

RESOLUTION NO. HD- 2576

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2
3 A RESOLUTION OF THE BOARD OF HARBOR
4 COMMISSIONERS OF THE CITY OF LONG BEACH:
5 CERTIFYING THE FINAL ENVIRONMENTAL IMPACT
6 REPORT FOR THE GERALD DESMOND BRIDGE
7 REPLACEMENT PROJECT (SCH No. 2002101141);
8 MAKING CERTAIN FINDINGS AND DETERMINATIONS
9 RELATIVE THERETO; ADOPTING A STATEMENT OF
10 OVERRIDING CONSIDERATIONS; ADOPTING A
11 MITIGATION MONITORING AND REPORTING PROGRAM;
12 APPROVING THE PROJECT; ADOPTING THE
13 APPLICATION SUMMARY REPORT AND APPROVING A
14 HARBOR DEVELOPMENT PERMIT

15 WHEREAS, the City of Long Beach, acting by and through its Board of
16 Harbor Commissioners, has authority over the City of Long Beach's Harbor District,
17 commonly known as the Port of Long Beach (Port); and

18 WHEREAS, the Chief Harbor Engineer of the Long Beach Harbor
19 Department submitted an application for a Harbor Development Permit (HDP) for the
20 Gerald Desmond Bridge Replacement Project (Project); and

21 WHEREAS, the Project consists of construction of a modern, seismically
22 sound bridge located approximately 140 feet north of the existing Gerald Desmond
23 Bridge (together with associated roadway connectors), demolition of the existing bridge
24 and relocation of certain electric transmission lines that cross Cerritos Channel in the Port
25 north of the new bridge site; and

26 WHEREAS, the Long Beach Harbor Department is the lead agency for
27 California Environmental Quality Act (CEQA) (Public Resources Code §§ 21000 *et seq.*)
28 compliance for the Project, and the California Department of Transportation (Caltrans) is

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1 the federal lead agency for National Environmental Policy Act (NEPA) (42 USC §§ 4341
2 *et seq.*) compliance for the Project, pursuant to a delegation of authority from the Federal
3 Highway Administration (23 USC § 327); and

4 WHEREAS, the Long Beach Harbor Department determined that because
5 the Project could have a significant effect on the environment, an Environmental Impact
6 Report (EIR) should be prepared to assess the environmental impacts associated with
7 the construction and operation of the Project; and

8 WHEREAS, Caltrans determined that an environmental assessment (EA)
9 should be prepared to assess the environmental impacts associated with the construction
10 and operation of the Project; and

11 WHEREAS, the Long Beach Harbor Department and Caltrans jointly
12 prepared a combined Draft EIR/EA in the interest of efficiency and to avoid duplication of
13 effort; and

14 WHEREAS, Caltrans will consider the EA and approval of the Project
15 separate from the consideration of the EIR by the Board of Harbor Commissioners
16 (Board); and

17 WHEREAS, a Notice of Preparation (NOP) of the Draft EIR/EA was mailed
18 to public agencies, organizations, and persons likely to be interested in the potential
19 impacts of the proposed Project on October 24, 2002, and two public scoping meetings
20 were thereafter held on November 12, 2002 (one in the afternoon; one in the evening), to
21 gather public and agency comments concerning the preparation of the Draft EIR/EA; and

22 WHEREAS, the Board and Caltrans thereafter jointly caused the Draft
23 EIR/EA to be prepared, which took into account the comments received on the NOP and
24 described the Project, the environmental impacts resulting therefrom, and the proposed
25 mitigation measures; and

26 WHEREAS, on June 14, 2004, the Draft EIR/EA was circulated for public
27 and agency review and comment; and

28 WHEREAS, two public hearings were held on the Draft EIR/EA on July 19,

1 2004 (one in the afternoon; one in the evening), which hearings were noticed by
2 publication in the Press-Telegram, a newspaper of general circulation, and by publication
3 in the Phillipine Times and Mundo LA; and

4 WHEREAS, the public comment period closed on August 13, 2004; and

5 WHEREAS, after reviewing and considering the comments received on the
6 Draft EIR/EA, the Long Beach Harbor Department and Caltrans decided to revise the
7 EIR/EA and recirculate it for additional public review and comment; and

8 WHEREAS, a NOP of the Revised Draft EIR was mailed to public agencies,
9 organizations and persons likely to be interested in the proposed Project on December 5,
10 2005; and

11 WHEREAS, the Long Beach Harbor Department and Caltrans thereafter
12 jointly prepared the Revised Draft EIR/EA, which took into account the comments
13 received on the NOP and described the Project, the environmental impacts resulting
14 therefrom, and the proposed mitigation measures; and

15 WHEREAS, on February 4, 2010, the Revised Draft EIR/EA was circulated
16 for public review and comment; and

17 WHEREAS, public hearings were held on the Revised Draft EIR/EA on
18 February 17, 2010, and February 24, 2010, which hearings were noticed by publications
19 in the Press-Telegram, a newspaper of general circulation, and by news releases in the
20 Press-Telegram, the Business Journal and the Gazettes, as well as through letters, email
21 blasts, postings on the Port's website and contacts with over 100 organizations; and

22 WHEREAS, the public comment period on the Revised EIR/EA closed on
23 March 22, 2010; and

24 WHEREAS, the Final EIR for the Project was presented to the Board, as
25 the decision making body of the lead agency, for certification as having been completed
26 in compliance with the provisions of CEQA and the state and local CEQA Guidelines; and

27 WHEREAS, the Board has carefully reviewed and considered all
28 environmental documentation comprising the Final EIR, including the Revised Draft

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1 EIR/EA and the comments and the responses thereto, and has found that the Final EIR
2 considers all potentially significant environmental impacts of the proposed project and is
3 complete and adequate, and fully complies with all requirements of CEQA and the state
4 and local CEQA Guidelines; and

5 WHEREAS, prior to action on this Project, the Board considered all
6 significant impacts, mitigation measures, and Project alternatives identified in the Final
7 EIR and found that all potentially significant impacts of the Project have been lessened or
8 avoided to the extent feasible; and

9 WHEREAS, CEQA and the CEQA Guidelines provide that no public agency
10 shall approve or carry out a project for which an EIR has been completed that identifies
11 one or more significant effects of the project unless the public agency makes certain
12 written findings for each of the significant effects, accompanied by a statement of facts
13 supporting each finding; and

14 WHEREAS, CEQA and the CEQA Guidelines require that where an agency
15 approves a project that would allow the occurrence of significant environmental effects
16 which are identified in an EIR but are not mitigated to a level of insignificance, the agency
17 state in writing the specific reasons supporting its action based on the Final EIR and/or
18 other information in the record; and

19 WHEREAS, the Board has balanced the benefits of the Project against its
20 unavoidable environmental risks in determining to approve the Project as necessary to
21 serve the existing and future needs of the Port, and has determined that any remaining
22 unavoidable significant impacts are outweighed by specific economic, legal, social,
23 technological or other benefits of the Project.

24 NOW, THEREFORE, the Board of Harbor Commissioners of the City of
25 Long Beach resolves as follows:

26 Section 1. Certification. Based on its review and consideration of the
27 Final EIR and all written communications and oral testimony regarding the Project which
28 have been submitted to and received by the Port, the Board certifies that the Final EIR for

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1 the Project has been completed in compliance with CEQA and the state and local CEQA
2 Guidelines. The Board, having final approval authority over the Project, finds that the
3 Final EIR reflects the Board's independent judgment and analysis as lead agency under
4 CEQA, and hereby adopts and certifies the Final EIR as complete and adequate. The
5 Board further certifies that the Final EIR was presented to the Board and that the Board
6 reviewed and considered the information contained in it prior to approving the Project.

7 Section 2. CEQA Findings and Statement of Facts. Pursuant to Public
8 Resources Code section 21081 and CEQA Guidelines section 15091, the Board has
9 reviewed, and hereby makes and adopts, the CEQA Findings of Fact for the Project,
10 attached as and included in Exhibit "A," which is incorporated herein by reference as
11 though set forth in full.

12 Section 3. Statement of Overriding Considerations. Pursuant to Public
13 Resources Code section 21081 and CEQA Guidelines section 15093, the Board has
14 reviewed and hereby makes and adopts the Statement of Overriding Considerations for
15 the Project, attached as and included in Exhibit "A," which is incorporated herein by
16 reference as though set forth in full.

17 Section 4. Mitigation Plan Approval. Although the Final EIR identifies
18 certain significant environmental effects that would result from approval of the Project,
19 most environmental effects can feasibly be avoided or mitigated and will be avoided or
20 mitigated by imposition of mitigation measures included in the Final EIR and the
21 Mitigation Monitoring and Reporting Program. Pursuant to Public Resources Code
22 section 21081 and CEQA Guidelines section 15097, the Board hereby adopts and
23 approves the Mitigation Monitoring and Reporting Program for the Project, attached
24 hereto as Exhibit "B," which is incorporated herein by reference as though set forth in full.
25 The Board further finds that the mitigation measures identified in the Final EIR are
26 feasible, and specifically makes each mitigation measure a condition of Project approval.

27 Section 5. No Significant New Information Added to Revised Draft
28 EIR/EA. The information provided in the various reports submitted in connection with the

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1 Project and in the responses to comments on the Revised Draft EIR/EA, the information
2 added to the Final EIR, and the evidence presented in written and oral testimony at public
3 hearings on the Project and the Revised Draft EIR/EA, do not constitute significant new
4 information that would require recirculation of the Revised Draft EIR/EA, pursuant to
5 Public Resources Code section 21092.1 and CEQA Guidelines section 15088.5.

6 Section 6. Conformity with Port Master Plan. The Board finds on the
7 basis of the whole record before it that the Project is in conformity with the Port Master
8 Plan and is consistent with the goals and objectives of the plan.

9 Section 7. Approval of Project, Adoption of Application Summary Report
10 and Approval of Harbor Development Permit. The Board hereby approves the Project,
11 which is described as the North-side Alignment Alternative in the Final EIR/EA, adopts
12 the Application Summary Report for the Project, and approves a Level III Harbor
13 Development Permit pursuant to the California Coastal Act, the certified Port Master
14 Plan, and Article XII, Section 1215, of the Long Beach City Charter.

15 Section 8. Location and Custodian of Record of Proceedings. The
16 Director of Environmental Planning of the Long Beach Harbor Department, whose office
17 is located at 925 Harbor Plaza, Long Beach, California 90802, is hereby designated as
18 the custodian of the documents and other materials which constitute the record of
19 proceedings upon which the Board's decision is based, which documents and materials
20 shall be available for public inspection and copying in accordance with the provisions of
21 the California Public Records Act (Government Code §§ 6250 *et seq.*).

22 Section 9. Notice of Determination. The Director of Environmental
23 Planning shall file a notice of determination with the County Clerk of the County of Los
24 Angeles and with the state Office of Planning and Research within five (5) working days
25 after this approval.

26 Section 10. Certification, Posting and Filing. The Secretary of the Board
27 shall certify the passage of this Resolution by the Board, shall cause the same to be
28 posted in three (3) conspicuous places in the City of Long Beach, and shall cause a

1 certified copy of this Resolution to be filed forthwith with the City Clerk, at which time it
2 shall take effect.

3 I hereby certify that the foregoing Resolution was adopted by the Board of
4 Harbor Commissioners of the City of Long Beach at its meeting of August 9, 2010 by the
5 following vote:

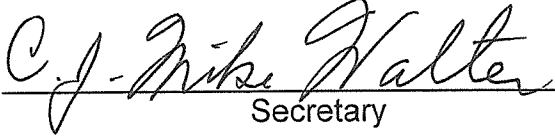
6 Ayes: Commissioners: Cordero, Walter, Wise, Sramek

7 _____

8 Noes: Commissioners: _____

9 Absent: Commissioners: Fields

10 Not Voting: Commissioners: _____

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14 Secretary

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Gerald Desmond Bridge Replacement Project

Findings of Fact and Statement of Overriding Considerations

Prepared By



Port of
LONG BEACH

The Green Port

The Port of Long Beach
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August 2010

Gerald Desmond Bridge Replacement Project

FINDINGS OF FACT and STATEMENT OF OVERRIDING CONSIDERATIONS

1.0 INTRODUCTION

These Findings of Fact have been prepared on behalf of the City of Long Beach acting by and through its Port of Long Beach Board of Harbor Commissioners (sometimes referred to hereinafter as POLB or Port) in its capacity as lead agency pursuant to the California Environmental Quality Act (CEQA) to support a decision on the Gerald Desmond Bridge Replacement Project (Project or proposed Project).¹ Section 21081 of the California Public Resources Code and Section 15091 of the CEQA Guidelines provide that no public agency shall approve or carry out a project for which an environmental impact report (EIR) has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

1. Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effects as identified in the Final EIR.
2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
3. Specific economic, legal, social, technological, or other considerations, including provisions of employment opportunities for highly trained works, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

Additionally, the lead agency must not approve a project that will have a significant effect on the environment unless it finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the unavoidable adverse environmental effects. (Pub. Res. Code § 21081(b); 14 Cal. Code Regs. § 15093.) The Statement of Overriding Considerations set forth below identifies the specific overriding economic, legal, social, technological, or other benefits of the project that outweigh the significant environmental impacts identified in the Final EIR.

2.0 GERALD DESMOND BRIDGE REPLACEMENT PROJECT

2.1 Project Objectives

CEQA requires that an EIR state the objectives of a proposed project to explain the reasons for project development and why this particular solution is being recommended. Additionally, the project objectives are instrumental in determining which alternatives should be considered in the EIR.

The Port's overall goal for the proposed Project is to provide a structurally sound bridge linking Terminal Island and Long Beach/State Route 710 (SR 710) over the next hundred years and improve both traffic operations and vessel safety, while mitigating the impacts of projected growth on the local communities by implementing pollution control measures and all feasible mitigation measures. In order to accomplish these basic goals in a manner consistent with the Port's public trust responsibilities, the objectives of the proposed Project are to:

1. Provide a structurally sound and seismically resistant bridge;
2. Provide sufficient roadway capacity to handle current and projected vehicular traffic volume demand;

¹ The proposed Project has federal transportation funding and requires a Bridge Permit from the U.S. Coast Guard (USCG). As such, an Environmental Assessment (EA) was also prepared for the proposed Project. The POLB and Caltrans prepared a joint EIR/EA in the interest of efficiency and to avoid duplication of effort. Caltrans will consider the EA separate from the Board of Harbor Commissioner's consideration of this EIR. The EA is governed by NEPA; the EIR is governed by CEQA.

3. Improve traffic operation within the project area by reducing approach grades; and
4. Provide sufficient vertical clearance for safe navigation through the Back Channel to the Inner Harbor for both existing and next generation vessels.

2.2 Project Overview

The proposed Project would provide a new bridge located approximately 140 ft (42.7 meters [m]) north of the existing bridge (measured from centerline to centerline). This bridge alignment would have a vertical profile over the Back Channel of 200 ft (61 m) above the Mean High Water Level (MHWL). The roadway grades would be 5 percent in both directions.

The new bridge would be a cable-stayed design (Single Mast Tower). The total bridge length would be 2,000 ft (610 m) long, with a main span opening across the channel of 1,000 feet (306 m), tower to tower. The west and east approach structures would be 3,117 ft (950 m) and 3,035 ft (925 m) in length, respectively.

The bridge cross section and approaches to the new bridge would include the following project features:

- Three 12-ft-wide (3.6-m) lanes in each direction
- A 10-ft-wide (3-m) outside shoulder in each direction
- A 10- to 12-ft-wide (3- to 3.6-m) inside shoulder in each direction
- A 32-inch (in.)-high (81.3-centimeter [cm]) barrier that would run along the outside of each shoulder
- Reconstruction of the existing Horseshoe interchange ramp connectors
- Reconstruction of the existing connectors to SR 710 and the two ramp connections to Pico Avenue

The approach spans would be of concrete box girder construction, either segmental or cast-in-place.

This alignment alternative would use the land between the existing bridge and the Long Beach Generating Station (LBGS) (former Southern California Edison [SCE] plant), and it would require construction of new ramps for the existing Horseshoe interchange. The proposed alignment would transition to join Ocean Boulevard approximately 3,280 ft (1,000 m) east of the Back Channel, and the new connections would join SR 710 approximately 2,630 ft (801 m) north of Ocean Boulevard.

The Horseshoe interchange would use reconfigured ramps to provide access from the westbound (WB) Gerald Desmond Bridge to Pier T Avenue and from Pier T Avenue to the eastbound (EB) Gerald Desmond Bridge. Additional ramp connections would be provided between Pier T Avenue and both Ocean Boulevard and the one-way frontage roads created by the newly constructed POLB Ocean Boulevard and SR 47 Interchange Project. These ramps would allow full access between Pier T Avenue and Ocean Boulevard in all directions.

At the SR 710 interchange, a new median connection to Ocean Boulevard in downtown Long Beach would be constructed, as would a new pair of connector ramps between SR 710 and the new bridge. A new hook ramp or loop ramp would be used to replace the existing on-ramp between Pico Avenue and the WB Gerald Desmond Bridge. The current ramp between Pico Avenue would be partially reconstructed to join the new connectors from SR 710. This interchange concept would enable trucks traveling to and from SR 710 to remain in the outside lanes, while cars traveling to and from downtown Long Beach via Ocean Boulevard would remain in the inside lanes. This approach would minimize the intermixing of cars and trucks accessing the above-described locations.

The proposed Project also includes raising the SCE lines (12.5 kilovolt [kV], 66-kV, and 220-kV) that cross the Cerritos Channel from Pier S to Pier A, north of the bridge. The recommended option for raising the SCE lines is to construct new towers on Piers S and A next to the existing towers. The new towers would increase the clearance over the Back Channel from 153 ft to 200 ft. Subsequent to construction of the new towers, all lines would be relocated to the new towers.

When completed, the new bridge will withstand the maximum credible earthquake and can be returned to service within weeks of the seismic event ensuring continued access to and from Terminal Island. The

additional capacity provided on the bridge will accommodate 2030 forecasted traffic volumes, which includes both the expected growth in regional traffic and port-related traffic volumes associated with goods movement at build-out. In addition, the reduced approach grades will improve traffic operations within the Project area, reducing transit time by 2.2 minutes each direction during peak hours for both goods movement and regional commute traffic.

3.0 CEQA FINDINGS

The Findings of Fact are based on information contained in the Final EIR for the proposed Project, as well as information contained within the administrative record. The administrative record includes, but is not limited to, the Project application, Project staff reports, Project public hearing records, public notices, written comments on the Project, proposed decisions and findings on the Project, and all other documents relating to the agency decision on the Project. When making CEQA findings required by Public Resources Code Section 21081(a), a public agency shall specify the location and custodian of the documents or other material, which constitute the record of proceedings upon which its decision is based. The Director of Environmental Planning of the Long Beach Harbor Department, whose office is located at 925 Harbor Plaza, Long Beach, California 90802, is designated as the custodian of the documents and other materials which constitute the record of proceedings upon which the Board's decision is based, which documents and materials shall be available for public inspection and copying in accordance with the provisions of the California Public Records Act (Government Code §§ 6250 *et seq.*).

The Revised Draft EIR was circulated for public review and comment pursuant to the CEQA Guidelines. Comments were received from a variety of public agencies, organizations, and individuals. The Final EIR contains copies of all comments and recommendations received on the Revised Draft EIR, a list of persons, organizations and public agencies commenting on the Revised Draft EIR, responses to comments received during the public review period, and changes to the document resulting from consideration of the comments received. This section provides a summary of the environmental effects of the proposed Project that are discussed in the Revised Draft EIR and provides written findings for each of the significant effects, which are accompanied by a brief explanation of the rationale for each finding.

3.1 Environmental Impacts of the Proposed Project

Less Than Significant Impacts

The EIR determined that impacts to the following environmental resources would be less than significant prior to mitigation if the proposed Project were implemented:

1. Aesthetics;
2. Air Quality (certain impacts only);
3. Biological Resources (certain impacts only);
4. Cultural Resources;
5. Geology and Soils;
6. Growth Inducement;
7. Hazards and Hazardous Materials (certain impacts only);
8. Hydrology and Water Quality;
9. Land Use and Planning;
10. Mineral Resources;
11. Noise;
12. Population and Housing;
13. Public Services and Safety (certain impacts only);
14. Recreation;
15. Transportation/Traffic (certain impacts only);
16. Maritime Navigation; and
17. Utilities and Service Systems.

Significant Impacts That Will Be Mitigated

The EIR also determined that some impacts to the following environmental resources would be significant but feasibly mitigated with adoption of mitigation measures if the proposed Project were implemented:

1. Biological Resources;
2. Hazards and Hazardous Materials;
3. Public Services and Safety; and
4. Transportation/Traffic.

Significant and Unavoidable Impacts

The EIR determined that some impacts in the following environmental resource areas would be significant and unavoidable if the proposed Project were implemented:

1. Air Quality;
2. Climate Change; and
3. Transportation/Traffic.

3.2 Findings Regarding Environmental Impacts Determined to be Not Significant or Less Than Significant

The Board of Harbor Commissioners hereby finds that the following environmental impacts of the proposed Project are less than significant. Under CEQA, no mitigation measures are required for impacts that are less than significant (14 Cal. Code Regs. §15126.4(a)(3)).

Resource Area	Board Finding
Aesthetics	The proposed Project would have no effect on scenic vistas, scenic resources, or the visual character and quality of the site and its surroundings. The proposed Project is a transportation infrastructure project that is located within the industrial use areas of the Port. Therefore, for the reasons described in Final EIR Section 2.1.7 (Visual and Aesthetics), impacts on such resources will be less than significant.
	The proposed Project would not substantially contrast with the surrounding industrialized setting of the Port and would not substantially degrade the visual quality or character of the site or surroundings. Therefore, for the reasons described in Final EIR Section 2.1.7, impacts to visual quality and character of the area will be less than significant.
	The proposed Project would replace the Gerald Desmond Bridge within and directly adjacent to an existing transportation corridor and would not result in new sources of light or glare that would adversely affect day or nighttime views in the area. Therefore, for the reasons described in Final EIR Section 2.1.7, light and glare impacts will be less than significant.
	The proposed Project would result in a beneficial change in aesthetics and visual resources. Therefore, for the reasons described in Final EIR Section 2.1.7 and Section 2.4 (Cumulative Impacts), impacts to aesthetics will be less than significant.
Air Quality	The proposed Project is consistent with the 2008 RTP and has been included in the 2008 RTIP, which was developed in compliance with state and federal requirements. The proposed Project implements all feasible measures from the SCAQMD 2007 AQMP. The proposed Project would not interfere with implementation of the Transportation Control Measures contained in the State Implementation Plan. Therefore, for the reasons described in Final EIR Section 2.2.5 (Air Quality), impacts associated with attainment of both federal and state prescribed air quality standards, and progress toward achieving such standards, will be less than significant.

Resource Area	Board Finding
	<p>The proposed Project would not exceed daily construction period pollutant significance thresholds prescribed by the SCAQMD for carbon monoxide (CO), PM₁₀ or PM_{2.5}. The proposed Project would not exceed daily operational pollutant significance thresholds prescribed by the SCAQMD for CO, PM₁₀, PM_{2.5}, or NO_x in 2030. The proposed Project would not expose sensitive receptors to substantial pollutant concentrations of CO that would exceed SCAQMD health-based significance thresholds, either during construction or operation. Therefore, for the reasons described in Final EIR Section 2.2.5 and 3.2.2 (Air Quality), impacts associated with the above pollutants will be less than significant.</p> <p>Generation of objectionable odors would be associated mainly with operation of construction equipment and off-gas emissions during road construction activities. Due to the localized and relatively short-term nature of construction odors, controlled access, the distance to the nearest receptors and compliance with SQAQMD Rule 1113, odors are not likely to affect a substantial number of people. Therefore, for the reasons described in Final EIR Section 2.2.5, odor-related impacts will be less than significant.</p>
Biological Resources	<p>As discussed in Section 2.3 (Biological Environment), the proposed Project would have no impact on riparian habitats or sensitive natural communities within the Project area and impacts to such resources will be less than significant.</p> <p>As discussed in Section 2.3, the proposed Project would have no impact on federally protected or other wetlands within the Project area and impacts to such resources will be less than significant.</p> <p>As discussed in Section 2.3, the proposed Project would have no impact on local plans or policies protecting biological resources or on approved Habitat Conservation Plans, Natural Community Conservation Plans, or other approved conservation plans and impacts to such plans will be less than significant</p> <p>When effects of the proposed Project on biological resources are considered with effects of other related projects and proposed Project mitigation, no cumulatively considerable significant impacts on biological resources were identified. Therefore, for the reasons described in Final EIR Sections 2.3 and 2.4, the project's contribution to impacts on biological resources is not cumulatively considerable, and thus such impacts will be less than significant.</p>
Cultural Resources	<p>The proposed Project does not have the potential to directly or indirectly impact a known unique paleontological resource or site or unique geologic feature. Therefore, for the reasons described in Final EIR Section 2.1.8 (Cultural Resources), impacts to such resources will be less than significant.</p> <p>The proposed Project area is not within an area where human remains are known to occur. Therefore, for the reasons described in Final EIR Section 2.1.8, impacts to such remains will be less than significant.</p> <p>No archaeological resources were identified within the Project area within record searches or during Project field surveys. Therefore, for the reasons described in Final EIR Section 2.1.8, impacts to such resources will be less than significant.</p> <p>The proposed Project would not result in a substantial adverse change in the historical significance of the Long Beach Generation Station (LBGS) or the Southern California Edison transmission towers. Therefore, for the reasons described in Final EIR Section 2.1.8, impacts to such resources will be less than significant.</p> <p>When effects of the proposed Project on cultural resources are considered with effects of other related projects, no cumulatively considerable significant impacts on cultural resources were identified. Therefore, for the reasons described in Final EIR Section 2.4, impacts to such resources will be less than significant.</p>
Geology and Soils	<p>Construction or operation of the proposed Project will not expose people or structures to substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides. Therefore, the risk of such exposure is less than significant.</p> <p>The proposed Project area is well studied and the Project design will account for onsite soil conditions. The design standard of the proposed Project is to withstand the maximum credible earthquake without collapse and return to service within several weeks of the event occurrence. Completion of the proposed Project will minimize the potential for substantial adverse effects on people or structures. Therefore, for the reasons described in Final EIR Section 2.2.2 (Geologic Resources), impacts associated with these issues will be less than significant.</p>

Resource Area	Board Finding
	<p>The proposed Project will be primarily on structure and will require minimal grading and other construction activities that would result in soil erosion or loss. Therefore, for the reasons described in Final EIR Section 2.2.1 (Water Resources and Hydrology), impacts from soil erosion or loss will be less than significant.</p> <p>All of the proposed Project structures would be designed based on the current seismic design criteria, and would reduce the current risk of loss, injury, or death because of landslides, ground shaking, and other seismically induced effects. Therefore, for the reasons described in Final EIR Section 2.2.1, impacts related to such risks will be less than significant.</p> <p>Engineering and design measures would be incorporated into the proposed Project ensure structure stability even if soil becomes unstable during a seismic event. Therefore, for the reasons described in Final EIR Section 2.2.1, impacts related to soil and structure stability will be less than significant.</p> <p>When effects of the proposed Project on geology and soils are considered with effects of other related projects, no cumulatively considerable significant impacts on geology and soils were identified. Therefore, for the reasons described in Final EIR Section 2.4, the Project's cumulative impacts on soil and geology will be less than significant.</p>
Growth Inducement	<p>The proposed project would not have a direct effect on growth, as it would not result in a change in zoning, land use designations, or land use intensity that would directly cause growth. The proposed project could indirectly induce landside growth as a result of congestion relief benefits that could indirectly influence growth; however, the degree to which this may occur is considered both marginal and speculative. The proposed project would not induce growth in maritime activity within the Port because navigational constraints which limit such growth would not be removed as a result of the project; separate actions, not contemplated at present, would be required to remove these constraints. Moreover, container terminals located north of the bridge are constrained by yard size so that throughput cannot be increased significantly as a consequence of any changes to the bridge. Therefore, for the reasons described in Final EIR Section 2.1.2, impacts related to growth inducement will be less than significant.</p>
Hazards and Hazardous Materials	<p>The proposed Project will improve traffic operations and enhance safety within the Project area, thus minimizing potential hazards to the public or the environment through reasonably foreseeable upset and accident conditions. Therefore, for the reasons described in Final EIR Section 2.2.3 (Hazardous Materials/Waste) and 2.2.4 (Public Health and Safety), impacts from hazards and accidents will be less than significant.</p> <p>When effects of the proposed Project on hazards and hazardous materials are considered with effects of other related projects, no cumulatively considerable significant impacts on hazards and hazardous materials were identified. Therefore, for the reasons described in Final EIR Section 2.4, the Project's cumulative impacts will be less than significant.</p>
Hydrology and Water Quality	<p>The proposed Project would not substantially degrade water quality, or violate any water quality standards or waste discharge requirements, or otherwise degrade water quality. The Proposed will incorporate all standard construction BMPs, including compliance with all Port and Caltrans SWPPP and NPDES requirements, and construction of treatment BMPs to treat all associated storm water runoff prior to discharge into the bay. Therefore, for the reasons described in Final EIR Section 2.2.1 (Water Resources and Hydrology), impacts to water quality will be less than significant.</p> <p>On the west side of the Back Channel, the proposed Project would result in structures within the 100-year flood hazard area. However the encroachment is not considered a significant encroachment and would have no effect on flood surface elevation. Therefore, for the reasons described in Final EIR Section 2.2.1, flooding-related impacts will be less than significant.</p> <p>The proposed Project will utilize existing drainage patterns to transport runoff to treatment BMPs. All runoff would be captured and treated prior to discharge and would not result in substantial erosion, siltation or flooding on- or offsite. Therefore, for the reasons described in Final EIR Section 2.2.1, any such impacts will be less than significant.</p> <p>The proposed Project will have no impact on groundwater supplies or recharge. Therefore, for the reasons described in Final EIR Section 2.2.1, impacts on water supplies or basin recharge will be less than significant.</p>

Resource Area	Board Finding
	<p>The proposed Project will result in increased storm water runoff containing typical high-way pollutants; however, all storm water from the new bridge would be captured and treated prior to discharging to existing storm water facilities. This would be an improvement over existing conditions because storm water flow from the existing bridge roadway is currently untreated. No new drainage capacity would be required and no new sources of polluted runoff are anticipated. Therefore, for the reasons described in Final EIR Section 2.2.1, impacts related to storm water runoff will be less than significant.</p> <p>The proposed Project would not change the risk of loss, injury, or death resulting from flood. Therefore, for the reasons described in Final EIR Section 2.2.1, any such impacts will be less than significant.</p> <p>The proposed Project would not increase risk to people or structures as a result of inundation by seiche, tsunami, or mudflow. Therefore, for the reasons described in Final EIR Section 2.2.2 (Geologic Resources), impacts related to such risks will be less than significant.</p> <p>When effects of the proposed Project on Water Quality and Hydrology are considered with effects of other related projects, the proposed Project would result in beneficial impacts to water quality associated with treatment of roadway surface runoff prior to discharge. No cumulatively considerable significant impacts on Water Quality or Hydrology were identified. Therefore, for the reasons described in Final EIR Section 2.4, the Project's cumulative impacts on water quality and hydrology will be less than significant.</p>
Land Use and Planning	<p>The proposed Project is located within the Harbor District in an existing transportation corridor and has no potential to divide an established community or impact implementation of any applicable habitat conservation or natural community conservation plan. The Project would require conversion of 0.7 acres (0.3-ha) of privately held Port-related industrial to public transportation. This conversion is consistent with land use plans, policies, and regulations of agencies with jurisdiction over the project. Therefore, for the reasons described in Final EIR Section 2.1.1 (Land Use, Recreation, and Coastal Zone), impacts will be less than significant.</p> <p>When effects of the proposed Project on land use and planning are considered with effects of other related projects, no cumulatively considerable significant impacts on land use and planning were identified. Therefore, for the reasons described in Final EIR Section 2.4, the Project's cumulative land use related impacts will be less than significant.</p>
Mineral Resources	<p>The proposed Project will impact existing and abandoned oil wells within the Wilmington Oil Field; however, construction and operation of the proposed Project would not result in the loss of mineral or oil deposits or the recovery area (Wilmington Oil Field). Relocation/reconfiguration of existing extraction sites and re-abandonment of former well sites would be completed in accordance with the guidelines set forth by the DOGGR, as required. Therefore, for the reasons described in Final EIR Section 2.1.4 (Utilities and Service Systems), impacts on mineral resources will be less than significant.</p> <p>The proposed Project would not result in the loss of any mineral resources or recovery area. There is no potential for the proposed Project to result in cumulatively considerable significant impacts on mineral resources. Therefore, for the reasons described in Final EIR Section 2.4, the Project's cumulative impacts on mineral resources will be less than significant.</p>
Noise	<p>The proposed Project's maximum construction noise levels would occur during pile driving and bridge demolition activities. Anticipated pile driving noise levels at 1,300 and 1,500 ft (396 and 457 m) would be 61 and 60 dBA, respectively. Anticipated maximum bridge demolition noise levels at 1,300 and 1,500 ft (396 and 457 m) would be 60 and 59 dBA, respectively. The proposed Project's construction activities would not increase ambient noise levels at the location of sensitive receptors by more than 3 dBA. Therefore, for the reasons described in Final EIR Section 2.2.6 (Noise) Section 3.2.10 (Noise), and in the responses to comments in the Final EIR, the noise impacts from the construction and demolition will be less than significant.</p> <p>The proposed Project's construction noise levels will not exceed the maximum limit, 65 dBA, allowed under the City of Long Beach Municipal Code. The maximum anticipated construction noise level at the nearest sensitive receptors would be 61 dBA at Cesar Chavez Park and 60 dBA at Cesar Chavez Elementary school. Therefore, for the reasons described in Final EIR Sections 2.2.6 and 3.2.10, the Project's cumulative noise impacts during construction and demolition will be less than significant.</p>

Resource Area	Board Finding
	<p>Operational noise levels associated with the proposed Project are directly related to forecasted traffic volumes. The worst-case noise condition was modeled along SR 710, resulting in a predicted 2030 operational ambient noise level of 64 dBA at the nearest sensitive noise receptor across the river. The measured ambient condition at the nearest sensitive receptor location was 62 dBA. Therefore, for the reasons described in Final EIR Sections 2.2.6 and 3.2.10, and in the responses to comments on the Final EIR, operational noise impacts of the proposed Project will be less than significant.</p> <p>The proposed Project's operational noise levels will not exceed the maximum limit, 65 dBA, allowed under the City of Long Beach Municipal Code. The maximum anticipated project operational noise level, based on the 2030 worst-case noise conditions on SR 710, would be 64 dBA at the nearest sensitive receptor across the river. Operational noise levels would not exceed City of Long Beach Municipal Code maximum noise levels. Therefore, for the reasons described in Final EIR Sections 2.2.6 and 3.2.10, operational noise impacts will be less than significant.</p> <p>When noise effects of the proposed Project's operation are considered with effects of other related projects, no cumulatively considerable significant noise impacts were identified. Therefore, for the reasons described in Final EIR Section 2.4, the proposed Project cumulative operational noise impacts will be less than significant.</p>
Population and Housing	<p>The proposed Project is a transportation project. The temporary construction work force for this proposed Project would come from the existing labor pool in the southern California area, and construction of the proposed Project would not likely require any relocation or new housing for construction workers. The proposed Project is located in an area zoned for industrial uses; it does not include construction of residential housing, commercial, office, industrial, institutional, or any use other than transportation. No permanent employment or associated population growth would occur due to the construction or operation of the proposed Project. No housing would be displaced, and construction of replacement housing would not be required. The Project would not divide or weaken the cohesion of any established communities. Therefore, for the reasons described in Final EIR Section 2.1.3 (Community Impacts), impacts on population and housing will be less than significant.</p> <p>The proposed Project would require the relocation of several businesses within the construction footprint. The business operations are associated with Port operations, and it is anticipated that the impacted business could be relocated to other areas within or adjacent to the Port. The associated business relocations would not require large numbers of people to relocate requiring replacement housing elsewhere. Therefore, for the reasons described in Final EIR Section 2.1.3, any such impacts will be less than significant.</p> <p>When effects of the proposed Project on population and housing are considered with effects of other related projects, no cumulatively considerable significant impacts on population and housing were identified. Therefore, for the reasons described in Final EIR Section 2.4, proposed Project's cumulative impacts on population and housing will be less than significant.</p>
Public Services and Safety	<p>Construction of the proposed Project would require temporary relocation of Fire Boat Station #20 operations due to its location within the construction and demolition area. Temporary facilities would be located in an improved area approximately 100 ft (30.6 m) outside of the construction and demolition areas. The temporary facilities would be available for use prior to relocation. Subsequent to completion of the construction and demolition activities, Fire Boat Station #20 operations would be relocated back to its existing location. No loss of service or increase in response times is anticipated. Therefore, for the reasons described in Final EIR Sections 2.1.3, and 2.2.4, the proposed Project's impacts on public service and public safety will be less than significant.</p> <p>When effects of the proposed Project public services and safety are considered with effects of other related projects, no cumulatively considerable significant impacts on public services and safety were identified. Therefore, for the reasons described in Final EIR Section 2.4, proposed Project's cumulative impacts on public service and public safety will be less than significant.</p>
Recreation	<p>Construction and operation of the proposed Project would have no impact on recreation opportunities, facilities, or services, or access to recreational facilities or services. Therefore, for the reasons described in Final EIR Sections 2.1.1 and 2.1.3, the proposed Project's impacts to recreational resources will be less than significant.</p>

Resource Area	Board Finding
	<p>The proposed Project would not result in the loss or reduced availability of recreation opportunities, facilities, or services, or access to recreational facilities or services. There is no potential for the proposed Project to result in cumulatively considerable significant impacts on recreation. Therefore, for the reasons described in Final EIR Section 2.4, proposed Project's cumulative impacts to recreational resources will be less than significant.</p>
<p>Transportation/Traffic</p>	<p>The proposed Project would increase the traffic-carrying capacity of the bridge, which would improve traffic flow, handle future projected increases in traffic volume (that are predicted to occur regardless of the proposed Project), and lead to an overall reduction in area traffic congestion. Although the proposed Project does not directly add trips to the transportation system, the new bridge could cause a redistribution of area traffic due to congestion reduction on a new bridge compared to the existing bridge. It could also indirectly help to induce some level of growth within the Ports. However, overall, the proposed Project would result in a benefit to traffic on and in the vicinity of the bridge. Therefore, for the reasons described in Final EIR Section 2.1.1 (Growth Inducement) and Section 2.1.5 (Traffic and Circulation), with the exception of the limited significant traffic impacts described below in Sections 3.3.4 and 3.4.3, the proposed Project's impacts on transportation and traffic will be less than significant.</p>
<p>Maritime Navigation</p>	<p>The proposed Project would enhance harbor safety and decrease congestion, as it would allow ships to pass under the new bridge with improved safety conditions. The proposed Project would provide increased air draft beneath the new bridge that would permit future, larger vessels to pass through the Back Channel. However, due to existing navigational constraints (i.e., narrow channel), such larger vessels cannot call at terminals north of the current or the future bridge. If the navigational constraints were removed, which would constitute an action requiring a separate environmental disclosure, Pier S would not likely receive calls of larger ships, due to the fact that it is one of the smallest container terminals in the Port. Pier A could theoretically receive such larger ship calls, but, as stated above, the navigational constraints would first need to be removed. In addition, the physical characteristics of the terminals north of the bridge also play a critical role in determining the nature and the potential through-put of the terminals. Therefore, for the reasons described in Final EIR Section 2.1.6 (Maritime Navigation), impacts on maritime navigation will be less than significant</p>
<p>Utilities and Service Systems</p>	<p>The proposed Project is a transportation project and would have no impact on wastewater treatment requirements or require expansion of plants or facilities. Therefore, for the reasons described in Final EIR Section 2.1.4, impacts on utilities will be less than significant.</p> <p>The proposed Project would utilize existing drainage systems within the project area and would not required construction of new drainage facilities. Therefore, for the reasons described in Final EIR Sections 2.1.4 and 2.2.1, impacts on the drainage system will be less than significant.</p> <p>The proposed Project is a transportation project. The proposed Project would result in some additional water demand to support construction activities; however, it would not result in any future operational demand. Therefore, for the reasons described in Final EIR Sections 2.1.4, impacts on water supplies will be less than significant.</p> <p>The proposed Project would generate large amounts of construction and demolition debris. However, the proposed Project would comply with all federal, state, and local requirements regarding solid waste disposal and recycling, and impacts on local and regional landfill capacity would be less than significant. Therefore, for the reasons described in Final EIR Section 2.1.4, impacts on waste disposal facilities will be less than significant.</p> <p>The proposed Project requires extensive utility relocation that could temporarily interrupt service during changeover from the existing to relocated facilities. Utility relocation would be conducted in a manner designed to minimize any potential for interruption. Interruption of associated utility service in the proposed Project area is unlikely to occur; however, if interruption does occur, the impact would be minor and temporary and would not be anticipated to last for no more than a couple of hours. Impacts associated with utility relocation will be less than significant. Therefore, for the reasons described in Final EIR Section 2.4, impacts on utility service will be less than significant.</p> <p>When effects of the proposed Project on utilities are considered with effects of other related projects, no cumulatively considerable significant impacts on utilities were identified. Therefore, for the reasons described in Final EIR Section 2.4, the proposed Project's cumulative impacts on utility facilities and service will be less than significant.</p>

3.3 Findings Regarding Environmental Impacts Determined to be Mitigated to Less Than Significant Levels

The EIR identified certain potentially significant effects that could result from the proposed Project. However, the Port finds for each of the significant or potentially significant impacts defined in this section, based upon substantial evidence in the record, that changes or alterations have been required or incorporated into the proposed Project that avoid or substantially lessen the significant effect as identified in the EIR. As a result, adoption of the mitigation measures set forth below would reduce the identified significant effects to a less than significant level.

The following is a summary of the potentially significant impacts of the proposed Project which can be mitigated to a level of insignificance. Additional detail regarding the potential impacts and the mitigation measures is set for the in FEIR and elsewhere in the record relating to the proposed Project.

3.3.1 Biological Resources

As discussed in Final EIR Section 3.2.3.2, there would be significant impacts related to Biological Resources that would be mitigated to less than significant levels as a result of mitigation measures that have been incorporated into the proposed Project. The impacts and mitigation measures are discussed below.

3.3.1.1 Impact: Proposed Project construction could adversely affect peregrine falcon and bat nesting/roosting locations. Potential effects on peregrine falcons could include behavior modification caused by construction activities and changes in perch preferences and/or nesting sites on the Gerald Desmond Bridge. Potential effects on bat species could include behavior modification caused by construction activities and changes in roost preferences and/or nesting sites on the Gerald Desmond Bridge, elimination of existing roosting sites, or displacement of sensitive bat species.

Finding: Changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes, which provide previously tested and generally accepted measures to address potential harmful effects associated with construction activities, are set forth in **Mitigation Measures BR-1 through BR-6** below.

Mitigation Measure BR-1: Artificial Nest Boxes (Peregrine Falcon): A minimum of two nesting ledges with artificial nest boxes will be installed on the new bridge in different locations prior to demolition of the existing bridge. The boxes will be available prior to the nesting season. The new nest locations will be approved by the California Department of Fish and Game (CDFG) and will be selected to minimize disturbance to the extent feasible. Should the peregrine falcons not use the new bridge for nesting despite the nest boxes, alternate suitable nesting sites are available in the project vicinity (e.g., hotels, silos, bridges, Long Beach City Hall).

Mitigation Measure BR-2: Precluding Nesting on the Existing Bridge (Peregrine Falcon): Once the nest boxes are in place on the new bridge, and a minimum of 2 months prior to initiation of demolition activities within 500 ft (152 m) of the existing nesting locations, measures and/or structures approved by CDFG to discourage nesting at the previously used nest sites would be implemented under the supervision of a CDFG-approved raptor biologist. If existing nest sites are occupied, then exclusion activities could not occur until 30 days after the last young leaves the nest, or until nest abandonment, whichever occurs first (see No Work Zone under BR-3 Monitoring Program).

Mitigation Measure BR-3: Monitoring Program (Peregrine Falcon): The proposed monitoring program is based on measures from the Peregrine Falcon Monitoring and Mitigation Program (PFMMP) for the Gerald Desmond Bridge (BioResource Consultants, 1998) used from 1998 through 2004. Modified measures from the 1998 PFMMP as proposed for the North- and South-side Alignment Alternatives are provided below. A mitigation and monitoring plan will be prepared and submitted to CDFG for concurrence prior to initiation of construction activities.

- *Timing of Monitoring:* A raptor biologist will initiate monitoring at least 1-year prior to the beginning of construction and at least 2 months prior to nest site selection, generally January to mid-February. Monitoring

will continue through the breeding season, which generally extends through mid-July. Monitoring will occur at the existing and new bridge and begin prior to the placement of artificial nest boxes on the new bridge and prior to attempts to preclude nesting at the existing bridge. Monitoring during construction will continue once weekly during the breeding season until the breeding season or construction is complete, whichever occurs first.

Post-construction monitoring will occur for 3 years after construction. Surveys will be conducted once monthly from January through July to document peregrine falcon nesting at the new bridge.

- *Biological Monitor:* A raptor biologist with several years of experience observing peregrine falcon behavior and approved by the Port, Caltrans, and CDFG will be selected to conduct the monitoring.
- *Monitoring Effort:* All monitoring will be conducted with the use of binoculars and/or spotting scope and document peregrine falcon activity in the vicinity of the existing and new bridge. Monitoring during construction will require an average of 8 to 12 hours of observation per week to determine whether peregrine falcons are exhibiting normal breeding behavior and are nesting on the old bridge, or if they have relocated to an alternate nesting site.

If peregrines attempt to nest on the existing bridge while construction activities are occurring, then a qualified peregrine monitor will observe the pair for a minimum of 16 hours per week to determine the effect of the construction on peregrine behavior. This level of effort will continue as long as incubating peregrines or nestlings under the care of adults occupy the nesting site. If the young fledge, then the observations will continue for a minimum of 30 days after the last young leaves the nest ledge. If the raptor biologist reports that the peregrines are exhibiting behavior that may indicate potential nest abandonment, then visual screens or other methods as approved by CDFG would be implemented at the nesting locations. If nest abandonment occurs, then the Port, in coordination with CDFG, will determine the feasibility of creating temporary nesting ledges at alternate locations in areas with less intense construction activities.

Nesting on the new structures shall be discouraged until construction of the new bridge is completed. The Port, in coordination with CDFG, will develop measures to be implemented by a raptor biologist, where feasible, or under the direction of a raptor biologist, where precluded by construction site safety concerns, to discourage nesting. Such measures may include continued removal of nesting materials or installation of CDFG-approved exclusion devices.

- *No Work Zone:* During construction of the new bridge and prior to exclusion efforts for bridge demolition activities, the existing nest ledges and boxes would be available for nesting. If a nesting attempt is made on the new bridge while under construction, then a "No Work Zone" of approximately 250 ft (76 m) will be enforced until the raptor biologist implements CDFG-approved methods to discourage nesting on the areas under construction.

Prior to exclusion activities on the existing bridge, nesting ledges on the new bridge will be available for use. During demolition, if falcons attempt to nest on the existing bridge, despite efforts to deter nesting, then a "No Work Zone" of approximately 250 ft (76 m) will be enforced until the raptor biologist implements CDFG-approved methods to further exclude nesting on the Gerald Desmond Bridge during demolition activities.

Should a nest be successfully established within the construction area during construction of the new bridge or demolition of the Gerald Desmond Bridge, the Port will instruct construction crews to adhere to a "No Work Zone" around the nest site. The Port will coordinate with the United States Fish and Wildlife Service (USFWS) and CDFG to obtain permission to remove the nest in accordance with the Migratory Bird Treaty Act (MBTA). This "No Work Zone" will extend around the nest for a radius of approximately 250 ft (76 m) and be maintained until removal of the nest is authorized – 30 days after the last young leaves the nest or until nest abandonment, whichever occurs first. Demolition activities can continue at other locations outside of the "No Work Area."

Reporting: Quarterly reports summarizing monitoring observations of nesting peregrines, including breeding behavior, nest data, disturbances, and reproductive success, will be submitted during construction of the new bridge. During demolition, post-construction monitoring reports will be prepared to provide details on placement of artificial nest boxes and exclusion activities and use of the nesting ledges on the new bridge. Reports will be prepared by the raptor biologist and submitted to the Port, Caltrans, and CDFG.

Mitigation Measure BR-4: Placement of Bat Boxes: Bat roosting boxes on the new bridge will be made available a minimum of 2 months prior to demolition activities within 500 ft (152 m) of active roosts at the existing bridge. Bat roosting boxes will be designed and built during construction of the new bridge, which is scheduled to occur before demolition of the existing bridge, to be ready for placement once the under-bridge structures are complete. The location and design of artificial roosts will also consider the temperature measured at roosts on the existing bridge during the preconstruction period. A variety of designs and recommendations are available (Langenstein et al., 1998; Keeley and Tuttle, 1999).

In addition to, or in lieu of, bat roosting boxes, the new bridge may be designed to incorporate potential roosts as part of the structure (Exhibit 2.3.5-5), or such structures may be designed and added to the new bridge post-construction (Exhibit 2.3.5-6). Bats prefer roosting sites with crevices 0.5- to 1.25 inches (in.) (1.27 to 3.175 centimeters [cm]) wide (Keeley and Tuttle, 2000). Bats also use soffits if they are left open; therefore, bridge design could also include soffits that could be left open without damaging the bridge or hindering access for maintenance or other ongoing bridge work. One such type of artificial roost is the Texas bat-abode, which has an external panel on either side or 1- by 2-in. (2.5- by 5.1-cm) wooden spacers sandwiched between 0.5- to 0.75-in. (1.2- to 1.9-cm) plywood partitions (see Exhibit 2.3.5-6 of the Final EIR). The internal partitions will be designed to provide crevices 0.75-in. (1.9 cm) wide and at least 12 in. (31 cm) deep. Smooth roost surfaces need to be textured to provide footholds for bats on one or both sides of each plywood partition, creating irregularities at least every 0.125-in. (0.3-cm). Footholds for bats are constructed of rough-sided paneling, or panels coated with polyurethane or epoxy paint sprinkled with rough grit, or attaching plastic mesh with silicone caulk or rust-resistant staples.

Mitigation Measure BR-5: Precluding Roosting on the Existing Bridge: Prior to demolition, bats must be excluded from the existing bridge. Methods for excluding bats include use of a chemical repellent (i.e., naphthalene), use of floodlights, high-frequency noise, and placement of physical barriers such as nets to prevent bats from using roost sites (Greenhall, 1982). The exclusion method will be approved by the Port, Caltrans, and CDFG. The mechanical exclusion device is considered the safest and the most reliable (see Exhibits 2.3.5-2 through 2.3.5-4 of the Final EIR). These barriers are commonly screens of mesh, hardware cloth, or wire, with mesh openings no greater than 0.25-in. (0.64-cm). The best time for bat proofing is November through March, after juvenile bats have learned to fly (Bat Conservation and Management, Inc., 2005). Exclusion work will be performed by contractors approved by Caltrans as experienced with excluding bats on bridges. This exclusion process may require 1 to 2 weeks, or potentially longer, given the size of the existing bridge.

Bat exclusion via netting is accomplished by first affixing mesh netting over known entry points using l-bolts, which allows bats to exit the bridge but not return. Bats returning to the bridge would first return to their normal point of entry, and then they would seek new roosts once they have determined that it is not possible to return to their old roosting site. This process will be monitored by a CDFG-approved bat biologist each night for at least 7 consecutive nights, or until no bats are observed to exit the structure from known roosting areas at nightfall. During this time, monitoring will be performed to ensure that bats do not discover and use new roosts on the existing bridge and that no bats become entangled in netting. If any new roosts are discovered on the existing bridge, they will be covered with mesh according to the above procedure. Very small crevices or fissures in the bridge may be sealed using caulk or a similar filling agent. Should numerous bats still be observed exiting the bridge at night after installation of exclusion cloth, it may be necessary to add another exclusion method, such as floodlights illuminating access points or crevices used by attract bats (bats will not roost in a well-lit area).

Mitigation Measure BR-6: Bat Monitoring Program: A monitoring program will be implemented throughout the construction phases of the project, as applicable. CDFG concurrence on the proposed monitoring program will be obtained prior to initiation of bat monitoring/ survey activities. All surveys/monitoring will be conducted by an approved CDFG bat biologist. Preconstruction monitoring will focus on bat species identification, locations of bat roosts, and documentation of roost characteristics based on Fenton (2003) and O'Shea *et al.* (2003). If CDFG species of special concern are identified, the Port will coordinate with CDFG and incorporate additional monitoring/protection measures as applicable.

- *Timing of Monitoring:* Bat preconstruction surveys will be initiated a minimum of 1-year prior to the initiation of construction. The surveying and monitoring regime will consist of quarterly monitoring surveys, including a survey in June (i.e., prime bat roosting season). Each survey will include daytime and nighttime surveys (see Monitoring Effort) focused on identifying specific locations of bat roosts and roost access points.

One month prior to the initiation of demolition of the existing bridge, the frequency of preconstruction surveys at the existing bridge and new bridge will increase to once weekly. This will coincide with placement of bat roosts on the new bridge. Quarterly construction monitoring will be completed. If CDFG sensitive bat species are identified during the preconstruction surveys or during quarterly surveys, then monthly monitoring during the bat breeding season will be completed and will focus on construction effects on bats. If it is determined that construction disturbance is affecting CDFG sensitive species, then the Port will coordinate with CDFG to incorporate additional protection measures, as applicable.

Monitoring during the demolition phase will focus on ensuring that all bats have been excluded after installing the bat boxes on the new bridge and prior to initiating demolition activities. Subsequent to installation of exclusion devices, roosting areas will be monitored for 7 consecutive nights, or until no bats are observed to exit the structure from known roosting areas at nightfall. During this time, monitoring will be performed to ensure that no bats become entangled in netting and that the bats do not discover and use new roost areas on the existing bridge. If any new roosts are discovered, exclusion netting will be installed, and the monitoring process will continue until bats have been excluded from the bridge.

Post-construction monitoring will be conducted quarterly for 3 years and will document use of new bat roosts.

- *Biological Monitor:* A qualified bat biologist thoroughly familiar with Anabat™ equipment and approved by CDFG, Caltrans, and the Port will conduct all bat monitoring and supervise the design and placement of new bat roosts and bat exclusion methods and devices.
- *Monitoring Effort:* The quarterly surveys will be performed during appropriate lunar/weather conditions and focus on identifying active bat roosts on the existing bridge. Each quarterly survey will include one survey during the day to search for urine staining and accumulation of bat feces or guano, and one evening/night survey period using a sonic bat (i.e., Anabat™ or Sonobat™). Several visits may be required per survey to determine specific roost locations and roost access points, and information necessary for designing bat exclusion devices on the existing bridge.

During the quarterly preconstruction surveys, once the specific locations of bat roosts are determined, temperatures of existing roosting sites will be recorded so that selection of the location and type of artificial roosts on the new bridge can ensure duplication to the extent feasible of the thermal regime at existing bat roosts.

Monitoring during construction and demolition will focus on whether construction activities are disturbing bats at the existing and new bridge. If disturbances to bats are documented, and monitoring has identified the presence of maternity roosts or CDFG sensitive species, then the Port will coordinate with CDFG to identify measures to minimize effects on the maternity roosts and sensitive species.

- *Reporting:* Quarterly reports summarizing the monitoring efforts and observations at the new and existing bridge will be prepared and submitted to the Port, Caltrans, and CDFG. Following construction, a final report will be prepared and include the name of the bat monitor, survey methods and dates, survey times and weather conditions, the type of artificial bat roosts used at the new bridge, and exclusion devices at the existing bridge. The final report will also include photos and detailed observations, and a conclusions and recommendations section for agency use in future projects.

Rationale for Finding: Implementation of **Mitigation Measures BR-1 through BR-6** would avoid or minimize potential construction impacts on the peregrine falcon and various bat species to the extent practicable using accepted mitigation methods and procedures. The prescribed mitigation methods and procedures have been used in similar situations in the past and were developed in consultation with the applicable resource agencies. The procedures will be monitored for success by qualified supervising biologists. Therefore, impacts to the peregrine falcon and bats would be less than significant, subsequent to applying mitigation.

3.3.1.2 Impact: Relocation of the SCE transmission lines could adversely affect nesting behavior of double crested cormorants, including potential abandonment of existing nests.

Finding: Changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in Mitigation Measure BR-7 below.

Mitigation Measure BR-7: Initial construction activities for the new transmission towers/ lines shall not begin during the nesting season (April through August) if double-crested cormorants have active nests on the transmission towers. Construction activities associated with the transmission tower/lines will be initiated prior to or after the breeding season or after the young have fledged.

Rationale for Finding: Implementation of **Mitigation Measure BR-7** would avoid or minimize potential impacts on the double crested cormorants to the extent practicable using generally accepted mitigation measures. Such measures have been successfully used in the past, were developed in consultation with resource agency representatives and will be monitored by supervising qualified biologists. Therefore, impacts to this bird species would be less than significant, subsequent to applying mitigation.

3.3.1.3 Impact: Construction impacts, including night construction lighting, and operational lighting could adversely affect migratory birds.

Finding: Changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure BR-8** below.

Mitigation Measure BR-8: Construction and operational bridge lighting during and following construction will be designed to minimize the potential for bird collisions with the bridge structure. Lighting types known to minimize adverse effects (i.e., low-pressure sodium lights, high-pressure sodium lights, or light-emitting diode [LED] lights) will be used, and lighting types known to be disruptive to migrating wildlife, such as mercury vapor lamps (Jones, 2000), will be avoided. Additionally, lighting will be shielded to ensure that light is focused where it is needed, focusing lighting inward and minimizing the amount of lighting used to the maximum extent possible.

Rationale for Finding: Implementation of **Mitigation Measure BR-8** would avoid or minimize potential construction impacts and lighting impacts on migratory bird species, to the extent practicable. Therefore, impacts to migratory bird species would be less than significant, subsequent to applying mitigation.

3.3.1.4 Impact: Construction and operation of the project has the potential to spread/introduce invasive species.

Finding: Changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure BR-9** below.

Mitigation Measure BR-9: Project landscaping will be limited to slopes near the bridge ramps and will follow the provisions set forth in Executive Order (EO) 13112, which mandates preventing the introduction of and controlling the spread of invasive plant species on highway rights-of-way (ROWs). No invasive species listed in the National Invasive Species Management Plan or the State of California Noxious Weeds List shall be used in the landscaping plans for the proposed project.

Rationale for Finding: Implementation of **Mitigation Measure BR-9** would avoid or minimize potential for the introduction or spread of invasive plant species associated with the construction and operation of the proposed Project by applying generally accepted measures to minimize the likelihood of occurrence

of invasive plant species. Therefore, impacts related to the introduction of invasive species would be less than significant, subsequent to applying mitigation.

3.3.2 Hazards and Hazardous Materials

As discussed in Final EIR Section 3.2.6.2 and 3.2.6.12, there would be significant impacts related to Hazards and Hazardous Materials that would be mitigated to less than significant levels as a result of mitigation measures that have been incorporated into the proposed Project. The impacts and mitigation measures are discussed below.

3.3.2.1 Impact: Previously unidentified contaminated soil and groundwater may exist within construction impact areas that could affect human health or be released into the environment.

Finding: Changes or alterations have been incorporated into the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure HM-1** below.

Mitigation Measure HM-1: A Phase II Site Investigation shall be performed in construction areas where excavation will exceed 5 feet (ft) (1.5 meters [m]) below ground surface (bgs), where groundwater may be encountered and in areas where underground storage tanks (USTs) were removed without closure. The results of the Phase II investigation would be incorporated into the Safety Plan to protect construction workers against known contamination in construction areas. A Hazardous Waste Management Plan based on the results of the Phase II investigation will also be incorporated into the Final Design to ensure proper disposal of contaminated materials and contaminated groundwater found in the construction areas.

Rationale for Finding: Implementation of **Mitigation Measure HM-1** would provide for adequate discovery and handling of hazardous materials encountered during construction, consistent with industry standards and practices. Therefore, impacts related to contaminated soil or groundwater would be less than significant, subsequent to applying mitigation.

3.3.2.2 Impact: Cross contamination of water-bearing intervals may occur during excavation and bridge pile installation.

Finding: Changes or alterations have been incorporated into the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measures HM-2 and HM-3** below.

Mitigation Measure HM-2: A risk assessment shall be performed prior to construction to determine how construction activities will impact the water-bearing levels and, as applicable, to determine health risks to construction workers.

Mitigation Measure HM-3: To minimize cross-contamination of the water-bearing zones, the construction contractor shall employ construction techniques to minimize the need for dewatering.

Rationale for Finding: Implementation of **Mitigation Measures HM-2 and HM-3** would identify areas with potential problems prior to initiating excavation activities and apply accepted construction techniques to minimize the potential for adverse effects. Therefore, impacts related to water-bearing intervals will be less than significant, subsequent to applying mitigation.

3.3.2.3 Impact: Asbestos containing materials (ACMs) and lead based paint (LBP) may be released into the environment during bridge demolition activities and aerial deposited lead may be encountered in soils subject to excavation.

Finding: Changes or alterations have been incorporated into the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measures HM-4 and HM-5** below.

Mitigation Measure HM-4: The Port shall conduct a survey to screen for ACM and LBP in all affected buildings and the bridge prior to any demolition activities. Identification of locations of buildings or structures containing ACMs and LBP will be clearly identified on the construction plans and incorporated into the project safety plan and hazardous waste management plan. Any disturbance/ demolition to structures

containing ACM or LBP will be completed in accordance with the contract specifications and all federal, state, and local laws and regulations.

Mitigation Measure HM-5: Prior to construction, the Port shall test areas within the proposed project corridor where soil may be disturbed for aerially deposited lead (ADL). If ADL levels meet or exceed the action level set forth by the hazardous waste management plan for the proposed project, then ADL-contaminated soils shall be removed in accordance with federal, state, and local regulations

Rationale for Finding: Implementation of **Mitigation Measures HM-4 and HM-5** would identify ACMs, LBP and ADL in advance of their disturbance and industry standards and practices for removal, handling and disposal would be applied. Therefore, impacts related to ACMs, LBP and ADL will be less than significant, subsequent to applying mitigation.

3.3.2.4 Impact: Construction workers and the general public could be exposed to hazardous materials during construction activities.

Finding: Changes or alterations have been incorporated into the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure HM-6** below.

Mitigation Measure HM-6: A Safety Plan will be required to address any exposure to hazardous materials. The Safety Plan will include proper personal protective equipment (PPE) work requirements, soil and air space monitoring requirements, documentation and reporting requirements, and action levels.

Rationale for Finding: Implementation of **Mitigation Measure HM-6** would prescribe appropriate safety procedures and personal protective measures consistent with current federal and state industrial safety requirements. Therefore, impacts related to hazardous materials during construction would be less than significant, subsequent to applying mitigation.

3.3.2.5 Impact: Lead based paint (LBP) coatings may be present on the existing bridge that is subject to demolition, with an attendant risk of release of such materials into the environment, potentially causing harm to construction workers and the general public.

Finding: Changes or alterations have been incorporated into the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure HM-7** below.

Mitigation Measure HM-7: The contractor shall prepare a Lead Compliance Plan in accordance with California Code of Regulations (CCR) Title 8 Section 1532.1. The Lead Compliance Plan shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.

Rationale for Finding: Implementation of **Mitigation Measure HM-7** would prescribe appropriate safety procedures and personal protective measures consistent with current federal and state industrial safety requirements. Therefore, impacts related to LPB would be less than significant, subsequent to applying mitigation.

3.3.2.6 Impact: The Project may require removal of thermoplastic traffic lane striping with attendant risk of release into the environment.

Finding: Changes or alterations have been incorporated into the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure HM-8** below.

Mitigation Measure HM-8: If it is determined that the project would require the removal or disturbance of any existing yellow thermoplastic traffic lane striping in the project area, then Caltrans standard measures shall be implemented to ensure the proper removal, storage, and disposal of the material, as applicable.

Rationale for Finding: Implementation of **Mitigation Measure HM-8** would prescribe appropriate safety procedures and personal protective measures consistent with current federal and state industrial safety requirements, including Caltrans procedures. Therefore, impacts related to thermoplastic striping will be less than significant, subsequent to applying mitigation.

3.3.3 Public Services and Safety

As discussed in Final EIR Section 3.2.6.12, there would be significant impacts related to Public Services and Safety that would be mitigated to less than significant levels as a result of mitigation measures that have been incorporated into the proposed Project. The impacts and mitigation measures are discussed below.

3.3.3.1 Impact: The proposed Project may be vulnerable to terrorist attack.

Finding: Changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure HS-1** below.

Mitigation Measure HS-1: An Accident and Terrorist Vulnerability Assessment of the Project shall be completed and all recommendations incorporated into the Project during final design. The assessment will analyze and consider applicable protection measures for the construction and operational phases of the proposed Project.

Rationale for Finding: Implementation of **Mitigation Measures HS-1** would implement the requirements and recommendations of the Accident & Terrorist Vulnerability Assessment, which would provide the most current protective and preventive measures related to terrorist attack and damage related to bridge structures. Therefore, impacts related to terrorist attacks would be less than significant, subsequent to applying mitigation.

3.3.3.2 Impact: Work associated with construction of the proposed Project could affect emergency response times; maritime transportation hazards during construction could affect ships navigating through the Back Channel.

Finding: Changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure HS-2** below.

Mitigation Measure HS-2: A bridge construction and demolition schedule shall be submitted to the Long Beach Police and Fire Departments, United States Coast Guard (USCG), and Caltrans at least 2 weeks prior to initiation of work to provide adequate time for the agencies to plan for alternate routes in case of emergencies.

Rationale for Finding: Implementation of **Mitigation Measure HS-2** in combination with the Environmental Control Measure requiring preparation of a traffic management plan, as discussed in Final EIR Section 2.1.5.4, would provide sufficient advance notice to emergency response providers and the U.S. Coast Guard to facilitate revised emergency response plans during construction and navigational changes to permit adequate separation between passing ships and construction activities. The existing bridge, which is an important link in the emergency response and potential evacuation system, would be kept in service until it is possible to move traffic onto the new facility. Therefore, impacts would be less than significant, subsequent to application of mitigation.

3.3.3.3 Impact: Project construction activities may adversely affect business operations.

Finding: Changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure HS-3** below.

Mitigation Measure HS-3: Prior to initiation of construction activities, all businesses, tenants, and utility companies (i.e., Southern California Edison [SCE], gas, water, oil, and telecommunications) within the area of the proposed construction/demolition shall be notified of the schedules and associated roadway and ramp closures related to the proposed project.

Rationale for Finding: Implementation of **Mitigation Measure HS-3** would provide sufficient advance notice and information concerning construction activities such that local area businesses can adjust deliveries and other business activities. Although it is not possible to completely eliminate construction period disturbances, such disturbances can be kept to a minimum and, therefore, impacts would be reduced to a less than significant level.

3.3.3.4 Impact: Temporary delays within the Back Channel may occur during construction.

Finding: Changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measures HS-4** and **HS-5** below.

Mitigation Measure HS-4: All marine transportation and recreational boating companies shall be notified two weeks prior to initiation of planned construction/demolition or rehabilitation activities potentially affecting normal operations within the Back Channel.

Mitigation Measure HS-5: The USCG and all POLB tenants shall be regularly notified of scheduled work over the Back Channel during the construction and demolition phases of the project.

Rationale for Finding: Implementation of **Mitigation Measures HS-4** and **HS-5** would provide sufficient notice to shipping operators to permit alterations to schedules to be put into place. It may not be possible to avoid all delays, but impacts should be reduced as much as practicable and, therefore, to a level that is less than significant.

3.3.3.5 Impact: Construction workers may be exposed to hazardous situations and materials during construction activities.

Finding: Changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure HS-6** below.

Mitigation Measure HS-6: An emergency response and health and safety plan shall be prepared in accordance with all applicable federal, state, and OSHA standards. The plan will address potential emergency situations and assure the safety and health of workers by setting and enforcing standards to reduce occupational injuries and accidents. POLB will review and approve the plans prior to initiation of construction activities.

Rationale for Finding: Implementation of **Mitigation Measure HS-6** would fully mitigate significant impacts of construction related safety hazards on businesses, tenants, transportation companies, construction workers and the public. The required health and safety plan would apply the directives of federal and state regulatory bodies, including OSHA. Therefore, impacts would be less than significant.

3.3.4 Transportation/Traffic

As discussed in Final EIR Section 3.2.14.2, there would be significant impacts to traffic and circulation that would be mitigated to a less than significant level as a result of mitigation measures that have been incorporated into the proposed Project. The impacts and mitigation measures are discussed below.

3.3.4.1 Impact: Construction related detour traffic would result in short-term, temporary increases in auto and truck traffic at certain study intersections.

Construction-related detour traffic during construction would have significant impacts at the following study intersections:

- Pico Avenue and Pier B Street/9th Street
- Pico Avenue and Pier D Street
- Pico Avenue and Pier E Street

Finding: Changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measures TC-1 through TC-4** below.

Mitigation Measure TC-1: Prior to the start of construction Stage 2, the following improvements will be made to the intersection of Pico Avenue, Pier B Street, and 9th Street to mitigate the project's temporary adverse effect during construction at that intersection during Stage 2:

- Add dual northbound (NB) right-turn lanes;

- Restripe eastbound (EB) through/right lane to a right-turn lane;
- Provide one (1) EB through lane; and
- Continue two (2) State Route (SR) 710 southbound (SB) off-ramp lanes to Pico Avenue.

Mitigation Measure TC-2: Prior to the start of construction Stages 3 and 4, the following improvements will be made to the intersection of Pico Avenue, Pier B Street, and 9th Street to mitigate the project's temporary adverse effect during construction at that intersection during Stages 3 and 4:

- Remove NB/SB split signal phasing;
- Restripe NB through lane to a NB left-turn lane;
- Widen SB approach and provide two left-turn lanes and one through lane; and
- Continue two on-ramp lanes to NB SR 710.

Mitigation Measure TC-3: Prior to the start of construction Stage 2, a traffic signal will be installed at the intersection of Pico Avenue and Pier D Street to mitigate the project's temporary adverse effect during construction at that intersection during Stage 2, 3, and 4. The traffic signal will be permanent and will not be removed after completion of construction of a Bridge Replacement Alternative.

Mitigation Measure TC-4: Prior to the start of construction Stages 3 and 4, the following improvements will be made to the intersection of Pico Avenue and Pier E Street to mitigate the project's temporary adverse effect during construction at that intersection during Stages 3 and 4:

- Permanently signalize the intersection (the signal will not be removed after completion of construction of a Bridge Replacement Alternative);
- Restripe NB through lane to a NB right-turn lane, providing a single NB through lane;
- Add dual free-flow westbound (WB) right-turn lanes; and
- Continue two (2) EB Ocean Boulevard off-ramp lanes to Pico Avenue.

Rationale for Finding: Implementation of **Mitigation Measures TC-1** through **TC-4** would adequately mitigate significant impacts at the indicated intersections during construction, because they would provide location-specific improvements to traffic operations controls such that the resultant impacts would be below applicable impact significance thresholds. Therefore, impacts would be less than significant. [Note: The Middle Harbor Redevelopment Project approved by the Port and the United States Army Corps of Engineers (USACE) includes signalization of the Pico Avenue/ Pier D Street and Pico Avenue/ Pier E Street intersections. If these signals are implemented as part of that project prior to the start of construction Stage 2 for the Pico Avenue/Pier D Street intersection and construction Stage 3 for the Pico Avenue/Pier E Street intersection, then that would remove the need for the signalization component of mitigation measures TC-3 and TC-4, respectively.]

3.3.4.2 Impact: Proposed Project-related redistributed traffic associated with reduced congestion within the project area would result in traffic increases at the intersection of Ocean Boulevard and Magnolia Avenue.

Finding: The impact can be fully mitigated by implementing striping and signal timing improvements as described in Section 2.1.5 and 3.2.14.2 of the Final EIR. Changes or alterations have been incorporated into the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR. These changes are set forth in **Mitigation Measure TC-6** below.

Mitigation Measure TC-6: The Port will coordinate with the Long Beach City Traffic Engineer and provide funding for restriping and/or signalization improvements at the intersection of Ocean Boulevard and Magnolia Avenue as mitigation for the effect of a Bridge Replacement Alternative at the intersection.

Rationale for Finding: Implementation of **Mitigation Measure TC-6** would fully mitigate significant project-related traffic impacts at Ocean Boulevard/Magnolia Avenue, because they would provide location-specific measures to reduce impacts to below applicable impact significance thresholds. Therefore, impacts would be less than significant.

3.4 Findings Regarding Significant Environmental Impacts that Cannot be Mitigated to a Less Than Significant Level

The EIR identified certain potentially significant effects that could result from the proposed Project. The Port finds for each of the significant impacts identified in this section, based upon substantial evidence in the record, that changes or alterations have been required or incorporated into the proposed Project that substantially lessen the significant effects as identified in the Final EIR. However, even with adoption of the mitigation measures set forth below, the proposed Project's impacts will not be reduced below a level of significance.

The following is a summary of the potentially significant impacts of the proposed Project which cannot be mitigated to a level of insignificance. Additional detail regarding the potential impacts is set forth in the Final EIR and elsewhere in the record relating to the proposed Project.

3.4.1 Air Quality

As discussed in Final EIR Section 3.2.2.3, there would be significant impacts to air quality as a result of the proposed Project during construction and operation that would remain significant and unavoidable.

3.4.1.1 Impact: Construction emissions associated with the proposed Project would result in temporary short-term exceedance of the SCAQMD regional daily significance threshold for NO_x.

During construction years 1, 2 and 3, proposed Project construction would produce levels of NO_x emissions that exceed SCAQMD regional daily significance threshold. These levels would represent a significant air quality impact.

Finding: The Board of Harbor Commissioners hereby finds that changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect identified in the Final EIR. These changes are set forth in **Mitigation Measures AQ-C1 through AQ-C9** below.

Mitigation Measure AQ-C1: Construction processes shall adhere to all applicable South Coast Air Quality Management District (SCAQMD) rules and regulations concerning the operation of construction equipment and dust control.

Mitigation Measure AQ-C2: Construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.

Mitigation Measure AQ-C3: During construction, trucks and vehicles in loading and unloading queues must be kept with their engines off when not in use to reduce vehicle emissions. Construction emissions shall be phased and scheduled to avoid emissions peaks, where feasible, and discontinued during second-stage smog alerts.

Mitigation Measure AQ-C4: To the extent feasible, use electricity from power poles rather than temporary diesel or gasoline power generators.

Mitigation Measure AQ-C5: As part of the Port's commitment to promote the Green Port Policy and implement the Clean Air Action Plan (CAAP), the proposed project construction would employ all applicable control measures included in the CAAP and relevant clean air technologies. Project heavy-duty construction equipment would use clean fuels, such as ultra-low sulfur fuel, or compressed natural gas and oxidation catalysts.

Mitigation Measure AQ-C6: Construction activities that affect traffic flow on the arterial roadways shall be scheduled to off-peak hours to the extent possible. Additionally, construction trucks shall be directed away from congested streets or sensitive receptor areas.

Mitigation Measure AQ-C7: During the construction period, temporary traffic controls, such as flaggers and improved signal flow for synchronization to maintain smooth traffic flow, shall be provided.

Mitigation Measure AQ-C8: Trucks used for construction prior to 2015 shall use engines with the lowest certified NO_x emission levels, but not greater than the 2007 NO_x emission standards.

Mitigation Measure AQ-C9: Where feasible, construction equipment shall meet the EPA Tier 4 non-road engine standards. The equipment with Tier 4 engine standards becomes available starting in year 2011.

Mitigation Measures AQ-C1 through AQ-C9 would further reduce NO_x emissions and their resulting ambient impacts from the proposed Project construction. In addition to the above, it may be possible to require the use of other best management practices, such as using high pressure fuel injectors on diesel-powered equipment. All reasonable controls, measures and practices will be considered at the time construction specifications are drawn up, including new measures that may become available prior to initiating construction. Incorporation of these mitigation measures, however, would not reduce impacts to air quality below levels of significance. Specific legal, economical and technological considerations make additional mitigation measures infeasible, as explained below.

Rationale for Finding: The analysis assumes as part of the Project description that all construction off-road equipment would meet at least EPA Tier 3 standards, as well as all required measures imposed by the SCAQMD and recommended by the Port. No feasible mitigation measures are available to further reduce NO_x emissions from proposed sources. Construction equipment that meets EPA Tier 4 standards will become available starting in year 2011, with general availability occurring sometime after that date. Mitigation Measure AQ-C9 requires construction equipment to meet EPA Tier 4 non-road engine standards, when and where feasible. Due to the slow penetration of Tier 4 engines into the construction fleet, it would be impractical and economically infeasible to require these engines on all proposed construction equipment until several years after the rule effective date. The USEPA assumes that 100% compliance by the national equipment fleet with these standards will not occur until 2030, based on estimated fleet turnover rates. A five percent annual turnover rate means that it will take a number of years before there will be a meaningful penetration of the new equipment into southern California, thereby making it unlikely to be satisfied as part of the Project's bid specifications. In spite of this expected penetration rate, Final EIR Mitigation Measure AQ-C9 requires Tier 4 standard engines in construction equipment whenever feasible. Bid packages received will be required to include an assessment of whether this requirement can be satisfied. An assessment of feasibility will need to be made at the time the construction project is bid.

3.4.1.2 Impact: Construction emissions associated with the proposed Project would result in temporary short-term exceedance of the SCAQMD local daily significance threshold for NO_x.

During construction years 2 and 3, proposed Project construction would produce levels of NO_x emissions that exceed the SCAQMD local daily significance threshold. These levels would represent a significant air quality impact.

Finding: The Board of Harbor Commissioners hereby finds that changes or alterations have been incorporated into the proposed Project that avoid or substantially lessen the significant environmental effect identified in the Final EIR. Mitigation Measures AQ-C1 through AQ-C9 would reduce NO_x emissions and their resulting ambient impacts from construction activities. These mitigation measures were described above. Incorporation of these mitigation measures, however, would not reduce impacts to air quality below levels of significance.

Rationale for Finding: As previously discussed, due to the expected slow penetration rate of Tier 4 engines into the national construction fleet, it would not be practical or economically feasible to make it a requirement that these engines be used on all proposed construction equipment. However, to the extent that such equipment does become available during the construction period, Mitigation Measure AQ-C9 requires construction equipment to meet USEPA Tier 4 non-road engine standards where feasible. Bid packages received will be required to include an assessment of whether this requirement can be satisfied. An assessment of feasibility will need to be made at the time the construction project is bid.

3.4.1.3 Impact: Proposed Project operational NO_x emissions would exceed the SCAQMD daily operational emission threshold in the opening year 2015.

Finding: The Board of Harbor Commissioners hereby finds that there are no feasible changes or alterations that can be incorporated into the project that would either avoid or substantially lessen the significant environmental effect identified in the Final EIR. In the Opening Year (2015), the net change in the proposed Project's operational NO_x emissions is 154 pounds per day, which would exceed the SCAQMD threshold of 55 pounds per day. However, in the Horizon Year (2030), the net change in daily emissions would be below the SCAQMD thresholds for all criteria pollutants.

It should be noted that the proposed Project's operational emissions analysis represents a worst-case scenario and overestimates the actual project operational emissions. Emission results are based on EMFAC2007 which was released in November 2006. Only control and mitigation measures that were approved at the time of its release were incorporated into the available version of the model. However, subsequently, substantial improvements related to implementation of the Ports Clean Air Action Plan, and specifically the Port Clean Trucks Program, have occurred. As such, the proposed Project's air quality analysis does not include the Clean Trucks Program commitments in the model's project truck fleet profiles and, therefore, does not capture these important improvements in the project build-out years for 2015 and 2030.

Furthermore, by January 1, 2014, the California drayage truck regulation will require that 100 percent of Port trucks meet 2007 model year standards resulting in further reductions of diesel PM and NO_x by 86 percent and 56 percent, respectively.

Rationale for Finding: Vehicle emissions are regulated at the federal and state levels. With the exception of improvements in fuel or engine technology, there are no feasible mitigation measures to reduce operational emissions on the roadway within the project area. However, the Port is currently implementing a number of programs intended to reduce Port-related emissions in accordance with the federal Clean Air Action Plan. With regard to truck emissions, the Port has adopted a port-wide approach to dealing with drayage trucks via its Clean Trucks Program (CTP). This includes: (1) spreading fleet modernization costs over an accelerated five-year schedule that covers all terminals on port-owned property in the Ports of Long Beach and Los Angeles; (2) Clean Truck Fee exemptions that encourage the purchase of alternatively-fueled trucks; and (3) establishing a goal which seeks to ensure that 50% of the CTP-funded trucks be comprised of liquefied natural gas (LNG). Because forecasted port-related truck traffic is anticipated to comprise 43.6% of bridge usage in 2030, these programs would result in substantial reductions in air pollutants from project corridor operation.

3.4.1.4 Impact: Exceedance of SCAQMD NO_x construction and operational thresholds would result in cumulative air quality impacts.

Finding: The Board of Harbor Commissioners hereby finds that there are no feasible changes or alterations that can be incorporated into the project that would either avoid or substantially lessen the significant environmental effect identified in the Final EIR. In recognition of this unavoidable significant impact, the Port will require the project to contribute funding to the Port's Program, as described in the following mitigation measure.

Mitigation Measure CEQA (AQ)-1: Cumulative Air Quality Impact Reduction Program. To help reduce air quality impacts associated with the Project, the Port will require the Project to make a \$1.0 million dollar contribution to both the Schools and Related Sites and the Healthcare and Seniors Facility Grant Programs. Although all feasible mitigation measures that would lessen significant environmental effects have been incorporated into the Project, contributions to these grant programs are intended to fund projects or activities that could provide additional emission or exposure reductions in the communities surrounding the Port beyond what can be achieved through incorporation of all feasible mitigation measures. The types of projects that will be funded through these programs are described in detail in the guidelines for the Schools and Related Sites Program and the guidelines for the Healthcare and Seniors Facility Program, which are available by request from the Director of Environmental Planning or on the Port's website at <http://www.polb.com/grants>. While the guidelines identify the projects that can be funded from contributions to the programs, the Project takes no specific credit for any emission reductions that may result from any funded projects because it is not possible to quantify any emission reductions until such time as grants are awarded. Instead, the EIR/EA analyzed all environmental impacts, identified all feasible mitigation measures and reached conclusions regarding unavoidable significant effects of the Project without taking into account any specific benefits that may result from contributions to the programs.

Rationale for Finding:

Project Air Quality Impacts. As discussed in the Final EIR/EA, the Project would contribute to local and regional air quality impacts in the following ways: First, it would produce emissions of criteria pollutants during the Project's five-year project construction period which includes demolition of the existing bridge. Such emissions have been estimated to exceed the SCAQMD threshold of significance for only one pollutant, NO_x. That exceedance has been estimated to occur on a peak daily basis during years 2 and 3 of the construction period.

Second, operation of the new bridge would result in daily operational emissions that would be expected to be below the SCAQMD significance threshold for all but one criteria pollutant, NO_x. Based on the analysis presented in section 2.2.5 of the Final EIR/EA, operation of the Project would yield an estimated daily exceedance of the SCAQMD significance threshold for NO_x in the opening year (2015), but would not show an exceedance of that threshold by the year 2030. Assuming that a straight line decline in emissions would occur over the intervening time, the SCAQMD significance threshold would be reached approximately 13 years after opening of the new bridge, or by 2028. When compared with CEQA Baseline (year 2005) conditions, both year 2015 and 2030 show substantial declines in NO_x emissions, under both the No Project and Project scenarios. It is only when compared to the NEPA Baseline (i.e., against No Project) conditions, that the Project shows an estimated small increase in NO_x emissions. Because the bridge carries a combination of Port-related and regional traffic, it is a conservative assumption to associate all of the increased NO_x emissions with the proposed Project.

Third, the Project would make a very small contribution to MSAT production. Again, when compared against the CEQA Baseline, both the 2015 and 2030 No Project and Project conditions show substantial estimated reductions. However, when compared with the NEPA Baseline/No Project conditions, the Project would result in additional daily contributions of total MSATs on the order of 1.4 pounds per day and 0.9 pounds per day in 2015 and 2030, respectively. PM_{2.5} production, compared to the NEPA Baseline/the No Project Alternative, is estimated to be 11 lbs/day in 2015 and 6 lbs/day in 2030.

Fourth, while all CEQA estimates for cancer risk, chronic hazard indices and acute hazard indices for residential, occupational and sensitive receptor exposure show decreases when compared to the CEQA Baseline, there are small estimated increases, none of which rise above established thresholds of significance, when the Project is compared to the NEPA Baseline/No Project conditions.

Grant Funding Level Methodology and Formulas: This section describes the methodology and related formulas that will be used to establish the Project's contribution to the two grant programs. There are three steps in calculating the grant funding level, each of which is explained in more detail below:

1. Using the Middle Harbor Redevelopment Project funding levels as a baseline, calculate a base funding level that reflects ports-wide air quality and health risk impacts at the start of project construction.
2. Using Project-specific PM_{2.5} incremental emission impacts, adjust the amount from step 1 to account for Project-specific contributions to cumulative air quality impacts.
3. As appropriate and justified based on other factors that have not been captured in steps 1 and 2, adjust grant funding levels.

Step 1: The baseline funding is the \$10 million contributed by the Middle Harbor Redevelopment Project for both the Schools Grant Program and the Healthcare and Seniors Grant Program. This baseline is appropriate because as additional CAAP measures are implemented over time that result in emission reductions, it is anticipated that a project that begins construction in a future year will result in lower cumulative air emission impacts than the Middle Harbor project, which began construction in 2009. While cumulative air quality impact are traditionally evaluated qualitatively as a part of most CEQA/NEPA project evaluations, the CAAP allows the ports to comprehensively look at current and future expected port-related projects and their expected air quality impacts. By forecasting emissions and taking into account

pre-recession Ports growth estimates, future terminal development, implementation of CAAP emission reduction strategies, and adopted regulations, the CAAP allows the ports' to quantitatively assess risk from future port-related operations and establish long-term goals that reduce long-term cancer risk and "achieve an appropriate 'fair share' of necessary pollutant emission reductions" to achieve regional attainment of federal ambient air quality standards (CAAP Technical Report, Pg. 11). While other non-port-related sources contribute to air pollution and the cumulative burden, port-related sources contribute a significant portion of local air quality impacts and, therefore, changes in port-related emissions directly affect the cumulative burden experienced by communities surrounding the ports.

This baseline funding amount is therefore adjusted to account for the forecasted reductions in DPM emissions at the anticipated construction start date for the Project. Since DPM has been identified as a toxic air contaminant by the State of California and is the primary driver of port-related cancer risk, the ports use changes in port-related DPM inventories to assess changes in risk as described in the draft 2010 CAAP update. The ports have DPM emission inventories for 2005 through 2009 and have forecasted DPM emissions for 2020. Based on the recent updates to the CAAP, the following cumulative emission reductions have been achieved as of 2009 compared to the 2005 baseline: 52% reduction in DPM, 35% reduction in NO_x, and 46% reduction in SO_x (CAAP, 2006; Draft 2010 CAAP Update; 2009 Emissions Inventory).

Table 3.4.1 summarizes the percent reduction in DPM emissions achieved as of 2009 compared to the 2005 baseline year. In addition, the forecasted reductions in DPM emissions from the 2005 baseline were estimated in the 2010 CAAP Update for 2009 through 2014 and for 2023, as summarized in Table 3.4.1-1.

Table 3.4.1-1: Anticipated CAAP Diesel Particulate Matter Emission Reductions.

Emission Reductions Compared to 2005 Baseline	Actual		CAAP Forecast					
	2008	2009	2010	2011	2012	2013	2014	2023
DPM	22%	52%	60%	60%	68%	68%	72%	75%

This step of the grant contribution calculation is designed to address the amount of port-related DPM emission reductions not yet achieved as of the Project construction start date (i.e. 1- % CAAP DPM Reduction Achieved/100). When the DPM reduction factor is applied to the base funding amount, the calculation for step 1 is \$10 million x (1-% CAAP DPM Reduction for Project Construction Year/100).

Using the construction start date for the Gerald Desmond Bridge Replacement Project, the following forecasted CAAP DPM emissions compared to the 2005 baseline are applicable.

Project	Construction Start Date	CAAP DPM Reduction (%) compared to 2005 at Construction Start Date
Gerald Desmond Bridge	2011 (see Table 3.4.1-1)	60%

Using these figures in the step 1, the calculation is

$$\$10 \text{ million} \times (1 - 60/100) = \$4 \text{ million}$$

Step 2: In order to account for the varying contributions by different types of projects to cumulative impacts, the step 1 funding amount determined above is adjusted for project-specific impacts. The project-specific adjustment is based on the project-specific impacts compared to the CEQA Baseline and the No Build/No Project alternative. The purpose of this step is to require greater funding from projects with sig-

nificant project emissions and to require less funding from projects that do not exceed SCAQMD significance thresholds. Consistent with step 1 and the discussions above, PM_{2.5} emissions (which are typically DPM for port-related projects) are used as a surrogate. The project-specific adjustment is then determined by comparing the operational DPM emissions increase relative to the CEQA Baseline and the No-Build/No Project alternative to the values included in Table 3.4.1-2. These factors account for projects in which the incremental PM_{2.5} emissions (compared to the CEQA Baseline and/or the future No-Project Alternative) are below or significantly above the SCAQMD's CEQA significance threshold (55 lb/day). Under this scenario, the project-specific funding amount would be decreased by 50% for projects with PM_{2.5} emissions relative to the NEPA No Project baseline that are less than the SCAQMD significance threshold.

Table 3.4.1-2: Project-Specific Adjustment Factors Relative to DPM Emission Increases

Project-Specific PM_{2.5} emissions increase (lb/day)²	Project-Specific Adjustment (A_{PS})
< 55	50%
55 - 100	100%
101 – 150	150%
> 150	200%

This adjustment is then applied to the step 1 amount. Overall, the combined Schools Grant Program and the Healthcare and Seniors Grant Program funding contribution methodology entails the following calculation:

$$\text{Total (Schools and Healthcare/Seniors Programs) (\$)} = \text{Step 1 amount} \times \text{Step 2 percentage.}$$

As discussed above, the project-specific PM_{2.5} emissions increase relative to the No Project Alternative (NEPA baseline) for the Gerald Desmond Bridge project is 11 lb/day (2015) and 6 lbs/day (2030); there is a net decrease compared to the CEQA Baseline. Comparing this number to Table 3.4.1-2 provides a project-specific adjustment factor of 50%. This adjustment is then applied to the Step 1 amount to give a final combined funding contribution amount for the Schools Grant Program and the Healthcare and Seniors Grant Program.

Gerald Desmond Bridge potential combined funding contribution

$$= \$4 \text{ million} \times 50\%$$

$$= \$2 \text{ million total (\$1 million each to the Schools and Healthcare/Seniors Programs)}$$

Step 3: The Board may also want to consider other unique factors, which may cause the calculation above to not reflect project circumstances, in determining the final amount of the contribution to the grants programs. However, no adjustments to the calculated amounts appear to be needed for purposes of this Project, so the \$2 million set forth at the end of step 2 remains the appropriate recommendation.

² As compared to the No-build or No Project Alternative

Distribution of Funding Contributions

The distribution of the funds being contributed to the Schools and Related Sites and Healthcare and Seniors Facility Programs, to potential applicants and projects, will be determined in accordance with guidelines for the two programs. The current Guidelines for the programs are available by request from the Director of Environmental Planning or on the Port's website at <http://www.polb.com/grants>. The process includes evaluation by an advisory committee established to make recommendations to Port staff and then approved by the Board of Harbor Commissioners. The timing of the payments pursuant to this mitigation measure shall be made by the latter of the following two dates: (1) the date that the Port issues a Notice to Proceed or otherwise authorizes commencement of construction on the project; or (2) the date that the Gerald Desmond Bridge Replacement Project Final EIR/EA is conclusively determined to be valid, either by operation of PRC Section 21167.2 or by final judgment or final adjudication.

Contributions to this grant program is intended to fund projects or activities that could provide additional emission or exposure reductions in the communities surrounding the Port beyond what can be achieved through incorporation of all feasible mitigation measures. The types of projects that will be funded through these programs are described in detail in the guidelines for the GHG Emission Reduction Grant Program, which are available by request from the Director of Environmental Planning or on the Port's website at <http://www.polb.com/grants>. While the guidelines identify the projects that can be funded from contributions to the programs, the Project takes no specific credit for any emission reductions that may result from any funded projects because it is not possible to quantify any emission reductions until such time as grants are awarded. Instead, the EIR/EA analyzes all environmental impacts, identifies all feasible mitigation measures and reaches conclusions regarding unavoidable significant effects of the Project without taking into account any specific benefits that may result from contributions to the programs.

3.4.2 Climate Change

Impact: Cumulative GHG Production - Project related increases in GHG emissions would contribute to regional cumulative increases and are therefore considered by the Port to be an unavoidable significant impact. Finding: As described in the Final EIR (Section 3.3), the estimated GHG emissions increase from 2005 emissions is estimated to be 14,291 MTCO₂e/yr and 23,121 MTCO₂e/yr during 2015 and 2030, respectively. This increase would contribute to a cumulative regional increase in GHG. The Port is addressing these emissions through its GHG programs and the Climate Change/Greenhouse Gas (CC/GHG) Plan at regional, Port, and terminal levels; however, as discussed in Final EIR Section 3.3, there are no project-specific feasible mitigation measures to address GHG for transportation projects. GHG transportation emission reductions will come from three overarching strategies: more efficient vehicles, lower-carbon fuels, and reduction of vehicle use or vehicle miles traveled. The GHG emission reductions in the transportation sector will be achieved through regulations, market mechanisms, incentives, and land use policy; however, these reductions cannot be quantified at this time. Therefore when the proposed Project's GHG contribution is considered in combination with related projects discussed in Section 2.4 of the Final EIR, the proposed Project would generate emissions that could contribute cumulatively to climate change.

All feasible mitigation measures to reduce GHG construction emissions were previously discussed in **Mitigation Measures AQ-C2 through AQ-C9**. The following mitigation measure is provided to further reduce the effects of this impact on the community. Specific legal, economic, and technical considerations, as identified in Final EIR Section 3.4 make additional mitigation measures infeasible.

CEQA (GHG)-1: Greenhouse Gas Emission Reduction Grant Program (GHG Program). To address the cumulative GHG impacts of the Gerald Desmond Bridge Replacement Project, the Port will require the project to provide funding for the GHG Program. The Gerald Desmond Bridge Replacement Project is estimated to result in 47,169 metric tons per year of CO₂e in 2015 and 55,999 tons per year of CO₂e in 2030. When compared with the CEQA Baseline (year 2005) condition, these estimates show increases of 14,291 m-tons per year (2015) and 23,121 m-tons per year, respectively. When compared with the NEPA Baseline (i.e., No Project) condition, the estimated increases are smaller; namely 5,618 m-tons per year (2015) and 6,383 m-tons per year (2030), respectively. These increases are considered by the Port to be

cumulatively considerable, although specific thresholds to establish significance have not as yet been adopted for transportation projects. It should be noted that, similar to the discussion under Mitigation CEQA (AQ)-1, the new bridge will carry both Port-related and regional trips, as are being carried on the existing bridge. Since the above figures include both Port related and regional trips, they represent conservative estimates of potential impacts.

The calculation of the contribution to be made to the GHG Emission Reduction Program is based upon a consideration of the contribution to daily cumulative emissions occurring from the Project, as compared with the CEQA Baseline condition. This is consistent with the approach used for the Middle Harbor Redevelopment EIS/EIR. Research has indicated that the cost of verified emission reductions from established mitigation measures ranges between \$5 and \$14 per ton of CO₂e reduced. SCAQMD has taken this research and, in Rule 2702 (adopted February 6, 2009), has established a "fair upper range" fee of \$15/ton of CO₂e produced. This conservative rate has been applied to GHG emissions associated with the Gerald Desmond Bridge Replacement Project. Using the difference between year 2030 Project vs. CEQA Baseline quantity calculations yields the following:

$$\begin{aligned}
 &\text{GHG Mitigation Contribution} = \\
 &\quad [\text{Gerald Desmond total annual contribution (year 2030)} \\
 &\quad \quad \text{minus CEQA Baseline (2005) value}] \times \$15 \text{ per m-ton} \\
 &= (55,999 \text{ m-tons/yr} - 32,878 \text{ m-tons/yr}) \times \$15/\text{m-ton} \\
 &= 23,121 \text{ m-tons/yr} \times \$15/\text{m-ton} = \$346,816, \rightarrow \$400,000
 \end{aligned}$$

This contribution will be used to pay for measures pursuant to the GHG Emission Reduction Program, which include, but are not limited to, generation of green power from renewable energy sources, ship electrification, goods movement efficiency measures, cool roofs to reduce building cooling loads and the urban heat island effect, building upgrades for operational efficiency, tree planting for biological sequestration of CO₂, energy-saving lighting, and purchase of renewable energy certificates (RECs).

The timing of the payments pursuant to this mitigation measure shall be made by the latter of the following two dates: (1) the date that the Port issues a Notice to Proceed or otherwise authorizes commencement of construction on the project; or (2) the date that the Gerald Desmond Bridge Replacement Final EIR/EA is conclusively determined to be valid, either by operation of PRC Section 21167.2 or by final judgment or final adjudication.

Rationale for Finding: Any concurrent emissions-generating activity that occurs worldwide would add additional air emission burdens to the GHG emission levels associated with the proposed Project. It is not clear that GHG emissions from the proposed Project would make a significant contribution to the impact of global climate change when considered with GHG emissions generated by all natural and human activities, because of the extremely small amounts (when compared on a global basis) and localized context of the source. At the regional level, the proposed Project does not generate additional new trips, but rather results in a redistribution of vehicle trips. As shown in Table 3-4 of the Final EIR, the cumulative effect of the Bridge Replacement Alternatives would be a decrease in VMT and Vehicle Hours Traveled (VHT) within the vicinity of the Project. The reduction in VMT and VHT would likely result in a decrease of the cumulative GHG emissions within the Project vicinity; however, the anticipated decrease cannot be quantified. Despite the uncertainties described above, the project-related increase in GHG, nonetheless, would still be considered by the Port to be a cumulatively considerable significant and unavoidable project impact.

The Port is now in the process of developing a CC/GHG Strategic Plan. This plan, which will be comprehensive in nature, will examine GHG impacts for all activities within the Harbor District, and will identify strategies for reducing the overall carbon footprint of those activities. Similar to the CAAP, the Port's

GHG/CC Plan will identify strategies for activities under direct Port control and those that are the controlled by third parties, such as tenants. This Plan will outline the overall approach for mitigating potential project-specific and/or cumulative GHG impacts of projects through the modernization and/or upgrading of marine terminals and other facilities in the Long Beach Harbor District. Although these activities would indirectly reduce GHG emissions within the project area (e.g. Clean Trucks Program), tail pipe GHG emissions are not directly under the control of the Port and there are no feasible measures to reduce project-related GHG emission other than those related to construction emissions discussed in Final EIR Section 2.2.5.

However, one element of the Port's CC/GHG Plan is the GHG Program. The Guidelines describe a procedure for the evaluation and prioritization of GHG emission reduction projects and practices that the Port may fund consistent with the Port's overall CC/GHG reduction goals. Reductions in GHG emissions in transportation are regulated at the federal and state levels and other than improvements to engine or fuel technology there are currently no feasible mitigation measures for GHG emissions for the proposed Gerald Desmond Bridge Replacement Project. This conclusion was reached after a thorough review of regulatory measures proposed or adopted by state, federal and international governments to reduce GHG emissions, measures being considered by goods movement industry organizations for voluntary implementation, and measures adopted by other public agencies in environmental impact statements or reports, master plans, climate action plans, or other environmental programs.

The Final EIR has thoroughly disclosed potential GHG emissions and associated cumulative impacts due to the proposed Project and it has expended considerable effort to identify all feasible measures to mitigate these impacts. It would be technologically and economically infeasible and outside of the control of the Port to implement any additional measures beyond those described above. Therefore, after mitigation, the proposed Project's cumulative impacts to global climate change would be regarded as significant and unavoidable.

3.4.3 Transportation and Traffic

As discussed in Final EIR Section 3.2.14.3, there would be impacts to transportation and traffic as a result of the proposed Project during construction and operation. The impacts are associated with an increase in delay to vehicles at various locations within the study area. The following impacts would remain significant and unavoidable after implementation of all feasible mitigation measures.

3.4.3.1 Impact: Construction related detour traffic would result in short-term, temporary increases in auto and truck traffic at certain study intersections.

Construction-related detour traffic during construction Stage 3 and 4 would have significant impacts at the following study intersections:

- Pico Avenue Pier B Street/9 Street; and
- Pico Avenue and Pier D Street
- Westbound Ocean Boulevard between the Horseshoe Ramps and the Terminal Island Freeway; and
- Ocean Boulevard and Terminal Island Interchange.

Finding: Additional changes or alterations have been incorporated into the proposed Project that lessen the significant environmental impacts as identified in the Final EIR for the impact at Pico Avenue Pier B Street/9 Street and Pico Avenue and Pier D Street. These changes are set forth in **Mitigation Measures TC-2** and **TC-3** below. There are no additional changes or alterations that would avoid or substantially lessen the significant impacts, other than permanent improvements that would require the acquisition of right-of-way and private property. Since the impacts would be temporary (being confined to portions of the construction period), such permanent improvements were deemed unwarranted. Additional changes or alterations have been incorporated into the Project that substantially lessen the significant environmental impact as identified in the Final EIR for the impact at Pico Avenue Pier D Street. These changes are set

forth in Mitigation Measure TC-3, described below. There are no additional changes or alterations that would avoid or substantially lessen the significant impacts at Pico Avenue and Pier D Street.

The significant and unavoidable impacts that would occur at the two locations on Ocean Boulevard are temporary, being confined to portions of the construction period. The majority of the vehicles affected at these locations would be port-related traffic entering or exiting the Port. Upon opening the new bridge, the significant traffic impacts would no longer exist due to the new alignment and ramps. In order to adequately address the impact, additional lanes would be needed on the Terminal Island Freeway beneath the Ocean Boulevard overcrossing. The overcrossing span limits the ability to provide additional lanes because acquisition of additional right-of-way and private property would be required. Since the impacts would be temporary (being confined to portions of the construction period), such permanent improvements were deemed unwarranted. Consequently, there is no feasible mitigation to address this temporary adverse effect of the Bridge Replacement Alternatives upon the operating condition at the Terminal Island Freeway interchange. Therefore, impacts on these intersections would be significant and unavoidable. However, after the opening of the new bridge, these the significant impacts would no longer exist and these intersections would experience improved operations as a result of completion of the proposed Project.

Mitigation Measure TC-2: Prior to the start of construction Stages 3 and 4, the following improvements will be made to the intersection of Pico Avenue, Pier B Street, and 9th Street to mitigate the project's temporary adverse effect during construction at that intersection during Stages 3 and 4:

- Remove NB-SB split-signal phasing;
- Restripe NB through lane to a NB left-turn lane;
- Widen SB approach and provide two (2) left-turn lanes and one (1) through lane; and
- Continue two (2) on-ramp lanes to NB SR 710.

Mitigation Measure TC-3: Prior to the start of construction Stage 2, a traffic signal will be installed at the intersection of Pico Avenue and Pier D Street to mitigate the project's temporary adverse effect during construction at that intersection during Stages 2, 3 and 4. The traffic signal will be permanent.

Rationale for Finding: Primarily Port-related traffic and bridge construction traffic delay would increase at these intersections as discussed in Final EIR Section 2.1.5. The expected delays at the affected locations would range from under one minute to approximately 1.5 minutes of delay per vehicle. All feasible mitigation measures have been incorporated into the proposed Project, short of acquiring additional right-of-way and private property to construct what would end up being a permanent improvement for a temporary impact. Therefore, impacts at these locations would be significant and unavoidable, but also temporary. Subsequent to opening the new bridge, these significant impacts would no longer exist and these intersections would experience improved operations.

3.4.3.2 Impact: Project-related redistributed traffic associated with reduced congestion within the project area would result in traffic increases at the intersection of Navy Way/Seaside Avenue.

Finding: The affected intersection is located within the jurisdiction of the City of Los Angeles. Under operational conditions in Years 2015 and 2030 the Navy Way/Seaside Avenue intersection would operate at levels of service (LOS) and/or volume-to-capacity ratios (V/Cs) exceeding criteria established by the City of Los Angeles for determining a significant traffic impact under CEQA. Such impacts would occur at the intersection at differing peak traffic hours. An analysis of the intersection was conducted and, as a result, providing a third northbound left-turn lane at the intersection would alleviate the impact. Accordingly, this recommendation is included as **Mitigation Measure TC-5**. It should be noted that the Port of Los Angeles is considering two potential projects at the Navy Way/Seaside Avenue intersection that, if implemented, would eliminate the above discussed impact. Because the mitigation measure would require the cooperation of another jurisdiction, the Port of Long Beach has concluded that the impact should be regarded as significant and unavoidable under CEQA. Specifically, pursuant to CEQA Guidelines, section 15091(a)(2), the Board of Harbor Commissioners makes the following finding: A change or alteration to the proposed Project is available to avoid and/or substantially lessen the significant effect on traffic at the Navy Way/Seaside Avenue intersection, as described in Mitigation Measure TC-5 below; however, such change or alteration is within the responsibility and jurisdiction of other public agencies, namely the City of Los Angeles and Port of Los Angeles. The adoption of such change to the affected intersection has not,

as yet, been agreed to by the public agencies having jurisdiction; therefore, the impact is considered significant and unavoidable unless and until such agreement has been obtained.

Mitigation Measure TC-5: During the design phase of Project development, the Port shall add a third northbound left-turn lane to the intersection of Navy Way/ Seaside Avenue.

Rationale for Finding: The Port does not own, control, or maintain the intersection of Navy Way/Seaside Avenue. This intersection falls under the jurisdiction of the Port of Los Angeles and City of Los Angeles. Therefore, the Port of Long Beach does not have authority to unilaterally implement the required mitigation measure at this location. However, as discussed in Final EIR Section 2.1.5, proposed **Mitigation Measure TC-5** would fully mitigate this impact by adding a third NB left-turn lane at this intersection if the Port of Los Angeles permits the installation. If **Mitigation Measure TC-5** is implemented or if the POLA implements any of the projects it is considering at this location, as discussed in Final EIR Section 2.1.5, prior to opening the new bridge, then the significant traffic impact would be eliminated. If such action does not occur and further if the Port and City of Los Angeles do not agree to implementing proposed Mitigation Measure TC-5, a significant adverse unavoidable traffic impact at the affected location would remain.

4.0 ALTERNATIVES TO THE PROPOSED PROJECT

CEQA Guidelines Section 15126.6 requires that an EIR examine alternatives to a project in order to explore a reasonable range of alternatives that meet most of the basic project objectives, while reducing the severity of potentially significant environmental impacts. CEQA Guidelines Section 15126.6(a) states:

An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

The alternatives were also assessed in accordance with CEQA Guidelines Section 15126.6(f) which states:

The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.

Six alternatives, including various design variations for the bridge and interchanges were considered during preparation of this EIR; however, only four were selected to be carried forward for detailed analysis (Section 4.2). Alternatives considered but not carried forward are addressed in Section 4.1.

4.1 Alternatives Considered but Not Carried Forward for Analysis

The screening process used in the EIR to develop a reasonable range of alternatives was based on the proposed Project's objectives (Section 2.1). Screening criteria were also used to determine feasibility in accordance with the Port's legal mandates under the state Tidelands Trust and the Long Beach City Charter. The Port is one of only five locations in the state identified in the California Coastal Act (CCA) for the purposes of international maritime commerce. These mandates identify the Port and its facilities as an essential element of the national maritime industry. Port activities should be water-dependent and give highest priority to navigation, shipping, and necessary support facilities to accommodate the demands of foreign and domestic waterborne commerce. Based on existing capacity limitations affecting industrial Port uses, the majority of industrial facilities adjacent to deep water are required to accommo-

date forecasted increases in containerized cargo. Although the Port is actively pursuing alternatives and technologies that would reduce Port-related truck volumes, implementation of alternative goods movement technologies at the required scale to substantially reduce truck-trips will likely not be available until after the design horizon year (2030) for the proposed project. Additionally, decreasing truck trips is governed not only by the destination of the goods, but how the goods are shipped. At present, 60 percent of the goods coming into the Ports are destined for points east of the Rocky Mountains, whereas 40 percent travels through the Ports to destinations within the Southwest region, west of the Rocky Mountains. Local goods are not transported via rail because the distances are too short to make a second modal transfer economically prudent. Upgrading the roadways, including the proposed Project, within and connecting to the Port, is essential to facilitating local regional goods movement, until such time as alternative goods movement technologies become physically feasible and cost effective, or until there is a financial or operational change making goods movement by truck cost-prohibitive.

Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, need not be considered (CEQA Guidelines, Section 15126.6[f][3]). Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not lessen significant environmental effects (CEQA Guidelines, Section 15126.6[c]). The following alternatives were considered but eliminated from further discussion in the EIR. Additional details regarding the rationale for decisions to eliminate alternatives from detailed analysis are included in Final EIR Section 1.7. Those alternatives are as follows:

4.1.1 Toll-Operation Alternative

As discussed in section 1.7.1 of the EIR, the Toll-Operation Alternative was not carried forward for detailed analysis because the Terminal Island Traffic and Toll Revenue Study (POLB 2005) found that the alternative would cause a substantial traffic diversion that would result in additional adverse consequences likely to be greater than the impacts of the proposed Project. The study concluded that all three bridges serving the ports - Gerald Desmond, Vincent Thomas and Schuyler Heim - would need to be tolled, and at similar rates; otherwise, traffic would seek alternate routes using the local street system. If this were to occur, improvements on local streets would be required, estimated at 55 lane miles, with attendant substantial funding implications and the required participation of multiple public agencies. For these reasons, this alternative was not carried forward.

4.1.2 Tunnel Options

Two tunnel options were considered as alternatives to the bridge replacement; a concrete immersed tube tunnel and a tunnel bored through grouted soils. Both options were determined to be feasible to construct, but both were also found to create more Port operational problems than any of the bridge options under consideration. In addition, the cost of either tunnel was estimated to be nearly four times the cost of the bridge options and maintenance costs would be double, as well. There were differing environmental effects associated with the tunnel options and adverse grades which would not be acceptable for trucks. For these reasons, the tunnel options were also not carried forward.

4.1.3 Bridge Design Options

A variety of design options were considered, but not carried forward, including the following:

4.1.3.1 Main-Span Options (Movable Bridge, Steel Box Girder, Steel Truss, Steel Tied Arch and Conventional and Self-anchored Suspension)

The movable bridge option was determined to be unsuitable due to its impacts to traffic operations, large annual operation and maintenance costs, susceptibility to seismic events and restrictions on horizontal navigational clearance. The steel box girder option was found to be unsuitable because it would require more structural depth, necessitating more than 600 feet in additional approach span length on each side of the bridge. The cable-stayed, steel truss and steel tied arch bridge options were evaluated and the ca-

ble-stayed bridge was found to be most suitable due to its lower cost and the steel truss and steel tied arch bridge options were therefore eliminated.

4.1.3.2 Approach Span Options (Pre-cast Concrete Bulb-tee Girder, Steel I-girder and Steel Box Girder)

Based on a comparison in terms of cost, aesthetics, maintenance requirements and impacts on Port operations, concrete box girders were selected for the high-level approaches and cast-in-place concrete box girders for the low-level approaches.

4.1.3.3 Horseshoe Interchange Variations (Modified Parclo and Modified Diamond)

The modified Parclo ("partial cloverleaf") variation was removed because it would have adverse impacts on property acquisition within Pier S. The modified diamond option was removed because it would result in additional delays at newly required intersections and operational inefficiencies for trucks needing to gain access to Pier T.

4.1.3.4 Route 710 Interchange Variations (Mainline Connection to Route 710 and Connector to Route 710)

The mainline connection between the median of Route 710 and new connector ramps to downtown Long Beach via Ocean Boulevard was not carried forward because it would create a LOS "F" impact at the merge of the Ocean Boulevard ramps to/from downtown Long Beach that cannot be mitigated. The connector to Route 710 option would have required 6 percent grades on the bridges approaches and it would also limit the vertical clearance of the new bridge to 185 feet. This alternative was removed mainly because of the adverse effect that the 6 percent grade would have on trucks.

4.2 Alternatives Analyzed in the Revised Draft EIR

Four alternatives meet most of the proposed Project’s objectives and were selected to be carried forward for detailed analysis in the EIR. The alternatives carried forward for detailed analysis include:

- North-side Alignment Alternative (the Project);
- South-side Alignment Alternative;
- Bridge Rehabilitation Alternative; and
- No Project Alternative.

Final EIR Chapter 1 Section 1.8 presents a comparison of the proposed Project to the alternatives that were considered during preparation of the Final EIR. Table 4.2-1 summarizes the results of the impact analysis for the proposed Project and alternatives.

Environmental Resource Area	North-Side Alignment Alternative	South-Side Alignment Alternative	Rehabilitation Alternative	No Project Alternative
Aesthetics	III	III	III	III
Air Quality	I	I	III	III
Climate Change (GHG)	I	I	I	I
Biological Resources	II	II	II	IV
Cultural Resources	III	III	III	IV
Geology and Soils	III	III	III	IV
Hazards and Hazardous Materials	II	II	II	III
Hydrology and Water Quality	III	III	III	III
Land Use and Planning	III	III	IV	IV
Mineral Resources	III	III	III	IV

Noise	III	III	III	IV
Population and Housing	III	III	IV	IV
Public Services and Safety	II	II	II	III
Recreation	IV	IV	IV	IV
Transportation/Traffic	I	I	III	III
Utilities and Service Systems	III	III	III	IV
<i>Notes:</i> I = Unavoidable significant impact II = Significant but mitigable impact III = Less than significant impact (not significant) IV = No impact				

4.3 Findings for Alternatives Analyzed

4.3.1 Project Purpose & Objectives

The purpose of the proposed Project is to provide a bridge that will be structurally sound and seismically resistant, improve traffic operations, handle 2030 forecasted traffic volumes (which includes Port Build-out), and enhance safety for both current and future generation vessels passing beneath the bridge. Although the Bridge Rehabilitation Alternative would only address seismic concerns, it was included to provide the public and decision makers with an alternative to replacing the bridge at this time. Only the Bridge Replacement Alternatives would meet all four purposes of the project, as well as provide a structure that would meet the transportation needs of the Port and the region for its planned 100-year design life. The Rehabilitation Alternative would still require replacement after its 30-year design life.

The Port is operated under legal mandates of the California Coastal Act, which identifies the Port and its facilities as a primary economic/coastal resource of the state and an essential element of the national maritime industry for promotion of commerce, navigation, fisheries, and harbor operations. As such, Port-related activities should be water dependent and should give highest priority to navigation, shipping, and necessary support and access facilities to accommodate the demands of foreign and domestic waterborne commerce. This Port infrastructure project is essential, and will enhance one of the most important gateways for the goods movement network in the United States.

The objectives of the Gerald Desmond Bridge Replacement Project are to:

1. Provide a structurally sound and seismically resistant bridge;
2. Provide sufficient roadway capacity to handle current and projected vehicular traffic volume demand;
3. Improve traffic operation within the project area by reducing approach grades; and
4. Provide sufficient vertical clearance for safe navigation through the Back Channel to the Inner Harbor for both existing and next generation vessels.

4.3.2 Findings for the Alternatives

4.3.2.1 North-side Alignment Alternative (the Preferred Project)

The North-side Alignment Alternative would provide a new bridge located approximately 140 ft (42.7 m) north of the existing bridge (measured from centerline to centerline). This bridge alignment would have a vertical profile over the Back Channel of 200 ft (61 m) above the MHWL. The roadway grades would be 5 percent in both directions.

The new bridge would be of a cable-stayed design. The total bridge length would be 2,000 ft (610 m) long, with a main span opening across the channel of 1,000 ft (306 m), tower to tower. The west and east approach structures would be 3,117 ft (950 m) and 3,025 ft (925 m) in length, respectively.

The bridge cross section and approaches to the new bridge would include the following project features:

- Three 12-ft-wide (3.6-m) lanes in each direction
- A 10-ft-wide (3-m) outside shoulder in each direction
- A 10-ft (3-m) to 12-ft-wide (3.6-m) inside shoulder in each direction
- A 32-inch (in.)-high (81.3-centimeter [cm]) barrier that would run along the outside of each shoulder
- Reconstruction of the existing Horseshoe interchange ramp connectors
- Reconstruction of the existing connectors to SR 710 and the two ramp connections to Pico Avenue

The approach spans would be of concrete box girder construction, either segmental or cast-in-place.

This alignment alternative would use the land between the existing bridge and the LBGS (former SCE plant), and it would require construction of new ramps for the existing Horseshoe interchange. The proposed alignment would transition to join Ocean Boulevard approximately 3,280 ft (1,000 m) east of the channel, and the new connections would join SR 710 approximately 2,630 ft (801 m) north of Ocean Boulevard.

The Horseshoe interchange would use reconfigured ramps to provide access from the WB Gerald Desmond Bridge to Pier T Avenue and from Pier T Avenue to the EB Gerald Desmond Bridge. Additional ramp connections would be provided between Pier T Avenue and both Ocean Boulevard and the one-way frontage roads created by the newly constructed POLB Ocean Boulevard and SR 47 Interchange Project. These ramps would allow full access between Pier T Avenue and Ocean Boulevard in all directions.

At the SR 710 interchange, a new median connection to Ocean Boulevard in downtown Long Beach would be constructed, as would a new pair of connector ramps between SR 710 and the new bridge. A new hook ramp or loop ramp would be used to replace the existing on-ramp between Pico Avenue and the WB Gerald Desmond Bridge. The current ramps between Pico Avenue would be partially reconstructed to join the new connectors from SR 710. This interchange concept would enable trucks traveling to and from SR 710 to remain in the outside lanes, while cars traveling to and from downtown Long Beach via Ocean Boulevard would remain in the inside lanes. This approach would minimize the intermixing of cars and trucks accessing the above-mentioned facilities.

Subsequent to completion of the new bridge, the existing Gerald Desmond Bridge would be demolished.

The North-side Alignment Alternative also includes raising the SCE transmission lines (12.5 kilovolt [kV], 66-kV, and 220-kV) that cross the Cerritos Channel from Pier S to Pier A, north of the bridge. However, the timing of the transmission line relocation is not known at this stage of project development, but it can be assumed that this action would not be required until the bridge replacement is completed. The recommended option for raising the SCE lines is to construct new towers on Piers S and A next to the existing towers. The new towers would increase the clearance over the Back Channel from 153 ft to 200 ft. Subsequent to construction of the new towers, all lines would be relocated to the new towers and the existing towers, which have been determined to be eligible for listing on the National Register of Historic Places (NRHP), will remain in place.

Additional benefits of the Project include reduced roadway storm water runoff entering the harbor as a result of proposed treatment BMPs; and some local redistribution of traffic as Port and regional traffic modify travel paths to take advantage of the congestion-relief benefits of the Project (e.g. redistribution of existing trips, that would otherwise seek local street routes, from parallel roadways north of the Ports such as, Anaheim Street, Pacific Coast Highway, and Willow Street), thereby acting to improve local circulation and reduce port-related traffic in these communities.

Finding

The Board hereby finds that the proposed Project is the most desirable alternative. It meets all of the Project objectives stated above and it does so in the most cost effective manner. It is the only feasible alternative.

Facts in Support of Finding

The Project would replace the deteriorated and functionally obsolete Gerald Desmond Bridge. The new bridge will be designed to withstand a major seismic event with reparable damage and should be returned to service within weeks. The Project will add roadway capacity that will accommodate both port-related traffic at build-out and forecasted increases in regional traffic occurring by the horizon year (2030). The Project will also improve operations on the bridge by reducing approach grades, on approach roadways through installation of permanent traffic signals, and on WB Ocean Boulevard by extending storage on Ocean Boulevard to North-bound SR-47. The Project will provide sufficient vertical clearance for safe navigation through the Back Channel to the Inner Harbor for both existing and future generation vessels. The North-side Alignment alternative meets all of the project objectives with minimal effect on current terminal operations and future port plans. This alternative is also consistent with the CZMA and the CCA that encourage modernization of existing facilities within existing Port boundaries.

4.3.2 South-side Alignment Alternative

The South-side Alignment Alternative would provide a new bridge located approximately 177 ft (53.9 m) south of the existing bridge (measured from centerline to centerline), also with a vertical profile over the Back Channel of 200 ft (61 m). The proposed alignment would transition to join existing Ocean Boulevard approximately 3,280 ft (1,000 m) west of the channel. This alternative would require reconstruction of all ramps for the existing Horseshoe interchange and a portion of the existing Pier T terminal main gate facility. The proposed alternative would transition to join existing Ocean Boulevard approximately 3,280 ft (1,000 m) east of the channel, and the new connections would join existing SR 710 approximately 2,820 ft (860 m) north of Ocean Boulevard. The four existing ramp connections to Pico Avenue would have to be reconstructed for this alternative. This Alternative also would require demolition of the Gerald Desmond Bridge and include raising and relocating the SCE Transmission lines as described for the Project. The main span bridge design, bridge cross section, approaches to the new bridge, and interchange designs would include the same project features and additional benefits as described for the Project.

Finding

The Board hereby finds that, although the South-side Alignment Alternative also would meet all of the project objectives and provides the same benefits as the Project, this alternative would have the greatest impact on current terminal operations and future Port plans. Therefore, the Board finds that specific economic, legal, social, technological, or other considerations make the South-side Alignment Alternative infeasible.

Facts in Support of Finding

The South-side Alternative would affect primarily Port properties, utilities, and tenant businesses. This alternative would require reconfiguration of both the California United Terminals and Total Terminal International, Inc. (TTI), operations on Piers D, E, and T. The Pier E gate at the California United Terminal facility would require relocation and would include reconfiguration of the following elements: entrance and exit roadways, inbound optical character recognition (OCR) devices, receiving gate lanes with pedestals, scales, cameras and queuing area, , outbound primary radiation portal monitors (RPMs) and OCR devices, outbound secondary RPM, exit gate lanes with pedestals and cameras, and associated underground electrical, communication lines, parking areas and pavement markings/barriers. It is estimated that the reconfiguration on Piers D and E would cost approximately \$10.0 million. Reconfiguration of Pier T would result in the permanent loss of 2.4 acres (1-ha) within the TTI terminal storage facility currently used for refrigerated container storage. Additionally, reconfiguration on Pier T would require modifications to the following elements: relocation of a portion of the main gate canopy, driver's service building and trouble parking, steel high mast light poles, chassis storage, and associated utilities, barriers, and pavement markings. It is estimated that the reconfiguration on Pier T would also cost approximately \$10.0 million. The estimated present value of 2.4 acres (1-ha) of lost Port lease revenue would be \$7.0 million over a typical 20-year lease. The South-side Alignment Alternative would not eliminate or reduce the adverse environmental effects associated with the North-side Alignment Alternative; it would have essentially the same effects. Because of the added capital costs associated with the modifications described above and also because of the lost lease revenue, this alternative was not selected in favor of the North-side Alternative.

4.3.3 Rehabilitation Alternative

With this alternative, the existing bridge would be rehabilitated to improve its seismic performance and to extend its operational life span. No new traffic lanes would be added, however, and the height of the bridge would remain at 156 ft (47.5 m) above the MHWL. The bridge rehabilitation activities would occur within the footprint of the existing bridge. This alternative would not require demolition of any structures on adjacent properties and would also not require any modifications to the SCE towers. Bridge Rehabilitation requirements would be consistent with the level of retrofit undergone by major bridges in California, where retrofit measures were designed for a "No Collapse" design criteria. The "No Collapse" criteria imply that the bridge would survive the maximum credible earthquake (MCE) without collapse and loss of life, but it would have a high probability of being condemned after an extreme seismic event such as the MCE. Rehabilitation of the Gerald Desmond Bridge, to bring it up to current AASHTO standards and to mitigate continuous bridge deterioration would require the following construction activities:

- Replacement of the bridge deck
- Replacement of expansion joints
- Replacement of the sway bracings for the main span
- Painting of all steel members
- Seismic retrofit of foundations, columns, bent caps, abutments, and superstructure

The estimated cost for these corrective measures is approximately \$289.3 million. This alternative does not eliminate the need to replace the bridge or provide additional capacity; it only extends the bridge service life for an additional 30 years.

Finding

The Board hereby finds that the Rehabilitation Alternative is would satisfy only one of the project objectives, namely improving the bridge's structural integrity and seismic performance. This alternative would not eliminate the need to ultimately replace the Gerald Desmond Bridge, but instead only extend the operational life for 30 years at an additional cost of \$289 million. This alternative also would not provide for needed future capacity, it would not improve existing adverse approach grades, and it would not provide sufficient vertical clearance for safe navigation through the Back Channel to the Inner Harbor. This alternative would have lesser adverse environmental effects in some areas, most notably with regard to air quality, land use and planning and population and housing. While it would not have some of the adverse traffic impacts associated with the other build alternatives, as stated above, it also would not adequately handle forecasted future traffic volumes. Therefore, the Board finds that specific economic, legal, social, technological, or other considerations make the Rehabilitation Alternative infeasible.

Facts in Support of Finding

The Rehabilitation Alternative would provide a structurally sound and seismically resistant bridge that would survive an extreme seismic event without collapse or loss of life, but would result in substantial impacts on goods movement and the Port associated with probable condemnation after such an event. Furthermore, bridge rehabilitation would not handle future traffic volumes, nor would it provide the vertical clearance needed for safe passage of container ships. Additionally, a life-cycle cost analysis was completed to evaluate the costs of bridge rehabilitation versus replacement over a 130-year time horizon. The two scenarios evaluated in the life-cycle cost included the following:

- A. Build the new bridge now, which would open to traffic in 2015 and have a design life of 100 years. Rehabilitation of the new bridge would take place in 2115, which would extend its service life to 2145.
- B. Rehabilitate and seismically retrofit the existing bridge now to meet current AASHTO code requirements with completion in 2015, which would extend its service life to 2045. Replace the rehabilitated bridge in 2045 with a new bridge identical to the one assumed in Scenario A. The new bridge would have a design life of 100 years, thus lasting until 2145.

The results of the life-cycle cost analysis showed that the Bridge Rehabilitation Alternative (Scenario B) has a greater net present value cost (\$208 million) than the Bridge Replacement Alternatives (Scenario A).

4.3.4 No Project Alternative

This alternative would make no improvements to the existing bridge. The No Project Alternative would not eliminate the need for rehabilitation or replacement of the Gerald Desmond Bridge in the future. The Port would continue to maintain the bridge until either a rehabilitation or replacement alternative is approved or the bridge is closed to traffic. The No Project Alternative would not make any seismic improvements to the bridge. At this time is unknown how well the Gerald Desmond Bridge would perform during the maximum credible earthquake (MCE), but it is likely to be severely damaged and perhaps be condemned, in which case a replacement alternative would have to be planned and programmed. The No Project Alternative would maintain the current Gerald Desmond Bridge, interchange and connecting roadway configuration. Forecasted increases in both Port-related and regional traffic volumes would still occur. As the project corridor becomes more congested in the future, more vehicles will seek alternative parallel routes to avoid the congested bridge. The No Project Alternative would maintain the existing vertical clearance of 155 feet and the SCE transmission lines would not be relocated. These navigational hazards would remain for current ships passing under the bridge, and would prevent cleaner future generation vessels from accessing the Back Channel terminals.

Under this alternative no construction-related impacts would occur. However, the roadway would continue to generate operational impacts as described under the No Action Alternative throughout Chapter 2 of the EIR, and result in continued and increased delay to both Port-related and regional traffic. Because no water quality treatment BMPs would be constructed under this alternative, roadway runoff and associated pollutants would continue to enter the harbor untreated. In addition, Caltrans would not be able to adopt the project into the state highway system and the Port will continue to be responsible for continued and increasing bridge maintenance costs.

Finding

The Board hereby finds that the No Project Alternative must be rejected. While it may avoid impacts associated with construction activities, it would not foster long-term objectives and it would continue a seismically unsuitable structural condition. Therefore, the Board finds that specific economic, legal, social, technological, or other considerations make the No Project Alternative infeasible.

Facts in Support of Finding

If the No Project Alternative were implemented, there would be insufficient vertical clearance for the safe passage of container ships and inadequate capacity to handle current or forecasted traffic volumes. Under the No Project Alternative, the bridge would likely be severely damaged during an MCE and could endanger life and property for those using the bridge, ships in the Back Channel, and adjacent Port and private facilities. Additionally, without increasing the bridge and transmission line clearance, navigational safety for current vessels would not be improved and cleaner, future generation vessels would not be able to gain access to the Back Channel or any of the inner harbor terminals. In addition, the No Project Alternative would continue the adverse grades on the bridge approaches.

4.4 Alternatives Suggested in Public Comments

During the public comment period on the draft environmental document, suggestions were made regarding a number of different alternatives to the proposed bridge replacement and/or rehabilitation. None of these suggestions were found to feasibly accomplish the basic objectives of the proposed Project and substantially lessen one or more of the significant effects of the proposed Project. With regard to each of these suggestions, the Board finds that specific economic, legal, social, technological, or other considerations make the suggestions infeasible.

Restricting Bridge Access by Trucks: Limiting or restricting access to the bridge by trucks was suggested as a means to reduce the amount of physical damage that occurs to the bridge deck and approaches from heavy truck traffic. As was pointed out in response to this suggestion, the existing Gerald

Desmond Bridge is, and will continue to be, a major gateway to the local, regional, state and interstate goods movement network. Restricting or prohibiting truck access to the bridge would be in direct conflict with this role, and it would result in diversion of truck traffic to the local street system with attendant adverse impacts in other locations.

Zero Emissions Container Movement System (ZECMS): Substituting trucks for moving containers with a completely new technology (assumed to be zero emissions producing) was suggested as a method to eliminate the adverse effects associated with trucks, including air quality and traffic. As was pointed out in response to this suggestion, concepts such as the ZECMS have not as yet been developed to a reliable level of practicality, technological soundness or cost effectiveness. At such time as these impediments to development are removed, the concepts may be meaningfully considered in competition with established and proven modes of transport. However, at the current time ZECMS is not feasible from a technical or economic perspective.

Alternatives to Reduce Greenhouse Gases: One party suggested that the Port should be more aggressively focusing on alternatives that would reduce greenhouse gas production, primarily through reduced use of diesel powered trucks. In response to this suggestion, it was pointed out that the Port currently is implementing programs and policies to foster both a shift from trucks to rail and better performance on the part of trucks that remain in use. Even if these objectives could be , there would still remain a need to improve the existing bridge, for local and regional traffic. However, even if it were feasible to eliminate diesel powered trucks, there would still remain a need to improve the existing bridge for local and regional traffic that is unrelated to the Port.

Tolled Use Bridge: Using tolls to manage the existing bridge was suggested. However, as explained in Final EIR/EA Section 1.7.1. Tolling, in order to be effective, would need to be extended to all three bridges operating in the port area. Such an approach is beyond the jurisdiction of the Port I. Moreover, the tolling study discussed in Final EIR/EA Section 1.7.1 indicates that traffic impacts on local streets and in local communities likely would be greater than impacts from the proposed Project.

4.5 Environmentally Superior Alternative

Construction period impacts constitute the majority of impacts associated with the Build Alternatives. Prominent among these are: air quality, traffic and noise, and to a lesser extent, biological resources and cultural resources. Because it involves no construction, the No Project Alternative would be considered the Environmentally Superior Alternative. As stated above, the No Project Alternative would not correct the seismic deficiency of the existing bridge, provide adequate capacity for future projected traffic volumes or improve navigational safety. It would also not correct the existing problem of runoff from the bridge deck into the channel below.

Of all the other alternatives excluding the No Project Alternative, the Rehabilitation Alternative would be considered the Environmentally Superior Alternative. This is due to its shortened construction period and the nature of the rehabilitation. This alternative would have fewer adverse environmental effects than North-side Alignment Alternative or the South-side Alignment Alternative, most notably with regard to air quality and land use, but also with regard to temporary traffic impacts.

5.0 STATEMENT OF OVERRIDING CONSIDERATIONS

CEQA requires a public agency to balance the benefits of a proposed project against its unavoidable, adverse environmental impacts in determining whether to approve the project.

Section 15093 of the State CEQA Guidelines provides the following:

- (a) *CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."*
- (b) *When the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.*
- (c) *If an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the notice of determination. This statement does not substitute for, and shall be in addition to, finding required pursuant to Section 15091.*

5.1 PROJECT SIGNIFICANT IMPACTS

The proposed Project would result in significant unavoidable impacts related to air quality and transportation/traffic. It would also result in additional greenhouse gas production which is considered significant on a cumulative basis herein.

5.1.1 Air Quality

The Project would produce construction NO_x emissions that exceed the SCAQMD CEQA significance threshold. With implementation of **Mitigation Measures AQ-C1 through AQ-C9** the Project impacts would be reduced, but would still exceed the SCAQMD significance thresholds.

The Project would produce operational NO_x emissions that exceed the SCAQMD significance threshold in the opening year (2015).

5.1.2 Climate Change

The Project would result in increases in greenhouse gas production as a result of increased VMT operating on the bridge. No criteria have been established with which to assess the significance of this for transportation projects; however, the Port considers this to be a cumulatively considerable impact.

5.1.2 Transportation/Traffic

Construction-related traffic during some stages of construction would have a temporary significant and unavoidable impact at several study area intersections. Operational traffic could result in an unavoidable significant impact at one location if mitigation measures are not adopted by the agency with jurisdiction over the intersection.

5.2 OVERRIDING CONSIDERATIONS

The Board recognizes that significant and unavoidable impacts will result from implementation of the proposed Project, as discussed above. Having (1) recognized all significant, unavoidable impacts, (2) adopted all feasible mitigation measures, and (3) balanced the benefits of the Project against its significant and unavoidable impacts, the Board finds that there are specific overriding economic, legal, social,

technological, or other benefits of the proposed Project that outweigh those impacts and provide sufficient reasons for approving the proposed Project. These overriding considerations justify approval of the Project and certification of the Final EIR. Those reasons are, set forth below:

Fulfills Port legal mandates and objectives. The proposed Project would fulfill the Port's Coastal Act mandate to promote and develop commerce, navigation and fisheries, and other uses of statewide interest. The Coastal Act identifies the Port as an essential element of the national maritime industry and obligates the Port to modernize and construct necessary facilities to accommodate deep-draft vessels and the demands of foreign and domestic waterborne commerce in order to preclude the necessity for developing new ports elsewhere in the state. Furthermore, the Coastal Act provides that the Port should give highest priority to the use of existing land space within harbors for Port purposes, including, but not limited to, navigational and shipping industry facilities and necessary ancillary and access facilities. The proposed Project meets these requirements by providing a new bridge that 1) minimizes potential for extended periods of Port-related and regional traffic disruption following a MCE; 2) provides adequate roadway capacity to handle forecasted regional traffic in 2030 and Port-related volumes at build-out ; 3) improves traffic operations within the study area resulting in reduced delays to all drivers; and 4) improves navigational safety .

Provides a Structurally Sound and Seismically Resistant Bridge. Seismic performance of the Gerald Desmond Bridge during an MCE is unknown; however, it likely could include condemnation and possible collapse. The Vincent Thomas and Schuyler Heim Bridges do not have adequate capacity to accommodate all current or forecasted Port-related and regional traffic from/to Terminal Island and substantial congestion on both SR-47 and SR-103, and associated routes, would result from condemnation or collapse.

The new bridge will be designed to withstand the MCE with only repairable damage allowed and an ability to be in service within days after the MCE event. The Project will result in long-term dependable access to/from Terminal Island, the City of Long Beach and the SR-710 freeway.

Improves traffic operations and provides capacity to more efficiently accommodate Port-related traffic at build out and regional traffic through 2030. In 2030, forecasted traffic on the Gerald Desmond Bridge is anticipated to increase to 124,670 vehicles per day (vpd). Due to the congestion relief benefits associated with the Project, an additional 11,260 vpd will be redistributed from parallel roadways north of the Port, such as Anaheim Street, Pacific Coast Highway, and Willow Street, thereby acting to improve local circulation and reduce Port-related traffic within these communities.

Provides new jobs during construction of the project. Construction of the Project would generate economic activity of \$2.8 billion in Southern California. Construction will support, on average, 4,000 jobs a year for five years.

Enhances current and future navigational safety. Ships in the 8,000 to 9,999 TEU range are approaching the limits of what constitutes safe passage under the Gerald Desmond Bridge. Based on published specifications, most of these vessels can physically pass under the bridge if fully loaded, but they are within the 3-ft (1-m) clearance area that is considered a minimum for safe passage under the bridge. The Project would provide 200-ft of air draft and safer passage for both current ships and in the future for larger, next-generation vessels.

Enhances current and future vehicular safety. The bridge currently accommodates 59,700 vpd and is projected to increase to 124,670 vpd by 2030 with an additional 11,260 vpd due to the congestion relief benefits associated with the Project that will be redistributed from parallel roadways north of the Port, such as Anaheim Street, Pacific Coast Highway, and Willow Street, thereby acting to improve local circulation and reduce Port-related traffic within these communities. In addition, the bridge has no shoulders that allow disabled vehicles to pull out of active traffic lanes or provide access for emergency vehicles. The replacement bridge provides both center median and lateral pullout lanes, thus providing increased public safety.

Gerald Desmond Bridge Replacement Project

Mitigation Monitoring and Reporting Program

Prepared By



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EXHIBIT B

INTRODUCTION

This Mitigation Monitoring and Reporting Program (MMRP) fulfills the requirements of California Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097. As stated in Public Resources Code Section 21081.6(a)(1):

The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of approval, adopted in order to mitigate or avoid significant effects on the environment.

The Port of Long Beach (POLB or Port) is the lead agency for the proposed Gerald Desmond Bridge Replacement Project (Project) under CEQA and, therefore, responsible for administering and implementing the MMRP.

The primary purpose of this MMRP is to ensure that the mitigation measures identified in the Final Environmental Impact Report (EIR) are implemented to reduce or avoid identified environmental effects and to appropriately assign the mitigation responsibilities associated with the proposed Project. The mitigation measures listed in the MMRP will be adopted by the POLB Board of Harbor Commissioners as a condition of the primary Project approval.

PROJECT OVERVIEW

The proposed project would construct a new bridge across the Back Channel and produce associated roadway connectors, demolish the existing Gerald Desmond Bridge, and relocate the Southern California Edison (SCE) transmission lines crossing the Cerritos Channel north of the bridge.

The new bridge, excluding approach structures, would be 2,000 ft (610 m) long, and it would be elevated 200 ft (61 m) above the mean high water line (MHWL) of the Back Channel. Bridge replacement would also necessitate reconfiguration of adjacent freeway and arterial interchanges.

Construction of the new bridge would take approximately 48 months and would be accomplished in phases. Each construction phase is anticipated to take approximately 1-year. Construction is currently estimated to commence in September 2011 and terminate by September

2015, but the actual schedule is contingent upon the completion of final design and the availability of funding for the project.

Demolition of the existing bridge would occur after the new bridge has been opened to traffic and would be completed in approximately 15 months. It would include removal of the main steel truss spans, the steel plate girder approaches, and the ramps, including both superstructure and bents.

The recommended option for raising the SCE lines is to construct new towers on Piers S and A next to the existing towers. The new towers would increase the clearance over the Back Channel from 153 ft to 200 ft. Subsequent to construction of the new towers, all lines would be relocated to the new towers.

IMPACTS REQUIRING MITIGATION

Impacts of the proposed Project that require mitigation include:

- Temporary and permanent increases in auto and truck traffic at certain study area intersections during project construction and operation;
- Potential hazardous materials impacts associated with construction activities;
- Potential health and safety impacts associated with construction activities;
- Potential air quality impacts associated with construction activities; and
- Potential biological resources impacts associated with construction activities;
- Potential cumulative air quality and climate change impacts associated with the Project.

CEQA GUIDELINES

CEQA Guidelines Section 15097 explains the requirements of Public Resources Code Section 21081.6(a) regarding mitigation monitoring and reporting. Mitigation is defined in CEQA Guidelines Section 15370 as a measure that:

- Avoids the impact altogether by not taking a certain action or parts of an action;
- Minimizes impacts by limiting the degree or magnitude of the action and its implementation;

- Rectifies the impact by repairing, rehabilitating, or restoring the impacted environment;
- Reduces or eliminates the impact over time by preservation and maintenance activities during the life of the project; and
- Compensates for the impact by replacing or providing substitute resources or environments.

Mitigation measures provided in this MMRP were identified in Final EIR Chapters 2 and 3 (Affected Environment, Environmental Consequences and Avoidance, Minimization and/or Mitigation Measures, California Environmental Quality Act Evaluation), as feasible and effective in mitigating Project-related environmental impacts.

POLB MMRP APPROACH

For each adopted mitigation measure, the MMRP identifies the following:

- Required action;
- When the action is required to be taken;
- Agency responsible for action;
- Agency responsible for tracking;
- Submittal date;
- Person verifying implementation;
- Attachments required to verify implementation; and
- Comments made by verifying personnel.

The POLB has primary responsibility for ensuring that the mitigation measures are implemented. When Project work is undertaken by the Port's contractors, the pertinent mitigation measures will be included in the terms and conditions of the contracts. Port construction inspectors will undertake regular inspections of the job site to ensure that contractors are implementing the mitigation measures and complying with their contract. The Port's project manager will be responsible for ensuring completion of mitigation measures which are the responsibility of the Port.

MITIGATION MONITORING AND REPORTING PROGRAM PROCEDURES

The POLB's designated environmental monitor will track and document compliance with mitigation measures, note any problems that may result, and take appropriate action to remedy problems.

Specific responsibilities of the POLB are listed below.

- Coordination of all mitigation monitoring activities;
- Management of the preparation, approval, and filing of monitoring or permit compliance reports;
- Maintenance of records concerning the status of all approved mitigation measures;
- Quality control assurance of field monitoring personnel;
- Coordination with other agencies regarding compliance with mitigation or permit requirements;
- Reviewing and recommending acceptance and certification of implementation documentation;
- Acting as a contact for interested parties or surrounding property owners; and
- Documenting observations of unsafe conditions or environmental violations, and developing any necessary corrective actions.

MITIGATION AND MONITORING REPORTING PLAN CHECKLIST

The MMRP is organized in a checklist format, with each mitigation measure on a separate page. A summary of all mitigation measures is provided on the cover page to the checklist. The agency responsible for taking the action (POLB Engineering Division and/or POLB Real Estate) will submit the appropriate attachment to the agency responsible for tracking the action (POLB Planning Division). By his or her signature, the POLB Planning Division representative verifies that the mitigation measure has been implemented.

GERALD DESMOND BRIDGE REPLACEMENT PROJECT MITIGATION MONITORING AND REPORT PLAN CHECKLIST

Summary of Mitigation Measures
TRAFFIC AND CIRCULATION
<p>Mitigation Measure TC-1: Prior to the start of construction Stage 2, the following improvements will be made to the intersection of Pico Avenue, Pier B Street, and 9th Street to mitigate the project's temporary adverse effect during construction at that intersection during Stage 2:</p> <ul style="list-style-type: none"> ▪ Add dual northbound (NB) right-turn lanes; ▪ Restripe eastbound (EB) through/right lane to a right-turn lane; ▪ Provide one (1) EB through lane; and ▪ Continue two (2) State Route (SR) 710 southbound (SB) off-ramp lanes to Pico Avenue.
<p>Mitigation Measure TC-2: Prior to the start of construction Stages 3 and 4, the following improvements will be made to the intersection of Pico Avenue, Pier B Street, and 9th Street to mitigate the project's temporary adverse effect during construction at that intersection during Stages 3 and 4:</p> <ul style="list-style-type: none"> ▪ Remove NB-SB split-signal phasing; ▪ Restripe NB through lane to a NB left-turn lane; ▪ Widen SB approach and provide two (2) left-turn lanes and one (1) through lane; and ▪ Continue two (2) on-ramp lanes to NB SR 710.
<p>Mitigation Measure TC-3: Prior to the start of construction Stage 2, a traffic signal will be installed at the intersection of Pico Avenue and Pier D Street to mitigate the project's temporary adverse effect during construction at that intersection during Stage 2, 3, and 4. The traffic signal will be permanent and will not be removed after completion of construction of the bridge.</p>
<p>Mitigation Measure TC-4: Prior to the start of construction Stages 3 and 4, the following improvements will be made to the intersection of Pico Avenue and Pier E Street to mitigate the project's temporary adverse effect during construction at that intersection during Stages 3 and 4:</p> <ul style="list-style-type: none"> ▪ Permanently signalize the intersection (the signal will not be removed after completion of construction of the bridge); ▪ Restripe NB through lane to a NB right-turn lane, providing a single NB through lane; ▪ Add dual free-flow westbound (WB) right-turn lanes; and ▪ Continue two (2) EB Ocean Boulevard off-ramp lanes to Pico Avenue. <p>The <i>Middle Harbor Redevelopment Project Draft Environmental Impact Statement (DEIS)/Draft Environmental Impact Report (DEIR) and Application Summary Report (ASR)</i> prepared for the Port and United States Army Corps of Engineers (USACE) includes signalization of the Pico Avenue/ Pier D Street and Pico Avenue/ Pier E Street intersections. If these signals are implemented as part of that project prior to the start of construction Stage 2 for the Pico Avenue/Pier D Street intersection and construction Stage 3 for the Pico Avenue/Pier E Street intersection, then that would remove the need for the signalization component of the proposed mitigations under TC-3 and TC-4, respectively.</p>
<p>Mitigation Measure TC-6: The Port will coordinate with the Long Beach City Traffic Engineer and provide funding for restriping and/or signalization improvements at the intersection of Ocean Boulevard and Magnolia Avenue as mitigation for the effect of the bridge at the intersection.</p>

HAZARDOUS WASTE AND MATERIALS
Mitigation Measure HM-1: A Phase II Site Investigation shall be performed in construction areas where excavation will exceed 5 feet (ft) (1.5 meters [m]) below ground surface (bgs), where groundwater may be encountered and in areas where underground storage tanks (USTs) have been previously removed without closure documentation. The results of the Phase II investigation will be incorporated into the Safety Plan to protect construction workers against known contamination in construction areas. A Hazardous Waste Management Plan based on the results of the Phase II investigation will also be incorporated into the Final Design to ensure proper disposal of contaminated materials and contaminated groundwater found in the construction areas.
Mitigation Measure HM-2: A risk assessment shall be performed prior to construction to determine how construction activities will affect the water-bearing intervals and, as applicable, to determine health risks to construction workers.
Mitigation Measure HM-3: To minimize cross-contamination of the water-bearing zones, the construction contractor shall employ construction techniques to minimize the need for dewatering.
Mitigation Measure HM-4: The Port shall conduct a survey to screen for asbestos-containing materials (ACMs) and Lead Based Paint (LBP) in all affected buildings and the bridge prior to any demolition activities. Identification of locations of buildings or structures containing ACMs and LBP will be clearly identified on the construction plans and incorporated into project safety plan and hazardous waste management plan. Any disturbance/demolition structures containing ACM or LBP will be completed in accordance with the contract specifications and all State, federal and local laws and regulations..
Mitigation Measure HM-5: Prior to construction, the Port shall test areas within the proposed project corridor where soil may be disturbed for aerially deposited lead (ADL). If ADL levels meet or exceed the action level set forth by the hazardous waste management plan for the project, then ADL-contaminated soils shall be removed in accordance with federal, state, and local regulations.
Mitigation Measure HM-6: A Safety Plan will be required to address any exposure to hazardous materials. The Safety Plan will include proper personal protective equipment (PPE) work requirements, soil and air space monitoring requirements, documentation and reporting requirements, and action levels.
Mitigation Measure HM-7: The contractor shall prepare a Lead Compliance Plan in accordance with California Code of Regulations (CCR) Title 8 Section 1532.1. The Lead Compliance Plan shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
Mitigation Measure HM-8: If it is determined that the project would require the removal or disturbance of any existing yellow thermoplastic traffic lane striping in the project area, then Caltrans standard measures shall be implemented to ensure the proper removal, storage, and disposal of the material, as applicable.
PUBLIC HEALTH AND SAFETY
Mitigation Measure HS-1: An Accident and Terrorist Vulnerability assessment shall be completed and all recommendations incorporated into the project during final design. The assessment will analyze and consider applicable protection measures for the construction and operational phases of the proposed project.
Mitigation Measure HS-2: A bridge construction and demolition schedule shall be submitted to the Long Beach Police and Fire Departments, United States Coast Guard (USCG), and Caltrans at least 2 weeks prior to initiation of work to provide adequate time for the agencies to plan for alternate routes in case of emergencies.
Mitigation Measure HS-3: Prior to initiation of construction activities, all businesses, tenants, and utility companies (i.e., Southern California Edison [SCE], gas, water, oil, and telecommunications) within the area of the proposed construction/demolition or rehabilitation shall be notified of the schedules and associated roadway and ramp closures related to the proposed project.
Mitigation Measure HS-4: All marine transportation and recreational boating companies shall be notified 2 weeks prior to initiation of planned construction/demolition or rehabilitation activities potentially affecting normal operations within the Back Channel.
Mitigation Measure HS-5: The USCG and all POLB tenants shall be regularly notified of scheduled work over the Back Channel during the construction and demolition phases of the project.

Mitigation Measure HS-6: An emergency response and health and safety plan shall be prepared in accordance with all applicable federal, state, and OSHA standards. The plan shall address potential emergency situations and assure the safety and health of workers by setting and enforcing standards to reduce occupational injuries and accidents. POLB staff will review and approve the plans prior to initiation of construction activities.

AIR QUALITY

Mitigation Measure AQ-C1: Construction processes shall adhere to all applicable South Coast Air Quality Management District (SCAQMD) rules and regulations concerning the operation of construction equipment and dust control.

Mitigation Measure AQ-C2: Construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.

Mitigation Measure AQ-C3: During construction, trucks and vehicles in loading and unloading queues must be kept with their engines off when not in use to reduce vehicle emissions. Construction emissions shall be phased and scheduled to avoid emissions peaks, where feasible, and discontinued during second-stage smog alerts.

Mitigation Measure AQ-C4: To the extent feasible, electricity will be used from power poles rather than temporary diesel or gasoline power generators.

Mitigation Measure AQ-C5: As part of the Port's commitment to promote the Green Port Policy and implement the Clean Air Action Plan (CAAP), the proposed project construction will employ all applicable control measures included in the CAAP and relevant clean air technologies. Heavy-duty construction equipment will be required to use clean fuels, such as ultra-low sulfur fuel, or compressed natural gas and oxidation catalysts.

Mitigation Measure AQ-C6: Construction activities that affect traffic flow on the arterial roadways shall be scheduled to off-peak hours to the extent practicable. Additionally, construction trucks shall be directed away from congested streets or sensitive receptor areas.

Mitigation Measure AQ-C7: During the construction period, temporary traffic controls, such as flaggers and improved signal flow for synchronization to maintain smooth traffic flow, shall be provided.

Mitigation Measure AQ-C8: Trucks used for construction activities occurring prior to 2015 shall use engines with the lowest certified NO_x emission levels, but not greater than the 2007 NO_x emission standards.

Mitigation Measure AQ-C9: Where feasible, construction equipment shall meet the EPA Tier 4 non-road engine standards. The equipment with Tier 4 engine standards becomes available starting in year 2011.

Mitigation Measure CEQA (AQ-1): Cumulative Air Quality Impact Reduction Program. To help reduce cumulative air quality impacts of associated with the Gerald Desmond Bridge Replacement Project, the Port will require the Project to contribute \$2 million in support of the Schools and Related Sites (\$1 million) and Healthcare and Seniors Facility (\$1 million) Port of Long Beach Grant Programs. The contribution will be approved by the Board of Harbor Commissioners. The distribution of these funds to potential applicants and projects will be determined through a public evaluation process and approved by the Board of Harbor Commissioners.

BIOLOGICAL RESOURCES

Mitigation Measure BR-1: Artificial Nest Boxes (Peregrine Falcon): A minimum of two nesting ledges with artificial nest boxes will be installed on the new bridge in different locations prior to demolition of the existing bridge. The boxes will be available prior to the nesting season. The new nest locations will be approved by the California Department of Fish and Game (CDFG) and will be selected to minimize disturbance to the extent feasible. Should the peregrine falcons not use the new bridge for nesting despite the nest boxes, alternate suitable nesting sites are available in the project vicinity (e.g., hotels, silos, bridges, Long Beach City Hall).

Mitigation Measure BR-2: Precluding Nesting on the Existing Bridge (Peregrine Falcon): Once the nest boxes are in place on the new bridge, no less than a minimum of 2 months prior to initiation of demolition activities within 500 ft (152 m) of the existing nesting locations, measures and/or structures approved by CDFG to discourage nesting at the previously used nest sites will be implemented under the supervision of a CDFG-approved raptor biologist. If existing nest sites are occupied, then exclusion activities will not occur until 30 days after the last young leaves the nest, or until nest abandonment, whichever occurs first (see No Work Zone under BR-3 Monitoring Program).

Mitigation Measure BR-3: Monitoring Program (Peregrine Falcon): The proposed monitoring program is based on measures from the Peregrine Falcon Monitoring and Mitigation Program (PFMMP) for the Gerald Desmond Bridge (BioResource Consultants, 1998); such measures having been in use from 1998 through 2004. Modified measures from the 1998 PFMMP are provided below. A mitigation and monitoring plan will be prepared and submitted to CDFG for concurrence prior to initiation of construction activities.

- *Timing of Monitoring:* A raptor biologist will initiate monitoring at least 1-year prior to the beginning of construction and at least 2 months prior to nest site selection, generally January to mid-February. Monitoring will continue through the breeding season, which generally extends through mid-July. Monitoring will occur at the existing and new bridge and begin prior to the placement of artificial nest boxes on the new bridge and prior to attempts to preclude nesting at the existing bridge. Monitoring during construction will continue once weekly during the breeding season until the breeding season or construction is complete, whichever occurs first.

Post-construction monitoring will occur for 3 years after construction. Surveys will be conducted once monthly from January through July to document peregrine falcon nesting at the new bridge.

Mitigation Measure BR-4: Placement of Bat Boxes: Bat roosting boxes on the new bridge will be made available a minimum of 2 months prior to demolition activities within 500 ft (152 m) of active roosts at the existing bridge. Bat roosting boxes will be designed and built during construction of the new bridge, which is scheduled to occur before demolition of the existing bridge, to be ready for placement once the under-bridge structures are complete.

In addition to, or in lieu of, bat roosting boxes, the new bridge may be designed to incorporate potential roosts as part of the structure or such structures may be designed and added to the new bridge post-construction.

Mitigation Measure BR-5: Precluding Roosting on the Existing Bridge: Prior to demolition, bats must be excluded from the existing bridge. Methods for excluding bats include use of a chemical repellent (i.e., naphthalene), use of floodlights, high-frequency noise, and placement of physical barriers such as nets to prevent bats from using roost sites (Greenhall, 1982). The exclusion method will be approved by the Port, Caltrans, and CDFG. The mechanical exclusion device is considered the safest and the most reliable. These barriers are commonly screens of mesh, hardware cloth, or wire, with mesh openings no greater than 0.25-in. (0.64-cm). The best time for bat proofing is November through March, after juvenile bats have learned to fly (Bat Conservation and Management, Inc., 2005). Exclusion work will be performed by contractors approved by Caltrans as experienced with excluding bats on bridges. This exclusion process may require 1 to 2 weeks, or potentially longer, given the size of the existing bridge.

Bat exclusion via netting is accomplished by first affixing mesh netting over known entry points using I-bolts, which allows bats to exit the bridge but not return. Bats returning to the bridge would first return to their normal point of entry, and then they would seek new roosts once they have determined that it is not possible to return to their old roosting site. This process will be monitored by a CDFG-approved bat biologist each night for at least 7 consecutive nights, or until no bats are observed to exit the structure from known roosting areas at nightfall. During this time, monitoring will be performed to ensure that bats do not discover and use new roosts on the existing bridge and that no bats become entangled in netting. If any new roosts are discovered on the existing bridge, they will be covered with mesh according to the above procedure. Very small crevices or fissures in the bridge may be sealed using caulk or a similar filling agent. Should numerous bats still be observed exiting the bridge at night after installation of exclusion cloth, it may be necessary to add another exclusion method, such as floodlights illuminating access points or crevices used by attract bats (bats will not roost in a well-lit area).

Mitigation Measure BR-6: Bat Monitoring Program: A monitoring program will be implemented throughout the construction phases of the project, as applicable. CDFG concurrence on the proposed monitoring program will be obtained prior to initiation of bat monitoring/ survey activities. All surveys/monitoring will be conducted by an approved CDFG bat biologist. Preconstruction monitoring will focus on bat species identification, locations of bat roosts, and documentation of roost characteristics based on Fenton (2003) and O'Shea *et al.* (2003). If CDFG species of special concern are identified, the Port will coordinate with CDFG and incorporate additional monitoring/protection measures as applicable.

Timing of Monitoring: Bat preconstruction surveys will be initiated a minimum of 1-year prior to the initiation of construction. The surveying and monitoring regime will consist of quarterly monitoring surveys, including a survey in June (i.e., prime bat roosting season). Each survey will include daytime and nighttime surveys (see Monitoring Effort) focused on identifying specific locations of bat roosts and roost access points.

One month prior to the initiation of demolition of the existing bridge, the frequency of preconstruction surveys at the existing bridge and new bridge will increase to once weekly. This will coincide with placement of bat roosts on the new bridge. Quarterly construction monitoring will be completed. If CDFG sensitive bat species are identified during the preconstruction surveys or during quarterly surveys, then monthly monitoring during the bat breeding season will be conducted and will focus on construction effects on bats. If it is determined that construction disturbance is affecting CDFG sensitive species, then the Port will coordinate with CDFG to incorporate additional protection measures, as applicable.

Monitoring during the demolition phase will focus on ensuring that all bats have been excluded after installing the bat boxes on the new bridge and prior to initiating demolition activities. Subsequent to installation of exclusion devices, roosting areas will be monitored for 7 consecutive nights, or until no bats are observed to exit the structure from known roosting areas at nightfall. During this time, monitoring will be performed to ensure that no bats become entangled in netting and that the bats do not discover and use new roost areas on the existing bridge. If any new roosts are discovered, exclusion netting will be installed, and the monitoring process will continue until bats have been excluded from the bridge.

Post-construction monitoring will be conducted quarterly for 3 years and will document use of new bat roosts.

Mitigation Measure BR-7: Initial construction activities for the new transmission towers/ lines shall not begin during the nesting season (April through August) if double-crested cormorants have active nests on the transmission towers. Construction activities associated with the transmission tower/lines will be initiated prior to or after the breeding season or after the young have fledged.

Mitigation Measure BR-8: Construction and operational bridge lighting during and following construction will be designed to minimize the potential for bird collisions with the bridge structure. Lighting types known to minimize adverse effects (i.e., low-pressure sodium lights, high-pressure sodium lights, or light-emitting diode [LED] lights) will be used, and lighting types known to be disruptive to migrating wildlife, such as mercury vapor lamps (Jones, 2000), will be avoided. Additionally, lighting will be shielded to ensure that light is focused where it is needed, focusing lighting inward and minimizing the amount of lighting used to the maximum extent possible.

Mitigation Measure BR-9: Project landscaping will be limited to slopes near the bridge ramps and will follow the provisions set forth in Executive Order (EO) 13112, which mandates preventing the introduction of and controlling the spread of invasive plant species on highway rights-of-way (ROWs). No invasive species listed in the National Invasive Species Management Plan or the State of California Noxious Weed List shall be used in the landscaping plans for the proposed project.

Climate Change

Mitigation Measure CEQA (GHG)-1: Greenhouse Gas Emission Reduction Program Guidelines (GHG Program). To partially address the cumulative GHG impacts of the Gerald Desmond Bridge Replacement Project, the Port will require this project to contribute \$400,000 to the GHG Program. This contribution will be used to pay for measures pursuant to the GHG Emission Reduction Program, which include, but are not limited to, generation of green power from renewable energy sources, ship electrification, goods movement efficiency measures, cool roofs to reduce building cooling loads and the urban heat island effect, building upgrades for operational efficiency, tree planting for biological sequestration of carbon dioxide (CO₂), energy-saving lighting, and purchase of renewable energy certificates (RECs).

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Mitigation Measure TC-1: Intersection Improvements	
<p>Required Action: Prior to the start of construction Stage 2, the following improvements will be made to the intersection of Pico Avenue, Pier B Street, and 9th Street to mitigate the project's temporary adverse effect during construction at that intersection during Stage 2:</p> <ul style="list-style-type: none"> ▪ Add dual northbound (NB) right-turn lanes; ▪ Restripe eastbound (EB) through/right lane to a right-turn lane; ▪ Provide one (1) EB through lane; and ▪ Continue two (2) State Route (SR) 710 southbound (SB) off-ramp lanes to Pico Avenue. 	
<p>When Required: Prior to construction Stage 2.</p>	
<p>Agency Responsible for Action: POLB Engineering Division.</p>	
<p>Agency Responsible for Tracking: POLB Environmental Planning Division.</p>	
<p>Action (i): Engineering Division to include requirements in Project construction specifications and bid process.</p>	
<p>Action (ii): Construction Management Division to verify that intersection improvements are completed prior to construction Stage 2.</p>	
<p>Submittal Date:</p>	
<p>Verified By:</p>	<p>Title:</p>
<p>Attachments:</p>	
<p>Comments:</p>	

Mitigation Measure TC-2: Intersection Improvements	
<p>Required Action: Prior to the start of construction Stages 3 and 4, the following improvements will be made to the intersection of Pico Avenue, Pier B Street, and 9th Street to mitigate the project's temporary adverse effect during construction at that intersection during Stages 3 and 4:</p> <ul style="list-style-type: none"> ▪ Remove NB-SB split-signal phasing; ▪ Restripe NB through lane to a NB left-turn lane; ▪ Widen SB approach and provide two (2) left-turn lanes and one (1) through lane; and ▪ Continue two (2) on-ramp lanes to NB SR 710. 	
<p>When Required: Prior to construction Stage 3.</p>	
<p>Agency Responsible for Action: POLB Engineering Division.</p>	
<p>Agency Responsible for Tracking: POLB Environmental Planning Division.</p>	
<p>Action (i): Engineering Division to include requirements in Project construction specifications and bid process.</p>	
<p>Action (ii): Construction Management Division to verify that intersection improvements are completed prior to construction Stage 3.</p>	
<p>Submittal Date:</p>	
<p>Verified By:</p>	<p>Title:</p>
<p>Attachments:</p>	
<p>Comments:</p>	

Mitigation Measure TC-3: Intersection Improvements	
Required Action: Prior to the start of construction Stage 2, a traffic signal will be installed at the intersection of Pico Avenue and Pier D Street to mitigate the project's temporary adverse effect during construction at that intersection during Stage 2, 3, and 4. The traffic signal will be permanent and will not be removed after completion of construction of the bridge.	
When Required: Prior to construction Stage 2.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that intersection improvements are completed prior to construction Stage 2.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure TC-4: Intersection Improvements	
<p>Required Action: Prior to the start of construction Stages 3 and 4, the following improvements will be made to the intersection of Pico Avenue and Pier E Street to mitigate the project's temporary adverse effect during construction at that intersection during Stages 3 and 4:</p> <ul style="list-style-type: none"> ▪ Permanently signalize the intersection (the signal will not be removed after completion of construction of a the bridge); ▪ Restripe NB through lane to a NB right-turn lane, providing a single NB through lane; ▪ Add dual free-flow westbound (WB) right-turn lanes; and ▪ Continue two (2) EB Ocean Boulevard off-ramp lanes to Pico Avenue. <p>The <i>Middle Harbor Redevelopment Project Draft Environmental Impact Statement (DEIS)/Draft Environmental Impact Report (DEIR) and Application Summary Report (ASR)</i> prepared for the Port and United States Army Corps of Engineers (USACE) includes signalization of the Pico Avenue/ Pier D Street and Pico Avenue/ Pier E Street intersections. If these signals are implemented as part of that project prior to the start of construction Stage 2 for the Pico Avenue/Pier D Street intersection and construction Stage 3 for the Pico Avenue/Pier E Street intersection, then that would remove the need for the signalization component of the proposed mitigations under TC-3 and TC-4, respectively.</p>	
<p>When Required: Prior to construction Stage 3.</p>	
<p>Agency Responsible for Action: POLB Engineering Division.</p>	
<p>Agency Responsible for Tracking: POLB Environmental Planning Division.</p>	
<p>Action (i): Engineering Division to include requirements in Project construction specifications and bid process.</p> <p>Action (ii): Construction Management Division to verify that intersection improvements are completed prior to construction Stage 3.</p>	
<p>Submittal Date:</p>	
<p>Verified By:</p>	<p>Title:</p>
<p>Attachments:</p>	
<p>Comments:</p>	

Mitigation Measure TC-6: Intersection Improvements	
Required Action: The Port will coordinate with the Long Beach City Traffic Engineer and provide funding for restriping and/or signalization improvements at the intersection of Ocean Boulevard and Magnolia Avenue as mitigation for the effect of the bridge at the intersection.	
When Required: Prior to initiation of construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Environmental Planning Division to verify that funding is transferred to the City of Long Beach and designated for improvements at the intersection Ocean Boulevard and Magnolia Avenue.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HM-1: Hazardous Waste & Materials	
Required Action: A Phase II Site Investigation shall be performed in construction areas where excavation will exceed 5 feet (ft) (1.5 meters [m]) below ground surface (bgs), where groundwater may be encountered and in areas where underground storage tanks (USTs) have been previously removed without closure documentation. The results of the Phase II investigation will be incorporated into the Safety Plan to protect construction workers against known contamination in construction areas. A Hazardous Waste Management Plan based on the results of the Phase II investigation will also be incorporated into the Final Design to ensure proper disposal of contaminated materials and contaminated groundwater found in the construction areas.	
When Required: During final design.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to ensure that the Hazardous Waste Management Plan is incorporated into the Project's Final Design documents. Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that the contractor has prepared a Phase II investigation and ensure that results are included within the Project's Hazardous Waste Management Plan.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HM-2: Hazardous Waste & Materials	
Required Action: A risk assessment shall be performed prior to construction to determine how construction activities will affect the water-bearing intervals and, as applicable, to determine health risks to construction workers.	
When Required: During final design.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
<p>Action (i): Engineering Division to include risk analysis recommendations as requirements in Project construction specifications and bid process to prevent cross-contamination of water-bearing intervals, and as required, ensure protection of works from exposure to potential groundwater contaminants.</p> <p>Action (ii): Construction Management Division to verify and approve contractor's risk assessment in advance of construction activities. Division to review and approve contractor's action plan regarding effects to water-bearing intervals and potential health risks (if any) to construction works. Avoidance/minimization measures to be developed by contractor and approved by Division in advance of construction activities.</p>	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HM-3: Hazardous Waste & Materials	
Required Action: To minimize cross-contamination of the water-bearing zones, the construction contractor shall employ construction techniques to minimize the need for dewatering.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to review and approve contractor's proposed construction techniques to minimize need for dewatering.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HM-4: Hazardous Waste & Materials	
Required Action: The Port shall conduct a survey to screen for asbestos-containing materials (ACMs) and Lead Based Paint (LBP) in all affected buildings and the bridge prior to any demolition activities. Identification of locations of buildings or structures containing ACMs and LBP will be clearly identified on the construction plans and incorporated into project safety plan and hazardous waste management plan. Any disturbance/demolition structures containing ACM or LBP will be completed in accordance with the contract specifications and all State, federal and local laws and regulations.	
When Required: Prior to building or bridge demolition.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to require contractor to provided evidence of certification for and complete ACM and LBP surveys within any structure to be demolished. Division to review and approve results of ACM and LBP screening survey and ensure contractor removes, handles and disposes of all ACM and LBP in accordance with State and Federal Laws and regulatory requirements, including notification. Demolition plans for all structures containing LBP and/or ACM will be submitted to be and approved by Division prior to demolition of buildings or bridge.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HM-5: Hazardous Waste & Materials	
Required Action: Prior to construction, the Port shall test areas within the proposed project corridor where soil may be disturbed for aurally deposited lead (ADL). If ADL levels meet or exceed the action level set forth by the hazardous waste management plan for the project, then ADL-contaminated soils shall be removed in accordance with federal, state, and local regulations.	
When Required: Prior to construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to review contractor's ADL soil test results and confirm the location of areas requiring removal. Division to ensure that contractor removes ADL-contaminated soils in accordance with the Project's Hazardous Waste Management Plan and in compliance with applicable regulations.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HM-6: Hazardous Waste & Materials	
Required Action: A Safety Plan will be required to address any exposure to hazardous materials. The Safety Plan will include proper personal protective equipment (PPE) work requirements, soil and air space monitoring requirements, documentation and reporting requirements, and action levels.	
When Required: Prior to construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to review and approve contractor's Safety Plan in advance of construction activities. The Division will ensure that the contractor is in compliance with the recommendations and requirements contained within the Safety Plan.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HM-7: Hazardous Waste & Materials	
Required Action: The contractor shall prepare a Lead Compliance Plan in accordance with California Code of Regulations (CCR) Title 8 Section 1532.1. The Lead Compliance Plan shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.	
When Required: Prior to construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to review and approve the contractor's Lead Compliance Plan in advance of construction activities. This approval will be contingent upon the Division's verification that the Plan has been prepared by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene. The Division will ensure that the contractor is in compliance with the recommendations and requirements contained within the Plan.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HM-8: Hazardous Waste & Materials	
Required Action: If it is determined that the project would require the removal or disturbance of any existing yellow thermoplastic traffic lane striping in the project area, then Caltrans standard measures shall be implemented to ensure the proper removal, storage, and disposal of the material, as applicable.	
When Required: During final design.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
<p>Action (i): Engineering Division to include requirements of the Caltrans standard specification regarding removal of yellow thermoplastic striping within in Project construction specifications and bid process.</p> <p>Action (ii): Construction Management Division will review and confirm with the contractor the locations of yellow thermoplastic traffic lane striping in the project area proposed for removal. In advance of the removal of this material, the Division will require the contractor to prepare a removal, storage, and disposal plan which meets Caltrans' standards measures. Division will verify that contractor is properly removing, storing, and disposing of these materials, per Caltrans standards.</p>	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HS-1: Public Health & Safety	
Required Action: An Accident and Terrorist Vulnerability assessment of the build alternative shall be completed and all recommendations incorporated into the project during final design. The assessment will analyze and consider applicable protection measures for the construction and operational phases of the proposed project.	
When Required: During final design.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
<p>Action (i): Engineering Division to include requirements in Project construction specifications and bid process. The Division will review and approve the Project's Accident and Terrorist Vulnerability Assessment prepared by the contractor and will ensure that the recommendations are incorporated into the Project's final design.</p> <p>Action (ii): Construction Management Division will verify that the contractor has incorporated recommendations included in the Accident and Terrorist Vulnerability Assessment, as contained in the Project's final design.</p>	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HS-2: Public Health & Safety	
Required Action: A bridge construction and demolition schedule shall be submitted to the Long Beach Police and Fire Departments, United States Coast Guard (USCG), and Caltrans at least 2 weeks prior to initiation of work to provide adequate time for the agencies to plan for alternate routes in case of emergencies.	
When Required: Minimum of two weeks prior to initiation of initiation of Gerald Desmond Bridge demolition activities.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that contractor has provided the bridge demolition and construction schedule to the Long Beach Police and Fire Departments, USCG, and Caltrans at least 2 weeks prior to initiation of work.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HS-3: Public Health & Safety	
Required Action: Prior to initiation of construction activities, all businesses, tenants, and utility companies (i.e., Southern California Edison [SCE], gas, water, oil, and telecommunications) within the area of the proposed construction/demolition or rehabilitation shall be notified of the schedules and associated roadway and ramp closures related to the proposed project.	
When Required: Prior to and as required throughout the construction activities, including demolition of the Gerald Desmond Bridge.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to ensure that contractor notifies all businesses, tenants, and utility companies within the area of the proposed construction/demolition schedules and associated roadway and ramp closures related to the proposed project.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HS-4: Public Health & Safety	
Required Action: All marine transportation and recreational boating companies shall be notified 2 weeks prior to initiation of planned construction/demolition activities potentially affecting normal operations within the Back Channel.	
When Required: Prior to and during construction, including Gerald Desmond Bridge demolition.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to ensure that contractor has notified all marine transportation and recreational boating companies 2 weeks prior to initiation of planned construction/demolition as necessary throughout the project when activities potentially affecting normal operations within the Back Channel may occur.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HS-5: Public Health & Safety	
Required Action: The USCG and all POLB tenants shall be regularly notified of scheduled work over the Back Channel during the construction and demolition phases of the project.	
When Required: Prior to and during construction, including Gerald Desmond Bridge demolition.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to ensure that contractor regularly notifies the USCG and all POLB tenants of scheduled work over the Back Channel during the construction and demolition phases of the project.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure HS-6: Public Health & Safety	
Required Action: An emergency response and health and safety plan shall be prepared in accordance with all applicable federal, state, and OSHA standards. The plan will address potential emergency situations and assure the safety and health of workers by setting and enforcing standards to reduce occupational injuries and accidents. POLB staff will review and approve the plans prior to initiation of construction activities.	
When Required: Prior to and during construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to review and approve the contractor's Emergency Response and Health and Safety Plan. The Division will ensure that the contractor is in compliance with the recommendations and requirements contained within the Plan.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure AQ-C1: Air Quality	
Required Action: Construction processes shall adhere to all applicable South Coast Air Quality Management District (SCAQMD) rules and regulations concerning the operation of construction equipment and dust control.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that contractor adheres to all applicable SCAQMD rules and regulations concerning the operation of construction equipment and dust control.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure AQ-C2: Air Quality	
Required Action: Construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.	
When Required: Prior to and during construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that contractor's construction equipment is properly tuned and maintained in accordance with manufacturer's specifications.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure AQ-C3: Air Quality	
Required Action: During construction, trucks and vehicles in loading and unloading queues must be kept with their engines off when not in use to reduce vehicle emissions. Construction emissions shall be phased and scheduled to avoid emissions peaks, where feasible, and discontinued during second-stage smog alerts.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that during construction, the contractor's trucks and vehicles in loading and unloading queues are kept with their engines off when not in use. Division to ensure that contractor's construction emissions are phased and scheduled to avoid emissions peaks, where feasible, and discontinued during second-stage smog alerts.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure AQ-C4: Air Quality	
Required Action: To the extent feasible, use electricity from power poles rather than temporary diesel or gasoline power generators.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that the contractor utilizes electricity from power poles rather than temporary diesel or gasoline power generators, to the extent feasible.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure AQ-C5: Air Quality	
Required Action: As part of the Port's commitment to promote the Green Port Policy and implement the Clean Air Action Plan (CAAP), the proposed project construction will employ all applicable control measures included in the CAAP and relevant clean air technologies. Heavy-duty construction equipment will be required to use clean fuels, such as ultra-low sulfur fuel, or compressed natural gas and oxidation catalysts.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that the contractor's heavy-duty construction equipment will use clean fuels, such as ultra-low sulfur fuel, or compressed natural gas and oxidation catalysts.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure AQ-C6: Air Quality	
Required Action: Construction activities that affect traffic flow on the arterial roadways shall be scheduled to off-peak hours to the extent practicable. Additionally, construction trucks shall be directed away from congested streets or sensitive receptor areas.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that contractor's construction activities that affect traffic flow on the arterial roadways will be scheduled to off-peak hours to the extent practicable. Division will verify that the contractor's construction trucks will be directed away from congested streets or sensitive receptor areas.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure AQ-C7: Air Quality	
Required Action: During the construction period, temporary traffic controls, such as flaggers and improved signal flow for synchronization to maintain smooth traffic flow, shall be provided.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that during construction, the contractor provides temporary traffic controls, such as flaggers and improved signal flow for synchronization to maintain smooth traffic flow.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure AQ-C8: Air Quality	
Required Action: Trucks used for construction activities occurring prior to 2015 shall use engines with the lowest certified NO _x emission levels, but not greater than the 2007 NO _x emission standards.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that contractor's trucks used for construction activities occurring prior to 2015 will use engines with the lowest certified NO _x emission levels, but not greater than the 2007 NO _x emission standards.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure AQ-C9: Air Quality	
Required Action: Where feasible, construction equipment shall meet the EPA Tier 4 non-road engine standards. The equipment with Tier 4 engine standards becomes available starting in year 2011. Until Tier 4 equipment is feasible, Tier 3 construction equipment shall be required.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that Tier 3 non-road engines and/or Tier 4 non-road engines, as feasible, are being used.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure CEQA (AQ-1): Air Quality	
<p>Required Action: Cumulative Air Quality Impact Reduction Program. To help reduce cumulative air quality impacts associated with the Gerald Desmond Bridge Replacement Project, the Port will require the project to contribute \$2 million in support of the Schools and Related Sites (\$1 million) and Healthcare and Seniors Facility (\$1 million) Port of Long Beach Grant Programs. The distribution of these funds to potential applicants and projects will be determined through a public evaluation process and approved by the Board of Harbor Commissioners.</p> <p>The timing of the payments pursuant to this mitigation measure shall be made by the latter of the following two dates: (1) the date that the Port issues a Notice to Proceed or otherwise authorizes the commencement of construction on the project; or (2) the date that the Gerald Desmond Bridge Replacement Project Final EIR/EA is conclusively determined to be valid, either by operation of PRC Section 21167.2 or by final judgment or final adjudication.</p>	
<p>When Required: Not later than initiation of construction or date on which the Final EIR/EA is conclusively determined to be valid.</p>	
<p>Agency Responsible for Action: POLB Board of Harbor Commissioners.</p>	
<p>Agency Responsible for Tracking: POLB Environmental Planning Division.</p>	
<p>Action (i): Board of Harbor Commissioners allocates funding.</p> <p>Action (ii): Environmental Planning shall implement the Schools and Related Sites and Healthcare and Seniors Facility Guidelines after allocation of funding</p>	
<p>Submittal Date:</p>	
<p>Verified By:</p>	<p>Title:</p>
<p>Attachments:</p>	
<p>Comments:</p>	

Mitigation Measure BR-1: Biological Resources	
Required Action: Artificial Nest Boxes (Peregrine Falcon): A minimum of two nesting ledges with artificial nest boxes will be installed on the new bridge in different locations prior to demolition of the existing bridge. The boxes will be made available prior to the nesting season. The new nest locations will be approved by the California Department of Fish and Game (CDFG) and will be selected to minimize disturbance to the extent feasible. Should the peregrine falcons not use the new bridge for nesting despite the nest boxes, alternate suitable nesting sites are available in the project vicinity (e.g., hotels, silos, bridges, Long Beach City Hall).	
When Required: Final Design and Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
<p>Action (i): Environmental Planning Division will coordinate final nesting ledge locations and design with CDFG and provide requirements to the Engineering Division for inclusion in the construction specifications.</p> <p>Action (ii): Engineering Division to include nesting ledge requirements in Project construction specifications and bid process</p> <p>Action (iii): Construction Management Division to verify that contractor has installed a minimum of two nesting ledges with artificial nest boxes on the new bridge prior to falcon exclusion or initiating demolition of the Gerald Desmond Bridge.</p>	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure BR-2: Biological Resources	
Required Action: Precluding Nesting on the Existing Bridge (Peregrine Falcon): Once the nest boxes are in place on the new bridge, no less than a minimum of 2 months prior to initiation of demolition activities within 500 ft (152 m) of the existing nesting locations, measures and/or structures approved by CDFG to discourage nesting at the previously used nest sites will be implemented under the supervision of a CDFG-approved raptor biologist. If existing nest sites are occupied, then exclusion activities will not occur until 30 days after the last young leaves the nest, or until nest abandonment, whichever occurs first (see No Work Zone under BR-3 Monitoring Program).	
When Required: Final Design and Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
<p>Action (i): Environmental Planning Division will coordinate exclusion timing and methods with CDFG and provide requirements to the Engineering Division for inclusion in the construction specifications.</p> <p>Action (ii): Engineering Division to include requirements in Project construction specifications and bid process.</p> <p>Action (ii): Construction Management Division to ensure exclusion timing and methods completed consistent with the construction specifications</p>	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure BR-3: Biological Resources

Required Action: Monitoring Program (Peregrine Falcon): The proposed monitoring program is based on measures from the Peregrine Falcon Monitoring and Mitigation Program (PFMMP) for the Gerald Desmond Bridge (BioResource Consultants, 1998) used from 1998 through 2004. Modified measures from the 1998 PFMMP as proposed for the North- and South-side Alignment Alternatives are provided below. A mitigation and monitoring plan will be prepared and submitted to CDFG for concurrence prior to initiation of construction activities.

- *Timing of Monitoring:* A raptor biologist will initiate monitoring at least 1-year prior to the beginning of construction and at least 2 months prior to nest site selection, generally January to mid-February. Monitoring will continue through the breeding season, which generally extends through mid-July. Monitoring will occur at the existing and new bridge and begin prior to the placement of artificial nest boxes on the new bridge and prior to attempts to preclude nesting at the existing bridge. Monitoring during construction will continue once weekly during the breeding season until the breeding season or construction is complete, whichever occurs first.

Post-construction monitoring will occur for 3 years after construction. Surveys will be conducted once monthly from January through July to document peregrine falcon nesting at the new bridge.

- *Biological Monitor:* A raptor biologist with several years of experience observing peregrine falcon behavior and approved by the Port, Caltrans, and CDFG will be selected to conduct the monitoring.
- *Monitoring Effort:* All monitoring will be conducted with the use of binoculars and/or spotting scope to document peregrine falcon activity in the vicinity of the existing and new bridge. Monitoring during construction will require an average of 8 to 12 hours of observation per week to determine whether peregrine falcons are exhibiting normal breeding behavior and are nesting on the old bridge, or if they have relocated to an alternate nesting site.

If peregrines attempt to nest on the existing bridge while construction activities are occurring, then a qualified peregrine monitor will observe the pair for a minimum of 16 hours per week to determine the effect of the construction on peregrine behavior. This level of effort will continue as long as incubating peregrines or nestlings under the care of adults occupy the nesting site. If the young fledge, then the observations will continue for a minimum of 30 days after the last young leaves the nest ledge. If the raptor biologist reports that the peregrines are exhibiting behavior that may indicate potential nest abandonment, then visual screens or other methods as approved by CDFG will be implemented at the nesting locations. If nest abandonment occurs, then the Port, in coordination with CDFG, will determine the feasibility of creating temporary nesting ledges at alternate locations in areas with less intense construction activities.

Nesting on the new structures shall be discouraged until construction of the entire new bridge is completed. The Port, in coordination with CDFG, will develop measures to be implemented by, or under the direction of a raptor biologist to discourage nesting. Such measures may include continued removal of nesting materials or installation of CDFG-approved exclusion devices.

- *No Work Zone:* During construction of the new bridge and prior to exclusion efforts for bridge demolition activities, the existing nest ledges and boxes will be made available for nesting. If a nesting attempt is made on the new bridge while under construction, then a "No Work Zone" of approximately 250 ft (76 m) will be enforced until the raptor biologist implements CDFG-approved methods to discourage nesting on the areas under construction.

Prior to exclusion activities on the existing bridge, nesting ledges on the new bridge will be made available for use. During demolition, if falcons attempt to nest on the existing bridge, despite efforts to deter nesting, then a "No Work Zone" of approximately 250 ft (76 m) will be enforced until the raptor biologist implements CDFG-approved methods to further exclude nesting on the Gerald Desmond Bridge during demolition activities.

Should a nest be successfully established within the construction area during construction of the new bridge or demolition of the Gerald Desmond Bridge, the Port will instruct construction crews to adhere to a "No Work Zone" around the nest site. The Port will coordinate with the United States Fish and Wildlife Service (USFWS) and CDFG to obtain permission to remove the nest in accordance with the Migratory Bird Treaty Act (MBTA). This "No Work Zone" will extend around the nest for a radius of approximately 250 ft (76 m) and be maintained until removal of the nest is authorized – 30 days after the last young leaves the nest or until nest abandonment, whichever occurs first. Demolition activities can continue at other locations outside of the "No Work Area."

- *Reporting:* Quarterly reports summarizing monitoring observations of nesting peregrines, including breeding behavior, nest data, disturbances, and reproductive success, will be submitted during construction of the new bridge. During demolition, post-construction monitoring reports will be prepared to provide details on placement of artificial nest boxes and exclusion activities and use of the nesting ledges on the new bridge. Reports will be prepared by the raptor biologist and submitted to the Port, Caltrans, and CDFG.

When Required: Preconstruction/ Construction/ Postconstruction.

Agency Responsible for Action: POLB Engineering Division.

Agency Responsible for Tracking: POLB Environmental Planning Division.

Action (i): Environmental Planning Division will coordinate final monitoring program requirements with CDFG and provide requirements to the Engineering Division for inclusion in the construction specifications.

Action (ii): Engineering Division to include requirements in Project construction specifications and bid process.

Action (iii): Construction Management Division to provide required access to the project area for the biological monitor, as required to complete monitoring activities.

Action (iv): Environmental Planning Division will coordinate with and submit monitoring reports, as required to Caltrans and CDFG.

Submittal Date:

Verified By:

Title:

Attachments:

Comments:

Mitigation Measure BR-4: Biological Resources

Required Action: Placement of Bat Boxes: Bat roosting boxes on the new bridge will be made available a minimum of 2 months prior to demolition activities within 500 ft (152 m) of active roosts at the existing bridge. Bat roosting boxes will be designed and built during construction of the new bridge, which is scheduled to occur before demolition of the existing bridge, to be ready for placement once the under-bridge structures are complete. The location and design of artificial roosts will also consider the temperature measured at roosts on the existing bridge during the preconstruction period. A variety of designs and recommendations are available (Langenstein *et al.*, 1998; Keeley and Tuttle, 1999).

In addition to, or in lieu of, bat roosting boxes, the new bridge may be designed to incorporate potential roosts as part of the structure or such structures may be designed and added to the new bridge post-construction. Bats prefer roosting sites with crevices 0.5- to 1.25 inches (in.) (1.27 to 3.175 centimeters [cm]) wide (Keeley and Tuttle, 2000). Bats also use soffits if they are left open; therefore, bridge design could also include soffits that could be left open without damaging the bridge or hindering access for maintenance or other ongoing bridge work. One such type of artificial roost is the Texas bat-abode, which has an external panel on either side and 1- by 2-in. (2.5- by 5.1-cm) wooden spacers sandwiched between 0.5- to 0.75-in. (1.2- to 1.9-cm) plywood partitions. The internal partitions will be designed to provide crevices 0.75-in. (1.9 cm) wide and at least 12 in. (31 cm) deep. Smooth roost surfaces need to be textured to provide footholds for bats on one or both sides of each plywood partition, creating irregularities at least every 0.125-in. (0.3-cm). Footholds for bats are constructed of rough-sided paneling, or panels coated with polyurethane or epoxy paint sprinkled with rough grit, or attaching plastic mesh with silicone caulk or rust-resistant staples.

When Required: Final Design and Construction.

Agency Responsible for Action: POLB Engineering Division.

Agency Responsible for Tracking: POLB Environmental Planning Division.

Action (i): Environmental Planning Division will coordinate final bat roosting box locations and design with CDFG and provide requirements to the Engineering Division for inclusion in the construction specifications.

Action (ii): Engineering Division to include bat roosting box requirements in Project construction specifications and bid process

Action (iii): Construction Management Division to verify that contractor has installed bat roosting boxes on the new bridge prior to initiating bat exclusion or demolition of the Gerald Desmond Bridge.

Submittal Date:

Verified By:

Title:

Attachments:

Comments:

Mitigation Measure BR-5: Biological Resources

Required Action: Precluding Roosting on the Existing Bridge: Prior to demolition, bats must be excluded from the existing bridge. Methods for excluding bats include use of a chemical repellent (i.e., naphthalene), use of floodlights, high-frequency noise, and placement of physical barriers such as nets to prevent bats from using roost sites (Greenhall, 1982). The exclusion method will be approved by the Port, Caltrans, and CDFG. The mechanical exclusion device is considered the safest and the most reliable. These barriers are commonly screens of mesh, hardware cloth, or wire, with mesh openings no greater than 0.25-in. (0.64-cm). The best time for bat proofing is November through March, after juvenile bats have learned to fly (Bat Conservation and Management, Inc., 2005). Exclusion work will be performed by contractors approved by Caltrans as experienced with excluding bats on bridges. This exclusion process may require 1 to 2 weeks, or potentially longer, given the size of the existing bridge.

Bat exclusion via netting is accomplished by first affixing mesh netting over known entry points using I-bolts, which allows bats to exit the bridge but not return. Bats returning to the bridge would first return to their normal point of entry, and then they would seek new roosts once they have determined that it is not possible to return to their old roosting site. This process will be monitored by a CDFG-approved bat biologist each night for at least 7 consecutive nights, or until no bats are observed to exit the structure from known roosting areas at nightfall. During this time, monitoring will be performed to ensure that bats do not discover and use new roosts on the existing bridge and that no bats become entangled in netting. If any new roosts are discovered on the existing bridge, they will be covered with mesh according to the above procedure. Very small crevices or fissures in the bridge may be sealed using caulk or a similar filling agent. Should numerous bats still be observed exiting the bridge at night after installation of exclusion cloth, it may be necessary to add another exclusion method, such as floodlights illuminating access points or crevices used by attract bats (bats will not roost in a well-lit area).

When Required: Final Design and Construction.

Agency Responsible for Action: POLB Engineering Division.

Agency Responsible for Tracking: POLB Environmental Planning Division.

Action (i): Environmental Planning Division will coordinate exclusion timing and methods with CDFG and provide requirements to the Engineering Division for inclusion in the construction specifications.

Action (ii): Engineering Division to include requirements in Project construction specifications and bid process.

Action (ii): Construction Management Division to ensure exclusion timing and methods are completed consistent with the construction specifications.

Submittal Date:

Verified By:

Title:

Attachments:

Comments:

Mitigation Measure BR-6: Biological Resources

Required Action: Bat Monitoring Program: A monitoring program will be implemented throughout the construction phases of the project, as applicable. CDFG concurrence on the proposed monitoring program will be obtained prior to initiation of bat monitoring/ survey activities. All surveys/monitoring will be conducted by an approved CDFG bat biologist. Preconstruction monitoring will focus on bat species identification, locations of bat roosts, and documentation of roost characteristics based on Fenton (2003) and O'Shea *et al.* (2003). If CDFG species of special concern are identified, the Port will coordinate with CDFG and incorporate additional monitoring/protection measures as applicable.

Timing of Monitoring: Bat preconstruction surveys will be initiated a minimum of 1-year prior to the initiation of construction. The surveying and monitoring regime will consist of quarterly monitoring surveys, including a survey in June (i.e., prime bat roosting season). Each survey will include daytime and nighttime surveys (see Monitoring Effort) focused on identifying specific locations of bat roosts and roost access points. One month prior to the initiation of demolition of the existing bridge, the frequency of preconstruction surveys at the existing bridge and new bridge will increase to once weekly. This will coincide with placement of bat roosts on the new bridge. Quarterly construction monitoring will be conducted. If CDFG sensitive bat species are identified during the preconstruction surveys or during quarterly surveys, then monthly monitoring during the bat breeding season will be completed and will focus on construction effects on bats. If it is determined that construction disturbance is affecting CDFG sensitive species, then the Port will coordinate with CDFG to incorporate additional protection measures, as applicable.

Monitoring during the demolition phase will focus on ensuring that all bats have been excluded after installing the bat boxes on the new bridge and prior to initiating demolition activities. Subsequent to installation of exclusion devices, roosting areas will be monitored for 7 consecutive nights, or until no bats are observed to exit the structure from known roosting areas at nightfall. During this time, monitoring will be performed to ensure that no bats become entangled in netting and that the bats do not discover and use new roost areas on the existing bridge. If any new roosts are discovered, exclusion netting will be installed, and the monitoring process will continue until bats have been excluded from the bridge.

Post-construction monitoring will be conducted quarterly for 3 years and will document use of new bat roosts.

- *Biological Monitor:* A qualified bat biologist thoroughly familiar with Anabat™ equipment and approved by CDFG, Caltrans, and the Port will conduct all bat monitoring and supervise the design and placement of new bat roosts and bat exclusion methods and devices.
- *Monitoring Effort:* The quarterly surveys will be performed during appropriate lunar/weather conditions and focus on identifying active bat roosts on the existing bridge. Each quarterly survey will include one survey during the day to search for urine staining and accumulation of bat feces or guano, and one evening/night survey period using a sonic bat (i.e., Anabat™ or Sonobat™). Several visits may be required per survey to determine specific roost locations and roost access points, and information necessary for designing bat exclusion devices on the existing bridge.

During the quarterly preconstruction surveys, once the specific locations of bat roosts are determined, temperatures of existing roosting sites will be recorded so that selection of the location and type of artificial roosts on the new bridge can ensure duplication to the extent feasible of the thermal regime at existing bat roosts.

Monitoring during construction and demolition will focus on whether construction activities are disturbing bats at the existing and new bridge. If disturbances to bats are documented, and monitoring has identified the presence of maternity roosts or CDFG sensitive species, then the Port will coordinate with CDFG to identify measures to minimize effects on the maternity roosts and sensitive species.

- *Reporting:* Quarterly reports summarizing the monitoring efforts and observations at the new and existing bridge will be prepared and submitted to the Port, Caltrans, and CDFG. Following construction, a final report will be prepared and include the name of the bat monitor, survey methods and dates, survey times and

weather conditions, the type of artificial bat roosts used at the new bridge, and exclusion devices at the existing bridge. The final report will also include photos and detailed observations, and a conclusions and recommendations section for agency use in future projects.	
When Required: Pre-construction/Construction/Post construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Environmental Planning Division will coordinate final monitoring program requirements with CDFG and provide requirements to the Engineering Division for inclusion in the construction specifications.	
Action (ii): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (iii): Construction Management Division to provide required access to the project area for the biological monitor, as required to complete monitoring activities.	
Action (iv): Environmental Planning Division will coordinate with and submit monitoring reports, as required to Caltrans and CDFG.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure BR-7: Biological Resources	
Required Action: Initial construction activities for the new transmission towers/ lines shall not begin during the nesting season (April through August) if double-crested cormorants have active nests on the transmission towers. Construction activities associated with the transmission tower/lines will be initiated prior to or after the breeding season or after the young have fledged.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that the contractor does not initiate construction of the new transmission towers/lines during the double-crested cormorants nesting season (April through August) if active nests are present on the existing transmission towers.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure BR-8: Biological Resources	
Required Action: Construction and operational bridge lighting during and following construction will be designed to minimize the potential for bird collisions with the bridge structure. Lighting types known to minimize adverse effects (i.e., low-pressure sodium lights, high-pressure sodium lights, or light-emitting diode [LED] lights) will be used, and lighting types known to be disruptive to migrating wildlife, such as mercury vapor lamps (Jones, 2000), will be avoided. Additionally, lighting will be shielded to ensure that light is focused where it is needed, focusing lighting inward and minimizing the amount of lighting used to the maximum extent possible.	
When Required: Construction.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that the contractor utilizes and installs bridge lighting that is focused where needed and minimizes the potential for bird collision during both construction and operation.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure BR-9: Biological Resources	
Required Action: Project landscaping will be limited to slopes near the bridge ramps and will follow the provisions set forth in Executive Order (EO) 13112, which mandates preventing the introduction of and controlling the spread of invasive plant species on highway rights-of-way (ROWs). No invasive species listed in the National Invasive Species Management Plan or the State of California Noxious Weed List shall be used in the landscaping plans for the proposed project.	
When Required: Final design.	
Agency Responsible for Action: POLB Engineering Division.	
Agency Responsible for Tracking: POLB Environmental Planning Division.	
Action (i): Engineering Division to include requirements in Project construction specifications and bid process.	
Action (ii): Construction Management Division to verify that contractor's landscaping plan is in compliance with EO 13112 and does not include invasive species.	
Submittal Date:	
Verified By:	Title:
Attachments:	
Comments:	

Mitigation Measure CEQA (GHG)-1: Climate Change	
<p>Required Action: Greenhouse Gas Emission Reduction Program (GHG Program). To partially address the cumulative GHG impacts of the Gerald Desmond Bridge Replacement Project, the Port will require this project to contribute \$400,000 to the GHG Program. This contribution will be used to pay for measures pursuant to the GHG Emission Reduction Program, which include, but are not limited to, generation of green power from renewable energy sources, ship electrification, goods movement efficiency measures, cool roofs to reduce building cooling loads and the urban heat island effect, building upgrades for operational efficiency, tree planting for biological sequestration of carbon dioxide (CO₂), energy-saving lighting, and purchase of renewable energy certificates (RECs).</p> <p>The timing of the payments pursuant to this mitigation measure shall be made by the latter of the following two dates: (1) the date that the Port issues a Notice to Proceed or otherwise authorizes commencement of construction on the project; or (2) the date that the Gerald Desmond Bridge Replacement Final EIR/EA is conclusively determined to be valid, either by operation of PRC Section 21167.2 or by final judgment or final adjudication. At the project level, there are common measures that have the potential to reduce GHG emissions. These measures include using reclaimed water, landscaping, energy-efficient lighting, and idling restrictions.</p>	
<p>When Required: No later than initiation of construction or date on which Final EIR/EA is conclusively determined to be valid.</p>	
<p>Agency Responsible for Action: POLB Engineering Division.</p>	
<p>Agency Responsible for Tracking: POLB Environmental Planning Division.</p>	
<p>Action (i): Board of Harbor Commissioners allocates funding.</p> <p>Action (ii): Environmental Planning Division shall implement the GHG Program Guidelines after allocation of funding.</p>	
<p>Submittal Date:</p>	
<p>Verified By:</p>	<p>Title:</p>
<p>Attachments:</p>	
<p>Comments:</p>	