (5.0)	6.0 (5.0)	6.0 (5.0)	6.5 (5.0)
75	3.0 (3.0)	3.5 (3.0)	4.0 (4.0)	4.5 (4.0)	4.5 (4.0)	5.0 (4.0)	5.5 (5.0)	5.5 (5.0)	5.5 (5.0)	6.0 (5.0)	6.0 (5.0)	6.0 (5.0)	6.5 (5.0)	6.5 (5.0)	6.5 (5.0)
80	3.0 (3.0)	4.0 (4.0)	4.5 (5.0)	5.0 (5.0)	5.0 (5.0)	5.5 (5.0)	5.5 (5.0)	6.0 (5.0)	6.0 (5.0)	6.0 (5.0)	6.5 (5.0)	6.5 (5.0)	6.5 (5.0)	7.0 (6.0)	7.0 (6.0)

example, fetch line (1) was 3.2 miles long with an average depth of 10.0 feet (design water level at +2.8' MLW). Assuming a 10-year, fastest-mile wind speed of 65 miles/hour, the wave height would be 3.0 feet (Table 6). Along Line (2), with an average depth of 14.4 feet, the wave height would be 3.5 feet (interpolating between Tables 6 and 7), despite the fact that its fetch length is only 2.4 miles. This should be used for design. The wave periods are given in parentheses on the tables below the wave heights. In both cases, the wave period is 4.0 seconds.

Alternate, more precise, methods of determining the wave height and period by using shallow water wave forecasting equations are given in U. S. Army Corps of Engineers (1977c) (1981b) and (1981c). The two later references will eventually supersede the first and are preferred by many coastal engineering specialists. Their use, however, involves more elaborate procedures so, for the sake of brevity and simplicity, only the equations from the first reference will be given. Either the tables or the equations are adequate for design of low cost shore protection.

The wave height, H, is,

$$H = \frac{0.283\ U^2}{g} \tanh\left[0.530\left(\frac{gd}{U^2}\right)^{0.75}\right] \tanh\left\{\frac{0.0125\left(\frac{gF}{U^2}\right)^{0.42}}{\tanh\left[0.530\left(\frac{gd}{U^2}\right)^{0.75}\right]}\right\} \quad (5)$$

and the period, T, is

$$T = 2.40\ \frac{\pi U}{g} \tanh\left[0.833\left(\frac{gd}{U^2}\right)^{0.375}\right] \tanh\left\{\frac{0.077\left(\frac{gF}{U^2}\right)^{0.25}}{\tanh\left[0.833\left(\frac{gd}{U^2}\right)^{0.375}\right]}\right\} \quad (6)$$

where U = the wind speed in feet/second;
F = the fetch length in feet;
d = the depth in feet;
and g = 32.2 feet/second^2.

Note: The above equations are in dimensionless form and can be used with any consistent set of units.

Wave heights so determined should then be checked against the maximum possible breaking wave at the design water level. This should be evaluated using Figure 18 and the depth at the toe of the structure, or if appropriate, the minimum depth offshore from the structure. With the design water depth at the toe of the structure, d_s; the wave period, T; and the fronting bottom slope, m; the breaker height, H_b, can be found as a function of d_s. For instance, if d_s = 3.0 feet, m = 1:33, and T = 4.0 seconds, d_s/gT^2 = 0.00582, and H_b/d_s = 0.98; therefore, H_b = 3.0 x 0.98 = 2.9 (say 3.0) feet. The minimum depth along fetch line (1) is near Cedar Point where the depth is 1 foot at MLW, and 3.8 feet under the design water level. This would not control for this case (it is greater than d_s), but it should be checked in every instance. Fetch line (2) does not cross similar shoal areas.

If the wind-driven wave height was 3.5 feet, it should not be used for design because only a 3.0-foot wave can be supported based on the available minimum depth at the structure. The final design wave height, therefore, should be 2.9 (3.0) feet in this case. *To restate the rule, the design wave height should be the lesser of the maximum wind-generated wave along the fetch, or the maximum possible breaking wave at the structure or at points offshore.*

Figure 19 gives appropriate locations for measuring the depth at the structure, d_s.

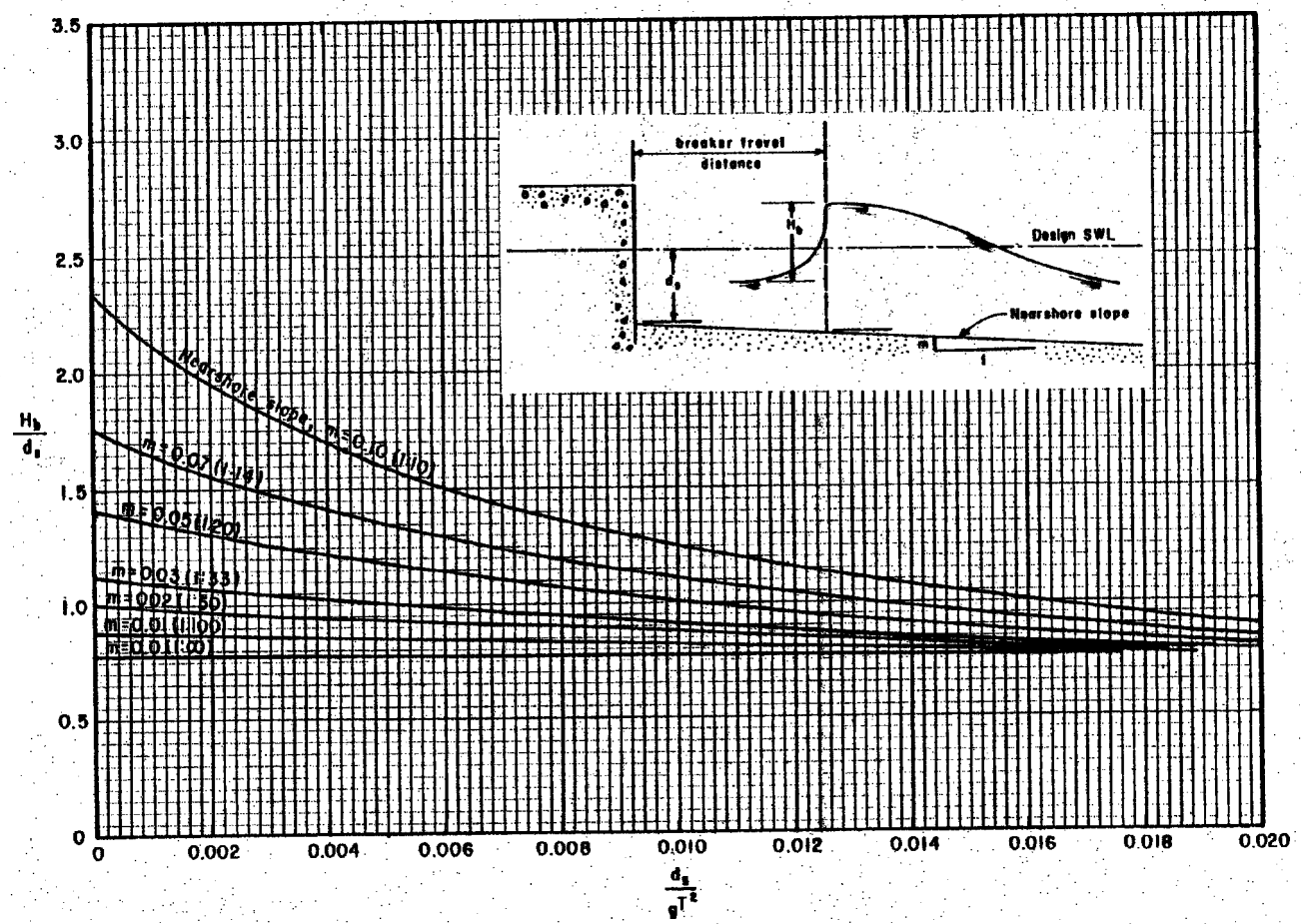


Figure 18 Dimensionless Design Breaker Height Versus Relative Depth at Structure [Weggel (1972)]

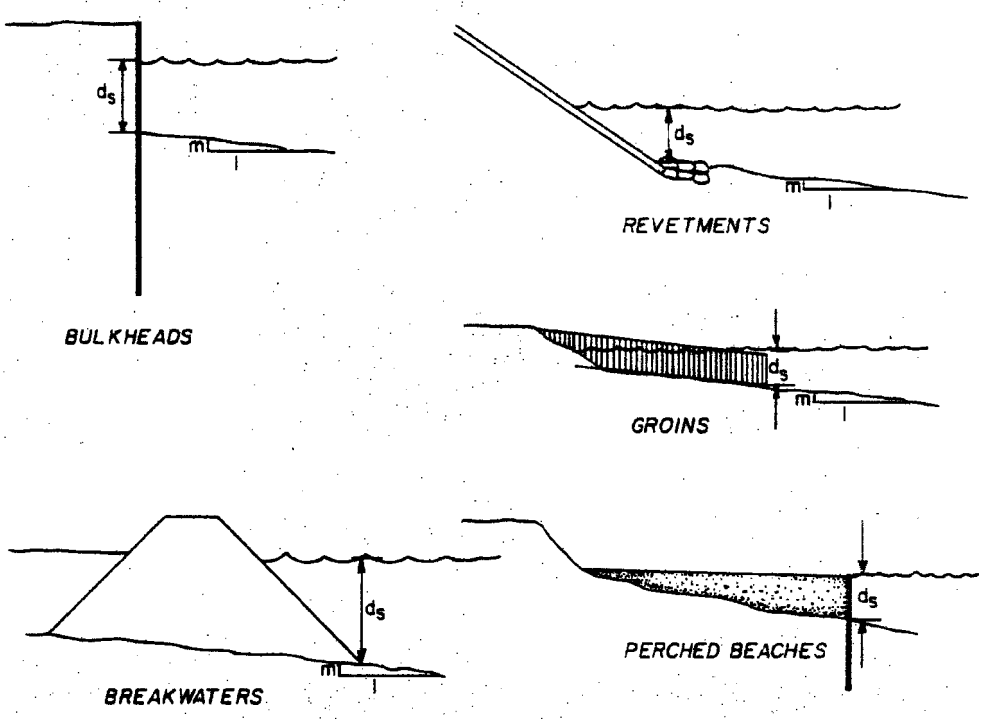


Figure 19 Depth at Structure for Various Devices

Strength

Shore protection structures must be strong, and this can only be achieved by using either massive and heavy components that cannot be dislodged by waves, or smaller components that interlock to form a large mass. The problem with small interlocking units, such as concrete blocks, is that they exhibit little reserve strength. That is, once damages occur, they generally progress to complete failure.

Flexibility

Flexibility is also desired because it allows structures to compensate for settlement, consolidation and toe scour. The revetment shown on Figure 20 illustrates this point. The massive individual concrete slabs could not be moved by waves, but the structure failed because it was not able to adjust to erosion that occurred around the ends and through cracks between the slabs.

Toe Protection

Toe protection is supplemental armoring of the beach surface in front of a structure which prevents waves from scouring or

Convert 2001 Tidal Epoch to 2023 Ref. NOAA

$$SWL_{2023} = 8.24' \; x \; \frac{2.21 \; mm/yr \; x \; 22 \; yrs}{25.4 \; mm/inch \; x \; {}^{12"}/_{ft}} = 8.4 \; ft \; MLLW$$

For sea level rise, use OPC (2018) Table 34 w/17% probability of exceedance by 2100 = 3.6'

$\therefore SWL_{2100} = 8.4 + 3.6 = 12.0$ ft MLLW

Note: This floods the properties and will require a rear property line flood wall to accommodate

Required Rock Weight:

Ref. Shore Protection Manual (SPM 1984)

$$w_{50} = \frac{w_r H^3}{K_{RR}(S_r - 1)^3 \; cot \; \theta}$$ Eq. 7-117 SPM 1984

Where:

$w_r = 165$ pcf
$K_{RR} = 2.2$ - From Table 7-8 SPM
$S_r = 2.65$
$\theta = 30°$

W/no SLR, SWL ≃ 8.4', ds ≃ 7', m = 30:1

Assuming avg water depth = 40', H*ó* = 3.6' & T = 3.6 sec

Solve for H_b: From Figs 7-1, 7-3 & 7-4 SPM

$$\frac{Hó}{gT^2} = \frac{3.6'}{32.2 \; x \; 3.6^2} = 0.00863 \; \therefore \; \frac{H_b}{Hó} = 1.04$$ From Fig 7-3 SPM

$\therefore H_b = 1.04$ x 3.6 = 3.74'

State of California Sea-Level Rise Guidance

2018 UPDATE



TABLE 34: Projected Sea-Level Rise (in feet) for San Diego

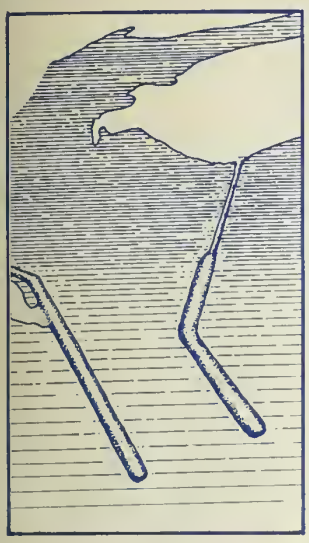
Probabilistic projections for the height of sea-level rise shown below, along with the H++ scenario (depicted in blue in the far right column), as seen in the Rising Seas Report. The H++ projection is a single scenario and does not have an associated likelihood of occurrence as do the probabilistic projections. Probabilistic projections are with respect to a baseline of the year 2000, or more specifically the average relative sea level over 1991 - 2009. High emissions represents RCP 8.5; low emissions represents RCP 2.6. ***Recommended projections for use in low, medium-high and extreme risk aversion decisions are outlined in blue boxes below.***

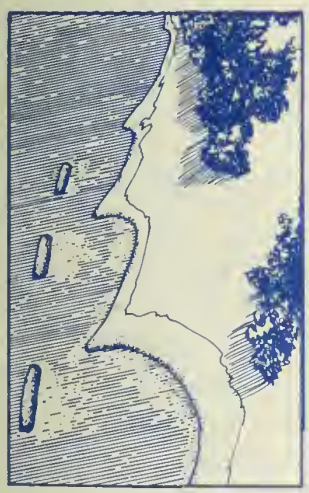
		Probabilistic Projections (in feet) (based on Kopp et al. 2014)					*H++ scenario (Sweet et al. 2017) *Single scenario*
		MEDIAN	**LIKELY RANGE**		**1-IN-20 CHANCE**	**1-IN-200 CHANCE**	
		50% probability sea-level rise meets or exceeds...	*66% probability sea-level rise is between...*		*5% probability sea-level rise meets or exceeds...*	*0.5% probability sea-level rise meets or exceeds...*	
				Low Risk Aversion		**Medium - High Risk Aversion**	**Extreme Risk Aversion**
High emissions	2030		0.4 -	0.6	0.7	0.9	1.1
	2040	0.7	0.5 -	0.9	1.0	1.3	1.8
	2050	0.9	0.7 -	1.2	1.4	2.0	2.8
Low emissions	2060	1.0	0.7 -	1.3	1.7	2.5	
High emissions	2060	1.2	0.9 -	1.6	1.9	2.7	3.9
Low emissions	2070	1.2	0.9 -	1.6	2.0	3.1	
High emissions	2070	1.5	1.1 -	2.0	2.5	3.6	5.2
Low emissions	2080	1.4	1.0 -	1.9	2.4	3.9	
High emissions	2080	1.9	1.3 -	2.5	3.1	4.6	6.7
Low emissions	2090	1.6	1.0 -	2.2	2.9	4.8	
High emissions	2090	2.2	1.6 -	3.0	3.7	5.7	8.3
Low emissions	2100	1.7	1.1 -	2.5	3.3	5.8	
High emissions	2100	2.6	1.8 -	3.6	4.5	7.0	10.2
Low emissions	2110*	1.9	1.3 -	2.7	3.5	6.4	
High emissions	2110*	2.8	2.0 -	3.7	4.7	7.5	12.0
Low emissions	2120	2.0	1.3 -	3.0	4.1	7.6	
High emissions	2120	3.1	2.3 -	4.3	5.5	8.8	14.3
Low emissions	2130	2.2	1.4 -	3.3	4.6	8.6	
High emissions	2130	3.5	2.6 -	4.9	6.3	10.2	16.6
Low emissions	2140	2.4	1.5 -	3.6	5.1	9.8	
High emissions	2140	3.9	2.8 -	5.4	7.1	11.7	19.2
Low emissions	2150	2.5	1.5 -	3.9	5.7	11.1	
High emissions	2150	4.3	3.0 -	6.1	7.9	13.3	22.0

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al. 2014). Use of 2110 projections should be done with caution and with acknowledgement of increased uncertainty around these projections.*

U.S. Army Coast. Eng. Res. Ctr. Shore Protect. Man. 1984

US Army Corps of Engineers





SHORE PROTECTION MANUAL

VOLUME II

Coastal Engineering Research Center

DEPARTMENT OF THE ARMY
Waterways Experiment Station, Corps of Engineers
PO Box 631
Vicksburg, Mississippi 39180

WHOI DOCUMENT COLLECTION

1984

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Prepared for

DEPARTMENT OF THE ARMY
US Army Corps of Engineers
Washington, DC 20314

$$x_p = \tau_p H_b = (4.0 - 9.25\ m) H_b \qquad (7\text{-}4)$$

where m is the nearshore slope (ratio of vertical to horizontal distance) and $\tau_p = (4.0 - 9.25\ m)$ is the dimensionless plunge distance (see Fig. 7-1).

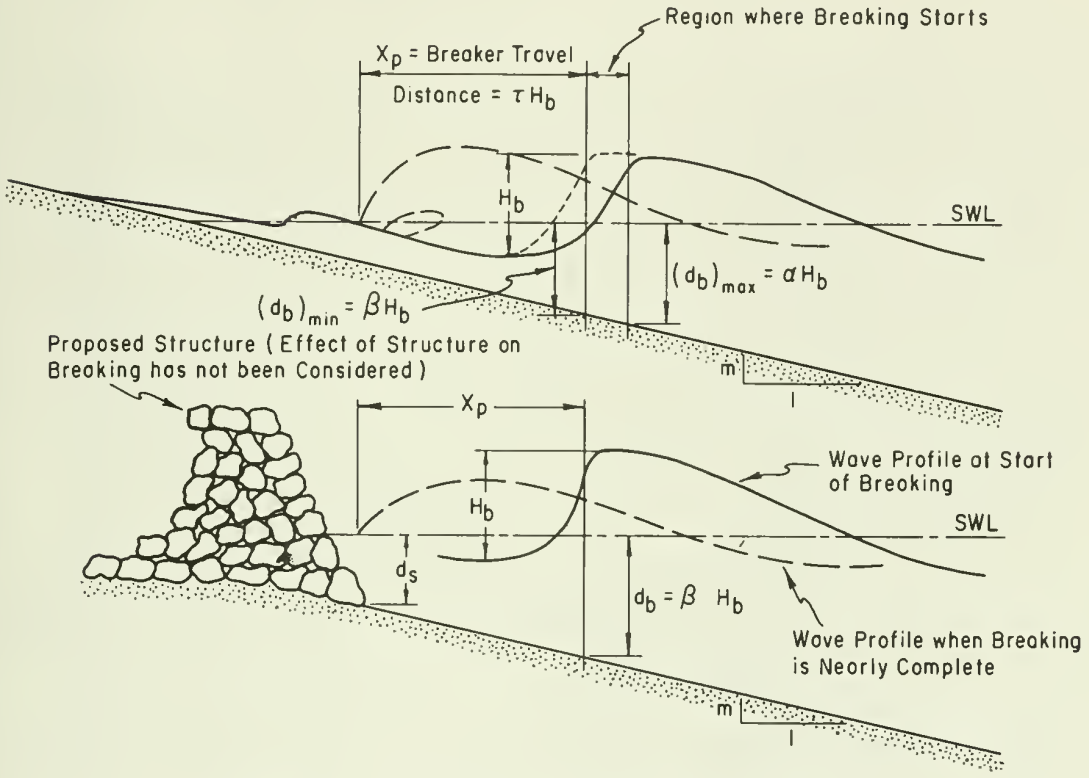


Figure 7-1. Definition of breaker geometry.

Analysis of experimental data shows that the relationship between depth at breaking d_b and breaker height H_b is more complex than indicated by the equation $d_b = 1.3\ H_b$. Consequently, the expression $d_b = 1.3\ h_b$ *should not be used* for design purposes. The dimensionless ratio d_b/H_b varies with nearshore slope m and incident wave steepness H_b/gT^2 as indicated in Figure 7-2. Since experimental measurements of d_b/H_b exhibit scatter, even when made in laboratory flumes, two sets of curves are presented in Figure 7-2. The curve of α versus H_b/gT^2 represents an upper limit of experimentally observed values of d_b/H_b, hence $\alpha = (d_b/H_b)_{max}$. Similarly, β is an approximate lower limit of measurements of d_b/H_b; therefore, $\beta = (d_b/H_b)_{min}$. Figure 7-2 can be used with Figure 7-3 to determine the water depth in which an incident wave of known period and unrefracted deepwater height will break.

* * * * * * * * * * * * * * * * * *EXAMPLE PROBLEM 1 * * * * * * * * * * * * * * *

GIVEN: A Wave with period $T = 10$ s, and an unrefracted deep-water height of $H'_o = 1.5$ meters (4.9 ft) advancing shoreward over a nearshore slope of $m = 0.050$ (1:20).

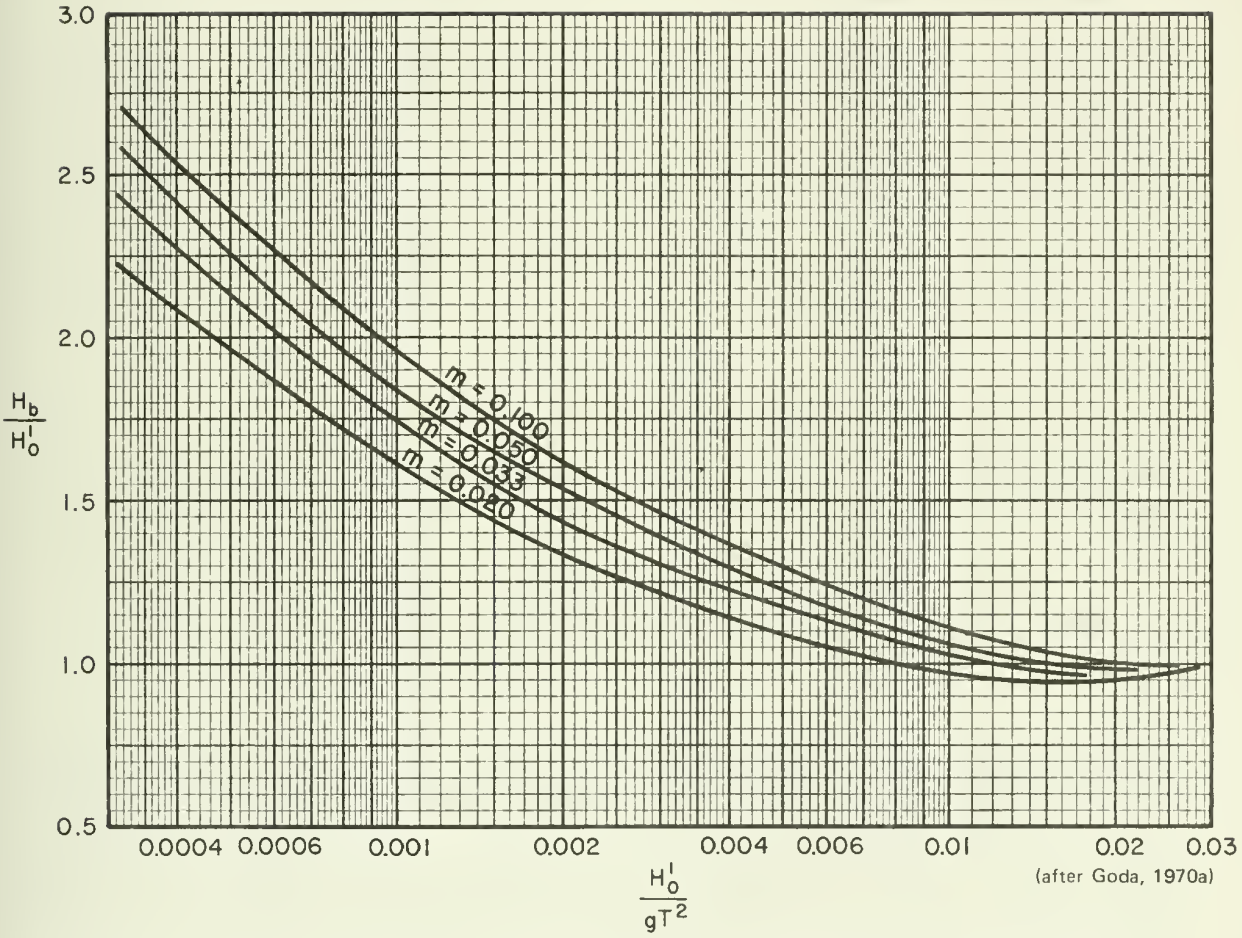


Figure 7-3. Breaker height index H_b/H_o' versus deepwater wave steepness H_o'/gT^2 .

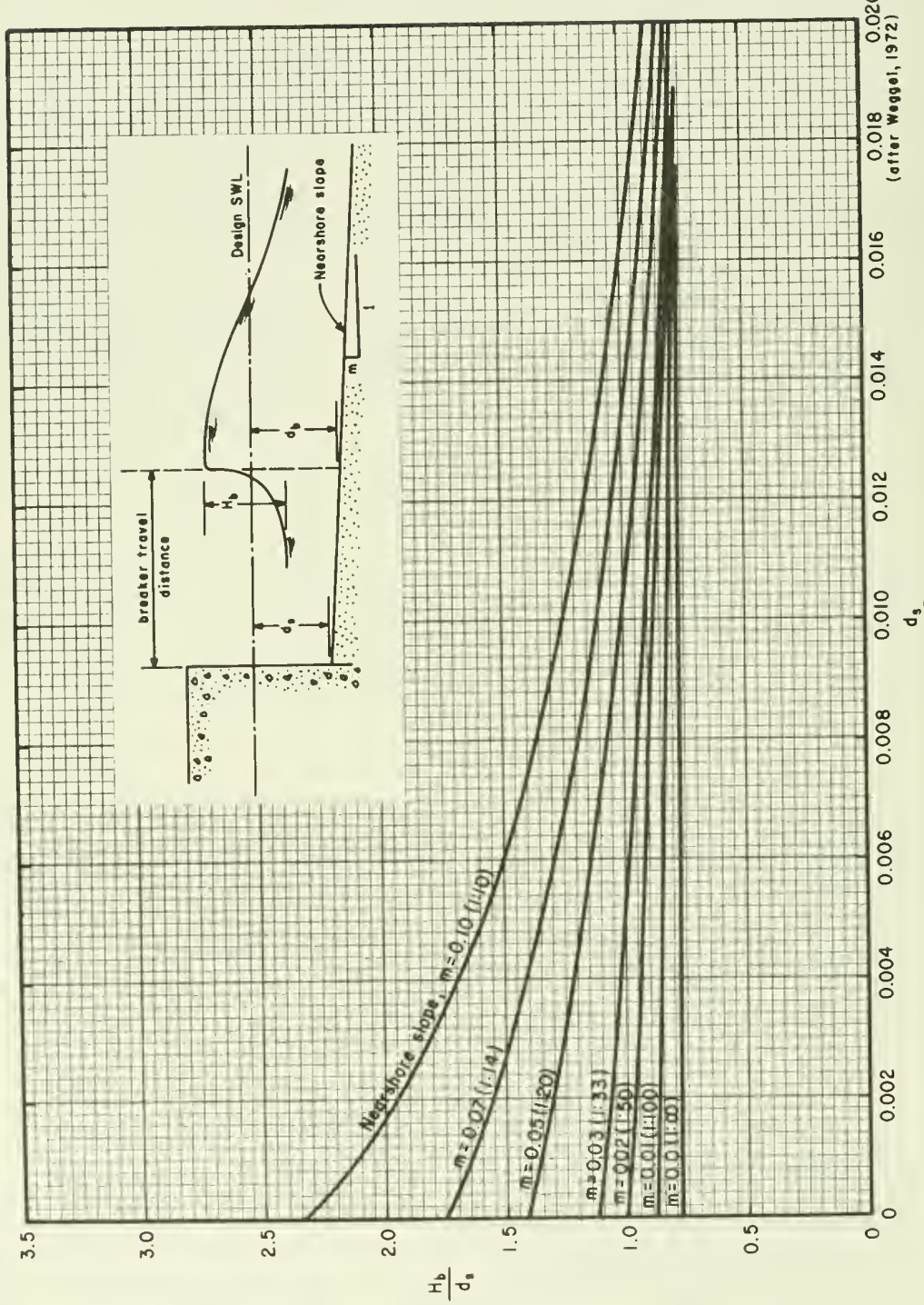


Figure 7-4. Dimensionless design breaker height versus relative depth at structure.

and

$$K_R = 0.75 \quad (T = 10\ s)$$

for a given deepwater direction of wave approach (see Ch. 2, Sec. III, WAVE REFRACTION).

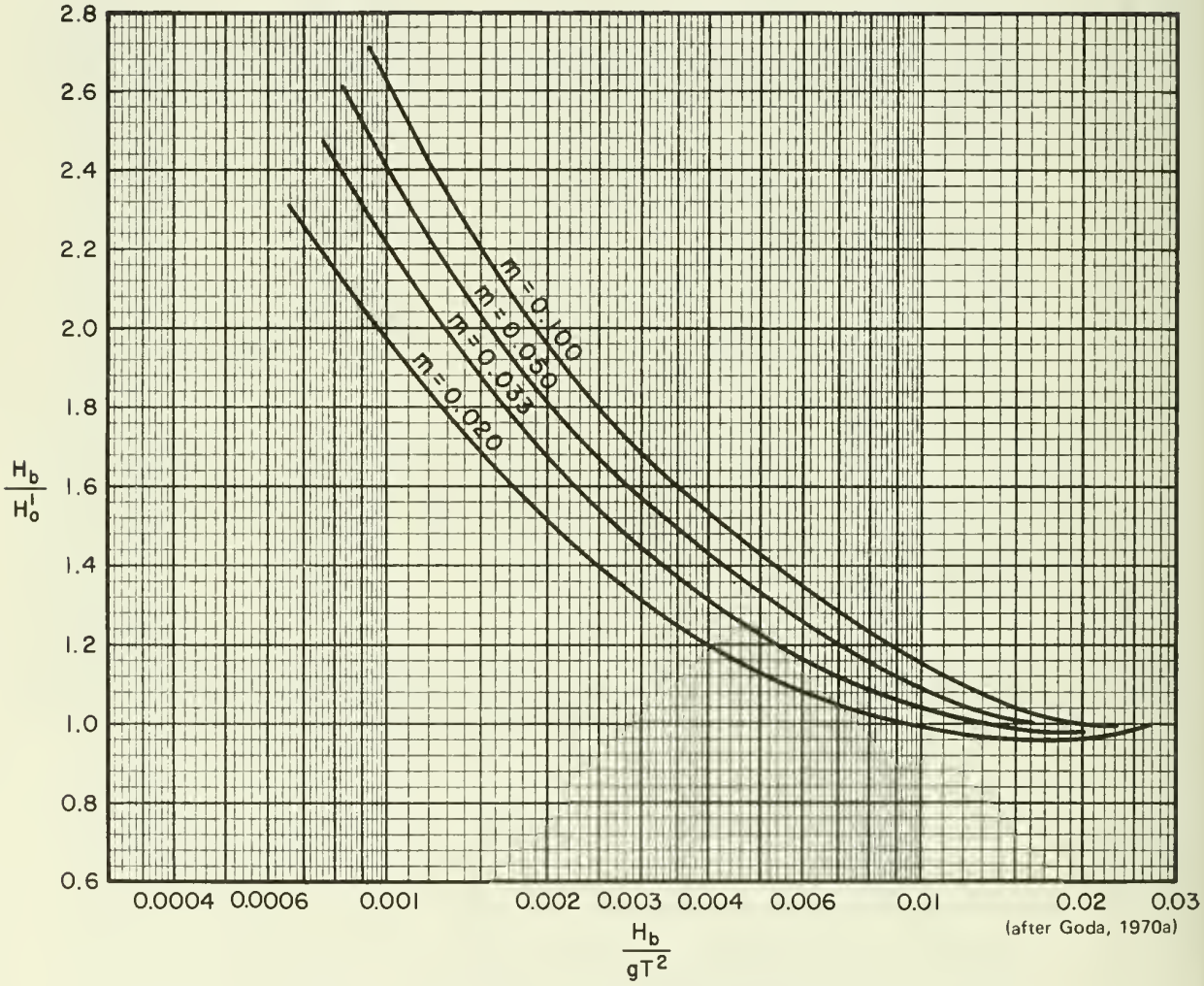


Figure 7-5. Breaker height index H_b/H_o versus H_b/gT^2.

$$W = \frac{w_r H^3}{K_D (S_r - 1)^3 \cot \theta} \qquad (7\text{-}116)$$

where

W = weight in newtons or pounds of an individual armor unit in the primary cover layer. (When the cover layer is two quarrystones in thickness, the stones comprising the primary cover layer can range from about 0.75 W to 1.25 W, with about 50 percent of the individual stones weighing more than W . The gradation should be uniform across the face of the structure, with no pockets of smaller stone. The maximum weight of individual stones depends on the size or shape of the unit. The unit should not be of such a size as to extend an appreciable distance above the average level of the slope)

w_r = unit weight (saturated surface dry) of armor unit in N/m^3 or lb/ft^3. Note: Substitution of ρ_r , the mass density of the armor material in kg/m^3 or $slugs/ft^3$, will yield W in units of mass (kilograms or slugs)

H = design wave height at the structure site in meters or feet (see Sec. III,7,b)

S_r = specific gravity of armor unit, relative to the water at the structure ($S_r = w_r / w_w$)

w_w = unit weight of water: fresh water = 9,800 N/m^3 (62.4 lb/ft^3) seawater = 10,047 N/m^3 (64.0 lb/ft^3) Note: Substitution of $\left(\frac{Pr - P_w}{pw}\right)^3$, where p_w is the mass density of water at the structure for $(Sr - 1)^3$, yields the same result

θ = angle of structure slope measured from horizontal in degrees

K_D = stability coefficient that varies primarily with the shape of the armor units, roughness of the armor unit surface, sharpness of edges, and degree of interlocking obtained in placement (see Table 7-8).

Equation 7-116 is intended for conditions when the crest of the structure is high enough to prevent major overtopping. Also the slope of the cover layer will be partly determined on the basis of stone sizes economically available. Cover layer slopes steeper than 1 on 1.5 are not recommended by the Corps of Engineers.

Equation 7-116 determines the weight of an armor unit of nearly uniform size. For a graded riprap armor stone, Hudson and Jackson (1962) have modified the equation to:

Table 7-8. Suggested K_D Values for use in determining armor unit weight[1].

No-Damage Criteria and Minor Overtopping							
Armor Units	n[3]	Placement	Structure Trunk		Structure Head		
			K_D[2]		K_D		Slope
			Breaking Wave	Nonbreaking Wave	Breaking Wave	Nonbreaking Wave	Cot θ
Quarrystone							
Smooth rounded	2	Random	*1.2*	2.4	*1.1*	1.9	1.5 to 3.0 [5]
Smooth rounded	>3	Random [4]	*1.6* [4]	*3.2*	*1.4* [4]	*2.3*	[5]
Rough angular	1	Random [4]		*2.9*		*2.3*	[5]
Rough angular	2	Random	2.0	4.0	*1.9*	3.2	1.5
					1.6	2.8	2.0
					1.3	2.3	3.0
Rough angular	>3	Random	*2.2*	*4.5*	*2.1*	*4.2*	[5]
Rough angular	2	Special [6]	5.8	7.0	*5.3*	6.4	[5]
Parallelepiped[7]	2	Special [1]	7.0 - 20.0	*8.5 - 24.0*	--	--	
Tetrapod					*5.0*	6.0	1.5
and	2	Random	7.0	8.0	*4.5*	5.5	2.0
Quadripod					*3.5*	4.0	3.0
					8.3	9.0	1.5
Tribar	2	Random	*9.0*	10.0	*7.8*	8.5	2.0
					6.0	6.5	3.0
Dolos	2	Random	15.8[8]	31.8[8]	*8.0*	*16.0*	2.0[9]
					7.0	*14.0*	3.0
Modified cube	2	Random	*6.5*	7.5	-----	*5.0*	[5]
Hexapod	2	Random	*8.0*	9.5	*5.0*	*7.0*	[5]
Toskane	2	Random	*11.0*	22.0	--	--	[5]
Tribar	1	Uniform	12.0	15.0	*7.5*	*9.5*	[5]
Quarrystone (K_{RR})							
Graded angular	-	Random	2.2	2.5	--	--	

[1] CAUTION: Those K_D values shown in *italics* are unsupported by test results and are only provided for preliminary design purposes.

[2] Applicable to slopes ranging from 1 on 1.5 to 1 on 5.

[3] n is the number of units comprising the thickness of the armor layer.

[4] The use of single layer of quarrystone armor units is not recommended for structures subject to breaking waves, and only under special conditions for structures subject to nonbreaking waves. When it is used, the stone should be carefully placed.

[5] Until more information is available on the variation of K_D value with slope, the use of K_D should be limited to slopes ranging from 1 on 1.5 to 1 on 3. Some armor units tested on a structure head indicate a K_D-slope dependence.

[6] Special placement with long axis of stone placed perpendicular to structure face.

[7] Parallelepiped-shaped stone: long slab-like stone with the long dimension about 3 times the shortest dimension (Markle and Davidson, 1979).

[8] Refers to no-damage criteria (<5 percent displacement, rocking, etc.); if no rocking (<2 percent) is desired, reduce K_D 50 percent (Zwamborn and Van Niekerk, 1982).

[9] Stability of dolosse on slopes steeper than 1 on 2 should be substantiated by site-specific model tests.

$$W_{50} = \frac{w_r H^3}{K_{RR} (S_r - 1)^3 \cot \theta} \qquad (7\text{-}117)$$

The symbols are the same as defined for equation (7-116). W_{50} is the weight of the 50 percent size in the gradation. The maximum weight of graded rock is 4.0 (W_{50}); the minimum is 0.125 (W_{50}). Additional information on riprap gradation for exposure to wave forces is given by Ahrens (1981b). K_{RR} is a stability coefficient for angular, graded riprap, similar to K_D. Values of K_{RR} are shown in Table 7-8. These values allow for 5 percent damage (Hudson and Jackson, 1962).

Use of graded riprap cover layers is generally more applicable to revetments than to breakwaters or jetties. A limitation for the use of graded riprap is that the design wave height should be less than about 1.5 m (5 ft). For waves higher than 1.5 m (5 ft), it is usually more economical to use uniform-size armor units as specified by equation (7-116).

Values of K_D and K_{RR} are obtained from laboratory tests by first determining values of the stability number N_s where

$$N_s = \frac{w_r^{1/3} H}{W^{1/3} (S_r - 1)} \quad \text{or} \quad \frac{w_r^{1/3} H}{W_{50}^{1/3} (S_r - 1)} \qquad (7\text{-}118)$$

The stability number is plotted as a function of $\cot \theta$ on log-log paper, and a straight line is fitted as a bottom envelope to the data such that

$$N_s = (K_D \cot \theta)^{1/3} \quad \text{or} \quad (K_{RR} \cot \theta)^{1/3} \qquad (7\text{-}119)$$

Powers of $\cot \theta$ other than 1/3 often give a better fit to the data. N_s can be used for armor design by replacing $K_D \cot \theta$ in equation (7-116) or $K_{RR} \cot \theta$ in equation (7-117) with N_s^3, where N_s is a function of some power of $\cot \theta$.

d. Selection of Stability Coefficient. The dimensionless stability coefficient K_D in equation (7-116) accounts for all variables other than structure slope, wave height, and the specific gravity of water at the site (i.e., fresh or salt water). These variables include:

(1) Shape of armor units

(2) Number of units comprising the thickness of armor layer

(3) Manner of placing armor units

(4) Surface roughness and sharpness of edges of armor units (degree of interlocking of armor units)

(5) Type of wave attacking structure (breaking or nonbreaking)

(6) Part of structure (trunk or head)

(7) Angle of incidence of wave attack

(8) Model scale (Reynolds number)

(9) Distance below still-water level that the armor units extend down the face slope

(10) Size and porosity of underlayer material

(11) Core height relative to still-water level

(12) Crown type (concrete cap or armor units placed over the crown and extending down the back slope)

(13) Crown elevation above still-water level relative to wave height

(14) Crest width

Hudson (1959, 1961a, and 1961b), and Hudson and Jackson (1959), Jackson (1968a), Carver and Davidson (1977), Markle and Davidson (1979), Office, Chief of Engineers (1978), and Carver (1980) have conducted numerous laboratory tests with a view to establishing values of K_D for various conditions of some of the variables. They have found that, for a given geometry of rubble structure, the most important variables listed above with respect to the magnitude of K_D are those from (1) through (8). The data of Hudson and Jackson comprise the basis for selecting K_D, although a number of limitations in the application of laboratory results to prototype conditions must be recognized. These limitations are described in the following paragraphs.

(1) Laboratory waves were monochromatic and did not reproduce the variable conditions of nature. No simple method of comparing monochromatic and irregular waves is presently available. Laboratory studies by Oeullet (1972) and Rogan (1969) have shown that action of irregular waves on model rubble structures can be modeled by monochromatic waves if the monochromatic wave height corresponds to the significant wave height of the spectrum of the irregular wave train. Other laboratory studies (i.e., Carstens, Traetteberg, and Tørum (1966); Brorsen, Burcharth, and Larsen (1974); Feuillet and Sabaton (1980); and Tanimoto, Yagyu, and Goda (1982)) have shown, though, that the damage patterns on model rubble-mound structures with irregular wave action are comparable to model tests with monochromatic waves when the design wave height of the irregular wave train is higher than the significant wave height. As an extreme, the laboratory work of Feuillet and Sabaton (1980) and that of Tanimoto, Yagyu, and Goda (1982) suggest a design wave of H_5 when comparing monochromatic wave model tests to irregular wave model tests.

The validity of this comparison between monochromatic wave testing and irregular wave testing depends on the wave amplitude and phase spectra of the irregular wave train which, in turn, govern the "groupiness" of the wave train; i.e., the tendency of higher waves to occur together.

Groupiness in wave trains has been shown by Carstens, Traetteberg, and

to choose a design wave height yielding the optimum combination of first and maintenance costs. A structure designed to resist waves of a moderate storm, but which may suffer damage without complete destruction during a severe storm may have a lower annual cost than one designed to be completely stable for larger waves.

Table 7-9 shows the results of damage tests where $H/H_{D=0}$ is a function of the percent damage D for various armor units. H is the wave height corresponding to damage D. $H_{D=0}$ is the design wave height corresponding to 0- to 5-percent damage, generally referred to as no-damage condition.

Table 7-9. $H/H_{D=0}$ as a function of cover-layer damage and type of armor unit.[1]

Unit		Damage (D) in Percent						
		0 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50
Quarrystone (smooth)	$H/H_{D=0}$	1.00	1.08	1.14	1.20	1.29	1.41	1.54
Quarrystone (rough)	$H/H_{D=0}$	1.00	1.08	1.19	1.27	1.37	1.47	*1.56*[2]
Tetrapods & Quadripods	$H/H_{D=0}$	1.00	1.09	1.17[3]	1.24[3]	1.32[3]	1.41[3]	1.50[3]
Tribar	$H/H_{D=0}$	1.00	1.11	1.25[3]	1.36[3]	1.50[3]	1.59[3]	*1.64*[3]
Dolos	$H/H_{D=0}$	1.00	1.10	*1.14*[3]	*1.17*[3]	1.20[3]	*1.24*[3]	*1.27*[3]

[1] Breakwater trunk, n = 2, random placed armor units, nonbreaking waves, and minor overtopping conditions.

[2] Values in *italics* are interpolated or extrapolated.

[3] CAUTION: Tests did not include possible effects of unit breakage. Waves exceeding the design wave height conditions by more than 10 percent may result in considerably more damage than the values tabulated.

The percent damage is based on the volume of armor units displaced from the breakwater zone of active armor unit removal for a specific wave height. This zone, as defined by Jackson (1968a), extends from the middle of the breakwater crest down the seaward face to a depth equivalent to one zero-damage wave height $H_{D=0}$ below the still-water level. Once damage occurred, testing was continued for the specified wave condition until slope equilibrium was established or armor unit displacement ceased. Various recent laboratory tests on dolosse have indicated that once design wave conditions (i.e., zero-damage) are exceeded, damage progresses at a much greater rate than indicated

$$\therefore \text{ w } = \frac{165\ x\ 3.74^3}{2.2\ (2.65-1)^3 cot\ 30°} \ = \ 504\#\quad Use\ 1/4\ ton\ rock$$

Check for Depth-Limited Breaking Wave Height Fig. 7-4 SPM

$$\frac{d_s}{gT^2} = \frac{7}{32.2\ x\ 3.6^2} = 0.0168\ \therefore\ \frac{H_b}{d_s} = 0.86$$

$\therefore$ Maximum Depth-Limited $H_b = 0.86$ x $7 = 6' > 3.74'\ \therefore 3.74'$ Controls

Reevaluate w/3.6' of SLR

$\therefore$ Depth $\simeq 50'$ & SWL $= 12'$, ds $= 10.6'$, m $= 30{:}1$

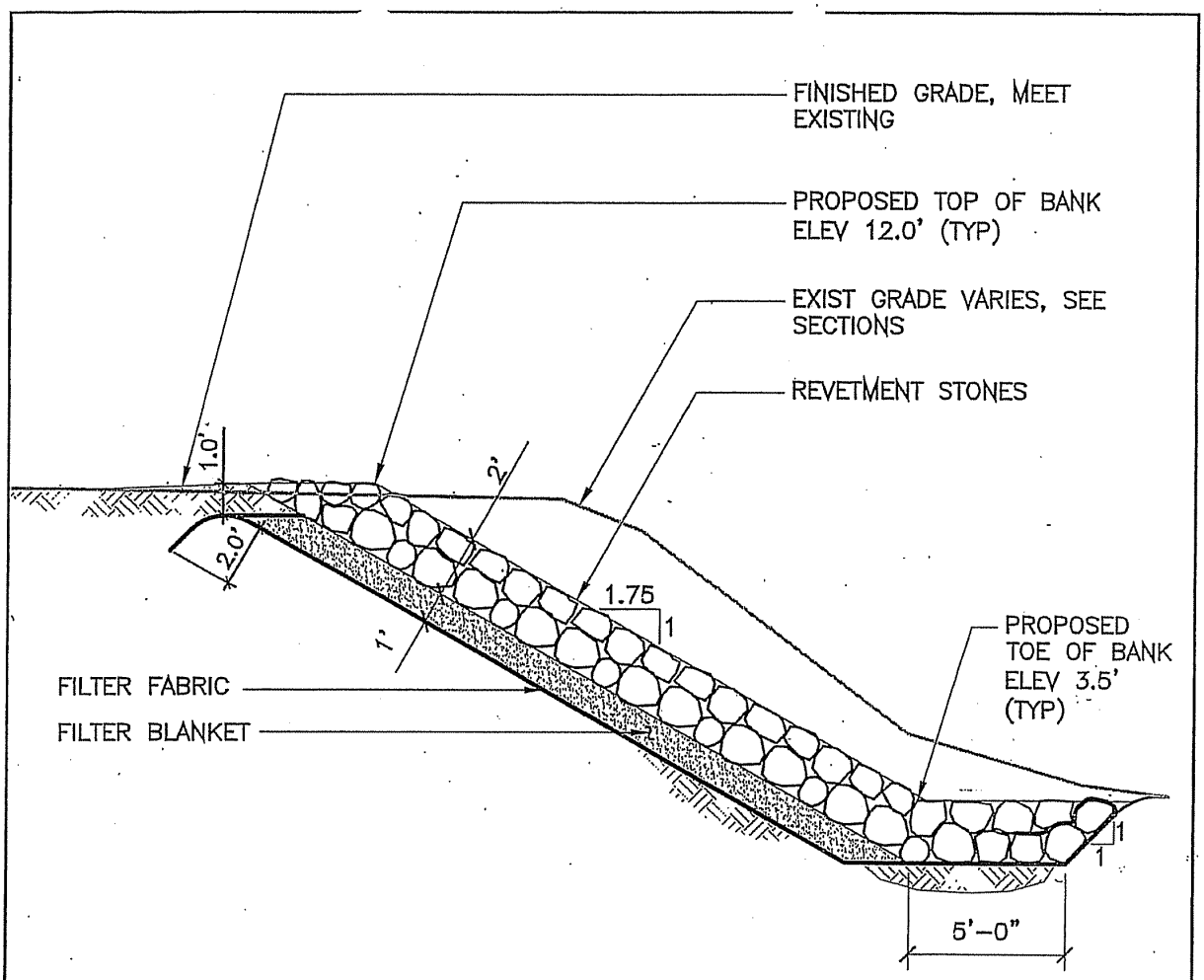
w/50' Depth, Ho′$= 3.7'$ & T $= 3.6$ sec

Solve for H_b:

$$\frac{H\acute{o}}{gT^2} = \frac{3.7'}{32.2\ x\ 3.6^2} = 0.0089\ \therefore\ \frac{H_b}{H\acute{o}} = 1.03\ \ \therefore H_b = 1.03 \text{ x } 3.7 = 3.81'$$

$$w = \frac{165\ x\ 3.81^3}{2.2(2.65\ -\ 1)^3 cot\ 30°} = 533\#\ \therefore\ OK$$

NOTE: 1/4-ton proposed revetment is more robust than the attached Port revetment for Coronado that has a 1.6-mile fetch out of the east.



RECEIVED
NOV 08
SAN DIEGO
REGULATORY BRANCH

GRAPHIC SCALE:

0 1' 2' 3' 4' 5' 10' 15'

1" = 5'

TYPICAL CROSS SECTIONS

SCALE: 1"=5'

PURPOSE: CORONADO GOLF COURSE REVETMENT REPAIR

DATUM: M.L.L.W.

ADJACENT PROPERTY OWNERS:
PORT OF SAN DIEGO
STATE OF CALIFORNIA

SAN DIEGO UNIFIED PORT DISTRICT
3165 PACIFIC HIGHWAY
SAN DIEGO, CA 92101

SENIOR DIRECTOR, FACILITIES/CHIEF ENGINEER
CHARLES A. HEINRICHS

DRAWN BY: PG CHECKED BY: J. TREFREN

IN: SAN DIEGO BAY
AT: CORONADO
COUNTY OF: SAN DIEGO STATE: CA
APPLICATION BY:
SAN DIEGO UNIFIED PORT DISTRICT

SHEET 3 OF 9 DATE: 12/22/03
DWG NO: 314-C REV: -


411
409
407
Bayview Park
Google Earth
Image Landsat / Copernicus

PHOTO 1



PHOTO 2



PHOTO 3



PHOTO 4

Appendix D

Sea Level Rise Vulnerability Assessment

FINAL

Sea Level Rise Vulnerability Assessment

Rock Revetment Replacement ~~Rehabilitation~~ Project

~~JULY~~ NOVEMBER 2025

Prepared for:

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APPENDIX

A Sea Level Rise Figures

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ft	Feet
m	Meters
C	Celsius
SLR	Sea Level Rise
NAVD88	North American Vertical Datum of 1988
MLLW	Mean Lower Low Water
FEMA	Federal Emergency Management Agency
BFE	Base Flood Elevation
CGS	California Geological Survey
NOAA	National Oceanic and Atmospheric Administration
OPC	(California) Ocean Protection Council
CCC	California Coastal Commission
USGS	United States Geological Survey
CoSMoS	(USGS) Coastal Storm Modeling System
DEM	Digital Elevation Model

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1 Introduction

This report presents the results of Dudek's sea level rise vulnerability assessment of the proposed project located at the shoreline fronting the properties of 407 and 409 1st Street, Coronado, California 92118. This project includes replacing the riprap revetment structure fronting approximately 170 linear feet of shoreline within the San Diego Bay. The revetment is a critical shoreline stabilization structure protecting the properties from erosion and flooding from wave action within the bay. Sea level rise exacerbates the risks of erosion, flooding, and other coastal hazards, therefore routine maintenance of the revetment structure to maintain structural stability is of high importance in achieving sea level rise resilience. This report will quantitatively and qualitatively assess sea level rise-related vulnerabilities both to the new structure over its design life, and to the surrounding coastal environment as a result of this project.

A key assessment finding is that the revetment structure assists in sea level rise resilience through erosion control and dissipating waves, but it is not the primary shoreline structure responsible for preventing coastal flooding; the revetment is backed by existing hardscape that extends multiple feet above the crest of the revetment's base layer. Therefore, the existing hardscape, which is outside the scope of this project, is the effective shoreline barrier against flooding from elevated bay waters.

The methodologies applied in this report's analysis utilize and build upon local sea level rise research published in the Port of San Diego's AB 691-compliant 2019 *Sea Level Rise Vulnerability Assessment & Coastal Resiliency Report* and City of Coronado's 2022 *Sea Level Rise Vulnerability Assessment and Adaptation Plan Report*, while using the latest sea level rise guidance and values from the California Ocean Protection Council's (OPC) 2024 *Sea Level Rise Guidance* and California Coastal Commission's (CCC) 2024 *Sea Level Rise Policy Guidance*. A key sea level rise vulnerability tool used in this assessment is the United States Geological Survey's (USGS) Coastal Storm Modeling System (CoSMoS).

Disclaimer: Dudek's responsibilities for this project are limited to this sea level rise vulnerability assessment; Dudek's work on this project does not include engineering design, surveying, coastal planning, or any other activity related to decision-making on the project plan. This report does not verify any of the data provided to Dudek, and does not validate or imply approval of engineering designs or project plans by others. Refer to the construction documents for ~~coastal engineering analyses of riprap sizing and stability~~engineering design.

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2 Site Description & Conditions

2.1 General Site Description

The project site is located within a residential neighborhood in the north portion of the City of Coronado, California, bordering Navy Base Coronado along the bay side of the city (Figure 1). The project site includes the shoreline within the San Diego Unified Port District's jurisdiction, which fronts the two private properties at 407 and 409 1st Street, at the approximate coordinates of 32.702198°, -117.179451°. The project site is located at a transect of Coronado approximately 1.4 miles in width, exposing it primarily to coastal hazards from within San Diego Bay.

Figure 1. Vicinity Map.



The use of riprap for shoreline stabilization in Coronado began with construction of the Zuniga Jetty in 1904 and continued with further coastal development over the following decades, including construction of the Naval Air Station North Island (NASNI) in 1917. Today, the entire stretch of shoreline spanning from NASNI (420 feet west of the project site) to Harborview Park (1,590 feet east of the project site) is armored by riprap.

The project site is located directly on the bay shoreline, and is the first line of defense against erosion and flooding for the residential neighborhood (Figure 2). The resilience of this shoreline and residential parcels is of enhanced importance due to their fronting of 1st Street, which is a primary entry point to Naval Base Coronado.

Figure 2. Site Map.



2.2 Existing Revetment Structure

The existing revetment consists of nonuniform rocks and concrete debris (Figure 3). A site evaluation by others found that the existing revetment has settled ±2 feet over time, implying structural degradation and diminished performance capabilities. The existing debris is primarily concrete, which is not a naturally occurring material, and has poor structural interlocking properties due to the nonuniformity of the chunk shapes. The use of debris for shoreline stabilization is no longer a standard practice due to its poor structural properties and poor visual appeal. ~~The California Coastal Commission's current policy guidance highly values scenic and visual resources for shoreline adaptation, which would be enhanced at the project site by replacing concrete debris with natural riprap stones.~~

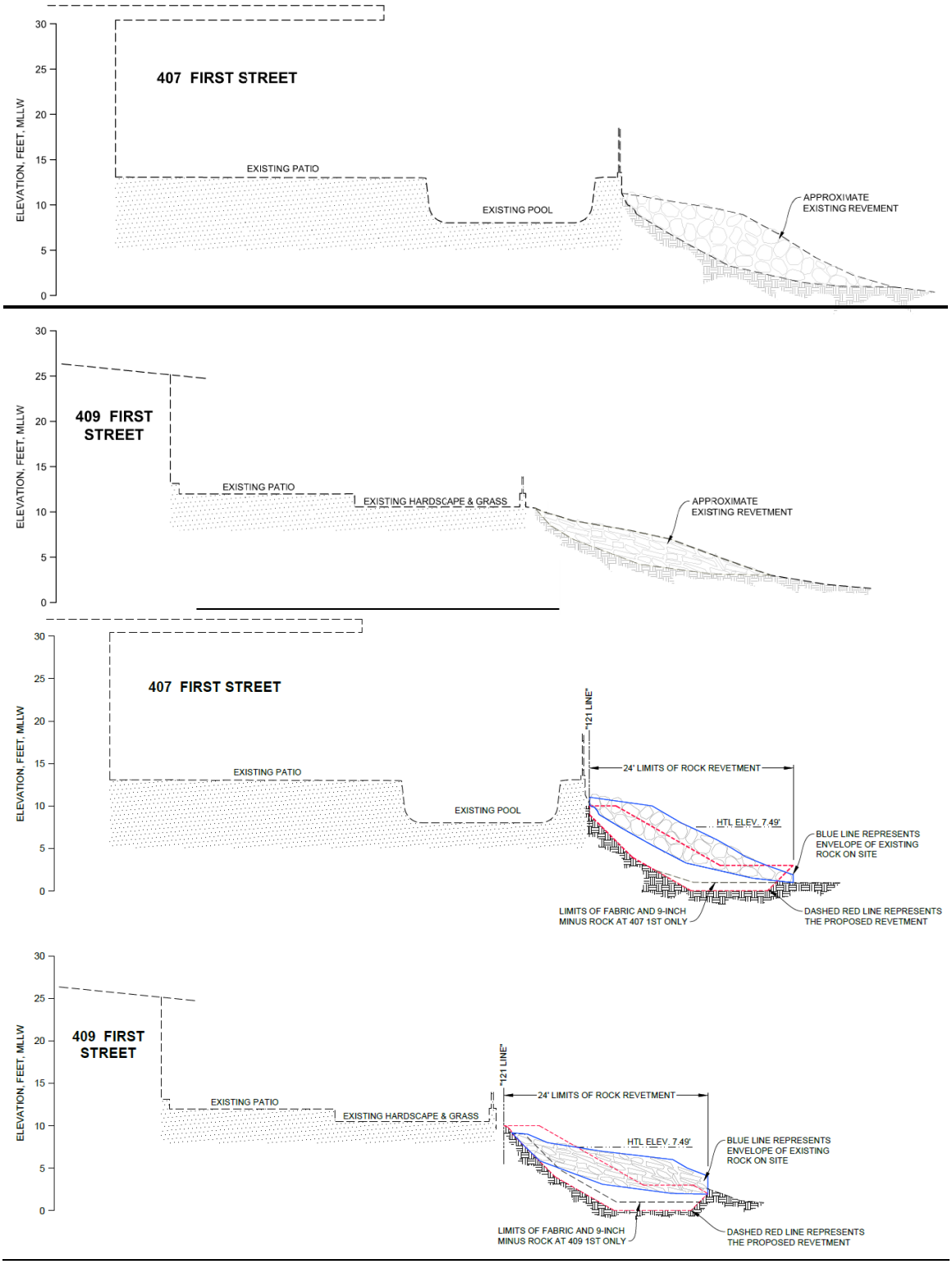
Figure 3. Existing Revetment Site Images.



Elevation views of the existing and proposed project site show the revetment elevation ranges from +1 ft Mean Lower Low Water (MLLW) at the toe to +~~12~~ 11 ft MLLW at the crest (Figure 4).[1] The overall height of the revetment fronting 409 1st Street appears to be a couple of feet shorter than the revetment fronting 407 1st Street. A key feature of the shoreline structural layout is that the revetment is backed by existing hardscape that elevates above the revetment crests. Therefore, the revetment is not the controlling structure for flooding, and the primary functions of the revetment are to stabilize the shoreline from erosion and break waves to minimize wave runup and overtopping.

[1] Mean Lower Low Water (MLLW) vertical datum will be used in this report to match the construction drawings. Close attention should be paid to the vertical units used since some official flood and sea level rise documents utilize other datums, such as NAVD88. The conversion from MLLW to NAVD88 at the project site is -0.43 feet (MLLW is below NAVD88).

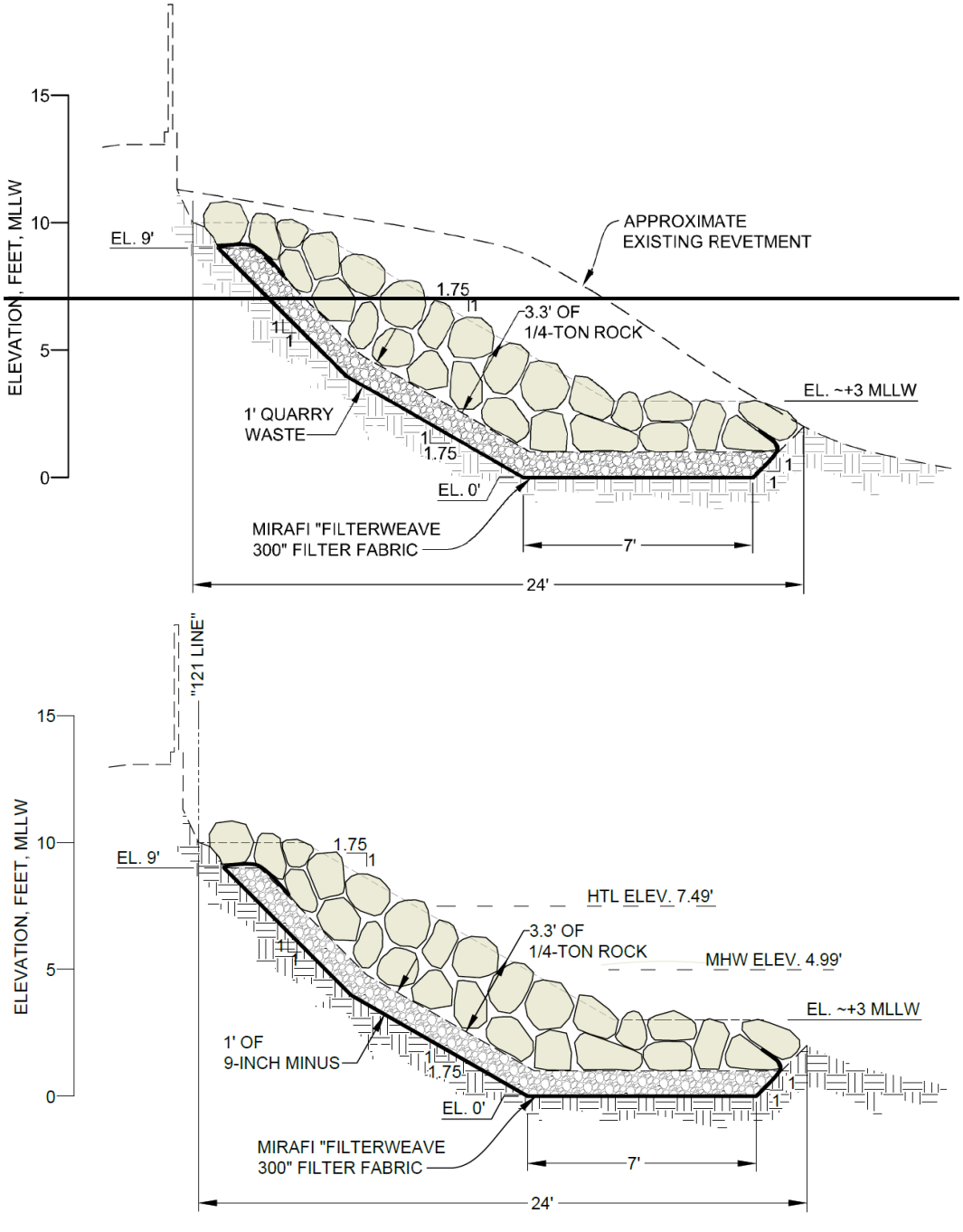
Figure 4. Existing and Proposed Revetment Elevation Views.



2.3 New Revetment Structure

The new revetment structure would fully replace the existing structure, and consist of a standard design of a sloped armor layer supported by a filter layer (Figure 5). The filter layer would be 1 foot thick and consist of quarry waste laid on filter fabric. The armor layer would be 3.3 feet thick and consists of ¼-ton rock. The new revetment would have a uniform slope and be confined within the same horizontal footprint as the existing revetment for a total width of 24 feet. The design drawings show that the crest of the proposed revetment's filter layer would be at +9 ft MLLW (+8.57 ft NAVD88), with the crest of the armor layer rock extending one stone diameter length above the filter layer crest. The crest of the filter layer is significant because water flows through the filter layer and underlying filter fabric much less freely than through the armor layer rocks, which have large voids between them. Similarly to the existing revetment, the crest of the new revetment would sit below the crest of the existing hardscape. The design drawings show the crest of the existing hardscape to be at approximately +13 ft MLLW (+12.57 ft NAVD88), but this is not confirmed because the existing hardscape is beyond the limits of this project.

Figure 5. New Revetment Elevation View.



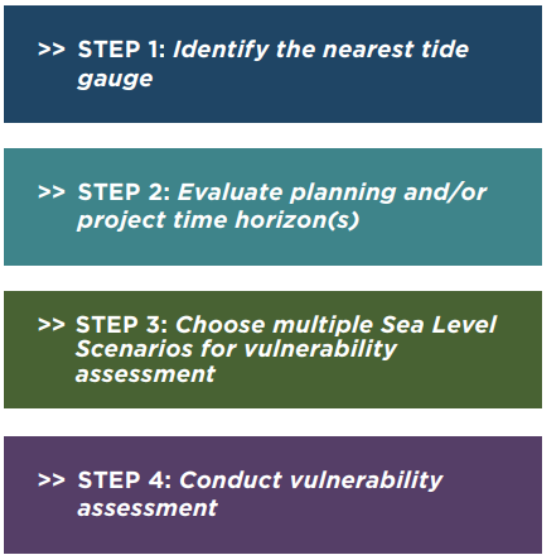
Replacing the existing revetment materials with new larger rocks that are properly placed will help stabilize the shoreline and prevent erosion and flooding. ~~Using uniform and natural rock instead of debris or concrete will also enhance visual/scenic resources for the coastal environment~~. Although this shoreline is not specifically designed to be a nature-based solution, the crevices within the larger rocks will allow space for marine species, such as the native Lined Shore Crabs, to form habitats.

3 Sea Level Rise

Sea level rise is a global ocean phenomenon driven primarily by two major factors linked to climate change: the thermal expansion of warming seawater, and the addition of ocean water from melting glaciers and ice sheets. As global temperatures increase, oceans absorb heat, causing water to expand while land-based ice melts and flows into the sea, raising water levels worldwide. Sea level rise is not uniform, as local factors such as ocean currents, land subsidence, and gravitational effects can cause regional differences. Sea level rise poses significant risks to communities, ecosystems, and infrastructure within the coastal environment. Rising sea levels directly exacerbate flooding, erosion, and habitat loss, and therefore require careful consideration when constructing a new shoreline revetment.

Chapter 4 of the OPC's 2024 *Sea Level Rise Guidance* (OPC 2024) outlines a stepwise process to assess sea level scenarios in new project design. These steps are summarized in Figure 6, starting with identifying the nearest tide gauge, then evaluating project time horizons, choosing multiple sea level scenarios, and assessing vulnerability. The tide gauge nearest to the project site is NOAA San Diego Station 9410170, and the project time horizons will be years 2060, 2075, and 2100 to complete a 35-, 50-, and 75-year structure design life evaluation from the current year of 2025.

Figure 6. OPC 2024 Stepwise Process for SLR Assessments.



OPC 2024 is the official resource for sea level rise values in San Diego, and is the same data source used in both the Port of San Diego's 2019 *Sea Level Rise Vulnerability Assessment & Coastal Resiliency Report* and City of Coronado's 2022 *Sea Level Rise Vulnerability Assessment and Adaptation Plan Report*. OPC 2024 sea level rise tables categorize values for each future year as Low, Intermediate-Low, Intermediate, Intermediate-High, and High corresponding to the ranges of future emissions/warming levels. According to OPC 2024 Box 18 "most commercial and residential development" that will "experience medium to high consequences if impacted" fall under the "medium-high risk aversion" level, and should be resilient to the Intermediate-High sea level rise scenario. This project's revetment structure most closely corresponds to the medium-high risk description, therefore the Intermediate-High Scenario will be applied. OPC 2024 Table 2.2 shows that the Intermediate-High Scenario values have exceedance probabilities of 1% for a 4˚C global mean surface air temperature change and 2% for a 5˚C change. Sea level rise values for the Intermediate-High Scenario in San Diego are shown in the red box in Figure 7, which are presented in units of feet relative to the baseline year of 2000.

Figure 7. 2024 OPC Sea Level Rise Table for San Diego [Feet, Baseline Year 2000].

YEAR	LOW	INT-LOW	INTERMEDIATE	INT-HIGH	HIGH
2020	0.2	0.2	0.3	0.3	0.3
2030	0.3	0.4	0.4	0.5	0.5
2040	0.4	0.5	0.6	0.7	0.8
2050	0.5	0.7	0.8	1.1	1.3
2060	0.6	0.9	1.1	1.6	2.0
2070	0.7	1.0	1.4	2.3	3.0
2080	0.8	1.2	1.9	3.1	4.1
2090	0.9	1.4	2.5	3.9	5.4
2100	1.0	1.6	3.2	4.9	6.7
2110	1.1	1.8	3.9	5.7	8.0
2120	1.2	2.1	4.5	6.5	9.1
2130	1.3	2.3	5.0	7.1	10.0
2140	1.3	2.5	5.6	7.7	11.0
2150	1.4	2.7	6.1	8.3	11.9

OPC 2024 Intermediate-High sea level rise values corresponding to the project time horizons of years 2060, 2075, and 2100 are 1.6, 2.7, and 4.9 feet, respectively.[2] These values are similar to, but slightly larger than, the values of 1.4, 2.6, and 4.5 feet recommended in Table ES.2 of the Port's 2019 sea level rise report, which is based on the now-outdated 2018 OPC sea level rise values.

[2] The sea level rise value for year 2075 was calculated using linear interpolation.

4 Coastal Hazards

Due to the project site's location along the bay shoreline it's exposed to a variety of coastal hazards including tidal inundation, storm flooding, waves, erosion, groundwater rise, and tsunamis. Each of these hazards is exacerbated by sea level rise as the baseline water level elevates, and can interact with each other as dependent variables. These hazards are assessed either quantitatively or qualitatively in Sections 4.1-4.7 below.

4.1 Tidal Inundation

Tides are the regular rise and fall of sea levels caused primarily by the gravitational pull of the moon and the sun on Earth's oceans. Tidal inundation is a coastal hazard that occurs when high tides temporarily flood low-lying areas, even in the absence of storms. Sea level rise directly amplifies tidal inundation by increasing the baseline water level from which tidal ranges oscillate. The most hazardous tides are the rare "king tides," which occur a couple of times per year when the Earth, Moon, and Sun most closely align, and when the moon is closest to the Earth, resulting in tides that can extend a few feet higher than the daily mean high tide.

4.1.1 NOAA Tidal Elevations

Tidal stillwater elevations for the project site are obtained from the NOAA Tides and Currents system's tidal bench mark stations. The closest station to the project site is Station 9410170 San Diego, located less than one mile north of the project site. The tidal elevations at this station are presented in Table 1 relative to MLLW datum for the 1983-2001 epoch:

Table 1. Project Site Tidal Elevations From NOAA Station 9410170 San Diego, CA

Datum	Description	Value
MHHW	Mean Higher-High Water	+5.73
MHW	Mean High Water	+4.98
MSL	Mean Sea Level	+2.94
MLW	Mean Low Water	+0.94
MLLW	Mean Lower-Low Water	+0.00
NAVD88	North American Vertical Datum of 1988	+0.43
Max Tide	Highest Observed Tide	+8.24
Min Tide	Lowest Observed Tide	-3.09

These tidal elevations are all below the +9 ft MLLW (+8.57 ft NAVD88) crest of the proposed revetment's filter layer, therefore the proposed revetment would not be overtopped from the tidal stillwater level without sea level rise. The most significant tidal elevation typically used in engineering design and coastal hazards planning is the Mean Higher-High Water level, which is +5.73 feet MLLW (+5.30 ft NAVD88) at the project site. MHHW elevates to the following Table 2 values with sea level rise factored in:

Table 2. MHHW Tidal Elevation with SLR

Year	Sea Level Rise [feet]	Future MHHW [feet MLLW]	Future MHHW [feet NAVD88]
2000	0.0	**+5.73**	+5.30
2060	1.6	**+7.33**	+6.90
2075	2.7	**+8.43**	+8.00
2100	4.9	**+10.63**	+10.20

These tidal elevations suggest that under the Intermediate-High Scenario, the +9 ft MLLW crest of the proposed revetment's filter layer would not be overtopped at MHHW through year 2075, but would be overtopped at some time between years 2075 and 2100. This overtopping of the revetment may not be significant because the revetment is backed by existing hardscape that extends to a higher elevation.

4.1.2 NOAA Extreme Water Levels

In addition to the measured tidal stillwater elevations, NOAA's Tides and Currents system provides statistical estimates of Extreme Water Levels (EWLs). EWLs are stillwater level anomalies from the highest astronomical tides with meteorological effects, such as regional pressure systems. The EWLs for the project site are displayed in Figure 8, with the oscillating blue line representing measured monthly maxima water levels, and the purple, blue, yellow, and red straight lines representing the estimated 99%, 50%, 10%, and 1% annual exceedance probability levels, respectively.

Figure 8. NOAA Extreme Water Levels for Station 9410170 San Diego.

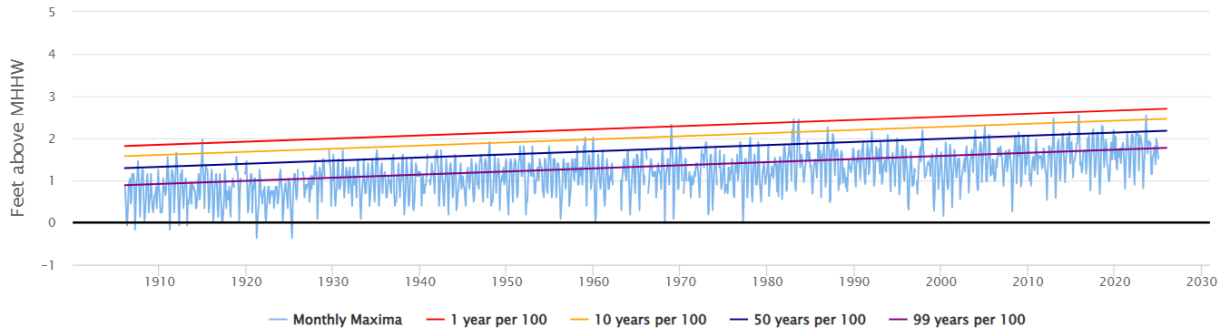


Figure 8 also illustrates that mean water levels have increased approximately 1 foot over the past century at the project site. Table 3 illustrates the project site's EWLs for year 2025 as follows:

Table 3. Project Site Extreme Water Levels in 2025

Annual Exceedance Probability	Feet Above MHHW	Water Elevation [feet MLLW]	Water Elevation [feet NAVD88]
99%	1.7	**+7.43**	+7.00
50%	2.1	**+7.83**	+7.40

Table 3. Project Site Extreme Water Levels in 2025

Annual Exceedance Probability	Feet Above MHHW	Water Elevation [feet MLLW]	Water Elevation [feet NAVD88]
10%	2.4	**+8.13**	+7.70
1%	2.7	**+8.43**	+8.00

These values can be compared to the MHHW value of +5.73 ft MLLW, and +9 ft MLLW crest of the proposed revetment's filter layer. The results show that the proposed revetment's filter layer crest is not expected to be overtopped by even a 1% annual chance extreme water level at this time.

4.1.3 CoSMoS Tidal Inundation

The Coastal Storm Modeling System (CoSMoS) is a sophisticated modeling tool developed by the USGS to predict coastal hazard conditions in combination with sea level rise. CoSMoS' coastal hazards simulations factor in wave dynamics, storm surge, and other complex coastal processes. CoSMoS data is accessed through an online mapping tool that allows users to interactively display coastal hazard areas based on different input settings. The online CoSMoS viewer tool is free and can be accessed at www.ourcoastourfuture.org/hazard-map/. The most up-to-date model covering the project site area is CoSMoS v3.0, which was completed in 2018 as part of the State of California's *Fourth Climate Change Assessment*.

CoSMoS data will be used in this report since it is industry-standard, and utilized/recommended in both the Port of San Diego's 2019 *Sea Level Rise Vulnerability Assessment & Coastal Resiliency Report* and City of Coronado's 2022 *Sea Level Rise Vulnerability Assessment and Adaptation Plan Report*. CoSMoS maps coastal hazards over 1/4-meter intervals, therefore the sea level rise values from the OPC 2024 tables in Section 3 will be aligned to the CoSMoS sea level rise values as follows:

Table 4. Alignment of Project Site Sea Level Rise Projects with CoSMoS

Time Horizon	Project Site /OPC 2024 SLR Value [feet]	CoSMoS SLR Value [feet]
2060	1.6	1.6
2075	2.7	2.5
2100	4.9	4.9

The OPC 2024 and CoSMoS sea level rise values align very closely, helping with the accuracy of this assessment.

CoSMoS data specifically within the project site area is mapped in Appendix A. Figures A1, A3, and A5 show the flood extend under the Mean High Water (MHW) tidal elevation with 1.6, 2.5, and 4.9 feet of sea level rise, respectively. MHW is the average of all daily high tides, in comparison to MHHW which is the average of just the one highest daily high tide. Figures A1, A3, and A5 show that under 1.6 feet and 2.5 feet of sea level rise no tidal inundation occurs in the project site vicinity, but significant tidal inundation occurs under 4.9 feet (year 2100). The spatial progression of this tidal inundation is primarily from the shoreline west of the project site, but overtopping of the shoreline structures at the project site is also a concern. This suggests that flooding from sea level rise is a significant concern at the project site because these flood maps do not factor in storms/waves.

4.2 Storm Flooding

"Storm flooding" refers to any short-term atmospheric or oceanic weather event resulting in rain or waves that cause sustained water flows into coastal land areas. Atmospheric storms are characterized by intense wind and rain, which can rapidly accumulate surface water that overwhelms natural and built drainage systems; as rainfall saturates the ground, excess water flows over the surface and converges to low-lying areas and waterways. Urban environments are particularly susceptible to flooding due to the prevalence of impervious surfaces like concrete and asphalt that prevent water absorption into the ground, and accelerate runoff into waterways and drainage systems. The individual effects from storm wind, waves, high tides, and rain often combine and interact to cause higher levels of flooding. Storm flood map data for this report is obtained from both FEMA and CoSMoS.

4.2.1 FEMA Storm Flooding

The Federal Emergency Management Agency (FEMA) is a U.S. government agency responsible for coordinating disaster response, recovery efforts, and emergency preparedness at the national level. Official FEMA flood maps, titled Flood Insurance Rate Maps (FIRMs), are designated federal tools used to delineate flood hazard areas and determine flood insurance requirements throughout the U.S. These maps show the extent of the 100-year floodplain, base flood elevations, and flood zone type designations. FEMA flood maps factor in all forms of coastal flooding including storm surge, wave action, tidal influences, rainfall, and fluvial flooding. FEMA flood maps do not incorporate sea level rise, therefore storm flooding with sea level rise will be assessed using CoSMoS below. The FEMA flood map data for this project site is shown in Figure 9.

Figure 9. FEMA Flood Map Within the Project Site Vicinity.



The revetment structures are located along the border of a FEMA Special Flood Hazard Area (SFHA) AE Zone with a Base Flood Elevation (BFE) of +9 ft NAVD88, or +9.43 ft MLLW, which is slightly above the revetment's filter layer crest of +9 ft MLLW. FEMA defines SFHAs as follows:

Flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood.

The AE Zone designation, instead of VE, implies that the hydraulic analysis used to generate these maps did not determine significant storm-induced velocity wave action. Looking closely at the project site on Figure 9, the +9.43 ft MLLW blue flood area fully covers the revetment structures, but does not extend to the elevated residential buildings at 407 and 409 1st Street. Therefore, the project area/revetment is within the FEMA flood zone. Since the proposed revetment

crest elevation is approximately the same as the existing revetment, and no changes are being made to the residential property hardscape as part of this project, this project should not affect the FEMA flood maps.

4.2.2 CoSMoS Storm Flooding

Figures A2, A4, and A6 show the flood extent under the Mean High Water (MHW) tidal elevation with the 100-year storm event and 1.6, 2.5, and 4.9 feet of sea level rise, respectively. CoSMoS maps 100-year flood zones similar to FEMA, but with sea level rise factored in. Therefore, the FEMA map essentially shows a baseline condition for the CoSMoS maps; Figures A2, A4, and A6 can be considered to show what the future FEMA flood maps may look like. The CoSMoS flood areas also differ from FEMA whereas CoSMoS maps a flood area with a minimum depth of 1 cm of water sustained for at least 1 minute, and FEMA maps the instantaneous maximum extent of flooding. Figures A2, A4, and A6 show significant flooding occurs under the 100-year flood when sea level rise is factored in. Figure A2 shows that at just 1.6 feet of sea level rise, overtopping of the shoreline begins to flood the residential properties in the vicinity of the project site. Figure A4 shows a significant amplification of this flooding under 2.5 feet of sea level rise, with flooding concentrated to the west of the project site near the entrance of Naval Base Coronado. Figure A6 shows flooding under 4.9 feet of sea level rise fully inundating the 407 and 409 1st Street residential properties, as well as the majority of the residential neighborhood west of H Street.

It should be considered that the CoSMoS model is developed on a regional scale, so the topographic Digital Elevation Model (DEM) underlying the CoSMoS model is not refined enough to pick up the precise crest elevation of the hardscape that backs the revetments. Flooding at the project site displayed by CoSMoS is therefore not as accurate as site-specific coastal engineering calculations/assessments using localized data. Overall, the increase in storm flooding in the project area as a result of sea level rise is a significant concern, and justifies the completion of this project to stabilize the shoreline. Since the proposed revetment crest elevation is approximately equal to the existing revetment, this project should have no effect on the CoSMoS flood maps.

4.3 Waves

Waves can exert tremendously large forces that damage structures and shift sediments due to the heaviness of water and the speeds at which waves can propagate. As waves travel across the San Diego Bay, they carry kinetic and potential energy that transfers in a short amount of time when the wave encounters the shoreline. Damage from wave forces can occur gradually over years or all at once from a single catastrophic event—a structure that has endured for decades under certain wave conditions could suddenly be damaged if it encounters large wave conditions under a rare storm event. Therefore, a shoreline structure such as a revetment should be designed for the largest potential waves, similar to how building codes and engineering design manuals require buildings to be designed for the largest expected earthquake. Wave conditions relevant to the project site include wind and topographical exposures, fetch-limited waves, boat wakes, and wave runup and overtopping.

4.3.1 Wave Exposure

The project site's unique exposure to waves significantly factors into the size and energy of waves it can experience during its design life. The project site is geographically sheltered from ocean waves, and is instead primarily exposed to wind-driven waves and boat wakes within the bay. Figure 10 shows that the project site is exposed to waves within San Diego Bay from approach angles between N35˚W and S80˚E, with a maximum fetch length of 10,600 feet. This wave exposure is direct, with no barrier islands or other shielding features.

Figure 10. Project Site Wind Wave Fetch Exposure.

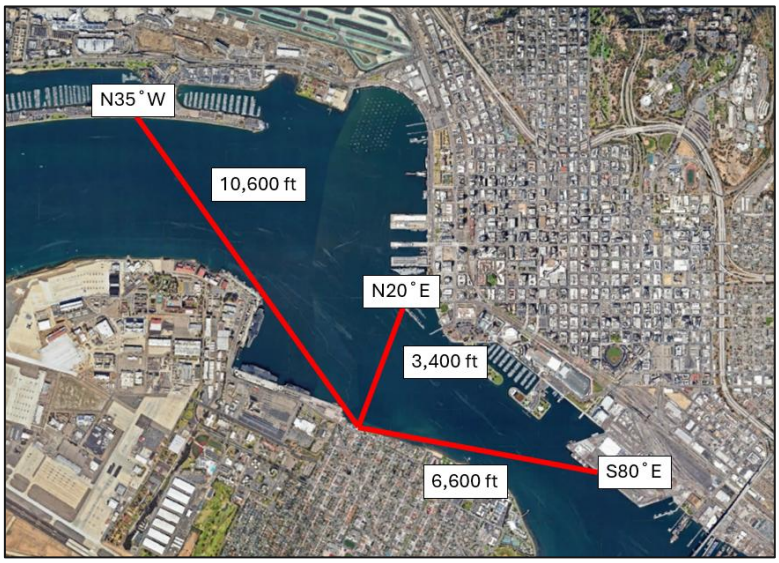
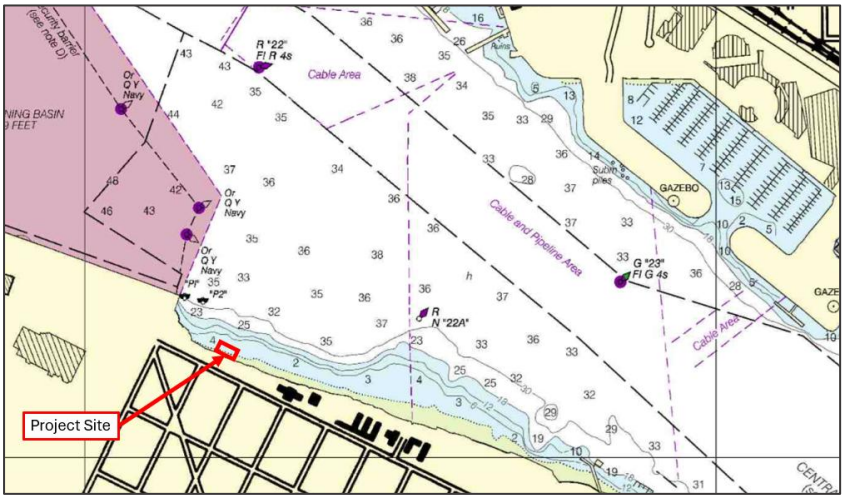


Figure 11 shows San Diego Bay bathymetry within the vicinity of the project site, in units of feet below MLLW. The project site is located along the "Central Bay" reach of the USACE's central channel. Along the Central Bay reach, the channel extends to depths of -42 ft MLLW (-42.43 NAVD88) approximately 1,800 feet offshore from the project site shoreline. The bathymetry remains relatively deep, at more than 30 feet below MLLW, 400 feet offshore of the project site shoreline before sloping up to the surface. This implies that larger waves within the bay can reach relatively close to the project site before breaking.

Figure 11. Project Site Vicinity Bathymetry.



Source: NOAA Nautical Chart 18773.

4.3.2 Fetch-Limited Waves

A "fetch-limited wave" is a type of wind-generated wave whose growth is restricted by the distance over which the wind blows across the water surface. The water distance along which wind develops the wave is called the "fetch." Fetch-limited wave parameters will be calculated in this subsection using methods from the Coastal Engineering Manual (CEM).

Fetch Length

CEM Page II-2-49 suggests using an "effective fetch" length for narrow fetches, such as within San Diego Bay. The method described included calculation of a "weighted distance" measured along the three lines shore-normal to the project site, and 45 degrees offset in each direction. These distances are 8,900 ft, 3,400 ft, and 3,600 ft, averaging to an effective fetch of 5,300 ft = 1,615 m.

Wind Speed

Design wind speeds are obtained from the American Society of Civil Engineers' *ASCE 7* manual, 2022 Edition.

ASCE 7-22 Table 1.5-1, p. 5 risk category of buildings and other structures:

> Risk Category II structure due to some risk to human life, somewhat of essential infrastructure.

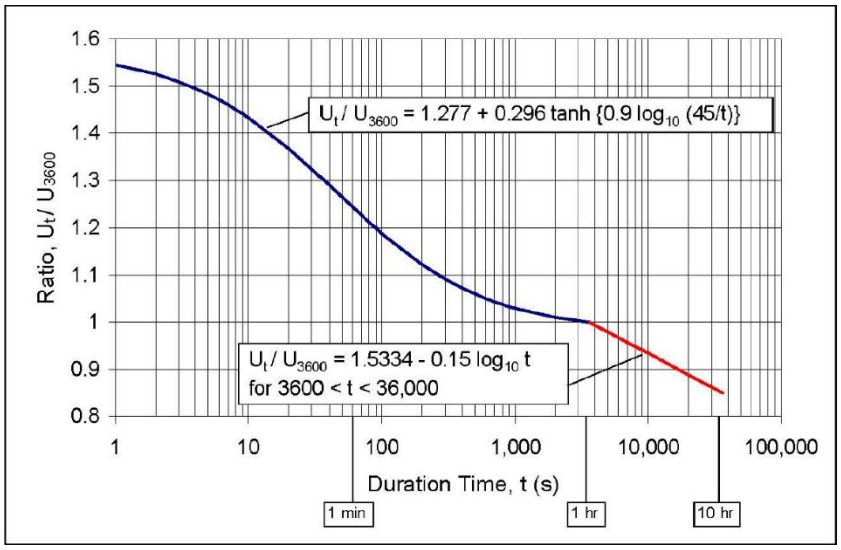
ASCE 7-22 Figure 26.5-1B basic wind speed for Risk Category II buildings and other structures:

$$U_{10} = 96\frac{mi}{h} = 43\frac{m}{s}$$

> Interpolated value. Corresponds to 3-second gust wind speed at 33 ft (10m) above ground for Exposure Category C.

The ASCE 7-22 manual provides wind speeds in terms of 3-second gusts, which is necessary for extreme peak loads on buildings and other structures, but is not an application duration for developing waves over hundreds of feet of water. Therefore, the 3-second gust wind speed needs to be converted to a 1-hour wind speed (3600 seconds) to be input to the fetch-limited wave equation. Wind speeds are converted based on duration using Coastal Engineering Manual (CEM) Figure II-2-1:

Figure 12. Coastal Engineering Manual Wind Duration Conversion.



$$\frac{U_t}{U_{3600}} = 1.277 + 0.296\, tanh\left\{0.9\, log_{10}\left(\frac{45}{t}\right)\right\}$$

$$\rightarrow U_{3600} = \frac{43\frac{m}{s}}{1.277 + 0.296\, tanh\left\{0.9\, log_{10}\left(\frac{45}{3}\right)\right\}} = \mathbf{28.5}\frac{\boldsymbol{m}}{\boldsymbol{s}}$$

Fetch-Limited Wave Height

"Wave height" is the vertical distance between the wave crest and trough. Design equations commonly use the "significant wave height," which is the average height of the largest 1/3 of waves. The significant wave height is be calculated using methods from the CEM Part II, Chapter 2, Section 2-2, which derives from Demirbilek et al 1993.

CEM Equation II-2-36:

$$\frac{gH_{m_0}}{u_*^2} = 4.13 * 10^{-2}\left(\frac{gX}{u_*^2}\right)^{\frac{1}{2}}$$

$$\rightarrow\ H_{m_0} = Significant\ wave\ height = \frac{4.13 * u_*^2 * 10^{-2}\left(\frac{gX}{u_*^2}\right)^{\frac{1}{2}}}{g}$$

Where:

$$g = acceleration\ of\ gravity = 32.174\frac{m}{s^2}$$

$$C_D = drag\ coefficient = \frac{u_*^2}{U_{10}^2}$$

$$U_{10} = 28.5\ \frac{m}{s} = wind\ speed\ at\ 10\ m\ elevation$$

$$C_D = drag\ coefficient = 0.001(1.1 + 0.035 * U_{10}) = 0.001\left(1.1 + 0.035 * 28.5\ \frac{m}{s}\right) = 0.0020975$$

$$\rightarrow u_*^2 = C_D * U_{10}^2 = 0.0020975\left(28.5\ \frac{m}{s}\right)^2 = 1.7\frac{m^2}{s^2}$$

$$\rightarrow u_* = friction\ velocity = \sqrt{u_*^2} = \sqrt{1.7\frac{m^2}{s^2}} = 1.3\ \frac{m}{s}$$

$$X = 1{,}615\ m = straight\ line\ fetch\ distance\ over\ which\ the\ wind\ blows$$

$$H_{m_0} = energy - based\ significant\ wave\ height = "significant\ wave\ height"$$

Together:

$$\rightarrow H_{m_0} = \frac{4.13 * \left(1.7\frac{m^2}{s^2}\right) * 10^{-2}\left(\frac{\left(32.174\frac{m}{s^2}\right)(1{,}615\ m)}{\left(1.7\frac{m^2}{s^2}\right)}\right)^{\frac{1}{2}}}{32.174\frac{m}{s^2}} = 0.38\ m = \mathbf{1.25\ ft}$$

Fetch-Limited Wave Period

The wave "period" is the time it takes for two successive wave crests (one wavelength) to pass a specific point. Similar to wave heights, wave periods vary along a spectrum and require the application of statistical analysis methods to establish a single value applicable to the design equation they're being input to. The wave equations in this section specifically use the "peak" wave period (also called the "dominant" wave period), which is the period of the most energetic wave components in the spectrum. Wave regimes dominated by wind-generated waves tend to have smaller peak wave periods than regimes dominated by ocean swell. The wave period will be calculated using methods from CEM Part II, Chapter 2, Section 2-2

CEM Equation II-2-36:

$$\frac{gT_p}{u_*} = 0.651\left(\frac{gX}{u_*^2}\right)^{\frac{1}{3}}$$

$$\rightarrow T_p = \frac{0.651 * u_*\left(\frac{gX}{u_*^2}\right)^{\frac{1}{3}}}{g}$$

Where:

$$X = 1{,}615\ m\ = straight\ line\ fetch\ distance\ over\ which\ the\ wind\ blows$$

Together:

$$\rightarrow T_p = \frac{0.651 * 1.3 \frac{m}{s}\left(\frac{\left(32.174\frac{m}{s^2}\right)(1{,}615\ m)}{\left(1.7\frac{m^2}{s^2}\right)}\right)^{\frac{1}{3}}}{32.174\frac{m}{s^2}} = \mathbf{0.82\ seconds}$$

Fetch-limited wave characteristics should not be influenced by sea level rise.

4.3.3 Boat Wakes

Boat wakes are surface gravity waves generated by the movement of vessels through water, characterized by both transverse and divergent wave patterns. Unlike wind-generated waves, boat wakes are typically short-period and highly directional, with energy concentrated in a narrow band related to vessel speed, draft, and hull design. Boat wake waves in San Diego Bay are significant because of the large boats sizes within the bay, as well as the high speeds at which certain boats travel. A 2019 report titled *Vessel Wake Transmission Assessment,* completed by Noble Consultants, Inc. for the Port found that the limiting design wave heights within the harbor were vessel wakes generated by the Navy's harbor patrol security boats (Figure 13). Although the naval security boats are much smaller than other boats within the bay, they're allowed to travel at much higher speeds than other boats due to their critical military security operations.

Figure 13. San Diego Bay Naval Security Harbor Patrol Craft Wake.



Photo Taken: June 25, 2019.

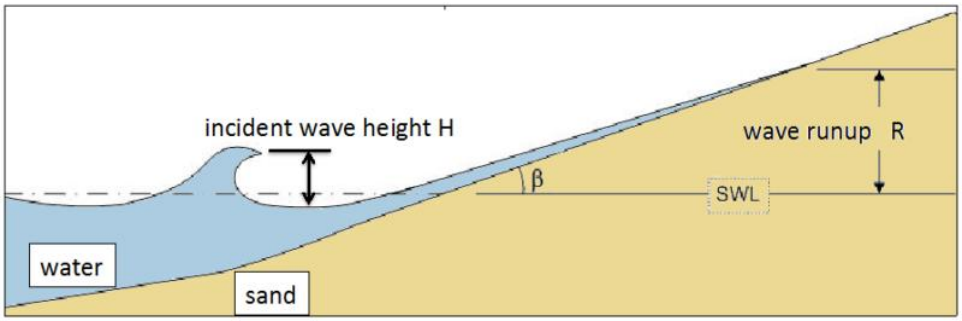
The Noble 2019 report estimated that the largest boat wakes within the vicinity of Tuna Harbor (almost directly across the bay from this project's site) were up to 3 feet in height with periods of up to 3 seconds. These heights and periods are larger than the wind-driven wave heights calculated above, therefore it should be assumed that boat wake waves govern at the project site. Boat wakes are not affected by sea level rise.

4.3.4 Wave Runup and Overtopping

Wave Runup

Wave runup occurs when a wave encounters a revetment (or any sloped surface) and continues to rush up the slope, extending the vertical reach of the water beyond the crest of the offshore wave until the forces of friction and gravity dissipate the wave energy at a terminal height. This process is illustrated in Figure 14, where wave runup,"R," is quantified as the maximum vertical height that water extends above the still water level (SWL). Wave runup elevation extent is directly correlated to wave height and length.

Figure 14. Wave Runup Illustration.



Source: UCSD Coastal Data Information Program (CDIP) website. Accessed on 5.23.2025.

Wave runup is relevant to the project site because it allows water to flow above the crest of the revetment and flood inland areas, even when stillwater levels are well below the revetment crest. Official resources for assessing wave runup risk include the FEMA *Guidance for Flood Risk Analysis and Mapping – Coastal Wave Runup and Overtopping* (2023) and the USACE *Coastal Engineering Manual* (CEM). The revetment structure functions to reduce wave runup by dissipating the wave energy at the shoreline, reducing the maximum extent of runup. Wave runup and overtopping will not be calculated for this report since the revetment itself is not the limiting shoreline structure for flooding, therefore only runup and overtopping of the hardscape backing the revetment is relevant. Wave runup is exacerbated by sea level rise because the wave runup height will be added upon the higher stillwater level.

Wave Overtopping

Wave overtopping occurs when wave runup exceeds the crest height of a revetment or other shoreline structure, causing water to flow over and behind the structure. Because wave overtopping is highly dependent on shoreline structural characteristics, it is a dynamic and complex phenomenon that should be uniquely assessed at each site to accurately consider the degree of risk. Wave overtopping can be extremely hazardous to life and property because waves can suddenly and severely flood areas that are perceived to be protected by coastal structures.

Wave overtopping can be assessed in terms of the volumetric flow of overtopping water, or the maximum horizontal and vertical extents water reaches beyond the structure. Various public resources are available for assessing wave overtopping, including the FEMA *Guidance for Flood Risk Analysis and Mapping – Coastal Wave Runup and Overtopping* (2023). Comparing the new revetment filter layer crest elevation of +9.0 ft MLLW to the 1% extreme water level of +8.43 ft MLLW, and future MHHW values of +8.43 in 2075 and +10.63 ft MLLW in 2100, it should be considered that a significant volume of water could overtop the revetment structure from 3-foot waves under extreme tides or sea level rise. Similar to wave runup, wave overtopping will increase with sea level rise.

4.4 Erosion

Shoreline erosion is the gradual wearing away of coastal land, typically caused by waves, currents, tides, and human activity. Erosion leads to the loss of beaches, dunes, and other shoreline components, threatening habitats, infrastructure, and coastal communities. Sea level rise can accelerate shoreline erosion by allowing waves to reach further inland, and by geometrically shifting the shoreline landward. As the water line encroaches on land, it undermines natural and built coastal defenses, making shorelines more vulnerable to storm damage and long-term degradation.

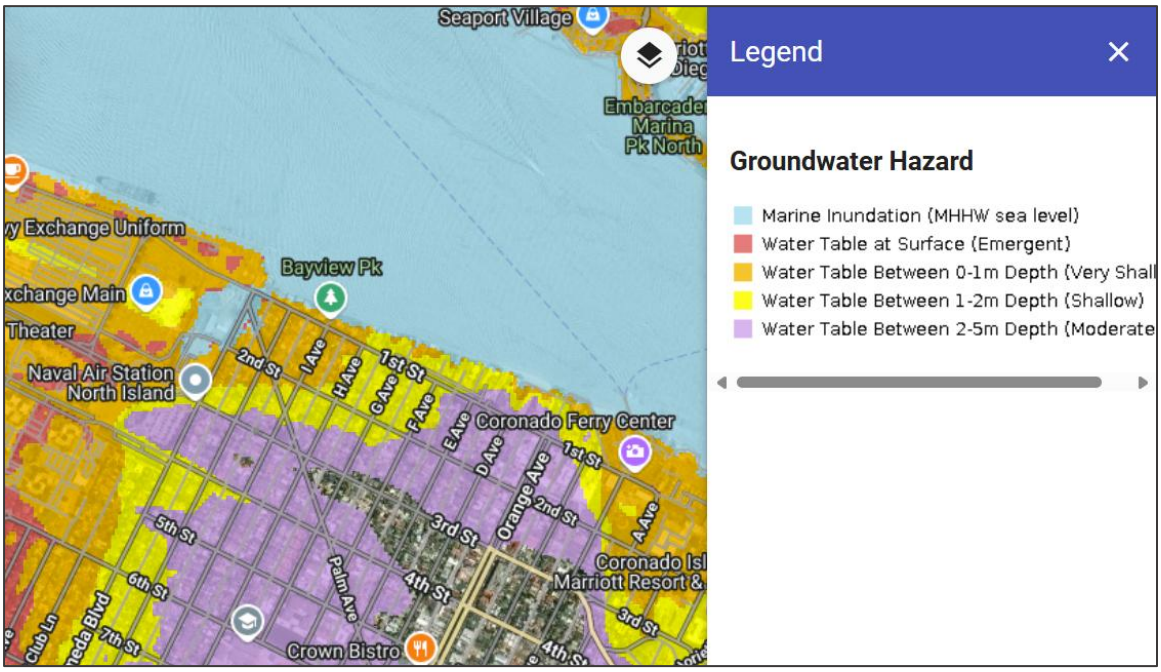
Sediments within the San Diego Bay largely consist of fine-grained silts and clays that are susceptible to erosion from stormwater flows, waves, and dredging. Erosion at the project site is largely mitigated by the revetment structure, therefore maintenance of the shoreline revetment is critical to stabilizing the shoreline and preventing future erosion. The revetment fully stabilizes the shoreline from erosion, therefore erosion will not be quantified in this report.

4.5 Groundwater Rise

Groundwater is underground water that naturally exists beneath the land surface, with the top elevation of groundwater referred to as the "water table." The stability and function of groundwater depend on factors such as a project site's distance from the coast, rainfall patterns, permeability of surface and subsurface materials, and ocean/bay water levels. Groundwater impacts are unique from other coastal hazards in that they can extend farther inland from the shoreline, so even communities and infrastructure that take measures to prevent surface flooding may still be compromised by sea level rise due to groundwater effects.

Sea level rise's impact on groundwater dynamics is often overlooked because it's out of sight when compared to observable surface flooding. The potential risks of sea level rise to groundwater include saltwater intrusion of freshwater aquifers, surface inundation from water table rise, corrosion of underground utilities, and exertion of uplift forces on underground utilities and other structures due to buoyancy. The primary groundwater rise-related concerns for the properties at 407 and 409 1st Street are corrosion and uplift of underground utilities. Groundwater table change at the project site from sea level rise is displayed in the online CoSMoS model viewer tool. CoSMoS shows the predicted equilibrium water table depth with sea level rise relative to the present day MHHW tidal datum. Figure 15 illustrates groundwater levels in the project site vicinity under 4.9 feet of sea level rise.

Figure 15. CoSMoS Groundwater Rise Model with 4.9 Feet of Sea Level Rise.



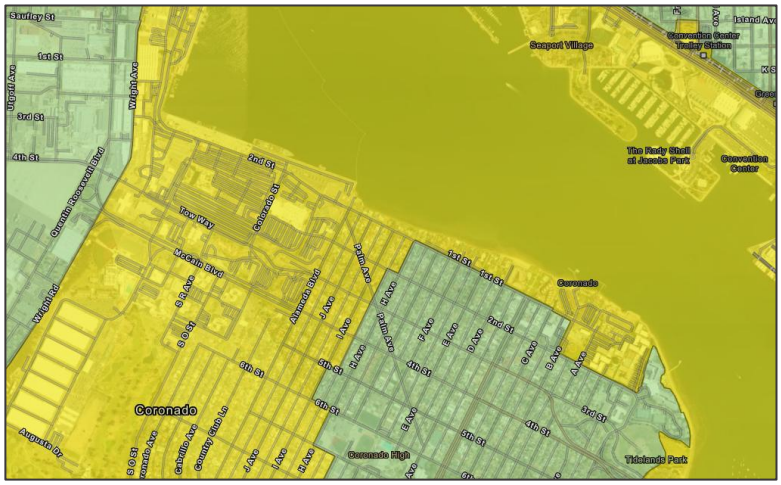
Source: CoSMoS Groundwater Model Online Viewer Tool. Accessed on 5.25.2025.

The CoSMoS results show that at 4.9 feet of sea level rise the project site vicinity has a "very shallow" water table, implying that the groundwater table will not emerge above the surface but can affect underground components. The project area's water table is shallow primarily because of its location along the shoreline and low-lying topography. This revetment project will have minimal effects on groundwater levels, although the revetment's filter fabric and filter layer fine sediments will have some positive effect in reducing shoreline permeability.

4.6 Tsunamis

Tsunamis are extremely powerful and long ocean waves that can be triggered by earthquakes, landslides, or other seismic events. The tsunami threat is a significant consideration in San Diego due to its coastal setting along the highly seismically active Pacific Ocean Basin. While extreme tsunamis are rare events, their potential for catastrophic damage and loss of life makes them a critical coastal hazard consideration. California's official tsunami resources are the California Geological Survey (CGS) and Governor's Office of Emergency Services (OES). Other resources include the University of Southern California's Tsunami Research Center (TRC). Figure 16 illustrates the tsunami hazard area within the vicinity of the project site. The tsunami scenario mapped by Cal OES is based on the California Geological Survey's modeling of large, realistic events primarily from the Alaska and Cascadia subduction zones, equivalent to a baseline of the 975-year average return period (ARP).

Figure 16. Tsunami Hazard Map.



Source: California Office of Emergency Services (Cal OES) Tsunami hazard Map. Accessed on 7.10.2025.

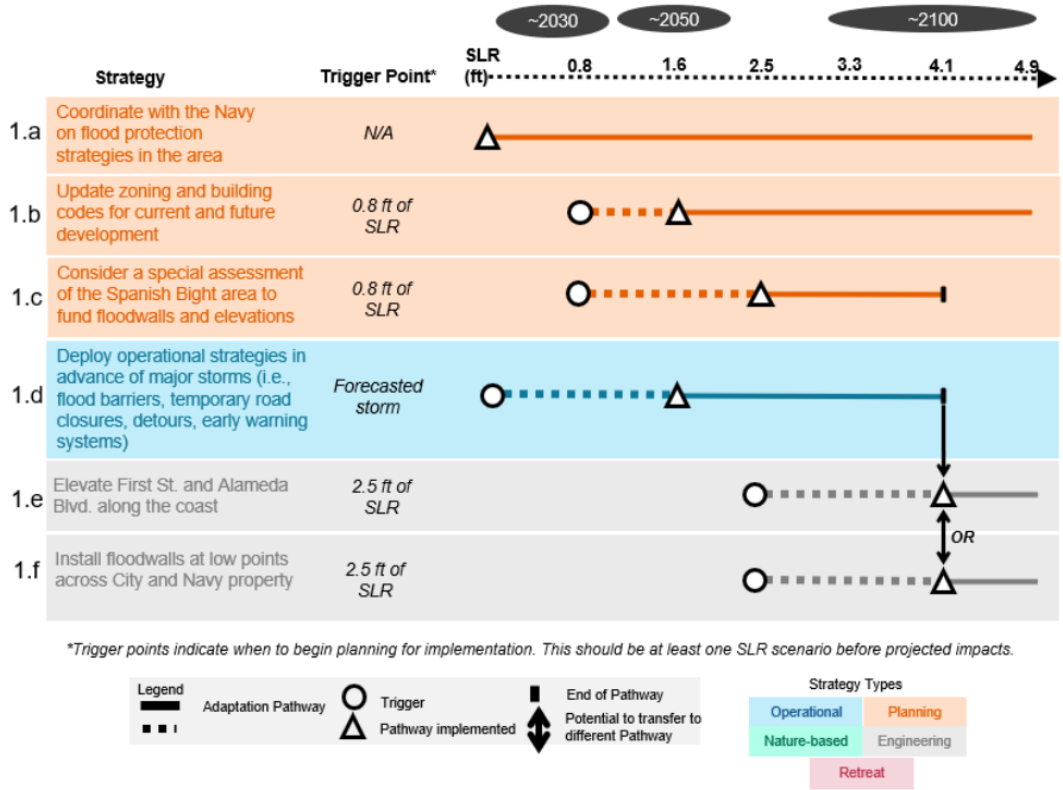
The yellow tsunami inundation area in Figure 16 completely covers the project site revetment, as well as the surrounding residential properties. The tsunami zone ends approximately 500 feet southeast of the project site (the light shaded green area outside of the yellow flood inundation area) indicating that the project site property is nearly outside of the tsunami zone. It is not standard to integrate tsunami wave loads or water elevations into structural design due to how rarely tsunamis occur, but it should be considered that tsunamis are a looming coastal threat in the project area, and the impacts of tsunamis are exacerbated by sea level rise. This revetment project will have a net positive effect on mitigating tsunami hazards by stabilizing the shoreline, which prevents flooding and helps protect critical evacuation routes from Coronado.

5 Adaptation Strategies

Potential sea level rise adaptation solutions for the project site will be qualitatively summarized in this section. Currently, the primary resource for sea level rise adaptation planning in this project area is the City of Coronado's 2022 *Sea Level Rise Vulnerability Assessment and Adaptation Plan Report*.

Adaptation strategies would address the coastal hazards described above, including tidal inundation, storm flooding, erosion, and wave runup/overtopping. The revetment proposed for this project will directly and fully address erosion, and will assist in mitigating wave runup and overtopping by using riprap stones that break waves. Beyond the scope of this project, tidal inundation, storm flooding, and wave runup/overtopping could further be mitigated by applying the strategies summarized in the Figure 17 adaptation pathways for the project vicinity spanning from the edge of Navy property to Harborview Park:

Figure 17. Project Vicinity Adaptation Pathway.



Source: City of Coronado. 2022 *Sea Level Rise Vulnerability Assessment and Adaptation Plan Report*.

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6 Summary and Recommendations

This assessment finds that the revetment shoreline structure project site, as well as the residential neighborhood in the project vicinity, are vulnerable to coastal hazards that would be exacerbated by sea level rise. The revetment plays a critical role of stabilizing the shoreline to prevent erosion, thereby enhancing coastal resilience. Benefits of this project also include reducing wave energy by breaking approaching waves, ~~improving coastal visual/scenic resources,~~ and providing habitats for marine life within the voids between the large revetment stones. The proposed revetment's geometry closely matches the existing revetment design, therefore this project does not have a significant direct effect on reducing flooding from rising stillwater levels. Although, flood mitigation benefits are not required by the revetment structure since it's backed by an elevated hardscape that controls flooding. Key coastal engineering values are summarized in the Table 5 below.

Table 5. Summary of Coastal Engineering Values & Findings

Coastal Engineering Component	Value
New Revetment Filter Layer Crest	+9 ft MLLW (+8.57 ft NAVD88)
New Revetment Armor Layer Rock Size	¼ Ton
Project Site MLLW to NAVD88 Conversion	-0.43 ft
Design Sea Level Rise Time Horizon Years	2060, 2075, 2100 (35-, 50-, 75-year Structure Design Life)
Design Sea Level Rise Values	1.6 ft, 2.7 ft, 4.9 ft
MHHW Elevation	+5.73 ft MLLW (+5.30 ft NAVD88)
Future MHHW Elevation with Sea Level Rise	Year 2060 = +7.33 ft MLLW (+6.90 ft NAVD88) Year 2075 = +8.43 ft MLLW (+8.00 ft NAVD88) Year 2100 = +10.63 ft MLLW (+10.20 ft NAVD88)
1% Extreme Water Level in 2025	+8.43 ft MLLW (+8.00 ft NAVD88)
FEMA Base Flood Elevation (BFE)	+9.43 ft MLLW (+9.00 ft NAVD88)
FEMA Flood Zone Type	Zone AE
Fetch-limited Wave Height/Period	1.25 ft / 0.82 s
Boat Wake Wave Heights/Periods	Up to 3 ft / 3 s
Wave Runup/Overtopping Hazard?	Yes/Yes
Erosion Hazard?	Existing hazard removed with new revetment
Groundwater Hazard?	Minimal (see CoSMoS)
Tsunami Hazard?	Yes

Sincerely,

Dudek
Patrick Miskel, P.E.
Senior Coastal Engineer



[signed 7/11/2025]

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7 References

California Coastal Commission. 2024. *Sea Level Rise Policy Guidance*. California Natural Resources Agency. Accessed June 17, 2025. https://www.coastal.ca.gov/climate/slrguidance.html.

California Ocean Protection Council. 2024. *Sea Level Rise Guidance*. California Natural Resources Agency. Accessed June 17, 2025. https://opc.ca.gov/wp-content/uploads/2024/05/Item-4-Exhibit-A-Final-Draft-Sea-Level-Rise-Guidance-Update-2024-508.pdf.

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Port of San Diego. June, 2019. *Sea Level Rise Vulnerability Assessment & Coastal Resiliency Report.* Accessed June 17, 2025. https://pantheonstorage.blob.core.windows.net/environment/FINAL-San-Diego-Unified-Port-District-Sea-Level-Rise-Vulnerability-and-Coastal-Resiliency-Report-AB691.pdf.

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Appendix A
Sea Level Rise Figures



SOURCE: Point Blue Conservation Science and U.S. Geological Survey. *Our Coast Our Future (OCOF)*. Web application. www.ourcoastourfuture.org

FIGURE A1

Mean High Water (MHW) Tide
+ 1.6 Feet Sea Level Rise

Port of San Diego

DUDEK

0 175 350 Feet



SOURCE: Point Blue Conservation Science and U.S. Geological Survey. *Our Coast Our Future (OCOF)*. Web application. www.ourcoastourfuture.org

FIGURE A2

Mean High Water (MHW) Tide
+ 1.6 Feet Sea Level Rise + 100-year Flood

Port of San Diego

DUDEK

0 175 350 Feet



SOURCE: Point Blue Conservation Science and U.S. Geological Survey. *Our Coast Our Future (OCOF)*. Web application. www.ourcoastourfuture.org

FIGURE A3

Mean High Water (MHW) Tide
+ 2.5 Feet Sea Level Rise

Port of San Diego

DUDEK

0 175 350 Feet



SOURCE: Point Blue Conservation Science and U.S. Geological Survey. *Our Coast Our Future (OCOF)*. Web application. www.ourcoastourfuture.org

FIGURE A4

Mean High Water (MHW) Tide
+ 2.5 Feet Sea Level Rise + 100-year Flood

Port of San Diego

DUDEK

0 175 350 Feet



SOURCE: Point Blue Conservation Science and U.S. Geological Survey. *Our Coast Our Future (OCOF)*. Web application. www.ourcoastourfuture.org

FIGURE A5

Mean High Water (MHW) Tide
+ 4.9 Feet Sea Level Rise

DUDEK

0 175 350 Feet

Port of San Diego



SOURCE: Point Blue Conservation Science and U.S. Geological Survey. *Our Coast Our Future (OCOF)*. Web application. www.ourcoastourfuture.org

FIGURE A6

Mean High Water (MHW) Tide
+ 4.9 Feet Sea Level Rise + 100-year Flood

Port of San Diego

DUDEK

N

0 175 350 Feet

Appendix E
Noise Modeling Outputs



EXHIBIT 1

Ambient Noise Measurement Locations

Arendsee SPLR

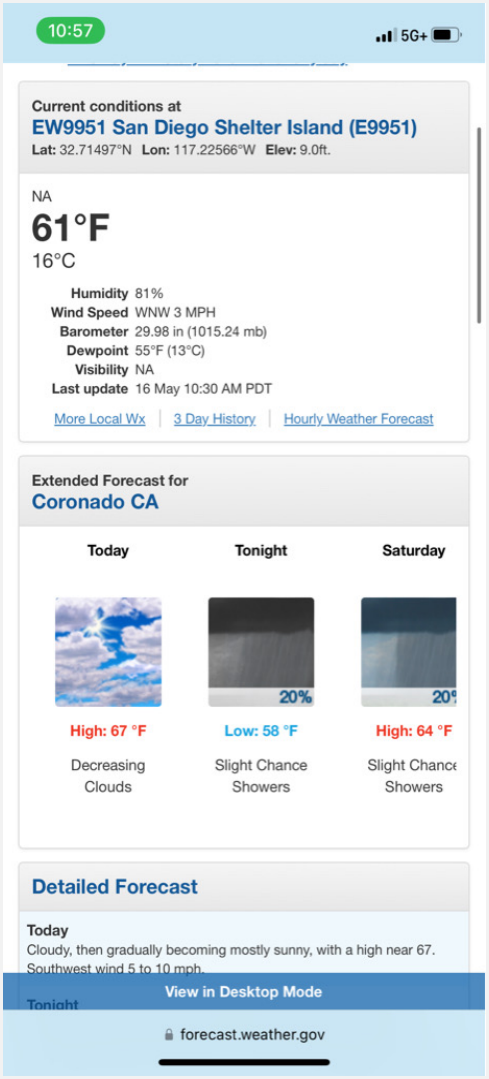
FORMS FIELD DATA REPORT

Field Noise Measurement Data

Record: 2067	
Project Name	*Coronado SLPR*
Project #	*18306*
Observer(s)	
Date	*2025-05-16*

Meteorological Conditions

Upload NOAA Forecast



Temp (F)	*61*
Humidity % (R.H.)	*81*
Wind	*Calm*
Wind Speed (MPH)	*3*
Wind Direction	*West*
Sky	*Partly Cloudy*

Instrument and Calibrator Information	
Instrument Name List	*(SAC) NL-62*
Instrument Name	*(SAC) NL-62*
Instrument Name Lookup Key	*(SAC) NL-62*
Manufacturer	*Rion*
Model	*NL-62*
Serial Number	*350815*
Calibration Date	
Calibrator Name	*(SAC) Rion NC-74*
Calibrator Name	*(SAC) Rion NC-74*
Calibrator Name Lookup Key	*(SAC) Rion NC-74*
Calibrator Manufacturer	*Rion*
Calibrator Model	*NC-74*
Calibrator Serial #	*34167529*
Pre-Test (dBA SPL)	*94*
Post-Test (dBA SPL)	*94*

Windscreen	*Yes*
Weighting?	*A-WTD*
Slow/Fast?	*Slow*
ANSI?	*Yes*

Monitoring	
Record #	*1*
Site ID	*ST2*
Site Location Lat/Long	*32.702095, -117.179112*
Begin (Time)	*11:03:00*
End (Time)	*11:18:00*
Leq	*48.1*
Lmax	*51.4*
Lmin	*46*
Other Lx?	*L90, L50, L10*
L90	*46.4*
L50	*47.7*
L10	*49.7*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Distanr Industrial, Distant Speakers, Waves*
Other Noise Sources (Background)	*Birds, Distant Industrial*
Other Noise Sources Additional Description	*Waves against rip rap, distant industrial noise from North Island, speaker noise with music and voices from across the bay (Wonderfront festival sound testing)*

Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Terrain	*Mixed*

Site Photos

Photo



Comments / Description	*Facing N*

Site Photos	
Photo	
Comments / Description	*Facing E*

Site Photos

Photo	
Comments / Description	*Facing S*

Site Photos

Photo	
Comments / Description	*Facing E*

Monitoring	
Record #	*2*
Site ID	*ST1*
Site Location Lat/Long	*32.702036, -117.180020*

Begin (Time)	*11:22:00*
End (Time)	*11:37:00*
Leq	*65.6*
Lmax	*76.8*
Lmin	*45.6*
Other Lx?	*L90, L50, L10*
L90	*51.2*
L50	*61.1*
L10	*67.9*
Other Lx (Specify Metric)	*L*
Primary Noise Source	*Traffic*
Other Noise Sources (Background)	*Birds, Distant Aircraft, Distant Conversations / Yelling, Distant Gardener / Landscape Noise, Distant Industrial*
Other Noise Sources Additional Description	*Traffic, landscaping/maintenance at neighboring homes, industrial noise from North Island*
Is the same instrument and calibrator being used as previously noted?	*Yes*
Are the meteorological conditions the same as previously noted?	*Yes*

Description / Photos

Site Photos

Photo	
Comments / Description	*Facing S*

Site Photos

Photo	
Comments / Description	*Facing N*

Site Photos

Photo	
Comments / Description	*Facing W*

Site Photos

Photo	
Comments / Description	*Facing E*