

San Francisco Bay Conservation and Development Commission

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Agenda Item #8

May 8, 2020

Staff Recommendation

Bay Bridge Shorebird Roosting Habitat Mitigation Modification

(For Commission consideration on May 21, 2020)

Permit Application Number:	2001.008.46 (Material Amendment No. Forty-Six)
Applicant:	California Department of Transportation (Caltrans)
Project Description:	Modify the original mitigation requirements for the San Francisco–Oakland Bay Bridge East Span Seismic Safety Project to require off-site, fee-based mitigation to provide for shorebird roosting habitat, in lieu of the existing requirement to construct a rock island in the Bay.
Application Filed Complete:	May 4, 2020
Deadline for Commission Action:	August 2, 2020
Staff Contact:	Rebecca Coates-Maldoon (415/352-3634; rebecca.coates-maldoon@bcdc.ca.gov)
Staff Recommendation:	APPROVAL WITH CONDITIONS

Basis for Recommendation

The staff recommends approval of the application as conditioned in the recommended resolution, below. Material Amendment No. Forty-Six would delete the permit's existing requirement to construct a rock island in the Bay, which was intended to provide shorebird roosting habitat. In-lieu of the original mitigation requirement, the amendment requires the permittee (Caltrans) to:

- Pay fee-based mitigation in the amount of \$775,000.00 toward the East Island shorebird habitat enhancement project at East Bay Regional Park District's Martin Luther King, Jr. Regional Shoreline.
- If the East Island project fails to be completed within the specified timeframe, to transfer these mitigation funds to the State Coastal Conservancy, which would grant the funds to create or enhance shorebird habitat in the Bay Area.
- Install educational and informational shorebird signage near the Bay Bridge Oakland Touchdown.



Recommendation Note

Because the project involves a material amendment to an existing permit, the format of the recommendation is different from recommendations for new permits. This recommendation includes language from the permit, as well as the changes included in the subject amendment. Language to be deleted from the permit has been ~~struck through~~ and language to be added to the amended permit has been underlined. Language that has neither been ~~struck through~~ nor underlined is language of the existing permit that will remain unchanged with the adoption of Material Amendment No. Forty-Six.

In addition, because the existing permit is more than 100 pages, only the sections that are directly related to issuance of the subject amendment are included here. The complete permit, as proposed for amendment, can be requested from Commission staff.

Recommended Resolution and Findings

The staff recommends that the Commission adopt the following resolution:

I. Authorization

- A. **Authorized Project.** Subject to the conditions stated below, the permittee, the California Department of Transportation, District 4 (Caltrans), is granted permission to replace the East Span of the San Francisco-Oakland Bay Bridge with a new self-anchored, single-tower, steel suspension bridge and concrete skyway in the City of Oakland, Alameda County, and in the City and County of San Francisco. Authorized work includes:

In the Bay:

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4. **On-Site Restoration.** Restore on-site, north of the Oakland Touchdown area, approximately 3.07 acres of sand flats and eelgrass beds temporarily impacted by activities associated with constructing portions of a new 2.18 mile-long replacement bridge for the East Span of the SFOBB, including:
- Harvest/Replant Eelgrass.** Harvest approximately 0.55 acres of eelgrass from the footprint of the barge access channel prior to dredging and plant test plots in adjacent eelgrass beds north of the Oakland Touchdown area and at Albany Beach and/or Brickyard Cove in Berkeley located within the Eastshore State Park. Place for beneficial use approximately 1,200 cubic yards of sand fill over an approximately 0.52-acre area in the Emeryville Flats to raise bathymetry and create approximately six test plot plateaus for the experimental eelgrass transplant program (Amendment Nos. One, Two, Four, Five);
 - Restore Sand Flats.** Restore approximately 0.80 acres of sand flats north of the Oakland Touchdown area that will be affected by the placement of a temporary tidal berm and/or mud boils to their pre-construction elevations and substrate;

- c. **Upland Transition.** Construct and maintain rock slope protection (rip-rap) at the Oakland Touchdown area along the new westbound roadway and create slope gradients of 1(V):3(H) at the toe of the slope which will transition to a 1(V):2(H) gradient at mid-slope; and
- ~~d. **Shorebird Roosting Habitat.** Construct shorebird roosting habitat north of the Oakland Touchdown area by placing 734 cubic yards of 1-ton rock approximately 200 feet offshore of the Oakland Touchdown to a height of 6.5 feet NGVD. The roosting island will result in a footprint of 4,047 square feet area of Bay fill and will provide 500 square feet of shorebird roosting habitat above Mean Sea Level (Amendment No. Twelve); and~~
- ed. **Surface Sediments.** Place approximately 10,000 cubic yards of sediments, deemed appropriate for the reestablishment of eelgrass pursuant to special conditions of this amended permit, following removal of the temporary marine access trestle at Coast Guard Cove on the southeast side of YBI and restore the area to appropriate elevations to support the reestablishment of eelgrass (Amendment No. Six).

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- B. **Application Dates.** This amended authority is generally pursuant to and limited by the application filed on October 17, 2001; Caltran's letter dated March 7, 2002, requesting Amendment No. One; the letter dated April 10, 2002, requesting Amendment No. Two; the letter dated May 28, 2002, requesting Amendment No. Three; the letter dated June 25, 2002, requesting Amendment No. Four; the letter dated September 10, 2002, requesting Amendment No. Five; the letter dated July 8, 2003, requesting Amendment No. Six; the letters dated November 24, 2003, and January 16, 2004, requesting Amendment No. Seven; the letter dated October 15, 2003, requesting Amendment No. Eight; the letter dated February 24, 2004, requesting Amendment No. Nine; the letters dated April 22, 2004 and June 3, 2004, requesting Amendment No. Ten; the letters dated October 8, 2004 and October 22, 2004 requesting Amendment No. Eleven; the emails dated March 17, 2005 and March 22, 2005 requesting Amendment No. Twelve; the letter dated May 31, 2005, requesting Amendment No. Thirteen; the letter dated October 13, 2005, requesting Amendment No. Fourteen; the letter dated March 8, 2006, requesting Amendment No. Fifteen; the letter dated May 12, 2006, requesting Amendment No. Sixteen; the letter dated June 11, 2007, requesting Amendment No. Seventeen, the letter dated September 6, 2007, requesting Amendment No. Eighteen; the letter dated February 22, 2008, requesting Amendment No. Nineteen (withdrawn by the letter dated September 3, 2008); the letter dated April 16, 2008, requesting Amendment No. Twenty; the letter dated June 16, 2008, requesting Amendment No. Twenty-One; the letter dated September 11, 2008, requesting Amendment No. 22 (erroneously labeled Amendment No. Nineteen); the letter dated September 18, 2008 requesting Amendment No. Twenty-Three (withdrawn); the letter dated December 15, 2008 requesting Amendment No. Twenty-Four; the letter dated July 8, 2009, requesting Amendment No. Twenty-Five; the letter

dated October 1, 2009, requesting Amendment No. Twenty-Six; the letter dated January 5, 2010, requesting Amendment No. Twenty-Seven; the letter dated March 10, 2010, requesting Amendment No. Twenty-Eight; the letter dated December 1, 2010, requesting Amendment No. Twenty-Nine; the letter dated May 24, 2011 requesting Amendment No. Thirty; the letter dated September 7, 2011, requesting Amendment No. Thirty-One, the letter dated October 19, 2011, requesting Material Amendment No. Thirty-Two, the letter dated February 12, 2013, requesting Amendment No. Thirty-Three, the letter dated January 17, 2014 requesting Amendment No. Thirty-Four, the letter dated March 13, 2014, requesting Amendment No. Thirty-Five, the letter dated June 26, 2014, requesting Amendment No. Thirty-Seven, the letter dated June 3, 2015, requesting Amendment No. Thirty-Nine, the letters dated March 30, 2015 and June 25, 2015 requesting Material Amendment No. Thirty-Eight, the letter dated April 4, 2016 requesting Amendment No. Forty, the letter dated May 12, 2016 requesting Material Amendment No. Forty-One, the letter dated April 12, 2017, requesting Amendment No. Forty-Two, and the letter dated April 13, 2018, requesting Amendment No. Forty-Three, the letter dated April 13, 2018, requesting Material Amendment No. Forty-Four, ~~and~~ the letter dated October 12, 2018, requesting Amendment No. Forty-Five, and the letter dated March 11, 2020, requesting Material Amendment No. Forty-Six, including all accompanying and subsequently submitted correspondence and exhibits and all conditions of this amended permit.

Amendment No. Thirty-Seven was issued exclusive of Amendment No. Thirty-Six. Amendment No. Thirty-Nine was issued exclusive of Amendment Nos. Thirty-Six and Thirty-Eight. Amendment Nos. Forty, ~~Forty One~~, Forty-Two, Forty-Three, ~~Forty Four~~, and Forty-Five, and Material Amendment Nos. Forty-One, Forty-Four, and Forty-Six were issued exclusive of Amendment No. Thirty-Six. Amendment No. Forty-Five functionally resolveds the incomplete amendment request under Amendment No. Thirty-Six.

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- D. **Project Summary.** The project authorized herein will result in approximately 46.05 acres of new Bay fill for the bridge and bridge approaches, of which approximately 41.93 acres is high level, suspended fill that will have minimal impacts on Bay resources. The net increase in Bay fill after removing the existing bridge will be approximately 33 acres. However, because the new support footings and pilings will be significantly smaller than the existing bridge footings, the project will result in a net decrease of 173,806 cubic yards in the Bay's volume. The project includes a number of mitigation measures to offset the impacts of the solid and pile-supported fill, as well as the impacts of construction activity. These mitigation measures include, among other things:
- (a) removing the 1936 East Span, (b) restoring the approximately 1.73-acre barge access channel used to construct the replacement bridge to its pre-construction bathymetry, if Commission policy is changed to allow such restoration; and (c) providing no more than \$10.5 million to implement a wetlands restoration program that is being developed, but which may be applied toward the restoration of approximately 3,298 acres of habitat at

Skaggs Island in Sonoma County and providing the maximum amount of these remaining funds as possible, but no less than \$2.5 million, toward the restoration, enhancement or creation of new aquatic, wetland, or wetland transitional habitat.

Additional fill associated with mitigation activities to offset fill authorized herein will result from the project. The fill consists of placing material over an approximately 48,500-square-foot area to establish eelgrass plateaus at the North Basin for the eelgrass pilot project ~~and placing rock and fabric over a 4,047 square foot area to create 500 square feet of shorebird roosting habitat above Mean Sea Level~~ (Amendment No. Twelve and Material Amendment No. Forty-Six). The project authorized by Material Amendment No. Thirty-Two will result in the temporary placement of approximately 108,431 to 110,388 square feet (2.49 to 2.53 acres) of temporary pile-supported Bay fill for two temporary demolition trestles and the temporary supports for falsework, all of which will be removed upon completion of the project (Material Amendment No. Thirty-Two).

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Material Amendment No. Forty-Six modifies the original project mitigation requirements to require off-site, fee-based shorebird roosting habitat mitigation in lieu of on-site construction of shorebird habitat.

II. Special Conditions

The amended authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV:

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- F. **Mitigation for Fill Impacts.** The permittee shall fully complete the following mitigation measures to minimize Bay fill and offset the adverse impacts of the project authorized herein on Bay-related resources and endangered species:

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7. **Shorebird Roosting Habitat Mitigation (Material Amendment No. Forty-Six).**
Creation of Bird Roosting Habitat. ~~Prior to opening the eastbound roadway of the new East Span to vehicular traffic, the permittee shall develop and implement a plan in consultation with the California Department of Fish and Game and the U.S. Fish and Wildlife Service and local Audubon chapters, and approved by or on behalf of the Commission pursuant to Special Condition II-A, to create approximately 500 square feet of shorebird roosting habitat in the Emeryville Crescent and at other suitable areas near the Oakland Touchdown. The shorebird roosting plan shall include provisions for monitoring and submitting reports to the Commission of shorebird use of the created roosting habitat (monthly bird counts at appropriate tidal stages between September and April for a three-year period), for maintaining sites free of vegetation and, for removing such habitat if it deteriorates sufficiently~~

~~to create a potential safety or navigation problem, as determined by the Executive Director. Such shorebird roosting habitat may consist of pilings, pile-supported or floating docks, unvegetated beach and riprap areas, etc.~~

- a. **East Island Project Fee-Based Mitigation.** Unless an extension of time is granted by the Executive Director, the permittee shall complete the following actions by December 31, 2020: (1) Develop a cooperative agreement with the East Bay Regional Park District (EBRPD) to establish that a mitigation fee in the amount of \$775,000.00 shall be spent solely on the East Island Project at Martin Luther King, Jr. Regional Shoreline, in the City of Oakland, Alameda County; (2) Transfer \$775,000.00 to EBRPD; and (3) Submit evidence to BCDC that the agreement has been put in place and funds have been transferred to EBRPD in accordance with the agreement. Prior to entering into the cooperative agreement, the permittee shall submit a draft copy of the cooperative agreement for review and approval by the Executive Director to ensure the criteria established by this special condition have been achieved. Use of funds shall be tracked and reported to the Commission upon completion of the East Island Project. The East Island Project funds shall include budget to design, plan, undertake environmental review, permit, construct, develop a habitat management plan, provide three years of bird monitoring and reporting, and provide three years of vegetation management activities at East Island. The cooperative agreement shall also establish that if construction of the East Island Project cannot be completed prior to December 31, 2025, and an extension of time is not granted by the Executive Director, EBRPD will return to the permittee \$775,000.00, which will then be deposited into the Coastal Trust Fund held by the State Coastal Conservancy and applied to another mitigation project as described below.
- b. **State Coastal Conservancy Fee-Based Mitigation.** In the event that construction of the East Island Project identified in Special Condition II.F.7.a is not completed prior to December 31, 2025, and an extension of time is not granted by the Executive Director, the permittee shall transfer a fee in the amount of \$775,000.00 to the State Coastal Conservancy upon the receipt of fees refunded by EBRPD. The funds will be transferred to the State Coastal Conservancy for disbursement pursuant to the Memorandum of Understanding Between the State Coastal Conservancy and the Bay Conservation and Development Commission (BCDC-SCC MOA SFBC #08-09) dated August 11, 2008, and amended on August 23, 2018. The purpose of transferring the funds to the Conservancy will be to benefit shorebird habitat in or adjacent to San Francisco Bay, with a preference for the creation or enhancement of high-tide refuge habitat for shorebird species.
- c. **Oakland Touchdown Signage.** By September 30, 2020, the permittee shall coordinate with EBRPD to install educational and/or informational signage in the general vicinity of the SFOBB Oakland Touchdown highlighting nearby shorebirds and shorebird habitat.

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III. Findings and Declarations

This amended permit is issued on the basis of the Commission's findings and declarations that the work authorized herein is consistent with the McAteer-Petris Act, the *San Francisco Bay Plan* (Bay Plan), the California Environmental Quality Act, and the Commission's amended coastal zone management program for San Francisco Bay for the following reasons:

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D. Amendments

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36. Material Amendment No. Forty-Six. Material Amendment No. Forty-Six modifies a mitigation requirement for the permittee, Caltrans, to construct shorebird roosting habitat in the nearby vicinity of the SFOBB Oakland Touchdown or Emeryville Crescent. The requirement was established as part of the original authorization for the SFOBB project, and then later modified through Amendment No. Twelve to this permit. Subsequently, this requirement was found to be infeasible, as discussed in the findings below. As amended, and in the alternative, the permittee must contribute \$775,000.00 in fee-based mitigation toward a project that would benefit shorebird habitat. That project is anticipated to be East Bay Regional Park District's (EBRPD) East Island Project, which would enhance bird roosting habitat at Martin Luther King, Jr. Regional Shoreline (MLK Jr. Regional Shoreline). If this project is ultimately not constructed within the specified timeline, then these funds would be transferred to the State Coastal Conservancy to be disbursed as grants to one or more projects in or adjacent to the Bay that would benefit shorebird habitat.

Specifically, Material Amendment No. Forty-Six does the following:

- Deletes Authorization Section I.A.4.d (In the Bay), which previously permitted fill in the Bay to create an offshore rock shorebird roosting island north of the Oakland Touchdown.
- Revises the text of Special Condition II.F.7, which previously required the permittee to create approximately 500 square feet of shorebird roosting habitat in the Emeryville Crescent and at other suitable areas near the Oakland Touchdown. The revised condition requires that the permittee provide off-site, fee-based mitigation in the amount of \$775,000.00, which would provide for EBRPD's East Island Project, or if that project is ultimately not constructed, for another shoreline bird habitat creation or enhancement project as selected by the State Coastal Conservancy. Finally, Special Condition II.F.7, as revised, requires the installation of public education and informational signage in the general vicinity of the SFOBB Oakland Touchdown to inform the public of nearby sensitive bird habitat and species.

a. **Mitigation Policies.** The Bay Plan Mitigation Policy No. 1 states, in part, that “[p]rojects should be designed to avoid adverse environmental impacts to Bay natural resources... Whenever adverse impacts cannot be avoided, they should be minimized to the greatest extent practicable. Finally, measures to compensate for unavoidable adverse impacts to the natural resources of the Bay should be required. Mitigation is not a substitute for meeting the other requirements of the McAteer-Petris Act.” Bay Plan Mitigation Policy No. 2 states, in part, that “[i]ndividual compensatory mitigation projects should be sited and designed within a Baywide ecological context, as close to the impact site as practicable, to: (1) compensate for the adverse impacts; (2) ensure a high likelihood of long-term ecological success; and (3) support the improved health of the Bay ecological system.” The Bay Plan Mitigation policies further state, in part, that, “[f]or major and appropriate minor projects that require compensatory mitigation, communities surrounding both the project and the compensatory mitigation site should be meaningfully involved in an equitable and culturally-relevant manner” (Bay Plan Mitigation Policy No. 3) and that “[w]hen determining the appropriate location and design of compensatory mitigation, the Commission should also consider potential effects on benefits provided to humans from Bay natural resources...” (Bay Plan Mitigation Policy No. 4). Further, “the amount and type of compensatory mitigation should be determined... based on a clearly identified rationale that includes an analysis of: the probability of success of the mitigation project; the expected time delay between the impact and the functioning of the mitigation site; and the type and quality of the ecological functions of the proposed mitigation site as compared to the impact site” (Bay Plan Mitigation Policy No. 5). The Bay Plan Mitigation policies also state, in part, that “resource restoration should be selected over creation where practicable,” “mitigation site selection should consider site specific factors that will increase the likelihood of long-term ecological success...” (Bay Plan Mitigation Policy No. 6) and that “[m]itigation should, to the extent practicable, be provided prior to, or concurrently with those parts of the project causing adverse impacts” (Bay Plan Mitigation Policy No. 7). The Bay Plan Mitigation policies further state that compensatory mitigation programs should provide “clear mitigation project goals,” “clear and measurable performance standards...,” monitoring and contingency plans to ensure success, and provisions for long-term maintenance, management, and protection of the compensatory mitigation site (Bay Plan Mitigation Policy No. 8).

With regards to fee-based mitigation, Bay Plan Mitigation Policy No. 12 states: “The Commission may allow fee-based mitigation when other compensatory mitigation measures are infeasible. Fee-based mitigation agreements should include: (a) identification of a specific project that the fees will be used for within a specified time frame; (b) provisions for accurate tracking of the use of funds; (c) assignment of responsibility for the ecological success of the mitigation project; (d) determination of fair and adequate fee rates that account for all financial aspects of the mitigation project, including costs of securing sites, construction costs,

maintenance costs, and administrative costs; (e) compensation for time lags between the adverse impact and the mitigation; and (f) provisions for long-term maintenance, management and protection of the mitigation site.”

- b. Previous Shorebird Roosting Habitat Mitigation Requirement.** The construction of the new East Span of the San Francisco–Oakland Bay Bridge was expected to result in unavoidable adverse impacts for which mitigation was necessary. These unavoidable impacts included temporary impacts to approximately 0.80 acres of shorebird foraging and low tide roosting habitat located in intertidal sand flats north of the Oakland Touchdown. The mitigation package required by the Commission in the original permit included, among other things, creation of 500 square feet of shorebird roosting habitat in the Emeryville Crescent and at other suitable areas near the Oakland Touchdown. This mitigation was intended to provide habitat functions where the project would otherwise provide limited resource values, and specifically to provide shorebird roosting habitat in an area where shorebirds were roosting on structures that were decaying and were anticipated to eventually wash away.

The original authorization for the project thus required that the permittee, Caltrans, develop and implement a mitigation plan in consultation with the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and local Audubon chapters. The permit requirement envisioned that the 500-square-foot mitigation area “may consist of pilings, pile-supported or floating docks, unvegetated beach and riprap areas, etc.”

In 2004, Caltrans submitted a plan to the Commission (“Shorebird Roosting Mitigation at the Oakland Touchdown,” prepared by Jones and Stokes) that identified the preferred mitigation approach to be the construction of a riprap island north of the Oakland Touchdown. The riprap island required 734 cubic yards and 4,047 square feet of Bay fill, to create 500 square feet of shorebird roosting habitat above mean sea level. The riprap island was to be sited near the existing shorebird foraging habitat, and thus was anticipated to serve targeted shorebird species that use the Oakland Touchdown and Emeryville Crescent area. The Commission subsequently issued Amendment No. Twelve to this permit to authorize construction of the riprap island.

In 2007 and 2008, Caltrans submitted plans to the Commission for the riprap roosting island for approval prior to commencing with construction. At this time, several concerns emerged regarding the design of the riprap island. BCDC staff questioned if the island would be built to an elevation that would withstand sea level rise. In response to these concerns, Caltrans examined changes to the design that would make the island resilient to rising sea levels, and found that sufficiently increasing the island elevation to address sea level rise would require significant additional fill to expand the island’s height and footprint. However, such addition of fill raised questions as to the feasibility of constructing a larger island given the

amount of subsidence on the soft mud in this area of the Bay. A change in design would also require additional fill. Additional fill was deemed to be unsuitable, particularly in light of potential impacts to special aquatic sites (i.e., existing eelgrass beds), listed fish species and their Critical Habitat. Additionally, the National Marine Fisheries Service (NMFS) expressed reservations over the potential impacts to Essential Fish Habitat resulting from construction of an island in this location.

c. **Alternatives Considered and Rejected.** In response to concerns about the design of the riprap island, Caltrans reconsidered alternative mitigation options to fulfill the requirements of Special Condition II.F.7, including both on-site and off-site alternatives. Several rounds of review occurred over approximately a decade, though most alternatives considered to date have been rejected as infeasible or undesirable.

i. **On-site Mitigation Alternatives Considered.** Among the on-site alternatives considered were an island built of native substrates, a pile-supported platform, a floating platform, a shoreline extension of barren hardpacked mud or mud and rock, and reuse of two existing piers of the former bridge as a roosting site. While all of these options could potentially provide benefits for shorebird species close to the impact site, Caltrans identified additional resource concerns that they determined made each of these options infeasible, including: impacts to Bay resources (e.g., from fill placement, pile-driving, dredging required to access shallow areas); sea level rise resilience issues; uncertainty of habitat success (e.g., predation risk); and long-term maintenance issues due to exposure to strong currents and wave action, material degradation, and constraints of the permittee's Maintenance Division in maintaining such a project given its current experience and capacity with maintenance associated with roads and freeways.

Another option that was considered but determined to be infeasible by Caltrans and EBRPD was partnering to contribute funds toward a planned habitat enhancement or creation project in the nearby vicinity of the Oakland Touchdown, such as at the future Judge John Sutter Regional Shoreline (formerly known as Gateway Park) or at East Shore State Park (which includes the Emeryville Crescent area), as no immediate opportunities exist to contribute funds toward an appropriate shorebird habitat project that would mitigate for impacts of the original project. For instance, the future Judge John Sutter Regional Shoreline is not yet in design or planning phases, so no options exist to incorporate a mitigation element at this location in the near future. As delivery of the original mitigation requirement is long overdue (it was originally anticipated to be completed prior to opening the eastbound roadway of the new East Span to vehicular traffic, which occurred in 2013), such an option would only further delay delivery of the required mitigation. (See again Bay Plan Mitigation Policy No. 5, which states in relevant part: "The amount and type of compensatory mitigation should be determined for each mitigation project

based on a clearly identified rationale that includes an analysis of: ...the expected time delay between the impact and the functioning of the mitigation site...")

In particular, BCDC staff coordinated closely with Caltrans to investigate opportunities to provide mitigation in the immediate vicinity of the Oakland Touchdown, as such a location would provide the ideal location for realizing the objectives of this permit's original mitigation requirements. While no immediate opportunities exist to provide for important shorebird roosting habitat at this location, the Commission believes that opportunities may arise in the future through development of the future regional park, or through sea level rise adaptation measures that may be needed at the Oakland Touchdown. The Commission encourages sponsors of these projects to consider methods of providing nearshore roosting habitat as an element of the designs for these projects.

- ii. **Off-Site Fee-Based Mitigation Alternatives Considered.** Given the practical and policy-related concerns raised above regarding implementation and long-term success of on-site mitigation, between 2010 to the present Caltrans considered 11 off-site shorebird roosting habitat mitigation projects that might serve as alternative means of providing in-lieu, fee-based mitigation. These alternatives included opportunities for shorebird habitat creation as part of projects at the Berkeley Pier, Albany Beach, Hayward Regional Shoreline, EBRPD-managed sites (East Island at MLK Jr. Regional Shoreline, East Shore State Park, Brooks Island, Crown Beach, and Point Isabel), Port of San Francisco's Pier 64, Oakland Middle Harbor, and a fund transfer to the State Coastal Conservancy.

Caltrans engaged local stakeholders (e.g., Golden Gate Audubon, Sierra Club, CDFW), potential partners (e.g., EBRPD, Port of Oakland, City of Berkeley), and regulatory agencies regarding these off-site mitigation alternatives, as well as for the on-site alternatives previously discussed. Caltrans indicated that the majority of these options were found to be undesirable or infeasible: "[b]ased on negative agency and/or local advocacy group feedback (e.g., Albany Beach, Hayward Regional Shoreline, SFOBB Pier Retention), various legal and logistical issues (e.g., Berkeley Pier), lack of a proposed shorebird habitat project at the location considered (e.g., East Shore State Park, Brooks Island, ... Crown Beach, Pt. Isabel, Emeryville Crescent), or inability to partner with landowners (e.g., Oakland Middle Harbor)."

Of the off-site fee-based mitigation options considered, Caltrans found the viable options to include contributing funding to EBRPD's East Island Project, or alternatively to the State Coastal Conservancy, which in turn could hold the funds until they could be granted to a future unidentified compensatory project.

d. In-Lieu Fee Contribution to East Island Project. Caltrans has identified an opportunity to provide fee-based mitigation in the form of a \$775,000.00 contribution to EBRPD to provide for the East Island Project. East Island is an existing shorebird roosting island within the restored New Marsh at the MLK Jr. Regional Shoreline. East Island is part of a complex of tidal wetlands, seasonal wetlands, and transitional upland habitat created pursuant to BCDC Permit No. M1996.056.00. Caltrans indicates that while “use by small shorebirds, including semipalmated plovers, western sandpipers, least sandpipers, and dunlin, is heavy marsh-wide [at MLK Jr. Regional Shoreline]...shorebird use of East Island is relatively limited because of several factors. Nearly all of the upland surface on East Island is barren, with sparse ruderal vegetation. Low elevations and sparse ruderal weeds above the transition zone create an island surface that obstructs views for birds when they are on it, limits the shorebirds’ ability to spot predators early, and provides little to no natural camouflage for nests. This makes the existing habitat susceptible to predators and substantially limits its use as nesting or roosting habitat.” The current low elevation of East Island (maximum 7.5 feet NAVD88) also indicates that East Island as it presently exists would likely be inundated by anticipated sea level rise during high tide events by 2050, and would be fully submerged during all high tide events by 2100, using projections for the most likely scenario (66 percent probability with high emissions) in the State of California’s 2018 Sea Level Rise Guidance document.

The proposed East Island Project would excavate material from approximately half of the existing East Island to create approximately 24,000 square feet of wetland habitat, and the excavated material would be used to increase the elevation of the other half of the island for sea level rise resilience. The elevated island would be enhanced with gravel, sand and oyster shells to promote roosting, forage, and nesting use by shorebirds, with the potential to create new nesting habitat for the State and federally listed western snowy plover. The modifications to the island would create approximately 20,000 square feet of shorebird roosting habitat, of which 5,000 square feet would be resilient to projected sea level rise to the end of the century. Additionally, the modifications are anticipated to create approximately 24,000 square feet of tidal marsh habitat that would be available forage habitat immediately adjacent to the roosting habitat. The proposed East Island Project would create shorebird habitat and tidal marsh in areas that are existing uplands, rather than placing new fill in the Bay (as would be necessary to implement the riprap island previously envisioned as mitigation).

The East Island Project, if ultimately permitted and constructed, would be anticipated to provide multiple benefits which will compensate for impacts to Bay resources of the originally-approved project, including improving quality of shorebird roosting habitat at MLK Jr. Regional Shoreline, extending the life of the habitat given future sea level rise, and improving aquatic function in the surrounding marsh. The East Island Project is located near mudflats and marshes that provide

high-quality shorebird foraging habitat, both within New Marsh and at surrounding sites including Arrowhead Marsh, San Leandro Bay, and the Airport Channel, which increases the likelihood of long-term ecological success. The riprap island previously selected as mitigation for the SFOBB East Span Project was intended to provide high-tide shorebird refuge habitat, and the East Island Project is conceptually similar in habitat function to the previously required mitigation. Additionally, in comparison with the previous requirement to provide 500 square feet of shorebird habitat, the East Island Project would create approximately 20,000 square feet of shorebird roosting habitat, 5,000 square feet of which would be resilient to future sea level rise, would avoid impacts on fish habitat, and would avoid fill in the Bay or within special aquatic sites (i.e., eelgrass beds).

- e. **In-Lieu Fee Contribution to State Coastal Conservancy.** While the East Island Project has been identified by Caltrans as a viable project with a suitable recipient of in-lieu mitigation funds, the project needs to first obtain permits from regulatory agencies before construction can begin. Therefore, Caltrans has identified the State Coastal Conservancy as a possible alternate recipient for the \$775,000.00 monetary contribution should the East Island Project ultimately not be constructed within the specified timeframe.

Caltrans and the State Coastal Conservancy have agreed that if the East Island Project fails to be completed, Caltrans would transfer the full \$775,000.00 fund to the Conservancy. Those funds would be disbursed by the Conservancy to grant to a future project (or projects) that would benefit shorebird habitat in the Greater Bay Area, pursuant to an existing Memorandum of Understanding between the Commission and the Conservancy (BCDC-SCC MOA SFBC #08-09).

- f. **Analysis of Fee-Based Mitigation Alternatives.** While the ecological benefits of the East Island Project or another off-site project sponsored by the State Coastal Conservancy may not be identical to the benefits that were anticipated by the Commission when it required mitigation in the form of shorebird roosting habitat in the vicinity of the SFOBB touchdown as part of the original project approval, the Commission finds that these alternatives are anticipated to provide benefits for shorebird habitat at a broader level that are generally in line with or, in certain respects, better than the previously proposed riprap island at the Oakland Touchdown. Furthermore, these options both provide opportunities to spend funds for enhanced shorebird habitat, whereas other alternatives studied by Caltrans have been demonstrated to be infeasible for various reasons, as discussed above. Caltrans provided an extensive evaluation of alternatives studied and rejected as part of its request to amend the mitigation requirement, and the results of that analysis indicate that a suitable on-site habitat creation project is not feasible, at least within a reasonable timeframe.

The East Island Project, or another off-site project, may not necessarily provide habitat for identical shorebird populations or species to those impacted by the original project, and which would benefit from a riprap island north of the Oakland Touchdown. In 2010-11, Caltrans conducted studies on shorebird foraging and roosting site fidelity and regional shorebird migration to help inform selection of a mitigation alternative. Within shorter timeframes (e.g., days), these studies found that shorebirds tend to move shorter distances between foraging and roosting habitat sites, but over longer timeframes (e.g., seasonally, annually), shorebirds may move within a larger regional network of foraging and roosting sites, based on a variety of factors. It is possible that there will be some overlap between use of the Oakland Touchdown and East Island Project sites by the same shorebirds, likely over a longer timeframe. However, distance and ecological differences between the Oakland Touchdown and another site, such as the East Island Project, as well as variation by species, mean that an off-site project is unlikely to support identical bird populations or species to those that forage north of the Oakland Touchdown, including the Black Oystercatcher.

However, the fee-based mitigation options avoid certain downsides associated with the previous requirement to create a riprap island near the Oakland Touchdown. That project would require Bay fill within an area of known sensitive habitat, including fish habitat and eelgrass beds. The riprap project would likely require more Bay fill than was initially anticipated to account for rising sea levels. The island also posed potential engineering challenges given the soft mud of the Bay at this location.

Caltrans will contribute an in-lieu fee in the amount of \$775,000.00 to either EBRPD, for the East Island Project, or, in the event that the East Island Project is not built within the specified timeframe, to the State Coastal Conservancy, for one or more projects to benefit shorebirds in the Bay Area. The fee-based mitigation funding amount was determined based on best estimates by the permittee and EBRPD of all financial aspects of the East Island Project, including project design, planning, permitting, construction, and implementation, as well as three years of bird monitoring and vegetation management. While there has been a significant time lag since the original SFOBB project impacts and requirement for completion of shorebird habitat, the East Island Project is anticipated to enhance a larger area of shorebird roosting habitat (20,000 square feet, of which 5,000 square feet would be resilient to projected sea level rise, versus 500 square feet of habitat for the original riprap island requirement), in addition to providing tidal marsh habitat and other improvements. An alternative project funded through the State Coastal Conservancy would be similarly expected to be able to provide a level of habitat benefits beyond those envisioned with the original riprap island, given the funding amount.

Material Amendment No. Forty-Six modifies the requirements of this amended permit to require Caltrans to provide fee-based mitigation for shorebird habitat impacts in lieu of completing on-site shorebird roosting habitat mitigation, as

originally required by the permit. Pursuant to amended Special Condition II.F.7, this fee-based mitigation would be used for a specific project (EBRPD's East Island Project) within a specified timeframe, consistent with Bay Plan Mitigation Policy No. 12, with a secondary fund transfer option to the State Coastal Conservancy in the event that the identified project fails to be permitted or completed within the specified timeframe.

Under the first scenario, Special Condition II.F.7, as amended, requires that the permittee provide \$775,000.00 in funding to the East Bay Regional Park District (EBRPD) for design, planning, permitting, construction, implementation, and ongoing monitoring of the proposed East Island Project. The special condition includes specified dates by which the permittee will transfer the mitigation funding to the EBRPD and develop a cooperative agreement with EBRPD in support of this mitigation requirement, and requires that the use of funds and project budget meet certain criteria consistent with the Commission's policies regarding fee-based mitigation agreements.

The Commission has not yet permitted the proposed East Island Project. As such, the Commission will need to conduct a full evaluation of the East Island Project's consistency with the Commission's law and policies when an application for such a project is received. This amendment does not bind the Commission to any future action regarding the specifics of that project.

Should the East Island Project ultimately not be constructed within the specified timeframe, amended Special Condition II.F.7 requires that the project funding be transferred to the State Coastal Conservancy, which would hold the funds and then ultimately disburse the funds toward an appropriate project (or projects) to benefit shorebird habitat within the Bay Area. The Conservancy would select a project with preference for creation or enhancement of high-tide refuge habitat for shorebirds, which would also serve a similar habitat function to the previous required mitigation. The Commission and the Conservancy have entered into a Memorandum of Understanding (BCDC-SCC MOA SFBC #08-09, dated August 11, 2008 and amended on August 23, 2018) to assist the Commission in implementing its legal mandate by accepting, holding, and disbursing funds as required by Commission permits. Pursuant to the Memorandum of Understanding between the Conservancy and the Commission, disbursement of funds would be made to an appropriate entity, subject to the terms of this amended permit and the approval of the Commission's Executive Director. In addition to review by the Executive Director, the Conservancy's oversight helps to ensure selection of an appropriate project designed to meet the general ecological goals and purposes of this mitigation requirement.

Finally, to provide interpretive and/or educational opportunities for the public and recognize the importance of nearby shorebirds at the SFOBB project site, Special Condition II.F.7 requires the installation of signage near the Oakland Touchdown

highlighting nearby shorebirds and shorebird habitat. The intent of this signage is to educate the public about the bird species in this location, and the ongoing need to protect and enhance habitat within this area in the future.

- g. Conclusion.** The Commission finds that fee-based mitigation is appropriate in this location as other compensatory mitigation measures intended to mitigate for shorebird impacts of the originally-approved project that have been identified to date have been demonstrated to be infeasible. Special Condition II.F.7, as amended, ensures that the funds will go to a specific compensatory project for use within a specific timeframe, namely the East Island Project. If the East Island Project is not constructed within the specified timeframe, then funds would alternatively be transferred to the State Coastal Conservancy. The special condition establishes a process for spending these funds on an alternate project with specific objectives focused on enhancing shorebird habitat in the Bay Area, through the Conservancy and Commission's Memorandum of Understanding. The amount of the mitigation fee has been established by Caltrans and EBRPD to be adequate to cover the cost of the East Island Project, and is an amount that would be expected to cover the cost of other similar efforts if administered through a grant to another project by the State Coastal Conservancy. Finally, as discussed above, the significant benefits of the project, including the greater amount of roosting habitat area provided (approximately 20,000 square feet, of which 5,000 square feet would be resilient to anticipated sea level rise, versus the 500 square feet originally required), compensate for the significant time lag between the adverse impact and the built-out mitigation. Therefore, as conditioned, the Commission finds that Material Amendment No. Forty-Six is consistent with the McAteer-Petris Act and relevant Bay Plan policies.