ATTACHMENT 2

The Port of LONG BEACH

AGENDA ITEM NO. 8

Memorandum

BOARD OF HARBOR COMMISSIONERS

Meeting of AUG 09 2010

Action Approved

Resolution No. HD- 2576

RC

Date: August 9, 2010

To: Board of Harbor Commissioners

From: Richard D. Cameron, Director of Environmental Planning

Subject: Port of Long Beach, Gerald Desmond Bridge Replacement Project: Recommend Adoption of a Resolution Certifying the Final EIR, Making Certain Findings, Adopting a Statement of Overriding Considerations, a Mitigation Monitoring and Reporting Plan, Approving the Project, Adopting the Application Summary Report, and Issuing Level III Harbor Development Permit #04-086

Requested Action

The Board of Harbor Commissioners is requested to:

- Receive this report from the staff and its environmental consultants and carefully consider all written and oral comments received on this item, and
- If the Board concurs that the Final Environmental Impact Report (Final EIR) has been completed in compliance with the provisions of the California Environmental Quality Act (CEQA) and that the project should be approved, adopt a resolution certifying the Final EIR for the Gerald Desmond Bridge Replacement Project, making certain findings, adopting a statement of overriding considerations, adopting a mitigation monitoring and reporting program, approving the North-side Alignment Alternative described in the Final EIR (Project), adopting the Application Summary Report, and issuing a Level III Harbor Development Permit (within Attachment 1).

Prior to taking this action, the Board is requested to carefully review and consider the Final EIR, including all the comments and responses to comments. The Final EIR was distributed to the Board under separate cover on July 28, 2010. The Revised Draft EIR/EA was previously transmitted to the Board, and is not superseded by the Final EIR/EA. For ease of reference Table ES-1, which summarizes the environmental impacts of the Project and the corresponding mitigation, and identifies whether an impact remains significant after mitigation, is included as Attachment 2 to this report.

Background

The existing Gerald Desmond Bridge was constructed in 1968 and seismically upgraded in 1995. The bridge is a steel tied-arch truss structure, in which the horizontal forces of the arch are borne by the bridge deck, rather than the ground or the bridge foundations. It provides four through travel lanes (i.e., two in each direction). As the fifth largest seaport complex in the world, the Port of Long Beach (Port) and the Port of Los Angeles handle more than 30% of U.S. waterborne container cargo. The bridge is a vital link in Port-area goods movement infrastructure because it is the westerly extension of State Route 710 (SR 710), which is the

primary access route for the ports and carries approximately 15% of all U.S. port-related container traffic.

According to a County of Los Angeles Department of Public Works Bridge Inspection Report dated September 5, 2007, the bridge has a sufficiency rating of 43. Bridges that are found to be structurally deficient or functionally obsolete, as defined by FHWA, with a sufficiency rating of less than 80 are eligible for federal funding for rehabilitation. Bridges are eligible for replacement when they have a sufficiency rating of less than 50. The existing bridge is physically deteriorated. One of the major physical deficiencies of the bridge is that the concrete is spalling off the bridge in many areas. Pieces of fallen concrete weighing several pounds have been found, requiring the Port to install netting underneath the bridge to protect Port facilities and workers below. In addition to the physical deficiencies, the existing bridge was not designed to handle the traffic volumes forecasted to use the bridge in the future; nor was it designed to allow the safe passage beneath of existing and new-generation container ships that are expected to call at the Port in the future. As a result, the Port has determined that there is a need to provide a structurally sound bridge linking Terminal Island and Long Beach/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.

Public Review

On October 24, 2002, the Port, in cooperation with the California Department of Transportation (Caltrans) issued a Notice of Preparation (NOP) to prepare an Environmental Impact Report/Environmental Assessment /Application Summary Report (EIR/EA) for the Gerald Desmond Bridge Replacement Project. Two public scoping meetings for the project were held on November 12, 2002. The first meeting was held in the 6th Floor Board Room from 2:00 p.m. to 4:00 p.m. for responsible and trustee agencies, and the second meeting was held for other Interested Parties in the lobby of the Port Administration Building from 5:00 p.m. to 7:00 p.m. Eight written comments were received during the scoping period. The comments covered a variety of topics including oil operations, traffic, utilities, geotechnical issues, hazardous waste, air quality, and water quality. The Board and Caltrans released a draft EIR/EA on June 14, 2004, followed by two public hearings on July 19, 2004. The hearings were held in the 6th Floor Board Room at 1:00 p.m. and 6:00 p.m. Twelve written comments were received during the public review period. The comments covered a variety of topics including utilities, growth inducement, project description, air quality and health risk, traffic, oil operations, biota, and hazardous materials. Based on the comments received on the first draft EIR/EA and the proposal for a new tolling alternative, a revised NOP describing a proposed tolling alternative was released on December 5, 2005. Three comment letters were received on the revised NOP covering public services, utilities, traffic, and tolls on trucks. On February 4, 2010, a revised draft EIR/EA was circulated for public review. Two public hearings were held: one on February 17, 2010, at 6:30 p.m. at Long Beach City Hall, and one on February 24, 2010, at 6:30 p.m. at Silverado Park.

A total of 35 people spoke at the public hearings on the revised draft EIR/EA. In addition, a total of 49 agencies/individuals commented on the revised draft EIS/EIR during the comment period including three elected officials, one state government agency, two regional government agencies, two local government agencies, four community groups, 15 industry and business groups, and 22 individuals. Their individual comments are included in Chapter 4 of the Final EIR/EA.

The Alternatives

The Final EIR analyzed the following alternatives:

North-side Alignment Alternative (Preferred Alternative). The North-side Alignment Alternative would provide a new bridge located approximately 140 feet (ft) (42.7 meter [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% in both directions. The new bridge would be 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 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

This alignment alternative would use the land between the existing bridge and the Long Beach Generating Station (former Southern California Edison plant), and it would require construction of new ramps for the existing Horseshoe interchange. It also would include demolition of the existing bridge and relocation of certain electric transmission lines that cross the Cerritos Channel north of the existing bridge site.

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). Like the North-side Alignment Alternative, this bridge alignment would have a vertical profile over the Back Channel of 200 ft (61 m). The main span bridge design options would be the same as those proposed for the North-side Alignment. The bridge cross section and approaches to the new bridge would include the same project features as described for the North-side Alignment Alternative. This alternative also would include demolition of the existing bridge and relocation of certain transmission lines that cross Cerritos Channel.

Bridge 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, and the height of the bridge would remain at 156 ft (47.5 m) above the MHWL. To comply with current seismic detailing standards for new bridges, the lap splices at the base of the columns would need to be eliminated and the amount of confinement reinforcement increased. In summary, to bring the existing Gerald Desmond Bridge up to current American Association of State Highway and Transportation Officials (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 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 relocation of the Cerritos Channel electric transmission lines.

No Action Alternative. This alternative considers what would reasonably be expected to occur on the site if the Port did not implement the proposed Project. Under the No Action Alternative, the Gerald Desmond Bridge would not be replaced or rehabilitated. It would remain in its existing deteriorated condition until a retrofit schedule is established. It would remain with insufficient roadway capacity to handle projected car and truck traffic volumes, and inadequate channel clearance for safe passage of some existing and new-generation container ships. Under the No Action Alternative, the existing bridge would continue in use as the sole direct connection between SR 710, Long Beach, and Terminal Island. Existing measures to protect against falling structural elements would need to be enhanced as the bridge continues to deteriorate, and the related safety issues would increase in severity. Seismic safety of the channel crossing would not be enhanced with a new or rehabilitated bridge meeting current seismic standards. Increasing traffic volumes would result in steadily deteriorating levels of service. Under the No Action Alternative (as with the Rehabilitation Alternative), the existing SCE transmission lines would not be relocated.

Attachment 2 to this report contains Tables ES-1 from the Final EIR/EA that compares the alternatives and the CEQA significance analysis for each alternative.

Project Impacts

Although most potentially significant environmental impacts of the Project will be rendered insignificant through project design features and the imposition of mitigation measures, some Project impacts are considered significant and unavoidable under CEQA even after they have

been lessened to the extent feasible through design features or mitigation measures. These unavoidable impacts under CEQA are as follows:

1. **Air Quality**

The proposed Project will have significant air quality impacts associated with construction activities that would result in temporary short-term exceedances of the SCAQMD regional and local daily significance threshold for NOx. In addition, operational activities would result in NOX emissions exceeding the SCAQMD daily operational emission threshold in the opening year 2015. Exceedance of SCAQMD NOx construction and operational thresholds would also result in cumulative air quality impacts.

2. **Traffic and Circulation**

Construction-related detour traffic would result in short-term, temporary increases in auto and truck traffic at certain 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

In addition, 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 that can be mitigated to less than significant if mitigation measures identified in the Final EIR/EA are implemented by the City of Los Angeles. If those measures are not implemented, then this impact is potentially significant under CEQA.

3. **Climate Change**

Finally, the proposed project results in increases in greenhouse gas (GHG) emissions that would contribute to regional cumulative increases and are therefore considered by the Port to be an unavoidable significant impact.

Cumulative Impacts

The proposed project would result in cumulatively considerable construction and operational air impacts and climate change impacts even after all feasible mitigation measures have been applied to the Project. Therefore, staff has recommended in the Final EIR/EA that the Project provide funding in the amounts set forth below to three programs already established by the Board: the *Schools and Related Sites Guidelines for the Port of Long Beach Grant Programs* (Schools Program), the *Healthcare and Seniors Facility Program Guidelines for the Port of Long Beach Grant Programs* (Healthcare Program), and the *Greenhouse Gas Emission Reduction Program* (GHG Program). Although all feasible mitigation measures that would lessen the 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 Schools Program and the Healthcare Program were developed in an effort to mitigate potential cumulative air quality and noise impacts of projects in the San Pedro Bay Ports' area (including marine terminal expansions/modernizations for the ports of Long Beach and Los Angeles and related transportation projects). The programs are specifically aimed at sensitive populations (i.e., school-age children, senior citizens, and persons with specific respiratory illnesses), which have been identified by state and local air agencies as particularly sensitive to air pollutants. The Schools Program, which is focused on school-age children, identifies eligible applicants as schools, preschools, and daycare centers where children spend a significant portion of their waking hours. The Healthcare Program is focused on specific prevention, education, and outreach programs, as well as direct mitigation projects for hospitals, healthcare facilities, retirement homes, senior centers, and convalescent homes, in areas near the ports determined to be most affected by cumulative air impacts. Projects funded by these two programs are intended to supplement source reduction measures in the near term when cumulative impacts are predicted to be highest. Implementation of Final EIR/EA **Mitigation Measure CEQA (AQ)-1** (Cumulative Air Quality Impact Reduction Program) would ensure the proposed Project's participation in the Schools Program and the Healthcare Program. Staff is recommending that the Port require this Project to provide funding for each program in the amount of $1 million.

To partially address the cumulative GHG impacts of the Project, staff is also recommending that the Port require this Project to provide funding through **Mitigation Measure CEQA (GHG)-1** (Greenhouse Gas Emission Reduction Program) in the amount of $400,000. This money will be used to pay for measures pursuant to the GHG Program, which includes projects such as generation of green power from renewable energy sources, 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 CO_2, energy-saving lighting, and purchase of renewable energy certificates (RECs).

Mitigation

Mitigation measures have been developed for the Project to reduce the significance level of the identified impacts as outlined in the attached Mitigation Monitoring and Reporting Program (within Attachment 1), and each mitigation measure shall be a condition of project approval. However, the air quality, climate change, and traffic and circulation impacts will remain significant after all feasible mitigation measures are applied to the proposed project.

Overriding Considerations

Port staff believes that there are specific overriding economic, legal, social, technological, and other benefits of the proposed Project that outweigh the significant impacts and provide sufficient reasons for approving the proposed Project, and thus the attached Statement of Overriding Considerations has been transmitted herewith for the Board's review and consideration (within Attachment 1).

Recommendation

The Environmental Planning staff recommends that the Board of Harbor Commissioners take the following action on this project:

1. Adopt the resolution certifying the Final EIR pursuant to the California Environmental Quality Act, making certain findings, adopting the statement of overriding considerations, adopting the mitigation monitoring and reporting program, approving the North-side Alignment Alternative Described in the Final EIR, adopting the Application Summary Report, and approving a Level III Harbor Development Permit.

Recommended by:

Robert Kanter

Robert Kanter, Ph.D.
Managing Director of Environmental Affairs and Planning

Approved by:

Richard D. Steinke
Executive Director

SEC:s

Attachments:
1. Gerald Desmond Bridge Replacement Project Board Resolution
2. Table ES-1 Summary of Potentially Adverse/Significant Impacts-

Table ES-1 Summary of Potentially Adverse/Significant Impacts

North-side Alignment Alternative	South-side Alignment Alternative	Rehabilitation Alternative	Potential Impacts-	Avoidance, Minimization and/or Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
Traffic and Circulation (see Section 2.1.5)						
√	√	X	A temporary adverse traffic effect attributable to the Bridge Replacement Alternatives would occur at the Pico Avenue and Pier B Street/9th Street intersection during construction Stage 2.	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 NB right-turn lanes; restripe EB through/right lane to a right-turn lane; provide one (1) EB through lane; and continue two (2) SR 710 SB off-ramp lanes to Pico Avenue.	Minor Impact	Less than Significant
√	√	X	A temporary adverse traffic effect attributable to the Bridge Replacement Alternatives would occur at the Pico Avenue and Pier B Street/9th Street intersection during construction Stages 3 and 4.	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.	Temporary Adverse	Temporary Significant
√	√	X	A temporary adverse traffic effect attributable to the Bridge Replacement Alternatives would occur at the Pico Avenue and Pier D Street intersection during construction Stages 2, 3, and 4.	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 and will not be removed after completion of construction of a Bridge Replacement Alternative.	Temporary Adverse	Temporary Significant
√	√	X	A temporary adverse traffic effect attributable to the Bridge Replacement Alternatives would occur at the Pico Avenue and Pier E Street intersection during construction Stages 3 and 4.	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 WB right-turn lanes; and continue two (2) EB Ocean Boulevard off-ramp lanes to Pico Avenue.	Minor Impact	Less than Significant
√	√	X	A project-related adverse effect is anticipated at the intersection of Navy Way/Seaside Avenue.	TC-5 During the design phase of a Bridge Replacement Alternative, the Port shall add a third NB left-turn lane to mitigate the project effect at the Navy Way/Seaside Avenue intersection.	Minor Impact	Significant[1]
√	√	X	A project-related adverse effect is anticipated at the intersection of Ocean Boulevard/Magnolia Avenue.	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	Minor	Less than Significant
√	√	X	A temporary adverse traffic effect attributable to the Bridge Replacement Alternatives would occur on WB Ocean Boulevard between the Horseshoe Ramps and the Terminal Island Freeway interchange.	No feasible measures to minimize traffic effects at WB Ocean Boulevard between the Horseshoe Ramps and the Terminal Island Freeway interchange have been identified. However, construction of the SR 47 Flyover as part of the SR 47 project would eliminate the temporary adverse traffic effect.	Temporary Adverse	Temporary Significant
√	√	X	A temporary adverse traffic effect has been identified that would result from construction of the proposed Bridge Replacement Alternatives at the Ocean Boulevard and Terminal Island Freeway interchange.	The two intersections of the Ocean Boulevard ramps (north and south) and the Terminal Island Freeway would have temporary unavoidable adverse effects for 3 years, which is the approximate combined duration of construction Stages 2, 3, and 4 of either of the proposed Bridge Replacement Alternatives..	Temporary Adverse	Temporary Significant
Hazardous Materials/Wastes (see Section 2.2.3)						
√	√	√	Previously unidentified contaminated soil and groundwater may exist within the construction impact areas that could affect human health or be released to the environment.	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.	Minor Impact	Less than Significant
√	√	√	Cross contamination of water-bearing intervals may occur during excavation and bridge pile installation.	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. HM-3 To minimize cross-contamination of the water-bearing zones, the construction contractor shall employ construction techniques to minimize the need for dewatering.	Minor Impact	Less than Significant
√	√	√	Asbestos-containing materials (ACM) may be released to the environment during bridge rehabilitation and building and bridge demolition.	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 the project safety plan and hazardous waste management plan. Any disturbance/demolition of structures containing ACM or LBP will be completed in accordance with the contract specifications and all federal, state, and local laws and regulations.	Minor Impact	Less than Significant
√	√	√	Soil areas disturbed during construction may contain aerially deposited lead (ADL).	HM-5 Prior to construction, the Port shall test areas within the proposed project corridor where soil may be disturbed for 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.	Minor Impact	Less than Significant

[1] This intersection is within the POLA and is outside of the Port's Jurisdiction, thus the impact is considered significant and unavoidable; however, with implementation of TC-5 or one of the other POLA projects being considered for this location, this impact would be eliminated (see Section 3.2.1.4.3 for further discussion).

√ - Impact associated with alternative; X – Impact not associated with Alternative

Table ES-1 Summary of Potentially Adverse/Significant Impacts

North-side Alignment Alternative	South-side Alignment Alternative	Rehabilitation Alternative	Potential Impacts-	Avoidance, Minimization and/or Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
√	√	√	The public/construction workers may be exposed to hazardous materials during construction activities.	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.	Minor Impact	Less than Significant
√	√	√	According to Port officials, the bridge structure is likely to have lead-based paint (LBP) coatings that would be disturbed by demolition.	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.	Minor Impact	Less than Significant
√	√	√	The project may require the removal or disturbance of any existing yellow thermoplastic traffic lane striping in the project area.	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.	Minor Impact	Less than Significant
Public Health and Safety (see Section 2.2.4)						
√	√	X	An analysis of accident and terrorist vulnerability of the new bridge was recommended by the Gerald Desmond Bridge Technical Advisory Panel (TAP). The intent of this assessment is to address the potential vulnerability of the bridge and develop conceptual modifications to the bridge design as required.	HS-1 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.	Minor Impact	Less than Significant
√	√	√	Road work associated with the project alternatives could potentially adversely affect emergency response times or interfere with the emergency response services. Also, marine transportation hazards could potentially adversely affect ships navigating through the Back Channel during the bridge construction and demolition phases.	HS-2 The Port shall submit all bridge work schedules 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.	Minor Impact	Less than Significant
√	√	√	Project construction may affect business operations and access.	HS-3 Prior to initiation of construction activities, the Port shall notify all businesses, tenants, and utility companies (i.e., SCE, gas, water, oil, and telecommunications) within the project area of the proposed work schedules and associated roadway and ramp closures.	Minor Impact	Less than Significant
√	√	√	Temporary delays within the Back Channel may occur during construction and demolition.	HS-4 The Port shall notify all marine transportation and recreational boating companies 2 weeks prior to initiation of planned work activities potentially affecting normal operations within the Back Channel. HS-5 The Port shall regularly notify USCG and all Port tenants of scheduled work over the Back Channel during construction and demolition of the project.	Minor Impact	Less than Significant
√	√	√	Possible exposure of workers to hazardous situations and materials during project construction and demolition.	HS-6 The contractor shall prepare an emergency response and health and safety plan in accordance with all applicable federal, state, and OSHA standards. The plan should address potential emergency situations and assure the safety and health of workers by setting and enforcing standards to reduce occupational injuries and accidents. The Port will review and approve the plans prior to initiation of construction activities.	Minor Impact	Less than Significant
Air Quality (see Section 2.2.5)						
√	√	X	Construction emissions associated with the North- and South-Side Alignment Alternatives would exceed South Coast Air Quality Management District (SCAQMD) nitrogen oxide (NO_x) thresholds.	AQ-C1: Construction processes shall adhere to all applicable SCAQMD rules and regulations concerning the operation of construction equipment and dust control. AQ-C2: Construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications. 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. AQ-C4: To the extent feasible, use electricity from power poles rather than temporary diesel or gasoline power generators. AQ-C5: As part of the Port's commitment to promote the Green Port Policy and implement 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. 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. 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. 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. 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.	Temporarily Adverse during Construction Years 1,2 and 3	Temporarily Significant during Construction Years 1, 2 and 3

√ - Impact associated with alternative; X – Impact not associated with Alternative

Table ES-1 Summary of Potentially Adverse/Significant Impacts

North-side Alignment Alternative	South-side Alignment Alternative	Rehabilitation Alternative	Potential Impacts-	Avoidance, Minimization and/or Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
√	√	X	Operational emissions associated with the North- and South-Side Alignment Alternatives would exceed South Coast Air Quality Management District (SCAQMD) nitrogen oxide (NO_x) thresholds.	There are no feasible mitigation measures to address NO_x operational emissions for transportation projects. Vehicle emissions are regulated at the federal and state levels. Reduction of operational vehicle emissions will come from three overarching strategies: more efficient vehicles, lower-carbon fuels, and reduction of vehicle use or VMT. Reduced emission in the transportation sector will be achieved through regulations, market mechanisms, incentives, and land use policy. It should be noted that a portion of the operational exceedance would be attributable to construction emissions associated with the demolition of the Gerald Desmond Bridge subsequent to opening the new bridge. The construction emissions included as part of the opening year have been mitigated to the maximum extent practicable as discussed in Measures AQ-C1 through AQ-C9.	Temporarily Adverse during Opening Year Minor Impact in 2030	Temporarily Significant during Opening Year Less than Significant in 2030
√	√	X	Exceedance of SCAQMD NO_x construction and operational thresholds would result in cumulative air quality impacts	CEQA (AQ)-1: **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 Guidelines for the Port of Long Beach Grant Programs ($1 million) and Healthcare and Seniors Facility Program Guidelines for the Port of Long Beach Grant Programs ($1 million). 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 (see detailed discussion in Chapter 3, Section 3.2.2.4, for discussion of methodology for determining contribution amount). 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.	Temporary Adverse	Significant
Biological Environment (see Section 2.3)[2]						
√	√	X	Potentially adverse impacts to the resident peregrine falcons include behavior modification caused by construction activities and changes in perch preferences and/or nesting sites associated with demolition of the Gerald Desmond Bridge.	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 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).	Minor Impact	Less than Significant
√	√	X	Potentially adverse impacts to the resident peregrine falcons include behavior modification caused by construction activities and changes in perch preferences and/or nesting sites associated with demolition of the Gerald Desmond Bridge.	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 exiting 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).	Minor Impact	Less than Significant
√	√	X	Potentially adverse impacts to the resident peregrine falcons include behavior modification caused by construction activities and changes in perch preferences and/or nesting sites on the Gerald Desmond Bridge.	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	Minor Impact	Less than Significant

[2] On August 6, 2009 the California Fish and Game Commission voted to remove the peregrine falcon from the State's list of endangered species. Currently the ruling is under review by the State Office of Administrative Law. Pending approval of the ruling, the peregrine falcon would be removed from the endangered species list, but would remain a "fully protected" species. The final ruling on the matter may or may not result in a change in either/both the impact findings and/or proposed mitigation pertaining to the species. This information is expected to be available in time for inclusion in the final environmental document.

√ - Impact associated with alternative; X – Impact not associated with Alternative

Table ES-1 Summary of Potentially Adverse/Significant Impacts

North-side Alignment Alternative	South-side Alignment Alternative	Rehabilitation Alternative	Potential Impacts-	Avoidance, Minimization and/or Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
				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 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.		
√	√	X	Potentially adverse impacts to the resident bat species include behavior modification caused by construction activities and changes in roost preferences and/or roosting sites on the Gerald Desmond Bridge.	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 in. (1.27 to 3.175 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 (Exhibit 2.3.5-6). 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.	Minor impact	Less than Significant
√	√	X	Potential impacts associated with the elimination of bat roosting sites	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 repellant (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 (Exhibits 2.3.5-2 through 2.3.5-4). 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).	Minor Impact	Less than Significant
√	√	√	Various sensitive species of bats may be displaced during rehabilitation or construction and demolition activities.	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).	Minor Impact	Less than Significant

√ - Impact associated with alternative; X – Impact not associated with Alternative

Table ES-1 Summary of Potentially Adverse/Significant Impacts

North-side Alignment Alternative	South-side Alignment Alternative	Rehabilitation Alternative	Potential Impacts-	Avoidance, Minimization and/or Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
				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 device (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.		
√	√	X	Potential impacts to cormorants associated with SCE transmission line relocation.	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	Minor Impact	Less than Significant
√	√	X	Potential impacts to migratory birds associated with potential night time construction and installation of new lighting for operation.	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.	Minor Impact	Less than Significant
X	X	√	Potentially adverse impacts to the resident peregrine falcons include behavior modification caused by construction activities and changes in perch preferences and/or nesting sites associated with demolition of the Gerald Desmond Bridge.	BR-1b: **Artificial Nest Boxes:** Prior to the final design phase, the Port, in coordination with CDFG, will select temporary locations for alternate nesting sites on the Gerald Desmond Bridge that would minimize the amount of disturbance within 250 ft (76 m) of new perch locations. Construction will be phased to complete adjacent seismic retrofit activities and painting operations at the new nesting locations outside of the nest site selection and breeding periods. Subsequent to completing the adjacent seismic retrofit activities, the temporary nesting ledges will be installed, and be continually available for use.	Minor Impact	Less than Significant
X	X	√	Potentially adverse impacts to the resident peregrine falcons include behavior modification caused by construction activities and changes in perch preferences and/or nesting sites associated with demolition of the Gerald Desmond Bridge.	BR-2b: **Precluding Nesting on the Existing Bridge:** To ensure no mortality of peregrines due to construction-related mishaps associated with bridge deck replacement, CDFG-approved exclusion methods will be installed at existing nest sites under the supervision of a CDFG-approved raptor biologist before initiating rehabilitation activities. Exclusion will occur prior to the nest site selection or after the breeding season. Due to the proximity of the bridge deck replacement activities to the existing nest sites, exclusion devices will remain until completion of the rehabilitation activities.	Minor Impact	Less than Significant

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North-side Alignment Alternative	South-side Alignment Alternative	Rehabilitation Alternative	Potential Impacts-	Avoidance, Minimization and/or Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
X	X	√	Potentially adverse impacts to the resident peregrine falcons include behavior modification caused by construction activities and changes in perch preferences and/or nesting sites associated with demolition of the Gerald Desmond Bridge.	BR-3b: **Monitoring Program:** The proposed monitoring program is based on measures from the PFMMP for the Gerald Desmond Bridge (BioResource Consultants, 1998) used from 1998 through 2004. Modified measures from the 1998 PFMMP, as proposed for the Rehabilitation Alternative, are provided below. A mitigation and monitoring plan will be prepared and submitted to CDFG for concurrence prior to initiation of rehabilitation activities. • *Timing of Monitoring:* A raptor biologist will initiate monitoring at least 1-year prior to the beginning of rehabilitation 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 nesting locations and at the alternate nesting locations after placement of artificial nest boxes. 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 existing sites. • *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 bridge. Monitoring during bridge rehabilitation 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 at the temporary locations, or if they have relocated to an alternate nesting site. If peregrines attempt to nest at the temporary nesting locations during rehabilitation activities, 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 approved by CDFG would be implemented at the nesting locations. Nesting on the Gerald Desmond Bridge in locations other than the temporary nesting locations shall be discouraged until rehabilitation activities are complete. 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 within areas under construction. Such measures may include continued removal of nesting materials or installation of additional CDFG-approved exclusion devices. • *No Work Zone:* During bridge rehabilitation activities, alternate nest ledges and boxes will be available for nesting. If a nesting attempt is made at a new location that would be under construction during the nesting season, 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 at the new location. Should a nest be successfully established within the construction area during bridge rehabilitation, the Port will instruct construction crews to adhere to a "No Work Zone" around the nest site. The Port will coordinate with USFWS and CDFG to obtain permission to remove the nest in accordance with the 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 or 30 days after the last young leaves the nest, or until nest abandonment, whichever occurs first. Rehabilitation 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 bridge rehabilitation activities. During post-construction monitoring, quarterly reports will provide details on nesting attempts, breeding behavior, and reproductive success. Reports will be prepared by the raptor biologist and submitted to the Port, Caltrans, and CDFG.	Minor Impact	Less than Significant
X	X	√	Potentially adverse impacts to the resident bat species include behavior modification caused by construction activities and changes in roost preferences and/or roosting sites on the Gerald Desmond Bridge.	BR-5b: **Precluding Roosting on the Existing Bridge:** Prior to beginning construction activities on each section of the bridge, bats will need to be excluded from that section. Bat proofing will occur outside of the breeding season (October 30 through March 1) after juvenile bats have learned to fly. Bat exclusion will be staged to ensure that roosting sites in areas not currently under construction will be available at all times during the project to minimize the potential effects on bats. Exclusion methods for the Rehabilitation Alternative will be the same as discussed under BR-5.	Minor Impact	Less than Significant
X	X	√	Potentially adverse impacts to the resident bat species include behavior modification caused by construction activities and changes in roost preferences and/or roosting sites on the Gerald Desmond Bridge.	BR-6b: **Bat Monitoring Program:** A monitoring program will be implemented throughout 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 and locations of bat roosts and access points. If CDFG species of special concern are identified during preconstruction surveys, then the Port will coordinate with CDFG and incorporate additional monitoring and protection measures, as applicable. During exclusion activities, monitoring of the exclusion devices will occur to ensure that entanglement of bats is not occurring. Monitoring will continue as long as bats are observed exiting the existing bridge. Subsequent to exclusion, monitoring during bridge rehabilitation activities will continue, focusing on locations where additional exclusion may be required. Post-construction monitoring will document re-colonization of the bridge and former roost areas. • *Timing of Monitoring:* Preconstruction surveys will be initiated a minimum of 1-year prior to the initiation of bridge rehabilitation activities. The surveying and monitoring regime will consist of quarterly monitoring surveys, including a survey in June (i.e., prime bat roosting season). One month prior to rehabilitation activities, surveys will increase to weekly and consist of daytime and nighttime surveys (see Monitoring Effort) focused on species identification, identifying specific locations of bat roosts, access points, and roost characteristics. Monitoring during the bat exclusion phase will focus on ensuring that all bats have been excluded prior to initiating bridge rehabilitation activities. Subsequent to installation of exclusion devices, roosting areas will be monitored for 7 consecutive nights or until no bats are	Minor Impact	Less than Significant

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North-side Alignment Alternative	South-side Alignment Alternative	Rehabilitation Alternative	Potential Impacts-	Avoidance, Minimization and/or Mitigation Measures	Residual Impacts NEPA	Residual Impacts CEQA
				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, then 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 to document the post-construction bat re-colonization of the bridge. • *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 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 for the bridge. Monitoring during construction will focus on the presence of bats in the bridge area and to identify areas that would require further exclusion. • *Reporting:* Quarterly reports summarizing the monitoring efforts and observations 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, and exclusion devices used. The final report will also include photos and detailed observations, and conclusions and recommendations for agency use in future projects.		
√	√	X	Potential impacts to nesting double-crested cormorants during initiation of construction activities for new transmission towers/lines.	BR7: 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.	Minor Impact	Less than Significant
X	X	√	Potential impacts to migratory birds associated with night time construction lighting during bridge rehabilitation.	BR-8b: Bridge lighting during construction will be designed to minimize the potential for bird collisions with the bridge structure. Lighting will be shielded to ensure that light is focused inward on the construction area and minimize spillover that could affect migratory birds.	Minor Impact	Less than Significant
√	√	√	Potential for project to spread invasive species.	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.	Minor Impact	Less than Significant
Climate Change (see Section 3.3)[3]						
√	√	X	Project-related increases in greenhouse gas (GHG) emissions are considered an unavoidable significant project impact.	There are no 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 VMT. The GHG emission reductions in the transportation sector will be achieved through regulations, market mechanisms, incentives, and land use policy.	N/A	Significant
√	√	X	Project-related increases in GHG emission would contribute to regional cumulative increases in GHG emissions and are considered an unavoidable significant project impact.	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 (see detailed discussion in Chapter 3, Section 3.2.2.4, for discussion of methodology for determining contribution amount). This contribution will be used to pay for measures pursuant to the GHG Emission Reduction Program Guidelines, 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 CO_2, 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 the 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.	N/A	Significant

[3] Climate change analysis is not required by Caltrans pursuant to NEPA. Climate change impacts and mitigation were developed by the Port pursuant to CEQA.

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