

Tab 29

M e m o r a n d u m

To: CHAIR AND COMMISSIONERS
CALIFORNIA TRANSPORTATION COMMISSION

CTC Meeting: March 20, 2014

Reference No.: 2.2c.(5)
Action Item

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Chief Financial Officer

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Environmental Analysis

Subject: APPROVAL OF PROJECT FOR FUTURE CONSIDERATION OF FUNDING
11-SD-5, PM R28.4/55.4
RESOLUTION E-14-11

RECOMMENDATION:

The California Department of Transportation (Department) recommends that the California Transportation Commission (Commission), as a responsible agency, approve the attached Resolution E-14-11.

ISSUE:

The attached resolution proposes to approve for future consideration of funding the following project for which a Final Environmental Impact Report (FEIR) has been completed:

- Interstate 5 (I-5) in San Diego County. Roadway improvements to a portion of I-5 in and near the cities of Oceanside, Carlsbad, Encinitas, Del Mar, and San Diego. (PPNO 0615)

This project in San Diego County will construct roadway improvements on I-5 for 27 miles from Oceanside to San Diego. The project is not fully funded. The total estimated cost is \$3,061,365,000 for capital and support. The project will be completed in multiple phases over 20 years. The project is fully funded for Phase 1 only.

The environmental study (PPNO 0615) was programmed in the 2012 State Transportation Improvement Program and completed at a total cost of \$64,123,000.

Phase 1 (PPNOs 0615A, 0615B, and 0615C) will extend the existing High Occupancy Vehicle lanes from Manchester Avenue to State Route 78, replace the San Elijo and Batiquitos Lagoon bridges, and build soundwalls. Phase 1 is programmed in the State Transportation Improvement Program and is fully funded. The total estimated cost of this phase is \$481,820,000 for capital and support. Construction is estimated to begin in Fiscal Year 2015-16. The scope, as described for the preferred alternative, is consistent with the project scope programmed by the Commission in the 2012 State Transportation Improvement Program.

The remaining phases are not yet funded.

A copy of the FEIR has been provided to Commission staff. Resources that may be impacted by the project include: visual/aesthetics, community impacts, noise, water quality, cultural resources, paleontology, hazardous waste, and biological resources. Potential impacts associated with the project can all be mitigated to below significance through proposed mitigation measures with the exception of visual/aesthetics, causing a Statement of Overriding Considerations to be prepared for the project. As a result, an FEIR was prepared for the project.

Attachments

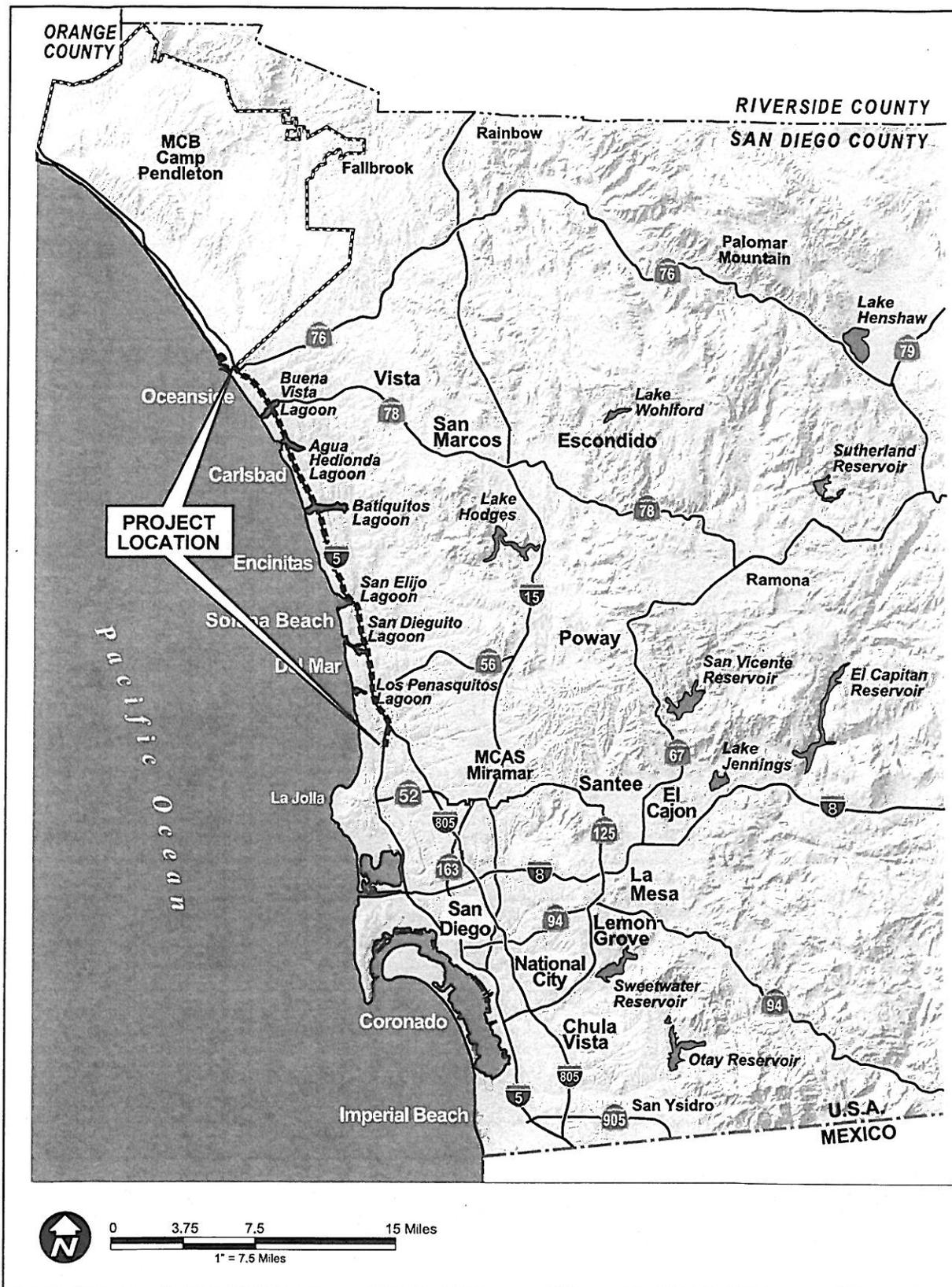
CALIFORNIA TRANSPORTATION COMMISSION

Resolution for Future Consideration of Funding

11-SD-5, PM R28.4/R55.4

Resolution E-14-11

- 1.1 **WHEREAS**, the California Department of Transportation (Department) has completed a Final Environmental Impact Report pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines for the following project:
 - Interstate 5 (I-5) in San Diego County. Roadway improvements to a portion of I-5 in and near the cities of Oceanside, Carlsbad, Encinitas, Del Mar, and San Diego. (PPNO 0615)
- 1.2 **WHEREAS**, the Department has certified that a Final Environmental Impact Report has been completed pursuant to CEQA and the State CEQA Guidelines for its implementation; and
- 1.3 **WHEREAS**, the California Transportation Commission, as a responsible agency, has considered the information contained in the Final Environmental Impact Report.
- 1.4 **WHEREAS**, the project will have a significant effect on the environment.
- 1.5 **WHEREAS**, a Statement of Overriding Considerations was prepared; and
- 1.6 **WHEREAS**, Findings were made pursuant to the State CEQA Guidelines.
- 2.1 **NOW, THEREFORE, BE IT RESOLVED** that the California Transportation Commission does hereby support approval of the above referenced project to allow for consideration of funding.



I-5 North Coast Corridor HOV/Managed Lanes
Project Vicinity Map

CALIFORNIA DEPARTMENT OF TRANSPORTATION
STATEMENT OF OVERRIDING CONSIDERATIONS FOR
THE INTERSTATE 5 NORTH COAST CORRIDOR PROJECT
IN SAN DIEGO COUNTY, CALIFORNIA

The following information is presented to comply with Section 15093 of the State California Environmental Quality Act (CEQA) Guidelines, and Section 1509.6 of the Department of Transportation (Caltrans) and California Transportation Commission Environmental Regulations. Reference is made to the Interstate 5 (I-5) North Coast Corridor (NCC) Project Final Environmental Impact Report/Environmental Impact Statement (Final EIR/EIS), which is the basic source for information contained in this Statement of Overriding Considerations (SOC).

The following impacts have been identified as significant and not fully mitigable in the *I-5 NCC Project* Final EIR/EIS:

- Community Cohesion under the 10+4 Barrier alternative
- Visual/Aesthetics for all alternatives
- Isolated noise impacts for all alternatives

Although mitigation measures are proposed for these issues, their implementation would not fully mitigate impacts; these impacts would remain significant and unmitigable.

Noise (project level only)

Overall, 97 percent of the total modeled receptors along the *I-5 NCC Project* (all except for 16 receptors representing 74 units) could receive noise mitigation incorporated into the project or not require such mitigation under CEQA. For the remaining approximately three percent of the modeled receptors, implementation of soundwalls to reduce increased noise levels under CEQA is not planned as part of the project. In addition, for the 58 receptors (representing 231 units) identified as potentially experiencing future noise level increases that would be considered significant under CEQA, the potential exists for the proposed mitigation to be rejected by property owner(s) and for the noise level increases due to the project to remain significant and unmitigated under CEQA.

Community Cohesion (project level only, 10+4 Barrier alternative only)

Implementation of the 10+4 Barrier alternative would displace a 47-unit apartment complex in the northern portion of the City of Carlsbad, within an area identified as exhibiting traits of elevated community cohesion: namely, a relatively high concentration of linguistically isolated Spanish-speaking households, as well as a high proportion of minority populations. Displaced residents living in these 47 units may be difficult to relocate within a similar community, as the availability of apartments within the City of Carlsbad with similar rental rates is not adequate. If relocation is not feasible in Carlsbad and up to 47 families are relocated outside of the community, this may significantly impact community cohesion in the area.

Visual/Aesthetics (project and cumulative levels)

From a project-level perspective, implementation of any of the build alternatives would result in highly adverse changes to the existing visual environment along and adjacent to the I-5 right-of-way, primarily related to construction of retaining walls and potential soundwalls. The increase in build elements under all of the build alternatives would substantially degrade the existing visual character of the I-5 corridor, and would result in potentially significant project-level impacts under CEQA to I-5 views. A number of changes or alterations have been incorporated into the project to avoid or reduce environmental effects, although not to below a level of significance. Specifically, these measures include extensive use of landscaping to replace, supplement and/or expand current landscaped areas within the project corridor; avoiding/redesigning structures in scenic viewsheds (e.g., areas with ocean/lagoon views) where feasible; use of color/texture treatments for structures (e.g., retaining and soundwalls); inclusion of transparent soundwall materials where feasible to retain views; and use of landscaped berms (rather than walls) for noise abatement where feasible. Despite these efforts, however, significant visual/aesthetic impacts would remain, and additional measures or alternatives that would reduce visual/aesthetic impacts to below a level of significance would be infeasible due to the nature of, and inherent requirements associated with, widening an existing interstate in a scenic area.

Cumulatively, the proposed project, in combination with other anticipated development in the *I-5 NCC Project* area and vicinity, would change the local visual environment from semi-urban to a more developed urban setting. The changes to the visual resource of the area brought about by these planned projects, including the *I-5 NCC Project*, would constitute cumulatively considerable contributions to potentially significant cumulative visual/aesthetics impacts. While this change has been previously contemplated in local planning documents and environmental analyses conducted for local development, it would nevertheless represent a significant cumulative visual impact for which no feasible mitigation measures are available. For the *I-5 NCC Project*, this conclusion is based on the nature and inherent requirements of widening an existing interstate in a scenic area, as previously noted for project-level impacts. Mitigation for cumulative visual impacts by other projects is governed by the project proponents and the associated local jurisdictions with authority over the projects. Potential measures to avoid or reduce such impacts include implementation of local land use plans and environmental guidelines, which provide for orderly, timely, and environmentally-sensitive land use development. While the design and mitigation measures listed in the *I-5 NCC Project* Final EIR/EIS would serve to minimize project-specific impacts as previously described, cumulative visual/aesthetics impacts under CEQA would remain significant, unavoidable, and unmitigable.

Overriding Considerations

Having considered all of the foregoing, Caltrans finds that overriding economic, legal, social, technological, or other benefits of the project outweigh the aforesaid significant and unavoidable focused noise, community cohesion (10+4 Barrier alternative), and visual effects on the environment. A discussion of project background, need, and benefits is provided below, to outline the overriding considerations that support approval of this recommended project.

Project Background and Need

I-5 is the main north-south coastal corridor connecting San Diego County and Mexico with Orange County, the Los Angeles Metropolitan area, and (beyond) to the Canadian border. Since original construction of the I-5 freeway, traffic conditions have worsened but only minimal improvements have been constructed within the project corridor. I-5 is also a critical transportation link for national defense and transportation security, providing direct and indirect access to major military installations in the southwestern United States, and is identified as a Strategic Highway Network link to provide defense access, continuity, and emergency capabilities for movement of personnel and equipment in both peace and war times.

Studies of the project area show that increased demand on the route is primarily due to regional population growth, increased goods movement, increased economic growth, and greater recreational and tourism demand. Growth forecasts for San Diego County and the surrounding regions indicate that these trends will continue over the coming decades. Traffic forecasting for the region shows that if no improvements are made to I-5, traffic conditions will continue to deteriorate. Specifically, the following increases in traffic volumes and travel times are projected by the year 2035¹ with no improvements to I-5:

- Near the northern terminus of the *I-5 NCC Project* corridor (Harbor Boulevard), northbound traffic volumes (vehicles per day [VPD]) would increase by 56 percent (from 62,600 to 97,600), while southbound VPD would increase by nearly 68 percent (from 60,000 to 100,500).
- Near the southern terminus of the *I-5 NCC Project* corridor (La Jolla Village Drive), northbound VPD would increase by 28 percent (from 87,200 to 111,500), while southbound VPD would increase by 50 percent (from 82,500 to 123,150).
- The base year (2006) time required to travel the project area (i.e., terminus to terminus) during the a.m. peak hours varies from 24 to 25 minutes in the northbound direction, and from 31 to 44 minutes in the southbound direction. By 2035, these times would increase to 29 to 37 minutes for northbound traffic, and 53 to 54 minutes in the southbound direction.
- The base year time required to travel the project area during the p.m. peak hours varies from 33 to 39 minutes in the northbound direction, and from 27 to 32 minutes for southbound traffic. By 2035, these times would increase to 67 to 69 minutes for northbound traffic, and 40 and 48 minutes in the southbound direction.

Given these existing and projected levels of traffic and congestion, almost certain future gridlock is anticipated with no improvements to I-5. This would cause impacts on route operations and the ability to provide for the effective movement of people, goods, and

¹ The Project Team determined that the initial Series 2030 forecasted traffic volumes, which provided the basis of the original traffic studies, were indicative of year 2035 volumes (within 3.5 percent) and that revision would not alter the results of the associated studies.

services through and within the region; and could have profound economic and strategic consequences within both the region and the State.

The *I-5 NCC Project* is one element of a larger transportation upgrade being planned for the region. This plan is being developed by the San Diego Association of Governments (SANDAG), with support and input from other transportation agencies and local planning jurisdictions. The SANDAG Regional Transportation Plan (RTP) program is reviewed and updated approximately every four years so that the planned projects are consistent with the land use planning agencies current vision for the region. Building on the current transportation system with funding anticipated over the next 37 years, the 2050 RTP² outlines projects for highways, rail and bus services, local streets, bicycle and pedestrian facilities, and systems and demand management. Based on regional growth projections, upgrades to each of these modes of travel are needed to accommodate future transportation needs. I-5 improvements, including the improvements evaluated in the Final *I-5 NCC Project* EIR/EIS, are specifically identified in the 2050 RTP. The RTP includes a planning process known as the Urban Area Transit Strategy, which involves developing a range of differing transit strategies and approaches to determine what kind of transit future would be desired for the San Diego region. This process resulted in a transit network that would nearly triple the number of transit miles in the San Diego region by 2050, with a regional goal for transit facilities to increase transit ridership from approximately 2 percent to up to 15 percent of the North Coast Corridor transportation network during that timeframe. Transit alternatives, however, while comprising a valuable part of the overall regional transportation solution, would not, in and of themselves, fully meet the objectives of the *I-5 NCC Project*. They would not, for example, adequately provide for the regional or interregional movement of goods, time-efficient local trips by area residents to multiple locations in different directions, convenient destination access for tourists constrained by time or hotel location, or interregional trips where the destination is not adequately served by mass transit.

Based on the above discussions, the *I-5 NCC Project* is one part of an integrated, multimodal transit and transportation system which has been developed at the regional level to accommodate future transportation needs and decision making. The noted regional transportation studies identified a wide range of networks, including several (revenue) unconstrained transit network alternatives that encompassed more extensive transit systems and capacities. The studies determined, however, that these alternatives would not provide significantly better transit ridership in the North Coast Corridor than what is proposed under the described 2050 Revenue Constrained RTP system that includes the *I-5 NCC Project* and a substantially enhanced transit network. Accordingly, the proposed *I-5 NCC Project* is considered a vital element in the overall strategy to provide a regional multimodal transportation network capable of meeting regional demands while encompassing a balance of highway, transit, bicycle and pedestrian facilities.

² On December 20, 2012, the San Diego Superior Court entered a judgment finding that the EIR for the 2050 RTP is legally inadequate with regard to greenhouse gas emissions. Although the judgment may be overturned on appeal, the *I-5 NCC Project* Final EIR/EIS was drafted to avoid the narrow alleged deficiencies found by the Court. Where the Final EIR/EIS relies upon 2050 RTP information, that information has not been challenged and is not part of the current lawsuit.

Preferred Alternative

Following circulation of the Draft EIR/EIS and receipt of comments, the 8+4 Buffer alternative, the smallest of the identified I-5 build alternatives, was refined to reflect associated comments and concerns related to environmental issues, community input, logistical requirements, transportation needs, and project goals and objectives. Specific refinements include:

- Reduction in right-of-way requirements.
- Revisions to lagoon bridges and channel improvements.
- Elimination of direct access ramps (DARs) at Cannon Road and Oceanside Boulevard.
- Refinement of the Manchester Avenue DAR to eliminate a flyover, implement an undercrossing, and reduce the amount of parking at the San Elijo Multi-use Facility.
- Addition of the I-5 North Coast (NC) Bike Trail.
- Addition of California Highway Patrol cross-over/turn facilities.

The refined 8+4 Buffer alternative was determined to be the locally preferred alternative (LPA) in 2011 and was addressed in the August 2012 Supplemental Draft EIR/EIS. After full consideration of the entire administrative record for the proposed project, including the environmental data and all public and agency comments during the Draft EIR/EIS and Supplemental Draft public review process, as well as completion of Clean Water Act Section 404(b)(1) analysis to ensure that the 8+4 Buffer alternative is in fact the Least Environmentally Damaging Practicable Alternative (LEDPA, as required under federal guidelines), Caltrans and FHWA identified the refined 8+4 Buffer alternative as the Preferred Alternative. The Preferred Alternative would include construction of four high-occupancy vehicle (HOV)/Managed Lanes, two in each direction, and would separate HOV/Managed Lanes from general purpose lanes with a variable width buffer instead of a barrier. As part of the overall North Coast Corridor transportation solution, the Preferred Alternative prioritizes the movement of people over vehicles, while minimizing community and environmental effects and still meeting the stated transportation needs and other identified project objectives. The Preferred Alternative fulfills the project's purpose and need, would have the least potential for impacts to listed/sensitive biological resources as well as the least potential for land use impacts, and is supported by the resource agencies. The identification of the Preferred Alternative reflects the consideration of all substantial, reasonably foreseeable, adverse impacts that remain after incorporation of all reasonable mitigation measures.

Project Benefits

From the above discussion and the analysis provided in the Final EIR/EIS, implementation of the *I-5 NCC Project Preferred Alternative* would result in substantial benefits to users of the facility and regional residents. Improvements would:

- Maintain or improve the existing and future traffic operations in the I-5 North Coast Corridor.
- Facilitate the safe and efficient regional movement of people and goods within the I-5 North Coast Corridor and beyond, with associated economic benefits.

- Maintain or improve travel times within the I-5 North Coast Corridor.
- Provide a facility that is compatible with future Bus Rapid Transit (BRT) and other modal options.
- Provide project-level consistency with adopted RTPs, as appropriate, where feasible and in compliance with federal and State regulations.
- Maintain the I-5 North Coast Corridor as an effective link in the national Strategic Highway Network.
- Protect and/or enhance the human and natural environment along the I-5 corridor.
- Implement facilities such as HOV/Managed Lanes, DARs, and pedestrian/bicycle facilities to provide long-term flexibility to accommodate increased transit and non-motorized transportation demand, as well as opportunities to interface with future expansions of regional/local transit and non-motorized transportation systems.
- Provide an extensive system of local community enhancements, such as pedestrian and bicycle trails (including segments of the NC Bike Trail, several local connecting bike trails, and connections/access routes to transit centers and community destinations), new or enhanced east-west freeway connection facilities (i.e., pedestrian and/or bicycle overpass/underpass structures), park and ride enhancements, community gardens and parks, streetscape enhancements, scenic overlooks, interpretive facilities/trailheads, and native habitat preservation.
- Avoid, minimize and/or mitigate impacts to biological resources through efforts including extensive native habitat preservation, removal of exotic/invasive species, protection/enhancement of wildlife movement corridors, and native habitat restoration/enhancement. The latter effort would be conducted on a regional basis through the Resource Enhancement and Mitigation Program (REMP), which entails a regional strategy to address corridor-wide mitigation for the *I-5 NCC Project*, the proposed I-5 / SR-78 Interchange Project, and the Los Angeles to San Diego (LOSSAN) double-tracking rail improvement projects, as well as other facilities such as trails and train stations. The regional approach to mitigation under the REMP would result in greater benefits to coastal resources throughout the corridor than if only ratio-based, project-level and site-specific compensatory mitigation were employed.
- Implement a number of enhancements to coastal lagoons in addition to the regional mitigation described above under the REMP. Specifically, these proposed enhancements are based on associated bridge optimization, hydrologic/hydraulic, and sediment transport studies conducted for the *I-5 NCC Project*, and would provide benefits such as improved corridor-wide lagoon system function and service (e.g., improved tidal exchange, or mixing); enhanced wetland, aquatic and upland habitats; improved water quality; increased flood control; enhanced groundwater recharge potential; and expanded recreational opportunities.

- Construct an extensive system of soundwalls along the *I-5 NCC Project* corridor, as identified in *Section 3.15, Noise*, of the Final EIR/EIS. These soundwalls would be further evaluated for “feasibility” and “reasonableness” to construct as part of the Noise Abatement Decision Report (NADR) that will be completed if the project is approved. Based on the evaluation of 582 noise receptors representing a total of approximately 2,200 units divided into 22 segments along the 27-mile *I-5 NCC Project* corridor, project implementation would result in noise abatement (or impacts that would not be significant under CEQA) for 97 percent of the receptors in the *I-5 NCC Project* corridor, including numerous residential properties, park and recreational sites, care facilities, and other noise-sensitive areas.
- Reduce air quality and related pollutant emissions due to lower travel times, reductions in traffic congestion, and the smoothing of traffic flow along the I-5 corridor. Specific benefits would include the following: (1) reductions in overall air quality emissions compared to existing conditions; (2) reductions in buildout operational emissions of carbon dioxide (a principal greenhouse gas) in the San Diego region by hundreds of tons per day compared to the No Build alternative; and (3) a reduction of approximately 49 percent in Year 2030 mobile source air toxics (MSAT) emissions over base year (2006) conditions.
- Implement water quality “treatment” best management practices (BMPs) that would provide substantially more “treatment” of runoff from paved areas than existing conditions. Implementation of the Preferred Alternative, for example, would result in a minimum total of 112 percent of equivalent new impervious areas being “treated,” compared to 7 percent of existing impervious areas currently being “treated.”

Conclusion

The benefits provided by the Preferred Alternative, as discussed above, outweigh the potential unavoidable adverse environmental effects. Accordingly, despite the identification of potentially significant and unmitigable environmental effects, the *I-5 NCC Project* would provide substantial and overriding logistic, economic, environmental, and strategic benefits on a local, regional, and national scale.

Caltrans declares that it has adopted all feasible mitigation measures with respect to the above-remaining unavoidable significant effects, and finds that they are acceptable due to each of the specific economic, legal, social, technological, or other overriding benefits that would result from approval and implementation of the project, as listed above. All of these benefits are based on the facts set forth in the CEQA Findings, the Final EIR/EIS, and the project record of proceedings. Each of these benefits is a separate and independent basis that justifies approval of the project, so that if a court were to set aside the determination that any particular benefit would occur, Caltrans finds that it would stand by its determination that the remaining benefit(s) are sufficient to warrant project approval.

FINDINGS

CALIFORNIA DEPARTMENT OF TRANSPORTATION FINDINGS FOR

THE INTERSTATE 5 NORTH COAST CORRIDOR PROJECT

IN SAN DIEGO COUNTY, CALIFORNIA

The following information is presented to comply with the California Environmental Quality Act (CEQA) Guidelines (Title 14 California Code of Regulations, Chapter 3, Section 15901), and the Department of Transportation (Caltrans) and California Transportation Commission Environmental Regulations (Title 21, California Code of Regulations, Chapter 11, Section 1501). Reference is made to the Interstate 5 (I-5) North Coast Corridor (NCC) Project Final Environmental Impact Report/Environmental Impact Statement (Final EIR/EIS), which is the basic source for the information contained in these Findings.

Potentially significant effects under CEQA have been identified in *Chapter 4, California Environmental Quality Act Evaluation*, of the *I-5 NCC Project* Final EIR/EIS as resulting from project implementation. Impacts may be less than significant following mitigation, potentially significant following mitigation, or known to be significant following mitigation.

Potentially significant impacts that would be less than significant following implementation of identified mitigation measures, per Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1), are the following:

- Cultural Resources
- Paleontological Resources
- Hazards and Hazardous Materials
- Biological Resources

Impacts which may remain potentially significant after implementation of available mitigation measures, per Public Resources Code Sections 21081(a)(2) and 21081(a)(3), and CEQA Guidelines Sections 15091(a)(2) and 15091(a)(3) are the following:

- Noise for all build alternatives

Impacts which would remain significant after implementation of available mitigation measures, per Public Resources Code Sections 21081(a)(2) and 21081(a)(3), and CEQA Guidelines Sections 15091(a)(2) and 15091(a)(3) are the following:

- Community Cohesion under the 10+4 Barrier alternative
- Visual/Aesthetics for all build alternatives

Effects found not to be significant are listed in *Chapter 4* and have not been included in these Findings.

IMPACTS MITIGATED TO LESS THAN SIGNIFICANT

Cultural Resources

Adverse Environmental Effect:

As detailed in *Section 3.8, Cultural Resources*, of the Final EIR/EIS, significant impacts to known eligible cultural resources within the project's Area of Potential Effect (APE) would be avoided. Implementation of any of the build alternatives, including the construction of soundwalls identified for secondary consideration in the Final EIR/EIS, however, could result in significant impacts to cultural resources if currently unknown archaeological sites are encountered during project construction.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

Statement of Facts:

The following mitigation measures, which are referenced in *Section 3.8.4, Avoidance, Minimization, and/or Mitigation Measures*, of the Final EIR/EIS and detailed in the Environmental Commitments Record (ECR) provided as Appendix D in the Final EIR/EIS, will be implemented as part of the project:

- Caltrans will undertake efforts to avoid causing impacts to archaeological sites. Prior to construction, a Cultural Resources Treatment Plan will be developed. This plan will include an Archaeological Monitoring Area (AMA) Action Plan and an Environmentally Sensitive Area (ESA) Action Plan. Combined, these plans shall delineate AMA and ESA locations where a "qualified" archaeological monitor and a Native American monitor will be present during construction, identify the individuals involved, and their roles and responsibilities.
- The AMA and ESAs will be depicted on the design/construction plans. A letter will be sent to the Resident Engineer's file, along with a copy of the AMA and ESA Action Plan. The archaeologist and Native American monitor will be present at the preconstruction meeting.
- A "qualified" archaeological monitor and a Native American monitor will be present at AMA and ESA locations during construction activities.
- The archaeologist and Native American monitor will work with Caltrans Construction Liaison to accurately delineate the boundaries of those sites requiring the establishment of ESAs. Fencing will be placed around ESA sites, as appropriate. ESA sites will be avoided by all construction activity.
- The construction contract will contain language related to unanticipated discoveries should they be made during construction, including diverting activities away from such finds until an archaeologist can assess their nature and significance. If unanticipated discoveries occur, Section 106 consultation with the State Historic Preservation Officer

(SHPO) will be reopened, if appropriate. If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

- If unanticipated human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie remains, and the County Coroner will be contacted. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who will then notify the Most Likely Descendant (MLD). At the same time, the person who discovered the remains will contact the District 11 Chief of the Environmental Resources Branch so that they can work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 will be followed, as applicable.

Paleontological Resources

Adverse Environmental Effect:

As detailed in *Section 3.12, Paleontology*, of the Final EIR/EIS, direct impacts to paleontological resources could occur when mass grading cuts extend into geological deposits containing fossils. Although the precise types, depths, and locations of various construction activities are not known at this time, unearthing of paleontological resources is anticipated.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

Statement of Facts:

The following mitigation measures, which are referenced in *Section 3.12.4, Avoidance, Minimization, and/or Mitigation Measures*, of the Final EIR/EIS and detailed in the ECR provided as Appendix D in the Final EIR/EIS, will be implemented as part of the project:

The paleontological mitigation program will consist of monitoring, fossil salvage, macrofossil and microfossil analysis, fossil preparation, report preparation, and curation, as summarized below.

Monitoring

- A qualified principal paleontologist (M.S. or Ph.D. in paleontology or geology familiar with paleontological procedures and techniques) will be retained to be present at pre-grading meetings to consult with grading and excavation contractors.
- A paleontological monitor, under the direction of the qualified principal paleontologist, will be on site to inspect cuts for fossils at all times during original grading involving sensitive geologic formations.

Macrofossil/Microfossil Salvage/Analysis

- When fossils are discovered, the paleontologist (or paleontological monitor) will recover them. Construction work in these areas will be halted or diverted to allow recovery of fossil remains in a timely manner.
- Fossil remains collected during the monitoring and salvage portion of the mitigation program will be prepared, sorted, and cataloged.

Report Preparation

- Once the grading plan is finalized, the types, depth, and locations of the construction activities will be analyzed to finalize the Paleontological Mitigation Monitoring Plan (PMMP) prepared by a qualified principal paleontologist.
- A Paleontological Mitigation Monitoring Report (PMMR) will be prepared by a qualified principal paleontologist to document the results of the mitigation program, including construction monitoring, fossil salvage, laboratory preparation of salvaged specimens, curation of prepared specimens, and storage of curated specimens.

Curation

- Although all fossils collected remain the property of the State, the collection must be properly curated at an approved facility (preferably local to the project location) and preserved for future researchers. A complete set of field notes, geologic maps, stratigraphic sections, and a copy of the final report will be curated with the fossils.

Hazardous Waste/Materials

Adverse Environmental Effect:

As detailed in *Section 3.13, Hazardous Waste/Materials*, of the Final EIR/EIS, implementation of any of the build alternatives has the potential to disturb soils and other materials containing hazardous materials such as aerially deposited lead (ADL), petroleum hydrocarbons, pesticides, herbicides, asbestos, lead, treated wood, and other contamination due to historic uses in and around the project areas.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

Statement of Facts:

The following mitigation measures, which are referenced in *Section 3.13.4, Avoidance, Minimization, and/or Mitigation Measures*, of the Final EIR/EIS and detailed in the ECR provided as Appendix D in the Final EIR/EIS, will be implemented as part of the project:

- Wherever possible, the project alternatives will follow the existing I-5 alignment to avoid and/or minimize impacts from hazards and hazardous materials. In particular, avoidance of the gasoline stations and soil excavation at Manchester Avenue,

Birmingham Drive, Palomar Airport Road, Tamarack Avenue, and Carlsbad Village Drive will be considered.

- Soil excavated from agricultural land and nurseries may require reuse or proper off-site disposal, with further testing necessary at Manchester Avenue, between Birmingham Drive and Palomar Airport Road, and at Cannon Road.
- Soils from landfills near Piraeus Street may be reused or disposed as non-hazardous material at the appropriate landfill location; however, the Maxson Street site will be avoided. Further hazardous waste investigation may be necessary on individual parcels to be acquired.
- Environmental Engineering staff will be kept informed of parcel takes and changes in scope or design since further hazardous waste investigation may be necessary on individual parcels to be acquired.
- Since there are chemical constituents present in soil and groundwater within the I-5 corridor, soil excavation activities will be performed under the guidelines of a site-specific Soil Management Plan and Health and Safety Plan.
- The Department of Toxic Substances Control (DTSC) lead variance will be followed for ADL soil excavated in the median. Soil in the median along I-5 to a depth of two feet is hazardous with regard to soluble ADL concentrations. This soil may be reused on site in accordance with a DTSC lead variance issued to Caltrans. If this criterion cannot be met, then disposal of ADL soil will be necessary at a Class I landfill. Soil excavated as a whole along the shoulders may be reused as clean material with regard to ADL, unless soil adjacent to the shoulder is segregated from the whole. The DTSC lead variance will apply for segregated soil from the shoulder.
- An NPDES permit will be obtained, which will include measures for impacts to service stations. If soil from abutment excavations at Via de la Valle, Birmingham Drive, Brooks Street, Palomar Airport Road, Carlsbad Village Drive, or Mission Avenue will be exported, however, the soil may require further characterization for petroleum hydrocarbons, volatile organic compounds, or semi-volatile organic compounds to evaluate the proper disposal method.
- Although investigation near the Olympus and Maxson Street landfills did not encounter wastes associated with the landfills, it is recommended that widening activities in the vicinity of these landfills be moved to the west to avoid the landfill sites. If parcels are acquired at these landfill locations, excavated soil will require further characterization to evaluate the proper disposal method.
- If soil from locations containing farmland or nurseries is exported, further characterization for pesticide/herbicides will be warranted to evaluate the proper disposal method.
- Because historical chemical spill locations along I-5 are unknown, a contingency will be written into the construction contract to address this potential hazardous waste issue.

- Asbestos and lead paint may be in structures demolished during construction and must be handled and disposed of properly.
- Treated wood waste in sign and guardrail posts must be handled and disposed of properly.

Biological Resources

Natural Communities

Adverse Environmental Effect:

As detailed in *Section 3.17, Natural Communities*, of the Final EIR/EIS, implementation of any of the build alternatives would result in potentially significant impacts to a number of sensitive native and non-native communities. Impacts are outlined in *Table 1, Permanent Impacts to Sensitive Habitats for the Four Build Alternatives*, *Table 2, Temporary Impacts to Sensitive Habitats for the Four Build Alternatives*, and *Table 3, Permanent and Temporary Impacts to Eelgrass by Alternative*. Impacts to the native habitats identified in *Tables 1 through 3* would be considered significant due to the intrinsic value of wildlife habitat, as well as the fact that many of these habitats may support sensitive plant and/or animal species. Impacts to the listed non-native habitats would also be considered significant, based on the fact that non-native grasslands offer foraging habitat for sensitive birds of prey such as the burrowing owl, northern harrier and white-tailed kite; while non-native woodlands may provide nesting habitat for these or other raptor species.

Table 1 Permanent Impacts to Sensitive Habitats for the Four Build Alternatives (Acres)				
	Alternative			
	10+4 Barrier	10+4 Buffer	8+4 Barrier	8+4 Buffer (Preferred Alternative)
Upland Communities				
Baccharis Scrub	0.45	0.45	0.45	0.45
Baccharis Scrub (D)	1.02	1.02	1.02	1.02
CSS	12.77	12.43	12.62	11.24
CSS (D)	51.83	50.65	50.93	47.94
CSS (D) Already mitigated ¹	11.81	11.00	11.07	10.55
Disturbed Habitat	71.99	69.27	69.27	67.78
Genesee Project	108.21	108.21	108.21	108.21
Maritime Succulent Scrub	0.30	0.29	0.29	0.19
Native Grassland	0.01	0.01	0.01	0.01

**Table 1 (cont.)
Permanent Impacts to Sensitive Habitats for the Four Build Alternatives
(Acres)**

	Alternative			
	10+4 Barrier	10+4 Buffer	8+4 Barrier	8+4 Buffer (Preferred Alternative)
Upland Communities (cont.)				
Non-native Grassland	38.55	38.41	39.42	36.63
Non-native Woodland	11.69	10.89	11.48	10.63
So. Maritime Chaparral	1.98	1.87	1.98	1.82
So. Maritime Chaparral (D)	1.07	1.05	1.05	1.05
TOTAL	311.68	305.55	307.80	297.52
Wetland Communities				
Arundo Scrub	0.20	0.15	0.16	0.17
Coastal Brackish Marsh	1.47	1.34	1.43	1.17
Coastal Brackish Marsh (D)	4.33	3.66	4.16	3.53
Drainage Ditch	1.29	1.24	1.25	1.24
Disturbed Wetland	2.41	1.91	2.02	1.76
Freshwater Marsh	0.70	0.64	0.68	0.61
Freshwater Marsh (D)	0.62	0.55	0.57	0.54
Mud Flat	2.68	2.49	2.61	2.32
Mulefat Scrub	0.21	0.21	0.21	0.21
Open Water	2.81	2.14	2.37	1.49
Salt Flat	0.03	0.03	0.03	0
So. Coastal Salt Marsh	5.90	4.56	4.74	2.89
Salt Marsh Transition	0.19	0.12	0.15	0.06
Southern Willow Scrub	0.26	0.26	0.26	0.26
Southern Willow Scrub (D)	1.54	1.31	1.36	1.25
So. Willow Scrub/FWM	0.35	0.35	0.35	0.35
Other Waters of the U.S.	0.34	0.33	0.33	0.32
Tidal Riprap	0.22	0.22	0.22	0.26
TOTAL	25.55	21.51	22.90	18.43

(D) = Disturbed, So. = Southern, Chap = Chaparral, FWM = Freshwater Marsh, CSS = coastal sage scrub
 † CSS already mitigated by the Del Mar Auxiliary Lane Project

**Table 2
Temporary Impacts to Sensitive Habitats for the Four Build Alternatives
(Acres)**

	Alternative			
	10+4 Barrier	10+4 Buffer	8+4 Barrier	8+4 Buffer (Preferred Alternative)
Upland Communities				
Baccharis Scrub	0.14	0.14	0.14	0.14
Baccharis Scrub (D)	1.01	1.01	1.01	1.01
CSS	4.23	4.17	4.19	4.15
CSS (D)	10.26	9.54	10.03	8.91
CSS (D) Already mitigated ¹	5.51	5.26	5.39	5.22
Disturbed Habitat	28.50	24.57	27.34	23.59
Maritime Succulent Scrub	0.72	0.49	0.63	0.10
Native Grassland	0.15	0.15	0.15	0.15
Non-native Grassland	14.59	13.76	14.16	13.68
Non-native Woodland	4.65	4.54	4.92	4.58
So. Maritime Chaparral	0.49	0.46	0.48	0.47
So. Maritime Chaparral (D)	1.45	1.38	1.41	1.37
TOTAL	71.70	65.47	69.58	63.37
Wetland Communities				
Arundo Scrub	0.33	0.33	0.33	0.32
Coastal Brackish Marsh	0.91	0.79	0.83	0.77
Coastal Brackish Marsh (D)	2.03	1.61	1.84	1.54
Drainage Ditch	0.70	0.67	0.69	0.66
Disturbed Wetland	0.84	0.82	0.82	0.78
Freshwater Marsh	2.56	2.27	2.42	1.79
Freshwater Marsh (D)	1.02	0.91	0.91	0.69
Mud Flat	0.53	0.46	0.49	0.37
Mulefat Scrub	0.02	0.02	0.02	0.02
Open Water	5.48	5.40	5.33	4.69
Salt Flat	0.04	0.04	0.04	0.01
So. Coastal Salt Marsh	2.88	2.63	2.74	2.67
Salt Marsh Transition	0.60	0.54	0.57	0.53
Southern Willow Scrub	0.18	0.22	0.19	0.15
So. Willow Scrub (D)	2.51	2.17	2.34	2.09
Southern Willow Scrub/FWM	0.82	0.82	0.82	0.82
Other Waters of the U.S.	0.15	0.15	0.15	0.15
Tidal Riprap at bridge abutments	0.35	0.35	0.35	0.34
TOTAL	21.95	20.20	20.88	18.39

(D) = Disturbed, So. = Southern, Chap = Chaparral, FWM = Freshwater Marsh, CSS = coastal; sage scrub
¹ CSS already mitigated by the Del Mar Auxiliary Lane Project

Table 3 Permanent and Temporary Impacts to Eelgrass by Alternative (Acres)				
	Alternative			
	10+4 Barrier	10+4 Buffer	8+4 Barrier	8+4 Buffer (Preferred Alternative)
Permanent Impacts				
Agua Hedionda	0.22	0.07	0.20	0.07
Batiquitos	0.02	0.02	0.02	0.01
TOTAL	0.24	0.09	0.22	0.08
Temporary Impacts				
Agua Hedionda	0.15	0.13	0.14	0.13
Batiquitos	0.22	0.20	0.22	0.09
TOTAL	0.37	0.33	0.36	0.22

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

Statement of Facts:

The following mitigation measures, which are referenced in *Sections 3.17.4 through 3.22.4, Avoidance, Minimization, and/or Mitigation Measures*, of the Final EIR/EIS and detailed in the ECR provided as Appendix D in the Final EIR/EIS and included in the project Biological Opinion (BO), will be implemented as part of the project:

BO1. To minimize impacts to all habitats, 2:1 slopes will be used along the freeway and retaining walls will be used on cut slopes.

BO2. No riprap will be used in channel bottoms for bridge construction to minimize impacts to aquatic habitats.

BO3. Retaining walls 6 feet or lower in height will be used as feasible on fill slopes within lagoons to minimize impacts to aquatic habitats from the bike / pedestrian path. Retaining walls will also be used as feasible on cut slopes through coastal mesas to minimize project impacts to sensitive upland habitats.

BO4. The I-5 lagoon bridges will be lengthened to accommodate a channel bottom width of at least 261, 134, and 105 feet at San Elijo, Batiquitos, and Buena Vista Lagoons, respectively, consistent with the recommendations in the lagoon bridge optimization studies (Moffatt & Nichol 2012a and b, Everest International Consultants, Inc. 2012).

BO5. Project work within open water habitat in the San Luis Rey River in occupied goby critical habitat will be minimized to approximately 500 square feet of permanent impacts from bridge pilings, 0.3 acre of bridge shading, and 0.2 acre of temporary impacts. Cofferdams at bridge footings will be used such that project construction will not require diversion or relocation

of the active channel. The project will not conduct actions that will result in the breach of seasonal San Luis Rey River estuary berms. Construction berms will not be used within the San Luis Rey River and all lagoons to minimize impacts on the active channel and avoid sedimentation impacts.

BO6. Project landscaping will follow the provisions set forth in Executive Order 13112, which mandates preventing the introduction of and controlling the spread of invasive plant species on highway Right-of-ways. No invasive species listed in the National Invasive Species Management Plan, the State of California Noxious Weed List, or the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory list will be included in the landscaping plans for the proposed project. Landscaping will not use plants that require intensive irrigation, fertilizers, or pesticides adjacent to preserve areas, and water runoff from landscaped areas will be directed away from adjacent native habitats and contained and/or treated within the development footprint.

BO7. Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the roadway, Park and Rides, and other project facilities, and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. Lighting adjacent to lagoons will be fitted with bird control spikes to ensure that raptors will not be able to use lighting as a perch to prey on listed bird species. With the exception of pathway lighting for the North Coast (NC) Bike Trail, there will be no night lighting of trails within lagoons, wildlife corridors, and sensitive habitat areas. Pathway lighting for the NC Bike Trail will be of the lowest illumination necessary for safety and will be designed to avoid light spill into adjacent sensitive habitats and wildlife movement areas. Caltrans will coordinate with the CFWO regarding the design of pathway lighting for the NC Bike Trail to ensure that the lighting will not negatively affect wildlife movement in the project area. Caltrans will review the permanent lighting plans and then submit them to the CFWO for review and approval.

BO8. All pedestrian trails and bike paths will be fenced in a manner that will encourage users to remain on the trails and paths. In areas where wildlife movement is expected, such as along river and lagoon bridge benches, fencing will be designed in a manner that will encourage users to remain on the trails and paths but which will not preclude wildlife from moving through habitat areas and accessing pedestrian benches during flood events (e.g., [three rail] spilt rail fencing). Signage will be posted and maintained at conspicuous locations to inform users about adjacent sensitive habitats and species as well as access restrictions. Plans for fencing and signage for each phase of project construction will be submitted to the CFWO for approval at least 5 days prior to initiating project impacts in each phase. Fencing and signage will be installed prior to completion of each phase of project construction.

BO9. The following wildlife connectivity features will be constructed to ensure that ecosystem functions are maintained for the benefit of listed species:

- a. At Carmel Creek, a 10-foot-wide bench will be constructed at the south bridge abutment, and the existing 8-foot-wide bench at the north bridge abutment will be maintained. The south bench will be modified to allow for usage by pedestrians and bikes and is expected to provide for wildlife usage at night and during flood events. The project will elevate the Sorrento Valley Road Bike Path Connector to the west of the bridge and remove sediment under and southwest of the bike path to remove an existing constraint to flood flows and to improve wildlife connectivity from east to west.

- b. At the proposed bridge over Los Peñasquitos and Soledad Creeks, the existing bridge provides for a substantial dry movement area with a 2:1 slope to the north, which will be maintained. A new 16-foot-wide bench may be added at the south bridge abutment for both pedestrians and wildlife depending upon clearance.
- c. At San Dieguito Lagoon, the existing bridge provides for a substantial dry movement area to the south, and an existing 12-foot-wide pedestrian pathway will be maintained to the north that is expected to provide for wildlife movement at night and during flood events. Existing pier walls constrain visibility and openness under the bridge. If possible, Caltrans will cut openings in existing and proposed pier walls to improve visibility and openness. The south bank of the channel will not be armored.
- d. At San Elijo Lagoon, a 12-foot-wide wildlife bench will be constructed to the south, and existing pedestrian pathways to the north and south will be maintained and are expected to provide for wildlife movement at night and during flood events.
- e. At Batiquitos Lagoon, a 16-foot-wide wildlife bench will be constructed on the south bridge abutment and a 16-foot wide pedestrian path will be maintained on the north bridge abutment that is expected to provide for wildlife movement at night and during flood events.
- f. At Agua Hedionda Lagoon, 16-foot-wide benches for pedestrian and wildlife use will be constructed at both the north and south bridge abutments.
- g. At Buena Vista Lagoon, 16-foot-wide benches for wildlife movement will be constructed at both the north and south bridge abutments.
- h. At the San Luis Rey River, a pedestrian trail will be constructed mid-slope on the north bridge abutment that is expected to provide for wildlife movement at night and during flood events.
- i. Bridges where wildlife movement is expected will use columns rather than pier walls to improve visibility and openness and encourage usage by wildlife, including Carmel Creek, Los Peñasquitos and Soledad Creeks, and all lagoons (with the exception of San Dieguito Lagoon and the San Luis Rey River where pier walls may be required for stability).
- j. To the maximum extent feasible, rock slope protection will be avoided at wildlife benches. If rock slope protection is required, modifications (e.g., small pebble, dirt, soil covered rip rap, or grouted movement pathways) will be made such that animals of all sizes can use the wildlife benches.
- k. Monitoring will be conducted on the effectiveness of the wildlife connectivity features such that the effectiveness of wildlife connectivity features can be improved and to inform decision-making for future projects. This monitoring will include research on the degree to which various undercrossings are used by target species. Remote cameras will be used to document use of wildlife undercrossings. Monitoring will be conducted over a minimum of 5 years following construction of each wildlife connectivity feature to allow wildlife to become accustomed to the wildlife connectivity features. Annual monitoring reports, including photographs, modifications made to wildlife connectivity features to improve their functionality, and recommendations, will be provided to the

CFWO each year for the duration of the 5-year monitoring period following each phase of project construction.

- I. Wildlife benches will be maintained in perpetuity to ensure that wildlife connectivity in the project area is not lost over time. The wildlife connectivity plan will include a detailed explanation of how wildlife benches will be maintained and how the maintenance will be funded.

BO10. Caltrans will submit final project design plans to the CFWO for review and approval, based on the draft plans dated August 22, 2012, with the following revisions: 1) measures, such as the use of fabric weed barriers and mulch, will be incorporated into the design plans to limit the establishment and spread of invasive species along the oleander median; 2) gateway undercrossings and overcrossings adjacent to lagoons will not include decorative night lighting or vertical features that may be used as a perch by raptors to prey upon listed species; 3) the design and elevation of suspended pedestrian bridges will not impede access by maintenance dredges at lagoons; 4) invasive species will be removed from planting palettes; 5) plans will clearly show that areas of temporary impact to native habitats will be replanted with native species; and 6) plans will specify that the height of vegetation planted near coastal lagoons will be limited (e.g., coastal sage and chaparral species up to approximately 8 feet in height) to prevent perching and predation by raptors on listed species.

BO11. Because the project is expected to start in 2014 and be phased over approximately 21 years, Caltrans will conduct updated surveys for the gnatcatcher, rail, and manzanita within 1 year prior to the commencement of vegetation clearing and construction activities for each project phase to ensure that survey information remains up to date. FHWA and Caltrans acknowledge that Section 7 consultation will be reinitiated if survey results indicate that additional impacts to these species may occur beyond those addressed in this biological opinion.

BO12. *Caulerpa taxifolia* surveys will be completed before and after construction at each of the lagoons to ensure there is no infestation within project limits. If *Caulerpa taxifolia* is found, measures will be implemented to eradicate it from the area.

BO13. Prior to construction equipment entering open water habitat in the San Luis Rey River, all gobies within the project impact footprint will be captured and relocated to a proximal and safe location, and gobies will be excluded from re-entering the project impact footprint. Caltrans will submit a goby capture, relocation, and exclusion plan to the CFWO for review and approval. The plan will include relocation of native species and removal of non-native species captured with gobies during the relocation effort. Capture methods will follow commonly accepted techniques for fish capture such as seining. The plan will be prepared and implementation will be overseen by a CFWO-approved biologist knowledgeable of goby biology and ecology.

BO14. Prior to construction in areas with manzanita, all manzanita in the project impact footprint (including the approximately 6 individuals currently known and any other individuals found in updated surveys) will be salvaged and translocated to the Dean property, which is near the currently known salvage locations. Caltrans will submit a manzanita translocation plan to the CFWO for review and approval. The plan will be prepared and implementation will be overseen by a CFWO-approved biologist knowledgeable of manzanita biology and ecology and translocating sensitive plant species. There has been limited success with translocation of this species; therefore, seed will be collected prior to impacts and used to propagate additional plants at a facility that has experience working with manzanita and specializes in the

propagation of native plants. The manzanita plants grown from seed will also be planted at the Dean property. A field review will be conducted with the CFWO to review and approve the locations where the manzanita plants will be planted on the Dean property. The translocated manzanita population will be monitored for a minimum of 5 years to document success or failure of the translocation efforts.

BO15. The clearing and grubbing of native wetland and riparian habitats will occur between September 16 and March 14 and the clearing and grubbing of native upland habitats for the project will occur between September 1 and February 14, to avoid the rail and gnatcatcher breeding seasons, respectively [or sooner than September 16 or September 1, if a biologist knowledgeable of gnatcatcher and rail biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all rail or gnatcatcher nesting is complete]. Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 5 working days prior to initiating project impacts.

BO16. Pile driving for bridge construction near the lagoons and San Luis Rey River will be completed between September 16 and February 14 to minimize construction noise impacts to rail and gnatcatcher breeding. Pile driving may commence earlier in the fall if a biologist knowledgeable of gnatcatcher and rail biology and ecology approved by the CFWO demonstrates to the satisfaction of the CFWO that all rail and gnatcatcher breeding is complete within the area where construction noise will exceed ambient levels as a result of pile driving. Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 5 working days prior to initiating project impacts.

BO17. Noise barriers will be installed at the edge of temporary impact areas near sensitive resources where feasible depending on inundation and effective heights required for walls. Noise walls would not be effective where fill slopes are significantly higher than impact areas.

BO18. All construction equipment used for the project will be equipped with properly operating and maintained mufflers.

BO19. During in-water bridge construction activities at all lagoons and the San Luis Rey River, bubble curtains or other methods to minimize acoustical impacts to aquatic species will be implemented. These measures will be developed in coordination with the CFWO when project design and construction methodology is further developed.

BO20. If nighttime construction is necessary, all lighting used at night for project construction (e.g., staging areas, equipment storage sites, roadway) will be selectively placed and directed onto the roadway or construction site and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats.

BO21. Appropriate best management practices (BMPs) will be used to control erosion and sedimentation and to capture debris and contaminants from bridge demolition and construction to prevent their deposition in coastal lagoons and waterways. No sediment or debris will be allowed to enter lagoons, creeks, rivers, or other drainages. All debris from the demolition and construction of bridges will be contained so that it does not fall into channels. Appropriate BMPs will be used during construction to limit the spread of resuspended sediment and contain debris. These may include cofferdams, blasting mats, silt curtains, turbidity curtains and/or other barriers. Water within cofferdams will not be returned to the San Luis Rey River or lagoons until it is clear and clean. This may be accomplished through the use of desiltation tanks or other appropriate measures. Collected sediments will be removed from the site and

disposed of properly. BMPs (e.g., gravel bags) will be used at the discharge point to avoid erosion.

BO22. Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.

BO23. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated areas that are a minimum of 100 feet from drainages / lagoons and associated plant communities, to preclude adverse water quality impacts. Fuel cans and fueling of tools will not be allowed inside the drainages.

BO24. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate BMPs.

BO25. Cationic polymers are attracted to the hemoglobin in fish gills and can cause suffocation at relatively low concentrations. Cationic polymers will not be used for dust control.

BO26. Bioswales and detention basins will be placed to avoid impacts to wetlands (e.g., these features will not be located at the base of slope within lagoons).

BO27. The project site will be kept as clear of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site. All spoils and material disposal will be disposed of properly.

BO28. If fill must be borrowed from or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to Caltrans for review. Caltrans will review borrow and disposal site information and submit the information to the CFWO. If borrow or disposal activities may affect a listed species or critical habitat, FHWA/Caltrans will reinstate Section 7 consultation. (Under the current process, FHWA would reinstate formal consultation and Caltrans, acting for FHWA, would reinstate informal consultation.)

BO29. Contractors and construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the fenced project footprint.

BO30. Project personnel will be prohibited from bringing domestic pets to construction sites to ensure that domestic pets do not disturb or depredate wildlife in adjacent habitats.

BO31. A CFWO-approved biologist (Biological Monitor*) will be on site during: a) initial clearing and grubbing; and b) weekly during project construction within 500 feet of offsite gnatcatcher, rail, goby, and manzanita habitat to ensure compliance with all conservation measures. (*The Biological Monitor will be familiar with the federally listed species potentially affected by the project [i.e., gnatcatcher, rail, goby and Manzanita] and with the habitats that support these species.) Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 5 working days prior to initiating project impacts. The contract of the Biological Monitor will allow direct communication with the CFWO at any time regarding the proposed project. The Biological Monitor will be provided with a copy of this consultation. The Biological Monitor and a Caltrans Project Biologist* will be available during pre-construction and construction phases to review grading plans, address protection of sensitive biological resources, monitor ongoing work, and maintain communications with the

Resident Engineer to ensure that issues relating to biological resources are appropriately and lawfully managed. (*The Caltrans Project Biologist will be a Caltrans biologist familiar with the federally listed species potentially affected by the project and with the habitats that support these species; he/she will be the primary contact for the CFWO during project implementation.) The Biological Monitor will perform the following duties:

- a. Perform a minimum of three focused preconstruction surveys, on separate days, to determine the presence of gnatcatchers or rails in the project impact footprint. Surveys will begin a maximum of 30 days prior to performing vegetation clearing / grubbing, and one survey will be conducted the day immediately prior to the initiation of vegetation clearing. If any gnatcatchers or rails are found in the project impact footprint, the Biological Monitor will direct construction personnel to begin vegetation clearing / grubbing in an area away from the gnatcatchers and/or rails. It will be the responsibility of the Biological Monitor to ensure that gnatcatchers and rails will not be injured or killed by vegetation clearing / grubbing. The Biological Monitor will also record the number and location of gnatcatchers and rails disturbed by vegetation clearing / grubbing. Caltrans will notify the CFWO at least 7 days prior to vegetation clearing / grubbing to allow the CFWO to coordinate with the Caltrans Project Biologist on potential bird flushing activities;
- b. Oversee installation of and inspect the construction fencing and erosion control measures a minimum of once per week to ensure that any breaks in the fencing or erosion control measures are repaired immediately and that rails have not entered the project impact footprint;
- c. Implement the goby capture, relocation and exclusion plan; and manzanita translocation plan;
- d. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust;
- e. Train all contractors and construction personnel on the biological resources associated with the project and ensure that training is implemented by construction personnel. At a minimum, training will include: 1) the purpose for resource protection; 2) a description of the gnatcatcher, rail, goby, and manzanita and their habitats; 3) the conservation measures that should be implemented during project construction to conserve the gnatcatcher, rail, goby, and manzanita, including strictly limiting activities, vehicles, equipment, and construction materials to the fenced project footprint to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps or on the project site by fencing); 4) environmentally responsible construction practices; 5) the protocol to resolve conflicts that may arise at any time during the construction process; and 6) the general provisions of the Act, the need to adhere to the provisions of the Act, and the penalties associated with violating the Act;
- f. Request that the Resident Engineer halt work, if necessary, and confer with the Caltrans Project Biologist and the CFWO to ensure the proper implementation of species and habitat protection measures. The Caltrans Project Biologist will report any noncompliance issue to the CFWO within 24 hours of its occurrence;
- g. Monitor the project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread

in association with the project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies. All heavy equipment will be washed and cleaned of debris prior to entering a lagoon area to minimize the spread of invasive weeds;

- h. Submit monthly email reports (including photographs of impact areas) to the Caltrans Project Biologist during clearing of, and construction within, 500 feet of gnatcatcher, rail, goby, and manzanita habitats. The monthly reports will document that authorized impacts were not exceeded and general compliance with all conditions. The reports will also outline the location of construction activities, the type of construction that occurred, and equipment used. These reports will specify numbers, locations, and sex of gnatcatchers, rails, and gobies (if observed), their observed behavior (especially in relation to construction activities), and remedial measures employed to avoid and minimize impacts to these species. The Caltrans Project Biologist will review reports and forward them to the CFWO. Raw field notes should be available upon request by the CFWO; and
- i. Submit a final report to Caltrans Project Biologist within 120 days of the completion of construction for each project phase that includes: photographs of habitat areas that were to be avoided and other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with all conservation measures was achieved. As-built construction drawings with an overlay of habitat that was impacted and avoided will be provided as well once they have been completed. The Caltrans Project Biologist will review the report and forward it to the CFWO.

BO32. All native or sensitive habitats outside and adjacent to the permanent and temporary construction limits will be designated as Environmentally Sensitive Areas (ESAs) on project maps. ESAs will be temporarily fenced during construction with orange plastic snow fence, orange silt fencing, or in areas of flowing water, with stakes and flagging. No personnel, equipment or debris will be allowed within the ESAs. Fencing and flagging will be installed in a manner that does not impact habitats to be avoided and such that it is clearly visible to personnel on foot and operating heavy equipment. At the bridge construction areas where there is the potential for rail movement under the bridges, fencing will be installed in a manner that will direct rails to the open channel under bridges to the extent feasible. Caltrans will submit to the CFWO for approval, at least 5 days prior to initiating project impacts (except for impacts resulting from clearing to install temporary fencing), the final plans for initial clearing and grubbing of habitat and project construction. These final plans will include photographs that show the fenced and flagged limits of impact and all areas to be impacted or avoided. If work occurs beyond the fenced or demarcated limits of impact all work will cease until the problem has been remedied to the satisfaction of the CFWO. Temporary construction fencing and markers will be maintained in good repair until the completion of each phase of project construction and removed upon completion of each project phase.

BO33. During project construction all invasive species included on National Invasive Species Management Plan, the State of California Noxious Weed List, and the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory list found growing within the project right-of-way will be removed. Weed removal will be conducted within the project right-of-way at least once per year during the construction period. Special care will be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction will be properly disposed of to prevent spread into areas outside of the construction area.

BO34. A channel large enough for fish and rail movement will be kept open throughout project construction in the San Luis Rey River and each of the lagoons. Prior to initiation of construction in the San Luis Rey River and each of the lagoons, Caltrans will submit a plan to the CFWO for maintaining a channel for fish and/or rail movement in the San Luis Rey River and each of the lagoons.

BO35. Permanent and temporary impacts to gnatcatchers, rails, gobies, manzanita, and critical habitat for the gnatcatcher and goby (as summarized in Tables 3 and 4 of the BO [Appendix O]) resulting from the I-5 North Coast Corridor Project will be offset through habitat creation restoration, and preservation / enhancement as shown in Table 5 and Figures 22 31 of the BO (Appendix O). Implementation of these conservation measures is phased ahead of project impacts. In addition, large-scale lagoon restoration and lagoon management endowments shown in Table 5 of the BO (Appendix O) will be implemented to provide additional conservation to offset impacts from the I-5 North Coast Corridor Project, Los Angeles to San Diego Rail Corridor, and I-5 / State Route-78 Interchange Project (with project elements as listed in the Resource Enhancement and Mitigation Program [REMP]).

BO36. Caltrans will submit draft San Dieguito Lagoon W19, Hallmark, Dean, San Elijo Uplands, Deer Canyon, Laser, and La Costa wetland and upland creation / restoration / enhancement plans to the CFWO for review and approval prior to initiating project impacts. Caltrans will provide the final plans to the CFWO. The final plans will include the following information and conditions:

- a. All final specifications and topographic-based grading, planting and irrigation plans (0.5-foot contours and typical cross-sections for wetlands and 10-foot contours for uplands) for the creation / restoration / enhancement sites. All wetland mitigation areas will be graded to the same elevation as adjacent existing Corps jurisdictional wetlands areas, and/or to within 1 foot of the groundwater table, and will be left in a rough grade state with micro topographic relief (including channels for wetlands) that mimics natural topography. All upland habitat creation / restoration / enhancement sites will be prepared for planting by decompacting the top soil in a way that mimics natural upland habitat top soil to the maximum extent practicable while maintaining slope stability. Topsoil and plant materials salvaged from the impacted areas (including live herbaceous, shrub and tree species) will be transplanted to, and/or used as a seed / cutting source for, the creation and enhancement areas to the maximum extent practicable. Planting and irrigation will not be installed until the CFWO has approved of the site grading. All plantings will be installed in a way that mimics natural plant distribution and not in rows.
- b. Planting palettes (plant species, size and number/acre) and seed mix (plant species and pounds/acre). The multitude of plant palettes proposed in the draft plans will include native species specifically associated with the habitat type(s). Unless otherwise approved by the CFWO, only locally native species (no cultivars) obtained within San Diego County available from as close to the project area as possible will be used. The source and proof of local nativeness of all plant material and seed will be provided.
- c. Container plant survival will be 80 percent of the initial plantings for the first 5 years. At the first and second anniversary of plant installation, all dead plants will be replaced unless their function has been replaced by natural recruitment.

- d. A final implementation schedule that indicates when all native habitat impacts, as well as native habitat creation / restoration / enhancement grading, planting and irrigation will begin and end. Necessary site preparation and planting will be completed during the concurrent or next planting season (i.e., late fall to early spring) after receiving the CFWO's approval of grading.
- e. Five years of success criteria for creation / restoration / enhancement areas including: separate percent cover criteria for herbaceous understory, shrub midstory, and tree overstory, and a total percent absolute cover for all three layers at the end of 5 years for wetlands, and a total percent absolute cover for uplands; evidence of natural recruitment of multiple species for all habitat types; 0 percent coverage will be maintained for Cal-IPC's "Invasive Plant Inventory" species, and no more than 10 percent coverage for other exotic / weed species.
- f. A minimum 5 years of maintenance and monitoring of creation / restoration / enhancement areas, unless success criteria are met earlier and all artificial water supplies have been off for at least 2 years.
- g. A qualitative and quantitative vegetation monitoring plan with a map of proposed sampling locations. Photo points will be used for qualitative monitoring and stratified random sampling will be used for all quantitative monitoring.
- h. Contingency measures in the event of creation / restoration / enhancement failure.
- i. Annual mitigation maintenance and monitoring reports will be submitted to the CFWO no later than December 1 of each year.
- j. If maintenance of a wetland creation / restoration / enhancement area potentially occupied by rails is necessary between March 15 and September 15, a biologist with knowledge of rail biology and ecology and approved by the CFWO will survey for rails within the creation / restoration / enhancement area, access paths to it, and other areas susceptible to disturbances by creation / restoration / enhancement site maintenance. Surveys will consist of three visits separated by 2 weeks starting April 1 of each maintenance/monitoring year. Restoration work will be allowed to continue on the site during the survey period. However, if rails are found during any of the visits, the applicant will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the rail (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).
- k. If maintenance of a coastal sage scrub restoration / enhancement area is necessary between February 15 and August 31, a biologist with knowledge of the biology and ecology of gnatcatchers and approved by the CFWO will survey for gnatcatchers within the creation / restoration / enhancement area, access paths to it, and other areas susceptible to disturbances by site maintenance. Surveys will consist of three visits separated by 2 weeks starting March 1 of each maintenance/monitoring year. Work will be allowed to continue on the site during the survey period. However, if gnatcatchers are found during any of the visits, Caltrans will notify and coordinate with the CFWO to identify measures to avoid and/or minimize effects to the gnatcatcher (e.g., nests and an appropriate buffer will be flagged by the biologist and avoided by the maintenance work).

BO37. Perpetual biological conservation easements or other conservation mechanisms acceptable to the CFWO will be recorded over the areas created, restored, and/or preserved / enhanced by the project at the San Dieguito Lagoon W19, Hallmark, Dean, San Elijo Uplands, Deer Canyon, Laser, and La Costa properties. The conservation mechanisms will specify that no easements or activities (e.g., fuel modification zones, public trails, drainage facilities, walls, maintenance access roads, utility easements) that will result in soil disturbance and/or native vegetation removal will be allowed within the biological conservation easement areas, with exceptions as documented in the Constraints sections of Mitigation Site Assessments for these properties and where the acreage of impacts is not included in the mitigation acreage totals in Table 5 of the BO (Appendix O). Draft Mitigation Site Assessments have been provided to the CFWO for our review and comment. A copy of final Mitigation Site Assessments will be provided to the CFWO that clearly document constraints and demonstrate compliance with the requirement that the acreage of impacts resulting from constraints is not included in the mitigation acreage totals in Table 5 of the BO (Appendix O). Revised draft conservation mechanisms will be provided to the CFWO for review and approval. Caltrans will also submit the final conservation mechanisms to the CFWO. Caltrans anticipates that they will not be able to place the conservation easements or other conservation mechanisms for these properties prior to initiating project impacts; however, annual reports will be provided on their status until the conservation mechanisms are recorded over the properties, which will occur either within 1 year of the issuance of this biological opinion, or within 1-year of purchase of each property, unless a written extension is requested by Caltrans showing good faith efforts to achieve the recordation and the extension request is granted by the CFWO.

BO38. Caltrans will prepare and implement perpetual management, maintenance, and monitoring plans for the San Dieguito Lagoon W19, Hallmark, Dean, San Elijo Uplands, Deer Canyon, Laser, and La Costa properties. Caltrans will also establish non-wasting endowments for amounts approved by the CFWO based on Property Analysis Records (PAR) (Center for Natural Lands Management ©1998) or similar cost estimation methods, to secure the ongoing funding for the perpetual management, maintenance and monitoring of these properties. Caltrans will submit draft long-term management plans for the properties to the CFWO for review and approval. The long-term management plans will include, but not be limited to, the following: 1) the PAR or other cost estimation results for the non-wasting endowment; 2) proposed land manager's name, qualifications, business address, and contact information; 3) method of protecting the resources in perpetuity (e.g., conservation easement), monitoring schedule, measures to prevent human and exotic species encroachment, funding mechanism, and contingency measures should problems occur. Caltrans will submit the final long-term management plans to the CFWO. Caltrans anticipates that the long-term management plans will not be prepared prior to initiating project impacts; however, annual reports will be provided on their status until the final management plans have been provided and the endowments have been established, which is anticipated to occur when the projects are projected to meet criteria (as documented in Table 5 of the BO [Appendix O]) and will occur within 1 year of achieving applicable success criteria for each property.

BO39. Caltrans will establish a non-wasting endowment for an amount approved by the CFWO, based on reliable and current estimates of maintenance costs, for long-term maintenance of Batiquitos and Los Peñasquitos Lagoons, including lagoon inlet maintenance and dredging. Caltrans will submit the estimates and information to demonstrate that the endowment will be non-wasting, and will adequately cover the costs of maintenance, to the CFWO for review and approval. Caltrans will make the endowment available for use within 1 year of establishment of the endowment, which will be established no later than December 1, 2015. Any delay in availability of funds will be reviewed and approved by the CFWO.

BO40. Caltrans will fund, in full, a large-scale salt water lagoon restoration at San Elijo Lagoon and/or Buena Vista Lagoon through the REMP*. Caltrans will submit revised drafts of the REMP to the CFWO for review and comment. Large-scale lagoon restoration funding will be used solely for salt water lagoon restoration, which will restore tidally-influenced habitats that are comparable with project impacts, for the benefit of listed species. Allocation of funding for large-scale salt water lagoon restoration will be determined, in coordination with the CFWO, prior to initiating project impacts. Caltrans will submit a copy of the final REMP and funding proposal to the CFWO for review and approval. (* A separate section 7 consultation with the Federal lead agency for the restoration project will be required to address impacts to listed species resulting from large-scale lagoon restoration.)

BO41. Caltrans will establish non-wasting endowments for amounts approved by the CFWO, based on reliable and current estimates of maintenance costs, for long-term maintenance of the large-scale lagoon restoration at San Elijo Lagoon and/or Buena Vista Lagoon. Caltrans will submit the endowment estimates to the CFWO for review and approval. The endowments are anticipated to be established during the year in which the large-scale lagoon restoration work is completed and no later than December 1, 2019 unless a written extension is requested by Caltrans showing good faith efforts to establish the endowment and the extension request is granted by the CFWO. Funds will be available for use within one year of establishment of the endowments.

BO42. All areas of temporary impact, as quantified in Table 2 of the BO (Appendix O), will be revegetated and restored with native species. These areas will be returned to original grade, as feasible. Prior to initiating project impacts, a restoration plan will be developed for the temporary impact areas. The plan will be submitted to the CFWO for review and approval. This plan will include a detailed description of restoration methods, slope stabilization, and erosion control, criteria for restoration to be considered successful, and monitoring protocol(s). Following the completion of construction activities within each area of impact, the restoration plan will be implemented for a minimum of 5 years, unless success criteria are met earlier and all artificial water has been off for at least 2 years. Temporary impact areas will be planted as soon as possible following re-grading after completion of construction to prevent encroachment by nonnative plants.

BO43. Cut and fill slopes adjacent to native habitats will be revegetated with native habitats with similar composition to those within the project study area as feasible, including over 86 acres of slopes near lagoons and other open space that will be revegetated with coastal sage scrub. Duff and rare plants from areas with coastal sage scrub, maritime succulent scrub, and maritime chaparral may be salvaged from the project impact footprint to the extent practicable to aid in revegetating slopes with native habitats (excluding areas with invasive nonnative species such as African veldt grass and onion weed). The revegetated areas will have temporary irrigation and will be planted with native container plants and seeds selected in coordination with the Caltrans Project Biologist. At least 3 years of plant establishment/maintenance on these slopes will be conducted to control nonnative plants. Bioswales and detention basins will be planted with appropriate species as determined in coordination with the Caltrans Project Biologist and storm water pollution prevention professional. These areas will be planted as soon as possible following completed construction to prevent encroachment by nonnative plants. Slopes and interchanges located adjacent to developed urban areas will be planted with native and drought tolerant non-invasive species selected by the biologist and landscape architect.

Reasonable and Prudent Measures

Caltrans will implement significant conservation measures as part of the proposed action to minimize the incidental take of gnatcatchers, rails, and gobies. In addition to these conservation measures, the following reasonable and prudent measures are necessary to monitor and report the effects of the incidental take on gnatcatchers, rails, and gobies:

1. FHWA and/or Caltrans will monitor and report on compliance with the established take exemptions for gnatcatchers associated with the proposed action.
2. FHWA and/or Caltrans will monitor and report on compliance with the established take exemptions for rails associated with the proposed action.
3. FHWA and/or Caltrans will monitor and report on compliance with the established take exemptions for gobies associated with the proposed action.

Coastal California Gnatcatcher

- 1.1 Prior to initiating each phase of the proposed project, three preconstruction surveys will be conducted within all suitable gnatcatcher habitat within the footprint for that phase of the project, within 30 days prior to initiation of vegetation removal activities, to verify that no more than 6 gnatcatcher pairs in phase 1, 8 gnatcatcher pairs in phase 2, and 1 gnatcatcher pair in phase 3 (unless bridge construction is moved forward in project phasing to avoid impacts to coastal wetlands in which case take of 4 pairs of gnatcatchers would be advanced from phase 2 to phase 1), with 15 pairs in total, will be taken as a result of the project. Prior to initiating each phase of the project, FHWA and/or Caltrans will provide to the CFWO a map showing the distribution of gnatcatchers relative to the project footprint for that phase, an estimate of the number of gnatcatcher territories that will be impacted by the project in that phase, and the cumulative total of gnatcatcher territories impacted by the project to date, or confirm in writing that maps, distribution information, and the number of territories that will be impacted by the project as shown in the BA remain correct.
- 1.2 FHWA and/or Caltrans will notify the CFWO within 30 days of completing removal of gnatcatcher occupied habitat in each project phase. The purpose of this notification is to ensure that impacts to gnatcatcher-occupied habitat from the proposed project do not exceed the take exemptions.

Light-footed Clapper Rail

- 2.1 Prior to initiating each phase of the proposed project, three preconstruction surveys will be conducted within all suitable rail habitat within the footprint for that phase of the project, within 30 days prior to initiation of vegetation removal activities, to verify that no more than one pair in phase 1, two pairs in phase 2, and one pair in phase 3 (unless bridge construction is moved forward in project phasing to avoid impacts to coastal wetlands in which case take of all four pairs of rails would occur in phase 1), with four pairs in total, will be taken as a result of the project. Prior to initiating each phase of the project, FHWA and/or Caltrans will provide to the CFWO a map showing the distribution of rails relative to the project footprint for that phase, an estimate of the number of rail territories that will be impacted by the project in that phase, and the cumulative total of rail territories impacted by the project to date, or confirm in writing that maps, distribution information, and the number of territories that will be impacted by the project as shown in the BA remain correct.

- 2.2 FHWA and/or Caltrans will notify the CFWO within 30 days of completing removal of rail occupied habitat in each project phase. The purpose of this notification is to ensure that impacts to rail-occupied habitat from the proposed project do not exceed the take thresholds.

Tidewater Goby

- 3.1 Within 30 calendar days of the completion of project activities within goby habitat, FHWA and/or Caltrans will provide the CFWO with a report documenting the area of goby habitat impacted, the number of dead or injured gobies observed in the action area, and the number of gobies captured and released. The report will include information on the general condition of all gobies that were killed, injured, and captured/released. It will also include an assessment of how or why gobies may have been injured or killed and information on where gobies were captured and released. Caltrans will report incidences of take (observed death or injury or capture and relocation of gobies) to the CFWO within 3 days. All field notes and other documentation generated by the biological monitor will be made available to the CFWO upon request. The purpose of this notification is to ensure that impacts to goby-occupied habitat from the proposed project do not exceed the take thresholds.

Disposition of Sick, Injured, or Dead Specimens

Upon locating dead, injured, or sick individuals of threatened or endangered species, initial notification must be made to the Division of Law Enforcement in either San Diego, California, at 619-557-5063 or in Torrance, California, at 310-328-6307 within 3 working days. Notification should also be sent by telephone and writing to the office in Carlsbad, California, at 6010 Hidden Valley Road, Suite 101, Carlsbad, California 92011, 760-431-9440. Written notification must be made within 5 calendar days and include the collection date and time, the location of the animal, and any other pertinent information. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. The remains of intact specimens shall be placed with educational or research institutions holding the appropriate State and Federal permits. Remains shall be placed with the San Diego Natural History Museum, San Diego. Arrangements regarding proper disposition of potential museum specimens shall be made with the institution by the authorized biologist prior to implementation of the action.

Eelgrass surveys will be completed at all lagoons with the exception of Buena Vista prior to bridge construction. In lagoons where eelgrass is identified in proximity to I-5 improvements, eelgrass surveys will continue during and after construction, and mitigation will be implemented in accordance with the REMP.

Impacts to native upland habitats will be mitigated on a corridor-wide basis through the proposed North Coast Corridor REMP.

Any seeding of native upland habitats will be completed between October and February to ensure that the seed has proper conditions for germination.

Wetlands and Other Waters

Adverse Environmental Effect

As detailed in *Section 3.18, Wetlands and Other Waters*, of the Final EIR/EIS, implementation of any of the build alternatives would result in potentially significant direct and indirect impacts to jurisdictional waters of the U.S. and State, as outlined in *Table 4, Direct Permanent/Temporary and Indirect Impacts to Jurisdictional Waters of the U.S. and State*. The impacts to wetlands identified in *Table 4* would be considered significant under CEQA due to the intrinsic value of wetlands for wildlife habitat, as well as the fact that a number of these habitats may support sensitive plant and animal species. It should also be noted that federal Clean Water Act Section 404 guidelines specify that a permit can be issued for a discharge of dredged or fill material to waters of the U.S. only if the discharge is determined to be the Least Environmentally Damaging Practicable Alternative (LEDPA, 40 CFR §230.10 [a]). When a proposed project requires an individual permit for filling waters of the U.S., an analysis of alternatives must be completed, and a LEDPA analysis is required for non-water dependent projects (essentially all surface transportation projects) that require filling of wetlands or other special aquatic sites (areas possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values). These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. The LEDPA generally is the practicable alternative that either avoids waters of the U.S. or impacts the smallest area of waters. Because a Section 404 permit can only be issued for the LEDPA, Section 404 compliance usually requires a more detailed and specific analysis of the aquatic impacts from each alternative, which was provided in the 404(b)(1) analysis.

Based on the analyses in *Sections 1.4, History and Background*, and *3.18, Wetlands and Other Waters*, of the Final EIR/EIS, a full aquatic avoidance alternative is not possible, and all of the identified build alternatives would result in some aquatic resource loss. Accordingly, the practicable alternative with the least damage to aquatic resources must be selected as the LEDPA, unless that alternative has other significant adverse environmental consequences. The least environmentally damaging of the analyzed alternatives would be the 8+4 Buffer alternative, especially with the design refinements described in the Final EIR/EIS. The refined 8+4 Buffer alternative also would have the fewest net permanent impacts (in number and acreage) on resources overall, including the fewest impacts to waters of the U.S. and State wetlands (refer to *Table 4*).

After circulation of the Draft EIR/EIS and Supplemental Draft EIR/EIS, Caltrans requested concurrence on the selection of the refined 8+4 Buffer alternative as the preliminary Preferred Alternative and LEDPA from the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS), and U.S. Environmental Protection Agency (USEPA). All four of these federal agencies concurred in writing with the selection of the refined 8+4 Buffer alternative as the Preferred Alternative and LEDPA.

Table 4 Direct Permanent/Temporary and Indirect Impacts to Jurisdictional Waters of the U.S. and State (Acres)				
	Alternative			
	10+4 Barrier	10+4 Buffer	8+4 Barrier	8+4 Buffer (Preferred Alternative)
Direct Permanent¹				
Other Waters of the U.S. USACE	5.92	4.93	5.42	4.20
USACE Wetland	13.77	11.75	12.53	9.93
Total Waters of the U.S.	19.69	16.68	17.95	14.13
State Wetland	25.55	21.49	22.91	18.44
Wetland Re-established	2.52	2.52	2.52	2.52
Net Impact USACE Jurisdiction	17.17	14.16	15.43	11.61
Net Impact State Wetland	23.03	18.97	20.39	15.92
Direct Temporary				
Other Waters of the U.S. USACE	9.17	7.84	8.24	6.31
USACE Wetland	10.96	10.14	10.66	8.51
Total Waters of the U.S.	20.13	17.98	18.90	14.82
State Wetland	21.95	20.20	20.88	18.39
Indirect Shading Impacts^{1,2}				
Waters of the U.S.	5.21	4.49	4.86	3.77
State Wetland	5.62	4.90	5.27	4.18

¹ Because USACE jurisdictional areas are a subset of CDFW jurisdictional areas, the total is not additive.

² In addition to current shading effects from existing crossing structures.

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

Statement of Facts:

In addition to the Mitigation Measures identified above under the discussion of Natural Communities, the following mitigation measure is identified in the Final EIR/EIS to reduce potential project-related impacts to wetlands and other waters below a level of significance:

- Bioswales/detention basins would be placed in the loop ramps, and bioswales would be placed on slopes (i.e., not at base of slope within lagoons), as appropriate to treat runoff from the freeway.

Sensitive Plants, Animals, and Threatened and Endangered Species

Adverse Environmental Effect:

As detailed in *Section 3.19, Sensitive Plants*, *Section 3.20, Sensitive Animals*, and *Section 3.21, Threatened and Endangered Species*, of the Final EIR/EIS, implementation of any of the build alternatives would potentially result in significant impacts to a number of sensitive (including threatened and endangered) plant and animal species, whose ranges and numbers have been reduced due to past disturbance by urban development and related infrastructure, including I-5. Sensitive plant species that may potentially be affected by the build alternatives are summarized in *Table 5, Sensitive Plant Species Impacted by Each Alternative*, with sensitive animal species observed within the project study area identified in *Table 6, Sensitive Animal Species Observed within the Study Area*, and potential impacts to threatened and endangered species from the build alternatives outlined in *Table 7, Threatened and Endangered Species Impacted by the Four Alternatives*.

In addition to the potential effects to threatened and endangered species noted above, minor impacts to designated critical habitat for the least Bell's vireo, southwestern willow flycatcher, tidewater goby, and California gnatcatcher would result from the build alternatives. Specifically, this would include: (1) permanent impacts to 0.03 acre of least Bell's vireo and southwestern willow flycatcher critical habitat for all build alternatives; (2) temporary impacts to 0.25 acre of southwestern willow flycatcher critical habitat and 0.2 acre of least Bell's vireo critical habitat for all build alternatives (with affected areas to be revegetated with southern willow scrub habitat); (3) permanent impacts to 1.76 acres of tidewater goby critical habitat for all build alternatives (with 1.55 acres of this area not containing "primary constituent elements" of critical habitat); and (4) permanent impacts to California gnatcatcher critical habitat totaling 37.3 acres for the 10+4 Barrier alternative, 33.47 acres for the 10+4 Buffer alternative, 34.28 acres for the 8+4 Barrier alternative, and 31.7 acres for the refined 8+4 Buffer alternative.

A number of indirect impacts to threatened and endangered species would also result from the build alternatives, including effects related to increases in lighting, exposure to invasive species, potential for pollution from runoff, and long term noise levels, as well as edge effects. There is also a potential for construction-related noise impacts to both bird and fish species from pile driving during bridge footing construction at the abutments (the foundation upon which the bridge rests).

Species	Alternative			
	10+4 Barrier	10+4 Buffer	8+4 Barrier	8+4 Buffer (Preferred Alternative)
Coast barrel cactus	16	7	16	7
Nuttall's scrub oak	7	7	7	5
Del Mar sand aster	763	704	704	694
Orcutt's pincushion	1,312	1,222	996	869
Sea dahlia	22	22	22	20
Southern tarplant	10	10	10	10
Torrey pine	10	10	10	10
Wart-stemmed ceanothus	10	4	4	4

Table 6
Sensitive Animal Species Observed within the Study Area

Scientific Name	Common Name	Status	General Habitat Description	Rationale
<i>Panoquina errans</i>	Wandering skipper butterfly	MHCP	Salt marsh habitat with tidal flows and saltgrass	A few individuals were observed at San Dieguito, San Elijo, Batiquitos, and Buena Vista Lagoons
<i>Phrynosoma coronatum blainvillei</i>	San Diego horned lizard	SSC	Prefers friable, rocky, or shallow sandy soils in CSS, and chaparral in arid and semi-arid climates.	At least one individual caught near Del Mar Heights Road during small mammal trapping. More likely to occur within the BSA.
<i>Eumeces skiltonianus interparietalis</i>	Coronado Island skink	SSC	Prefers mesic pockets within habitats including CSS, chaparral, oak woodlands, pinon-juniper, and riparian woodlands.	At least one individual observed at southern end of BSA near the 5/805 merge. Others potentially throughout the BSA.
<i>Cnemidophorus hyperythrus</i>	Orange-throated whiptail	SSC, SP	Prefers washes and other sandy areas with patches of brush and rocks for cover. Habitats include low-elevation CSS, chaparral, and valley-foothill hardwood forests.	Observed during general wildlife surveys in CSS.
<i>Thamnophis hammondi</i>	Two-striped garter snake	SSC	Occurs in or near permanent fresh water, usually along streams with rocky beds bordered by willow and other riparian vegetation.	Observed during general wildlife surveys near San Dieguito River.
<i>Pelecanus erythrorhynchos</i>	American white pelican	SSC	Inhabits lakes, ponds, and coastal waters.	Observed in San Elijo, Batiquitos, and Buena Vista lagoons during general wildlife surveys.
<i>Phalacrocorax auritus</i>	Double-crested cormorant	SSC	Found near fresh and saltwater near coastline, inshore waters, beaches, inland rivers, and lakes.	Observed in lagoons during general wildlife surveys.
<i>Ixobrychus exilis</i>	Least bittern	SSC	Inhabits fresh and brackish water marshes, usually near open water sources, and desert riparian habitats.	Observed in San Dieguito and in San Elijo Lagoons.

**Table 6 (cont.)
Sensitive Animal Species Observed within the Study Area**

Scientific Name	Common Name	Status	General Habitat Description	Rationale
<i>Ardea herodias</i>	Great blue heron	SSC	Found in fresh and saltwater emergent wetlands and estuaries. Less common along rivers, in croplands, pastures, and foothill ponds.	Observed in lagoons during general wildlife surveys. Some nesting habitat may be present at San Elijo Lagoon.
<i>Casmerodius albus</i>	Great egret	SSC	Common to freshwater and saltwater marshes, swampy woods, ponds, lagoons, estuaries, mangroves, streams, lakes, and ponds.	Observed in lagoons during general wildlife surveys.
<i>Pandion haliaetus</i>	Osprey	SSC	Prefers the coast and lakes in the coastal lowlands and rarely lakes in the foothills and mountain areas.	Observed at Batiquitos and San Dieguito lagoons.
<i>Elanus leucurus majusculus</i>	White-tailed kite	FP	Inhabits riparian or oak woodland adjacent to grassland or open fields where it hunts rodents.	Observed at San Dieguito and San Elijo lagoons during general wildlife surveys.
<i>Circus cyaneus</i>	Northern harrier	SSC	Occurs throughout San Diego County in grasslands and agricultural fields during migration and in winter.	Observed at San Dieguito Lagoon.
<i>Accipiter striatus</i>	Sharp-shinned hawk	SSC	Occupies woodlands and a variety of habitats surrounding those wooded areas, and requires a certain amount of dense cover.	Observed during general wildlife surveys.
<i>Accipiter cooperii</i>	Cooper's hawk	SSC	Uncommon migrant and winter visitor to woodlands, parks, and residential areas.	Observed during general wildlife surveys.
<i>Numenius americanus</i>	Long-billed curlew	SSC	Can be found on sandy beaches on marine and estuarine shores, salt pond levees, and the shores of large alkali lakes. Requires sandy or gravelly soils for nesting.	Observed feeding in mudflats within the lagoons during general wildlife surveys.

**Table 6 (cont.)
Sensitive Animal Species Observed within the Study Area**

Scientific Name	Common Name	Status	General Habitat Description	Rationale
<i>Eremophila alpestris actia</i>	California horned lark	SSC	Inhabits sandy ocean or bay shores, grasslands, and open scrublands and woodlands with low, sparse vegetation.	Present on revegetating slopes of the new auxiliary lane on the NB side of I-5, south of San Dieguito River.
<i>Lanius ludovicianus</i>	Loggerhead shrike	FSC, SSC	Inhabits agricultural lands, desert wash, desert scrub, grasslands, and beaches with scattered bushes. Requires open ground for foraging, preferably near scattered bushes and low trees that provide nest sites and perches.	Observed at the Racetrack View Mitigation Site west of I-5. High probability to occur in other areas based on historical location data and presence of suitable habitat within the BSA.
<i>Dendroica petechia</i>	Yellow warbler	SSC	Occupies marshes, swamps, streamside groves, willow and alder thickets, open woodlands with thickets, and orchards.	Observed during general wildlife surveys in riparian areas.
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	SSC	Uncommon to fairly common localized resident of sage scrub on steep rocky slopes.	Observed during general wildlife surveys at San Dieguito Lagoon.
<i>Perognathus fallax fallax</i>	Northwestern San Diego pocket mouse	SSC	Habitats include CSS, chaparral, oak woodlands, and annual grasslands.	Captured during trapping studies on the slopes south of San Dieguito Lagoon, and around San Elijo Lagoon.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	SSC	Occupies rocky habitats in association with chaparral and CSS.	Captured during trapping studies south of San Dieguito Lagoon.

¹Status Key

- FSC Federal Species of Concern
- FP State of California fully protected
- SP State of California protected
- SSC State of California Species of Concern
- MHCP Multiple Habitat Conservation Plan

Table 7 Threatened and Endangered Species Impacted by the Four Alternatives				
Species	Alternative			
	10+4 Barrier	10+4 Buffer	8+4 Barrier	8+4 Buffer (Preferred Alternative)
Del Mar manzanita, Permanent	6 plants	6 plants	6 plants	6 plants
Light-footed clapper rail, Permanent	1 pair, Batiquitos; 1 territory, San Elijo	1 pair, Batiquitos	1 pair, Batiquitos; 1 territory, San Elijo	1 pair, Batiquitos
Light-footed clapper rail, Temporary	2 territories, San Elijo; 1 territory, Batiquitos; 1 individual, Buena Vista	2 territories, San Elijo; 1 territory, Batiquitos; 1 individual, Buena Vista	1 territory, San Elijo; 1 territory, Batiquitos; 1 individual, Buena Vista	1 territory, San Elijo; 1 territory, Batiquitos; 1 individual, Buena Vista
Coastal California gnatcatcher, Permanent	1 territory, Genesee; 3-4 territories, San Dieguito; 4-6 territories, San Elijo; 4 territories, Batiquitos			
Belding's savannah sparrow, Permanent	2 territories, Batiquitos	1 territory, Batiquitos	1 territory, Batiquitos	1 territory, Batiquitos
Belding's savannah sparrow, Temporary	1 territory, Batiquitos; 1 territory, San Elijo	1 territory, Batiquitos	1 territory, Batiquitos	1 territory, Batiquitos

Findings:

Changes or alterations have been required in, or incorporated into, the project, which avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

Statement of Facts:

The Mitigation Measures identified above under the discussion of Natural Communities will be implemented as part of the project.

In addition to the Mitigation Measures identified above under the discussions of Natural Communities and Wetlands and Other Waters, the following mitigation measures are identified in the Final EIR/EIS and ECR to reduce potential project-related impacts to sensitive (including threatened and endangered) plant and animal species below a level of significance:

Sensitive Plant Species

Seed will be collected or plants will be salvaged to the extent practicable in the impact areas as mitigation. Salvaged plants and seed will be planted in mitigation sites, on revegetated new slopes, or in revegetated areas that were temporarily impacted. The majority of these species could potentially be salvaged or mitigated by planting in an off-site preserve.

Sensitive Animal Species

To minimize impacts to migratory birds, construction will not occur in more than two lagoons at any one time. Exclusion devices will be installed on bridge drain holes and ledges during the non-breeding season (September 1 through February 15) to stop swallows, swifts, and any other birds or bats from nesting on or within bridges to be demolished.

In-water construction activities at the San Luis Rey River will take place outside of the steelhead migration window when steelhead adults and juveniles are expected to be using the lower reach of the San Luis Rey River.

Silt curtains, coffer dams, and/or other barriers will be used to prevent steelhead from entering the construction zone and prevent sedimentation and debris from entering the river.

Best management practices will be implemented during construction to minimize impacts on steelhead and aquatic habitat in the San Luis Rey River. These include sediment control measures to minimize erosion and impacts to water quality, measures to prevent debris and fresh concrete from entering the river channel, and fueling and maintenance of heavy machinery in areas away from the river channel and sensitive habitats.

All removal of native vegetation or non-native shrubs and trees located within the impact areas will be completed outside of the bird breeding season (February 15 to August 31), if possible, to avoid impacts to nesting birds. Otherwise, a qualified biologist will thoroughly survey all vegetation prior to removal to ensure there are no nesting birds on site. If nesting birds are identified on site, vegetation removal will be delayed until the chicks have fledged or the nest has failed.

IMPACTS REMAINING POTENTIALLY SIGNIFICANT AFTER MITIGATION

Noise

Adverse Environmental Effect:

As detailed in *Section 4.3.4, Noise*, of the Final EIR/EIS, determination for noise impact under CEQA is based on a comparison between the existing noise levels and the build noise levels without soundwalls. Moreover, a comparison between the project build and future no build scenarios are detailed in *Section 3.15 Noise* with the relevant data compiled in the corresponding tables. The increase in traffic noise caused by a project is the primary factor considered by Caltrans in assessing the significance of noise impacts under CEQA. Key considerations include whether there is an increase between existing and projected noise levels, the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of noise receptors affected, and the absolute noise level.

Caltrans' Traffic Noise Analysis Protocol (May 2011) sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination usually includes a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies' input, newly constructed development versus development pre-dating 1978, and the cost per benefited residence.

The cost per benefited residence for federal requirements is determined by calculating an allowance that is considered to be a reasonable amount of money per benefited residence to spend on abatement. The estimated total allowance begins with a base allowance \$32,000; with additional allowances per benefited residences determined by Absolute Noise Levels, Noise Level Increase, Achievable Noise Reduction, and consideration of whether the project comprises new highway construction or whether more than 50 percent of the benefited residences' were constructed prior to 1978. Therefore, the estimated total cost allowance per benefited residence is different for different soundwalls. Please refer to Table 1, Cost Allowance per Residence, (Volume 1 of 2) in the Preliminary Noise Abatement Decision Report (NADR). Federal funds are not available for allocation in noise abatement beyond the federal threshold (23 CFR 772.5). The effect of not having federal funding available for noise mitigation beyond the federal threshold exceeds a 1:1 funding ratio. Instead, due to the leveraging effect of federal vs. State funds (often as high as 8:1), the expenditure of "State only" funds means that for every State dollar utilized where no federal participation is authorized, up to eight dollars of overall project funding would be unavailable. Therefore, if the cost estimate for the soundwall and easements is less than the allowance, the preliminary determination is that the abatement is reasonable. If the cost estimate is greater than the allowance, the preliminary determination is that abatement is not reasonable. The NADR presents the preliminary noise abatement decision based on acoustical and non-acoustical feasibility factors and the relationship between noise abatement allowances and the engineer's cost estimate.

Additionally, the use of the federal funding thresholds, which have gone through the federal rulemaking process, as a determinant of "reasonableness" assures consistent treatment of noise mitigation across the state and the nation.

The assessment in *Section 4.3.4* is based on the evaluation of 582 noise receptors representing a total of approximately 2,200 units divided into 22 segments along the 27-mile I-5 NCC Project corridor.

The 58 receptors (representing 231 units) identified in *Table 8, Receptors Identified as Potentially Significant*, could experience noise level increases that would be considered significant under CEQA.

**Table 8
Receptors Identified as Potentially Significant**

Receptor #	Soundwall #	Location
R6.4	S603A	804 Ida Avenue
R6.5	S603A	828 Ida Avenue
R6.6	--	708 Castro Street
R6.7	--	709 Ida Avenue
R8.7	S635	2433 Caminito Ocean Cove
R9.2	--	1815 MacKinnon Avenue
R9.3	--	1725 MacKinnon Avenue
R9.4	--	1633 MacKinnon Avenue
R9.4A	--	1606 MacKinnon Avenue
R9.14	--	1551 Villa Cardiff Drive
R9.15	--	1511 Villa Cardiff Drive
R9.15A	--	1511 Villa Cardiff Drive
R10.6	--	611 Stratford Drive
R11.27	S686A	Saxony Condominiums - Park
R13.8	--	7452 Neptune Drive
R14.6	--	Poinsettia Station Apartment Homes - Embarcadero Lane
R17.11	S810	3300 Eureka Place
R17.12	S810	Holiday Park
R17.13	S810	1144 Pine Avenue
R18.1	--	1192 Laguna Drive
R18.1A	S822	1239 Knowles Avenue
R18.2	S822	1220 Knowles Avenue
R18.2A	S822	Park - Pio Pico Drive
R18.3	S822	1255 Cynthia Lane
R18.4	S822	Buena Vista Elementary School
R18.5	S822	Buena Vista Elementary School - Baseball Field
R18.6	S822	1291 Las Flores Drive
R18.7	S822	1277 Las Flores Drive
R18.7A	S826	1288 Las Flores Drive
R18.8	--	2351 Pio Pico Drive
R18.9	--	2347 Pio Pico Drive
R18.11	S827	2380 Jefferson Street
R18.17	S821	2443 Tuttle Street
R18.18	S821	1111 Buena Vista Way
R18.19	S821	2501 Davis Avenue
R18.20	S821	2530 Davis Avenue
R18.22	S821	1148 Knowles Avenue
R18.24	S821	1088 Laguna Dr - Carlsbad Retirement Community
R18.25	S821	1088 Laguna Dr - Carlsbad Retirement Community
R18.27	--	1022 Grand Avenue

Statement of Facts:

As indicated in *Table 8*, this finding applies to 16 of the 58 receptors listed as experiencing potentially significant noise impacts under CEQA. These receptors, representing 74 units out of a total of nearly 2,200 units in the 27-mile long corridor, are not planned to receive soundwalls for noise level increases determined to be significant under CEQA.

In Segment 6, receptors R6.6 and R6.7 (representing five units each), are identified as being significantly impacted as a result of the project. Although a soundwall has been planned in the vicinity of these receptors, at these locations a gap would occur in the soundwall to preserve important coastal views. The social benefit of retaining an important coastal view for the large number of I-5 users was determined to outweigh the provision of noise mitigation at this particular location.

In Segment 9, receptors R9.2, R9.3, R9.4, R9.4A, R9.14, R9.15, and R9.15A (representing a total of 28 units) are identified as being significantly impacted as a result of the project. There are no soundwalls planned for these receptors due to the high economic cost of building a soundwall that would result in a perceptible noise reduction of 5 dBA.

In Segment 18, receptors R18.1, R18.8, R18.9, and R18.27 are identified as being significantly impacted as a result of the project. A soundwall is not planned for receptor R18.1 (representing three units) because it would not be reasonable to construct a soundwall due to the estimated construction cost exceeding the reasonable allowance. A soundwall is not planned for receptors R18.8 and R18.9 (representing one unit each), which are located on the northbound side of I-5 just south of Jefferson Street, because the freeway extends across the lagoon at a much lower elevation than the receptors and therefore it would not be technologically feasible to mitigate for highway traffic noise in this area. A soundwall is not planned for receptor R18.27 (representing one unit) because the geometry of the site and shielding provided by first-row building makes a soundwall technologically infeasible.

Three additional receptors would not receive noise mitigation: receptors R10.6 (representing 10 units), R13.8 (representing 4 units), and R14.6 (representing 16 units). A soundwall is not planned for receptor R10.6 because would not be economically reasonable to construct due to the estimated construction cost exceeding the reasonable allowance.

A soundwall is not planned for receptor R13.8 because in the context of its baseline setting, R13.8 would change from an urban quiet level (51 dBA) to a slightly noisy level (61 dBA) in an overall corridor that is already noisy. The absolute noise level at this receptor would not warrant constructing a soundwall.

A soundwall is not planned for Receptor R14.6 because these units are second-row receptors behind a nine-foot high property wall and are shielded by a row of hotels and commercial structures. It would not be economically reasonable to build a soundwall that would cause a perceptible reduction.

In addition, soundwalls proposed off Caltrans right-of-way are subject to the approval of the property owner. For each of the receptors in *Table 4*, therefore, the potential exists for the proposed mitigation to be rejected and for the noise level increases due to the project to remain significant and unmitigated under CEQA.

IMPACTS REMAINING SIGNIFICANT AFTER MITIGATION

Community Impacts

Adverse Environmental Effect:

As detailed in *Section 3.4.1, Community Character and Cohesion*, of the Final EIR/EIS, implementation of the 10+4 Barrier alternative would displace a 47-unit apartment complex in northern Carlsbad within an area identified as exhibiting traits of elevated community cohesion: namely, a relatively high concentration of linguistically isolated Spanish-speaking households, as well as a high proportion of minority populations. Displaced residents living in these 47 units may be difficult to relocate within a similar community, as the availability of apartments within Carlsbad with similar rental rates is not adequate. If relocation is not feasible in Carlsbad and up to 47 families are relocated outside of the community, this may adversely affect community cohesion in the area, which would be considered a significant impact under CEQA.

Findings:

If the project is approved, mitigation will be implemented, as identified below. Even with implementation of the stated mitigation, however, the lack of potential available housing in close proximity within the City of Carlsbad, would result in failure of the mitigation to reach a less than significant level. Therefore, the following Finding is made. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS.

Statement of Facts:

The above finding applies to the 10+4 Barrier alternative only. The remaining build alternatives would either avoid this impact entirely (refined 8+4 Buffer [Preferred Alternative] and 10+4 Buffer alternative), or would result in an impact level that is less than significant (8+4 Barrier).

The following mitigation measures, which are referenced in *Sections 3.4.1.4 and 3.4.2.4, Avoidance, Minimization, and/or Mitigation Measures*, of the Final EIR/EIS and detailed in the Environmental Commitments Record (ECR) provided as Appendix D in the Final EIR/EIS, will be implemented as part of the project:

- Landscape and streetscape improvements will be provided in affected areas, where possible, and will be consistent with the visual atmosphere, historic architecture, and native vegetation in the area.
- Reconfiguration of interchanges, overcrossings, and undercrossings along the project corridor will improve pedestrian and bicycle facilities, provide linkages, and allow for improvements to public transit. Project features will serve to improve and facilitate connectivity between communities east and west of I-5 in locations that have been previously bisected by the freeway.
- Relocation assistance will be provided to eligible residents in compliance with Caltrans' Relocation Assistance Program. Displacees that may face difficulty finding suitable relocation resources will be eligible for assistance from Caltrans through the State's

relocation program or Last Resort Housing (LRH) Program options, including LRH payments.

Additional measures that would reduce community cohesion impacts to less than significant for the 10+4 Barrier alternative would be economically and socially infeasible due to the unavailability of an adequate number of apartments within the City of Carlsbad with similar rental rates for relocating 47 units such that the community cohesion would be maintained and a low-income and/or minority population would not be adversely affected.

Visual/Aesthetics

Adverse Environmental Effect:

As discussed in *Section 3.7, Visual/Aesthetics* of the Final EIR/EIS, I-5 in this area is located in a highly urbanized part of northern San Diego County, generally characterized visually by its coastal location, topographic variation, established neighborhoods, commercial centers and activities, and preserves associated with coastal lagoons. The increased roadway surfaces, I-5-focused landform modification and hardscape extension associated with pavement, retaining walls, and soundwalls, would occur within a developed urban area and along a primary interstate already containing many of these features. I-5 is considered to be part of the community character. There are also, however, less urban elements within the viewshed.

I-5 is within the California Coastal Zone, is eligible for the California Scenic Highway System, and has been designated by Encinitas and Carlsbad as a scenic view corridor. In the I-5 North Coast Corridor, there are many important visual resources. Natural features such as the ocean, beaches, lagoons, sandstone bluffs, canyons, agricultural fields, and natural open space are particularly memorable because it is unusual for a traveler on an urban freeway in southern California to see such a quantity of scenic open space. Also important to local viewers is the village-like character of the older seaside communities that border the freeway. Viewers along the corridor would continue to be exposed to a mix of open vistas after implementation of the I-5 project, including views of the ocean and lagoons, and views that are blocked by development or changed due to implementation of project landscaping (similar to existing conditions). Specific to ocean views, view impacts from the project to the coastline, lagoons, and river valleys would be avoided or minimized as a matter of project design. These resources are typically most visible across or below the corridor's large lagoon and river bridges, and these views would be maintained.

The proposed changes to the I-5 right-of-way would be focused and linear in nature, but implementation of any of the build alternatives would result in highly adverse changes to the existing visual environment along the I-5 right-of-way, primarily related to construction of retaining walls and potential soundwalls. While impacts to visual resources would be similar for all four build alternatives, the 10+4 Barrier alternative would result in the greatest change to the existing visual environment because this alternative would require the greatest amount of additional pavement. Conversely, the refined 8+4 Buffer alternative (Preferred Alternative) would result in the least amount of change to the existing visual environment, because it would require the least amount of additional pavement. EIR/EIS *Section 3.7, Visual/Aesthetics*, states that the visual impact of each build alternative would be high, with this conclusion based on consideration of project features including soundwalls, retaining walls, and vegetation removal. Specifically, if the project is approved, additional retaining walls and soundwalls along the I-5 would be notable, and would affect the visual experience for freeway travelers and adjacent community viewers. The existing character of the I-5 corridor would become noticeably more

urban. For all build alternatives a high degree of visual change would result despite the implementation of mitigation measures that would partially mitigate adverse effects, with resulting potentially significant impacts to I-5 views under CEQA.

Findings:

If the project is approved, substantial mitigation will be implemented, as identified below. Even with implementation of the stated mitigation, however, the number and scale of additions to the built environment would result in failure of the mitigation to reach a less than significant level for the corridor overall. Therefore, the following Finding is made. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS.

Statement of Facts:

The following mitigation measures, which are referenced in *Section 3.7.4, Avoidance, Minimization, and/or Mitigation Measures*, of the Final EIR/EIS and detailed in the ECR provided as Appendix D in the Final EIR/EIS, will be implemented as part of the project:

- Visual mitigation will consist of adhering to design requirements in consultation with the District 11 DLA and following the Design Guidelines: I-5 NCC Project.
- During project design and construction, the DLA will analyze the visual effects of specific project features, synthesize applicable mitigation measures from this document and the Design Guidelines: I-5 NCC Project, apply those requirements to actual design features in specific locations, and submit proposals to the project design team. The team and DLA will then develop design solutions considered to be reasonable visible mitigation solutions that achieve team consensus, and can in turn be implemented. The DLA also will provide technical assistance during construction and perform mitigation monitoring of all visual mitigation requirements.
- Caltrans will consult with the property owners and/or officials with jurisdiction over recreational areas during project design for potential aesthetic options, as applicable. During the design process, shareholder interaction will continue, guidelines will become more and more specific, locally oriented design details will be added, and a design palette of specific features and products will be developed.
- Mitigation measures that require regular maintenance and are located outside Caltrans right-of-way, such as trees planted along local streets, or measures that require the installation of non-standard equipment within the right-of-way such as pedestrian bridge lighting, can be implemented only if the responsible local government is willing to maintain them in perpetuity.

The visual mitigation consists of adhering to the following design requirements. The requirements listed below are arraigned by project feature and include required options in order of effectiveness. One or more of these options will be implemented on applicable project features.

Soundwalls

- Wherever possible, noise barriers will consist of landscaped berms.
- A retaining wall may be used to avoid constructing a soundwall on top of a berm. This may result in a barrier with a lower profile than a noise berm / wall combination due to the berm's superior sound attenuation qualities.
- In situations where a tall retaining wall at the toe of slope will create a visual impact to an adjacent property, a berm with a 1:2 slope on the freeway side that is 6 ft high (minimum) and screening shrubs will be used. This size berm will allow enough space to provide screening shrubs in front of the wall.
- In areas too narrow to place a planting pocket, the soundwall will be recessed behind the face of barrier at a sufficient distance to allow architectural features to be included on the face of the soundwall. Placing a soundwall directly on top of a concrete barrier will be avoided if at all possible.
- Whenever possible, soundwalls will incorporate planting on both sides. In some cases, retaining walls and/or a concrete barrier at the edge of the shoulder may be needed to provide the required planting space.
- In some areas, the use of setbacks and return sections in wall layouts will be used.
- In cases where the right-of-way is narrow, a minimum 5-ft wide planting area will be provided between the back of the barrier and the face of the soundwall.
- In areas where space for architectural detailing does not exist, vertical concrete safety barriers will be considered. Vertical barriers add 12 in of additional width in which architectural elements such as pilasters and wall caps can be included.
- In situations where noise receptors are located above the elevation of the freeway, transparent soundwalls located at the top of slope on the right-of-way line or on private property will be used if the benefited property owner agrees to maintain wall surfaces. Locating walls at higher elevations nearer receptors substantially reduces the height of walls to achieve "line of sight" noise reductions.
- If possible, translucent materials will be placed on top of soundwalls to reduce their apparent height and create a greater sense of openness. Translucent materials will be placed above areas of potential vehicle impact, out of easy reach, and will consist of vandal-resistant materials.

Architectural Detailing

- Soundwalls will be designed to be visually compatible with the surrounding community. Architectural detailing such as pilasters, wall caps, interesting block patterns, and offset wall layouts will be used to add visual interest and reduce the apparent height of the walls. Poured-in-place integrally colored concrete construction techniques will be encouraged where visual consistency with retaining walls is desired. Enhanced surface materials such as mosaic tile and weathering steel will also be used where appropriate.

Retaining Walls

- Retaining walls that follow the contours of the topography and maintain a constant elevation at the top of wall will be used where appropriate. Wall layouts and profiles will be composed of long radius curves, with no tangents or points of intersection. Wall faces will be battered at a 1:6 horizontal / vertical ratio. Walls will be located at mid-slope. This type of wall is visually compatible with surrounding terrain and provides room at the base for a slope that contains landscape screening.
- Where appropriate, retaining walls over 19.7 ft in height will be divided into separate structures sufficiently offset from one another to create a planting area between the two.
- Whenever possible, retaining walls will be located at mid slope in cut sections to provide a buffer area for landscape screening between the wall and the freeway.
- Wherever possible, retaining walls will be located at the top of slope in fill sections to provide a buffer area for landscape screening between the wall and the community.
- In areas where insufficient space exists to include planting buffers between freeway retaining walls and adjacent community features such as frontage roads, the use of viaduct retaining walls will be considered. Viaduct retaining walls will cantilever the roadway to form a wall recess in which spatial articulation and planting can occur.
- In areas where retaining walls must be placed close to the traveled way, space will be reserved between the wall and the safety barrier to include a 5-ft wide planting pocket.
- In areas too narrow to place a planting pocket, the retaining wall will be recessed behind the face of barrier at a sufficient distance to allow architectural features to be included on the face of the retaining wall.
- In areas where space for architectural detailing does not exist, vertical concrete safety barriers will be considered. Vertical barriers add 12 in of additional width in which architectural elements such as mechanically stabilized earth wall panel relief, pilasters, and wall caps can be included.
- Wall faces will be battered at a 1:6 maximum horizontal / vertical ratio wherever possible to reduce the apparent scale of the wall and give the wall a more natural appearance. The batter also can serve as a barrier safety shape where the base of wall exhibits a smooth surface facing traffic.
- Alternatives to standard cable rail barrier will be used to complement enhanced wall designs. Options will include integral solid concrete parapets or alternative metal materials. Design details are contained in the Design Guidelines: I-5 NCC Project.
- Architectural features, textures, and integral concrete colors will be used to mitigate the appearance of retaining wall surfaces. Walls will incorporate architectural features such as pilasters and caps to provide shadow lines, provide relief from monolithic appearance, and reduce their apparent scale. Enhanced surface materials such as mosaic tile and weathering steel will also be used where appropriate to meet community design goals. Design details are contained in the Design Guidelines: I-5 NCC Project.

- Mechanically stabilized earth (MSE) walls can have custom designed panels that include integral color and enhanced surface texture, and a minimum 4-in reveal on each panel. Placement of landscaped slopes, soundwalls, barriers, drainage conveyances, and other roadway features can require special design.
- Low profile (e.g., Caltrans Type 60S) or see-through (e.g., Caltrans Type 80) safety barriers will be used if at all possible in areas where standard height barriers will diminish views of scenic resources from the freeway.

Overcrossing, Undercrossing, Bridge, and DAR Structures

- Bridge type selection and all other structure design will be consistent with the design themes contained in the Design Guidelines: I-5 NCC Project. Some mitigation features may be new or non-standard and require approvals or design exceptions.
- Wherever possible, abutments will be short seat abutments placed at the top of slopes. The visual mass of abutments will be minimized as much as possible. High cantilever abutments will be used in locations where space does not exist for short seat abutments at the top of a slope.
- At each overcrossing, bridge abutments will be of the same type to produce a symmetrical appearance. Where overcrossing structures are replaced, high cantilever abutments will be used in lieu of secondary tie back walls. Temporary tie back walls will be terrain-contoured walls and will receive architectural features consistent with permanent walls in the viewshed. Temporary tie-back walls will be removed when overcrossing structures are reconstructed.
- In locations where retaining walls must be incorporated into abutments, they will be designed as terrain-contoured walls if possible, and located away from the edge of shoulder to allow space for a planted buffer at their base.
- Slope paving will be enhanced with integral concrete color, texture, and deeply textured facing materials such as veneer block or natural rock.
- Bridge signage will be designed to visually integrate with bridge architecture. Concrete sign pedestals will be consistent in appearance with bridge design themes.
- Sidewalks will be provided on both sides of each overcrossing. They will have a 6-ft minimum width on a two-lane structure with a curb-to-curb width of 32 ft or less. On wider streets, both sidewalks will be a minimum of 10 ft in width. Sidewalk widths will be selected based on SANDAG regional guidelines (Planning and Designing for Pedestrians, June 2002) and local pedestrian design guidelines. Where possible, sidewalks will receive score patterns, surface texture, and/or integral color.
- Wherever possible, low profile barrier separations between pedestrian and vehicular traffic will be provided on overcrossings where Caltrans policy prohibits or restricts architectural features and pedestrian amenities on or near concrete bridge rails. Sidewalks in these locations will be a minimum of 10 ft in width.
- Pedestrian lighting, enhanced fencing and railings, and other urban amenities will be provided on each overcrossing whenever feasible. Local agency streetscape design

guidelines will be continued within Caltrans right-of-way at each overcrossing and interchange whenever feasible. Container trees located on structures will also be provided in locations where the responsible local agency has requested them and agreed to maintain them in perpetuity.

- Where possible, bicycle shoulders, lanes, or paths will be provided on both sides of each overcrossing. A minimum shoulder width of four ft will be provided for Class III facilities.
- Bridge abutments will be of the same type on all four quadrants to give widened undercrossings a symmetrical appearance.
- Bridge widening will be done using box girder construction wherever possible. Girders will be similar in appearance on both sides of the bridge to produce a symmetrical appearance.
- In locations where street widening occurs, tie-back walls will be terrain contoured walls, and receive architectural features consistent with those required for retaining walls and with community values and goals.
- Pedestrian sidewalks 10 ft in width (minimum) will be provided at undercrossings on both sides of the street wherever possible. In all cases, existing sidewalk configurations on local streets will be continued across Caltrans right-of-way.
- Bicycle shoulders, lanes, or paths will be provided at each undercrossing. The type of facility will consider regional and local planning goals. A minimum shoulder width of 4 ft will be provided for Class III facilities.
- Enhanced pedestrian lighting including bridge soffit lighting will be provided at each undercrossing.
- Slope paving at undercrossings will be enhanced with deeply textured facing materials such as scored veneer block or natural rock to add visual interest and deter graffiti.
- Mitigation measures listed for overcrossing and undercrossing structure symmetry, abutment design, tie back walls, slope paving, sidewalks, bicycle routes, and streetscape features will also apply to freeway bridges as appropriate.
- See-through bridge rails such as Caltrans Type 80 rail will be used on freeway bridges with views to ocean, rivers, lagoons, or other scenic resources, unless noise abatement is necessary.
- Pedestrian overcrossings will be a minimum of 15 ft in width.
- Pedestrian lighting, enhanced fencing, railings, architectural features, and other urban amenities will be provided on each pedestrian overcrossing. Existing streetscape elements and design themes will be continued within Caltrans right-of-way.
- DAR retaining walls will have a 15-ft maximum height, allowing approximately 10 ft of minimum vertical clearance under the connecting ramp structure.

- Pedestrian and bicycle traffic on existing overcrossings to be converted to DAR overcrossings will be routed to a separate pedestrian overcrossing structure in the immediate vicinity, if possible.
- On structures where pedestrians are present, sidewalks will be 15 ft in width on each side. Bridge barriers, fences, and sidewalks will be designed to provide standard stopping sight distance at DAR termini to enable pedestrians to be visible to drivers. Barrier separations between pedestrian and vehicular traffic will be provided if Caltrans policy requires bridge barriers to adhere to freeway crash standards.
- Bicycle shoulders, lanes, or paths will be provided on both sides of each DAR overcrossing open to non-vehicular traffic. The type of facility will consider regional and local planning goals. A minimum shoulder width of 4 ft will be provided for Class III facilities.
- Pedestrian lighting, enhanced fencing and railings and other urban amenities will be provided on each DAR local street overcrossing and be consistent with local values and goals. Existing streetscape elements and design themes will be continued within Caltrans right-of-way at each DAR overcrossing. Local streetscape guidelines will be followed. Enhancements or enhancement features such as decorative lighting and street furniture will be incorporated if local agencies accept permanent maintenance responsibility. Container trees located on structures will also be provided in locations where the responsible local agency has requested them and agreed to maintain them in perpetuity.

Freeway Interchanges

- Continuity of street and pedestrian facilities will be maximized wherever possible by converting existing non-stop freeway ramp entries and exits to ramp termini placed perpendicular to the street. The use of roundabouts will also be considered to create a more balanced relationship between interchange and community by decreasing required roadway width.
- Establishment of a continuous pedestrian realm on both sides of local streets as they pass through the interchange will be accomplished by utilizing design features such as street trees, pedestrian lighting, landscaped parkways located between sidewalk and curb, enhanced sidewalk paving that continues across freeway ramps, and islands of refuge in street and ramp medians. Pedestrian and transit facilities will conform to SANDAG Pedestrian Design Guidelines and any applicable local streetscape design standards and guidelines. Urban design features such as benches, bollards (short posts to divert or exclude automobiles), directional signage, and trash receptacles will also be included as appropriate. Specific guidelines and/or specific interchange streetscape plans were developed as part of Design Guidelines: I-5 NCC Project.
- Bicycle facilities will be preserved or upgraded to conform to the San Diego Regional Bike Plan, applicable local standards, and General Plan circulation element goals.
- Interchange landscaping will reflect the visual character and goals of its locality. Enhanced interchange landscaping will be considered in cases where the responsible local agency will provide maintenance in perpetuity. Entry features will be included as transitional visual elements into local communities where appropriate. Traditional

decorative entry signage with text will not be used. Specific interchange landscape themes may be developed as part of the Design Guidelines: I-5 NCC Project.

- Detention basins located at freeway interchanges or in areas of high visibility will incorporate the following design features. Basins will be located at least 10 ft from clear recovery areas whenever possible to allow landscape screening to be installed. Basins will appear to be natural landscape features such as dry streambeds or riparian areas. Where possible they will be shaped in an informal, curvilinear manner, incorporate slope rounding, variable gradients, and be similar to the surrounding topography to deemphasize a defined outer edge. Maintenance access drives will be located in unobtrusive areas away from local streets and will consist of inert materials or herbaceous groundcover that is visually compatible with the surrounding landscape. All visible concrete structures and surfaces will be of special design and adhere to the Design Guidelines: I-5 NCC Project. Rock slope protection will consider use of aesthetically pleasing whole material of various sizes. Standpipes and other vertical appurtenances will be placed in unobtrusive locations and be painted an unobtrusive color. Where possible, bio-swales will be located in non-obtrusive areas, be designed to appear as natural features, and incorporate applicable mitigation measures listed above for detention basins.
- The use of Caltrans standard freeway appurtenances on local streets will be avoided or minimized wherever possible. Crash cushions, metal beam guardrail, end anchor assemblies, concrete barriers, sign standards, light standards, signal standards, and chain-link fencing are examples of such features that are addressed in the Design Guidelines: I-5 NCC Project. The use of access control fencing at interchanges will be minimized and located in unobtrusive locations when its use is necessary. Electrical control cabinets and other utility boxes will be located in unobtrusive locations away from sidewalks wherever possible. Raised medians will be used wherever possible to allow for pedestrian islands of refuge, create a visual break in the ground plane, and provide space for street tree planting.

Manchester Avenue Transit Area for the Multi-use Area

- Site amenities for transit users will be provided; such as covered bus shelters, pedestrian lighting, benches, litter receptacles, tree grates, bollards, and bicycle racks. Landscaping and enhanced pedestrian paving will be an integral part of the station features. A sidewalk 10 ft in width will be provided along the west side of the transit center access road from the bus platform to Manchester Avenue. It will be located 6 ft from the back of curb to create a landscaped parkway.

Freeway Landscape

- The Design Guidelines: I-5 NCC Project contain a landscape concept plan for the project. In general, freeway landscaping will utilize California native plants. The landscape design will be consistent with the character of adjacent community landscape. In communities that are characterized by ornamental landscaping, freeway landscaping will include native plants with an ornamental appearance in an enhanced design. Trees, shrubs, and groundcover will be installed. In less-developed areas of the corridor, drought-tolerant native trees and shrubs will be planted in an informal design. Areas adjacent to native habitat will receive native plantings and hydroseed. Landscape plantings adjacent to habitat will be designed in consultation with the District Biologist. Landscaped areas will be irrigated with an underground automatic system. Reclaimed water will be used wherever possible. A thorough weed abatement/exotic removal

program will be implemented prior to hydroseeding and continue through plant establishment.

- All landscaped areas will have underground automatic sprinkler systems.
- Since the project will result in the loss of a majority of existing landscaped roadside areas, steps will be taken to create new areas for mitigation replacement planting within the freeway facility at the edge of shoulder, between concrete median and separator barriers, or between barriers and walls wherever the available width allows. Minimum widths for planting are 2 ft between barrier and wall, and 6 ft between median or separator barriers. Where possible, safety barriers at the edge of shoulder will facilitate tree and shrub planting in roadside areas that are too narrow to allow standard clear recovery area planting setbacks to be used.
- Existing median oleanders will be preserved wherever possible. Since freeway widening will disturb the roots of existing plants, the following measures will be implemented. A new automatic irrigation system will be installed in the median and the oleanders will be irrigated and fertilized on a regular basis before, during, and after project construction. The oleanders will be watered, fertilized, and pruned under the direction of a certified arborist prior to the commencement of median grading. The oleanders will remain in place undisturbed during construction. Existing non-vigorous oleanders will be replaced with new oleanders planted from 5-gallon containers at the direction of the Resident Engineer. Oleanders that do not survive during construction or plant establishment will be replaced using oleanders planted from containers. Existing weeds and volunteer plants within the median will be removed. A plant establishment period of one year will be provided. Following plant establishment, a mitigation monitoring period of three years will be implemented to ensure plant survival.
- In locations where freeway widening brings traffic into close proximity to parallel local streets such as Ida Avenue in Solana Beach, Villa Cardiff Drive, Devonshire Drive, Orpheus Avenue, and Piraeus Street in Encinitas; Avenida Encinas in Carlsbad; and Brooks Street, Garfield Street, and Buena Street in Oceanside, landscape buffers will be created between the freeway and street. Buffers will include elements such as street trees and shrubs, sidewalks, and solid screen walls for access control. Inclusion of some buffers may require local street widths to be adjusted. Implementation of this mitigation measure is contingent on local agency approval and commitment to maintain the streetscape buffer in perpetuity.
- Slopes will be graded 1:2 or flatter (vertical / horizontal) to support planting and irrigation. Steeper slopes may be possible if they are serrated and contain benches wide enough to accept plants from #15 containers. Grading will utilize techniques such as slope rounding, slope sculpting, and variable gradients to approximate the appearance of natural topography.
- Implement signage, lighting, and miscellaneous freeway feature mitigation designs as detailed in the Design Guidelines: I-5 NCC Project.
- Lighting and signage pedestals on structures will be placed at pilasters or be incorporated in other architectural features, where possible.

- Freeway lighting and signage will conform to the Design Guidelines: I-5 NCC Project, including directing lighting away from sensitive habitats and reducing glare.
- Concrete lighting and signage pedestals will be designed in such a way that vertical barrier transitions are not required.
- Electrical and signal equipment at ramp termini will be placed in visually unobtrusive locations.
- Median barriers will receive integral concrete color and the application of a heavy sandblast texture to barrier surfaces visible from the freeway. Heavy sandblast texture will create an irregular surface relief to a depth of 3/8 in.
- Narrow landscape areas beyond the gore will be paved for worker safety. Paving will incorporate a tan color and rough surface texture consistent with corridor design themes. Concrete vegetation control will be a tan color.
- Signage with movable elements or self-illuminated features such as changeable message signs will be excluded from viewsheds containing scenic resources if at all possible. The DLA will assist in the placement of all such signage.
- Access control fencing will be placed in visually unobtrusive locations of interchanges and bridges where possible. It is recommended that it be of special design and consist of enhanced materials where appropriate and maintained by the responsible local agency in perpetuity.
- Where possible, retaining walls and soundwalls near right-of-way boundaries will be designed in such a way that access control fencing will not be needed. The “dead” spaces that occur between walls and fences will be avoided if at all possible.
- Concrete interceptor ditches will not be placed adjacent to residential property, at interchanges, or adjacent to pedestrian use areas if at all possible. Alternatives such as subterranean drainage placed below finish grade or planted geo-reinforced drainage surfaces will be used.
- Detention basins located in areas visible to the public will incorporate the same mitigation features required for basins located at interchanges.
- Bio-swales and linear drainage ditches will be designed to appear as natural features and incorporate applicable mitigation measures listed above for detention basins.
- Concrete drainage devices located in areas of high visibility will be located, designed, and colored to be unobtrusive in appearance.
- Soft surface or segmented hard surface plantable alternatives to concrete ditches and rock slope protection will be utilized in all project areas visible to the public, where possible.
- The use of pervious concrete for storm water pollution prevention will be considered. Project features such as interceptor ditches, inlet aprons, gutters, maintenance access

roads, maintenance vehicle pullouts, and parking lots could consist of pervious concrete and perhaps reduce the project footprint.

- Real estate parcels in whole or in portion that are purchased for freeway widening but not required for use as permanent State right-of-way will be considered as potential opportunities for community pocket parks or public open space. This will be considered at the request of the responsible local agency and relinquished to them to maintain in perpetuity.
- Existing overhead utilities that are located near the freeway and requiring relocation due to freeway widening will be relocated underground where possible.

Additional measures or alternatives that would reduce visual/aesthetic impacts to less than significant would be infeasible due to the nature of, and inherent requirements associated with, widening an existing interstate in a scenic area.